Distribution, diversity and conservation status of Bolivian Reptiles

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Dedication

This work is dedicated to my grandparents Franz and Irene Roeder.
Their support and love they shared with me throughout all my life will always be in my heart.

Widmung

Diese Arbeit widme ich meinen Großeltern Franz und Irene Roeder.
Ihre Unterstuetzung und Liebe die sie mir gegeben haben werden immer einen Platz in meinem Herzen haben.

Abstract

The study area was defined as being the whole country of Bolivia. The Conservation Status of Bolivian Reptiles has been poorly investigated. Very few species had been assessed by the IUCN and very few were listed in CITES. As Bolivia still is within the countries with best conserved habitat, now is the moment to plan the conservation of its Biodiversity. This makes the present study urgent and necessary.

To be able to identify the conservation status of the reptiles of Bolivia first the species had to be identified correctly, a complete list of reptiles in Bolivia, and a most complete possible database had to be elaborated including geo-referenced data. On base of the obtained information distribution of the species had been extrapolated with the Distribution Model BIOM (Sommer et. al 2002). Later on the maps were overlaid to get different maps as species richness and endemism richness.

A new methodology for the evaluation of the Conservation status of Bolivian Reptiles was elaborated for this work. The reason for this is that there has been information which was considered by the author as essential but which are not included in the IUCN methodology and some other information required by the IUCN methodology was difficult to obtain.

A total of 269 reptile species were been evaluated for its conservation status. 211 of them are identified for the category “lower risk” (or Least Concern). This is 79% of the total species number evaluated. The results vary strongly within the different families. Boidae for example just showed one species worse than the category “Least Concern”. From the 14 Liolaemidae evaluated, just four resulted as “Least Concern”; all others from this family showed higher categories. 34 species were evaluated as “Nearly Threatened” (13 %), 9 species as “Vulnerable” (3 %), 6 as “Endangered” (2 %) and 9 species as “Critically Endangered” (3 %).

6379 datasets (264 caimans, 401 turtles, 2539 ophidians, 3175 lizards) were used to generate 268 (7 Boidae, 10 Elapidae, 4 Caimans, 14 turtles, 13 Vipers, 114 Colubrids, 5 Leptotyphlopids, 2 Typhlopids, 99 lizards) extrapolated distribution maps, this is a medium of 24 datasets per map. Additionally 266 fragmentation maps were generated and maps of species richness, endemism and others.

For all species included in this work in addition the IUCN methodology (3.1 (2001)) was applied (see also discussion). In several cases the results varied from the results obtained by the methodology used and elaborated for this work. 255 species of the total 269 species have been evaluated as “Least Concern”, one as “Near Threatened”, three as “Vulnerable”, eight as “Endangered” and 4 as “Critically Endangered”.

Also the official IUCN Conservation status has been listed for all species. 258 species has been found as “Not Evaluated”, seven as in “Lower risk” and four as “Vulnerable”. 23 species have been found to be listed in CITES II, one species in CITES I and one species in CITES III.

Finally the obtained results were compared with two other similar studies and species richness and endemism patterns were identified. An outlook for the Conservation of Reptiles in Bolivia is given

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1. Introduction

1.1 General Introduction

The Conservation Status of Bolivian Reptiles has been poorly investigated. Very few species were assessed by the IUCN and very few were listed in CITES. The red book for the Bolivian fauna existed based partially only on basic information (Ergueta & Morales 1995). In 2004, the new red book (Flores, E. B. & Miranda, C. L. (eds.), 2003), now a yellow design, was published and showed some advances in knowledge of the Bolivian fauna.

The scarce knowledge has its origin in the basic knowledge as the list of species known for Bolivia. The most complete species list for snakes (Fugler et al. 1995) lists several species that have been misidentified. For lizards the situation is similar. None of published lists (as for example Fugler (1989) or Dirksen & De la Riva (1999)) examined in detail the specimens in the Bolivian Museums.

A new species list published by Langstroth (2006) “cleaned” the existing lizard species list for Bolivia and mentioned probable additions to the list that included species, which had not been recorded until that point for Bolivia.

Many new species of reptiles, which have been described in the recent years (e.g. Reichle & Embert (2006), Harvey (2001)), are described or already known and will be described. Also, many initial records for Bolivia let the total number of reptile species of Bolivia grow almost constantly (e.g. Embert (2005), Aparicio (2006)). The total number of reptile species listed for Bolivia in the present work is at this time slightly over 300.

The main purpose of this work is to identify the conservation status of the reptile species known for Bolivia. This required basic work as examining museum specimens, fieldwork in areas with low or even without collection data, and a great time effort for the entire work. In order to identify the conservation status of the reptiles of Bolivia, first the species had to be identified correctly, a complete list of reptiles in Bolivia had to be developed, and a database had to be elaborated, including geo-reference data, to be as complete as possible. Based on the obtained information, a distribution of all species was extrapolated with the Distribution Model BIOM (Sommer et. al 2002). Later on the maps were superimposed to get a variety of maps detailing richness of species and endemism.

1.2 Study area (modified after Reichle 2007)

The study area was defined as the whole country of Bolivia. Biodiversity does not know political frontiers. Implementation efforts for its conservation are mostly bound to political geography. This is mainly due to the different legislations in various countries, as well as different political entities dealing with the issue, and last but not least different social structures in each of them. Another reason speaking for Bolivia as study area is, that very little is known about its fauna and at the same time Bolivia’s habitat is still quite healthy. As such, early and scientific based conservation can have a very strong and positive impact.

1.3 Bolivia - General data (modified after Reichle 2007)

With a surface of 1.098.581 km² Bolivia is the fifth largest country in South America and besides Paraguay the only one landlocked. Historically, Bolivia was almost twice the size but it lost territory to all the neighboring countries (Argentina, Brazil, Chile, Paraguay and Peru). Probably the worst losses were after the war with Chile in the late 19th century and when in 1904 the Bolivian Parliament signed a peace treaty, which defined the borders of the country anew, prohibit access to the Pacific Ocean. Since then, and especially in the last years, the lost sea access has been a controversial issue between the two countries and a mayor problem for the Bolivian economy. Only recently Bolivia is reopening official political relations with Chile.

Bolivia does count on enormous not renewable natural resources such as petroleum and gas, as well as gold, silver and other minerals. In addition it harbors enormous renewable natural resources, being one the 13 megadiverse countries in the world and having the world's largest certified managed natural forests with just over 2 million hectares (BOLFOR 2004).

Currently Bolivia is composed of nine divisions (= departamentos), the Santa Cruz division being the largest (table 2.1.a) and La Paz division the most populated. The population is mostly concentrated in big cities. Santa Cruz de la Sierra with 1.166.000 is the largest one, followed by La Paz with 781.000 inhabitants (INE 2003).

Division	Surface (km²)	Population	Mayor Cities	Provinces / Dep.
Chuquisaca	51.524	531.522	Sucre	10
La Paz	133.985	2.350.466	La Paz El Alto	20
Cochabamba	55.631	1.455.711	Cochabamba	16
Oruro	53.588	391.870	Oruro	16
Potosi	118.218	709.013	Potosi	16
Tarija	37.623	391.226	Tarija	6
Santa Cruz	370.621	2.029.471	Santa Cruz de la Sierra	15
Beni	213.564	362.521	Trinidad	8
Pando	63.827	52.525	Cobija	5

Table 1: Bolivian departments, surfaces, population and mayor cities (based on INE (2003))

After the decentralization law in 1995, more political power has been given to the current 315 municipal governments. Since then some important decisions for conservation are taking place there. In addition, the Divisional Prefectures have recently strengthened Conservation work and efforts, especially in the lowlands.

1.4 Ecoregiones (modified after Reichle 2007)

Following Ibisch et al. (2003) Bolivia consists of 12 eco-regions, some of which are divided into sub ecoregions (see **table 2**).

Eco-region	Sub-eco-region(s)	Surface (km²)	Current conservation status
South West Amazon forests	Flooded Amazon Forests	63,588	This is one of the best-conserved eco-regions. Especially in the Pando Division the human impact is still very low. The more south you go the higher is the impact, especially in the Beni and Santa Cruz Amazon Forest sub ecoregions.
	Sub-Andean Amazon Forests	23,529	
	Pre-Andean Amazon Forests	58,308	
	Pando Amazon Forests	71,217	
	Beni and Santa Cruz Amazon Forests	59,905	
Cerrado	Cerrado of La Paz	9,837	Cerrado eco-regions in general are used for cattle ranching. The most extensive use does not have too strong of a impact on the conservation status of this ecoregion. Frequent Fires caused by human influence have much higher impact.
	Cerrado of Beni	27,171	
	Cerrado of the Chiquitano Region	23,491	
	Cerrado of the Chaco Region	24,468	
Flooded savannas	Moxos Plains Flooded Savannas	94,660	The flooded savannas are also used for cattle ranching, but mostly in a dispersed way. There is no strong impact on this eco-region.
	Pantanal Flooded Savannas	33,328	
Chiquitano Dry Forest	-	101,769	This eco-region in general is used for cattle ranching. The mostly sporadic use does not have to strong of an impact on the conservation status of this ecoregion. Frequent Fires caused by human influence have much higher impact.
Gran Chaco	-	105,006	This eco-region in general is used for cattle ranching. The mostly sporadic use does not have to strong of an impact on the conservation status of this eco-region. Frequent Fires caused by human influence have much higher impact.
Yungas	-	55,556	This important eco-region

			suffers partially strong human influence, mostly deforestation for different kinds of plantation, for example bananas or the coca plant. The precipice deforestation has strong impact on soil as it causes very fast erosion and loss of soil quality.
Tucuman Bolivian Forest	-	29,386	Until now the Tucuman forest has not been impacted in the same manner as the Yungas.
Montane Chaco	-	23,176	
Interandean Dry Forest	-	44,805	The Interandean dry forest is the eco-region with the strongest human impact. Excellent soil quality was the cause for high population densities and strong deforestation. Little of this very valuable habitat is left.
Prepuna	-	8,516	A historically strongly impacted habitat is mostly altered. Its original Polylepis forests have been reduced to very few relicts and reforestation efforts use alien species including Pines or Eucalyptus.
Northern Puna	Humid Puna Semi-humid Puna High-Andean Vegetation of the Cordillera Oriental above and below the snowline	8,869 67,600 8,137	A historically strong impacted habitat, mostly altered and very densely populated.
Southern Puna	Dry Puna Desert Puna	35,973 100,204	A historically strong impacted habitat, mostly altered.

Table 2: Bolivian Ecoregions

The Ecoregion and sub-Ecoregion definitions and surfaces follow Ibisch et al. (2003). The values for the current conservation status are estimates by the present author and partially taken from Reichle (2007).

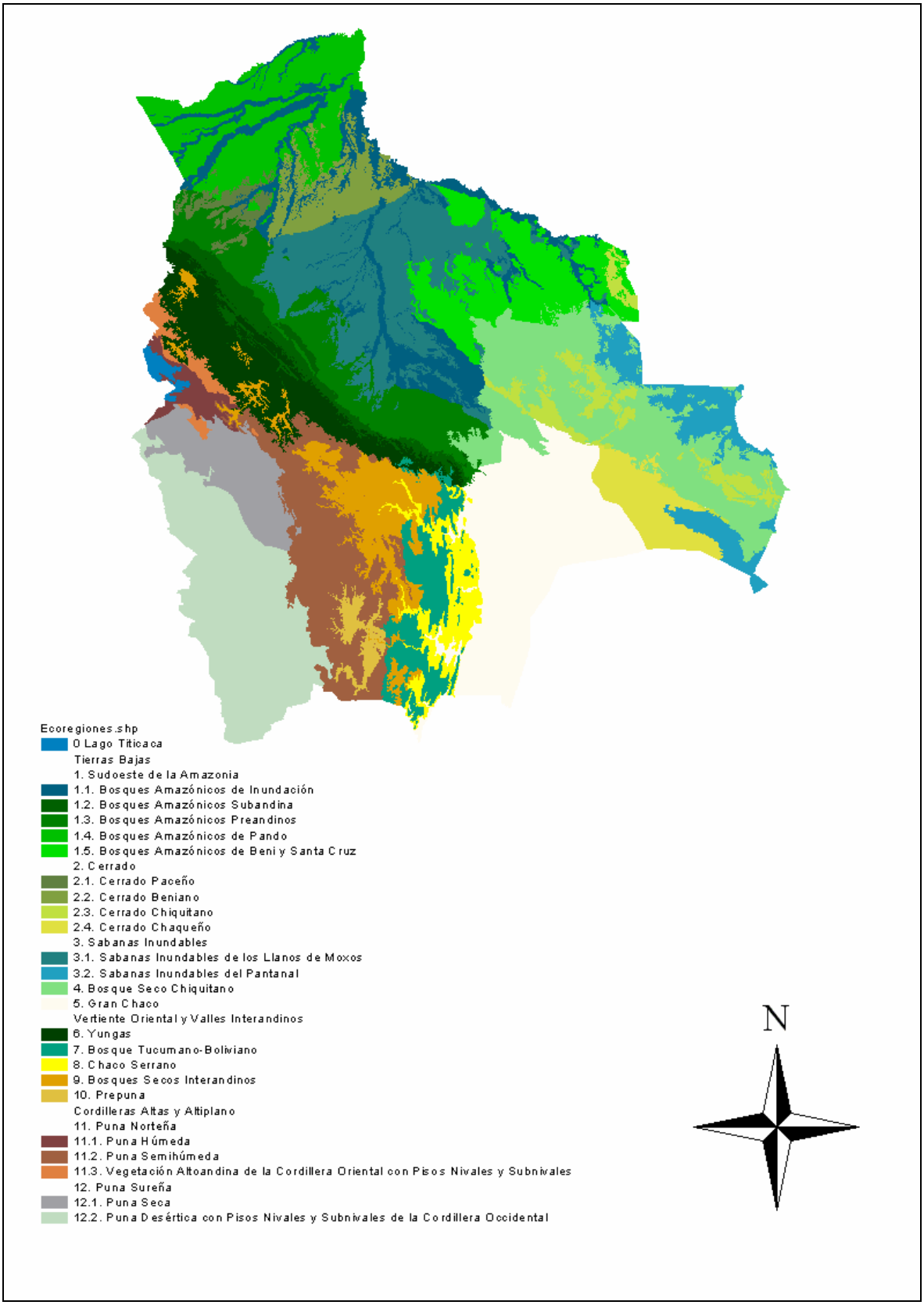

Figure 1 Ecoregions of Bolivia

1.5 Political and legal framework of Biodiversity Conservation in Bolivia (modified after Reichle 2007)

Throughout the years Bolivia has been developing its legislation toward the environment, renewable, and non-renewable natural resources. Efforts have been systematic since 1992, when the environmental law was passed. So far no law directly protects biodiversity, but there are sector laws, which include regulations on the matter.

The executive power on conservation and biodiversity issues are united under the Vice Ministry of sustainable development and environment, which is part of the Ministry of sustainable development and strategy. Two entities, the "Direccion General de Biodiversidad"- General Biodiversity Direction, DGB and the "Servicio Nacional de Areas Protegidas" – National Service of Protected Areas, SERNAP are in charge of the implementation of existing legal regulations and administration of biodiversity inside (SERNAP) and outside (DGB) protected areas.

1.6 Protected Areas (modified after Reichle 2007)

At present the SERNAP includes 21 protected areas in different categories (see table 2.3.1a and Fig. 2.2.a). Additionally several protected areas with Departmental or Municipal character (see Vides & Reichle 2003). Some of them are contemplating remarkable extensions and functioning implementations (for example the Municipal Reserve of Roboré "Valle de Tucavaca" with more than 240.000 hectares). However, in most of the Departmental and Municipal areas no real implementation does exist so far.

The following table shows the protected Bolivian areas included in the SERNAP (for areas created before 2001, categories and surfaces follow SERNAP 2001, areas created later are based on the official creation documents ("decretos supremos"). Eco-regions are based on **figure 1** and therefore Ibisch et al. 2003, functionality based on estimations, experience and interviews with key persons by Reichle (2007), such as investigators, protected area personal, administrators etc.)

Protected Area	Category	Surface (in hectares)	Ecoregions or sub ecoregions included	Grade of functionality and protection
Parque Nacional Sajama	National Park	100.230	- Desert Puna	Generally good
Parque Nacional Tunari	National Park	300.000	-Semihumid Puna - Yungas	Not well protected, the protection body only covers a sector of the southern part of the Park.
Parque Nacional y Territorio Indigena ISIBORO-SECURE	National Park + Indigenous Territory	1.236.296	- Moxos Plains flooded savannas - Pre Andean Forests - Sub Andean Forests - Yungas	Several areas with protection problems, i.e. currently a road is projected to cross the area

Parque Nacional NOEL KEMPFF MERCADO	National Park	1.523.446	- Beni y Santa Cruz Amazon Forests - Cerrado of the Chiquitano region - Moxos Plains flooded savannas - Some small portions of the Chiquitano Dry Forest in the southern part.	Well protected and functional. Some minor problems with fishing and turtle hunting at the river borders
Parque Nacional TOROTORO	National Park	16.570	- Interandean Dry Forests	Not very well protected
Parque Nacional CARRASCO	National Park	622.600	- Pre Andean Forests - Sub Andean Forests - Yungas	Some areas suffer from illegal invasions and coca growing, increased pressure by locals to reduce the area
Parque Nacional y Área Natural de Manejo Integrado AMBORO	National Park and ANMI	637.600	- Pre Andean Forests - Sub Andean Forests - Yungas	Especially some of the higher parts suffer from illegal settlements. The ANMIA part is not well protected. Most of the Amazonian forests of the Andean foothills (pre Andean + Sub Andean forests) within the ANMIA are deforested or at least largely fragmented.
Parque Nacional y Área Natural de Manejo Integrado COTAPATA	National Park and ANMI	40.000	- Yungas - High-Andean Vegetation of the Cordillera Oriental	Protection does exist but is not very functional in some areas
Parque Nacional y Área Natural de Manejo Integrado MADIDI	National Park and ANMI	1.895.750	- Yungas - Interandean Dry Valleys - Sub-Andean Amazon forests - Cerrado of La Paz	Protection in the National Park seems functional, protection in the AMNIM in some areas is insufficient
Parque Nacional y Área Natural de Manejo Integrado KAA-IYA DEL	National Park and ANMI	3.441.115	- Gran Chaco	Overall very well protected.

GRAN CHACO				
Parque Nacional y Área Natural de Manejo Integrado OTUQUIS	National Park and ANMI	1.005.950	- Pantanal flooded savannas - Chiquitano Dry Forest - Cerrado of the Chaco region	Recently the management plan of the area has been completed and several park rangers were hired. Nevertheless hunting and illegal logging are still a mayor problem within the area. In the northern part due to pressure from the Puerto Suarez area, in the southern part due to incursions from Paraguay.
Parque Nacional y Area Natural de Manejo Integrado SERRANIA DE AGUARAGÜE	National Park and ANMI	108.307	- Tucumane Bolivian Forests - Montane Chaco	Recently declared area. Currently co-administrated by the Municipalities of Villamontes and Yacuiba. Real protection is not in place.
Reserva Nacional de Fauna Andina EDUARDO AVAROA		714.745	- Desert Puna	Relatively well protected, but problems with tourism and illegal extraction of fire material.
Reserva Nacional Vida Silvestre Amazónica MANURIPI-HEATH		747.000	- Pando Amazon Forests	Huge problems with hunting especially during the Brazil Nut season.
Reserva Nacional de Flora y Fauna TARIQUÍA		246.870	- Tucumane Bolivian Forests - Montane Chaco	Problems with illegal timber extraction and over fishing in some places. Also cattle overgrazing in some parts.
Reserva Biológica de la Cordillera de SAMA		108.500	- Semihumid Puna - Tucuman Bolivian Forests	A lot of people living in the area, natural original forests are rather badly conserved.
Área Natural de Manejo		483.743	- High-Andean Vegetation of the	Many people living in some parts of the area,

Integrado Nacional APOLOBAMBA			Cordillera Oriental - Yungas	problems with habitat loss and natural resource use. Generally though big parts of the area in good conservation conditions.
Reserva de la Biosfera Estación Biológica del Beni		135.000	- Pre Andean Amazon Forests	Due to the presence of several native communities strong hunting pressures within almost the whole area
Reserva de la Biosfera y Territorio Indígena Pilón Lajas		400.000	- Sub-Andean Amazon Forests - Yungas	Relatively well managed. Formerly huge problems with timber extractions but currently rather well protected. Hunting is allowed for native communities within the area.
Area Natural de Manejo Integrado El Palmar		59.484	- Interandean Dry Forests -Tucuman Bolivian Forests	
Area Natural de Manejo Integrado San Matías		2.918.500	- Pantanal flooded savannas - Cerrado of the Chiquitano region - Chiquitano Dry Forest	The area does not count on a management plan, protection is rather low and hunting, illegal timber extraction and deforestation are common. There are also several legally established timber concessions in the southern area of San Matías.
TOTAL SURFACE		16.741.707		

Table 3 Bolivian Protected Areas (Reichle 2007)

1.7 Identification of the conservation status

Fine and coarse scale filters:
Approaches to identify the Conservation status of reptiles are made on a fine scale and a coarse scale. The fine scale approach is on species level. This is where basic work like taxonomic work, describing new species, new records for the country, complete species lists, good information about distribution, and others become extremely important. The fine filter is at the same time the basis for the coarse filter.

Coarse scale approaches for conservation of reptiles are several quantitative methods as identification of hotspots of biodiversity (Myers 1988, 1990; Dobson et al. 1997), identification of indicator and surrogate species (Curnutt et al. 1994), development of rarity and complementary sets (Williams et al. 1996), gap analysis (Scott & Csuti 1996), identification of key Ecoregions (Olson & Dinerstein 1998), and cost-minimizing or land-value analysis (Ando et al. 1998).
Once a complete list of reptiles in Bolivia has been developed, distribution maps have been calculated, and the conservation status for all species has been identified, the coarse filter can identify hot spots of diversity, endemism, and vulnerability. Based on that further evaluation priority areas for conservation work can be proposed.

Gap Analysis:
Gap analysis is an integrative method that links distributional information with information on land use and protection to identify priorities for conservation action (Scoot et al. 1996). Normally a GAP analysis includes more than one group of animals or plants. Here a very basic pure “reptile GAP” analysis is presented, which will be compared with recently published works, as the one on the conservation status of Bolivian amphibians (Reichle 2007) or the GAP analysis for several groups of animals and plants in Bolivia by Naraujo et al. (2007). Krohn (1996) states that the success of such programs and approaches depend critically on the quality of distributional data. This is why extrapolated distributions are used in the present approach.

This work does not include complementarity studies or policy-based algorithms as proposed by Faith et al. (2003). Proposed areas are areas with a high value for conservation work, because of high species richness, endemism, presence of endangered species or other factors. The applicability, viability, and policy to conserve these areas will be a task for decision makers.

2. Methodology

2.1 Abbreviations

ANMI: Area Natural con Manejo Integrado
ANSP: Academy of Natural Sciences - Natural History Museum in Philadelphia
AOO: Area of Occurrence

BIOM: BIOclimatic Model for the extrapolation of species ranges and diversity patterns
B.M.N.H.: British Museum of Natural History
BOLFOR: Bolivia Forestal

CBF: Colección Bolivian de Fauna – Bolivian Collection of Fauna
CITES: Convención sobre el comercio internacional de especies amenazadas de fauna y flora silvestres – Convention on internacional Trade in Endangered Species of Wild Fauna and Flora
C-Value: endemism richness

DGB: Direccion General de Biodiversidad- General Biodiversity Direction

EBB: Estación Biologica del Beni
EDC: Estado de Conservación (Conservation Status)
EOO: Extend of Ocurrence

FAN: Funadción Amigos de la Naturaleza
FMNH: Field Museum of Natural History

GIS: Geographical Information System

INE: Instituto Nacional de Estadistica - National Statistics Institute
IUCN: International Union for the Conservation of Nature

LACM: Natural History Museum of Los Angeles County

MACN: Museo Argentino de Ciencias Naturales
MBUCV: Museo de Biología de la Universidad Central de Venezuela
MCP: Minimum convex polygon
MCSNG: Museo Civico di Storia Naturale, Genova
MNHN: Muséum national d'Histoire naturelle France
MNKR: Museo Noel Kempff Mercado, Bolivia, Reptiles
MPEG: Museo Paraense Emilio Goeldi
MSNM: Museum Civico di Storia Naturale, Milan, Italy

NE: Not Evaluated
NGO: Non Governmental Organization
NKM: Parque Nacional Noel Kempff Mercado
NKR: Museo de Historia Natural Noel Kempff Mercado-Reptiles

NMW: National Museum Wales
NRM: Swedish Museum of Natural History
NRS: Naturhistoriska Riksmuseet, Stockholm

PLUS: Plan de Use de Suelo- Land Use Planification
PMOT: Plan Municipal de Ordenamiento Territorial

RMNH: Rijksmuseum van Natuurlijke Histoire (Leiden, Netherlands)

SERNAP: Servicio Nacional de Areas Protegidas – National Service of Protected Areas
SMNH: Swedish Museum of Natural History, Stockholm

TCO: Tierras Comunitarios de Origen:.Indigenous Lands

UMMZ: University of Michigan Museum of Zoology
USMC: Zoological Museum, Copenhagen
USNM.: United States National Museum
UTA: University of Texas at Arlington

ZFMK: Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, Germany
ZMB: Zoologisches Museum Berlin (Museum fuer Naturkunde Berlin)
ZMH: Zoologisches Museum , Hamburg
ZMUU: Zoologiska Museet, Uppsala Universitet
ZSM: Zoologische Staatssammlung München, Germany
ZSMH: Zoologische Staatssammlung Muenchen, Herpetologie

2.2 Museum and taxonomic work

Reptile specimens in the collections of Santa Cruz, Cochabamba, Cobija and parts of the La Paz collection (all Bolivia) were examined and identified. Most of the Bolivian specimens in the collections of Bonn, Munich, and Berlin (Germany) were examined and identified.

Ventral count methodology in colubrid snakes follows Dowling (1951) and for further comparisons the sequence of standard characters for Xendodontine snakes used by Zaher (1996) was adopted. For Elapid and Viperid snakes I followed the very recent revision of these genera by Harvey et al. (2004 and 2006).
For lizard species, except Amphisbaenids, characters given in Avila-Pires (1995) were used and for Amphisbaenids different descriptions by Gans (1962, 1964a, 1971, 1972). Abbreviations used are TTL (total length); TL (tail length); HL (head length, measured from tip of the snout to furthest edge of posterior-most supralabial); HW (head width, measured at angle of jaw); and ED (eye diameter, measured horizontally at is midpoint). All measurements except for TTL, TL, HL and HW were made to the nearest 0.1 mm using a caliper held under a dissecting microscope. Sex was determined by observation of anatomical structure at the base of the tail through a small ventral incision. Furthermore, the stomach and oviduct was examined by opening it with a scalpel.

A complete database was elaborated including the following information: Identification Number, Coordinates in Degrees (e.g. 19°13´22´´S 64°18´12´´W), Genus, Species, Subspecies, Department, Province, Locality, Museum-Field Number, Museum, Source (e.g. citation, pers. com. etc). Additionally for the extrapolation of the distribution of the species the following data was given codified: global distribution, frost tolerance, distribution in water or not, forest or not.
The database contains data from examined specimens (Museums, own collections), reliable Literature Data, data from personal communications and own data obtained in several field trips.

2.3 Fieldwork

Important sites for fieldwork were identified by the elaboration of a map of collection points (see Figure 2). As a first step, on this map gaps of collection points were identified as a higher priority for fieldwork. These sites were examined for their uniqueness, status of knowledge of the general habitat, accessibility, and probable diversity and endemism. Based on this data, sites for fieldwork were chosen.

Normally the collection activity included manual search during night and day. No unified transects were used. The average search time for each field day was about 8 to 10 man-hours. Additionally to manual search, pitfall traps were used. The standard was a number between 4 and 8 traps placed in different areas and habitats. Each trap consisted of three 20L buckets, connected by a 1m high transparent plastic fence. The total length of a trap was 30m, 10m between each bucket.

2.4 Preparation of voucher specimens

Once collected, amphibian specimens were photographed and notes on their life-coloration were taken. The specimens were then killed with a super-dose of an analgesic. After death the specimens were prepared using 10% formaldehyde solutions in a plastic tray and positioned. Additionally a 10% formaldehyde solution was injected into their body cavity. Normally specimens were fixed in the tray for at least 12 hours. After fixation took place a tag with a field number (DE- number-year) was attached to every specimen. For each number collection data such as date, climate, exact location, and life-coloration were noted in a field book. Then the specimens were put into plastic jars with 75% ethanol solutions.

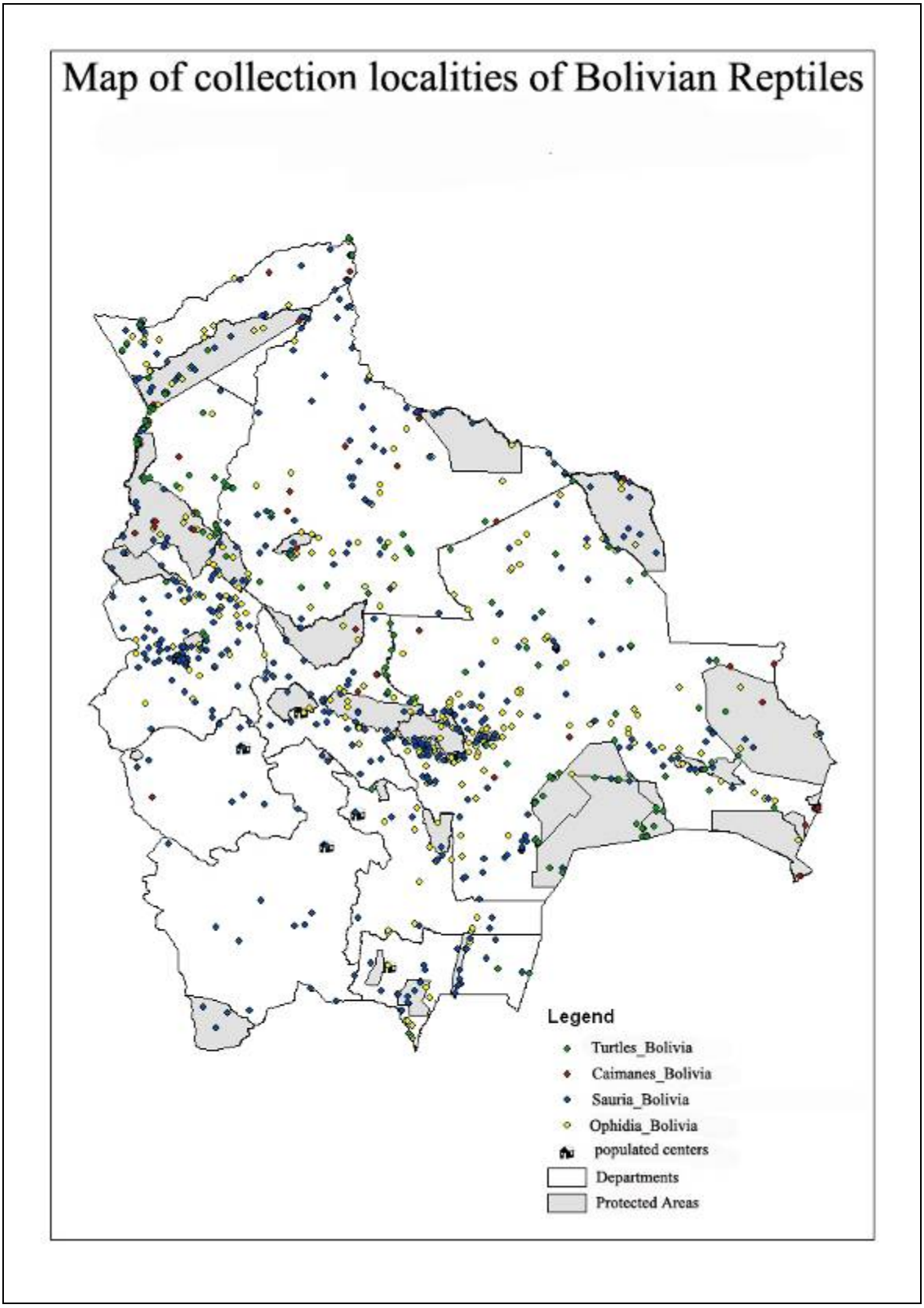

Figure 2 Map of collection localities of Reptiles in Bolivia

2.5 Extrapolation of ranges (after Nowicki et al. 2004 & Nowicki 2004)

Based on abiotic parameters and localities were recorded, a computer-based model (BIOM = BIOclimatic Model for the extrapolation of species ranges and diversity patterns (Nowicki et al. 2004, Sommer et al. 2003)) was used to calculate the optimal conditions for each species. Using a 2 arc min. grid as the minimum resolution for analysis (approximately 3.6 x 3.6 kilometers), BIOM then compares the values obtained from the optimal habitats with the parameters present in the remaining cells and calculates the aptitude as a habitat, assigning values of similarity to each cell. The abiotic parameters used are temperature, precipitation (on a log rhythmic scale), and aridity (comp. Rafiqpoor et al. 2003). Following Liebig's law of the minimum – which can be interpreted as that the lack of a single essential factor determines the presence or absence of a species even if all remaining essential elements are favorable – a simple but efficient algorithm calculates the minimum parameter that expresses similarity to the optimum habitat and the aptitude of the cells as a possible habitat (see Hill & Binford 2002). A Gaussian algorithm is applied to evaluate the similarities of the ecological characteristics of the cells. The result of this calculation is the potential range of the species, which can be illustrated by using a Geographical Information System (GIS).
In addition, the distribution of species also depends on historical-evolutionary factors. This means that a species that is young in terms of evolution probably has not had the same opportunity to disperse as extensively as a species that has existed for centuries. As an indicator of the evolutionary history of a species, the distance between its farthest recorded points is used to restrict the space of the potential range, assuming that the probability of the presence of a species diminishes with the increase in the distance between its recorded points (see Müller et al. 2003).
As abiotic and historical data are not the only ones to determine distribution ranges, structural parameters are also taken into account. The selected parameters, forest, water cover (including seasonal flooding) and frost were assigned for each taxon or automatically be evaluated by the program itself. Thus, due to the specific habitat requirements, the range of the taxon is being diminished by the species' ecogram and leads to a more realistic extrapolation of the taxons' range.
In order to establish distribution maps for each species, a critical limit of habitat similarity needed to be defined to be able to use the maps further for diversity analysis. This limit, due to the personal knowledge of the species, was seen to be most reliable at 33% habitat similarity. Therefore, every distribution map shown in the result chapter is based on a habitat similarity of 33%.

As a second step, the program calculates the diversity patterns (number of species/taxa) and the endemism richness (= C-Value; Kier & Barthlott 2001), by overlapping the distributional ranges of the species to be analyzed (see Fig. 3). Endemism richness is a value that combines diversity with the degree of endemism, and illustrates the contribution of a specific location to the general diversity of the area studied. For technical reasons the usually very small C-Value is raised artificially by BIOM multiplied by 1,000.

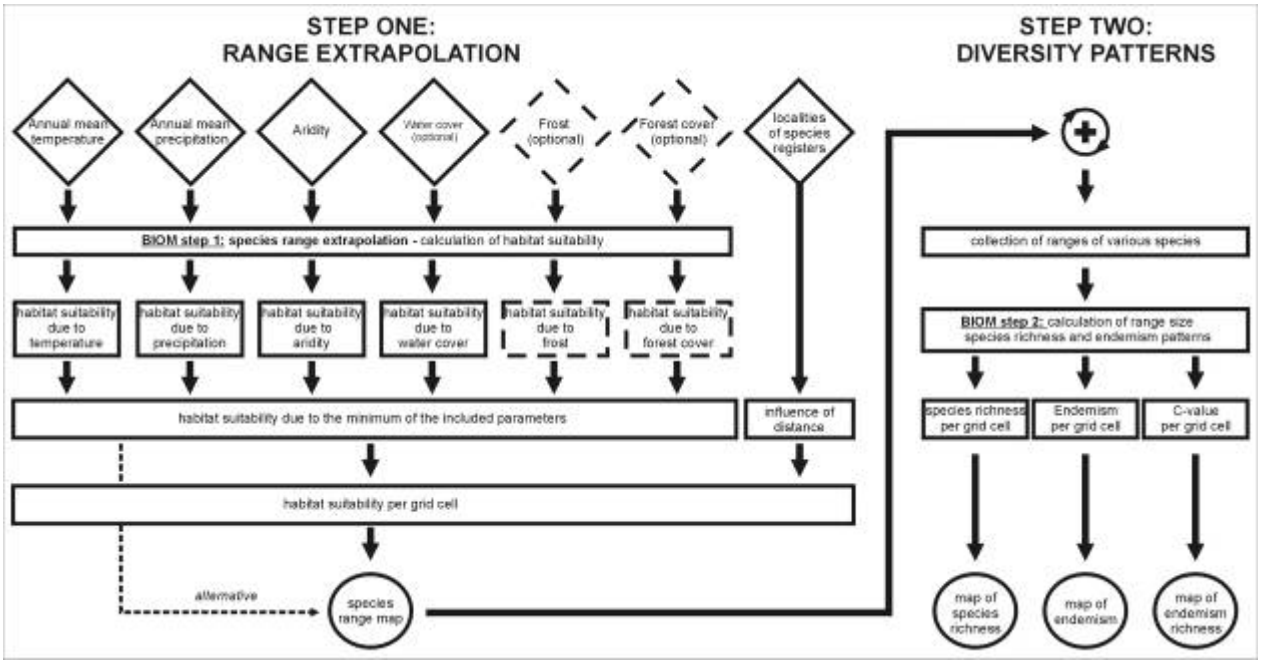

Figure 3 flow chart (Nowicki 2004)

2.6 Elaboration of maps

Distribution

The distribution maps were elaborated on base of the database and were extrapolated with the distribution model "BIOM". To express the results of the extrapolation, different versions of ArcView were used (Arc View 3.2 and ArcGis 9.x).

Fragmentation

Using values between 1 (best) and 5 (worst) the extrapolated distribution maps were intersected by using the Program ArcGis with a map of the conservation status of the habitat (EDC). Pending on the defined sensibility of a species (values between 1 [very sensible] and 5 [advantage]) all habitats worse than the defined sensibility were cut out.

National park occurrence

To check the occurrence of the species in National parks, the extrapolated distribution was intersected with a layer of the national park limits.

Diversity

For the elaboration of species-richness maps, the extrapolated distributions of all species (or a group of species) were overlaid and species-richness was expressed in different colors.

Endemism-richness or C-Value

Endemism richness is a value that combines diversity with the degree of endemism, and illustrates the contribution of a specific location to the general diversity of the area studied. For

technical reasons, the usually very small C-Value is raised artificially by BIOM, multiplying it by 1,000.

2.7 Identification of conservation status of species (Fine filter)

Sensibility

Based on field experience, literature data, and distribution patterns the sensibility of each species has been identified. The sensibility of a species is here defined as its tolerance for habitat change. Here counts, in general: the more specialized (habitat, food, radiation etc.) the more sensible, and species specialized in forest habitats are more sensible than species specialized in savanna habitats.

Sensibility is given as

- Very sensible EDC 1
- Sensible EDC 1+2
- Tolerant EDC 1+2+3+4
- Advantage EDC 1+2+3+4+5

This means, that for a species identified as very sensible only the habitat in the best condition (conservation status), EDC1, was regarded as a suitable habitat. This normally resulted in a reduction of the extrapolated habitat because much of the habitat was in a worse condition. For a sensible species EDC 1 and 2 was used and so on. After overlaying the distribution map over the EDC map a filter was used to sort out all grid cells worse than the given sensibility. This resulted in the "real " distribution and showed possible fragmentations of habitats.

Distribution value

This value can somewhat be compared with the "extent of occurrence" used by the IUCN (see also discussion). Maps produced, consisted of grid cells with 3,6 km length or 12,96 km². The first value are the grid cells occupied by the species in the fragmentation map (grid cell value), the second value, the one in parenthesis, is the grid cell value expressed in square kilometers (km²), and the third value is the value given for the calculation of the conservation status.

<7 (<100km²) = 13
<38 (<500km²) = 10
<385 (<5000km²) = 5
<1543 (<20.000km²) = 2
>1543 (>20.000km²) = 0

Example: A species which occupies less than 38 grid cells on the fragmentation map, occupies less than 500km² and will receive a distribution value of 10.

Fragmentation

Fragmentation is mostly directly connected with habitat loss, except that this loss separates only partial or complete populations or habitats used by the species. A gap of at least 3,6 km (1 grid cell) was considered as only "some fragmentation", bigger gaps were considered as strong or very strong fragmentation. This is depending on how big the gap, how many fragments are left or produced by the gaps, and how big these are.

NONE: 0

No Fragmentation of habitat. All suitable habitats are connected. Simple reduction of habitat size is not considered as fragmentation, as this value is regarded in the distribution value.

Example:

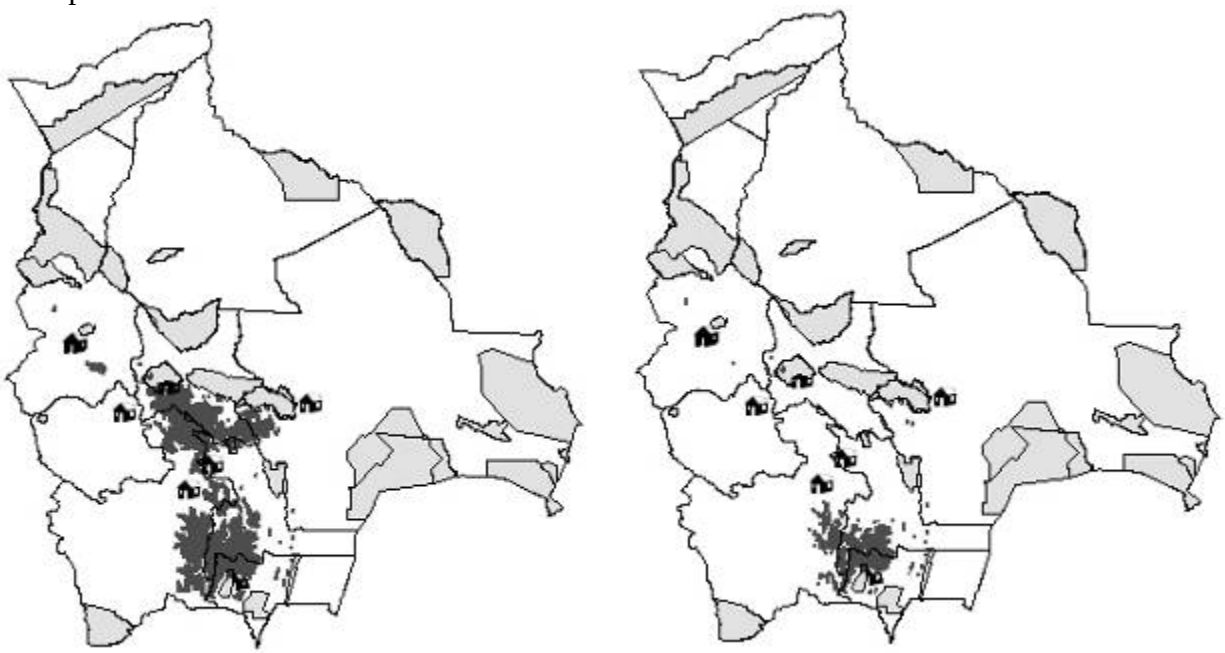

Figure 4 Example Map of NO FRAGMENTATION

SOME: 1

Some fragmentation is considered as habitats separated by small gaps, mainly caused by highways and their side effects. A gap of at least 7,2 km (2 grid cell) was considered as some fragmentation.

Example:

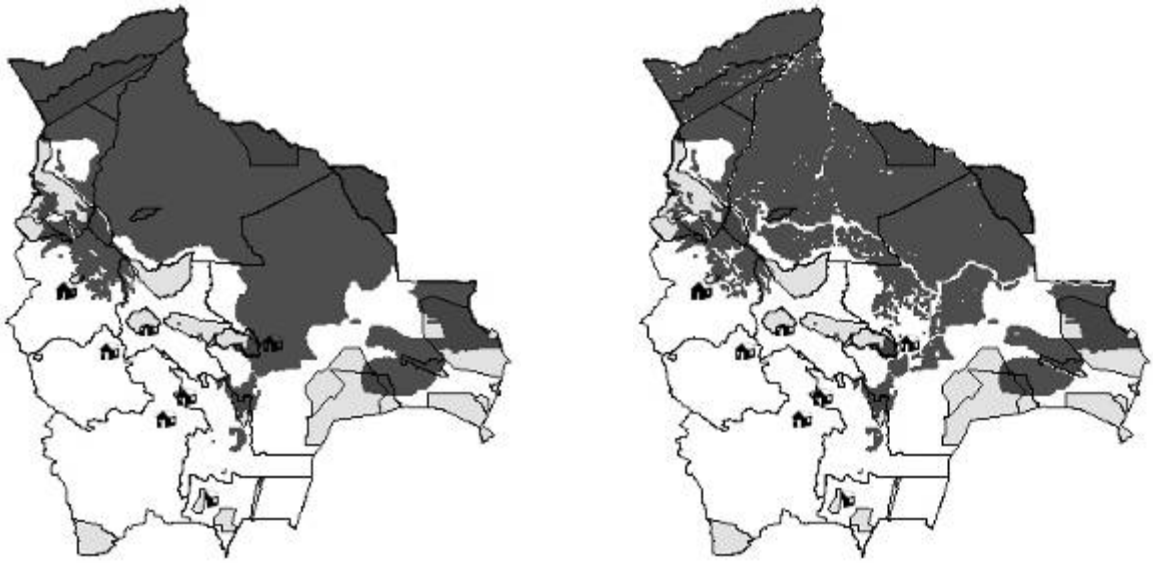

Figure 5 Example Map of SOME FRAGMENTATION

STRONG: 5

Wider gaps (at least 10,8 km [3 grid cells] seperating habitat in two or more fragments was considered as strong fragmentation. Also fragmentation habitat in several small fragments only seperated by a narrow gap was considered as strong fragmentation.

Example:

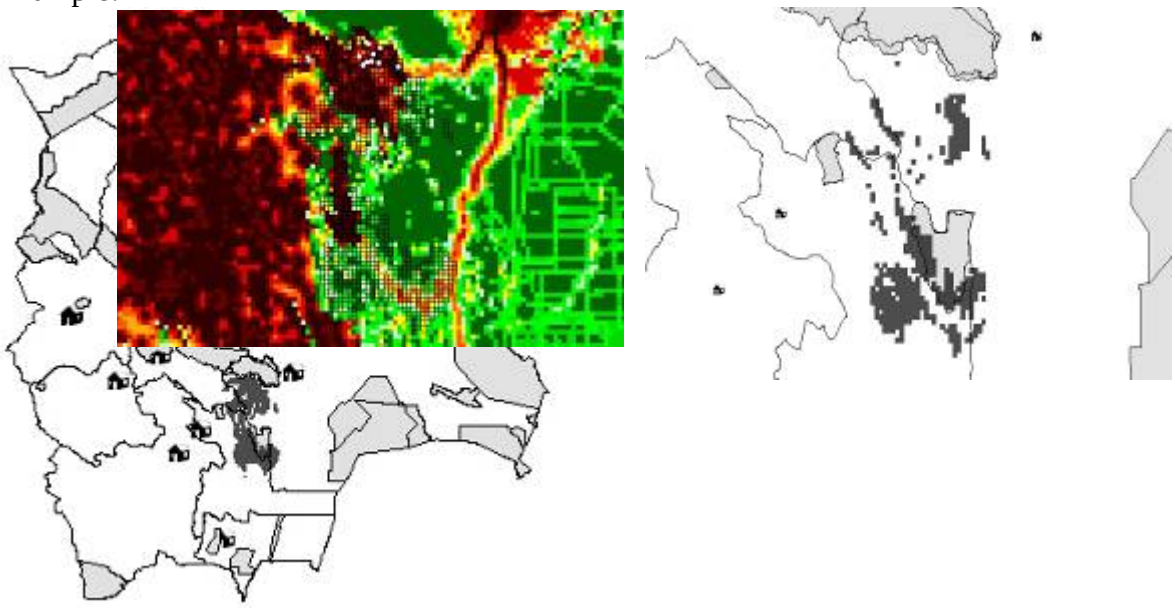

Figure 6 Example Map of STRONG FRAGMENTATION

VERY STRONG: 12
A habitat was considered as very strong fragmented when gaps were very wide (at least 36km [5 grid cells] and if the habitat was seriously fragmented in several gaps, including narrower gaps. Example:

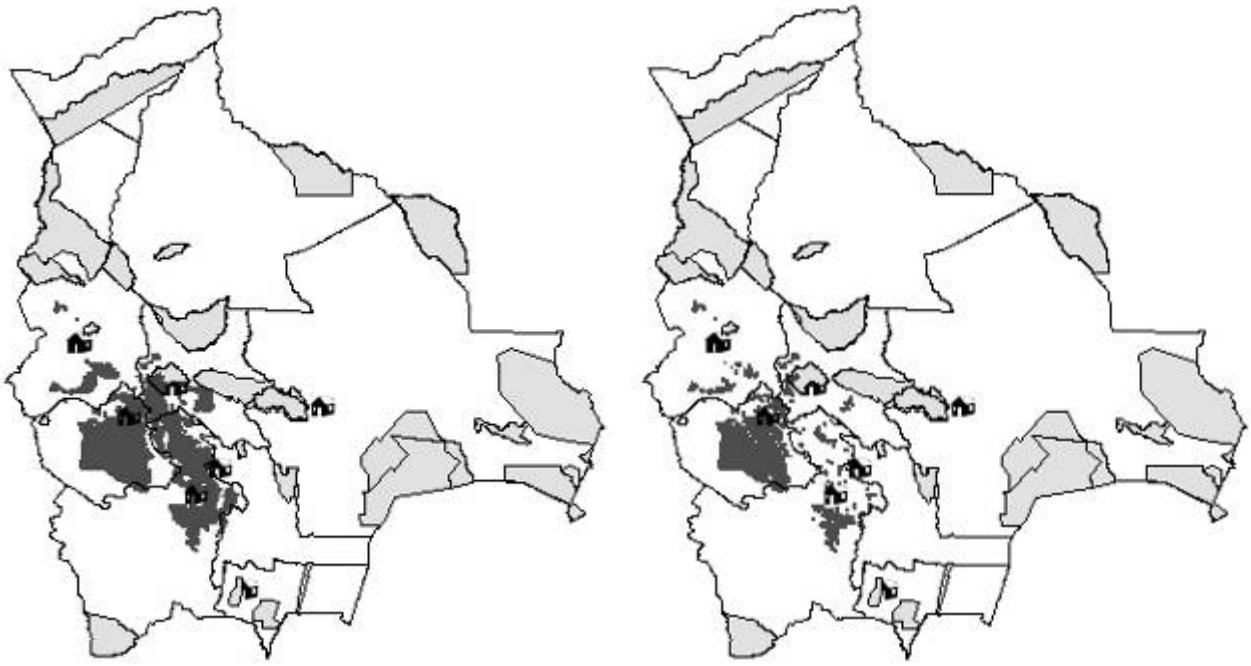

Figure 7 Example Map of VERY STRONG FRAGMENTATION

Distribution in good National parks
Sufficient distribution in protected areas (sufficient was defined as the minimum habitat size defined by the IUCN) should have a positive effect on the conservation status for the species. At least the population/s distributed within the limits are supposed to be protected from most threats.

NONE: not within National Park borders or just within borders of parks (<8 grid cells) = 3
LOW: with a maximum of 39 grid cells (= 500km²) within park borders = 2
STRONG: with more than 39 grid cells = 1
VERY STRONG: with at least 387 grid cells or at least 50% of distribution = 0

Use
The use of species as pets, for alimentation or other purposes is one of the best-known threats, also used by the IUCN. Additionally, the use of a species' notoriety was considered. If a species is killed occasionally because it is considered as venomous (false and real coral snakes and vipers) it is considered to underlie "some" use. Finally, simple killing off the individual has the same effect as the use of it.
Most populations of species overused = 15
Just few populations overused or most populations strongly used but not overused = 10
Species little used and never overused, killed occasionally for meat or because of notoriety (e.g. venomous or believed to be) = 2
No use or sustainable use = 0

Rarity
very common: commonly found, at least 10 specimens known in Bolivia = 0
normal: normal findings, less than 10 specimens = 1
rare: 5 or less specimens or just known from one locality = 3
very rare: just known from types (and having been described at least 5 years ago) or not being found for at least 10 years = 8

Conservation category
To evaluate the conservation category the sum from the above-mentioned values was calculated. Pending on the resulting sum the conservation status was given.

>21 Critically endangered
17-21 Endangered
11-16 Vulnerable
6-10 Near threatened
0-5 Least concern

2.8 Data Sheets

Map Quality: *High confidence*
Map Quality gives the subjective opinion of the author about the quality of the extrapolation. It is given as High confidence**,** Medium confidence or Low confidence. Bad results of the extrapolation are mostly a problem of scarce input data.

Global distribution: *Endemic for Bolivia (Beni, Cochabamba, La Paz, Santa Cruz)*
Gives the global distribution of the species. If it is endemic for Bolivia it is said so. In parenthesis are given the Departments in Bolivia the species appear. It is important to say that many Departments are included in the Distribution because of the extrapolation of the distribution, yet they may still lack an assortment of species.

Taxonomic status: OK
Gives short information about the taxonomic situation of the species. If the species status is confident it is given as OK. If the species status is uncertain or if it is believed to be a species complex it is given as UNCERTAIN. This leads automatically to a Conservation Category, which is at least: NEAR THREATENED (see also discussion).

Sensibility for habitat alteration: SENSIBLE
This gives the sensibility of a species towards habitat alteration. This is very important to calculate the distribution Value and Fragmentation. Values given are: VERY SENSIBLE, SENSIBLE, TOLERANT, ADVANTAGE.

Distribution Value: 6726
Distr. Total = 8836; EDC 1 = 4421; EDC 2 = 1634; EDC 3 = 1301; EDC 4 = 1087; EDC 5 = 393
This gives several values of the extrapolated distribution in numbers of grid cells. Given is the Distribution Total including all grid cells in all 5 categories of Status of Conservation of the

Habitat (EDC). EDC 1 to 5 gives the grid cells in the different conservation categories of the habitat. One represents the best-conserved habitat, 5 the worst. The underlined number in bold is the calculated “real” distribution (see chapter 2.6).

Fragmentation: SOME
Some Fragmentation by strong habitat alteration near Santa Cruz, in the Chapare region, and by highways.
For the calculation of the Fragmentation of a habitat, an intersection between the extrapolated distribution of every species and the EDC map was realized. All habitats worse than the defined sensibility were removed.

Distribution in good National parks: VERY STRONG
1843 grid cells in Parks: Amboró, Carrasco, Cavernas del Repechón, EBB, Isiboro Sécure, Pilón Lajas
For the calculation of the Distribution in National parks, an intersection between the extrapolated distribution of every species and the map showing the limits of the 22 protected areas in Bolivia was realized. All grid cells, occupied by the species and lying within protected area limits were calculated for that value.

Use: NONE
No use known
The use of a species includes the use as a pet, as food, use of different parts of the body for various purposes, collecting the species for selling on local, national, and international markets, superstition, and notoriety of a species, which may influence reactions when encountered.

Conservation status IUCN: LC
The results of using the given data on the IUCN methodology are shown here. It has to be clear that the results may be subjective and are not the official results given by the IUCN.

Official IUCN Conservation Status: NE
This is the official Conservation status given by the IUCN. For most species it is NE (not evaluated).

2.9 Coarse scale filters

2.9.1 Species richness maps

This simply marks the species-richest areas overlaying the extrapolated distribution of all species or groups of species (e.g. turtles). The base for this is the most complete database of species occurring in the country and very good information about their distribution. As the second detail normally is difficult in countries with scarce collection data, a distribution extrapolation model, BIOM, was used to predict the possible distribution of a species. With this method very good results for the distribution of species within Bolivia were reached as long as there were at least 3 collection points.

2.9.2 Endemism richness maps

The program BIOM calculated the endemism-richness (= C-Value; Kier & Barthlott 2001) by overlapping the distributional ranges of the “to be analyzed species”. Endemism-richness is a value that combines diversity with the degree of endemism and illustrates the contribution of a specific location to the general diversity of the area studied. For technical reasons, the usually very small C-Value is raised artificially by BIOM, multiplying it by 1,000.

2.9.3 Hot spots of Vulnerability

Shows the concentration of all species, which were identified at least as vulnerable. This means that a hot spot of vulnerability hosts several threatened species and gives a high conservation value to the area.

2.9.4 Reptile specific GAP-Analysis

A basic GAP Analysis was applied for the reptiles. Maps of Species-richness, Endemism, and hot spots of vulnerability were compared with the Map of protected areas of Bolivia. This way, areas were identified that were species and endemism-rich, that were having conservation problems, and that were without any protected area coverage.

3. Results

3.1 Species List of Bolivian Reptiles (303 species included)

Clase REPTILIA

Subclase ANAPSIDA

Orden TESTUDINES

Suborden PLEURODIRA

Familia CHELIDAE

Acanthochelys macrocephala
Acanthochelys pallidipectoris
Chelus fimbriatus
Phrynops geoffroanus
Phrynops gibbus
Phrynops nasutus
Phrynops raniceps
Phrynops vanderhaegei
Platemys platycephala

Familia KINOSTERNIDAE

Kinosternon scorpioides

Familia PODOCNEMIDIDAE

Podocnemis expansa
Podocnemis unifilis

Familia TESTUDINIDAE

Geochelone carbonaria
Geochelone chilensis
Geochelone denticulata

Subclase ARCHOSAURIA

Orden CROCODYLIA

Familia ALLIGATORIDAE

Caiman latirostris
Caiman yacare
Melanosuchus niger
Paleosuchus palpebrosus
Paleosuchus trigonatus

Subclase LEPIDOSAURIA

Orden SQUAMATA

Suborden IGUANIA

Infraorden PLEURODONTES

Familia HOPLOCERCIDAE

Enyalioides palpebralis
Hoplocercus spinosus

Familia IGUANIDAE

Iguana iguana

Familia POLYCHRIDAE

Dactyloa punctata
Dactyloa transversalis
Norops fuscoauratus
Norops meridionalis
Norops nitens
Norops ortonii
Norops scapularis
Polychrus acutirostris
Polychrus liogaster
Urostrophus gallardoi

Familia TROPIDURIDAE

Stenocercus aculeatus
Stenocercus aff. *crassicaudatus*

Stenocercus caducus
Stenocercus marmoratus
Stenocercus prionotus
Stenocercus roseiventris
Tropidurus callathelys
Tropidurus chromatops
Tropidurus etheridgei
Tropidurus melanopleurus
Tropidurus oreadicus
Tropidurus plica
Tropidurus spinulosus
Tropidurus torquatus
Tropidurus umbra
Tropidurus xanthochilus
Uranoscodon superciliosus

Familia LIOLAEMIDAE

Liolaemus alticolor
Liolaemus chacoensis
Liolaemus chaltin
Liolaemus cranwelli
Liolaemus dorbignyi
Liolaemus erguetae
Liolaemus fittkaui
Liolaemus forsteri
Liolaemus islugensis
Liolaemus jamesi
Liolaemus orientalis
Liolaemus ornatus
Liolaemus pantherinus
Liolaemus puna
Liolaemus schmidti
Liolaemus signifer
Liolaemus stolzmanni
Liolaemus variegatus
Liolaemus sp. nov. *boulengeri* group

Suborden SCLEROGLOSSA

Infraorden GEKKOTA

Familia GEKKONIDAE

Coleodactylus amazonicus
Gonatodes hasemani
Gonatodes humeralis

Hemidactylus mabouia
Homonota dorbignyi
Homonota fasciata
Lygodactylus wetzeli
Phyllopezus pollicaris
Thecadactylus rapicauda

Infraorden AUTARCHOGLOSSA

Familia GYMNOPHTALMIDAE

Alopoglossus angulatus
Ptychoglossus brevifrontalis
Arthrosaura kockii
Arthrosaura reticulata
Bachia dorbignyi
Bachia trisanale
Cercosaura argula
Cercosaura eigenmanni
Cercosaura manicata
Cercosaura ocellata
Cercosaura parkeri
Cercosaura schreibersi
Iphisa elegans
Micrablepharus maximiliani
Opipeuter xestus
Potamites ecpleopus
Potamites ocellatus
Proctoporus bolivianus
Proctoporus guentheri
Vanzosaura rubricauda

Familia TEIIDAE

Ameiva ameiva
Ameiva vittata
Cnemidophorus sp. ex gr. *lacertoides*
Cnemidophorus sp. ex gr. *ocellifer*
Dracaena paraguayensis
Kentropyx altamazonica
Kentropyx calcarata
Kentropyx paulensis
Kentropyx pelviceps
Kentropyx sp nov
Kentropyx vanzoi
Kentropyx viridistriga
Teius cyanogaster

Teius teyou
Tupinambis merianae
Tupinambis rufescens
Tupinambis teguixin

Familia SCINCIDAE

Mabuya cochabambae
Mabuya dorsivittata
Mabuya frenata
Mabuya guaporicola
Mabuya nigropalmata
Mabuya nigropunctata

Familia ANGUIDAE

Diploglossus fasciatus
Ophiodes intermedius
Ophiodes sp. nov.

Infraorden AMPHISBAENIA

Familia AMPHISBAENIDAE

Amphisbaena alba
Amphisbaena angustifrons
Amphisbaena bolivica
Amphisbaena camura
Amphisbaena cegei
Amphisbaena darwinii
Amphisbaena fuliginosa
Amphisbaena silvestrii
Amphisbaena slateri
Amphisbaena vermicularis
Anops kingi
Cercolophia borelli
Cercolophia steindachneri
Leposternon microcephalum

Infraorden SERPENTES

Familia LEPTOTYPHLOPIDAE

Leptotyphlops albifrons
Leptotyphlops albipuncta
Leptotyphlops melanotermus
Leptotyphlops septemstriatus
Leptotyphlops striatula

Leptotyphlops undecimstriatus
Leptotyphlops unguirostris

Familia TYPHLOPIDAE

Typhlops brongersmianus
Typhlops reticulatus

Familia ANILIIDAE

Anilius scytale

Familia BOIDAE

Boa constrictor
Corallus caninus
Corallus hortulanus
Epicrates cenchria
Eunectes beniensis
Eunectes murinus
Eunectes notaeus

Familia ELAPIDAE

Micrurus annellatus
Micrurus diana
Micrurus hemprichii
Micrurus lemniscatus
Micrurus narduccii
Micrurus obscurus
Micrurus pyrrhocryptus
Micrurus serranus
Micrurus spixii
Micrurus surinamensis

Familia COLUBRIDAE

Apostolepis ambinigra
Apostolepis breviceps
Apostolepis dorbignyi
Apostolepis multicincta
Apostolepis nigroterminata
Apostolepis phillipsi
Apostolepis quinquelineata (complex)
Apostolepis tenuis
Apostolepis vittata
Atractus balzani
Atractus bocki

Atractus boettgeri
Atractus latifrons
Atractus major
Atractus snethlageae
Atractus taeniatus
Boiruna maculata
Chironius exoletus
Chironius flavolineatus
Chironius fuscus
Chironius laurenti
Chironius monticola
Chironius multiventris
Chironius quadricarinatus
Chironius scurrulus
Clelia bicolor
Clelia clelia
Clelia langeri
Dendrophidion dendrophis
Dipsas catesbyi
Dipsas chaparensis
Dipsas indica
Dipsas pavonina
Dipsas variegata
Drepanoides anomalus
Drymarchon corais
Drymobius rhombifer
Drymoluber dichrous
Echinanthera brevirostris
Echinanthera occipitalis
Echinanthera sp. nov.
Erythrolamprus aesculapii
Erythrolamprus sp.
Helicops angulatus
Helicops leopardinus
Helicops polylepis
Hydrodynastes gigas
Hydrops triangularis
Imantodes cenchoa
Imantodes lentiferus
Leptodeira annulata
Leptophis ahaetulla
Liophis almadensis
Liophis andinus
Liophis anomalus
Liophis breviceps
Liophis ceii
Liophis cobellus

Liophis dilepis
Liophis flavifrenatus
Liophis guentheri
Liophis jaegeri
Liophis meridionalis
Liophis miliaris
Liophis poecilogyrus
Liophis reginae
Liophis sagittifer
Liophis steinbachi
Liophis taeniurus
Liophis typhlus
Lystrophis pulcher
Lystrophis semicinctus
Mastigodryas bifossatus
Mastigodryas boddaerti
Oxybelis aeneus
Oxybelis fulgidus
Oxyrhopus formosus
Oxyrhopus guibei
Oxyrhopus melanogenys
Oxyrhopus petola
Oxyrhopus rhombifer
Oxyrhopus sp. nov.
Oxyrhopus trigeminus
Phalotris lemniscatus
Phalotris tricolor
Philodryas aestiva
Philodryas baroni
Philodryas boliviana
Philodryas mattogrossensis
Philodryas olfersii
Philodryas patagoniensis
Philodryas psammophidea
Philodryas varia
Philodryas viridissima
Phimophis guerini
Phimophis vittatus
Pseudoboa coronata
Pseudoboa nigra
Pseudoeryx plicatilis
Pseustes poecilonotus
Pseustes sulphureus
Psomophis genimaculatus
Psomophis obtusus
Rhinobothryum lentiginosum
Sibynomorphus lavillai

Sibynomorphus turgidus
Siphlophis cervinus
Siphlophis compressus
Spilotes pullatus
Tachymenis attenuata
Tachymenis elongata
Tachymenis peruviana
Tachymenis tarmensis
Tantilla melanocephala
Tantilla sp. nov.
Thamnodynastes chaquensis
Thamnodynastes pallidus
Thamnodynastes sp.
Tomodon orestes
Waglerophis merremi
Xenodon neuwiedi
Xenodon rabdocephalus
Xenodon severus
Xenopholis scalaris
Xenoxybelis argenteus

Familia VIPERIDAE

Bothriopsis bilineata
Bothriopsis oligolepis
Bothriopsis taeniata
Bothrocophias hyoprora
Bothrocophias microphtalmus
Bothrops andianus
Bothrops atrox
Bothrops jonathani
Bothrops matogrossensis
Bothrops moojeni
Bothrops sanctaecrucis
Crotalus durissus
Lachesis muta

3.2 Species Accounts

TURTLES

Figure 8 *Geochelone denticulata*

Figure 9 *Kinosternon scorpioides*

Figure 10 *Phrynops vanderhaegei*

Figure 11 *Platemys platycephala*

3.2.1 Chelidae

Acanthochelys macrocephala (RHODIN, MITTERMEIER & MCMORRIS)

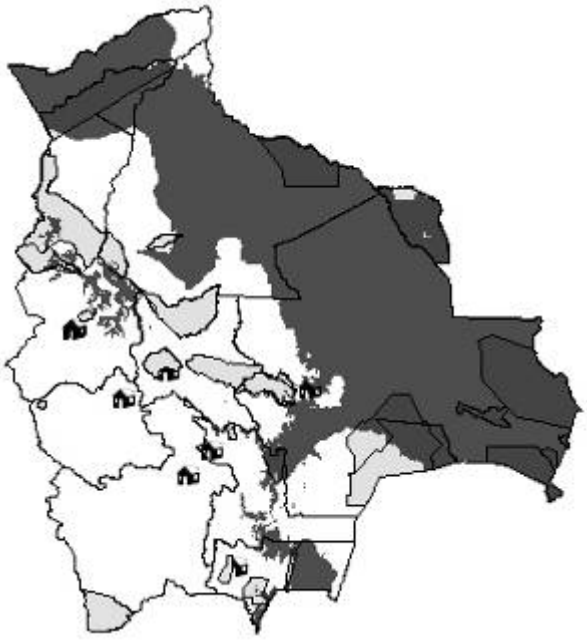

Figure 12 Extrapolated Distribution of *Acanthochelys macrocephala*

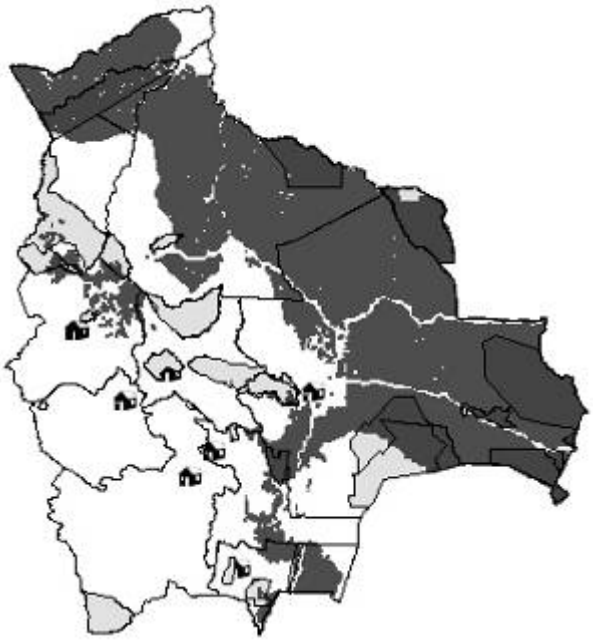

Figure 13 Fragmentation of Habitat of *Acanthochelys macrocephala*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Beni, Chuquisaca, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 34902: 0
Distr. Total = 40427; EDC 1 = 26579; EDC 2 = 8323 EDC 3 = 3352; EDC 4 = 1673; EDC 5 = 500
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
8724 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: SOME: 2
Rarity: VERY COMMON: 0

0+1+0+2+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: LR/nt ver 2.3 (1994)
Comments: Type locality: Rio Paraguay, Mato Grosso, Brazil (16° 03'S, 57° 43'W)". Holotype: NMW 1293

Acanthochelys pallidipectoris (FREIBERG)

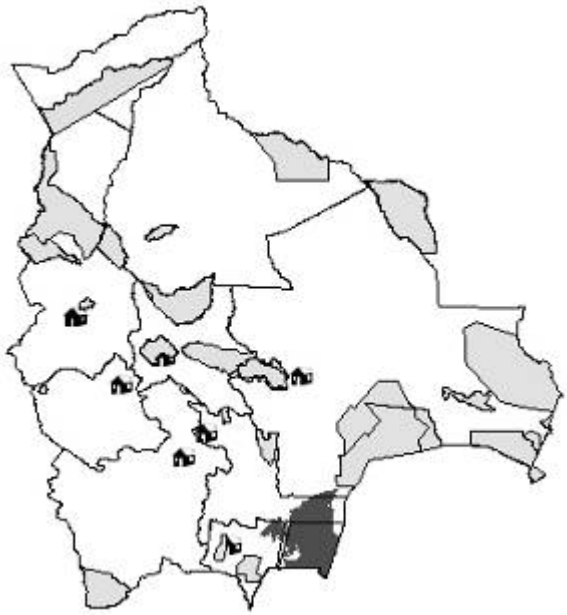

Figure 14 Extrapolated Distribution of *Acanthochelys pallidipectoris*

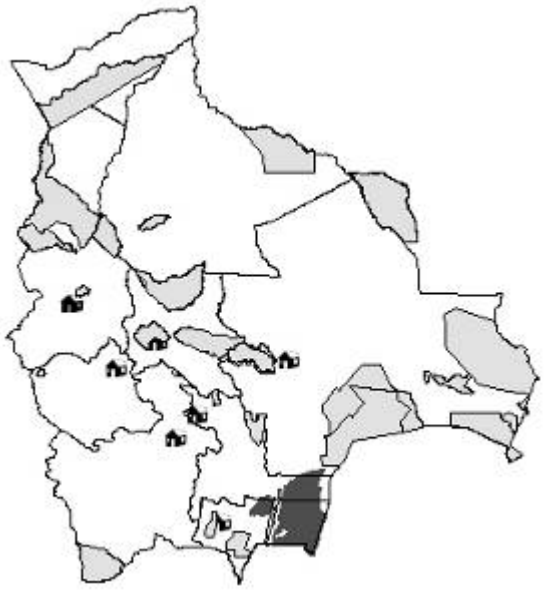

Figure 15 Fragmentation of Habitat of *Acanthochelys pallidipectoris*

Map Quality: High confidence
Global distribution: Argentina, Paraguay, Bolivia (Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 1453: 2
Distr. Total = 1599; EDC 1 = 959; EDC 2 = 494; EDC 3 = 97; EDC 4 = 49; EDC 5 = 0
Fragmentation: NONE: 0
Distribution in good National parks: **SOME: 2**
31 grid cells in Parks: Aguarague
Use: SOME: 2
Rarity: RARE: 3

2+0+2+2+3 = 9

Conservation status: Near threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: VU A1c, D1 ver. 2.3 (1994)
Comments: Holotype: MACN 1731. Terra typica: Pres. Roque Saenz Peña, Chaco, Argentina

Chelus fimbriatus (FERMIN)

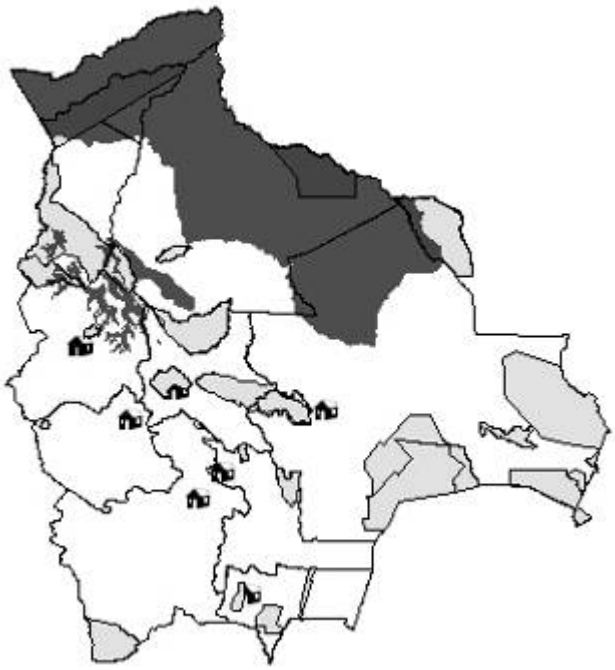

Figure 16 Extrapolated Distribution of *Chelus fimbriatus*

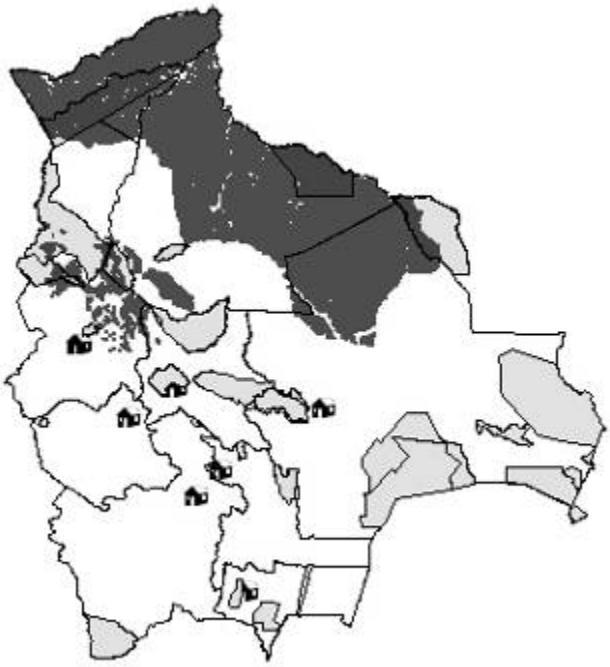

Figure 17 Fragmentation of Habitat of *Chelus fimbriatus*

Map Quality: High confidence
Global distribution: Peru, Ecuador, Colombia, Venezuela, Guyana, French Guiana, Surinam, Brazil, Trinidad, Bolivia (Beni, Cochabamba?, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 18131: 0
Distr. Total = 20962; EDC 1 = 13067; EDC 2 = 5064; EDC 3 = 2146; EDC 4 = 498; EDC 5 = 187
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
2681 grid cells in Parks: Apolobamba, Cotapata, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Uprouague and Remire Island, French Guiana

Phrynops geoffroanus (SCHWEIGGER)

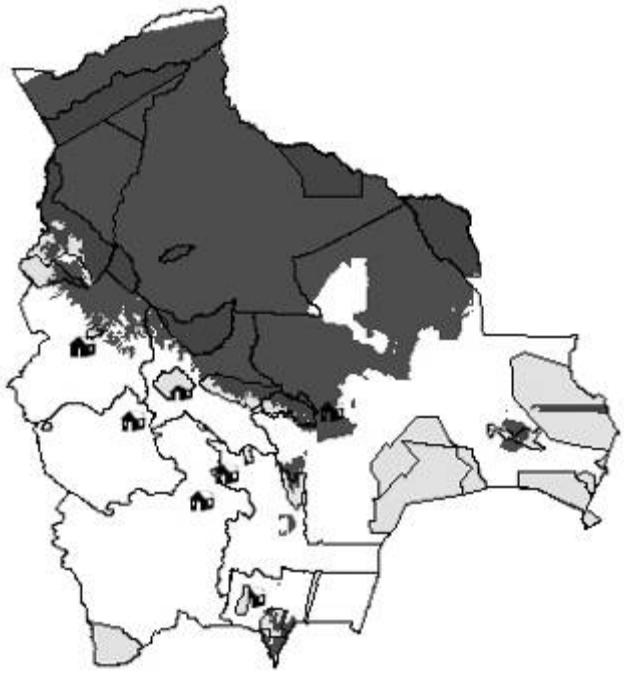

Figure 18 Extrapolated Distribution of *Phrynops geoffroanus*

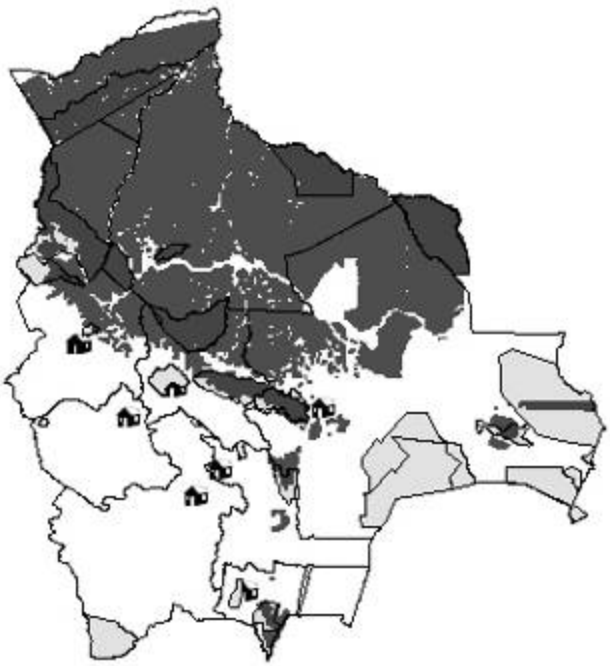

Figure 19 Fragmentation of Habitat of *Phrynops geoffroanus*

Map Quality: Medium confidence
Isolated distribution in southeastern and southern Bolivia is doubtful but possible as the species is known from Paraguay, Argentina and Brazil.
Global distribution: Venezuela, Colombia, Ecuador, Peru, Brazil, Paraguay, Argentina, Guyana, Bolivia (Beni, Chuquisaca?, Cochabamba, La Paz, Pando, Santa Cruz, Tarija?)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 31536: 0
Distr. Total = 38379; EDC 1 = 23563; EDC 2 = 7973; EDC 3 = 4159; EDC 4 = 2007; EDC 5 = 677
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7039 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: SOME: 2
Rarity: VERY COMMON: 0

0+1+0+2+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Phrynops gibbus (SCHWEIGGER)

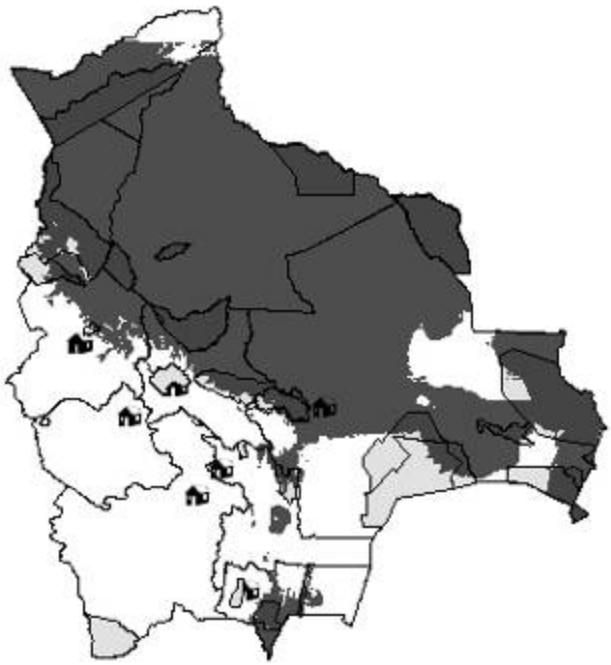

Figure 20 Extrapolated Distribution of *Phrynops gibbus*

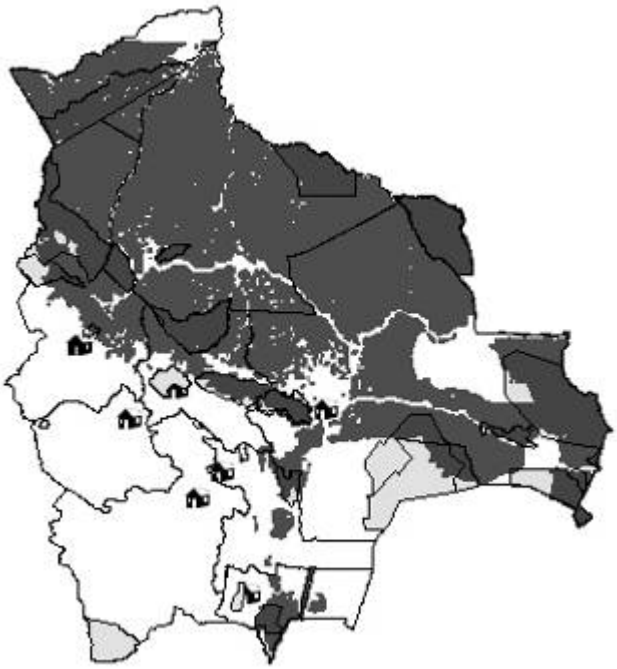

Figure 21 Fragmentation of Habitat of *Phrynops gibbus*

Map Quality: Medium confidence
Isolated distribution in southern Bolivia is doubtful but does not alter the results. If it is true it would propose also distribution in northern Argentina.
Global distribution: Peru, Ecuador, Colombia, Venezuela, Trinidad, Guyana, Surinam, Paraguay, Brazil, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 40706: 0
Distr. Total = 48995; EDC 1 = 30962; EDC 2 = 9744; EDC 3 = 4787; EDC 4 = 2627; EDC 5 = 875
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
10884 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: SOME: 2

Rarity: RARE: 3

0+1+0+2+3 = 6

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Patria ignota (= locality unknown); Designated as "Amerique meridionale" (= South America) by Dumeril & Dumeril 1851: 20. Restricted to near "Cayenne, Guyane francaise" by Bour & Pauler 1987: 7. Holotype: MNHN 8756

Phrynops nasutus (SCHWEIGGER)

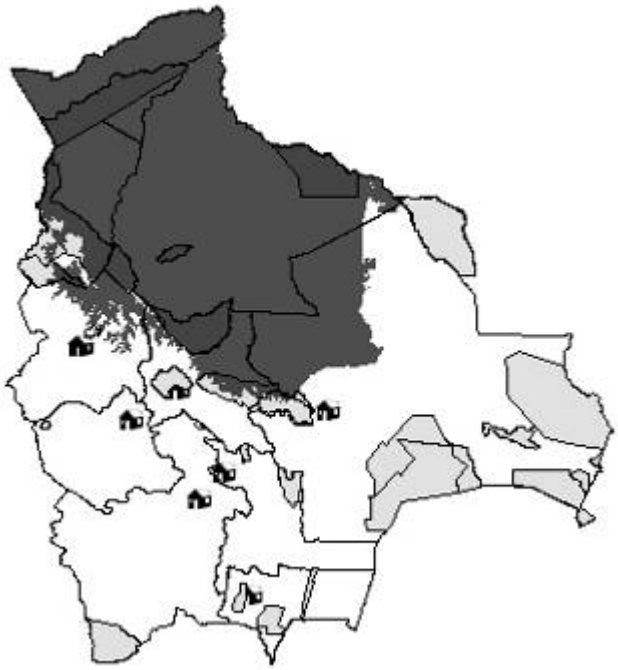

Figure 22 Extrapolated Distribution of *Phrynops nasutus*

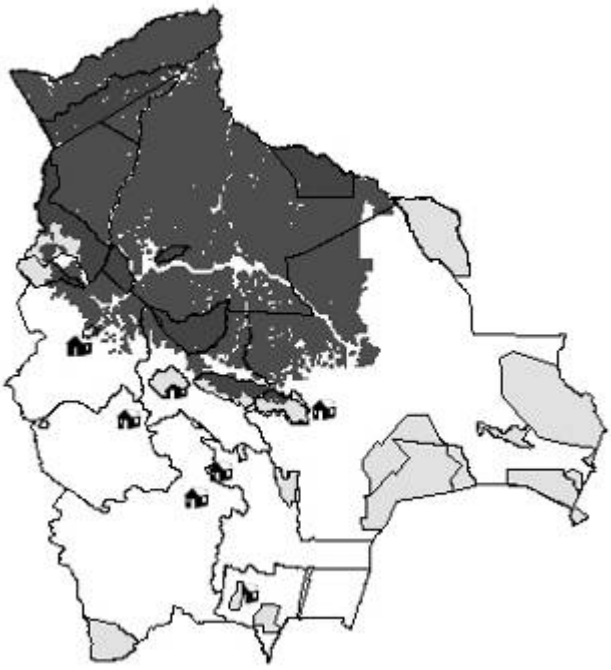

Figure 23 Fragmentation of Habitat of *Phrynops nasutus*

Map Quality: High confidence
Global distribution: Colombia, Peru, Brazil, Guyana, French Guiana, Surinam, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 26367: 0
Distr. Total = 32077; EDC 1 = 19229; EDC 2 = 7138; EDC 3 = 3723; EDC 4 = 1479; EDC 5 = 508
Fragmentation: SOME: 1

Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4904 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, Pilón Lajas
Use: SOME: 2
Rarity: NORMAL: 1

0+1+0+2+1 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: *Phrynops nasutus wermuthi* has been given species status (*Phrynops raniceps*, *Phrynops wermuthi*) by Iverson (1992) and others.

Phrynops raniceps (GRAY)

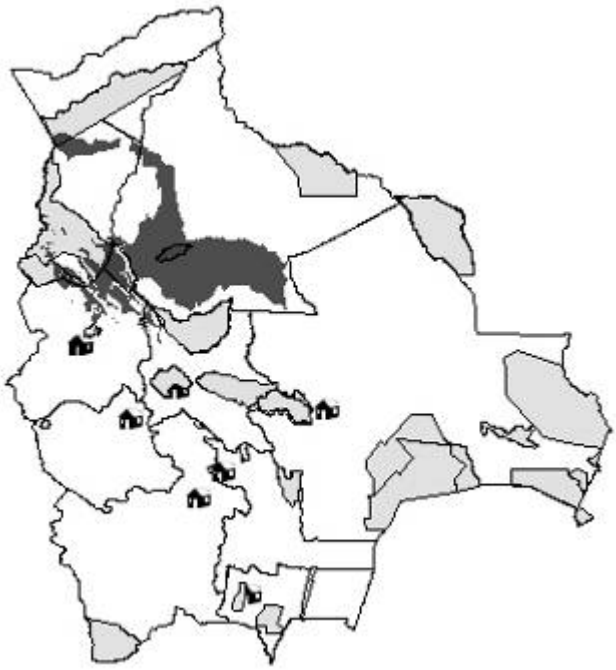

Figure 24 Extrapolated Distribution of *Phrynops raniceps*

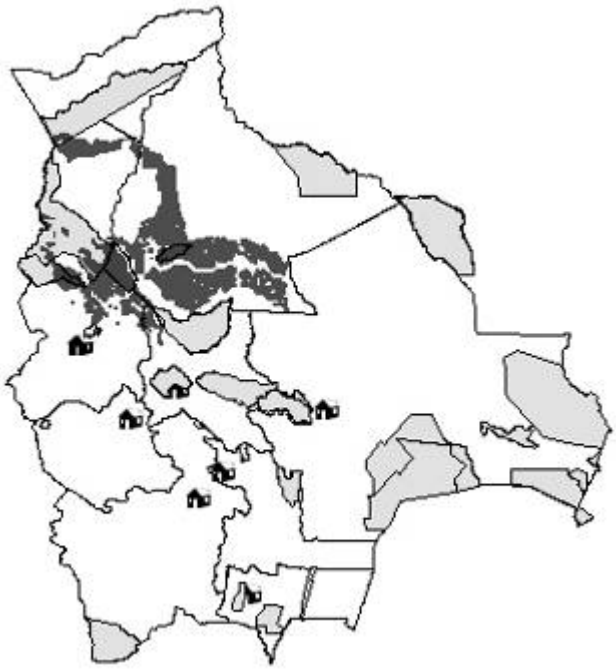

Figure 25 Fragmentation of Habitat of *Phrynops raniceps*

Map Quality: Medium confidence
Global distribution: Colombia, Peru, Brazil, Venezuela, Bolivia (Beni, Cochabamba, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 4085: 0
Distr. Total = 5423; EDC 1 = 2822; EDC 2 = 1263; EDC 3 = 811; EDC 4 = 393; EDC 5 = 134
Fragmentation: SOME: 1
Some fragmentation by highways and habitat destruction near Trinidad and Rurrenabaque
Distribution in good National parks: **VERY STRONG: 0**
722 grid cells in Parks: Apolobamba, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilón Lajas
Use: SOME: 2
Rarity: RARE: 3

0+1+0+2+3 = 6

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Platemys platycephala (SCHNEIDER)

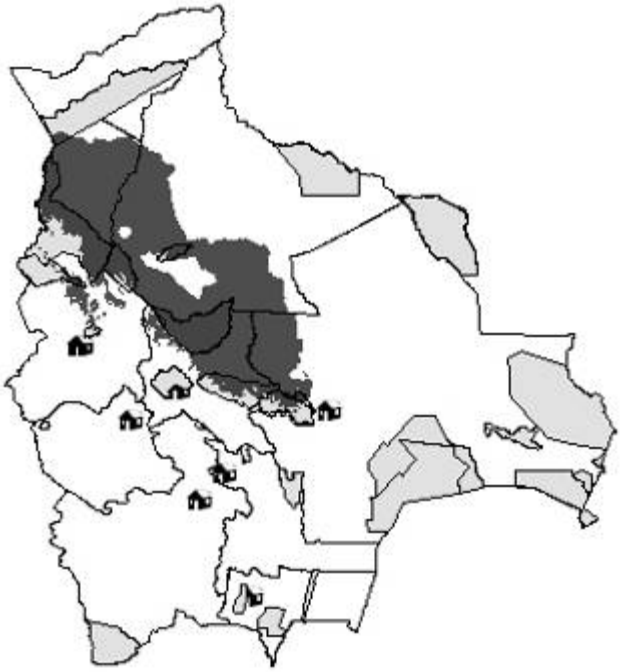

Figure 26 Extrapolated Distribution of *Platemys platycephala*

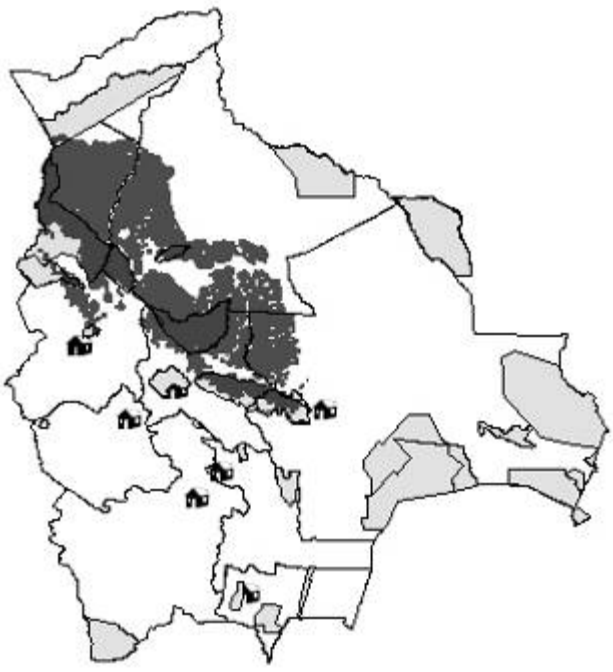

Figure 27 Fragmentation of Habitat of *Platemys platycephala*

Map Quality: High confidence
Global distribution: Venezuela, Guyana, French Guiana, Surinam, Ecuador, Peru, Colombia, Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 9864: 0
Distr. Total = 12259; EDC 1 = 7771; EDC 2 = 2093; EDC 3 = 1419; EDC 4 = 733; EDC 5 = 243
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction in the Chapare region and near Trinidad and by highways.
Distribution in good National parks: **VERY STRONG: 0**
2763 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilón Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Ost-Indien" (in error); restricted to "Cayenne, French Guiana" by Ernst (1983).

3.2.2 Kinosternidae

Kinosternon scorpioides (LINNAEUS)

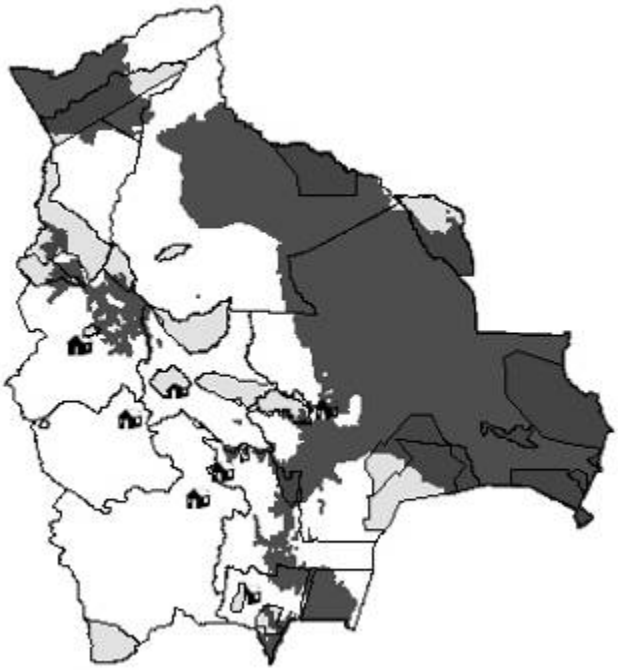

Figure 28 Extrapolated Distribution of *Kinosternon scorpioides*

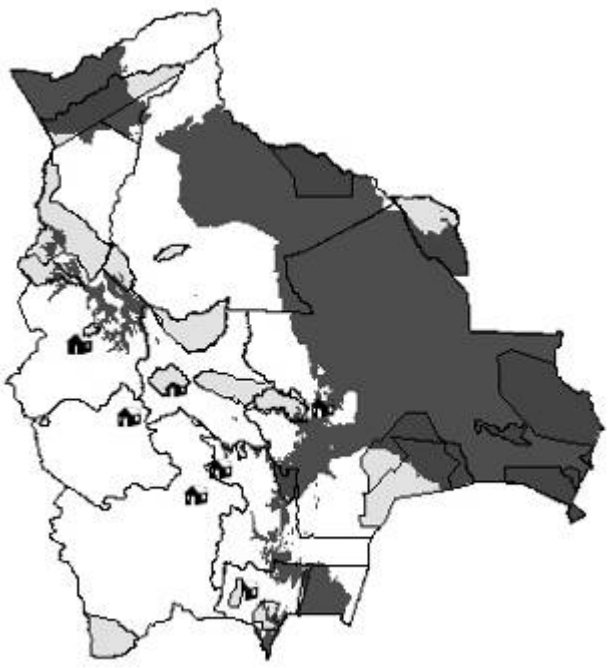

Figure 29 Fragmentation of Habitat of *Kinosternon scorpioides*

Map Quality: Medium confidence
Global distribution: Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Brazil, Argentina, Paraguay, Peru, Trinidad, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 30327: 0
Distr. Total = 34967; EDC 1 = 23483; EDC 2 = 6844; EDC 3 = 2667; EDC 4 = 1513; EDC 5 = 460
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
8773 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, El Palmar, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0

Conservation status: Least Concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Surinam

3.2.3 Podocnemididae

Podocnemis expansa (SCHWEIGGER)

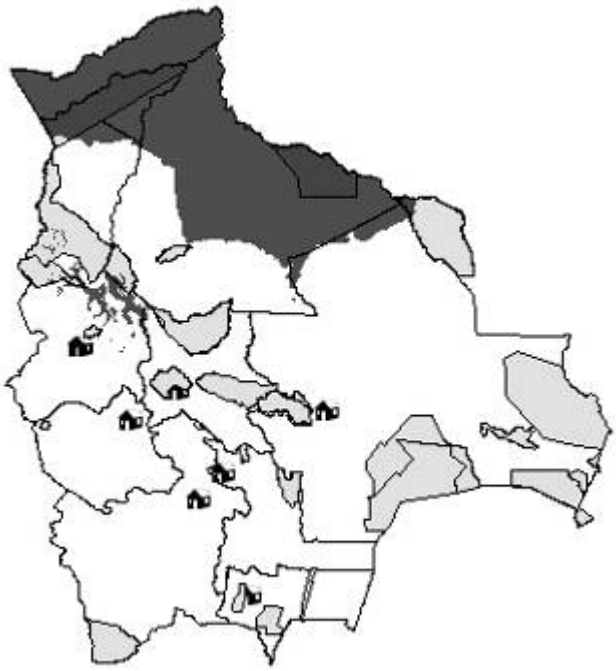

Figure 30 Extrapolated Distribution of *Podocnemis expansa*

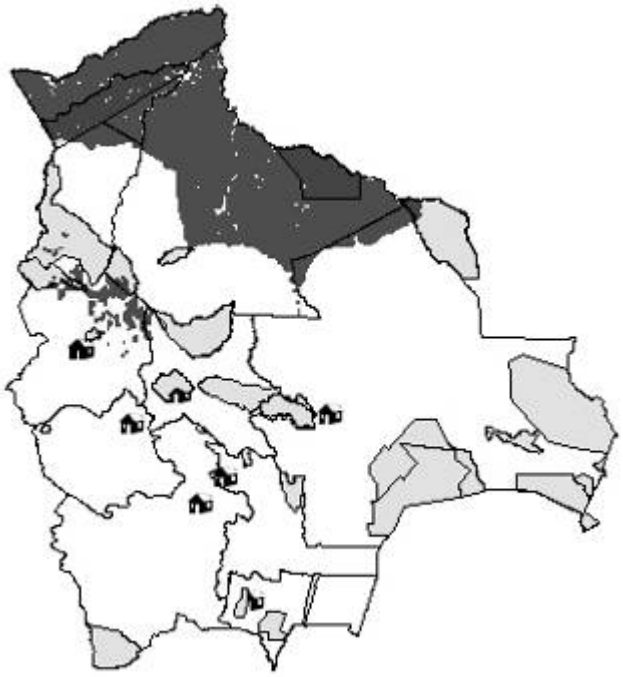

Figure 31 Fragmentation of Habitat of *Podocnemis expansa*

Map Quality: High confidence
Global distribution: Guyana, Venezuela, Peru, Colombia, Venezuela, Brazil, Trinidad, Bolivia (Beni, La Paz?, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 13758: 0
Distr. Total = 15916; EDC 1 = 9410; EDC 2 = 4348; EDC 3 = 1836; EDC 4 = 283; EDC 5 = 39
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
2191 grid cells in Parks: Apolobamba, Cotapata, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: SOME: 2
Rarity: RARE: 3

0+0+0+2+3 = 5

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: LR/cd ver. 2.3 (1994)

Comments: CITES: Appendix II. U.S.A Endangered Species Act: Endangered. Evaluated by Groombridge 1982, IUCN Amph. Rept. Red Data Book, Pt. 1:253-258, and listed as Endangered. See Honegger, R.E., R.A. Mittermeier, A.G.J. Rhodin 1985, *In:* Dollinger, CITES Ident. Manual 3: A-301.009.005.002:1-2. Terra typica: South America Holotype: MNHN; lost (fide King & Burke (1989)); 3 specimens according to the original description; MNHN 7997 is probably one of the types.

Podocnemis unifilis TROSCHEL IN SCHOMBURGK

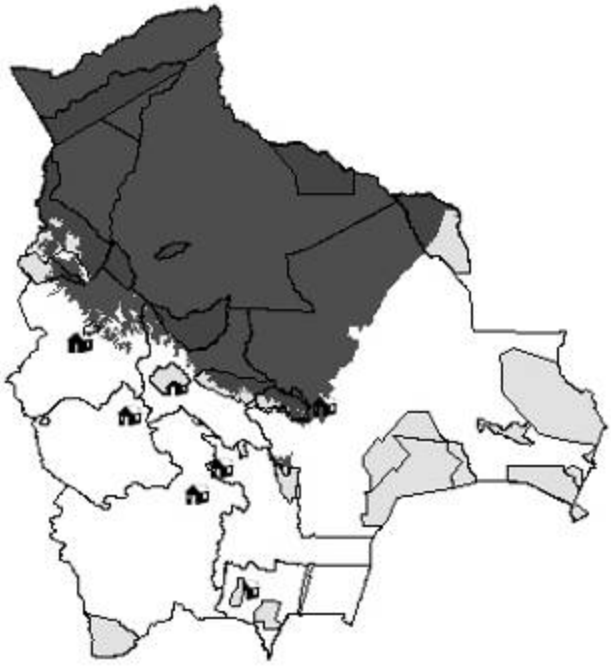

Figure 32 Extrapolated Distribution of *Podocnemis unifilis*

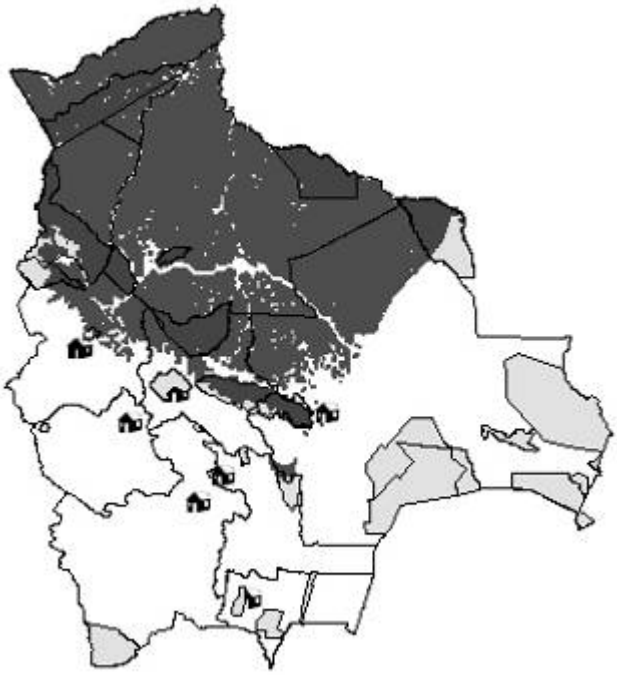

Figure 33 Fragmentation of Habitat of *Podocnemis unifilis*

Map Quality: High confidence
Global distribution: Guyana, French Guiana, Venezuela, and Colombia, Trinidad ?, Tobago ?, Colombia, Ecuador, Peru, Venezuela, Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 29313: 0
Distr. Total = 35653; EDC 1 = 21802; EDC 2 = 7511; EDC 3 = 3975; EDC 4 = 1755; EDC 5 = 610
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5980 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: SOME: 2

Rarity: VERY COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: VU A1acd ver. 2.3 (1994)
Comments: CITES Appendix II. „Terra typica: "Rupununi und Takutu" rivers, Guyana. Mittermeier and Wilson (1974) and Wermuth and Mertens (1977:121) believe *Emys cayennensis* Schweigger 1812 may be an older name applicable to this species. Holotype: ZMB 142, now lost (fide King & Burke (1989))“ (Uetz 2005).

3.2.4 Testudinidae

Geochelone carbonaria (SPIX)

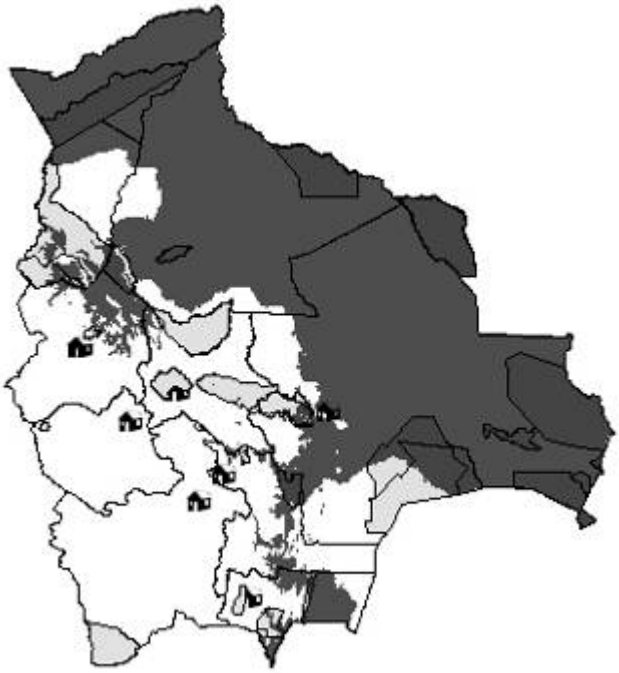

Figure 34 Extrapolated Distribution of *Geochelone carbonaria*

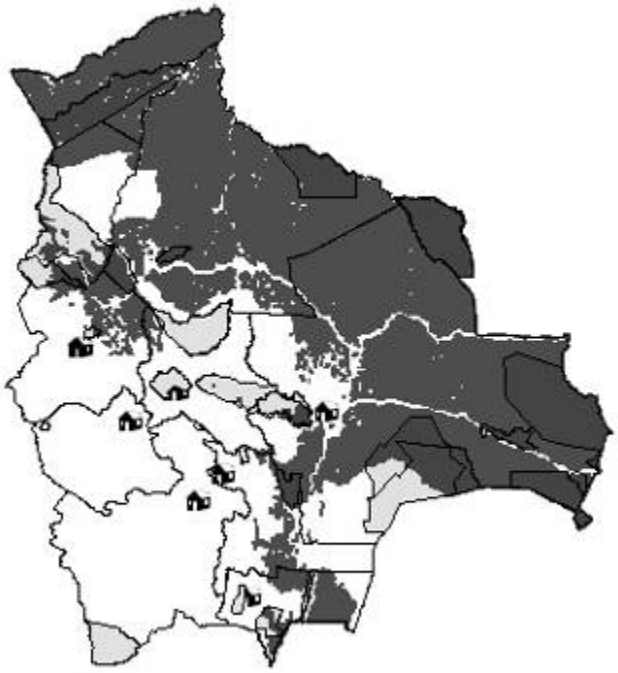

Figure 35 Fragmentation of Habitat of *Geochelone carbonaria*

Map Quality: Medium confidence
It is not probable that the species enters the inter Andean valleys as extrapolated north of La Paz.
Global distribution: Panama, Colombia, Venezuela, Guyana, French Guiana, Surinam, Brazil, Peru, Paraguay, Argentina, Trinidad, Virgin Islands, Nicaragua, Bolivia (Beni, Chuquisaca, Cochabamba?, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 39542: 0
Distr. Total = 46795; EDC 1 = 29883; EDC 2 = 9659; EDC 3 = 4362; EDC 4 = 2231; EDC 5 = 660
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and by highways.
Distribution in good National parks: **VERY STRONG: 0**
9789 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: SOME: 2
Species collected occasionally for its meat
Rarity: VERY COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: VU A1cd+2cd ver 2.3 (1994)
Comments: CITES Appendix II. Terra typica: "Habitat sub cognomine "Capitary" (?) ad flumen Amazonum," South America (cited in King & Burke (1989)). Types: Originally in ZSM, now lost; Hoogmoed and Gruber (1983:354), selected as lectotype plate XVI of Spix (1824).

Geochelone chilensis (GRAY)

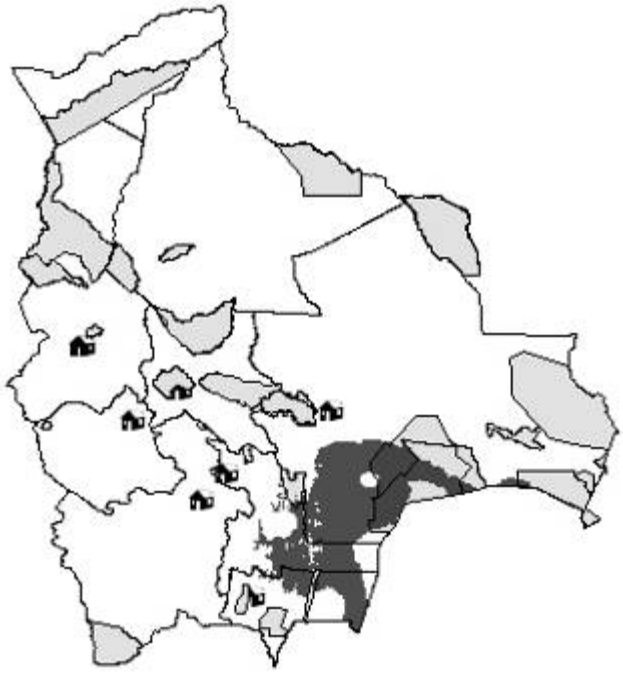

Figure 36 Extrapolated Distribution of *Geochelone chilensis*

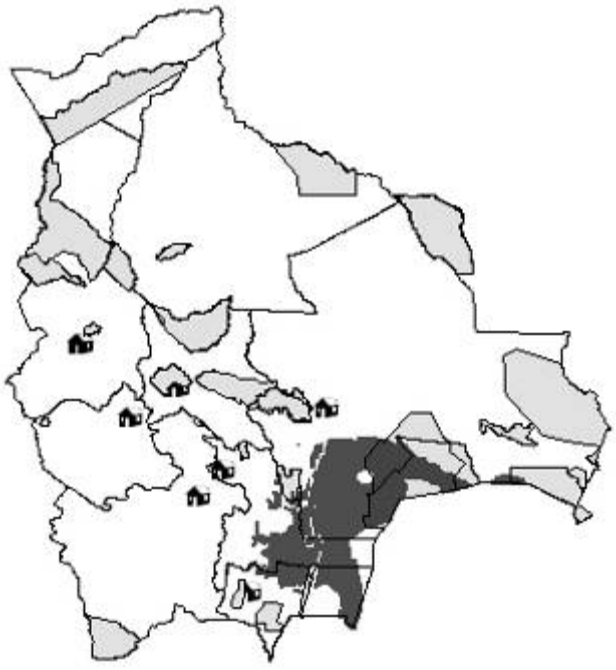

Figure 37 Fragmentation of Habitat of *Geochelone chilensis*

Map Quality: High confidence
Global distribution: Paraguay, Argentina, Bolivia (Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 5213: 0
Distr. Total = 5695; EDC 1 = 3830; EDC 2 = 1383; EDC 3 = 296; EDC 4 = 155; EDC 5 = 31
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
1602 grid cells in Parks: Aguarague, Iñao, Kaa-Iya, Otuquis
Use: SOME: 2
species collected occasionally for its meat
Rarity: VERY COMMON: 0

0+0+0+2+0 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: Mendoza, "Chile", Argentina. Two Syntypes: BMNH 1947.3.5.8 and 1947.3.5.9 (both formerly BMNH 70.12.18.2).

Geochelone denticulata (LINNAEUS)

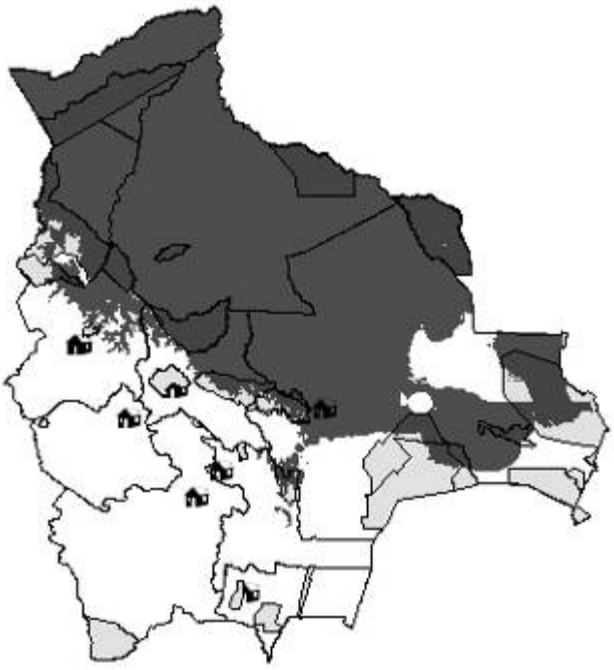

Figure 38 Extrapolated Distribution of *Geochelone denticulata*

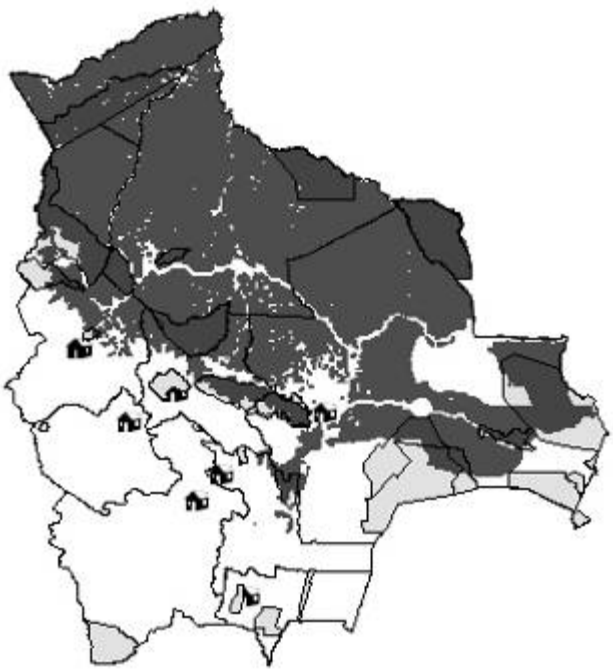

Figure 39 Fragmentation of Habitat of *Geochelone denticulata*

Map Quality: High confidence
Global distribution: Venezuela, Guyana, French Guiana, and Surinam, Brazil, Ecuador, Colombia, Peru, Trinidad, Guadeloupe, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 38137: 0
Distr. Total = 45946; EDC 1 = 28799; EDC 2 = 9338; EDC 3 = 4632; EDC 4 = 2417; EDC 5 = 760
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
8906 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca
Use: SOME: 2
Species collected occasionally for its meat
Rarity: VERY COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: "Virginia," U.S.A.; in error. Holotype: NRM DeGeer collection 21, according to Andersson (1900).

Caimans

Figure 40 *Caiman yacare*

Figure 41 *Paleosuchus palpebrosus*

Figure 42 *Melanosuchus niger*

Figure 43 *Melanosuchus niger*, juv.

3.2.5 Alligatoridae

Caiman latirostris (DAUDIN)

Global distribution: Brazil, Paraguay, Argentina, Bolivia (Beni, Santa Cruz, Tarija). The distribution in Beni was given by Medem but there is no reliable report existing (pers. comment Luis Pacheco).
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: not available
Fragmentation: not available
Distribution in good National parks: **not available.** It may be present in Otuquis (pers. comment Luis Pacheco).
Use: STRONG: 10
Principally used for its skin, but eventually also killed for its meat. Also killed because of fear. People from Chaco report the species attacking and killing pigs and other small cattle (pers. comment Luis Pacheco).
Rarity: RARE: 3

0+0+0+10+3 => 13

Conservation status: Vulnerable

The given category is its minimum category as further values (which were not included because lack of data) would probably elevate the species to a higher category.

Conservation status IUCN: DD
Official IUCN Conservation Status: NE
Comments: CITES Appendix I, populations. CITES Appendix II. As distribution data was not available several values have not been possible to consider. 1996 Pacheco & Aparicio considered the species as Critically endangered ("En peligro de extincion") reason why Pacheco (1996) proposed the following actions for the species: Evaluation of populations, a special protection program, long term studies, repopulation programs. In 1998 it was considered as commercially extinct in Bolivia (King & Videz-Roca, 1989).

Caiman yacare (DAUDIN)

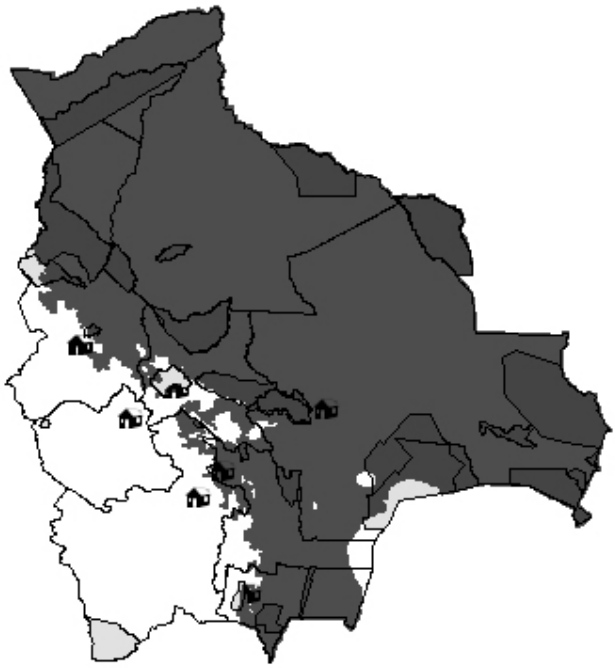

Figure 44 Extrapolated Distribution of *Caiman yacare*

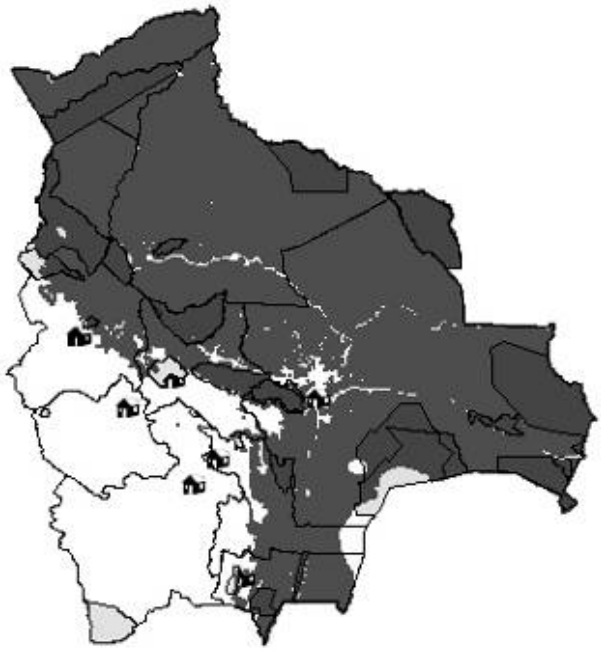

Figure 45 Fragmentation of Habitat *Caiman yacare*

Map Quality: Medium confidence
The extrapolation includes higher altitudes surely not inhabited by the species (pers. comment Luis Pacheco). This reduces slightly the distribution value but has no effect on the result.
Global distribution: Argentina, Paraguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 57070: 0
Distr. Total = 62898; EDC 1 = 39191; EDC 2 = 12252; EDC 3 = 5627; EDC 4 = 3313; EDC 5 = 2515
Fragmentation: SOME: 1
Some fragmentation near Santa Cruz and by Highways.
Distribution in good National parks: **VERY STRONG: 0**
14352 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa, Tunari
Use: STRONG: 10
The principal use of this species is for its leather, although it is also hunted for its meat. In the years 1983 to 1988 491.00 skins were exported legally (Pacheco 1992). In 1997 a small-scale experimental harvest was carried out, and in the following years between 30,000 (1999) and 59,000 (2003) individuals were harvested (Llobet et al. 2004). Actually the hunting of the species is somewhat controlled by the state although illegal hunting still is a considerable problem for many populations of this species.
Rarity: VERY COMMON: 0

0+1+0+10+0 = 11

Conservation status: Vulnerable (only populations)

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Pacheco & Aparicio (1996) do not consider this species as threatened but consider its population size reduced all over Bolivia. They propose a pilot program for sustainable use following the example of Venezuela and evolve and stabilize long term studies. A good abstract of legislation concerning this species can be found in Ergueta & de Morales (1996) and in Llobet et al. (2004). Terra typica: Pres. Roque Saenz Peña, Chaco, Argentina. Llobet et al. (2004) state that "the sustainable use of the crocodilians has proven, in many situations, to be a successful activity from the point of view of the conservation of some species and also for its habitats. According to the situation of the populations of *Caiman yacare* in Bolivia, a program of use of the species can be carried out in a sustainable way (....)", but see still several problems which only could be solved by legal modifications, capacity building, improvement of the control systems and inspection mechanisms, design and implementation of a comprehensive and reliable monitoring program, and administration and management of spatially defined units.

Melanosuchus niger (SPIX)

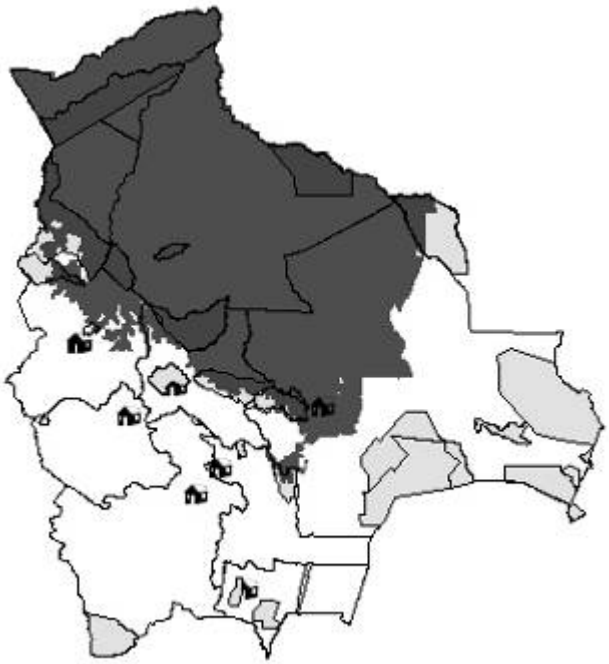

Figure 46 Extrapolated Distribution of *Melanosuchus niger*

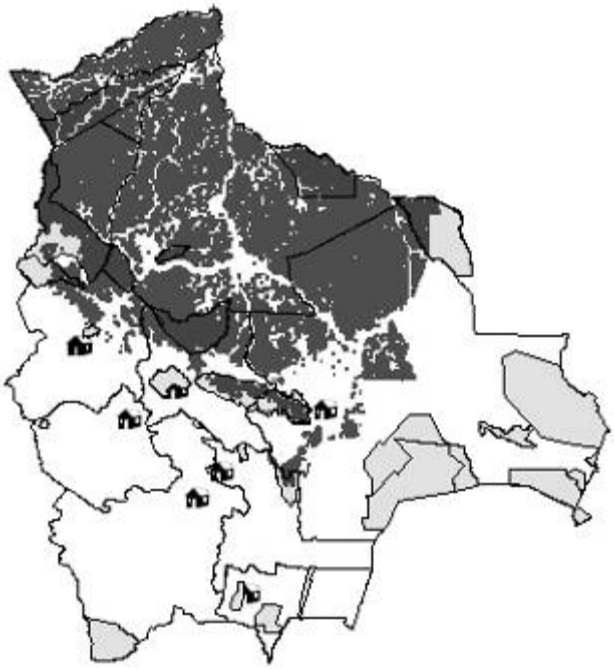

Figure 47 Fragmentation of Habitat *Melanosuchus niger*

Map Quality: Medium confidence
The extrapolation includes higher altitudes surely not inhabited by the species (pers. comment Luis Pacheco). This reduces slightly the distribution value but has no effect on the result.

Global distribution: Peru, Ecuador, Colombia, Venezuela, Guyana, French Guiana, Surinam, Brazil, ¿Trinidad?, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Luis Pacheco sees the species as sensible for hunting but not too sensible for other threats (pers. comment).

Distribution Value: 18131: 0
Distr. Total = 20962; EDC 1 = 13067; EDC 2 = 5064; EDC 3 = 2146; EDC 4 = 498; EDC 5 = 187
Fragmentation: SOME: 1
Strong fragmentation by habitat destruction and by highways.
Distribution in good National parks: **VERY STRONG: 0**
2681 grid cells in Parks: Apolobamba, Cotapata, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: STRONG: 10
Frequently hunted for its leather, but also for its meat and oil. Also this species is killed because of fear.
Rarity: NORMAL: 1

0+1+0+10+1 = 12

Conservation status: Vulnerable

Conservation status IUCN: Least concern
Official IUCN Conservation Status: LR/cd ver 2.3 (1994)
Comments: CITES Appendix I, populations**.** CITES Appendix II. Terra typica: Uprouague and Remire Island, French Guiana. A good resume of the legislation concerning the species can be found in Ergueta & de Morales (1996).

Paleosuchus palpebrosus (CUVIER)

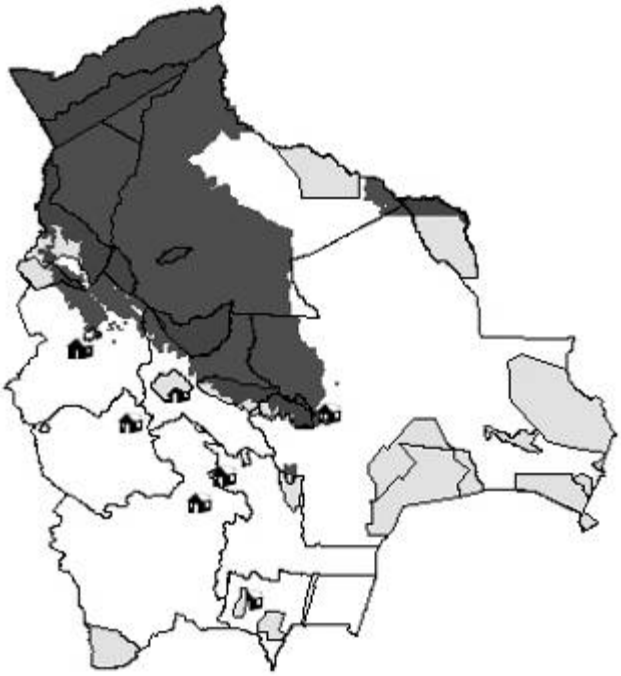

Figure 48 Extrapolated Distribution of *Paleosuchus palpebrosus*

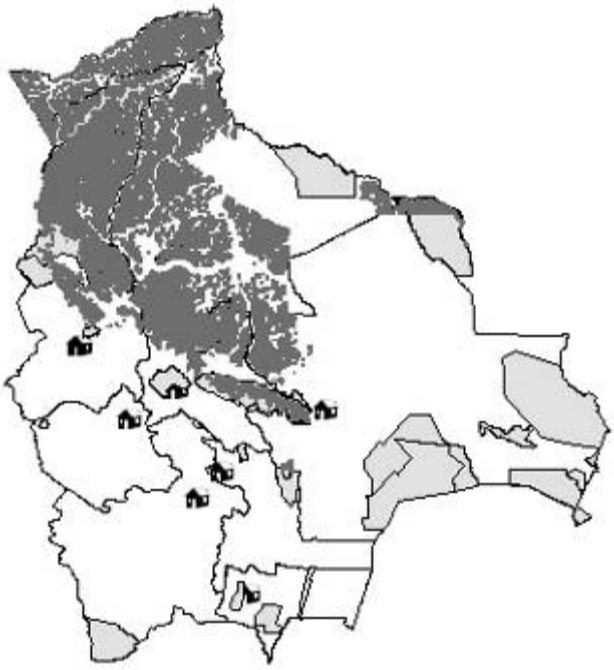

Figure 49 Fragmentation of Habitat *Paleosuchus palpebrosus*

Map Quality: Medium confidence
The extrapolation includes higher altitudes surely not inhabited by the species (pers. comment Luis Pacheco). This reduces slightly the distribution value but has no effect on the result.

Global distribution: Venezuela, Colombia, Ecuador, Peru, Brazil, Paraguay, Argentina, Guyana, Bolivia (Beni, Chuquisaca?, Cochabamba, La Paz, Pando, Santa Cruz, Tarija?)
Taxonomic status: OK
Sensibility for habitat alteration: VERY SENSIBLE
Distribution Value: 31536: 0
Distr. Total = 38379; EDC 1 = 23563; EDC 2 = 7973; EDC 3 = 4159; EDC 4 = 2007; EDC 5 = 677
Fragmentation: SOME:1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7039 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Pacheco & Aparicio (1996) consider the fact that the species is normally found in low population numbers as a possible threat for this species. A recent study by Villaca (2004) showed that at least in comparison with *Caiman crocodilus* and *Paleosuchus trigonatus*, *P. palpebrosus* is more tolerant concerning certain forms of habitat alteration.

Paleosuchus trigonatus (SCHNEIDER)

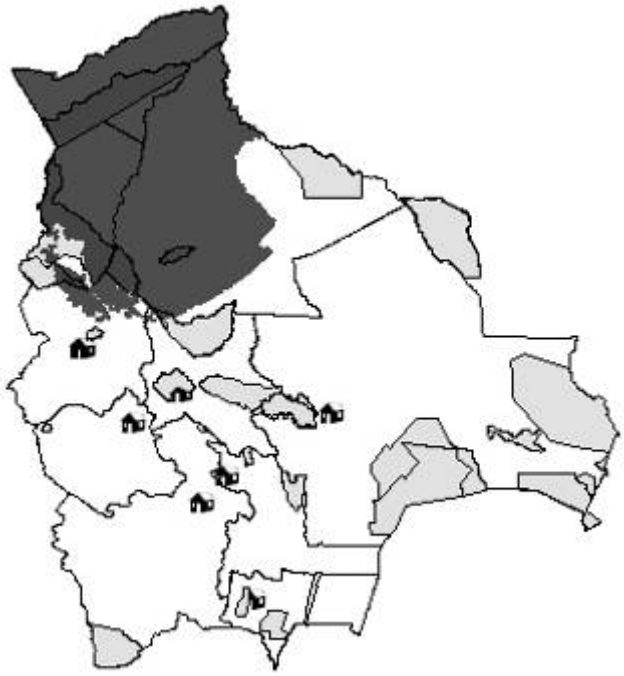

Figure 50 Extrapolated Distribution of *Paleosuchus trigonatus*

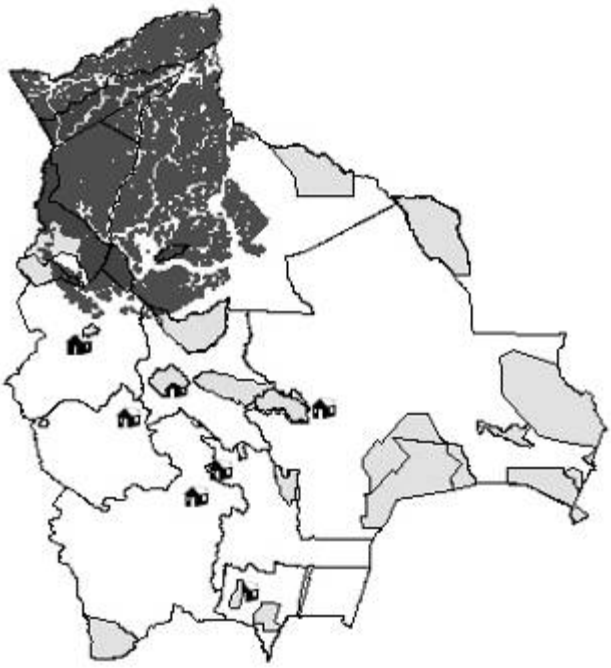

Figure 51 Fragmentation of Habitat *Paleosuchus trigonatus*

Map Quality: High confidence
Global distribution: Peru, Ecuador, Colombia, Venezuela, Trinidad, Guyana, Surinam, Paraguay, Brazil, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: VERY SENSIBLE
Distribution Value: 40706: 0
Distr. Total = 48995; EDC 1 = 30962; EDC 2 = 9744; EDC 3 = 4787; EDC 4 = 2627; EDC 5 = 875
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

10884 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa

Use: NONE: 0

Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE

Comments: CITES Appendix II. Pacheco & Aparicio (1996) consider this species a not threatened in Bolivia but also as the least known caiman species in the country and propose intensive and long term studies. Terra typica: "Patria ignota (= locality unknown); Designated as "Amerique meridionale" (= South America) by Dumeril & Dumeril (1851). Restricted to near "Cayenne, Guyane francaise" by Bour & Pauler (1987). Holotype: MNHN 8756.

Lizards

3.2.6 Hoplocercidae

Enyalioides palpebralis (BOULENGER)

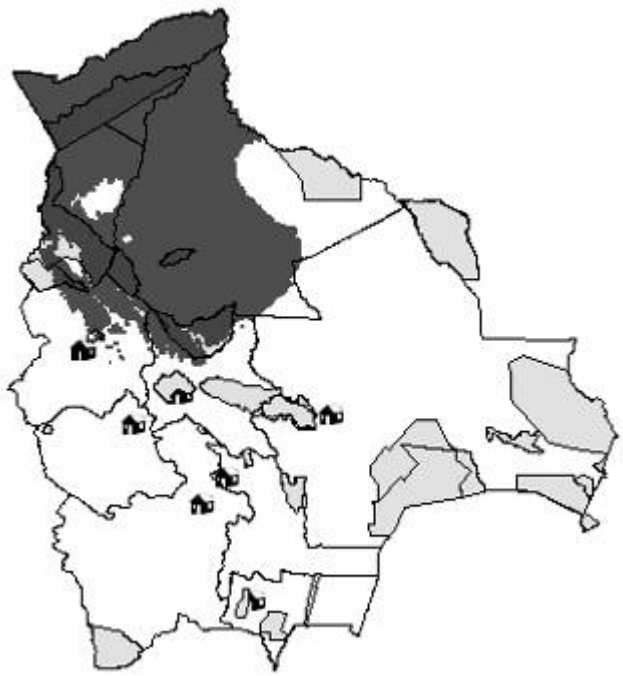

Figure 52 Extrapolated Distribution of *Enyalioides palpebralis*

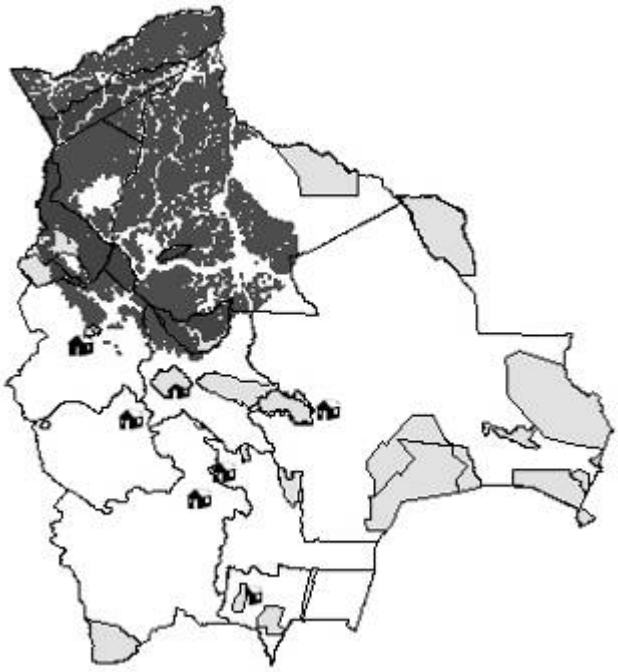

Figure 53 Fragmentation of Habitat *Enyalioides palpebralis*

Map Quality: High confidence
Global distribution: Peru, Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: VERY SENSIBLE
Distribution Value: 12623: 0
Distr. Total = 21036; EDC 1 = 12623; EDC 2 = 5063 EDC 3 = 2516; EDC 4 = 664; EDC 5 = 169
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Trinidad and Rurrenabaque and by highways.
Distribution in good National parks: **VERY STRONG: 0**
2841 grid cells in Parks: Apolobamba, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Cashiboya, eastern Peru.

Hoplocercus spinosus FITZINGER

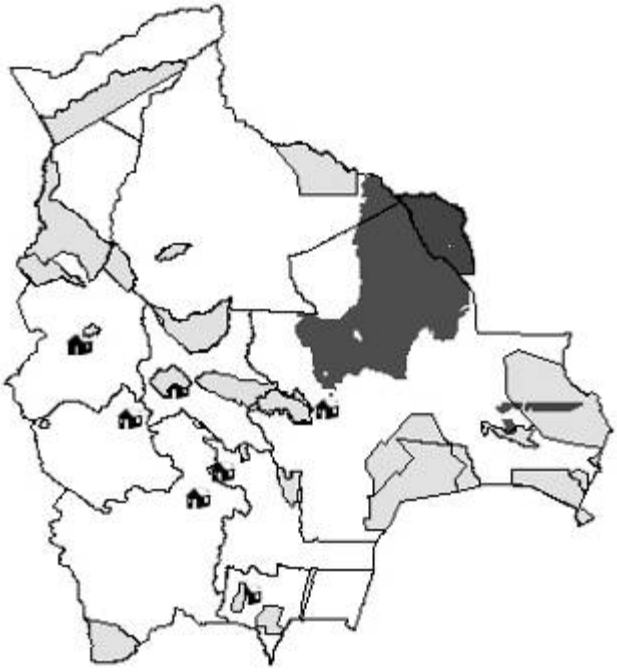

Figure 54 Extrapolated Distribution of *Hoplocercus spinosus*

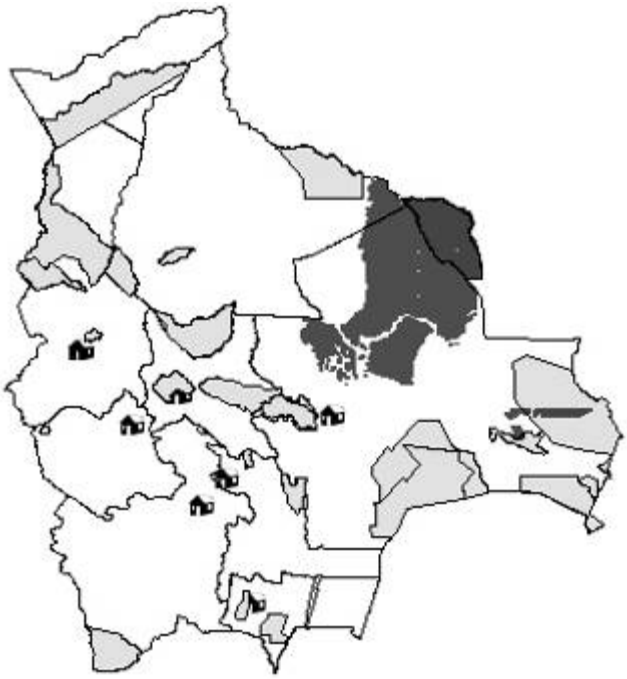

Figure 55 Fragmentation of Habitat *Hoplocercus spinosus*

Map Quality: High confidence
Global distribution: Brazil, Bolivia (Beni, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 6334: 0
Distr. Total = 7479; EDC 1 = 5099; EDC 2 = 1235; EDC 3 = 617; EDC 4 = 422; EDC 5 = 106
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
1393 grid cells in Parks: NKM, San Matías?
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: America and Brazil.

3.2.7 Iguanidae

Iguana iguana (LINNAEUS)

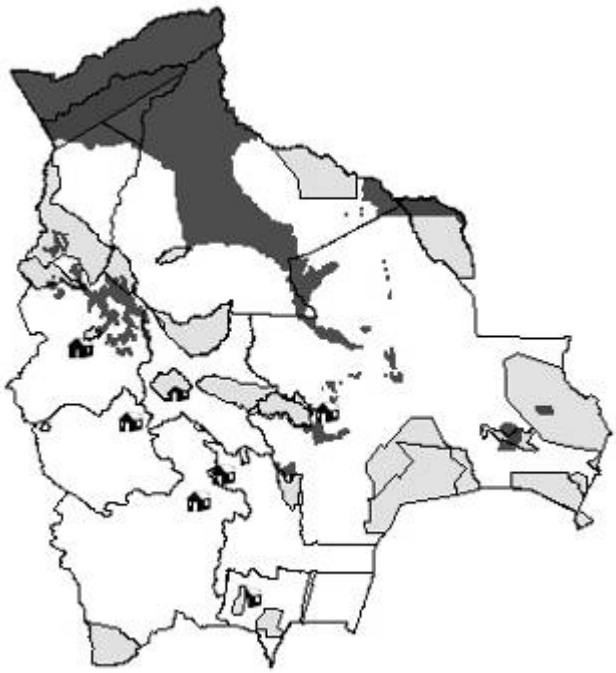

Figure 56 Extrapolated Distribution of *Iguana iguana*

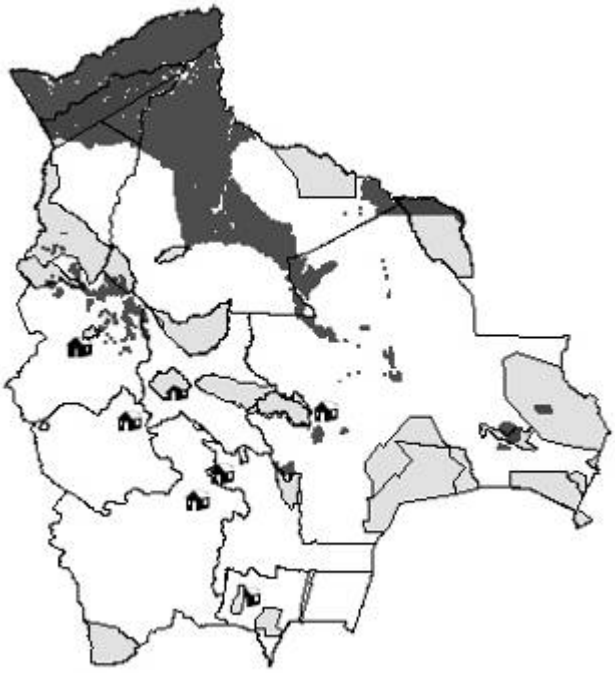

Figure 57Fragmentation of Habitat of *Iguana iguana*

Map Quality: Medium confidence
Distribution probably not as disjunctive as extrapolated. Also probable that species occupies more habitat than actually shown.
Global distribution: USA, Mexico, Nicaragua, Guatemala, El Salvador, Honduras, Belize, Costa Rica, Panama, Colombia, Brazil, Venezuela, Guyana, Surinam, French Guiana, Peru, Paraguay, Antilles, Bolivia (Beni, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 10788: 0
Distr. Total = 12931; EDC 1 = 7084; EDC 2 = 3704; EDC 3 = 1664; EDC 4 = 376; EDC 5 = 103
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
1560 grid cells in Parks: Amboró, Apolobamba, Cotapata, Iñao, Madidi, Manuripi-Heath, NKM, Pilon Lajas, San Matias, Tucavaca
Use: SOME: 1
Rarity: VERY COMMON: 0

0+0+0+1+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. *Iguana Iguana* from West Indies has been observed to feed on eggs of the Cattle Egret *Bubulcus ibis* (Arendt 1986). Terra typica: "Indiis" Popular pet animal. Columbia intended to export more than 600,000 specimens alone (cited in Wüster 1998 without a time span). Syntypes: One specimen in the SMNH, another in the Gyllenborg collection in Uppsala.

3.2.8 Polychridae

Dactyloa punctata (DAUDIN)

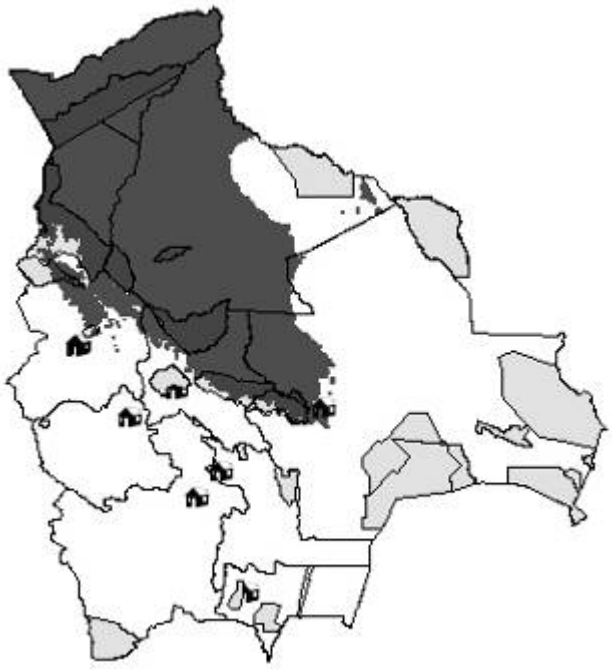

Figure 58 Extrapolated Distribution of *Dactyloa punctata*

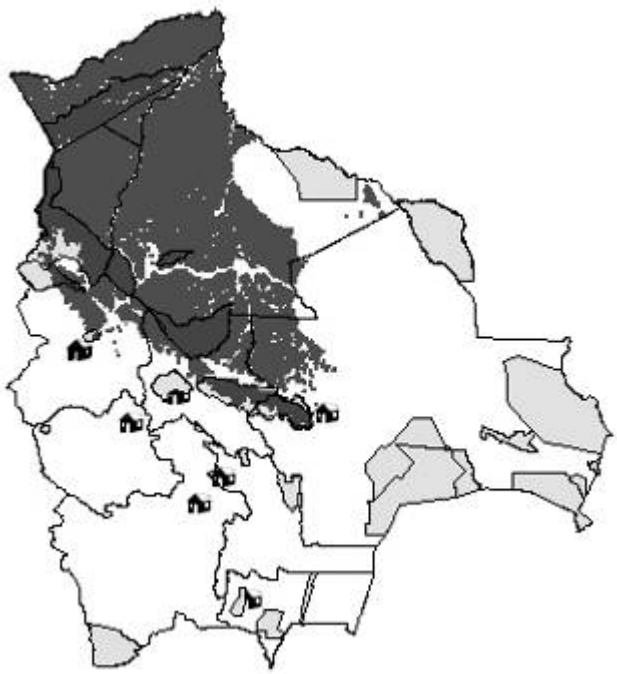

Figure 59 Fragmentation of Habitat of *Dactyloa punctata*

Map Quality: High confidence
Global distribution: Brazil, Venezuela, French Guiana (?), Suriname (?), Guyana, Peru, Ecuador, Colombia, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 20605: 0
Distr. Total = 25496; EDC 1 = 14806; EDC 2 = 5799 EDC 3 = 3174; EDC 4 = 1325; EDC 5 = 392

Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4238 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: South America

Norops fuscoauratus (D'ORBIGNYI IN DUMERIL & BIBRON)

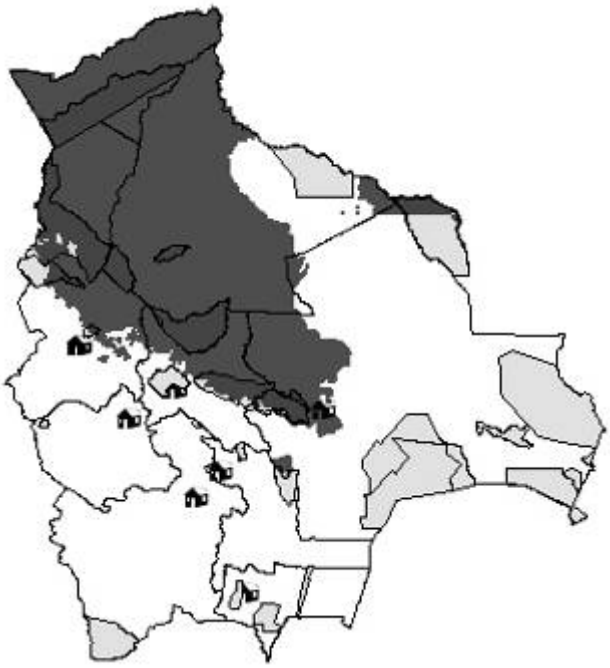

Figure 60 Extrapolated Distribution of *Norops fuscoauratus*

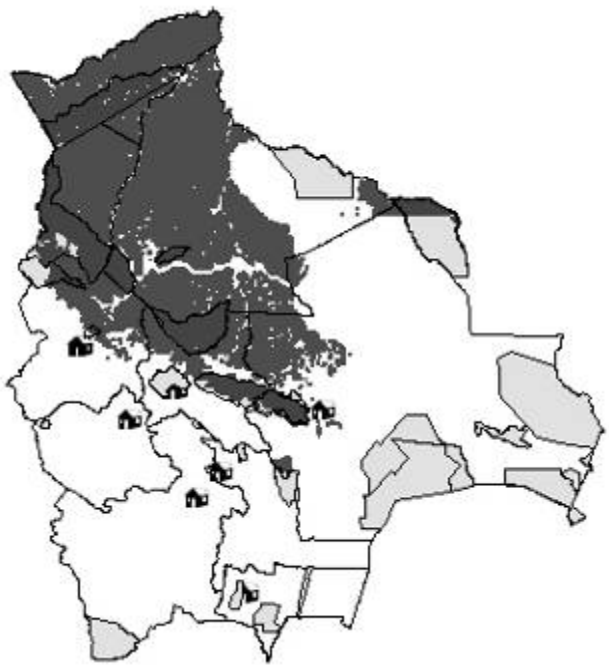

Figure 61 Fragmentation of Habitat *Norops fuscoauratus*

Map Quality: High confidence
Global distribution: Panama, Ecuador, Peru, Venezuela, Brazil, Colombia, Guiana, Surinam, French Guiana, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 22371: 0
Distr. Total = 27933; EDC 1 = 16152; EDC 2 = 6219 EDC 3 = 3478; EDC 4 = 1594; EDC 5 = 490
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4891 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: corrected by D'Orbignyi (1847) to Río Mamoré, between Loreto and "le confluent du Río Sara", Bolivia, and by Bocourt (1873) to Provincia Moxas, Bolivia [cited after Peters & Donoso-Barros 1970]. The type locality given by D'Orbignyi 1837 ("Chile") is erroneous.

Norops meridionalis (BOETTGER)

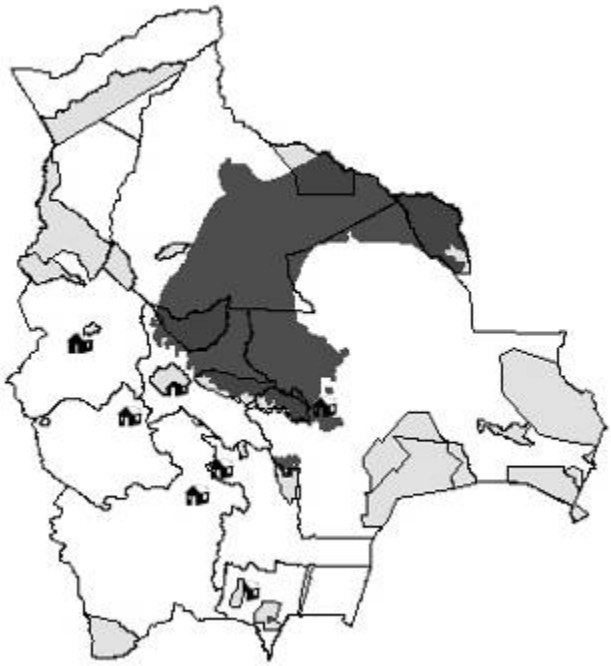

Figure 62 Extrapolated Distribution of *Norops meridionalis*

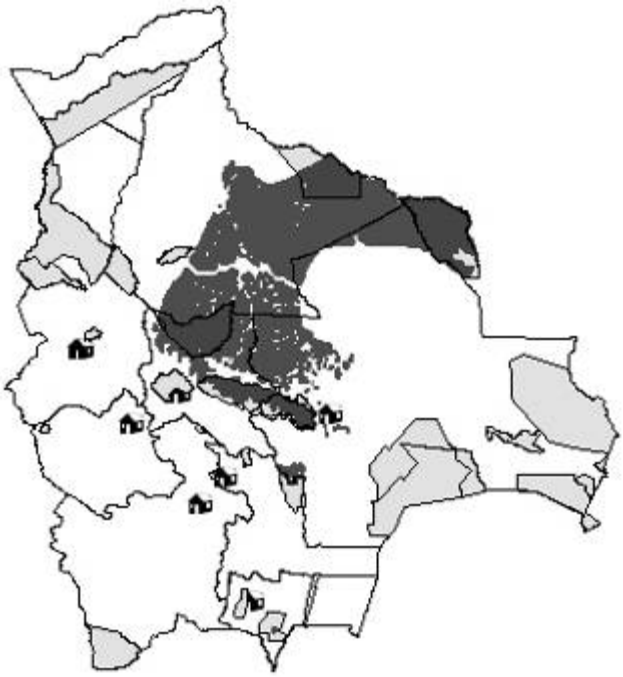

Figure 63 Fragmentation of Habitat of *Norops meridionalis*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Bolivia (Beni, Cochabamba, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 11247: 0
Distr. Total = 14220; EDC 1 = 8594; EDC 2 = 2653; EDC 3 = 1612; EDC 4 = 1027; EDC 5 = 334
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad, Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
3229 grid cells in Parks: Amboró, Carrasco, Iñao, Isiboro Sécure, Itenez, NKM
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Paraguay.

Norops ortonii (COPE)

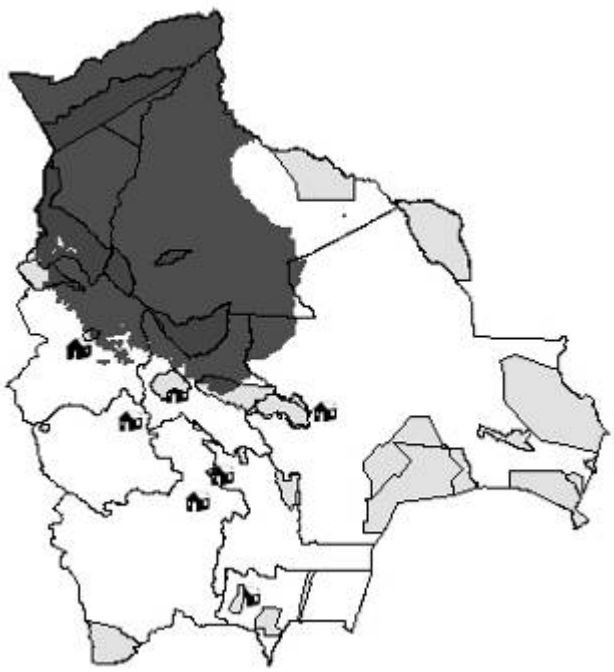

Figure 64 Extrapolated Distribution of *Norops ortonii*

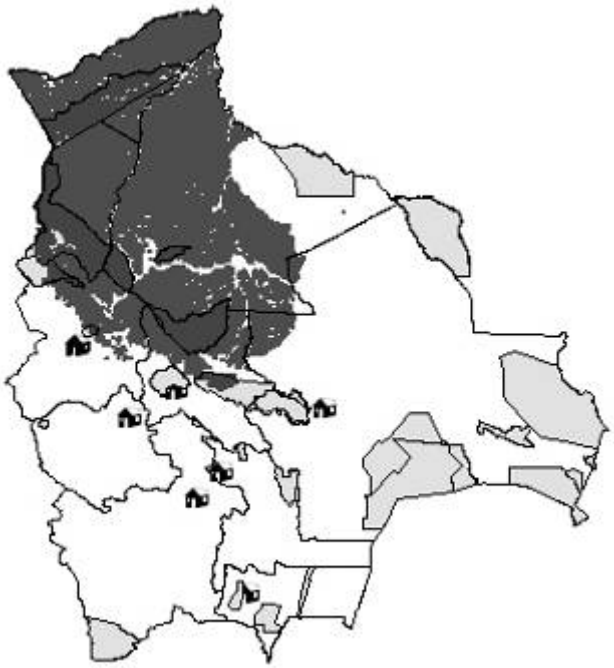

Figure 65 Fragmentation of Habitat of *Norops ortonii*

Map Quality: High confidence
Global distribution: Brazil, French Guiana, Suriname, Guyana, Ecuador, Colombia, Peru, Venezuela, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 20606: 0
Distr. Total = 24703; EDC 1 = 14961; EDC 2 = 5645; EDC 3 = 2884; EDC 4 = 916; EDC 5 = 297
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4127 grid cells in Parks: Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Comments: Terra typica: Río Napo or Upper Río Marañón, Ecuador or Peru

Norops scapularis (BOULENGER)

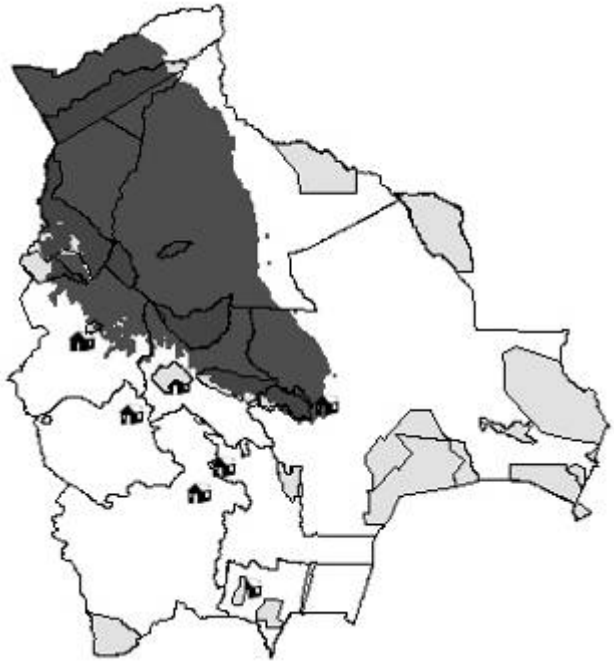

Figure 66 Extrapolated Distribution of *Norops scapularis*

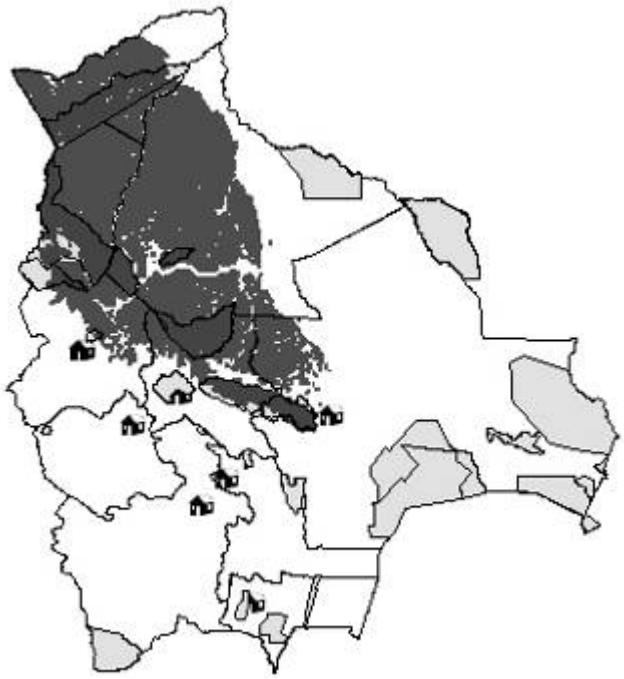

Figure 67 Fragmentation of Habitat of *Norops scapularis*

Map Quality: High confidence
Global distribution: Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 18444: 0
Distr. Total = 22932; EDC 1 = 13253; EDC 2 = 5191 EDC 3 = 2732; EDC 4 = 1265; EDC 5 = 491
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4462 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilon Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Terra typica: Provincia del Sara, eastern Bolivia, 600 m.

Polychrus acutirostris SPIX

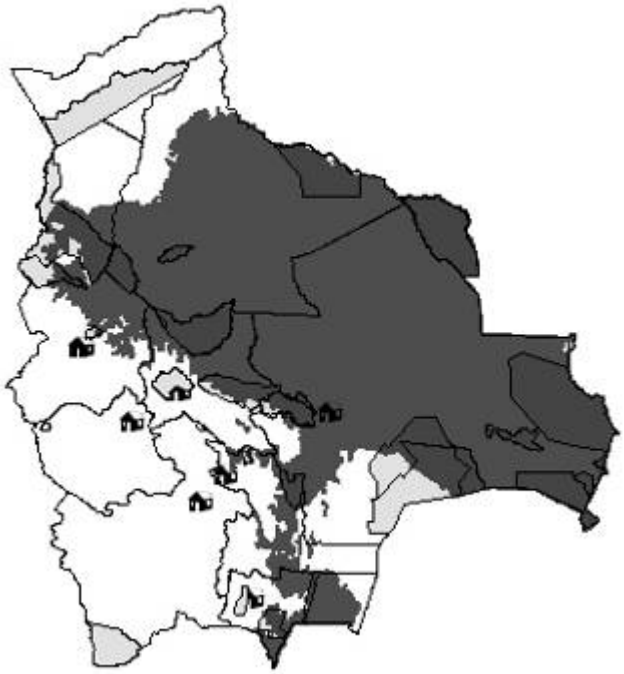

Figure 68 Extrapolated Distribution of *Polychrus acutirostris*

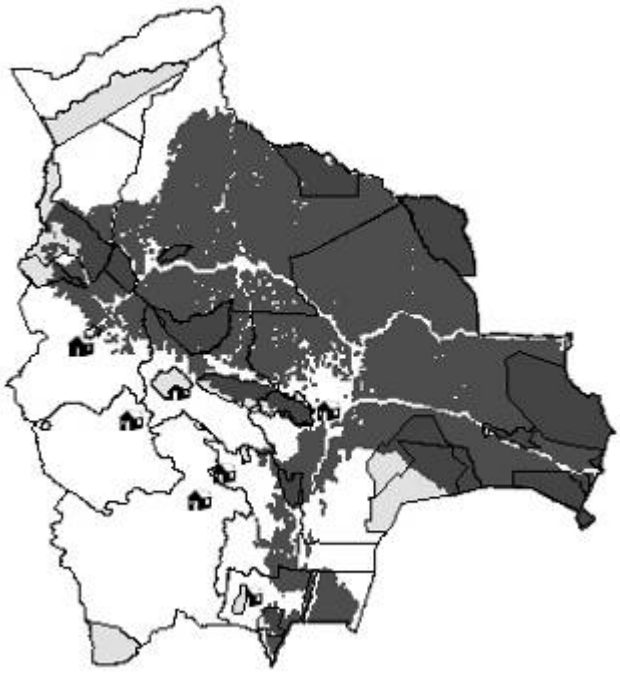

Figure 69 Fragmentation of Habitat of *Polychrus acutirostris*

Map Quality: High confidence
Global distribution: Brazil, Uruguay, Paraguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 37384: 0
Distr. Total = 44804; EDC 1 = 29046; EDC 2 = 8338; EDC 3 = 3958; EDC 4 = 2596; EDC 5 = 866
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
10443 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Bahia, Brazil.

Polychrus liogaster BOULENGER

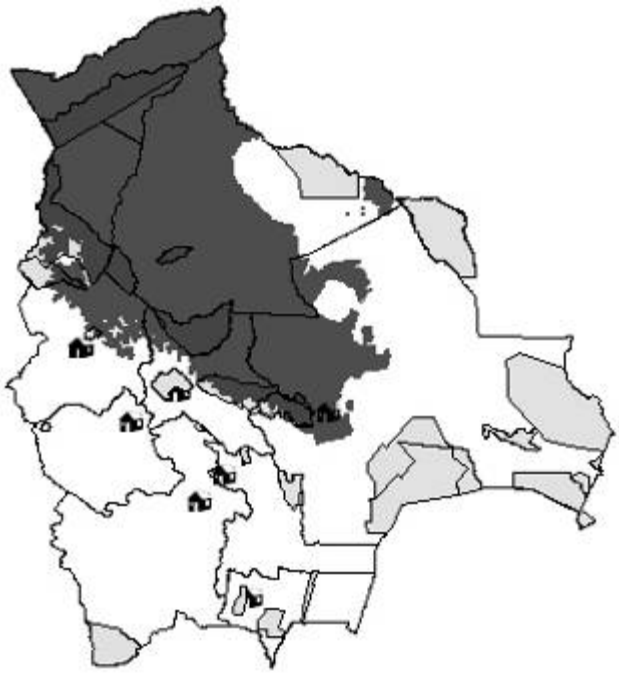

Figure 70 Extrapolated Distribution of *Polychrus liogaster*

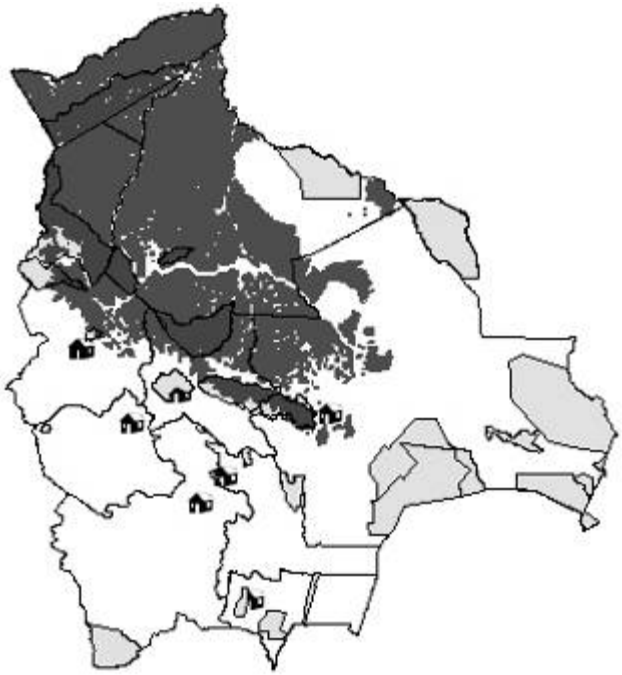

Figure 71 Fragmentation of Habitat of *Polychrus liogaster*

Map Quality: High confidence
Global distribution: Peru, Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 26069: 0
Distr. Total = 28555; EDC 1 = 16120; EDC 2 = 6348; EDC 3 = 3601; EDC 4 = 1833; EDC 5 = 653
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4338 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Province Sara, Bolivia, 750 m elevation, and Chanchamayo, eastern Peru.

Urostrophus gallardoi ETHERIDGE & WILLIAMS

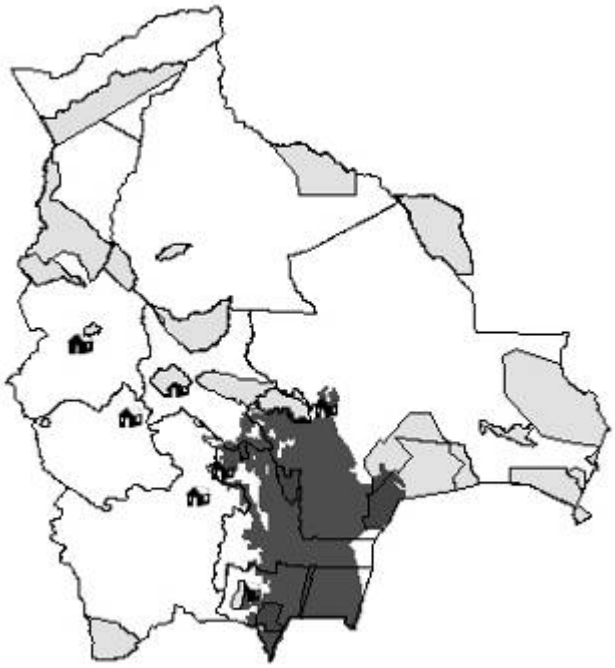

Figure 72 Extrapolated Distribution of *Urostrophus gallardoi*

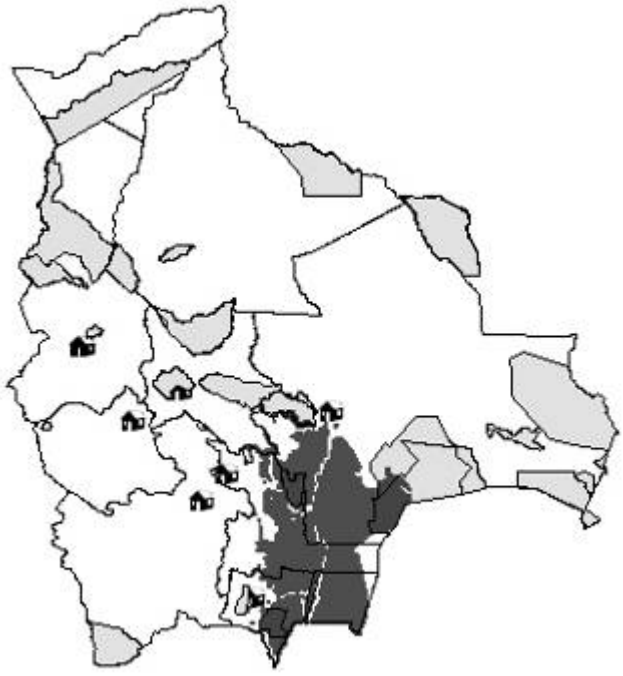

Figure 73 Fragmentation of Habitat of *Urostrophus gallardoi*

Map Quality: High confidence
Global distribution: Argentina, Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 6381: 0
Distr. Total = 8475; EDC 1 = 4434; EDC 2 = 1947; EDC 3 = 724; EDC 4 = 629; EDC 5 = 741
Fragmentation: SOME: 1
Some fragmentation by habitat destruction by highways.
Distribution in good National parks: **VERY STRONG: 0**
1190 grid cells in Parks: Aguarague, Amboró, El Palmar, Iñao, Kaa-Iya, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

3.2.9 Tropiduridae

Stenocercus aculeatus (O'SHAUGHNESSY)

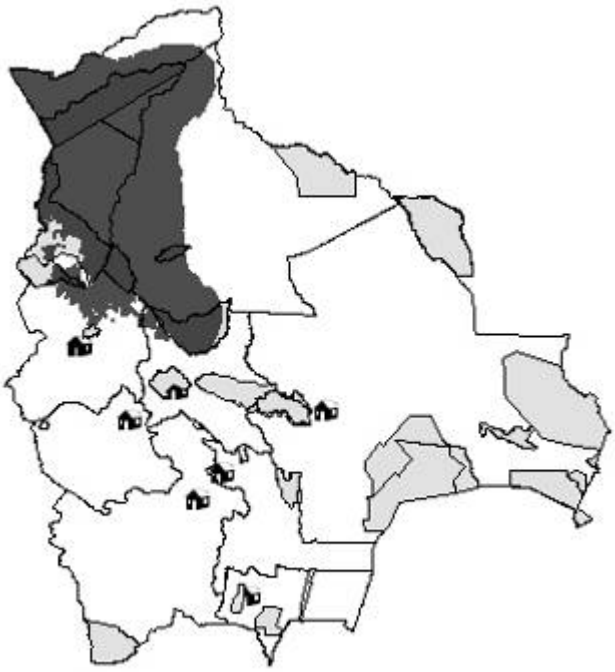

Figure 74 Extrapolated Distribution of *Stenocercus aculeatus*

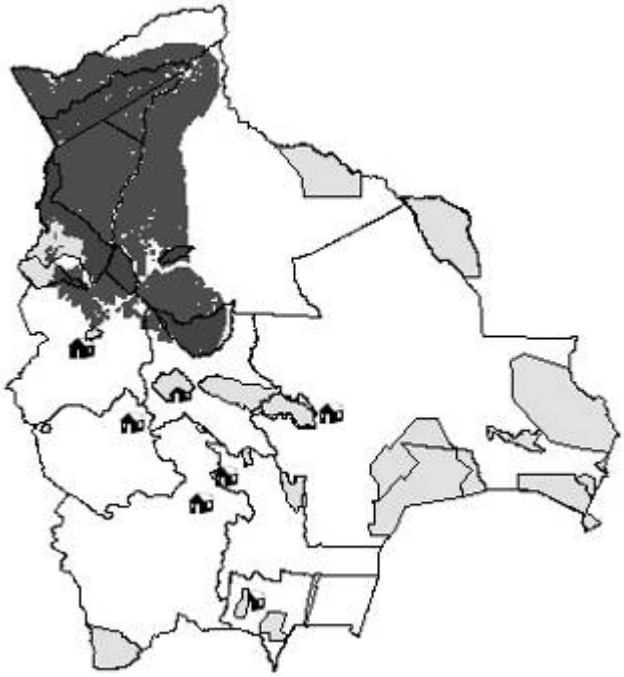

Figure 75 Fragmentation of Habitat *Stenocercus aculeatus*

Map Quality: High confidence
Global distribution: Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 11950: 0
Distr. Total = 14073; EDC 1 = 8826; EDC 2 = 3124; EDC 3 = 1594; EDC 4 = 439; EDC 5 = 90
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
3309 grid cells in Parks: Apolobamba, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilón Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Moyobamba, Peru [Department San Martín]

Stenocercus caducus (COPE)

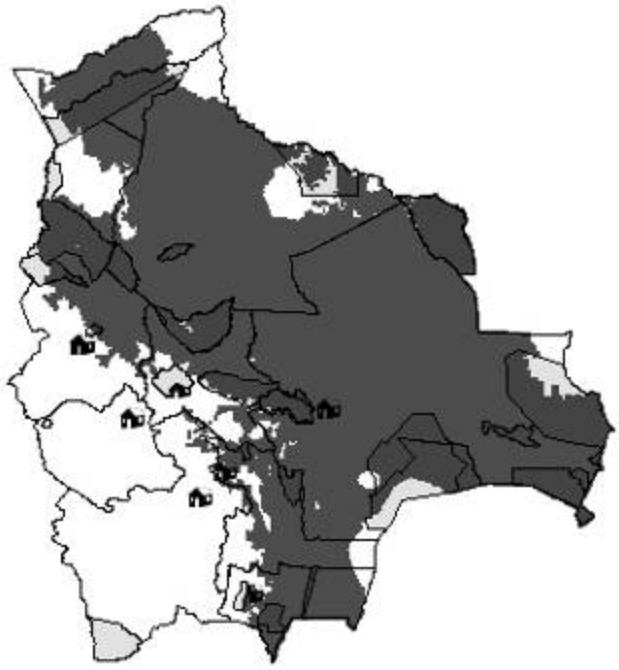

Figure 76 Extrapolated Distribution of *Stenocercus caducus*

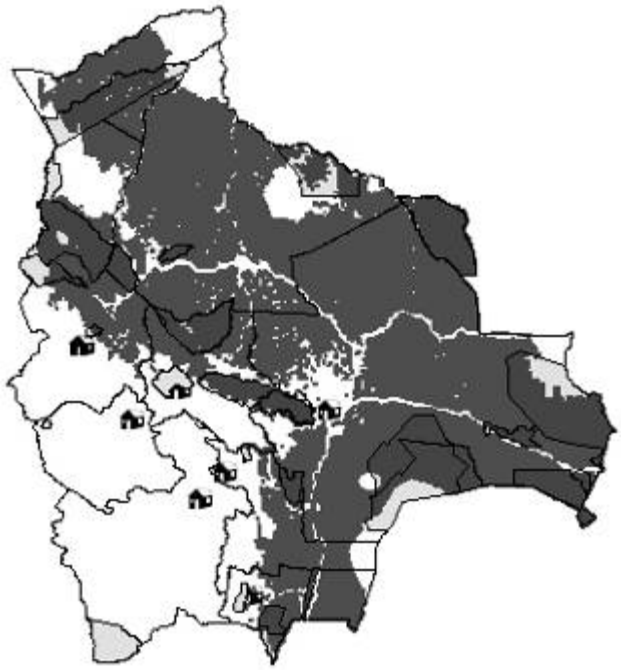

Figure 77 Fragmentation of Habitat *Stenocercus caducus*

Map Quality: High confidence
Global distribution: Brazil, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 44594: 0
Distr. Total = 54188; EDC 1 = 33997; EDC 2 = 10597; EDC 3 = 4850; EDC 4 = 3013; EDC 5 = 1731
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
11753 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tariquìa, Tucavaca
Use: NONE: 0

Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Paraguay

Stenocercus marmoratus (DUMÉRIL & BIBRON)

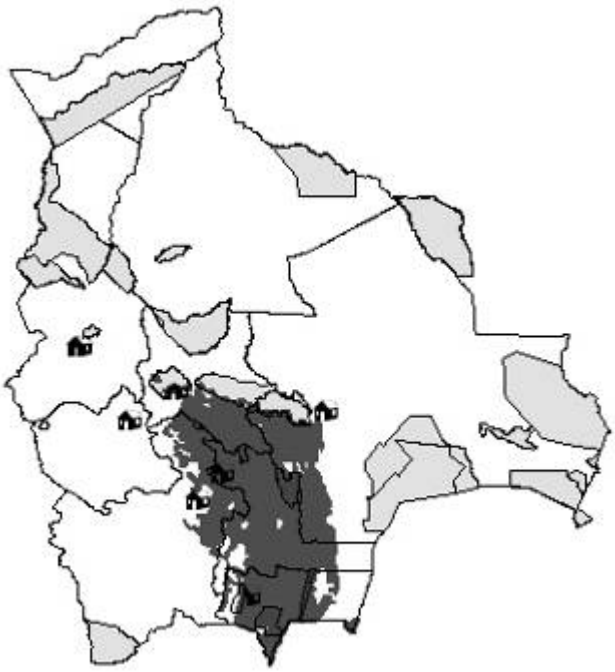

Figure 78 Extrapolated Distribution of *Stenocercus marmoratus*

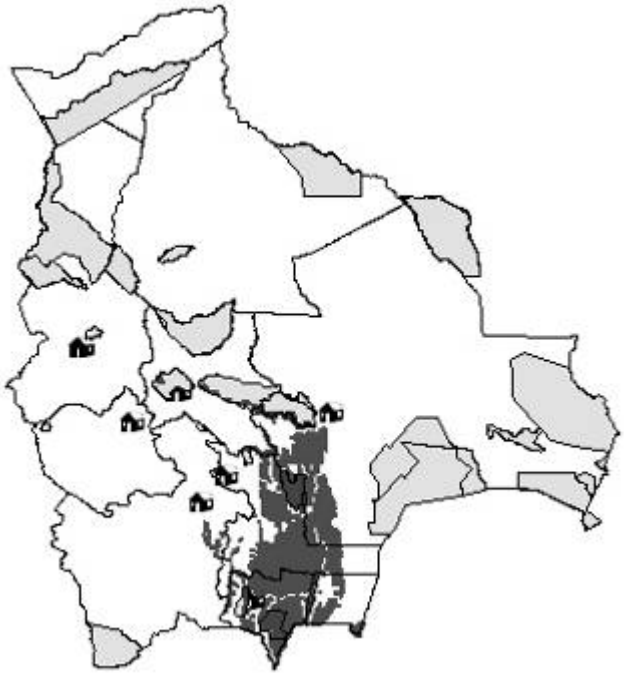

Figure 79 Fragmentation of Habitat *Stenocercus marmoratus*

Map Quality: High confidence
Global distribution: Argentina, Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 4334: 0
Distr. Total = 9262; EDC 1 = 2909; EDC 2 = 1425; EDC 3 = 800; EDC 4 = 928; EDC 5 = 3200
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **STRONG: 1**
738 grid cells in Parks: Aguarague, Amboró, Carrasco, Iñao, Sama, Tariquia, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

2+1+1+0+0 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "province de Rio-Rande" (in error); Pampa Ruíz, between Valle Grande and El Pescado, De La Laguna Province, east of Chuquisaca, Bolivia (D'Orbigny (1847)). Holotype: MNHN Paris 2513

Stenocercus prionotus CADLE

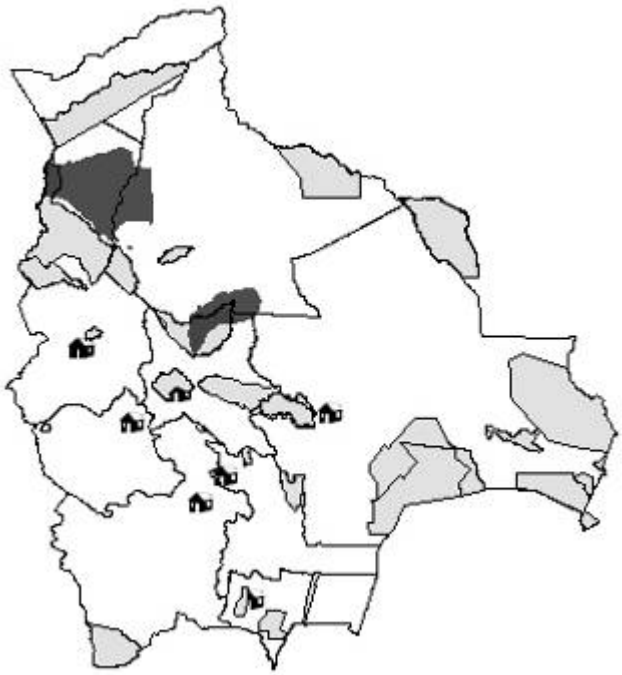

Figure 80 Extrapolated Distribution of *Stenocercus prionotus*

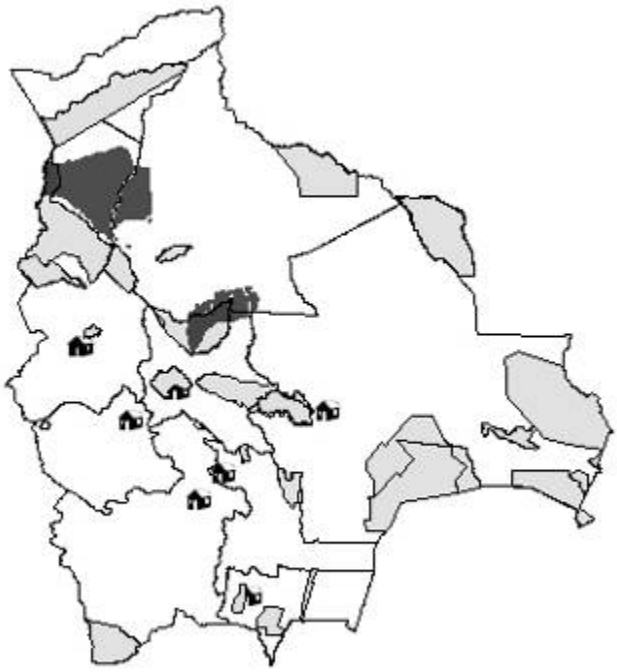

Figure 81 Fragmentation of Habitat *Stenocercus prionotus*

Map Quality: High confidence
Global distribution: Peru, Bolivia (Beni, Cochabamba, La Paz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 2648: 0
Distr. Total = 2933; EDC 1 = 2248; EDC 2 = 400; EDC 3 = 250; EDC 4 = 32; EDC 5 = 3
Fragmentation: NONE: 0
Distribution in good National parks: **STRONG: 1**
524 grid cells in Parks: Isiboro Sécure, Madidi
Use: NONE: 0
Rarity: RARE: 3

0+0+1+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Stenocercus roseiventris D'ORBIGNYI IN DUMÉRIL & BIBRON

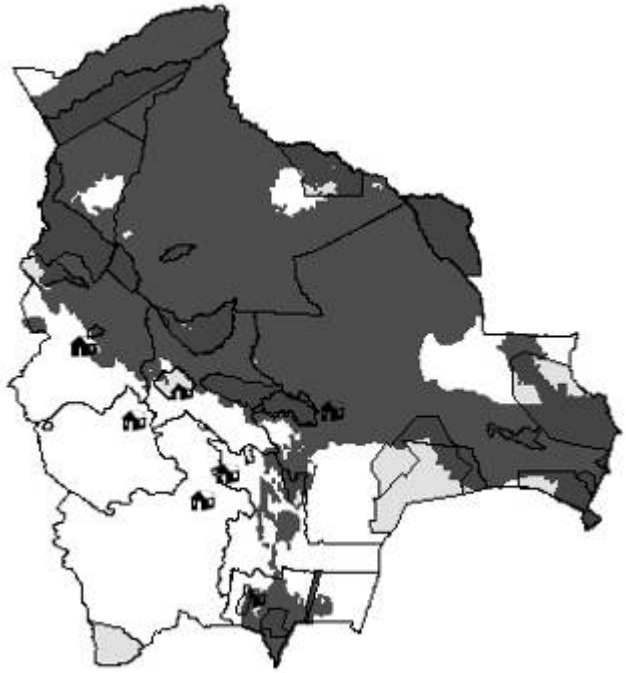

Figure 82 Extrapolated Distribution of *Stenocercus roseiventris*

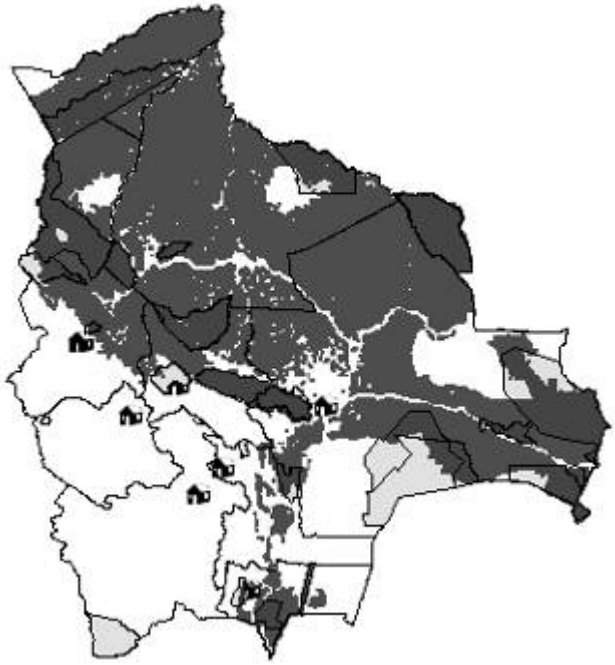

Figure 83 Fragmentation of Habitat *Stenocercus roseiventris*

Map Quality: High confidence
Global distribution: Peru, Argentina, Brazil, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 41519: 0
Distr. Total = 50477; EDC 1 = 31683; EDC 2 = 9836; EDC 3 = 4975; EDC 4 = 2768; EDC 5 = 1215
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

11080 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, Sama, San Matías, Tariquìa, Tucavaca, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Bolivia

Tropidurus callathelys HARVEY & GUTBERLET

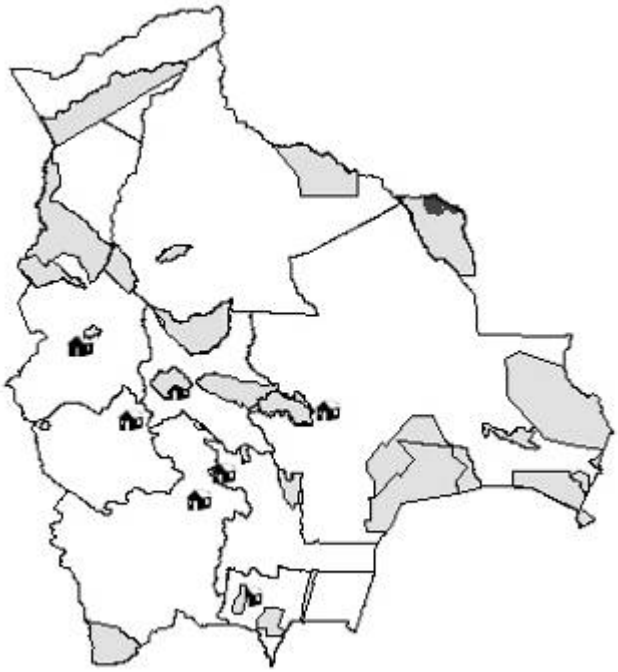

Figure 84 Extrapolated Distribution of *Tropidurus callathelys*

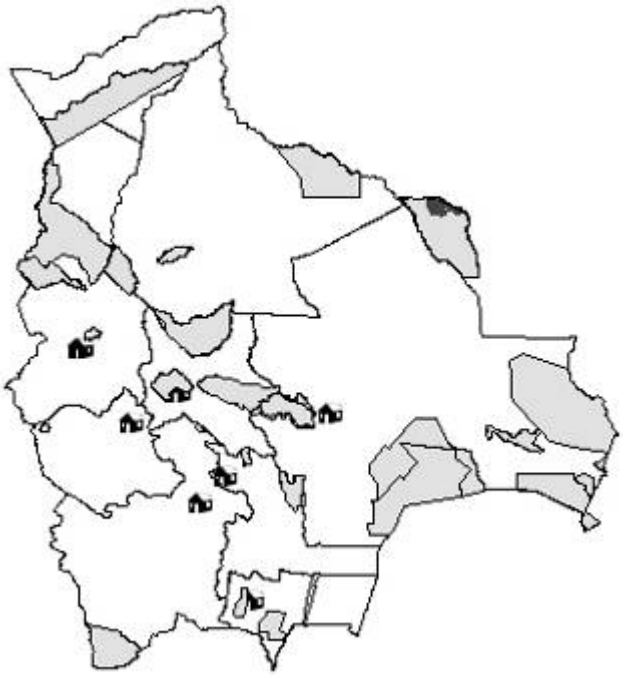

Figure 85 Fragmentation of Habitat *Tropidurus callathelys*

Map Quality: High confidence
Global distribution: Bolivia (Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 117: 5
Distr. Total = 129; EDC 1 = 90; EDC 2 = 27; EDC 3 = 10; EDC 4 = 2; EDC 5 = 0
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0 (More than 50%)**

119 grid cells in Parks: NKM
Use: NONE: 0
Rarity: VERY RARE: 8

5+0+0+0+8 = 13

Conservation status: Vulnerable

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: rock outcrops on northern slope of Serrania de Huanchaca, Bolivia (13 36'S, 60 54'W), 500-600 m.a.s.l.

Tropidurus chromatops HARVEY & GUTBERLET

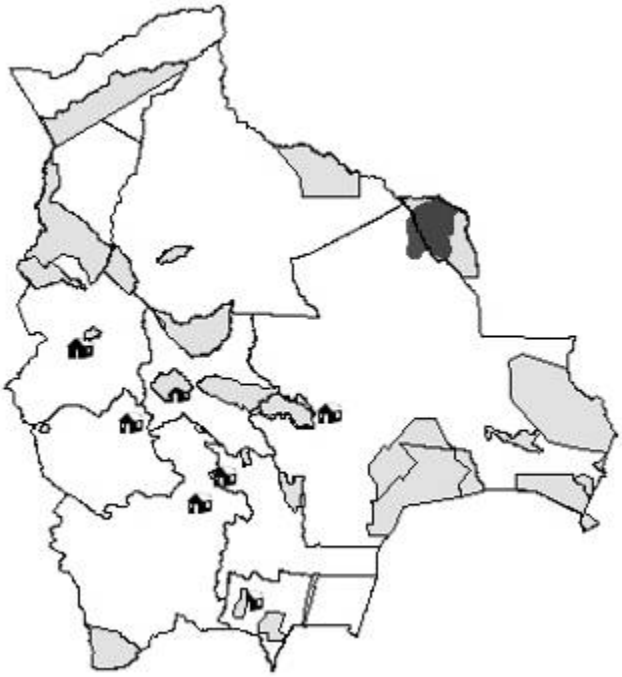

Figure 86 Extrapolated Distribution of *Tropidurus chromatops*

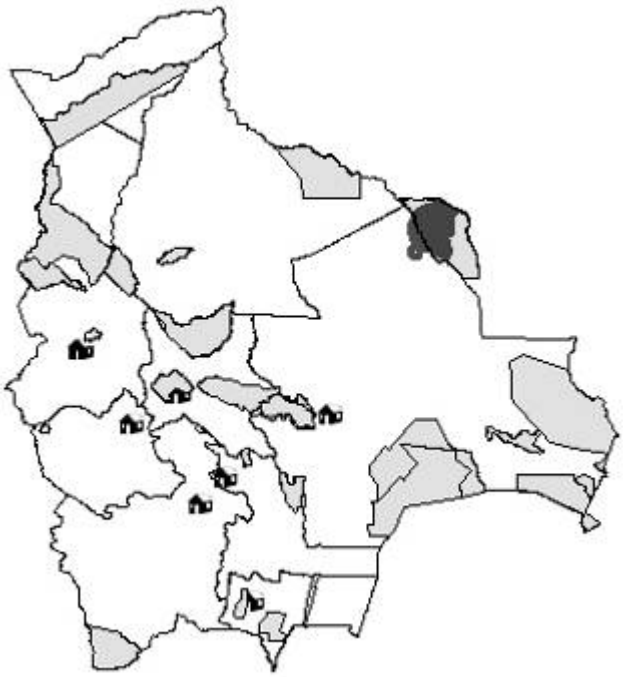

Figure 87 Fragmentation of Habitat *Tropidurus chromatops*

Map Quality: High confidence
Global distribution: Bolivia (Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 763: 2
Distr. Total = 791; EDC 1 = 637; EDC 2 = 126; EDC 3 = 27; EDC 4 = 1; EDC 5 = 0
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0 (more than 50%)**
639 grid cells in Parks: NKM

Use: NONE: 0
Rarity: RARE: 3

2+0+0+0+3 = 5

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: rocky outcrops along the trail ascending the northern slope of Serrania de Huanchaca, Parque Nacional Noel Kempff Mercado. Provincia Velasco, Dept. Santa Cruz, Bolivia.

Tropidurus etheridgei CEI

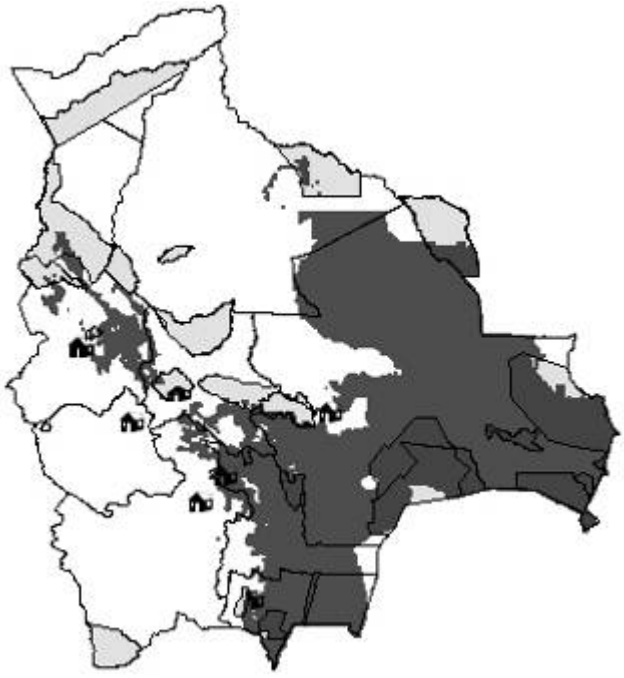

Figure 88 Extrapolated Distribution of *Tropidurus etheridgei*

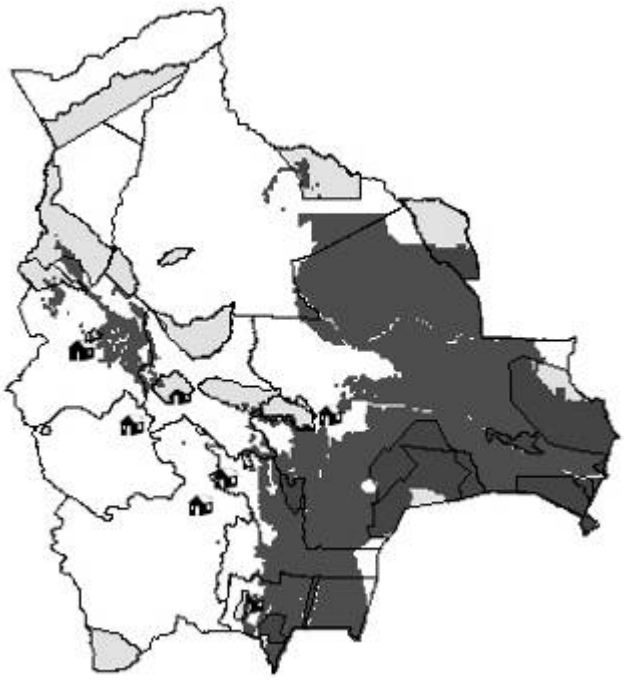

Figure 89 Fragmentation of Habitat *Tropidurus etheridgei*

Map Quality: High confidence
Global distribution: Argentina, Brazil, Paraguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Potosi, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 24829: 0
Distr. Total = 30071; EDC 1 = 19789; EDC 2 = 5040; EDC 3 = 1774; EDC 4 = 1542; EDC 5 = 1926
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**

7130 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, El Palmar, Iñao, Itenez, Kaa-Iya, Madidi, NKM, Otuquis, San Matías, Tariquìa, Tucavaca, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Argentina, Cordoba, Mina Claveros, 1200 m.

Tropidurus melanopleurus BOULENGER

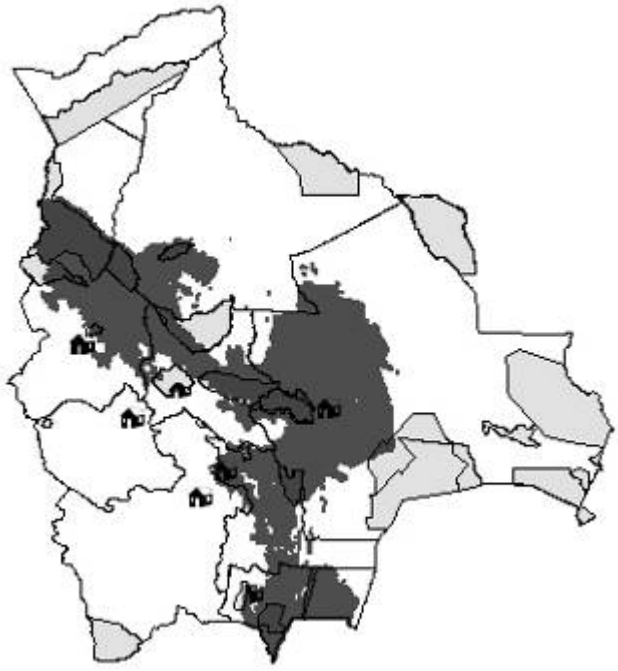

Figure 90 Extrapolated Distribution of *Tropidurus melanopleurus*

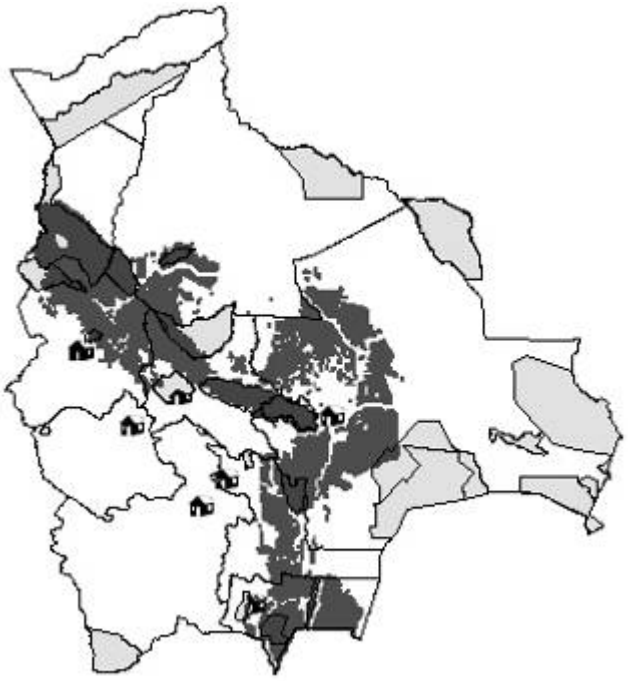

Figure 91 Fragmentation of Habitat *Tropidurus melanopleurus*

Map Quality: High confidence
Global distribution: Peru, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: UNCERTAIN
Examined Populations show partially strong differences in the coloration of the females. The species is at the moment under revision by Enrique Domic (Bolivia).
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 12724: 0
Distr. Total = 18469; EDC 1 = 9448; EDC 2 = 3276; EDC 3 = 1972; EDC 4 = 2055; EDC 5 = 1718

Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
3692 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Kaa-Iya, Madidi, Pilón Lajas, Tariquìa, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: *T. melanopleurus*: Bolivia, La Paz. *T. pictus*: S-Bolivia, adjacent Argentina; Terra typica: "Gebiet des oberen Pilcomayo, zwischen Tarija und S. Francisco, Bolivien". Terra typica: Tamampoya, Bolivia, elevation 1200 m. *Tropidurus pictus* is considered a subspecies of *Tropidurus melanopleurus* .

Tropidurus plica (LINNAEUS)

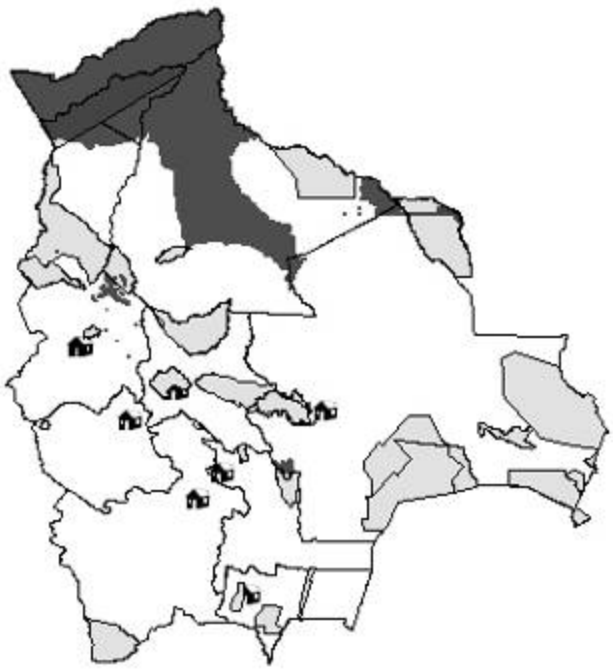

Figure 92 Extrapolated Distribution of *Tropidurus plica*

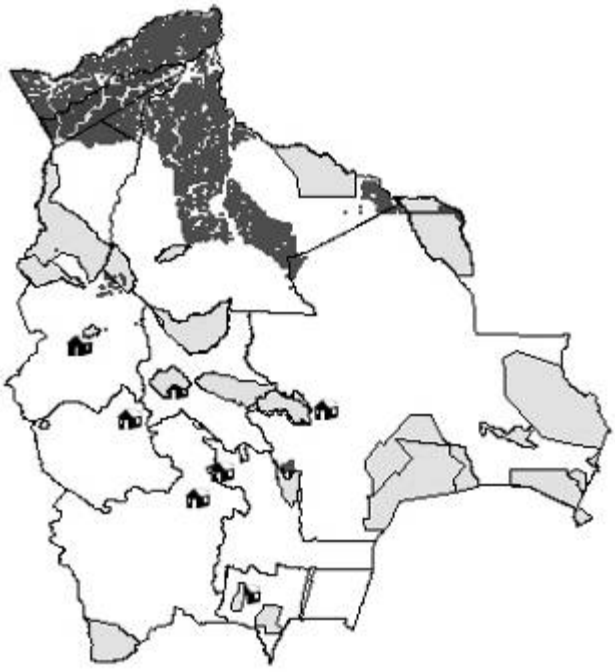

Figure 93 Fragmentation of Habitat *Tropidurus plica*

Map Quality: High confidence

Global distribution: Colombia, Venezuela, Guyana, Surinam, French Guiana, Trinidad, Brazil, Peru, Ecuador Bolivia (Beni, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: VERY SENSIBLE
Distribution Value: 6115: 0
Distr. Total = 11081; EDC 1 = 6115; EDC 2 = 3318 EDC 3 = 1424; EDC 4 = 204; EDC 5 = 20
Fragmentation: SOME: 1
Some fragmentation by habitat destruction and by highways.
Distribution in good National parks: **VERY STRONG: 0**
753 grid cells in Parks: Manuripi-Heath, NKM
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Indiis".

Tropidurus spinulosus (COPE)

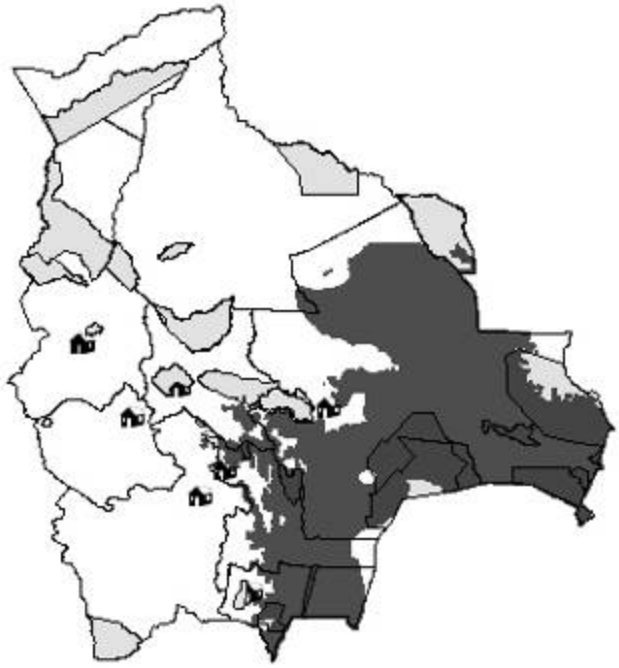

Figure 94 Extrapolated Distribution of *Tropidurus spinulosus*

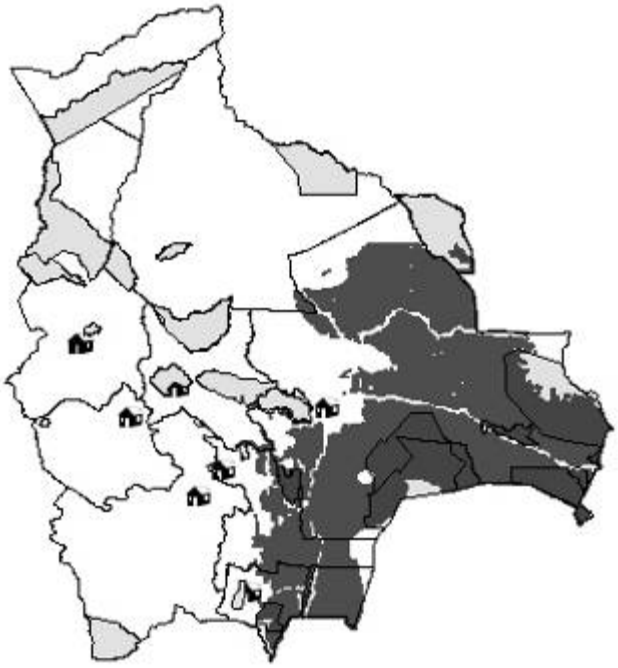

Figure 95 Fragmentation of Habitat *Tropidurus spinulosus*

Map Quality: High confidence

Global distribution: Brazil, Paraguay, Argentina, Bolivia (Beni?, Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 20876: 0
Distr. Total = 24327; EDC 1 = 16566; EDC 2 = 4310; EDC 3 = 1525; EDC 4 = 1204; EDC 5 = 722
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6010 grid cells in Parks: Aguarague, Amboró, Carrasco, Iñao, Kaa-Iya, NKM, Otuquis, San Matìas, Tariquìa, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Paraguay".

Tropidurus torquatus (WIED-NEUWIED)

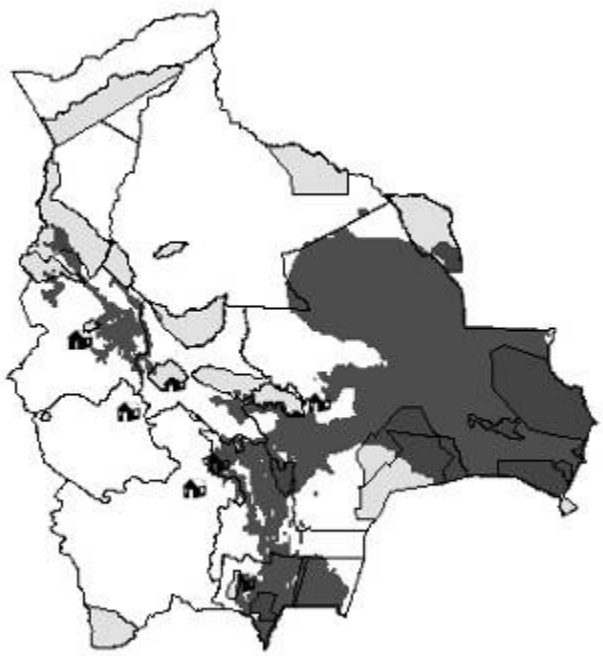

Figure 96 Extrapolated Distribution of *Tropidurus torquatus*

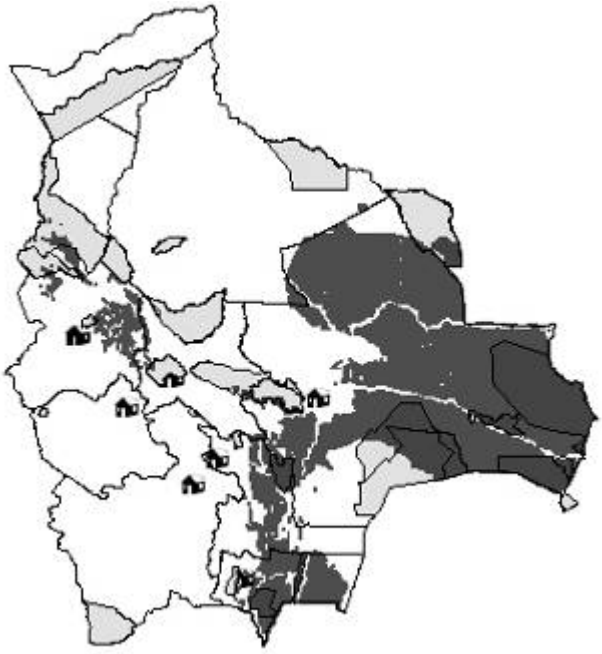

Figure 97 Fragmentation of Habitat *Tropidurus torquatus*

Map Quality: High confidence

Global distribution: Brazil, Guyana, Surinam, French Guiana, Colombia, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 20504: 0
Distr. Total = 24456; EDC 1 = 16579; EDC 2 = 3925; EDC 3 = 1544; EDC 4 = 1319; EDC 5 = 1089
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5996 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, Iñao, Kaa-Iya, Madidi, NKM, Otuquis, San Matías, Tariquìa, Tucavaca, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Tropidurus umbra (LINNAEUS)

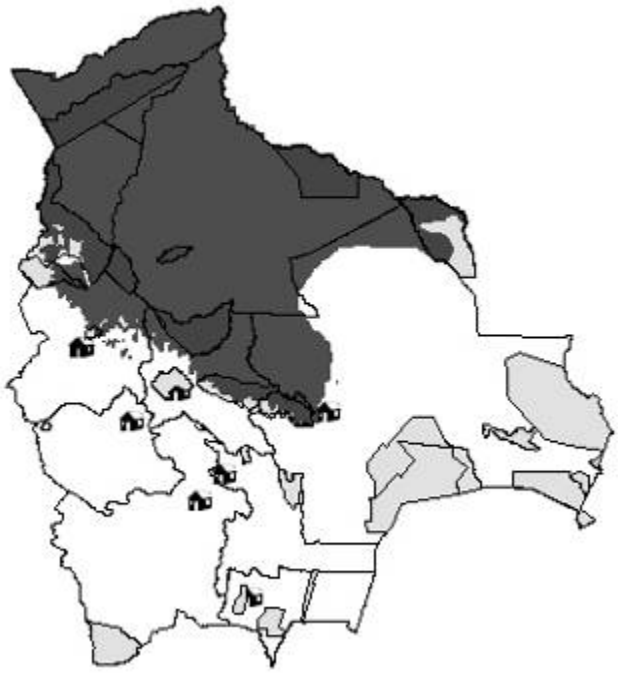

Figure 98 Extrapolated Distribution of *Tropidurus umbra*

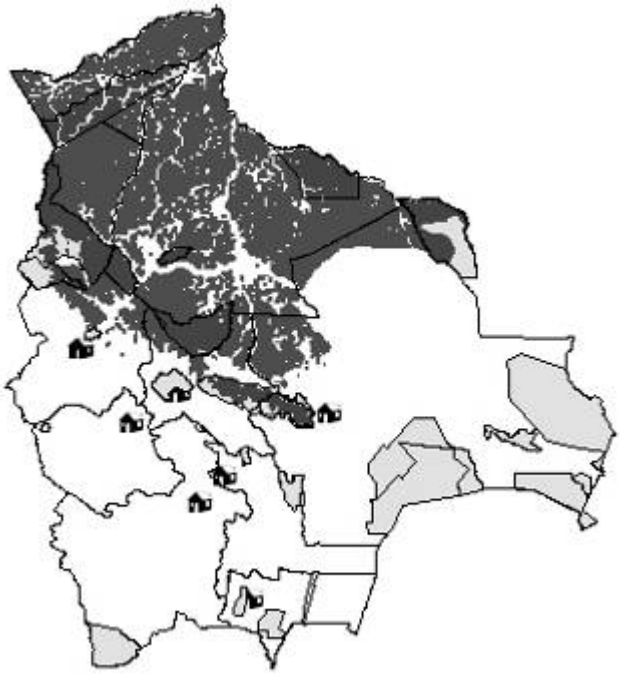

Figure 99 Fragmentation of Habitat *Tropidurus umbra*

Map Quality: High confidence
Global distribution: Colombia, Venezuela, Guyana, Surinam, French Guiana, Brazil, Peru, Ecuador Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: VERY SENSIBLE
Distribution Value: 19045: 0
Distr. Total = 31476; EDC 1 = 19045; EDC 2 = 7010; EDC 3 = 3647; EDC 4 = 1380; EDC 5 = 394
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4589 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "in Meridionalibus".

Tropidurus xanthochilus HARVEY & GUTBERLET

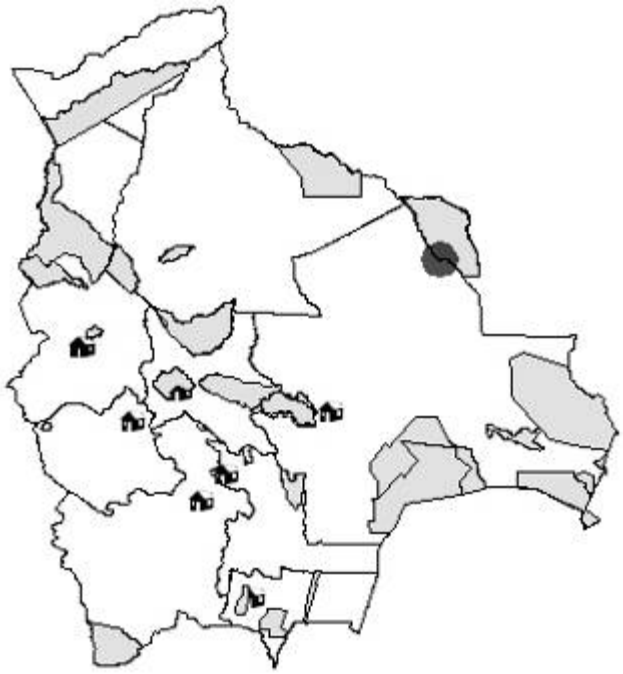

Figure 100 Extrapolated Distribution of *Tropidurus xanthochilus*

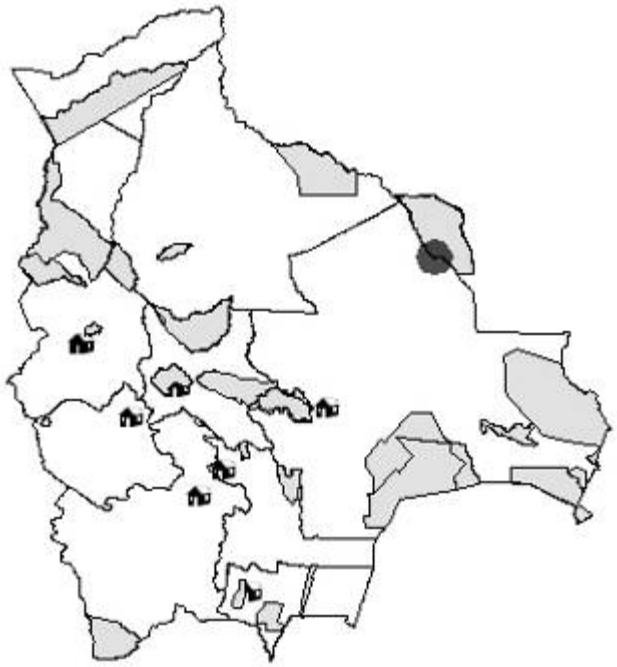

Figure 101 Fragmentation of Habitat *Tropidurus xanthochilus*

Map Quality: High confidence
Global distribution: Bolivia (Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 310: 5
Distr. Total = 320; EDC 1 = 246; EDC 2 = 64; EDC 3 = 9; EDC 4 = 1; EDC 5 = 0
Fragmentation: NONE: 0
Distribution in good National parks: **STRONG: 1**
153 grid cells in Parks: NKM
Use: NONE: 0
Rarity: VERY RARE: 8

5+0+1+0+8 = 14

Conservation status: Vulnerable

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: grounds of Estancia El Refugio (14 45'S, 61 00'W), El Refugo Biological Reserve, Province Velasco, Dept. Santa Cruz, Bolivia.

Uranoscodon superciliosus (LINNAEUS)

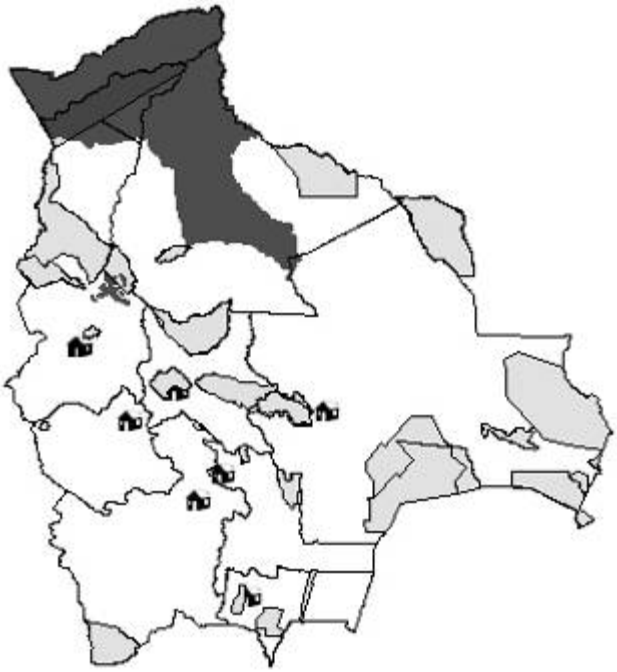

Figure 102 Extrapolated Distribution of *Uranoscodon superciliosus*

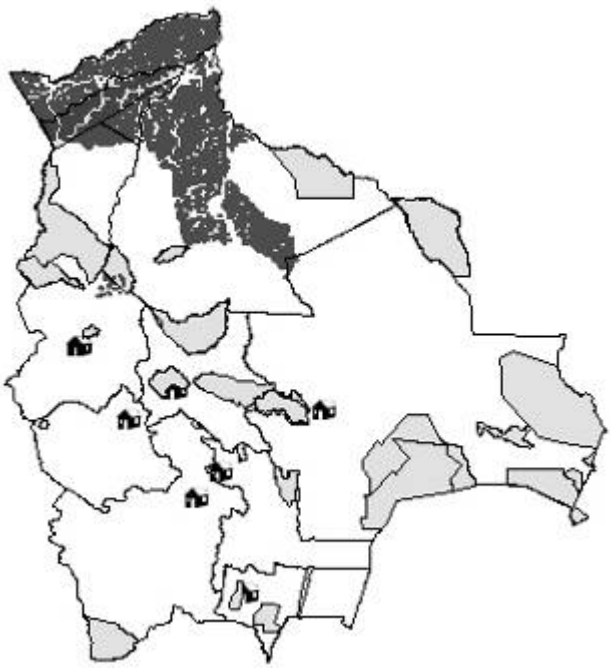

Figure 103 Fragmentation of Habitat *Uranoscodon superciliosus*

Map Quality: High confidence
Global distribution: Brazil, Guyana, Surinam, French Guiana, Venezuela, Colombia, Peru, Bolivia (Beni, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: VERY SENSIBLE
Distribution Value: 5830: 0
Distr. Total = 10678; EDC 1 = 5830; EDC 2 = 3274; EDC 3 = 1357; EDC 4 = 200; EDC 5 = 17
Fragmentation: SOME: 1
Some fragmentation by habitat destruction and by highways.
Distribution in good National parks: **VERY STRONG: 0**
676 grid cells in Parks: Manuripi-Heath
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Indiis"

3.2.10 Liolaemidae

Liolaemus alticolor BARBOUR

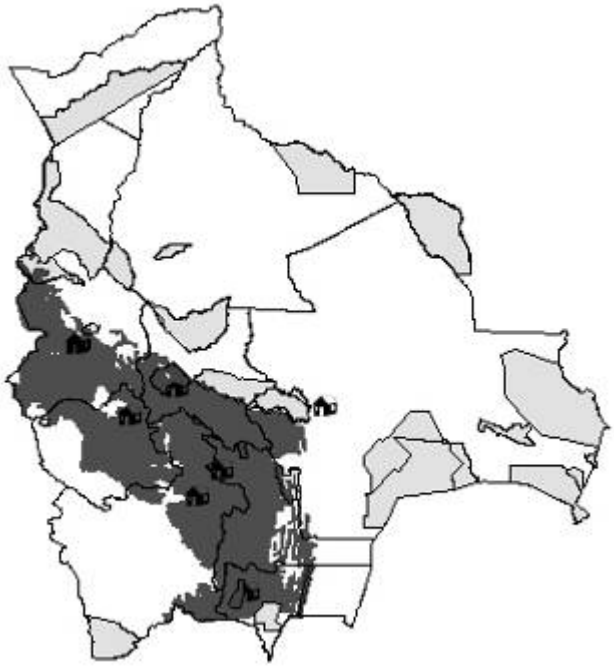

Figure 104 Extrapolated Distribution of *Liolaemus alticolor*

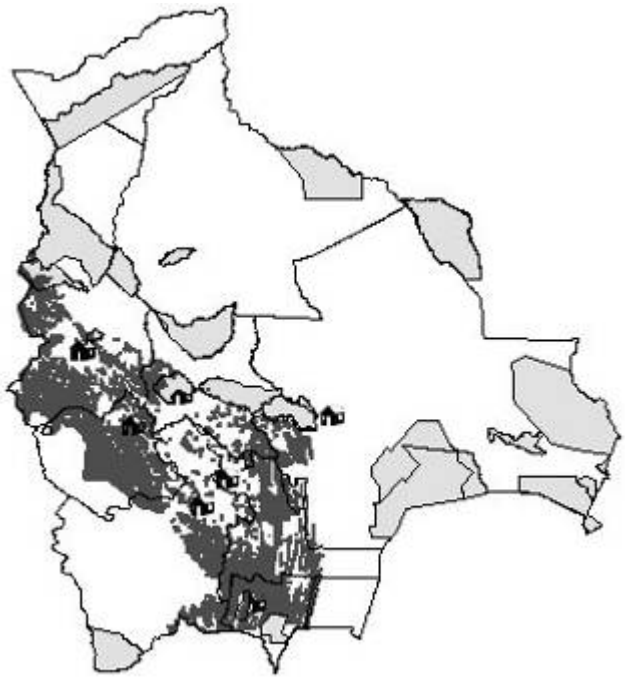

Figure 105 Fragmentation of Habitat of *Liolaemus alticolor*

Map Quality: High confidence
Global distribution: Chile, Peru, Argentina, Bolivia (Cochabamba, La Paz, Oruro, Potosi, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 8162: 0
Distr. Total = 14914; EDC 1 = 1882; EDC 2 = 1687; EDC 3 = 1787; EDC 4 = 2806; EDC 5 = 6752
Fragmentation: STRONG: 5
Strong fragmentation of habitat mainly in the Highlands caused by agriculture and deforestation, partially historical.
Distribution in good National parks: **STRONG: 1**
465 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, Iñao, Madidi, Tariquia, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+5+1+0+0 = 6

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: High Andes of Tarapaco, Chile, S Peru, NW Argentina; Terra typica: Tihauanacu, Bolivia, elevation 13,100 feet.

Liolaemus chacoensis SHREVE

Figure 106 Extrapolated Distribution of *Liolaemus chacoensis*

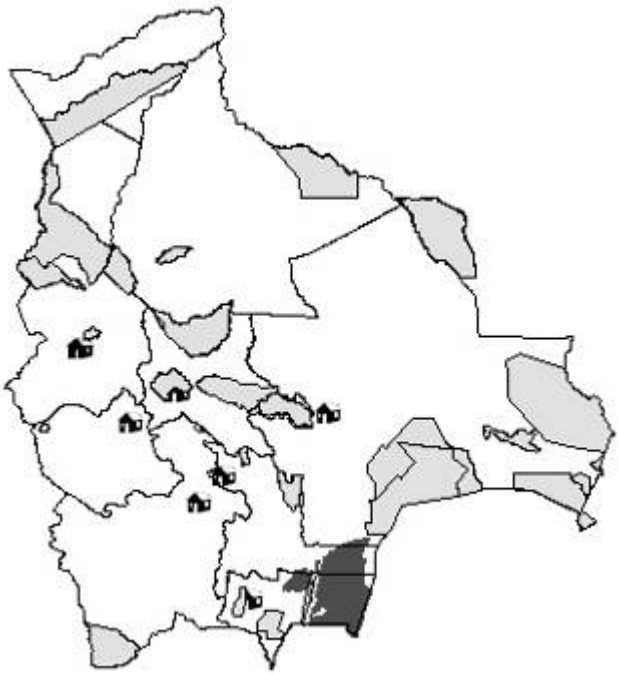

Figure 107 Fragmentation of Habitat of *Liolaemus chacoensis*

Map Quality: High confidence
Global distribution: Paraguay, Argentina, Bolivia (Chuqisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 1453: 2
Distr. Total = 1599; EDC 1 = 959; EDC 2 = 494; EDC 3 = 97; EDC 4 = 40; EDC 5 = 0
Fragmentation: NONE: 0
Distribution in good National parks: **LOW: 2**
13 grid cells in Parks: Aguarague
Use: NONE: 0
Rarity: VERY COMMON: 0

2+0+2+0+0 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Argentina, Cordoba, Salares de Totoralejo
Terra typica: Fortin Guachalla, rio Pilcomayo, 580 km west of Asunción, Chaco Paraguayo, Paraguay (fide Cei 1993).

Liolaemus cranwelli (DONOSO-BARROS)

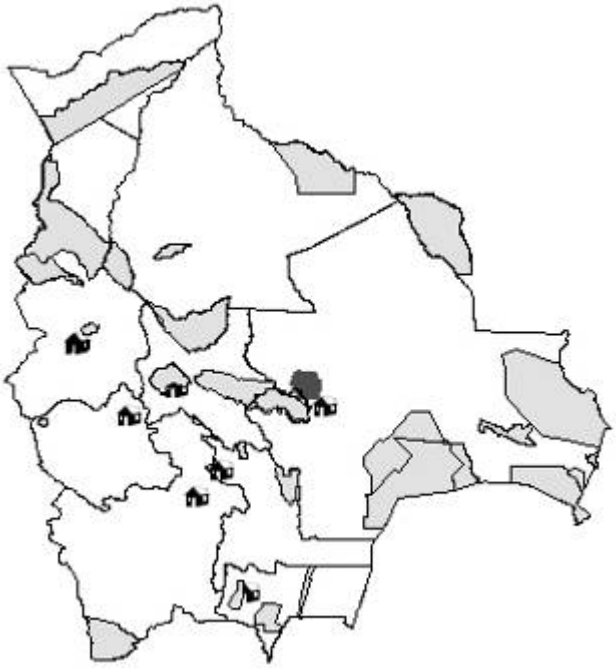

Figure 108 Extrapolated Distribution of *Liolaemus cranwelli*

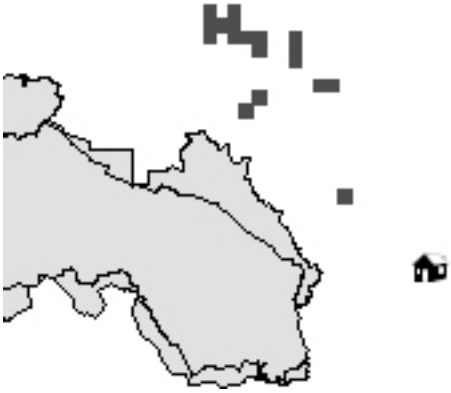

Figure 109 Fragmentation of Habitat of *Liolaemus cranwelli*

Map Quality: High confidence
Global distribution: Bolivia
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 18: 10
Distr. Total = 230; EDC 1 = 0; EDC 2 = 18 EDC 3 = 53; EDC 4 = 127; EDC 5 = 32
Fragmentation: VERY STRONG: 12
Strong fragmentation by habitat destruction near Santa Cruz
Distribution in good National parks: **NONE: 3**
Use: NONE: 0
Rarity: VERY RARE: 8

10+12+3+0+8 = 33

Conservation status: Critically endangered

Conservation status IUCN: EN ab(iii)
Official IUCN Conservation Status: NE
Comments: Terra typica: Bolivia, Santa Cruz, Nueva Moka. Etheridge (2000) synonymizes *Liolaemus cranwelli* with *L. wiegmanni* although he states that the status of *L. cranwelli* remains unclear. Belongs to the wiegmanni group of *Liolaemus*

Liolaemus dorbignyi KOSLOWSKY

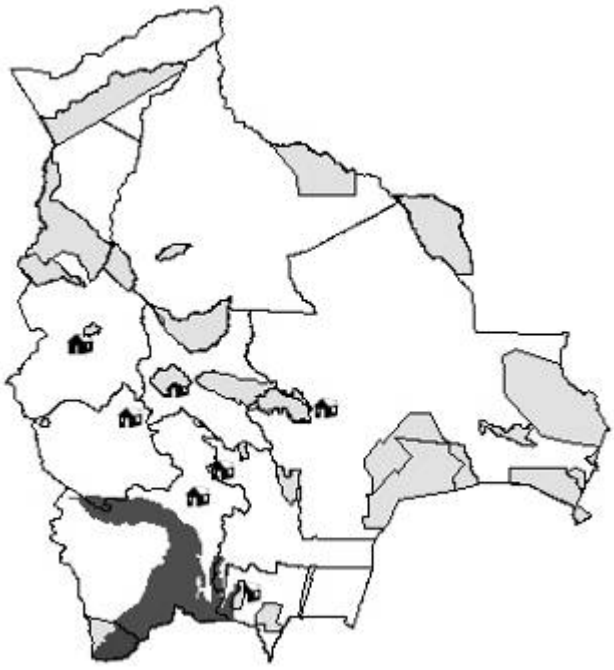

Figure 110 Extrapolated Distribution of *Liolaemus dorbignyi*

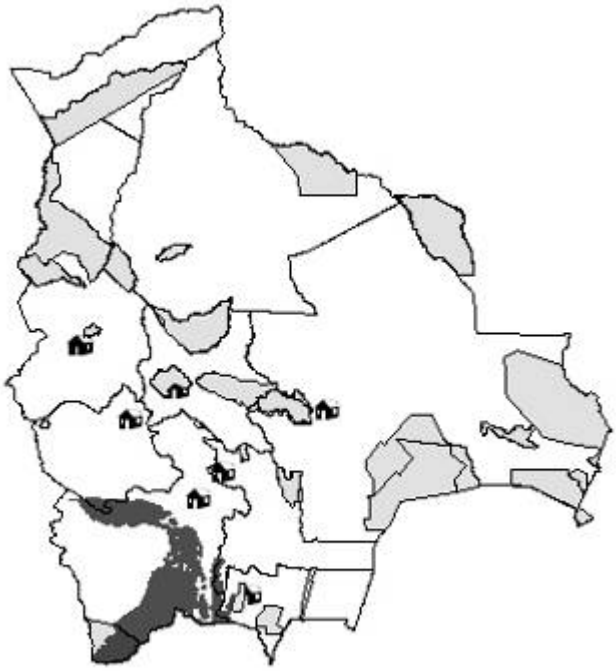

Figure 111 Fragmentation of Habitat of *Liolaemus dorbignyi*

Map Quality: High confidence
Global distribution: Argentina, Chile, Bolivia (Potosi, Oruro, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 2827: 0
Distr. Total = 3169; EDC 1 = 933; EDC 2 = 685; EDC 3 = 655; EDC 4 = 554; EDC 5 = 342
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Tarija.
Distribution in good National parks: **STRONG: 1**
325 grid cells in Parks: Eduardo Avaroa
Use: NONE: 0
Rarity: RARE: 3

0+1+1+0+3 = 5

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Provincia de Catamarca, Argentina

Liolaemus fittkaui LAURENT

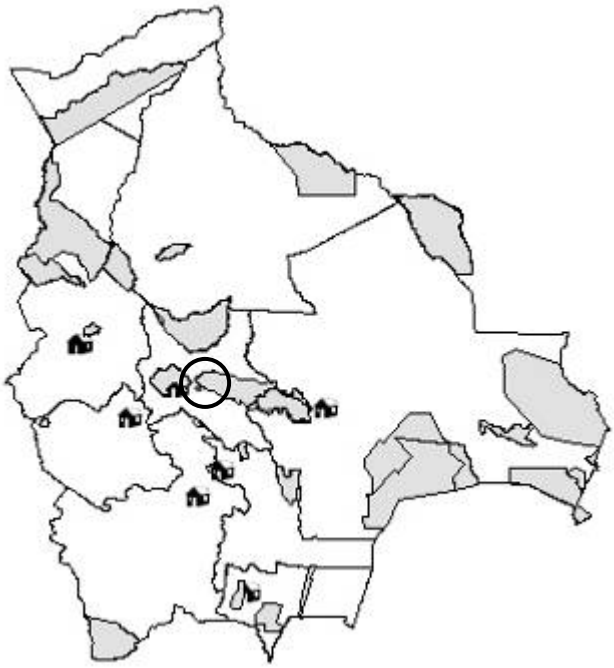

Figure 112 Extrapolated Distribution of *Liolaemus fittkaui*

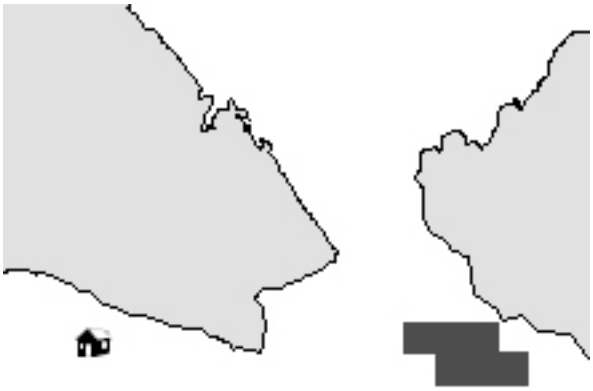

Figure 113 Detail of extrapolated distribution of *Liolaemus fittkaui* before calculating fragmentation

Map Quality: High confidence
Global distribution: Bolivia (Cochabamba)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 0: 13
Distr. Total = 6; EDC 1 = 0; EDC 2 = 0; EDC 3 = 0; EDC 4 = 0; EDC 5 = 6
Fragmentation: VERY STRONG: 12
Distribution in good National parks: **NONE: 3**
Use: NONE: 0
Rarity: RARE: 3

13+12+3+0+3 = 31

Conservation status: Critically endangered

Conservation status IUCN: CR ab(iii)
Official IUCN Conservation Status: NE

Liolaemus forsteri LAURENT

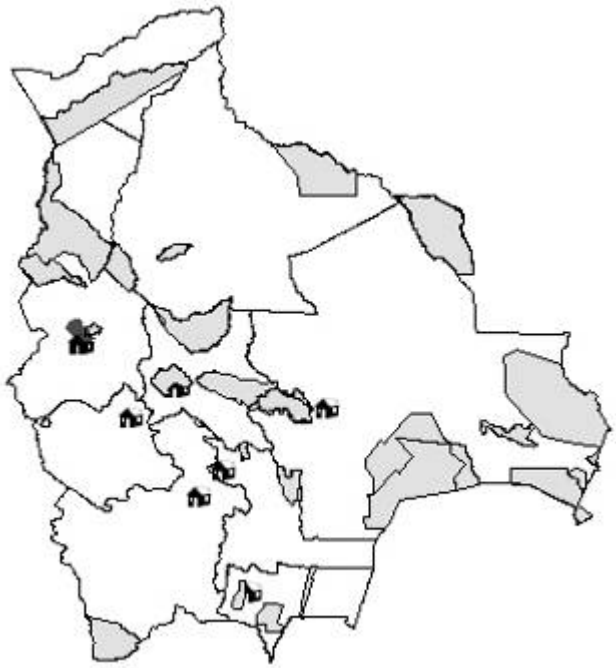

Figure 114 Extrapolated Distribution of *Liolaemus forsteri*

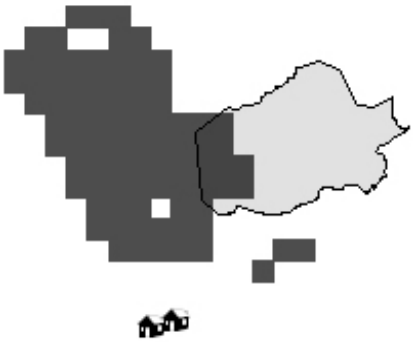

Figure 115 Fragmentation of Habitat of *Liolaemus forsteri*

Map Quality: High confidence
Global distribution: Bolivia (La Paz)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 85: 5
Distr. Total = 116; EDC 1 = 7; EDC 2 = 21; EDC 3 = 33; EDC 4 = 24; EDC 5 = 31
Fragmentation: NONE: 0
Distribution in good National parks: **LOW: 2**
11 grid cells in Parks: Cotapata
Use: NONE: 0
Rarity: RARE: 3

5+0+2+0+3 = 10

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Bolivia, Chacaltaya, nr. La Paz, 1700 m.

Liolaemus islugensis ORTIZ & MARQUET

Figure 116 Extrapolated Distribution of *Liolaemus islugensis*

Figure 117 Fragmentation of Habitat of *Liolaemus islugensis*

Map Quality: High confidence
Global distribution: Chile, Bolivia (Chuquisaca, Potosi, Oruro, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 4934: 0
Distr. Total = 5285; EDC 1 = 2174; EDC 2 = 1274; EDC 3 = 858; EDC 4 = 628; EDC 5 = 351
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Tarija.
Distribution in good National parks: **VERY STRONG: 0**
488 grid cells in Parks: Cordillera de Sama, Eduardo Avaroa
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: *Liolaemus islugensis erguetae*: Chilean Highlands between 22° S and 22° 25' S, in Bolivia near the Chilean border.

Liolaemus jamesi (BOULENGER)

Figure 118 Extrapolated Distribution of *Liolaemus jamesi*

Figure 119 Fragmentation of Habitat of *Liolaemus jamesi*

Map Quality: High confidence
Global distribution: Chile, Bolivia (Potosi, Oruro)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 1233: 2
Distr. Total = 1263; EDC 1 = 624; EDC 2 = 359; EDC 3 = 165; EDC 4 = 85; EDC 5 = 30
Fragmentation: NONE: 0
No fragmentation by habitat destruction. Disjunctive distribution areas probably connected through Chile.
Distribution in good National parks: **STRONG: 1**
347 grid cells in Parks: Eduardo Avaroa, Sajama
Use: NONE: 0
Rarity: RARE: 3

2+0+1+0+3 = 6

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Andes of Tarapaca, Chile, elevation 3300-4000 m.

Liolaemus orientalis MÜLLER

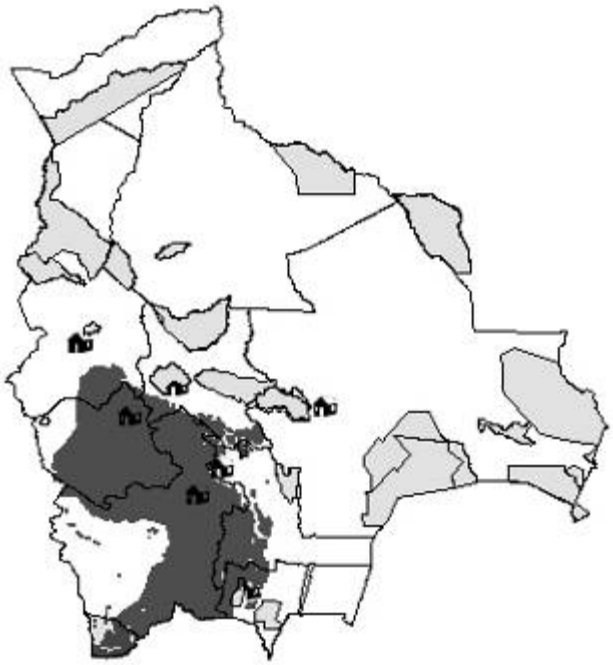

Figure 120 Extrapolated Distribution of *Liolaemus orientalis*

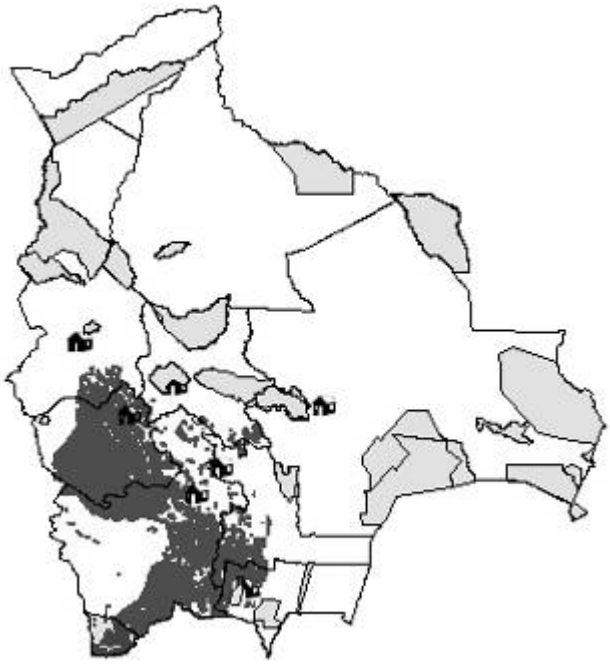

Figure 121 Fragmentation of Habitat of *Liolaemus orientalis*

Map Quality: High confidence
Global distribution: Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosi, Oruro, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 7663: 0
Distr. Total = 11308; EDC 1 = 1799; EDC 2 = 1719; EDC 3 = 1789; EDC 4 = 2256; EDC 5 = 3745
Fragmentation: STRONG: 5
Strong fragmentation of habitat, mainly causing reduction of original distribution but also separating some smaller areas from the main block.
Distribution in good National parks: **STRONG: 1**
310 grid cells in Parks: Cordillera de Sama, Eduardo Avaroa, El Palmar
Use: NONE: 0
Rarity: VERY COMMON: 0

0+5+1+0+0 = 6

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Comments: Terra typica: “Oberen Pilcomayo, zwischen Tarija und San Francisco, Bolivien”

Liolaemus ornatus KOSLOWSKY

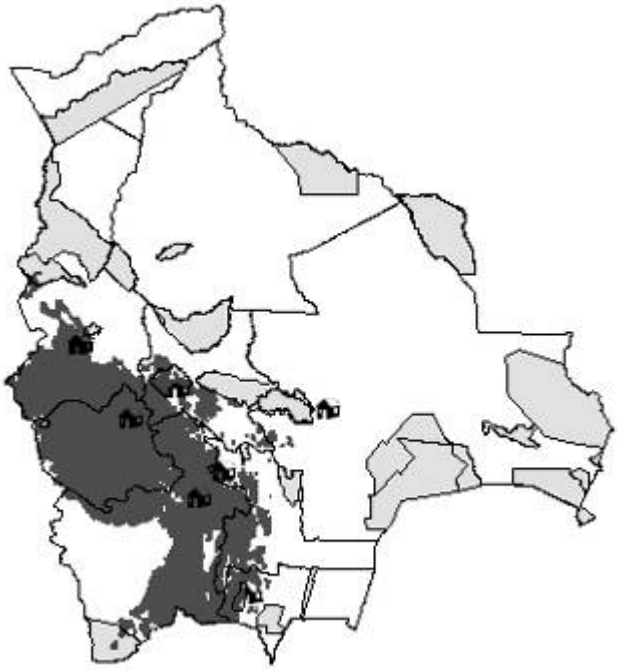

Figure 122 Extrapolated Distribution of *Liolaemus ornatus*

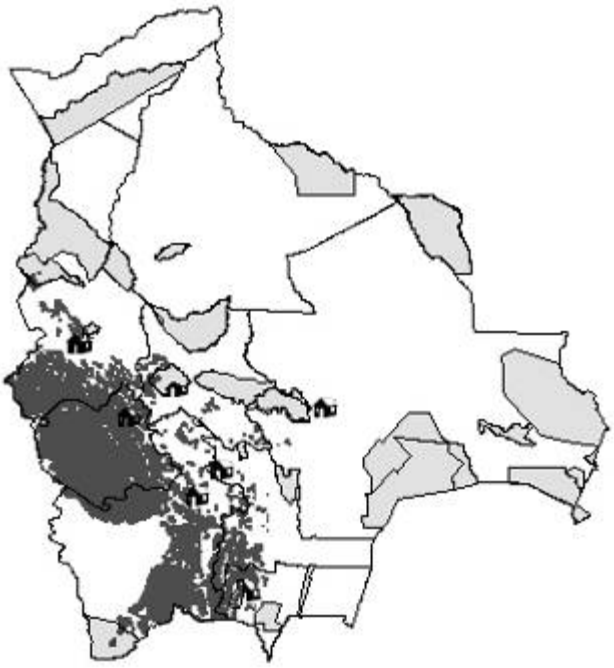

Figure 123 Fragmentation of Habitat of *Liolaemus ornatus*

Map Quality: High confidence
Global distribution: Chile, Peru, Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Oruro, Potosi)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 8386: 0
Distr. Total = 13281; EDC 1 = 1728; EDC 2 = 1850; EDC 3 = 2024; EDC 4 = 2784; EDC 5 = 4895
Fragmentation: STRONG: 5
Strong fragmentation of habitat, mainly causing reduction of original distribution but also separating some smaller areas from the main block.
Distribution in good National parks: **LOW: 2**
93 grid cells in Parks: Apolobamba, Carrasco, Cordillera de Sama, Cotapata, Eduardo Avaroa, Sajama, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+5+2+0+1 = 8

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Cordilleras de la provincia de Jujuy, Argentina (Koslowsky 1898).

Liolaemus pantherinus PELLEGRIN

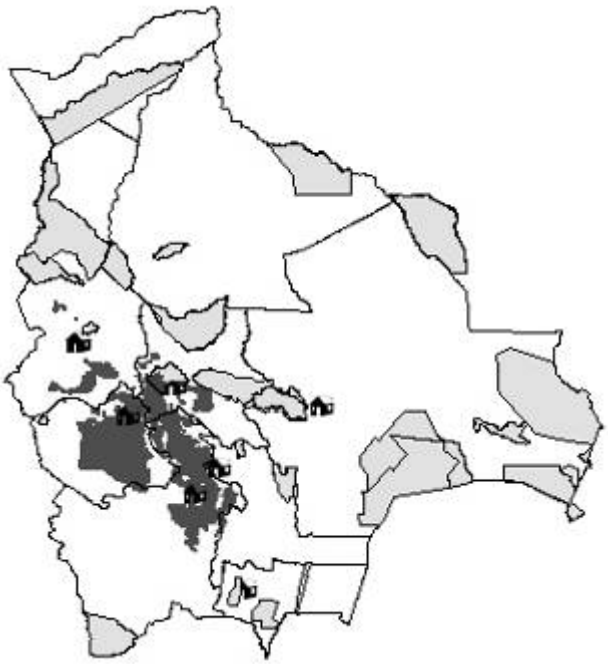

Figure 124 Extrapolated Distribution of *Liolaemus pantherinus*

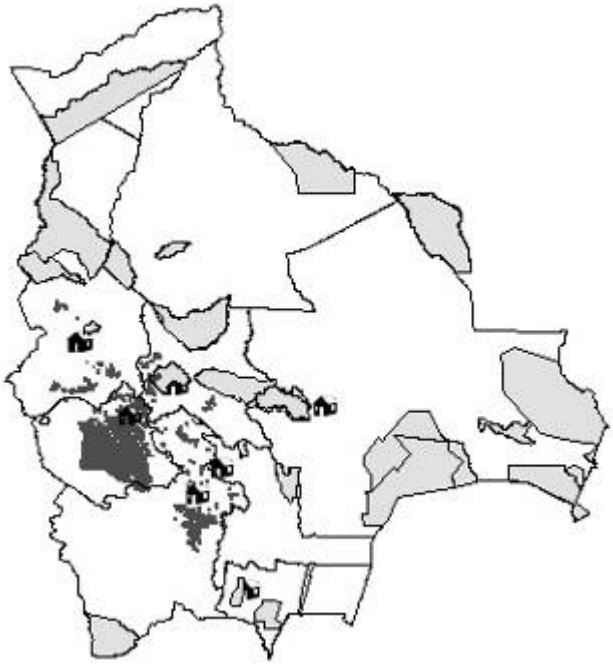

Figure 125 Fragmentation of Habitat of *Liolaemus pantherinus*

Map Quality: High confidence
Global distribution: Peru, Chile, Bolivia (Cochabamba, La Paz, Oruro, Potosi)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 1816: 0
Distr. Total = 3920; EDC 1 = 230; EDC 2 = 304; EDC 3 = 466; EDC 4 = 816; EDC 5 = 2104
Fragmentation: VERY STRONG: 12
Very strong fragmentation by habitat destruction in the Bolivia Highlands not just reducing the habitat size extremely but separating the habitat in two big blocks separated by a wide gap.
Distribution in good National parks: **LOW: 2**
35 grid cells in Parks: Tunari
Use: NONE: 0
Rarity: RARE: 3

0+12+2+0+3 = 17

Conservation status: Endangered

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Liolaemus schmidti (MARX)

Figure 126 Extrapolated Distribution of *Liolaemus schmidti*

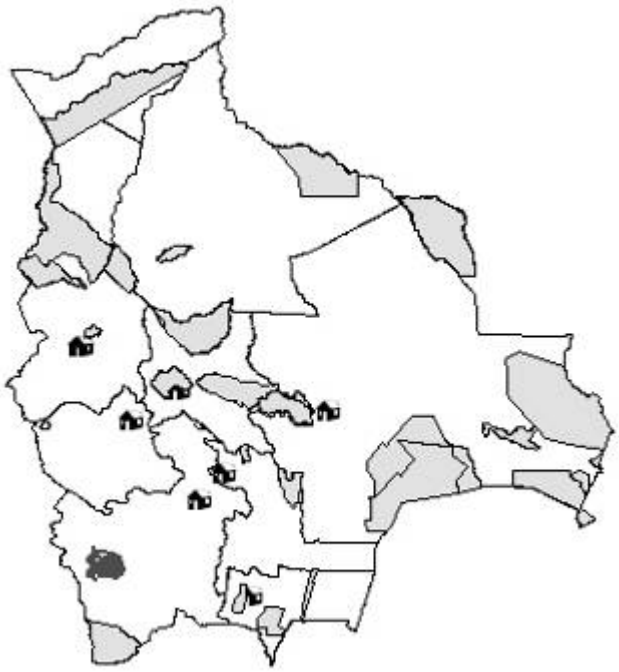

Figure 127 Fragmentation of Habitat of *Liolaemus schmidti*

Map Quality: High confidence
Global distribution: Chile, Bolivia (Potosi)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 269: 5
Distr. Total = 272; EDC 1 = 98; EDC 2 = 119 EDC 3 = 33; EDC 4 = 19; EDC 5 = 3
Fragmentation: NONE: 0
Distribution in good National parks: **NONE: 3**
Use: NONE: 0
Rarity: RARE: 3

5+0+3+0+3 = 11

Conservation status: Vulnerable

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Forty miles east of San Pedro de Atacama, Antofagasta, Chile.

Liolaemus signifer (DUMÉRIL & BIBRON)

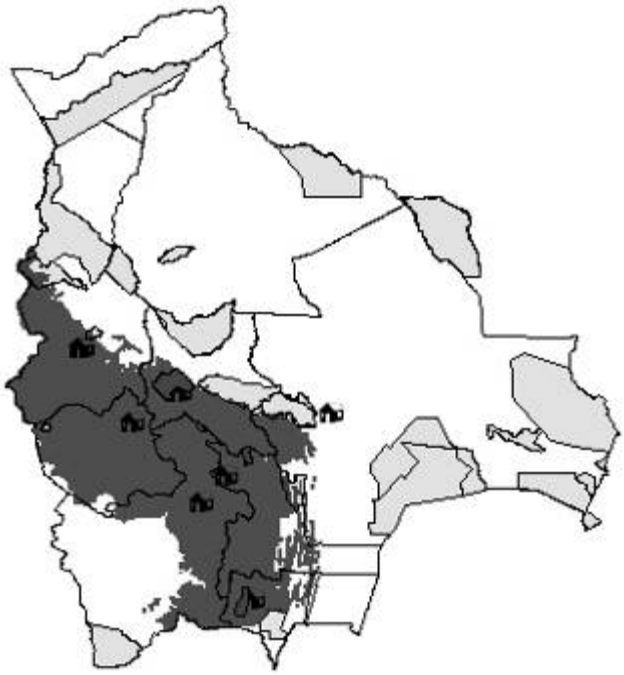

Figure 128 Extrapolated Distribution of *Liolaemus signifer*

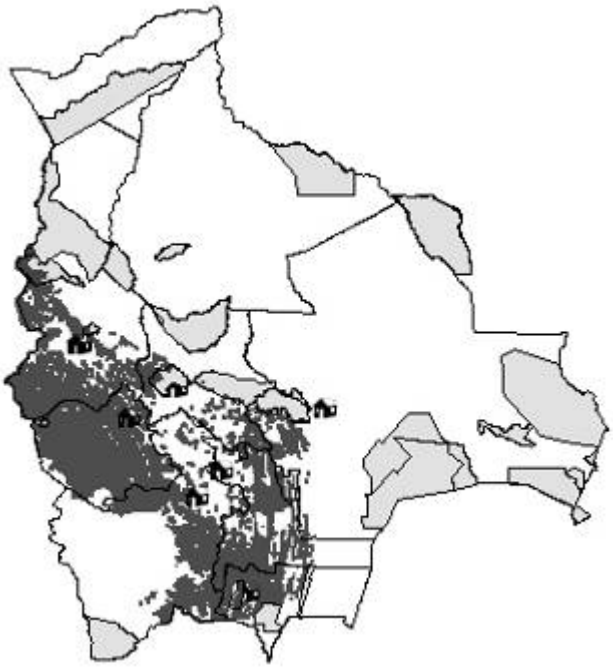

Figure 129 Fragmentation of Habitat of *Liolaemus signifer*

Map Quality: High confidence
Global distribution: Chile, Argentina, Peru, Bolivia (Chuquisaca, Cochabamba, La Paz, Oruro, Potosi, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 10498: 0
Distr. Total = 17673; EDC 1 = 2411; EDC 2 = 2289; EDC 3 = 2432; EDC 4 = 3366; EDC 5 = 7175
Fragmentation: STRONG: 5
Strong fragmentation of habitat in some areas mainly causing reduction of original distribution but not separating the main block.
Distribution in good National parks: **VERY STRONG: 0**
845 grid cells in Parks: Cotapata, Tunari, Carrasco, Amboro, Torotoro, Sajama, El Palmar, Cordillera de Sama, Tariquia, Aguarague, Iñao, Madidi, Apolobamba

Use: NONE: 0
Rarity: VERY COMMON: 0

0+5+0+0+0 = 5

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE

Liolaemus variegatus LAURENT

Figure 130 Extrapolated Distribution of *Liolaemus variegatus*

Figure 131 Fragmentation of Habitat of *Liolaemus variegatus*

Map Quality: High confidence
Global distribution: Bolivia (Cochabamba)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 22: 10
Distr. Total = 198; EDC 1 = 0; EDC 2 = 1 EDC 3 = 0; EDC 4 = 21; EDC 5 = 176
Fragmentation: SOME: 1
Habitat size reduced but not producing wide gaps.
Distribution in good National parks: **NONE: 3**
1 grid cells in Parks: Carrasco
Use: NONE: 0
Rarity: RARE: 3

10+1+3+0+3 = 17

Conservation status: Endangered

Conservation status IUCN: EN1ab(iii)
Official IUCN Conservation Status: NE
Comments: Terra typica: Bolivia, Cochabamba, Tiraque, 3100 m.

3.2.11 Gekkonidae

Gonatodes hasemani GRIFFIN

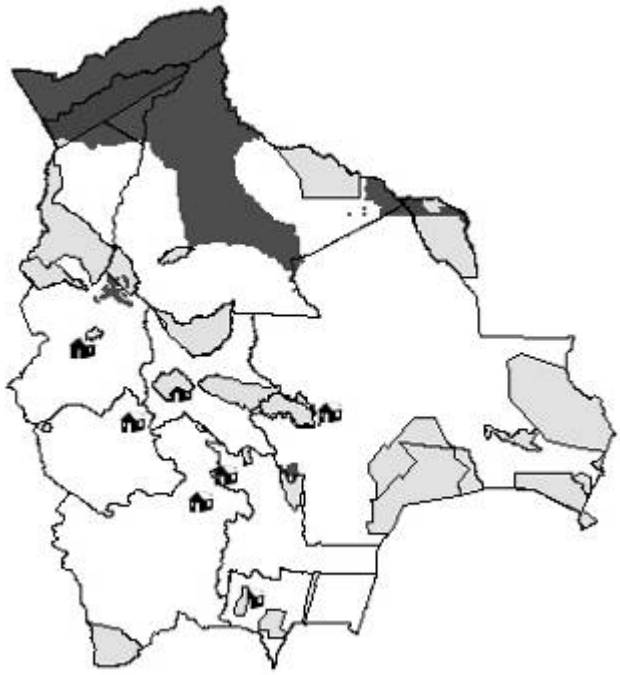

Figure 132 Extrapolated Distribution of *Gonatodes hasemani*

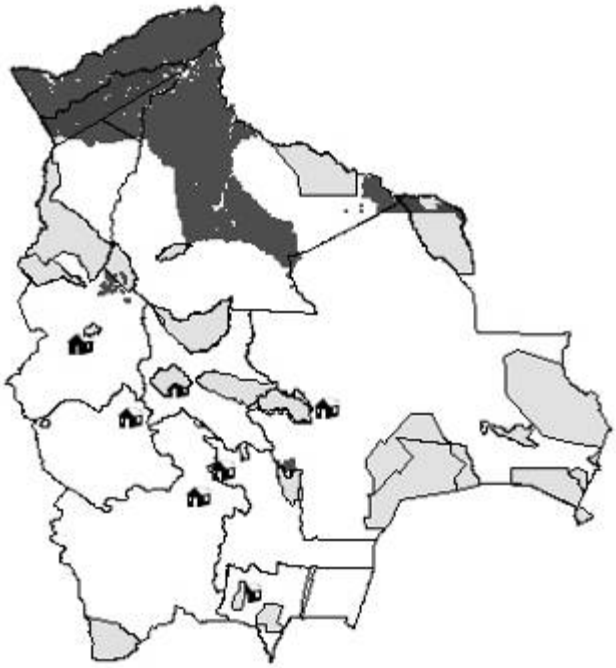

Figure 133 Fragmentation of Habitat of *Gonatodes hasemani*

Map Quality: High confidence
Global distribution: Peru, Brazil, Bolivia (Beni, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 9566: 0
Distr. Total = 11236; EDC 1 = 6198; EDC 2 = 3368; EDC 3 = 1448; EDC 4 = 203; EDC 5 = 19
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
1290 grid cells in Parks: Iñao, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Villa Bella, Rio Beni, Bolivia

Gonatodes humeralis (GUICHENOT)

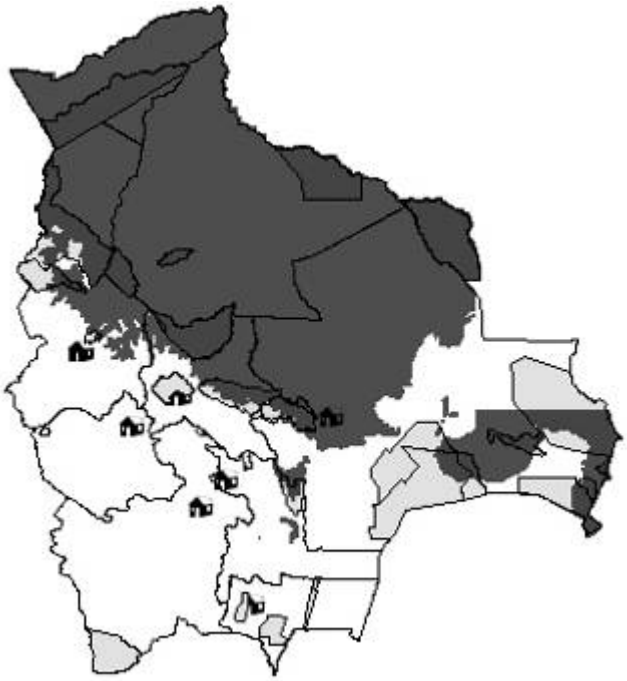

Figure 134 Extrapolated Distribution of *Gonatodes humeralis*

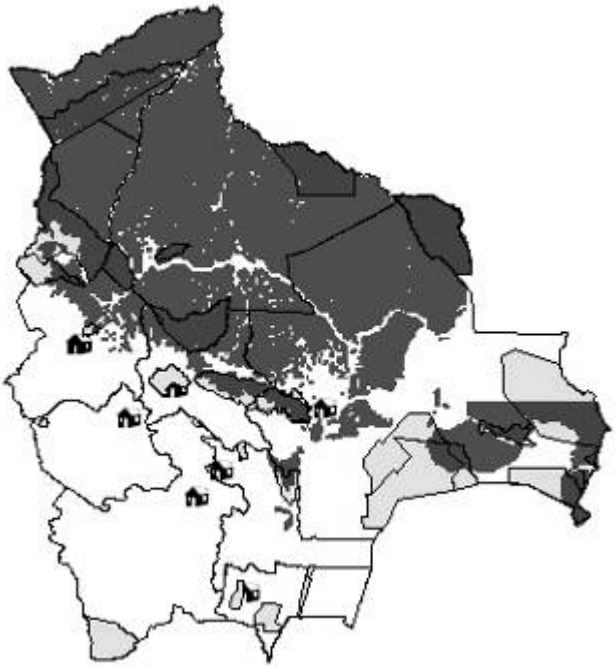

Figure 135 Fragmentation of Habitat of *Gonatodes humeralis*

Map Quality: Medium confidence
Global distribution: Trinidad, Tobago, French Guiana, Suriname, Ecuador, Venezuela, Colombia, Brazil, Guyana, Peru, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 35453: 0
Distr. Total = 43008; EDC 1 = 26549; EDC 2 = 8904 EDC 3 = 4509; EDC 4 = 2301; EDC 5 = 745
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
8216 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Pebas" [Highlands of Peru] [*Gymnodactylus incertus* PETERS]. Holotype: ZMB 7189 (lost fide Bauer et al. 1995).

Hemidactylus mabouia (MOREAU DE JONNÉS)

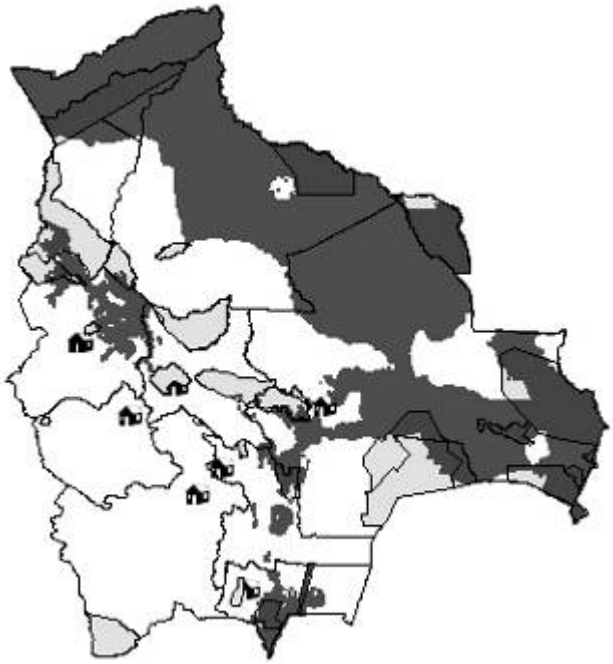

Figure 136 Extrapolated Distribution of *Hemidactylus mabouia*

Map Quality: Low confidence
Present in nearly all lowland human settlements of Bolivia, absent in primary habitats.
Global distribution: nearly worldwide, introduced in most countries. Origin in Africa.
Taxonomic status: OK
Sensibility for habitat alteration: ADVANTAGE
Distribution Value: 29451: 0
Distr. Total = 33866; EDC 1 = 22370; EDC 2 = 7081; EDC 3 = 2907; EDC 4 = 1151; EDC 5 = 357
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
8513 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica restricta: "Insel St. Vincent, Kleine Antillen" (Smith & Taylor 1950)

Homonota fasciata (DUMÉRIL & BIBRON)

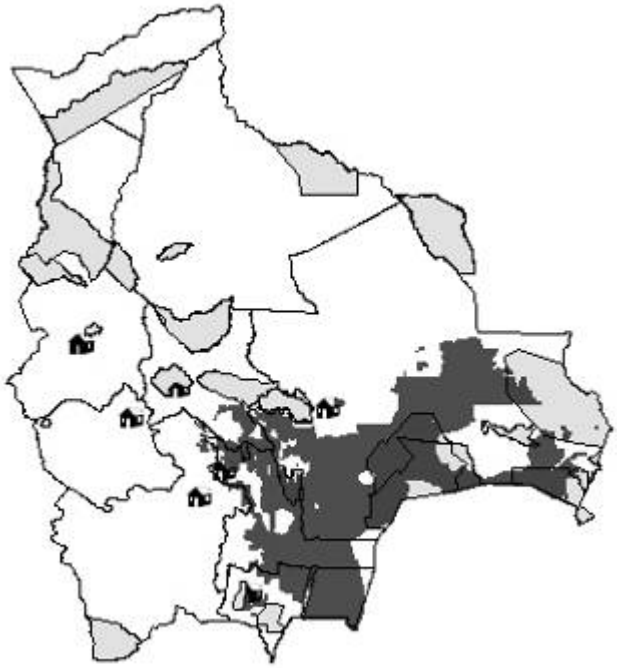

Figure 137 Extrapolated Distribution of *Homonota fasciata*

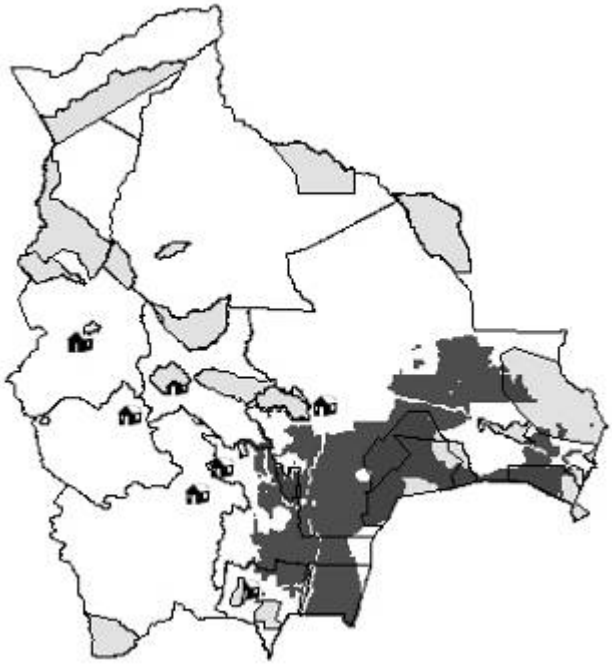

Figure 138 Fragmentation of Habitat of *Homonota fasciata*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Cochabamba, Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 10363: 0
Distr. Total = 12397; EDC 1 = 8063; EDC 2 = 2300; EDC 3 = 693; EDC 4 = 614; EDC 5 = 727
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
3206 grid cells in Parks: Aguarague, El Palmar, Iñao, Kaa-Iya, Otuquis, San Matias, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Mendoza ("in den Schluchten der Sierra bei Challao"[in the valleys of the sierra near Challao]), Argentina.

Lygodactylus wetzeli (SMITH, MARTIN & SWAIN)

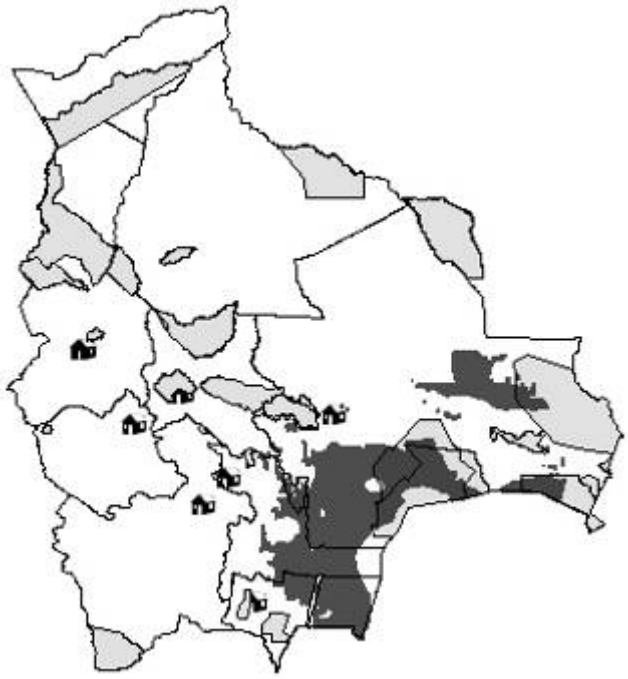

Figure 139 Extrapolated Distribution of *Lygodactylus wetzeli*

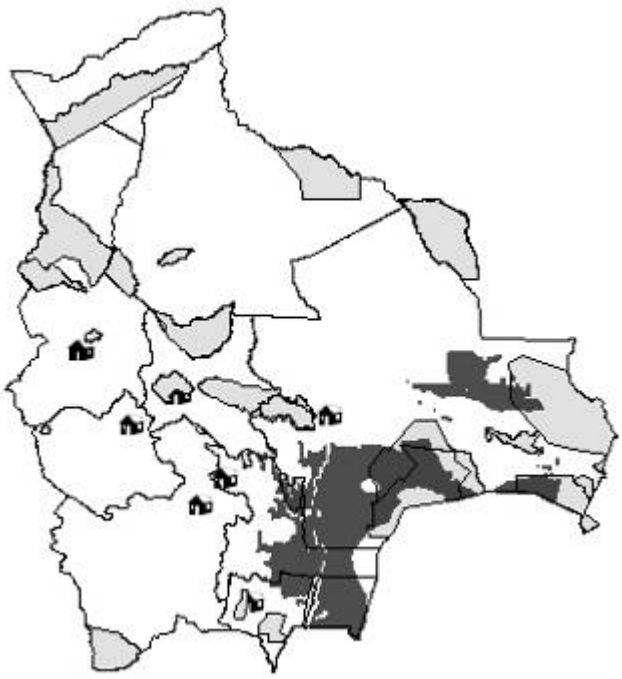

Figure 140 Fragmentation of Habitat of *Lygodactylus wetzeli*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Bolivia (Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 7014: 0
Distr. Total = 7664; EDC 1 = 5386; EDC 2 = 1628; EDC 3 = 413; EDC 4 = 195; EDC 5 = 42
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
2158 grid cells in Parks: Aguarague, Iñao, Kaa-Iya, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Brasil, Mato Grosso do Sul, Urucum

Phyllopezus pollicaris (SPIX)

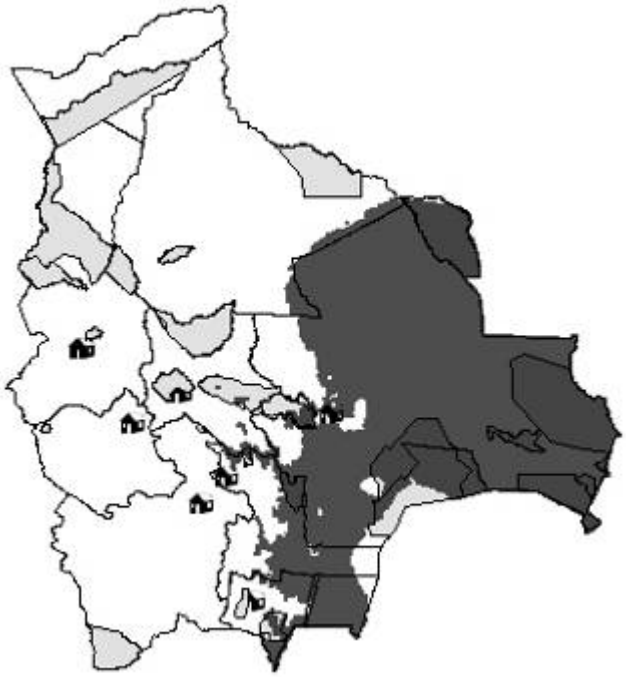

Figure 141 Extrapolated Distribution of *Phyllopezus pollicaris*

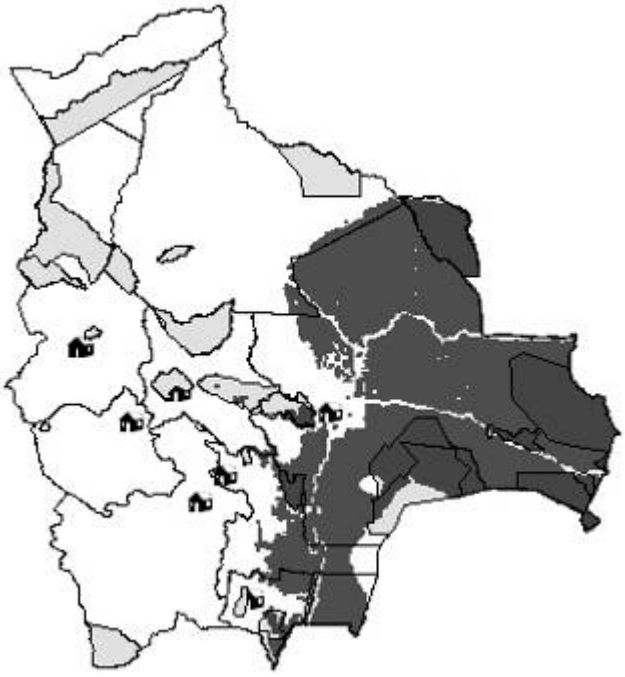

Figure 142 Fragmentation of Habitat of *Phyllopezus pollicaris*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Bolivia (Beni, Chuquisaca, Santa Cruz, Tarija) [*P. p. goyazensis*: Santa Cruz, Tarija; *P. pollicaris*: Santa Cruz, Tarija; fide Dirksen & De la Riva 1999], Argentina.
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 24633: 0
Distr. Total = 28191; EDC 1 = 19834; EDC 2 = 4799; EDC 3 = 1763; EDC 4 = 1398; EDC 5 = 397
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7484 grid cells in Parks: Aguarague, Amboró, Carrasco, El Palmar, Iñao, Kaa-Iya, NKM, Otuquis, San Matias, Tucavaca, Tariquia
Use: NONE: 0

Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Goyaz (Brasilien)"; Holotype: ZMB 9079 [*Phyllopezus goyazensis* PETERS]

Thecadactylus rapicauda (HOUTTUYN)

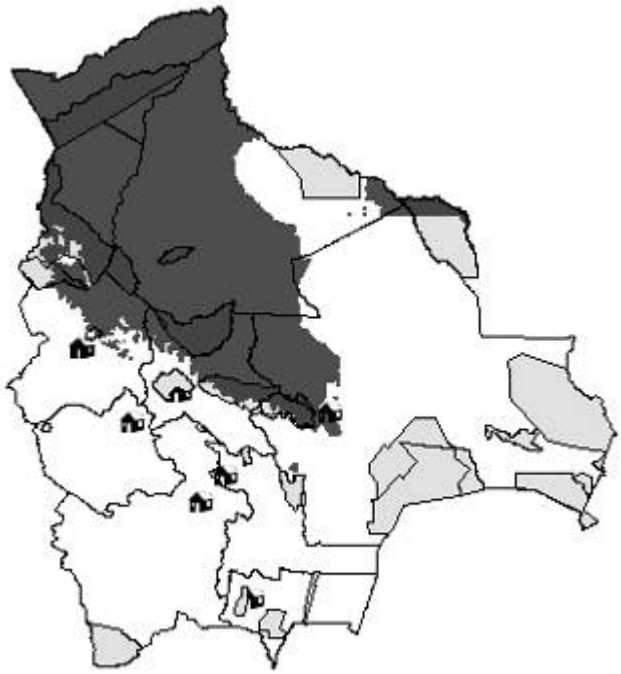

Figure 143 Extrapolated Distribution of *Thecadactylus rapicauda*

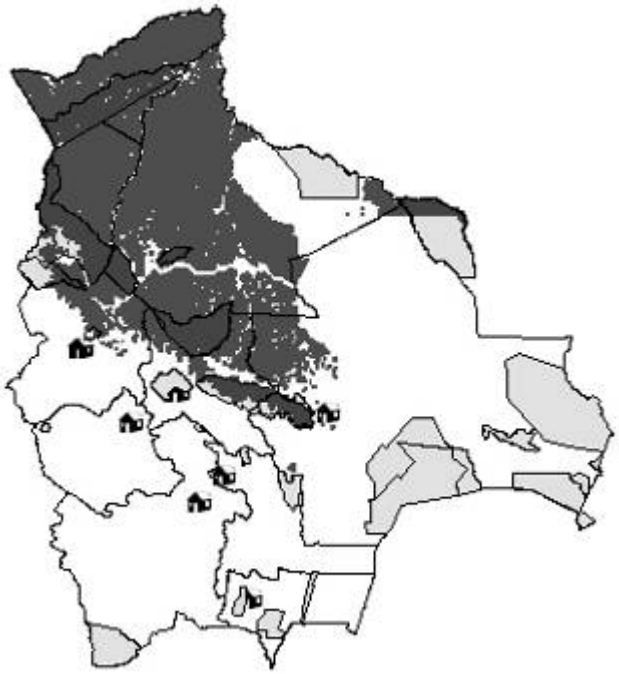

Figure 144 Fragmentation of Habitat of *Thecadactylus rapicauda*

Map Quality: High confidence
Global distribution: Mexico, Belize, Guatemala, Honduras, Nicaragua, Costa Rica, Panama Trinidad, Antilles, Leeward Islands, Aruba, Colombia, French Guiana, Surinam, Guyana, Venezuela, Peru, Ecuador, Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 21431: 0
Distr. Total = 26634; EDC 1 = 15404; EDC 2 = 6027; EDC 3 = 3356; EDC 4 = 1414; EDC 5 = 433
Fragmentation: SOME: 1

Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4594 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "American Islands"; restricted to Yucatán, México, by Smith and Taylor, 1950, and to Paramaribo, Suriname, by Hoogmoed, 1973. Holotype: Unlocated, probably lost. Kronauer et al. (2005) suggested that the southwestern clade represents a cryptic species based on DNA sequence data.

3.2.12 Gymnophtalmidae

Alopoglossus angulatus (LINNAEUS)

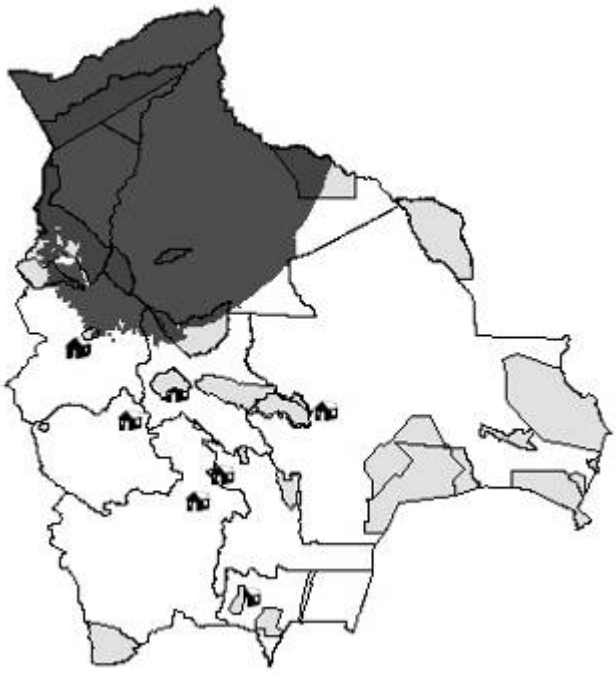

Figure 145 Extrapolated Distribution of *Alopoglossus angulatus*

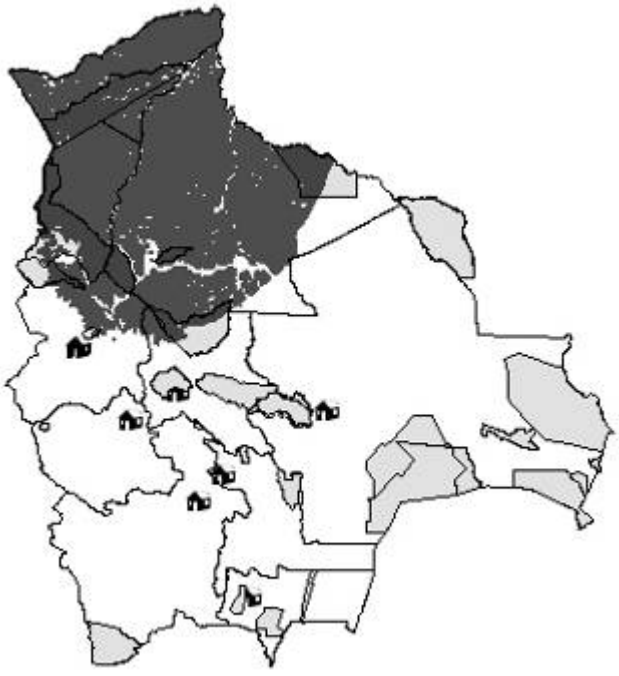

Figure 146 Fragmentation of Habitat of *Alopoglossus angulatus*

Map Quality: High confidence

Global distribution: Colombia, Brazil, French Guiana, Suriname, Guyana, Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 19614: 0
Distr. Total = 23244; EDC 1 = 13833; EDC 2 = 5781; EDC 3 = 2767; EDC 4 = 689; EDC 5 = 174
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Trinidad and Rurrenabaque and by highways.
Distribution in good National parks: **VERY STRONG: 0**
3820 grid cells in Parks: Apolobamba, Cotapata, EBB, Isiboro Sécure, Itenez, Madidi, Manuripi-Heath, Pilon Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica Neotype: Suriname, Neotype: RMNH 15200. 4 specimens from northern Bolivia are known. Two specimens have been examined (MNKR 2573 and MNKR 2574) and coincide with morphologic data given by Avila-Pires (1995).

Arthrosaura kockii (VAN LIDTH DE JEUDE)

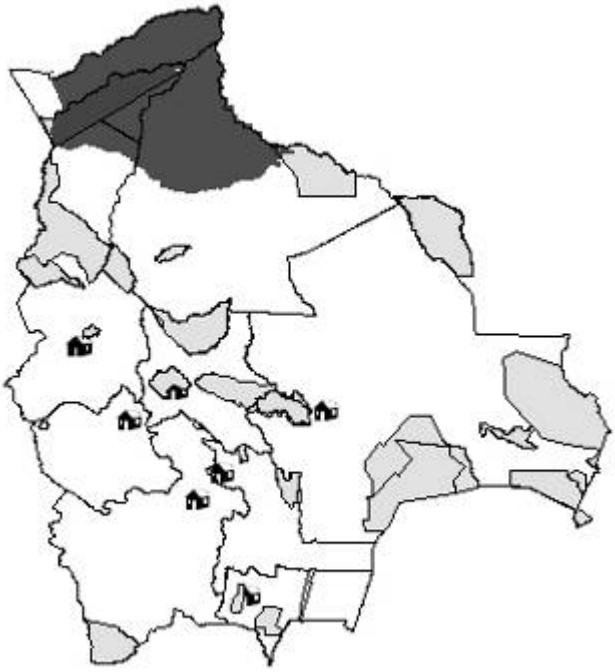

Figure 147 Extrapolated Distribution of *Arthrosaura kockii*

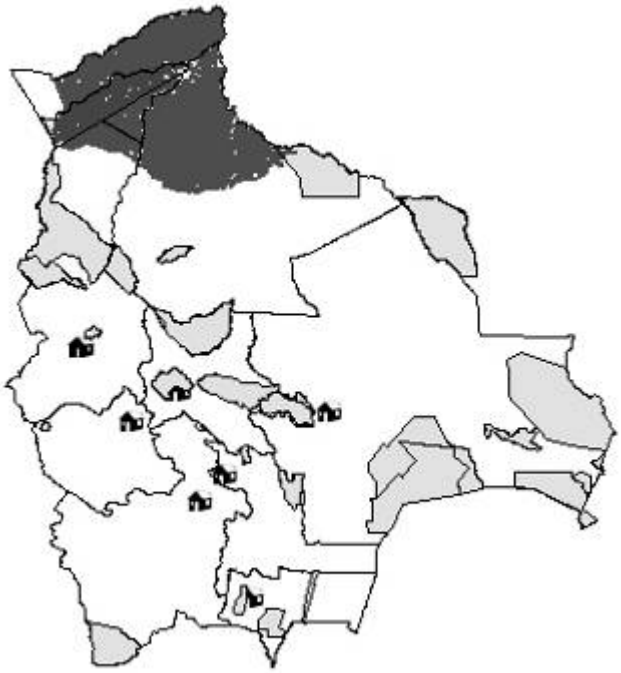

Figure 148 Fragmentation of Habitat of *Arthrosaura kockii*

Map Quality: High confidence
Global distribution: Brazil, French Guiana, Suriname, Bolivia (Beni, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 7658: 0
Distr. Total = 9045; EDC 1 = 4975; EDC 2 = 2683; EDC 3 = 1222; EDC 4 = 159; EDC 5 = 6
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
1057 grid cells in Parks: Itenez, Manuripi-Heath
Use: NONE: 0
Rarity: RARE: 3

0+0+0+0+3 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Type locality: vicinity of Coppename River, Suriname, Holotype: RMNH 4464. One specimen is listed to be collected from Santa Rosa in Manuripi. I was not able to examine the specimen so the distribution within Bolivia remains uncertain. The finding would be the by far southernmost distribution of this species known.

Bachia dorbignyi (DUMÉRIL & BIBRON)

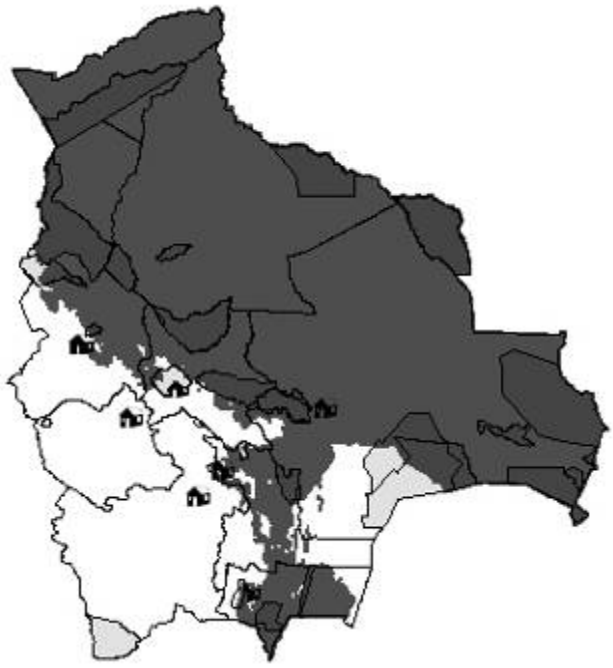

Figure 149 Extrapolated Distribution of *Bachia dorbignyi*

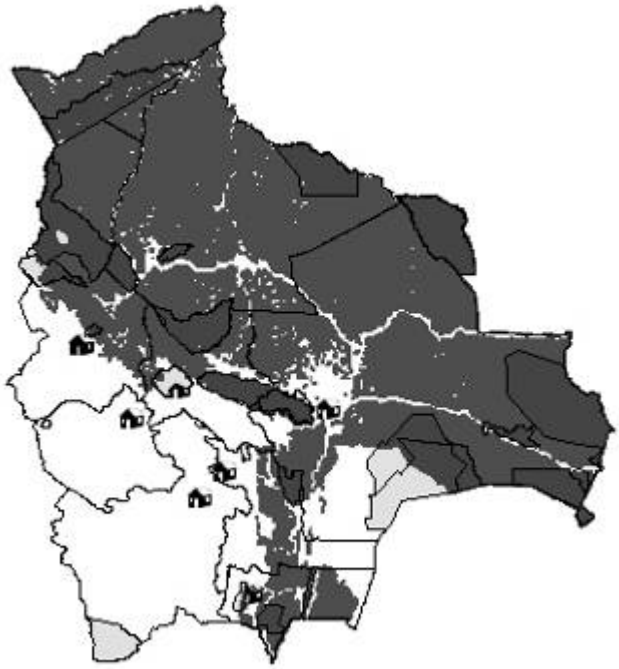

Figure 150 Fragmentation of Habitat of *Bachia dorbignyi*

Map Quality: High confidence
Global distribution: Peru, Brazil, Paraguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 48260: 0
Distr. Total = 58381; EDC 1 = 36905; EDC 2 = 11355; EDC 3 = 5432; EDC 4 = 3062; EDC 5 = 1627
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
12858 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Type locality: Santa Cruz, Bolivia; Holotype: MHNP 2841. The species is surprisingly common for its mainly subterranean live.

Cercosaura argula PETERS

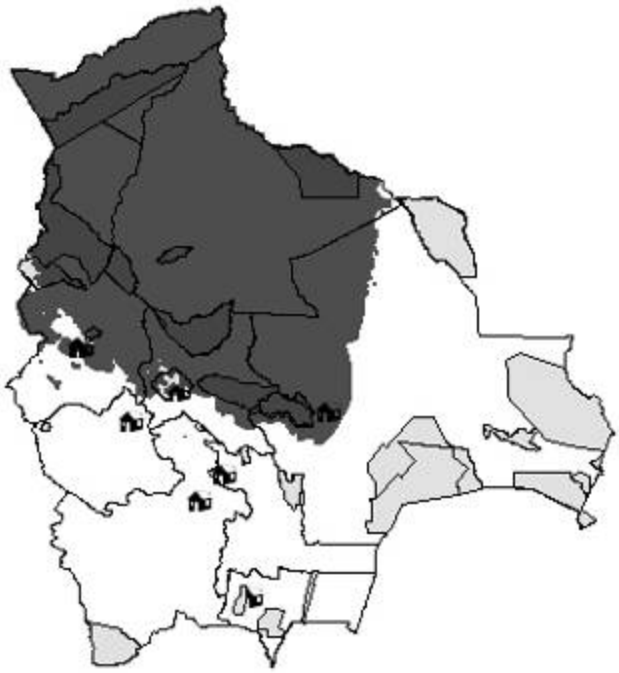

Figure 151 Extrapolated Distribution of *Cercosaura argula*

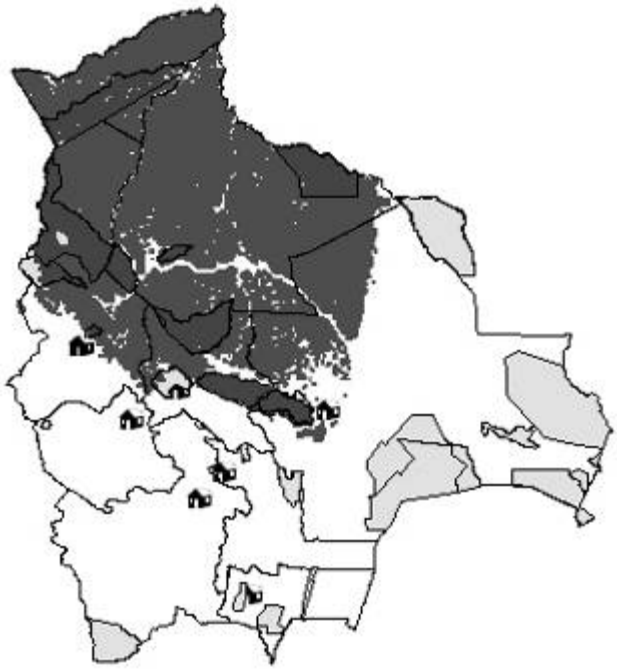

Figure 152 Fragmentation of Habitat of *Cercosaura argula*

Map Quality: High confidence
Global distribution: Colombia, Ecuador, Bolivia (Cochabamba, La Paz, Pando, Santa Cruz), French Guiana, Peru, Brazil, Suriname (?), Guyana (?)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 28935: 0
Distr. Total = 36792; EDC 1 = 21347; EDC 2 = 7588; EDC 3 = 4110; EDC 4 = 2243; EDC 5 = 1504
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6121 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Itenez, Madidi, Manuripi-Heath, Pilon Lajas, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Umgebung von Sta. Fé de Bogotá" [= Cundinamarca, Colombia]. Holotype: ZMB 4555

Cercosaura eigenmanni (GRIFFIN)

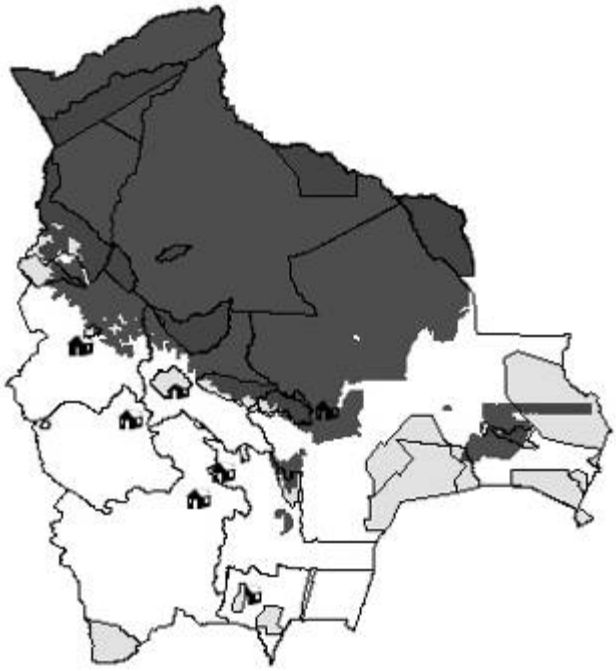

Figure 153 Extrapolated Distribution of *Cercosaura eigenmannii*

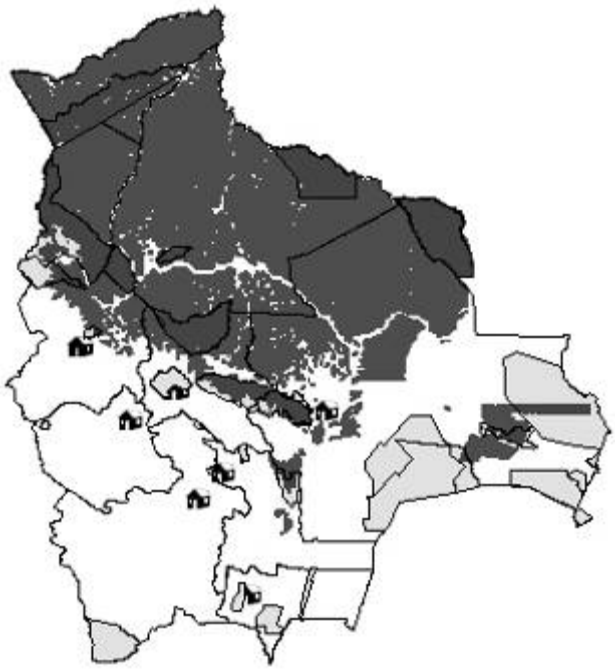

Figure 154 Fragmentation of Habitat of *Cercosaura eigenmannii*

Map Quality: High confidence
Global distribution: Brazil, Peru, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 33421: 0
Distr. Total = 40641; EDC 1 = 24986; EDC 2 = 8435; EDC 3 = 4358; EDC 4 = 2149; EDC 5 = 713
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

7001 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilon Lajas, San Matias, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Provincia del Sara, Bolivia.

Cercosaura manicata O'SHAUGHNESSY

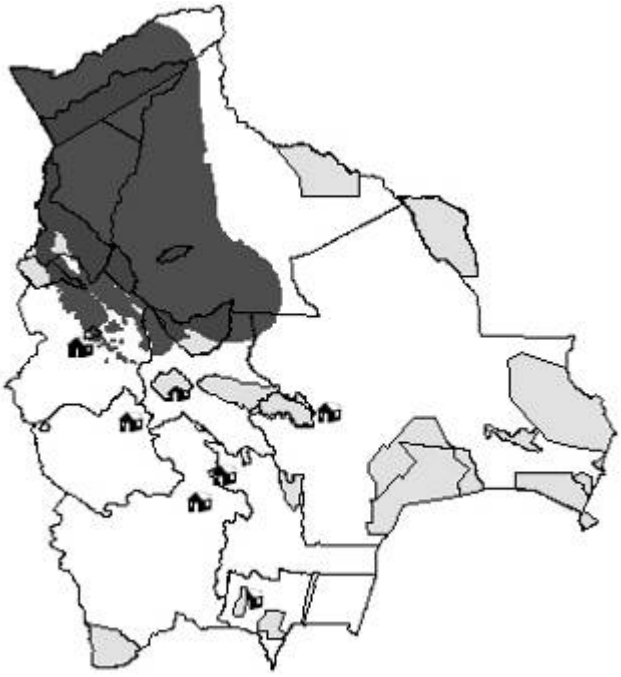

Figure 155 Extrapolated Distribution of *Cercosaura manicatus*

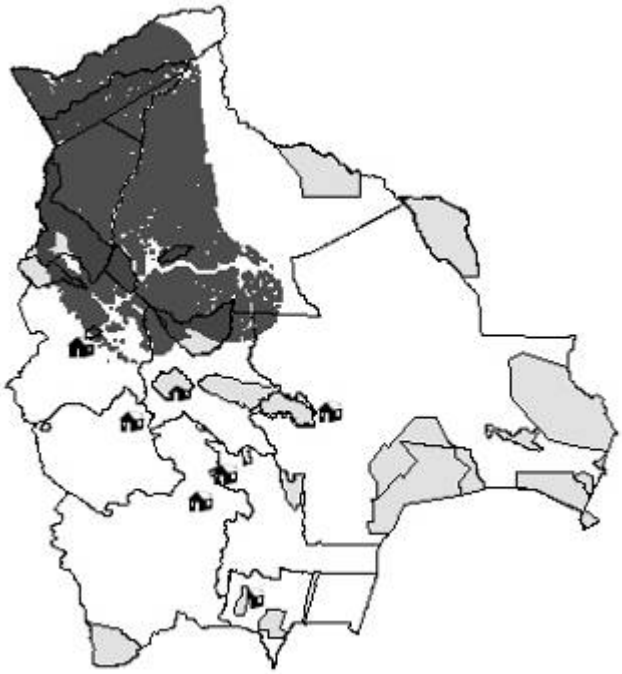

Figure 156 Fragmentation of Habitat of *Cercosaura manicatus*

Map Quality: High confidence
Global distribution: Ecuador, Peru, Colombia, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 15592: 0
Distr. Total = 18508; EDC 1 = 11397; EDC 2 = 4195; EDC 3 = 2129; EDC 4 = 626; EDC 5 = 161
Fragmentation: SOME: 1

Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
3717 grid cells in Parks: Apolobamba, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Canelos and Pallatanga, Ecuador.

Cercosaura ocellata WAGLER

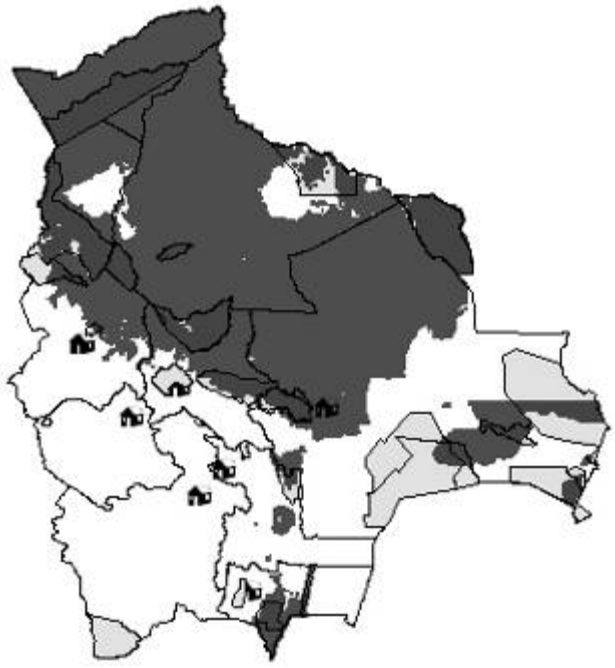

Figure 157 Extrapolated Distribution of *Cercosaura ocellata*

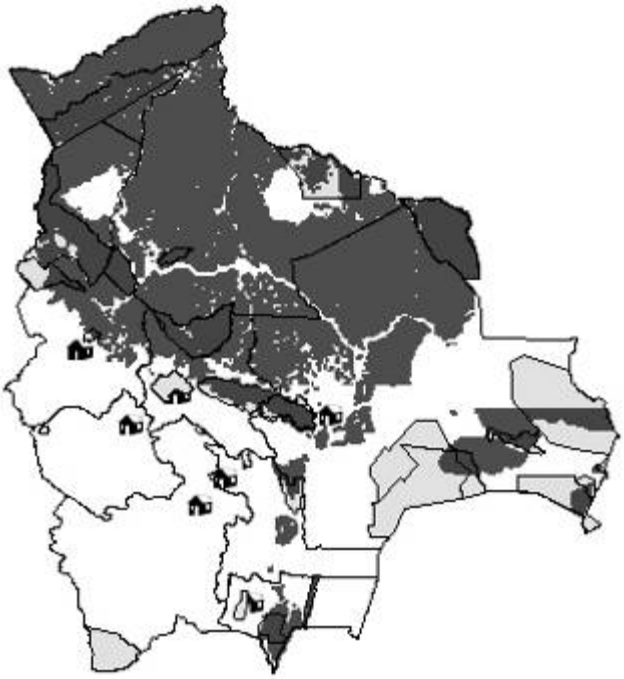

Figure 158 Fragmentation of Habitat *Cercosaura ocellata*

Map Quality: Medium confidence
Extrapolation showing very disperse habitat may be an extrapolation artifact.
Global distribution: Brazil, Venezuela, Guyana, Suriname, French Guiana, Peru, Colombia, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 33161: 0
Distr. Total = 40588; EDC 1 = 24794; EDC 2 = 8367; EDC 3 = 4328; EDC 4 = 2307; EDC 5 = 792
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7595 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tariquìa, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Cercosaura schreibersi WIEGMANN

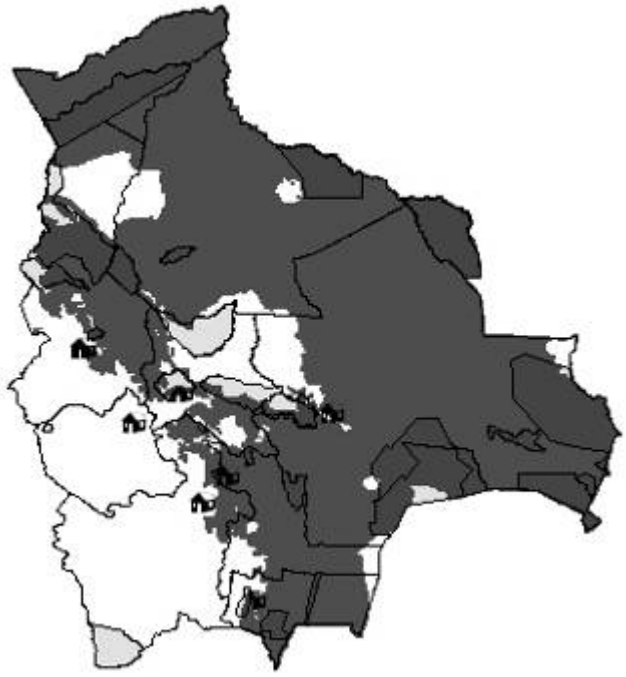

Figure 159 Extrapolated Distribution of *Cercosaura schreibersii*

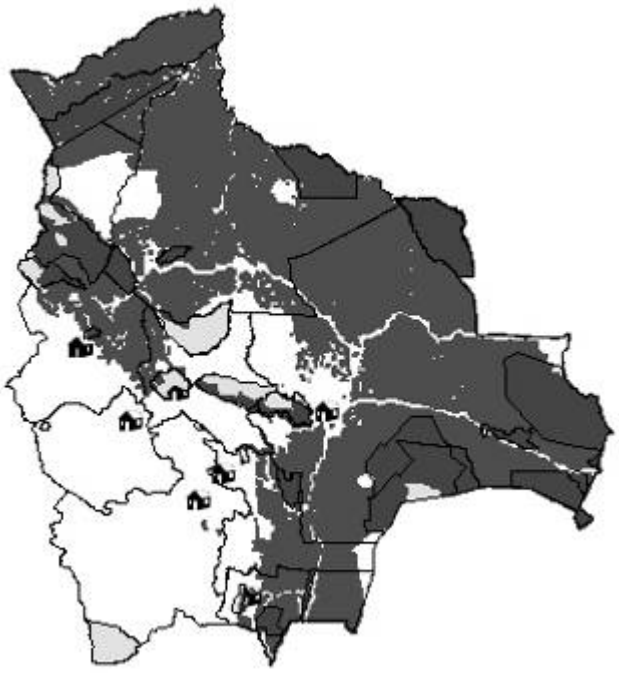

Figure 160 Fragmentation of Habitat of *Cercosaura schreibersii*

Map Quality: High confidence

Global distribution: *Pantodactylus schreibersii parkeri***:** Peru, Brazil, Bolivia (Chuquisaca, Cochabamba, Beni, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: UNCERTAIN
Bolivian specimens identified as *Pantodactylus schreibersii* belong to more than one species.
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 46136: 0
Distr. Total = 57378; EDC 1 = 34745; EDC 2 = 11391; EDC 3 = 4965; EDC 4 = 2978; EDC 5 = 3299
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
12287 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: *Pantodactylus schreibersii parkeri***:** Terra typica: Buenavista, Departamento de Santa Cruz, Bolivia.

Iphisa elegans GRAY

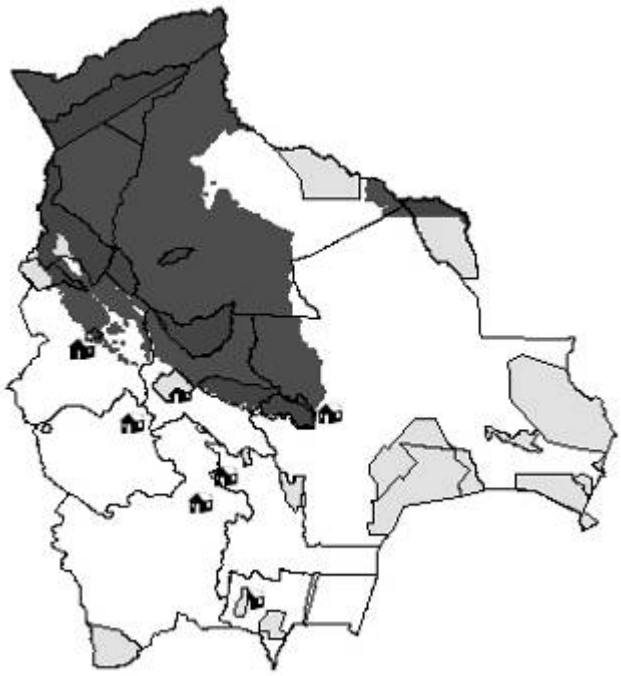

Figure 161 Extrapolated Distribution of *Iphisa elegans*

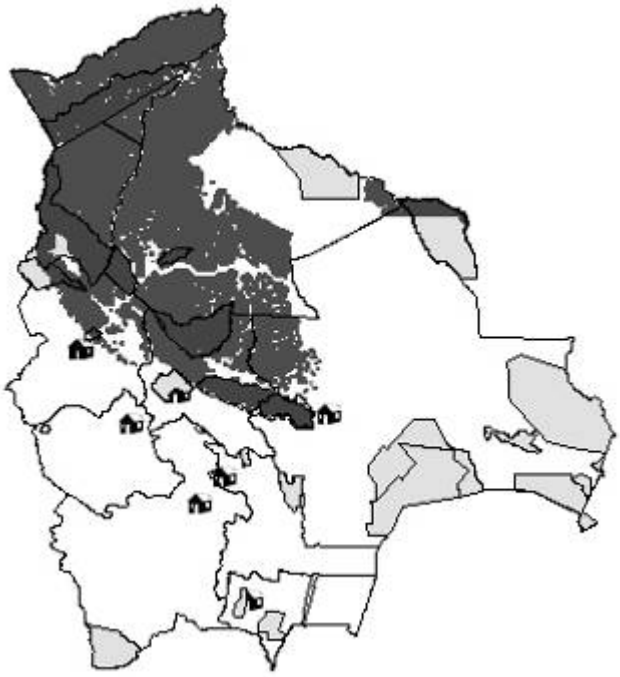

Figure 162 Fragmentation of Habitat of *Iphisa elegans*

Map Quality: High confidence
Global distribution: Brazil, Guyana, Surinam, French Guiana, Colombia, Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 20802: 0
Distr. Total = 25472; EDC 1 = 15265; EDC 2 = 5537; EDC 3 = 3117; EDC 4 = 1202; EDC 5 = 351
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5088 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilon Lajas, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Micrablepharus maximiliani (REINHARDT & LÜTKEN)

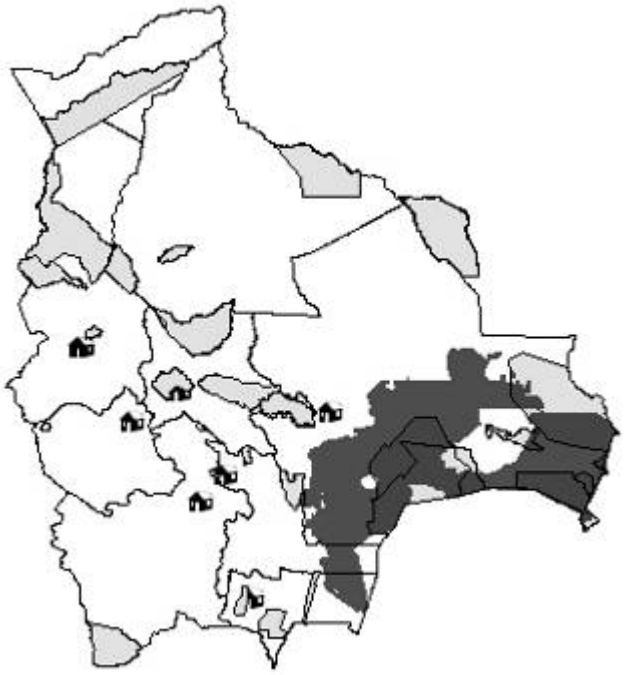

Figure 163 Extrapolated Distribution of *Micrablepharus maximiliani*

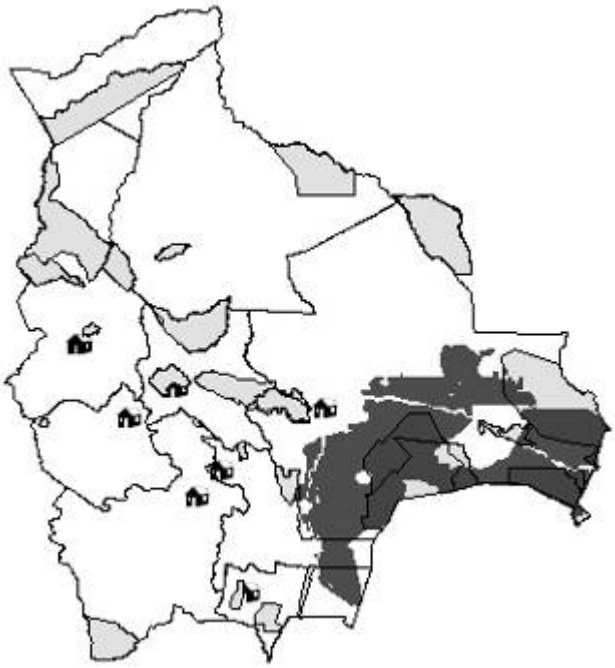

Figure 164 Fragmentation of Habitat of *Micrablepharus maximiliani*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Bolivia (Chuquisaca, Tarija, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 10034: 0
Distr. Total = 10778; EDC 1 = 8075; EDC 2 = 1959; EDC 3 = 429; EDC 4 = 282; EDC 5 = 33
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
4448 grid cells in Parks: Iñao, Kaa-Iya, Otuquis, San Matias, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Opipeuter xestus UZZELL

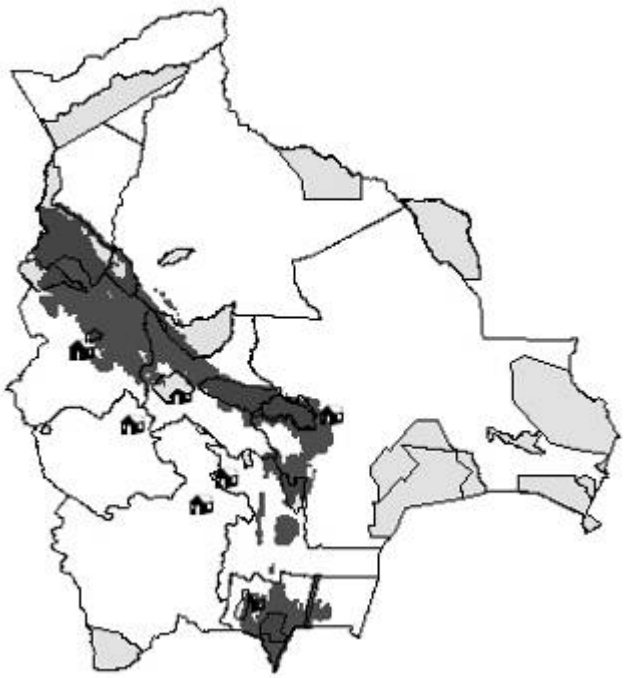

Figure 165 Extrapolated Distribution of *Opipeuter xestus*

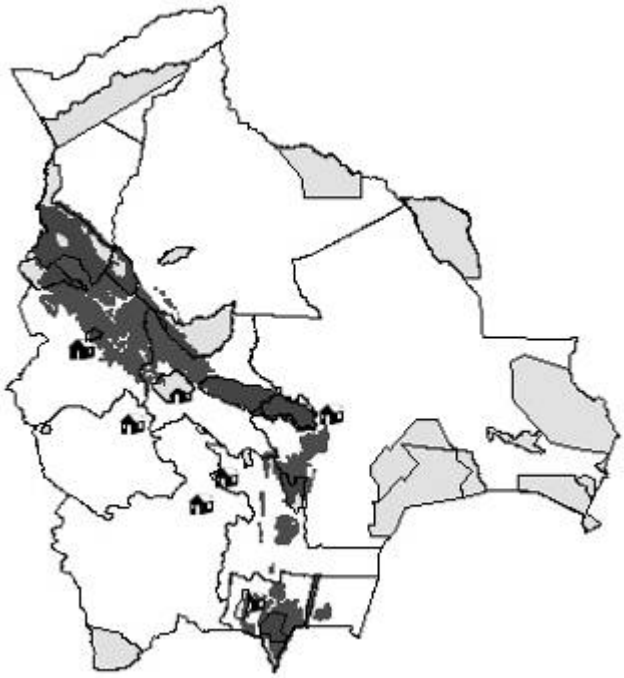

Figure 166 Fragmentation of Habitat of *Opipeuter xestus*

Map Quality: High confidence
Global distribution: Argentina, Peru, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 6430: 0
Distr. Total = 8147; EDC 1 = 5179; EDC 2 = 1251; EDC 3 = 709; EDC 4 = 503; EDC 5 = 505
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
3504 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechon, Cordillera de Sama, Cotapata, Iñao, Isiboro Sécure, Madidi, Pilon Lajas, Tariquia, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Incachaca, Cochabamba, Bolivia, 2200 m a.s.l. Holotype: UMMZ 128835

Potamites ecleopus (COPE)

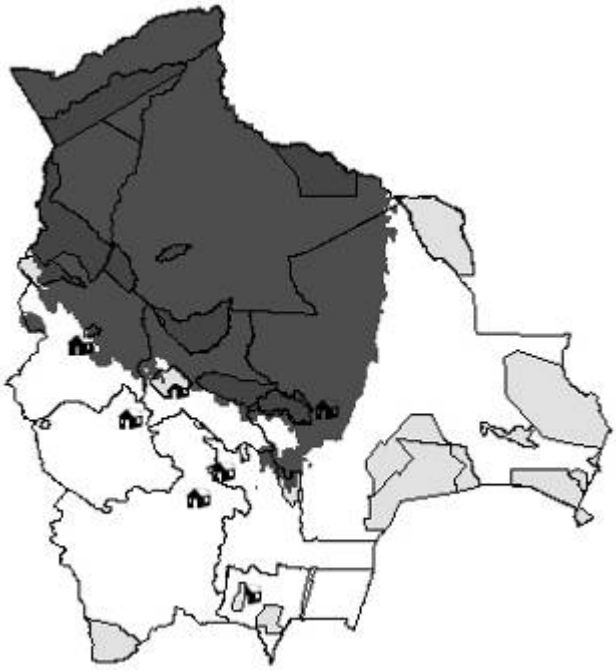

Figure 167 Extrapolated Distribution of *Potamites ecleopus*

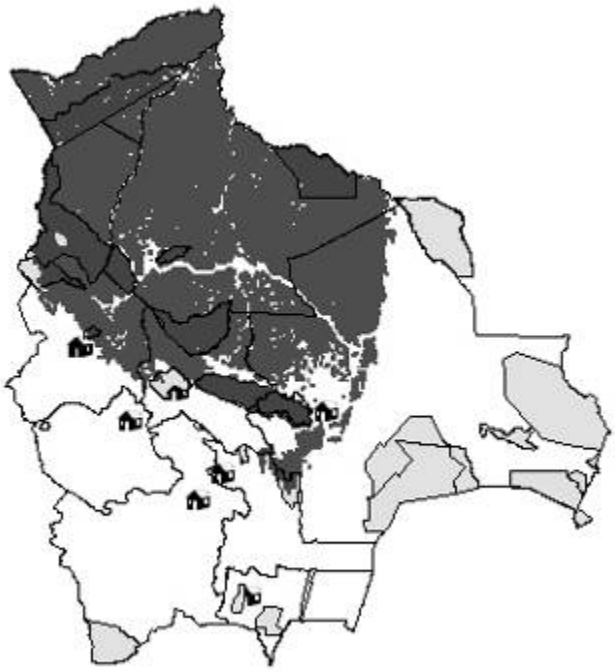

Figure 168 Fragmentation of Habitat of *Potamites ecleopus*

Map Quality: High confidence
Global distribution: Colombia, Ecuador, Brazil, Peru, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 30235: 0
Distr. Total = 37680; EDC 1 = 22410; EDC 2 = 7825; EDC 3 = 4213; EDC 4 = 2221; EDC 5 = 1011
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7270 grid cells in Parks: Amboró, Apolobamba, Carrasco,Cavernas del Repechon, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Madidi, Manuripi-Heath, Pilon Lajas, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Terra typica: Peru; according to Uzzell (1966) probably in drainage of Río Huallega, between Rioja, Moyobamba, Balsaspuerto, and exit of Huallaga into Amazon basin. (Uetz 2005)

Potamites ocellatus (SINITSIN)

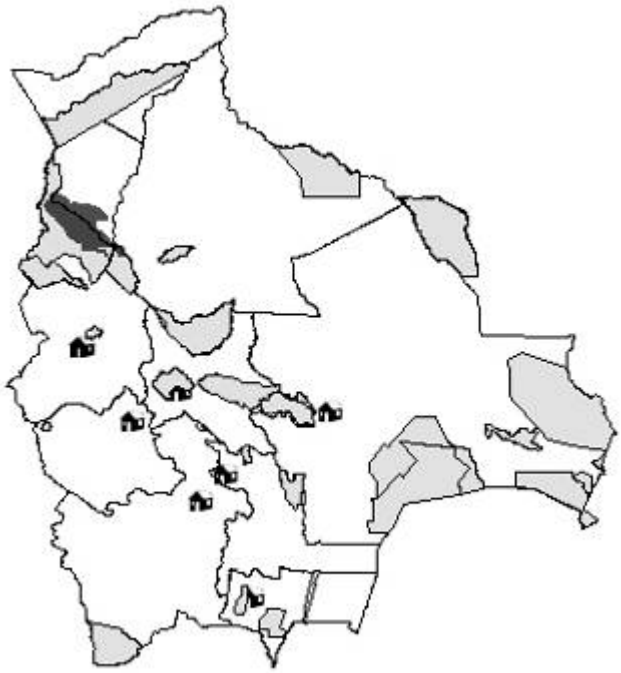

Figure 169 Extrapolated Distribution of *Potamites ocellatus*

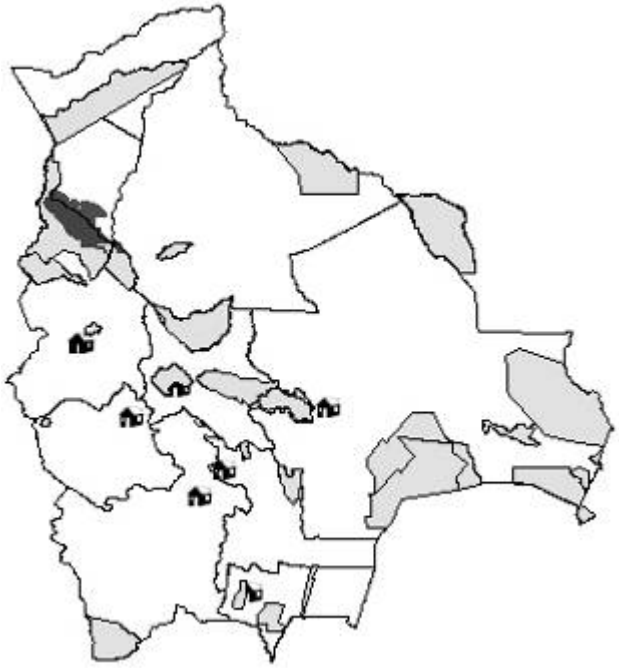

Figure 170 Fragmentation of Habitat of *Potamites ocellatus*

Map Quality: High confidence
Global distribution: Bolivia (Beni, La Paz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 658: 2
Distr. Total = 712; EDC 1 = 545; EDC 2 = 113; EDC 3 = 34; EDC 4 = 20; EDC 5 = 0
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0 (More than 50%)**
492 grid cells in Parks: Madidi, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+2+0+0+0 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Comments: Terra typica: Rurrenabaque, Bolivia

Proctoporus bolivianus WERNER

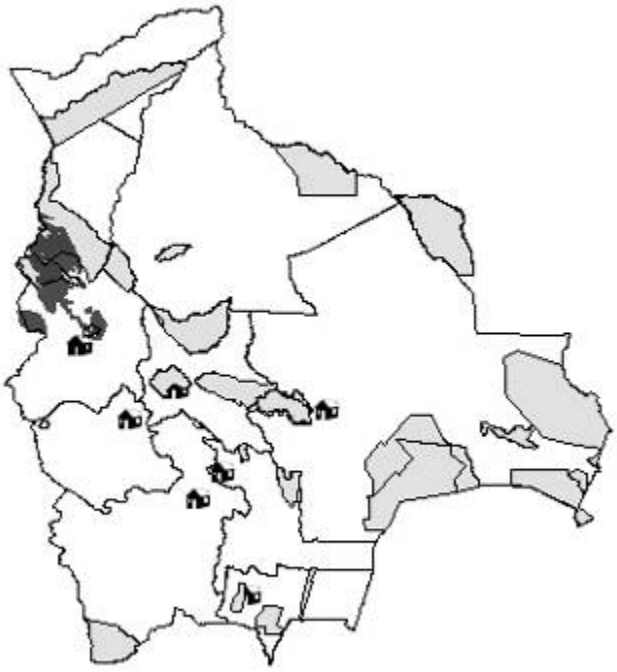

Figure 171 Extrapolated Distribution of *Proctoporus bolivianus*

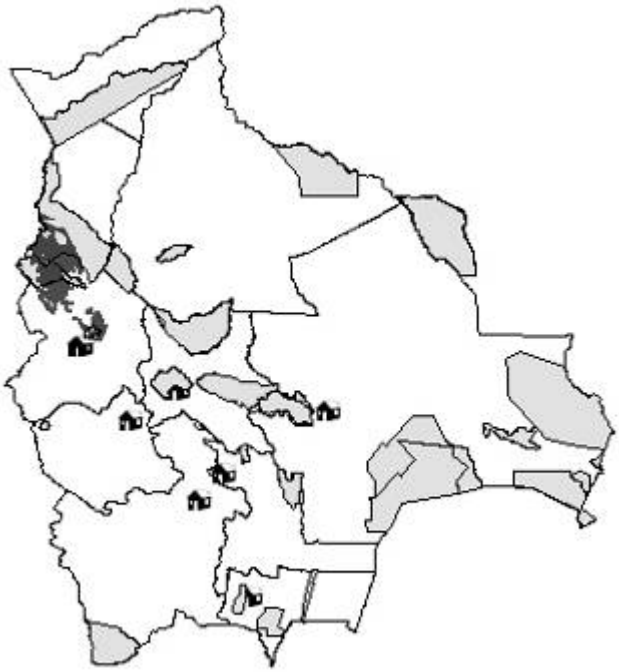

Figure 172 Fragmentation of Habitat of *Proctoporus bolivianus*

Map Quality: High confidence
Global distribution: Peru, Bolivia (La Paz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 826: 2
Distr. Total = 1183; EDC 1 = 622; EDC 2 = 204; EDC 3 = 158; EDC 4 = 107; EDC 5 = 92
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0 (More than 50%)**
497 grid cells in Parks: Apolobamba, Cotapata, Madidi
Use: NONE: 0
Rarity: VERY COMMON: 0

2+0+0+0+0 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Sorata, Bolivia

Proctoporus guentheri (BOETTGER)

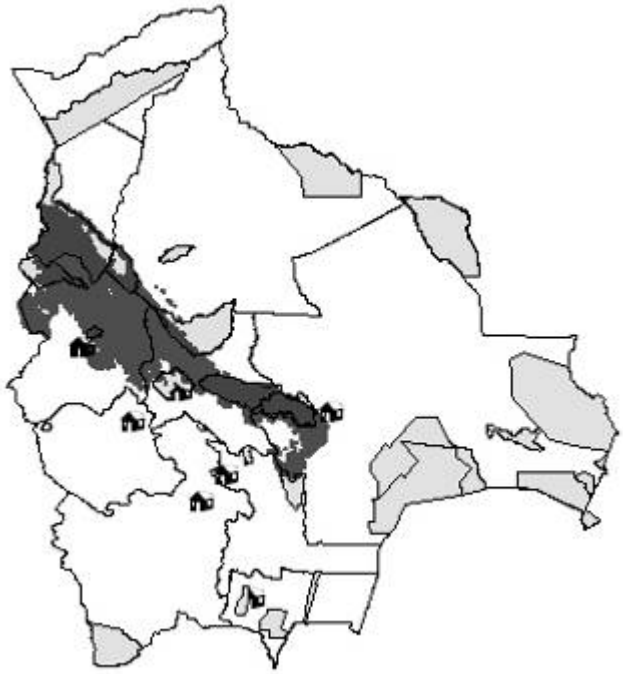

Figure 173 Extrapolated Distribution of *Proctoporus guentheri*

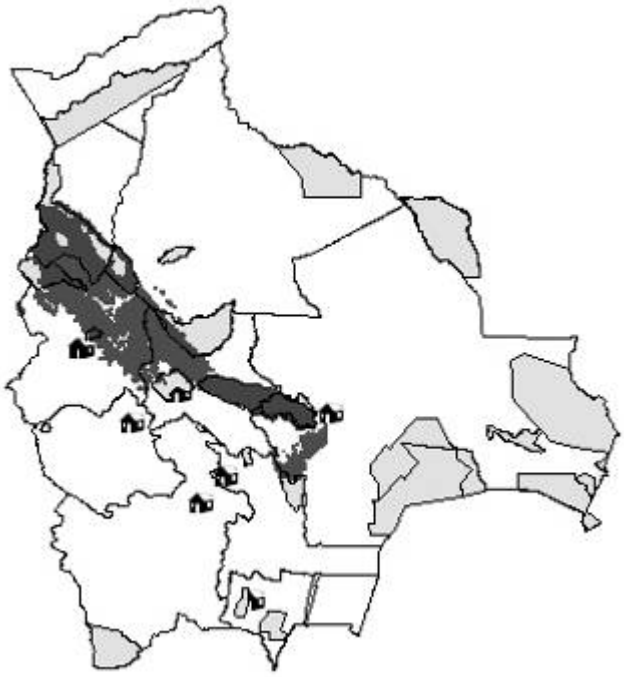

Figure 174 Fragmentation of Habitat of *Proctoporus guentheri*

Map Quality: High confidence
Global distribution: Peru, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 5389: 0
Distr. Total = 7138; EDC 1 = 4404; EDC 2 = 985; EDC 3 = 626; EDC 4 = 456; EDC 5 = 667
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
2663 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, Iñao, Isiboro Sécure, Madidi, Pilon Lajas, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+0+0+0+1 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Vanzosaura rubricauda (BOULENGER)

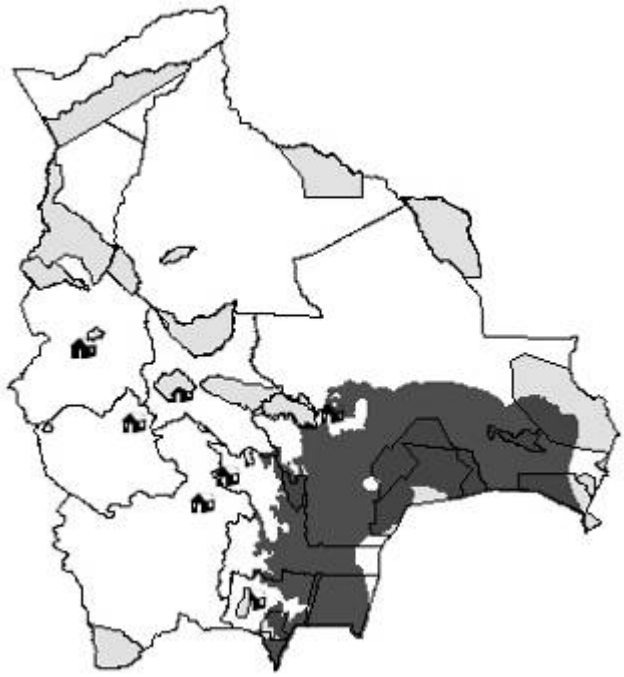

Figure 175 Extrapolated Distribution of *Vanzosaura rubricauda*

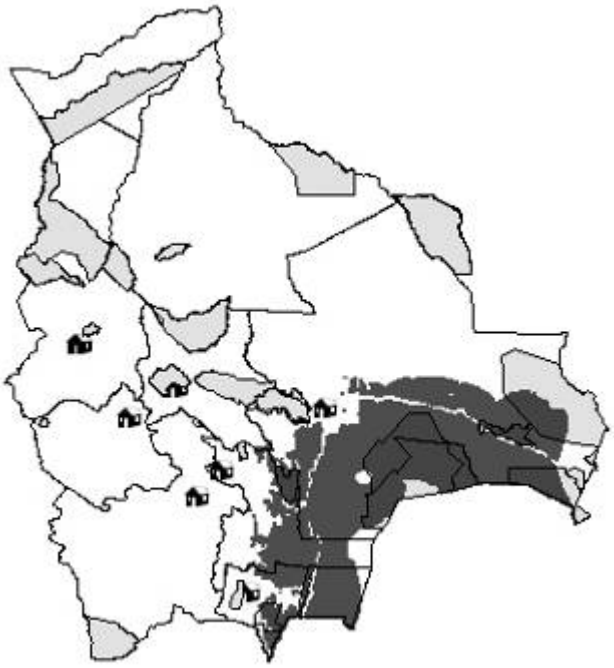

Figure 176 Fragmentation of Habitat of *Vanzosaura rubricauda*

Map Quality: High confidence
Global distribution: Argentinia, Paraguay, Bolivia (Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 12523: 0
Distr. Total = 14201; EDC 1 = 9799; EDC 2 = 2724; EDC 3 = 832; EDC 4 = 686; EDC 5 = 160
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4499 grid cells in Parks: Aguarague, Amboró, Iñao, Kaa-Iya, Otuquis, San Matias, Tucavaca, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Cruz del Eje, Argentina.

3.2.13 Teiidae

Ameiva ameiva LINNAEUS

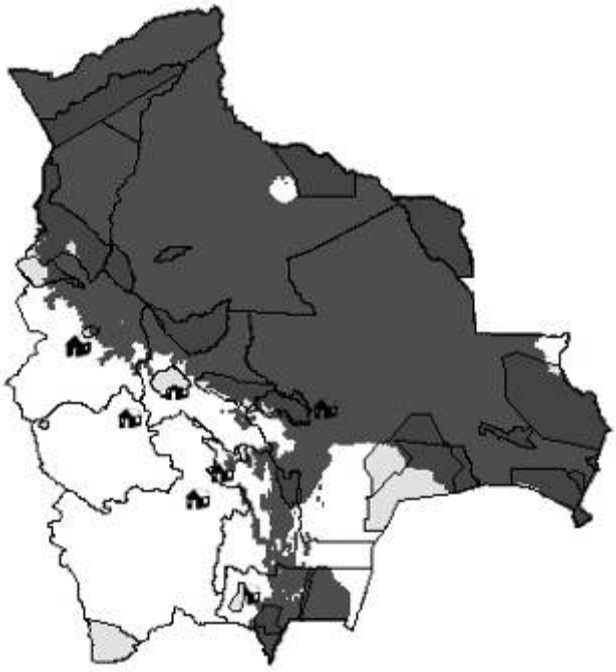

Figure 177 Extrapolated Distribution of *Ameiva ameiva*

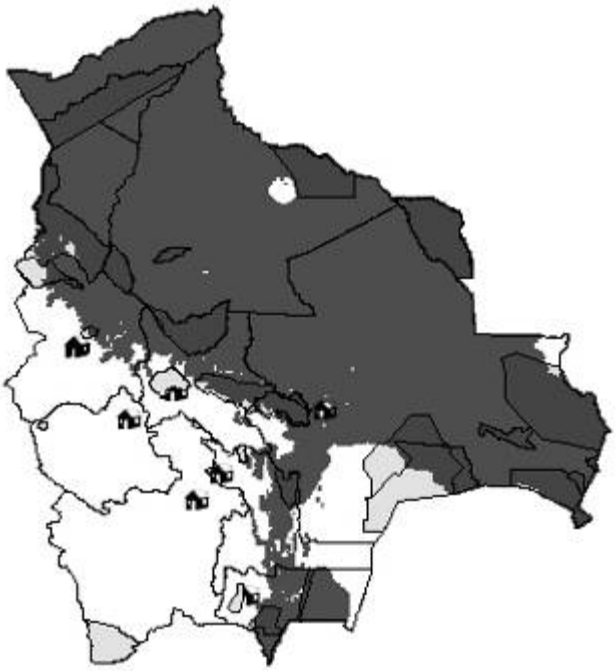

Figure 178 Fragmentation of Habitat *Ameiva ameiva*

Map Quality: High confidence
Global distribution: USA (introduced to Florida), Panama, Trinidad, Tobago, Brazil, Colombia, Surinam, French Guiana, Guyana, Venezuela, Ecuador, Peru, Argentina, Paraguay, Lesser Antilles, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija).
Taxonomic status: OK
Sensibility for habitat alteration: VERY TOLERANT
Distribution Value: 54078: 0
Distr. Total = 55108; EDC 1 = 35231; EDC 2 = 10748; EDC 3 = 5254; EDC 4 = 2845; EDC 5 = 1030
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
13399 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tariquìa, Tucavaca,
Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Terra typica: "America"; Brazil (fide Schwartz & Henderson 1991: 181); restricted to "confluence of Cottica River and Preica Creek, Suriname" by Hoogmoed (1973).
Syntypes: 2 specimens in SMNH and 1 in Gyllenborg collection, Uppsala.

Ameiva vittata (BOULENGER)

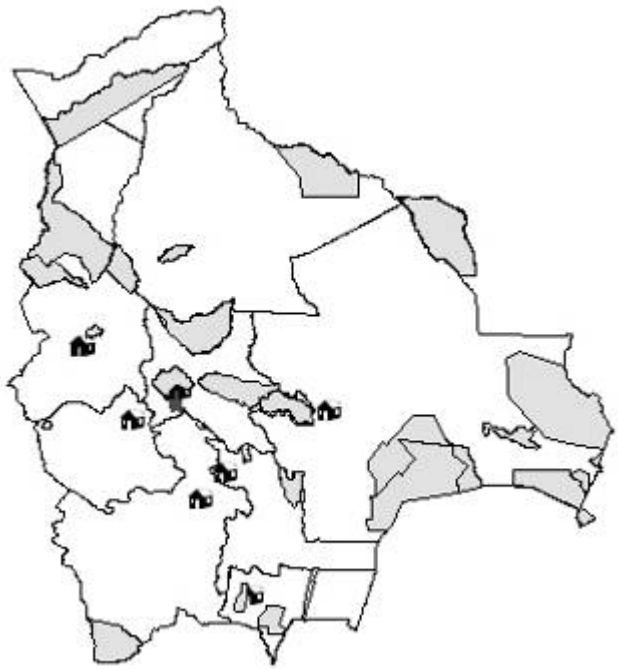

Figure 179 Extrapolated Distribution of *Ameiva vittata*

Map Quality: High confidence
Global distribution: Bolivia (Cochabamba)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 0: 13
Distr. Total = 101; EDC 1 = 0; EDC 2 = 0; EDC 3 = 0; EDC 4 = 0; EDC 5 = 101
Fragmentation: VERY STRONG: 12
All habitat in worst status of conservation, not considered to be used by species.
Distribution in good National parks: **NONE: 3**
Use: NONE: 0
Rarity: VERY RARE: 8

13+12+3+0+8 = 36

Conservation status: Critically Endangered

Conservation status IUCN: EN B1ab(iii)
Official IUCN Conservation Status: NE

Comments: Terra typica: Parotani, Bolivia, 2500 m. Holotype: BMNH 1946.8.31.13. Species has not been found since over 100 years. Recent efforts to find species at its type locality have been without positive results. If species is valid it may have to be considered as extinct.

Cnemidophorus sp. ex gr. ***lacertoides*** DUMERIL & BIBRON

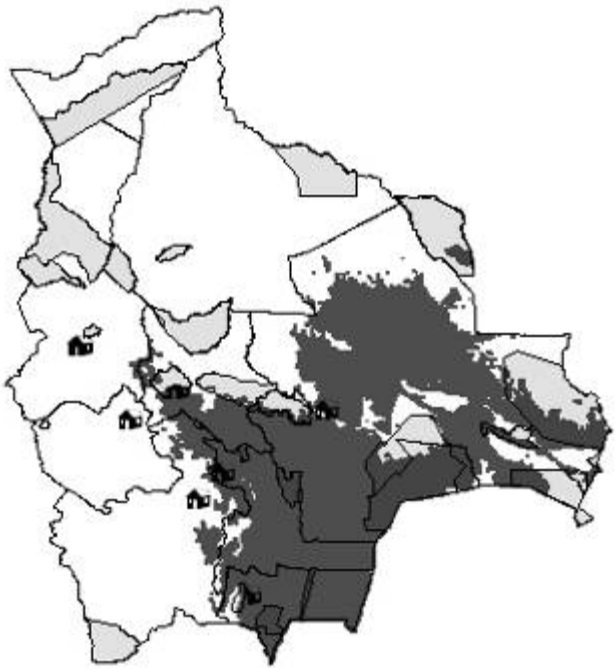

Figure 180 Extrapolated Distribution of *Cnemidophorus lacertoides*

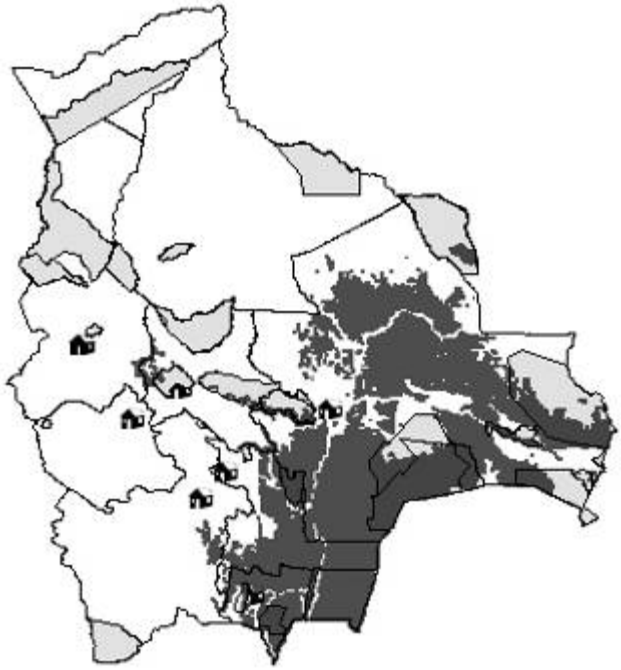

Figure 181 Fragmentation of Habitat of *Cnemidophorus lacertoides*

Map Quality: High confidence
Global distribution: Uruguay, Brazil, Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosi, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 17333: 0
Distr. Total = 24280; EDC 1 = 13063; EDC 2 = 4270; EDC 3 = 1857; EDC 4 = 1952; EDC 5 = 3138
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4283 grid cells in Parks: Aguarague, Amboró, Carrasco, Cordillera de Sama, El Palmar, Iñao, Kaa-Iya, NKM, Otuquis, San Matias, Tucavaca, Tariquia, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Montevideo, Uruguay.

Cnemidophorus sp. ex gr. ***ocellifer*** (SPIX)

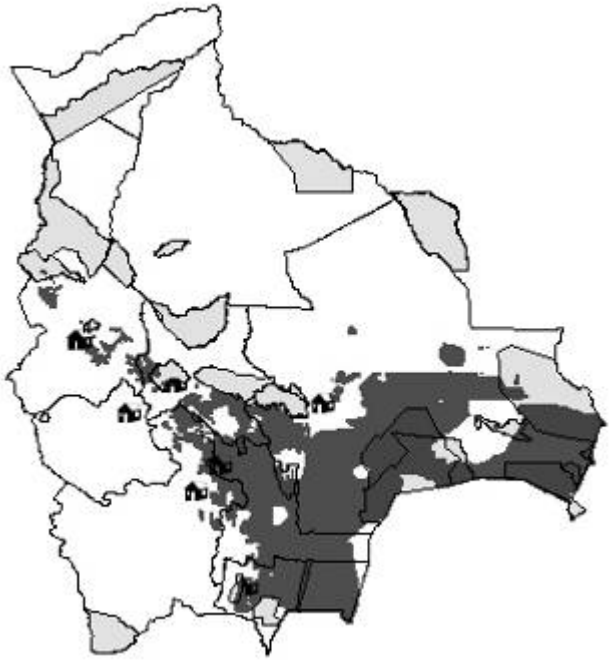

Figure 182 Extrapolated Distribution of *Cnemidophorus ocellifer*

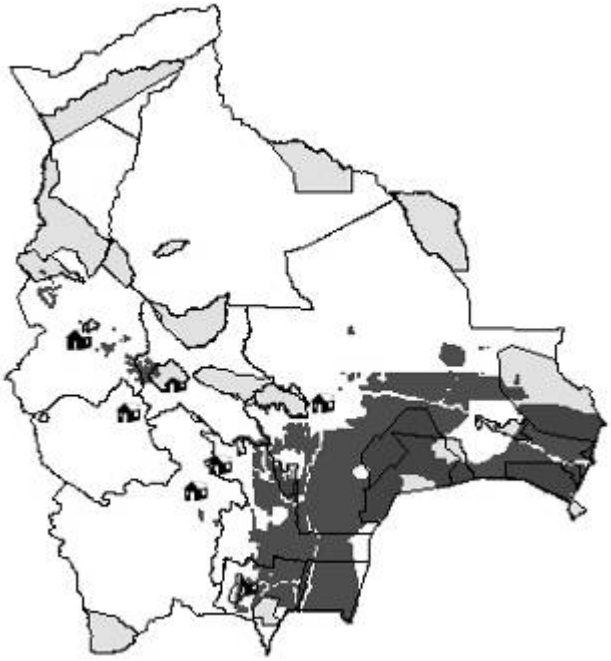

Figure 183 Fragmentation of Habitat of *Cnemidophorus ocellifer*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Potosi, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 12562: 0
Distr. Total = 16776; EDC 1 = 9660; EDC 2 = 2902; EDC 3 = 976; EDC 4 = 1026; EDC 5 = 2211
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
4438 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, Iñao, Kaa-Iya, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Dracaena paraguayensis AMARAL

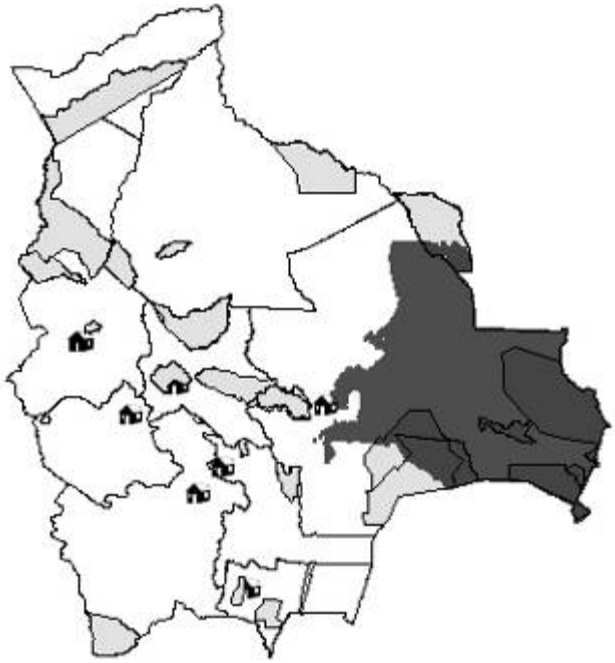

Figure 184 Extrapolated Distribution of *Dracaena paraguayensis*

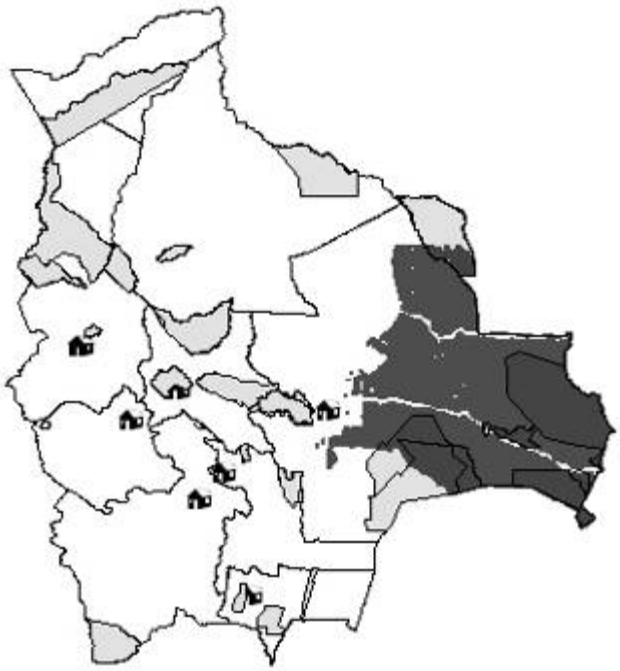

Figure 185 Fragmentation of Habitat *Dracaena paraguayensis*

Map Quality: High confidence
Global distribution: Paraguay, Brazil, Bolivia (Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 13607: 0
Distr. Total = 15034; EDC 1 = 11206; EDC 2 = 2401; EDC 3 = 767; EDC 4 = 587; EDC 5 = 73
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
5316 grid cells in Parks: Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: São Lourenço, Mato Grosso, Brazil

Kentropyx altamazonica COPE

Figure 186 Extrapolated Distribution of *Kentropyx altamazonica*

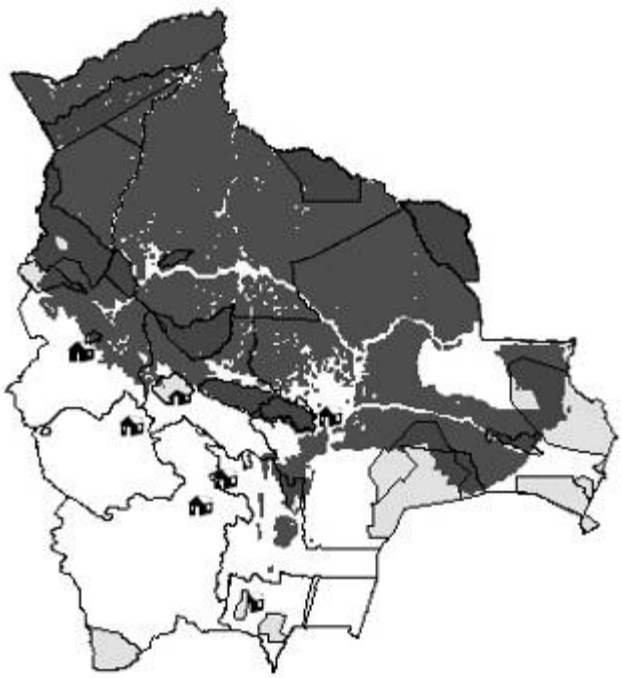

Figure 187 Fragmentation of Habitat *Kentropyx altamazonica*

Map Quality: High confidence
Global distribution: Ecuador, Peru, Colombia, Venezuela, Brazil, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 40077: 0
Distr. Total = 48448; EDC 1 = 30345; EDC 2 = 9732; EDC 3 = 4779; EDC 4 = 2570; EDC 5 = 1022
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

9486 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Moyabamba, Peru

Kentropyx calcarata SPIX

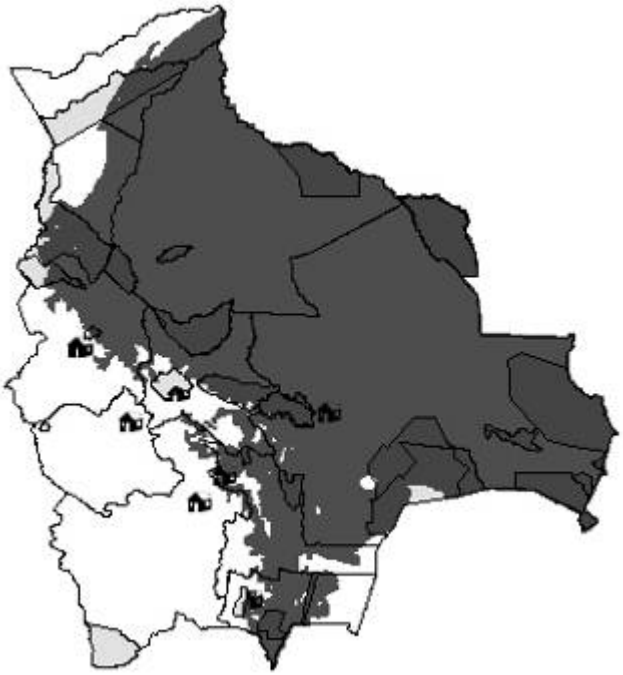

Figure 188 Extrapolated Distribution of *Kentropyx calcarata*

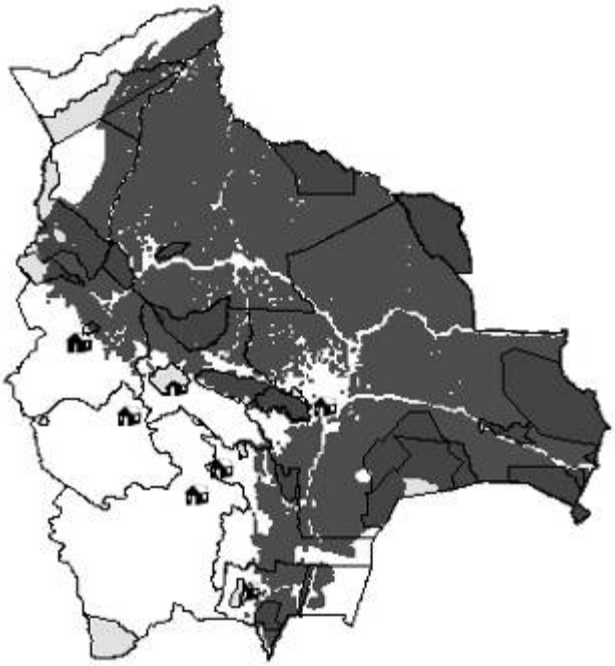

Figure 189 Fragmentation of Habitat *Kentropyx calcarata*

Map Quality: High confidence
Global distribution: Brazil, Guyana, French Guiana, Suriname, Venezuela Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Potosi, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 46078: 0
Distr. Total = 56251; EDC 1 = 35268; EDC 2 = 10810; EDC 3 = 5111; EDC 4 = 3150; EDC 5 = 1912
Fragmentation: SOME: 1

Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
12575 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, Sama, San Matías, Tariquìa, Tucavaca, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Rio Itapicurú, Maranhão, Brazil

Kentropyx paulensis BOETTGER

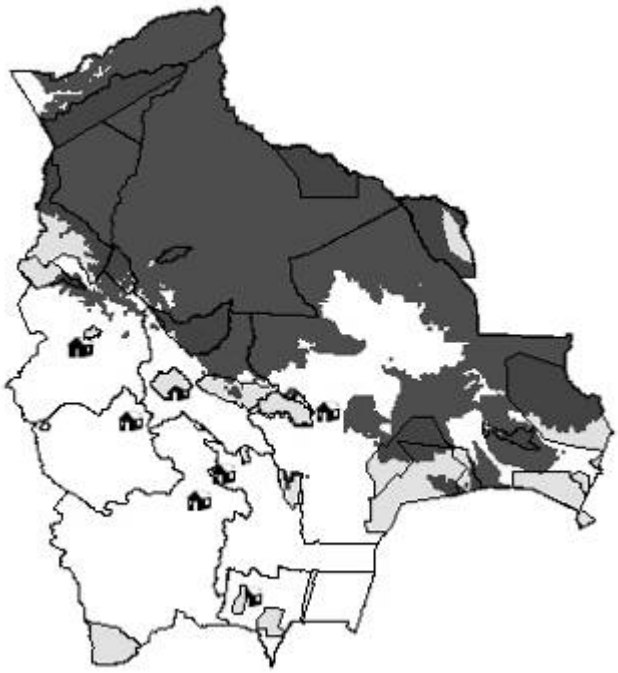

Figure 190 Extrapolated Distribution of *Kentropyx paulensis*

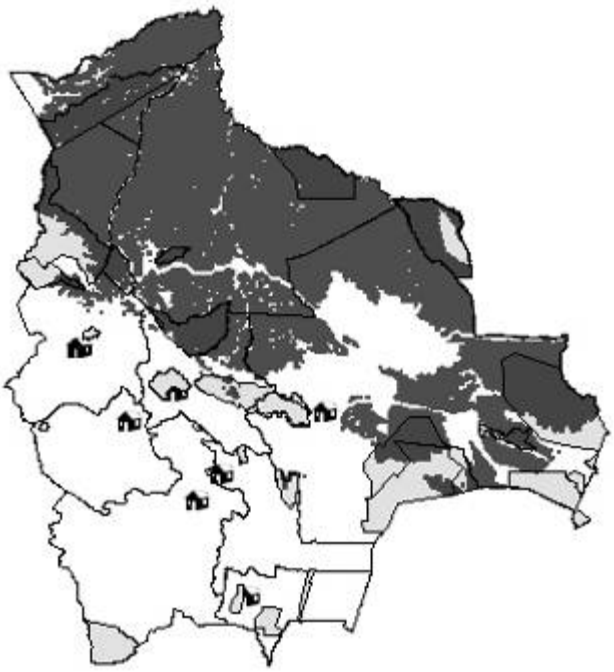

Figure 191 Fragmentation of Habitat *Kentropyx paulensis*

Map Quality: High confidence
Global distribution: Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 32800: 0
Distr. Total = 38049; EDC 1 = 24799; EDC 2 = 8001 EDC 3 = 3635; EDC 4 = 1294; EDC 5 = 320
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7824 grid cells in Parks: Apolobamba, Carrasco, EBB, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, Sajama, San Matías, Tucavaca,
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Sao Paulo, Brazil

Kentropyx pelviceps COPE

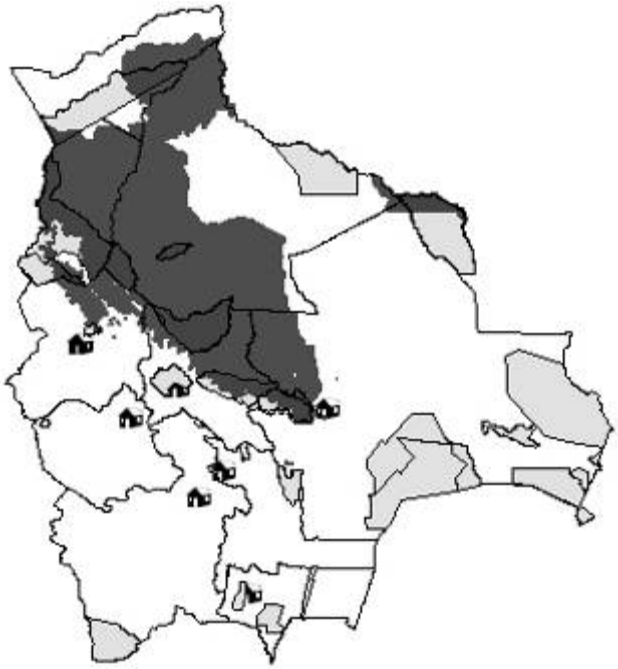

Figure 192 Extrapolated Distribution of *Kentropyx pelviceps*

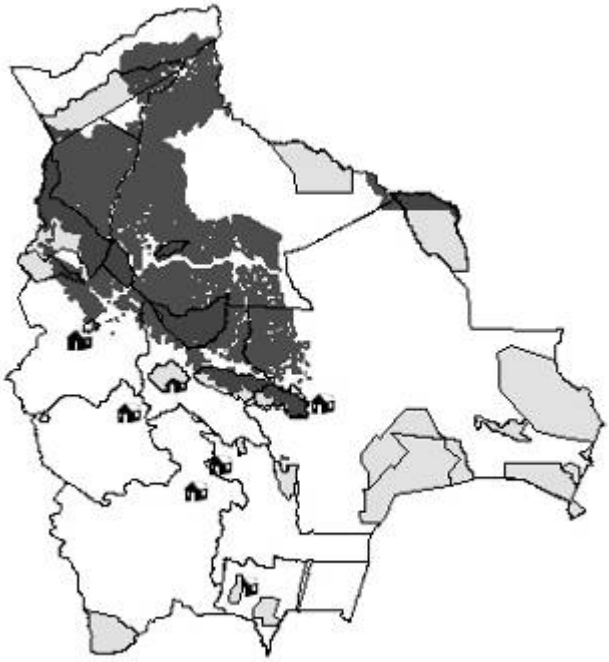

Figure 193 Fragmentation of Habitat *Kentropyx pelviceps*

Map Quality: High confidence

Global distribution: Ecuador, Colombia, Peru, Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 15023: 0
Distr. Total = 18883; EDC 1 = 11249; EDC 2 = 3774; EDC 3 = 2432; EDC 4 = 1096; EDC 5 = 332
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
3656 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Napo or Upper Amazon or Ecuador

Kentropyx vanzoi GALLAGHER & DIXON

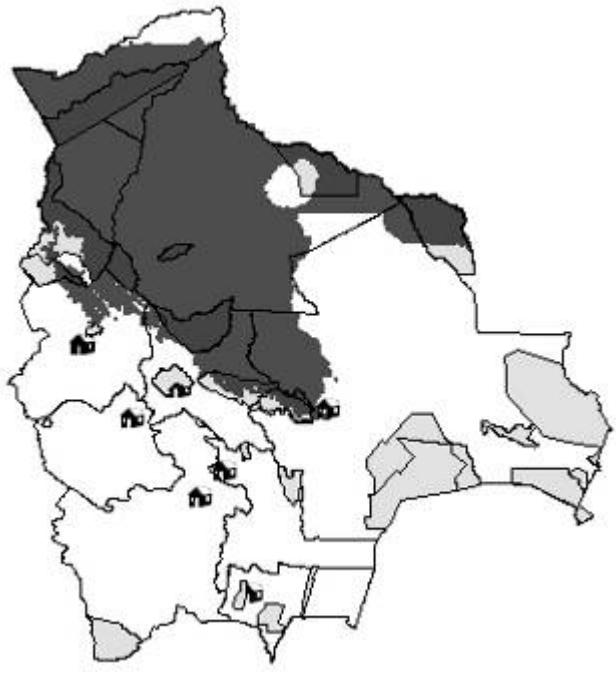

Figure 194 Extrapolated Distribution of *Kentropyx vanzoi*

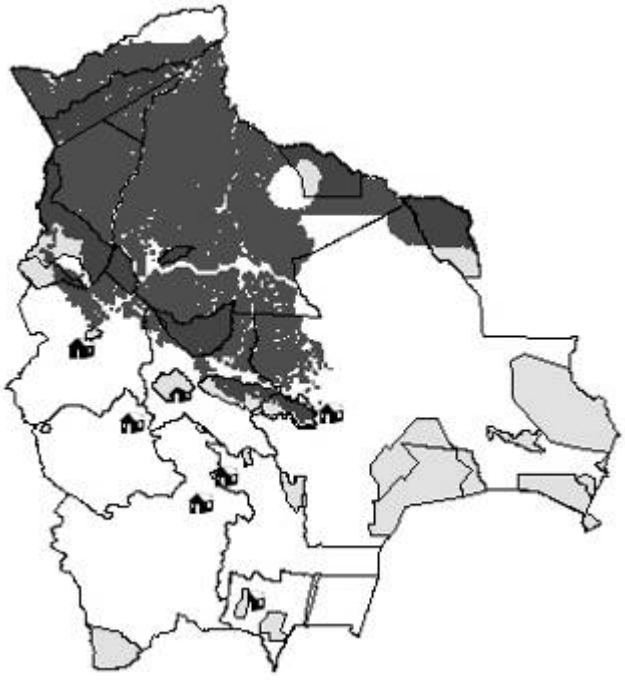

Figure 195 Fragmentation of Habitat *Kentropyx vanzoi*

Map Quality: High confidence
Global distribution: Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 22491: 0
Distr. Total = 27507; EDC 1 = 16213; EDC 2 = 6278; EDC 3 = 3360; EDC 4 = 1297; EDC 5 = 359
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5503 grid cells in Parks: Amboró, Apolobamba, Carrasco, EBB, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: base camp Royal Society of London expedition to Mato Grosso

Kentropyx viridistriga BOULENGER

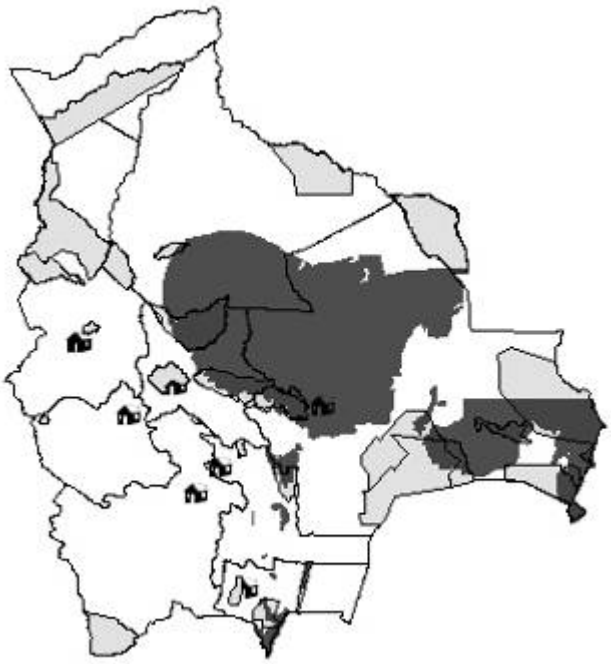

Figure 196 Extrapolated Distribution of *Kentropyx viridistriga*

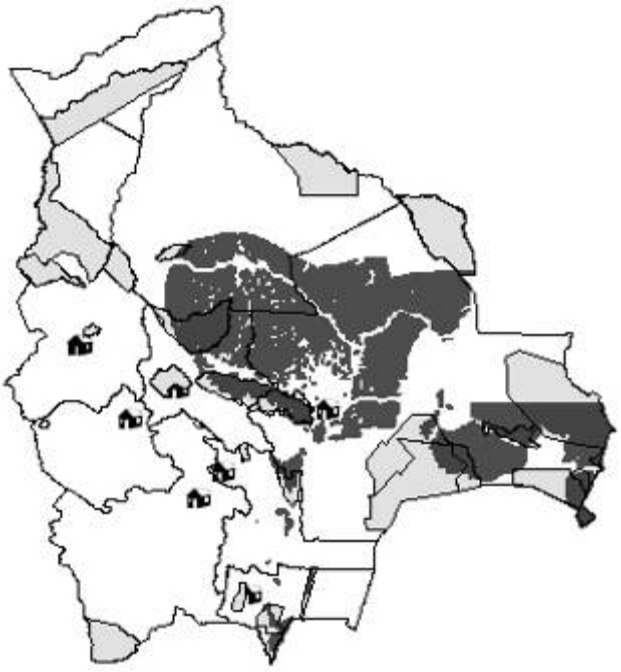

Figure 197 Fragmentation of Habitat *Kentropyx viridistriga*

Map Quality: Medium confidence
Extrapolated isolated distributions in Tarija and Chuquisaca Departments may be wrong. For sharp upper line in Chiquitania distribution see discussion on errors of extrapolation.
Global distribution: Paraguay, Argentina, Brazil, Bolivia (Beni, Chuquisaca?, Cochabamba, Santa Cruz, Tarija?)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 14214: 0
Distr. Total = 18607; EDC 1 = 10864; EDC 2 = 3350; EDC 3 = 2006; EDC 4 = 1803; EDC 5 = 584
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
3617 grid cells in Parks: Aguarague?, Amboró, Carrasco, EBB, Iñao, Isiboro Sécure, Kaa-Iya, NKM, Otuquis, San Matías, Tariquìa?, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: near Asunción, Paraguay

Teius cyanogaster MÜLLER

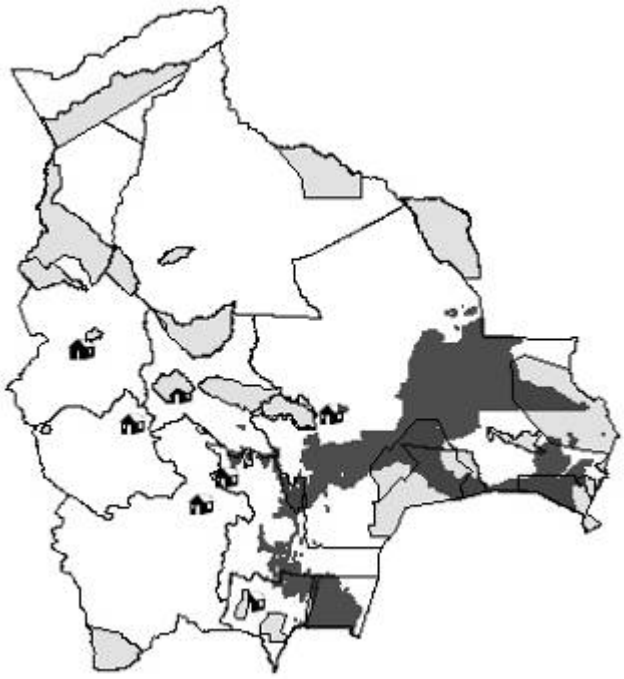

Figure 198 Extrapolated Distribution of *Teius cyanogaster*

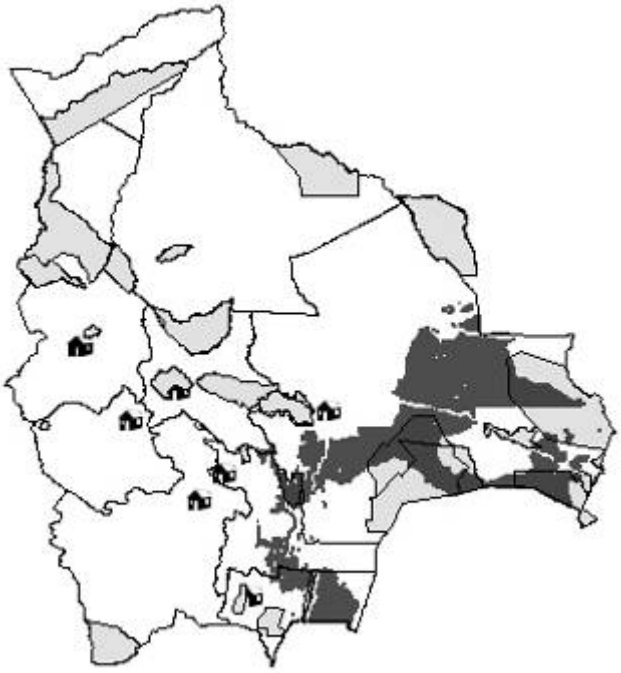

Figure 199 Fragmentation of Habitat *Teius cyanogaster*

Map Quality: High confidence
Global distribution: Brazil, Argentina, Paraguay; Bolivia (Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 8139: 0
Distr. Total = 9052; EDC 1 = 6739; EDC 2 = 1400; EDC 3 = 509; EDC 4 = 347; EDC 5 = 57
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
2647 grid cells in Parks: Aguarague, Iñao, Kaa-Iya, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: San José de Chiquitos, Bolivia

Teius teyou (DAUDIN)

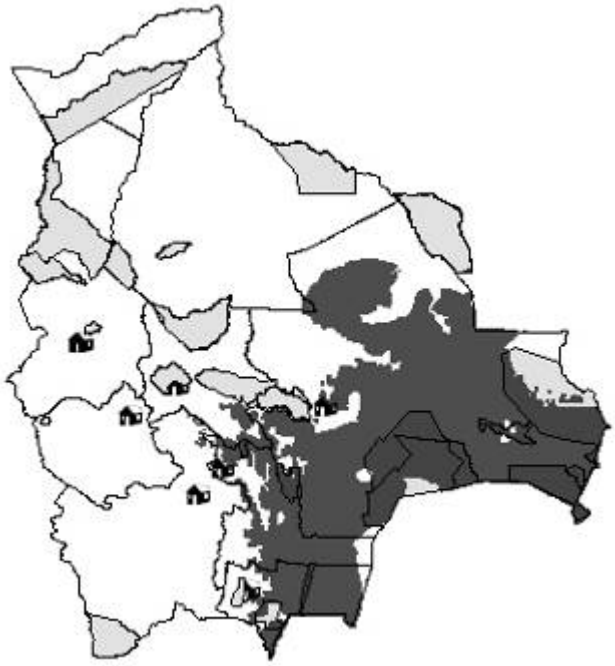

Figure 200 Extrapolated Distribution of *Teius teyou*

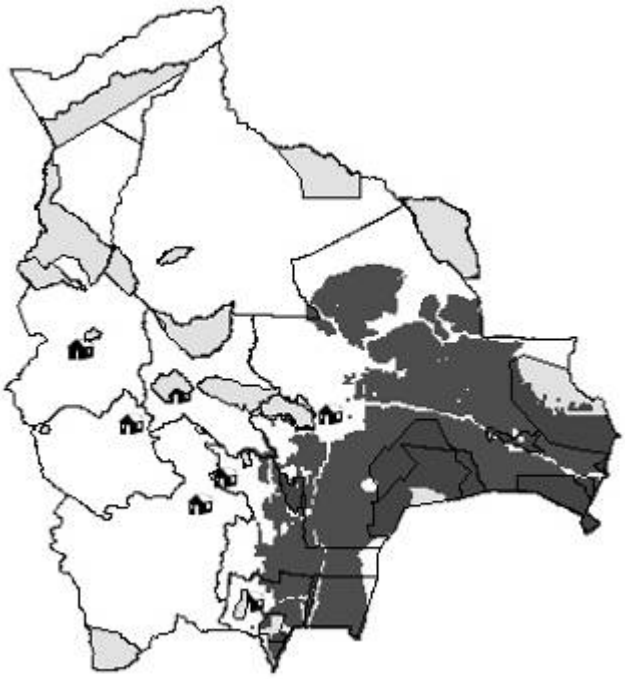

Figure 201 Fragmentation of Habitat *Teius teyou*

Map Quality: High confidence
Global distribution: Brazil, Uruguay, Argentina, Paraguay, Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 18833: 0
Distr. Total = 22088; EDC 1 = 14871; EDC 2 = 3962; EDC 3 = 1379; EDC 4 = 1142; EDC 5 = 734
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5512 grid cells in Parks: Aguarague, Iñao, Kaa-Iya, Otuquis, San Matías, Tariquìa, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Paraguay

Tupinambis merianae (LACÉPÉDE)

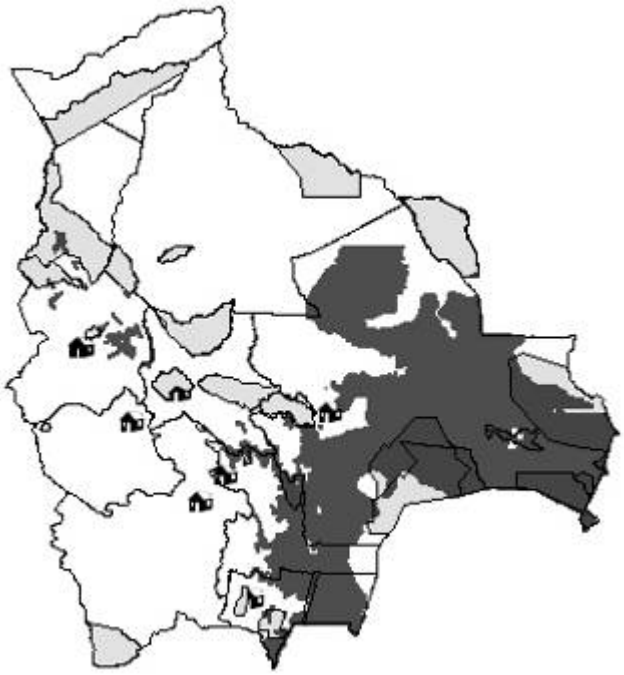

Figure 202 Extrapolated Distribution of *Tupinambis merianae*

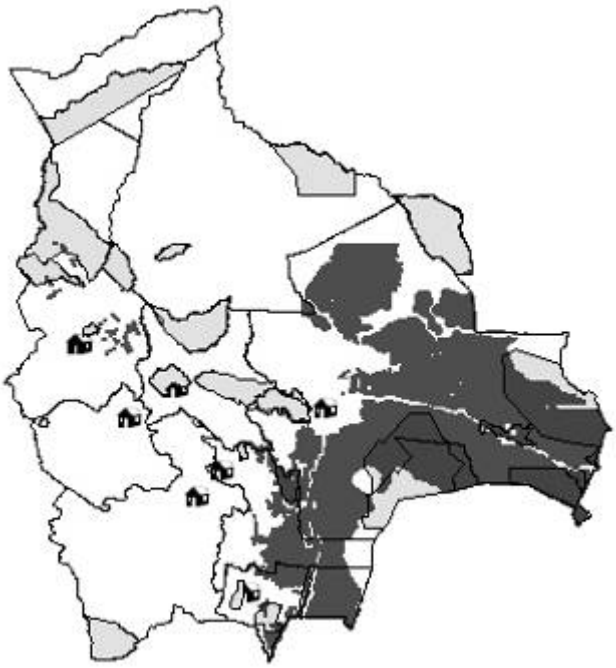

Figure 203 Fragmentation of Habitat *Tupinambis merianae*

Map Quality: High confidence
Global distribution: Brazil, Argentina, Uruguay, Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 22371: 0
Distr. Total = 27933; EDC 1 = 16152; EDC 2 = 6219 EDC 3 = 3478; EDC 4 = 1594; EDC 5 = 490
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5075 grid cells in Parks: Aguarague, Iñao, Kaa-Iya, Otuquis, San Matías, Tariquìa, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Comments: CITES Appendix II. Terra typica: Cayenne, French Guiana; Brazil; Montevideo, Uruguay.

Tupinambis rufescens (GÜNTHER)

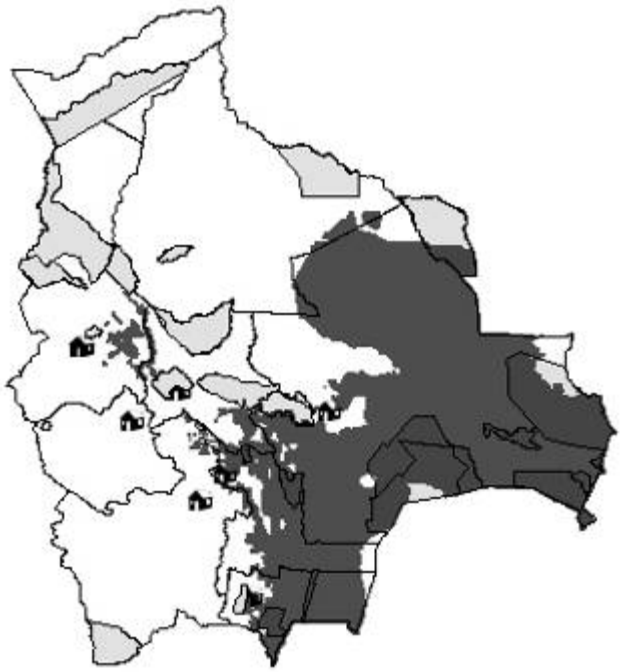

Figure 204 Extrapolated Distribution of *Tupinambis rufescens*

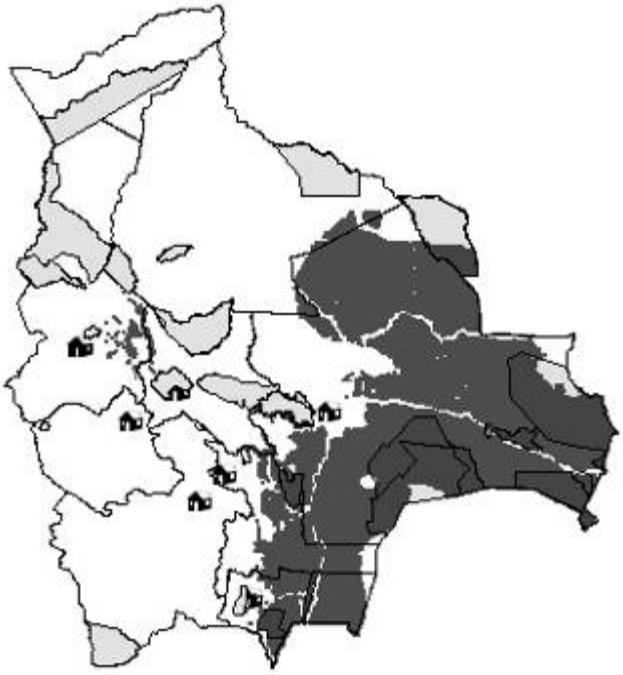

Figure 205 Fragmentation of Habitat *Tupinambis rufescens*

Map Quality: High confidence
Global distribution: Argentina, Paraguay, Brazil, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 18165: 0
Distr. Total = 20633; EDC 1 = 14588; EDC 2 = 3577; EDC 3 = 1212; EDC 4 = 938; EDC 5 = 318
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6789 grid cells in Parks: Aguarague, Iñao, Kaa-Iya, NKM, Otuquis, San Matías, Tariquìa, Tucavaca
Use: SOME: 1
Rarity: VERY COMMON: 0

0+1+0+1+0 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: Mendoza, Argentina

Tupinambis teguixin (LINNAEUS)

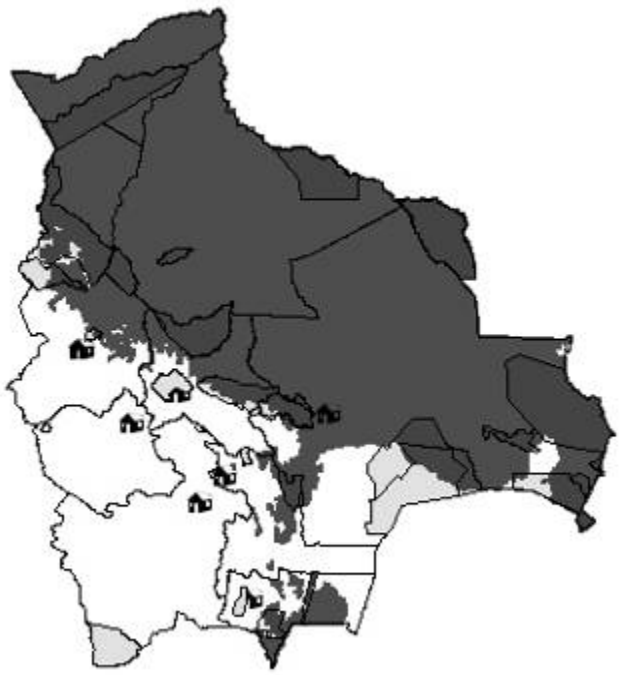

Figure 206 Extrapolated Distribution of *Tupinambis teguixin*

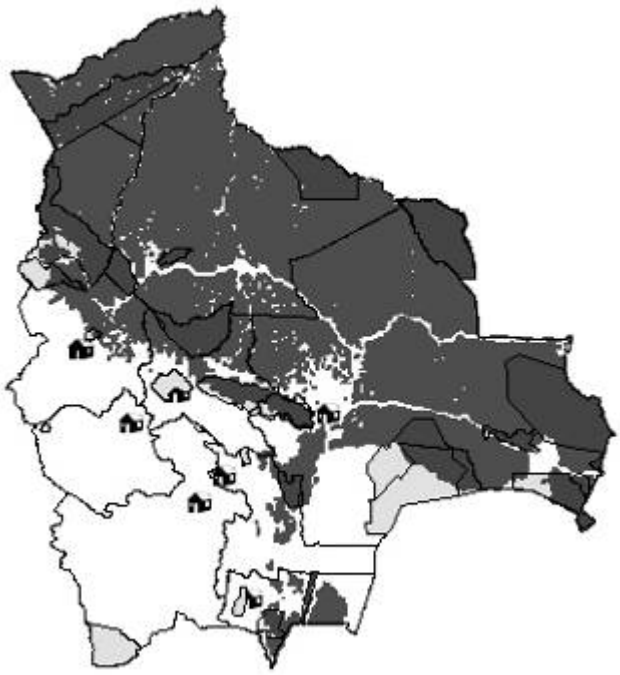

Figure 207 Fragmentation of Habitat *Tupinambis teguixin*

Map Quality: High confidence
Global distribution: Brazil, Peru, Colombia, Venezuela, Ecuador, Trinidad, Argentina, Uruguay, Guyana, Surinam, French Guiana, Bolivia (Beni, Chuquisaca?, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 44142: 0
Distr. Total = 52738; EDC 1 = 33750; EDC 2 = 10392; EDC 3 = 5070; EDC 4 = 2680; EDC 5 = 846
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
11412 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tariquìa, Tucavaca
Use: SOME: 1
Rarity: VERY COMMON: 0

0+1+0+1+0 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: "Indiis"

3.2.14 Scincidae

Mabuya cochabambae DUNN

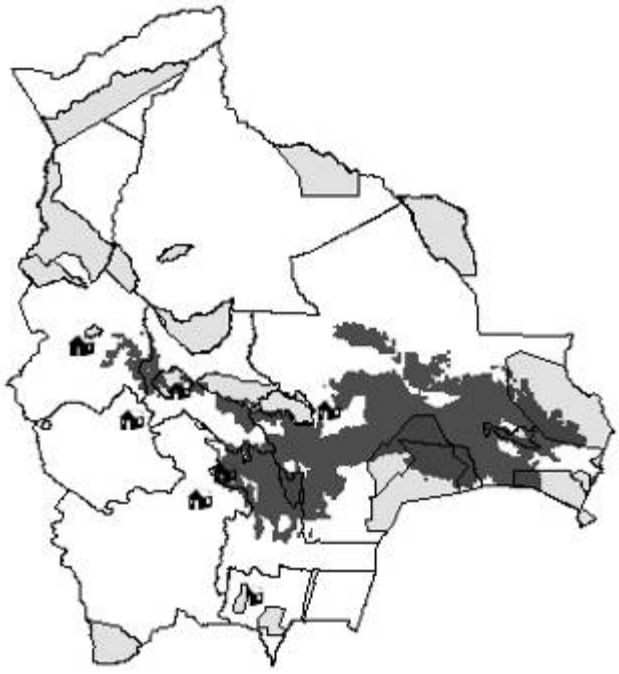

Figure 208 Extrapolated Distribution of *Mabuya cochabambae*

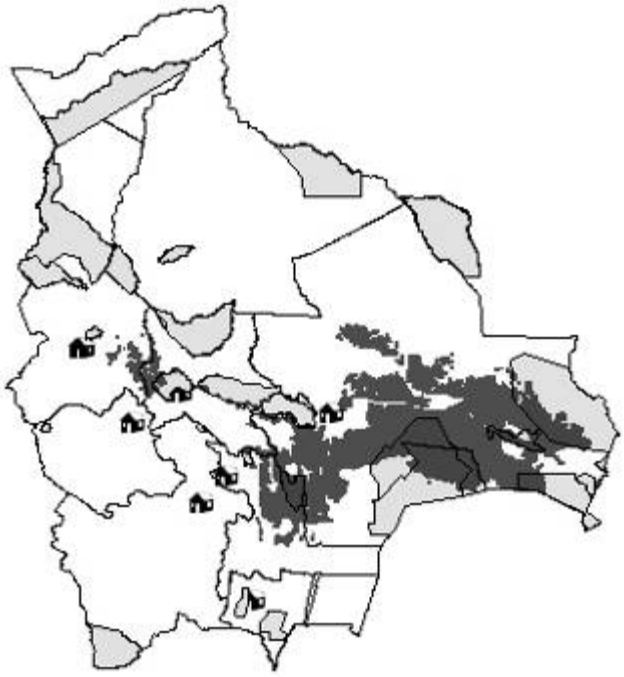

Figure 209 Fragmentation of Habitat of *Mabuya cochabambae*

Map Quality: High confidence
Global distribution: Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 8147: 0
Distr. Total = 10697; EDC 1 = 6475; EDC 2 = 1672; EDC 3 = 695; EDC 4 = 798; EDC 5 = 1057
Fragmentation: SOME: 1
Some fragmentation south of Amboro and Carrasco widening the already existing gap..
Distribution in good National parks: **VERY STRONG: 0**
2902 grid cells in Parks: Amboró, Carrasco, Iñao, Kaa-Iya, Otuquis, San Matias, Tucavaca, Tunari
Use: NONE: 0

Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Pocona, Dep. Cochabamba, Bolivia

Mabuya dorsivittata COPE

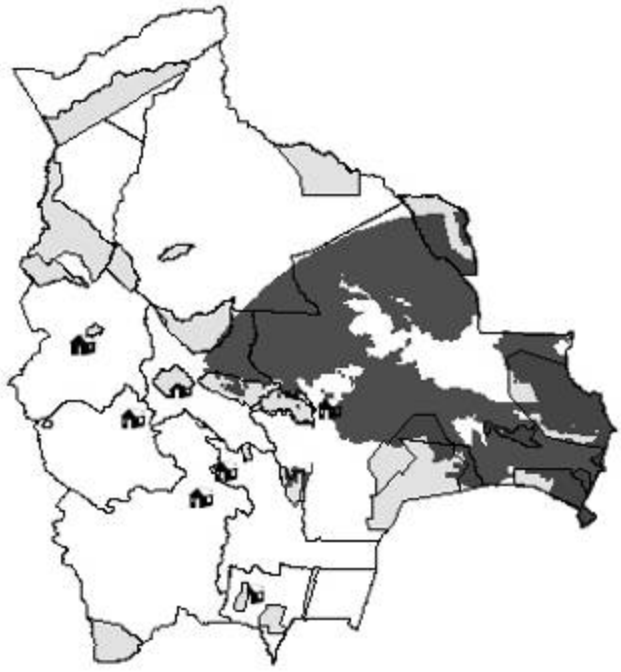

Figure 210 Extrapolated Distribution of *Mabuya dorsivittata*

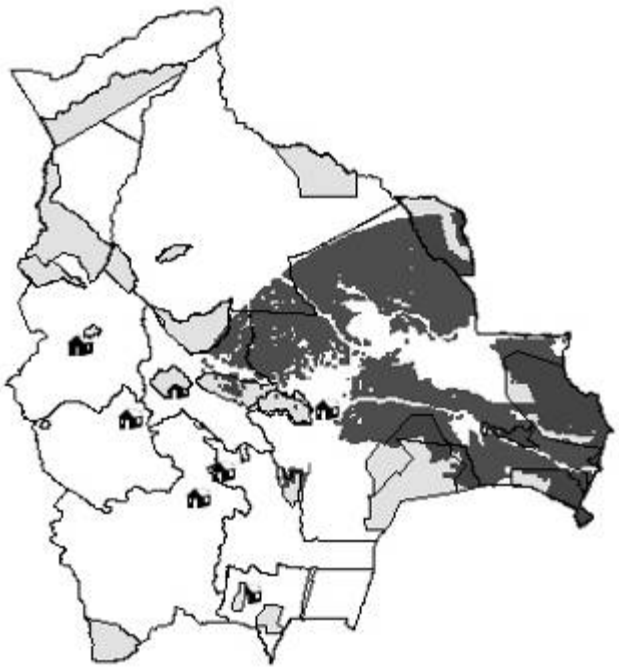

Figure 211 Fragmentation of Habitat of *Mabuya dorsivittata*

Map Quality: High confidence
Global distribution: Uruguay, Paraguay, Argentina, Brazil, Bolivia (Beni, Cochabamba, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 14858: 0
Distr. Total = 17792; EDC 1 = 11920; EDC 2 = 2938; EDC 3 = 1384; EDC 4 = 1233; EDC 5 = 317
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

4529 grid cells in Parks: Amboró, Carrasco, Iñao, Isiboro Sécure, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca, Cavernas del Repechón
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Paraguay.

Mabuya frenata (COPE)

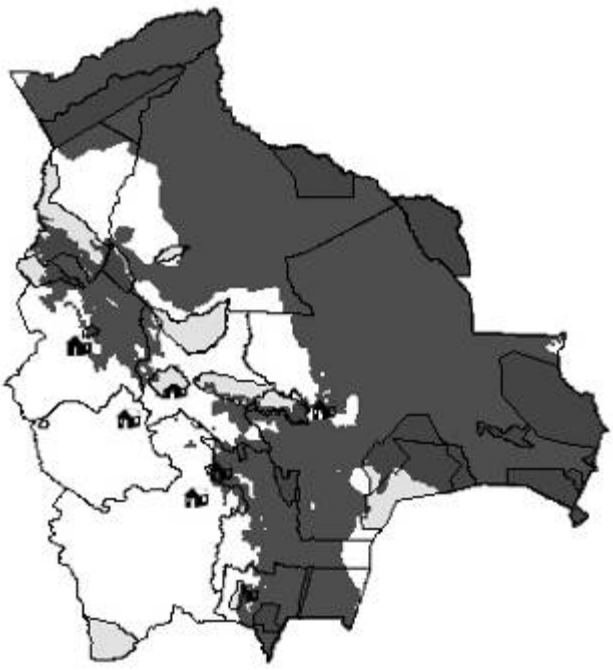

Figure 212 Extrapolated Distribution of *Mabuya frenata*

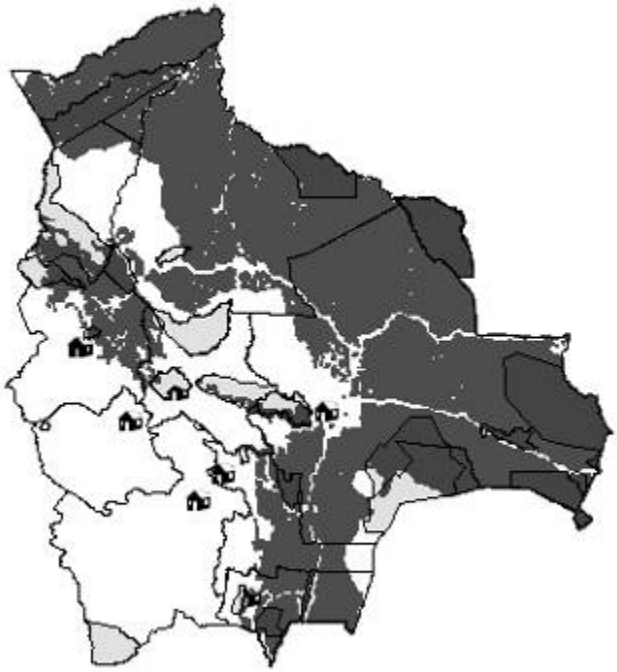

Figure 213 Fragmentation of Habitat of *Mabuya frenata*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Beni, Chuqisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 42218: 0
Distr. Total = 50831; EDC 1 = 31801; EDC 2 = 10417; EDC 3 = 4425; EDC 4 = 2367; EDC 5 = 1821
Fragmentation: SOME: 1

Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and by highways.
Distribution in good National parks: **VERY STRONG: 0**
11553 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Iténez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquía, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Rio Paraguay valley, Paraguay

Mabuya guaporicola DUNN

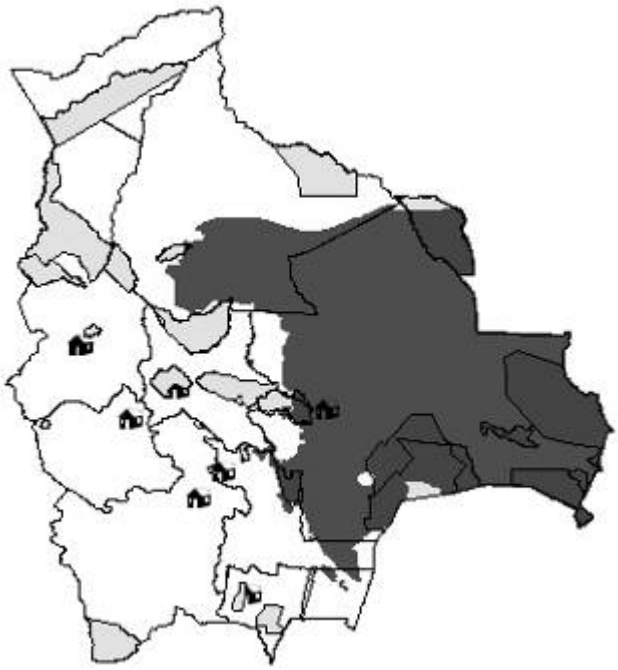

Figure 214 Extrapolated Distribution of *Mabuya guaporicola*

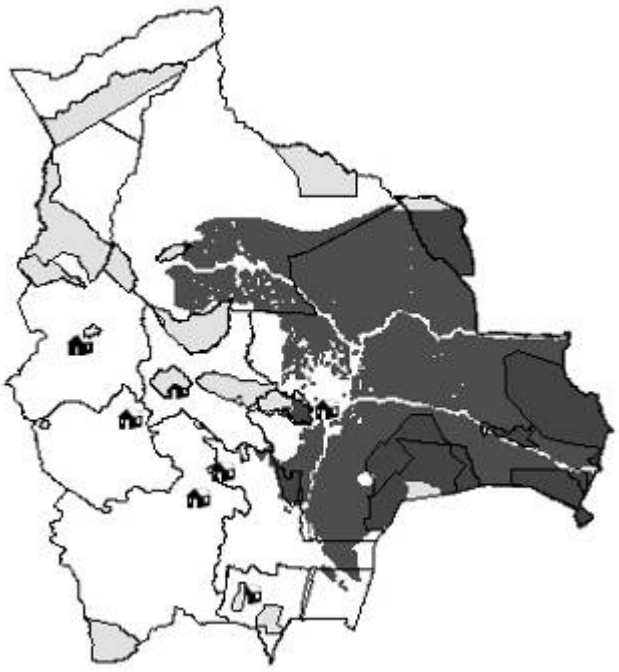

Figure 215 Fragmentation of Habitat of *Mabuya guaporicola*

Map Quality: High confidence
Global distribution: Brazil, Bolivia (Beni, Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 25817: 0
Distr. Total = 30351; EDC 1 = 20487; EDC 2 = 5330; EDC 3 = 2235; EDC 4 = 1840; EDC 5 = 459
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7798 grid cells in Parks: Amboró, Carrasco, EBB, Iñao, Isiboro Sécure, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Bastos Farm on Río Alegre, Headwaters of Río Guaporó, western Mato Grosso, Brazil.

Mabuya nigropunctata (SPIX)

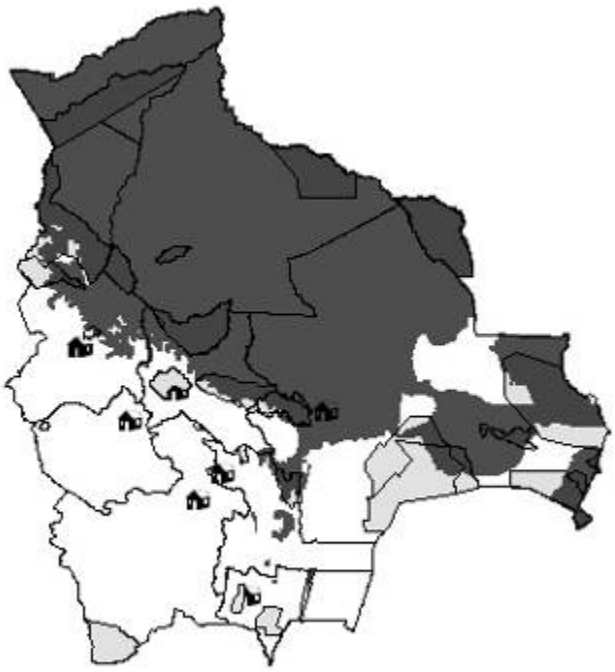

Figure 216 Extrapolated Distribution of *Mabuya nigropunctata*

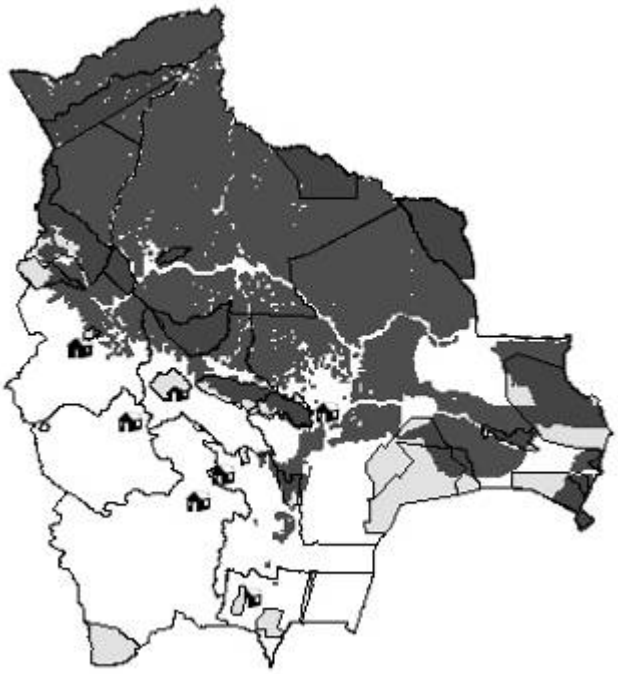

Figure 217 Fragmentation of Habitat of *Mabuya nigropunctata*

Map Quality: High confidence
Global distribution: Brazil, French Guiana, Venezuela, Peru?, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 38863: 0
Distr. Total = 46831; EDC 1 = 29342; EDC 2 = 9521; EDC 3 = 4720; EDC 4 = 2455; EDC 5 = 793
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
10550 grid cells in Parks Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Iténez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Cavernas del Repechón
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Ecg, Brazil. Until recently often erroneously called *Mabuya bistriata* (see comment in Avila-Pires 1995 for details). Has been considered as synonymous to *Mabuya mabouia* (e.g. by Peters & Donoso-Barros 1970: 199).

3.2.15 Anguidae

Diploglossus fasciatus (GRAY)

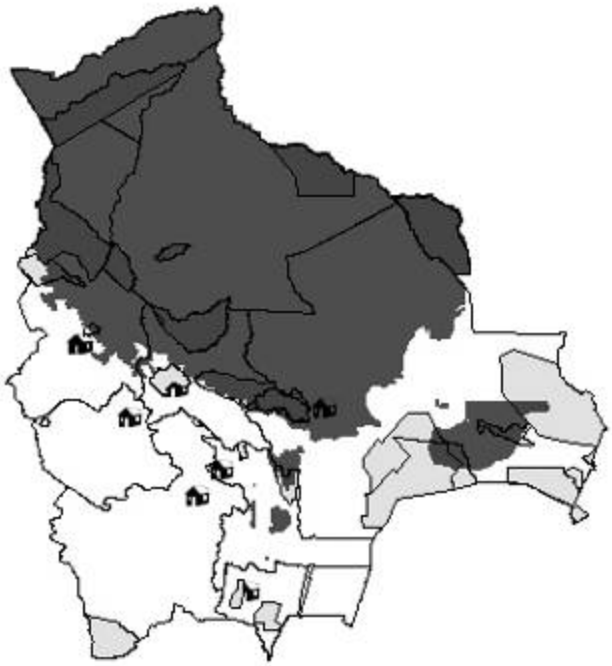

Figure 218 Extrapolated Distribution of *Diploglossus fasciatus*

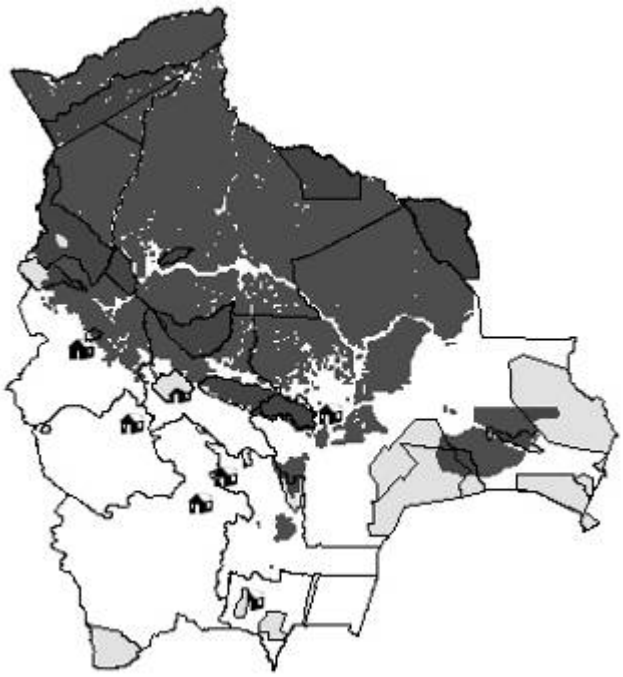

Figure 219 Fragmentation of Habitat of *Diploglossus fasciatus*

Map Quality: High confidence
Global distribution: Brazil, Peru, Bolivia (Chuquisaca?, Cochabamba, Beni, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 35818: 0
Distr. Total = 43502; EDC 1 = 26886; EDC 2 = 8932; EDC 3 = 4518; EDC 4 = 2331; EDC 5 = 835
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7892 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilon Lajas, San Matias, Tucavaca, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Although it is a not commonly found species several specimens from Bolivia are known. Avila-Pires (1995) considers its distribution disjunctive.

Ophiodes intermedius BOULENGER

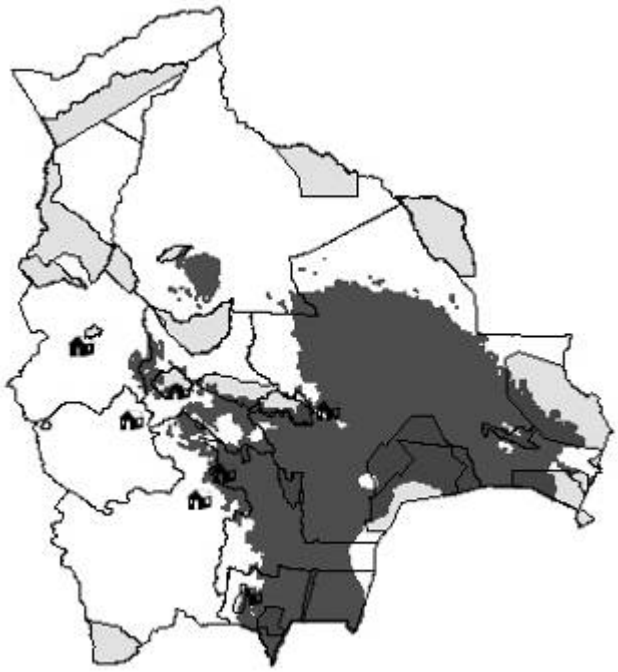

Figure 220 Extrapolated Distribution of *Ophiodes intermedius*

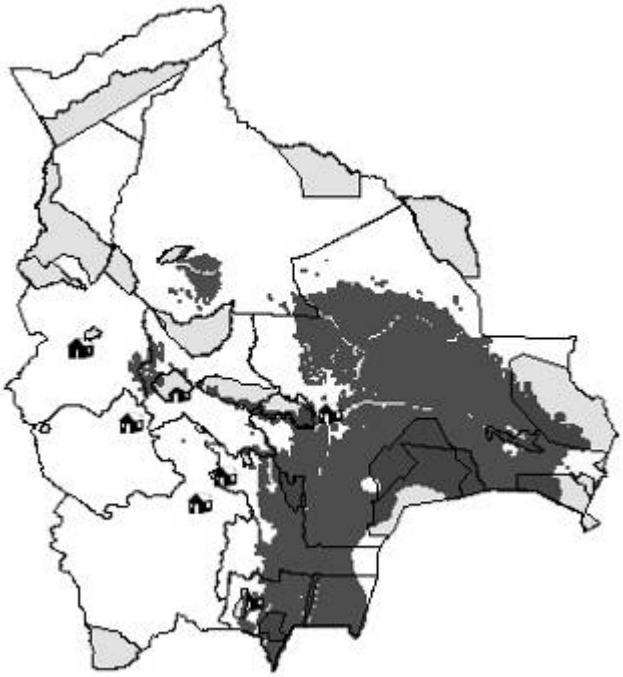

Figure 221 Fragmentation of Habitat of *Ophiodes intermedius*

Map Quality: High confidence
Global distribution: Paraguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: UNCERTAIN
Marcio Borges is describing a new species for Bolivia of this genus which may be limited to the inter Andean dry valleys, Yungas and Tucuman forests.
Sensibility for habitat alteration: TOLERANT
Distribution Value: 20317: 0
Distr. Total = 24563; EDC 1 = 14017; EDC 2 = 4408; EDC 3 = 1892; EDC 4 = 1980; EDC 5 = 2266
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4600 grid cells in Parks: Aguarague, Amboró, Carrasco, Cordillera del Sama, El Palmar, EBB, Iñao, Kaa-Iya, Otuquis, San Matias, Tucavaca, Tariquia, Tunari

Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1 TAXONOMIC PROBLEMS (SPECIES COMPLEX)

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

3.2.16 Amphisbaenidae

Amphisbaena alba LINNAEUS

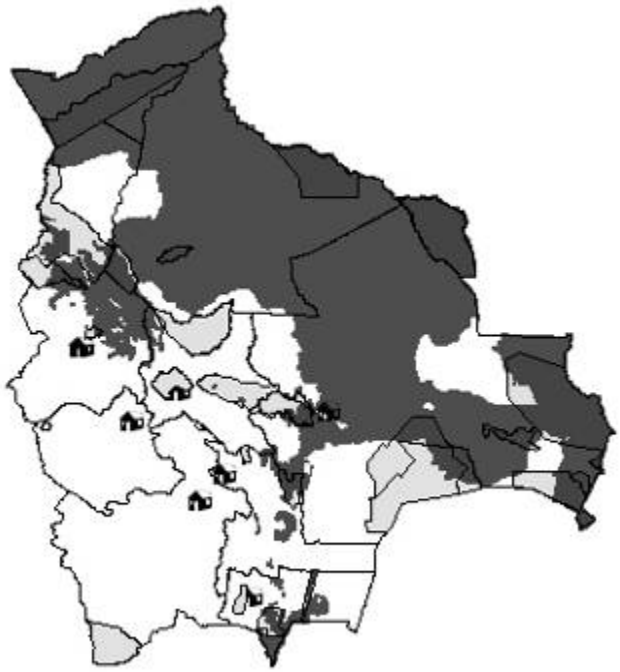

Figure 222 Extrapolated Distribution of *Amphisbaena alba*

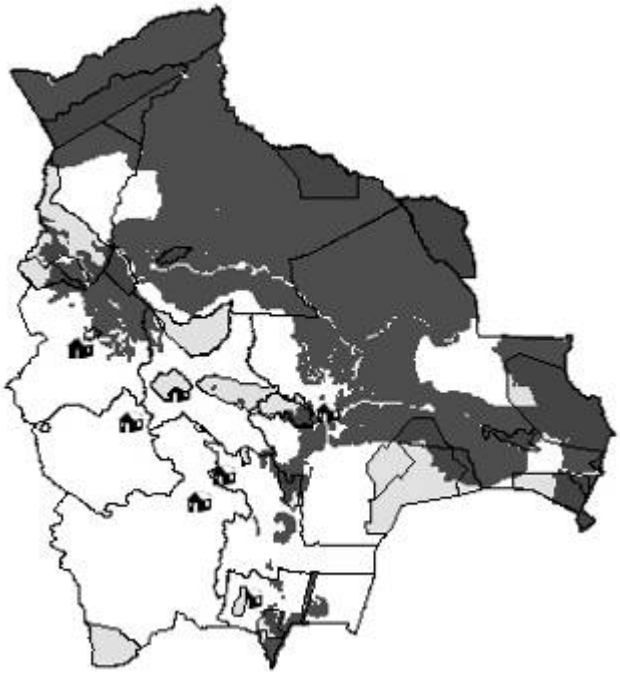

Figure 223 Fragmentation of Habitat of *Amphisbaena alba*

Map Quality: Medium confidence
Extrapolation of the species into Chuquisaca and Tarija Department may be an error. Species is not known to occur in Argentina.
Global distribution: Panama, Colombia, Venezuela, Guiana, Surinam, French Guiana, Peru, Bolivia (Beni, La Paz, Santa Cruz), Brazil, Paraguay, Trinidad, Ecuador
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 34186: 0
Distr. Total = 40909; EDC 1 = 25424; EDC 2 = 8762 EDC 3 = 4071; EDC 4 = 2043; EDC 5 = 609
Fragmentation: SOME: 1
Some fragmentation by habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
8228 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status : NE
Comments: The Amphisbaenian species in Bolivia with the widest distribution which may result in a species complex after a closer look, mainly because of its subterranean life which lowers its dispersal abilities. Pholidosis data shows no difference to the data given by Gans (1962) in his redefinition of the species. This is why the taxonomic status is given as OK.

Amphisbaena angustifrons COPE

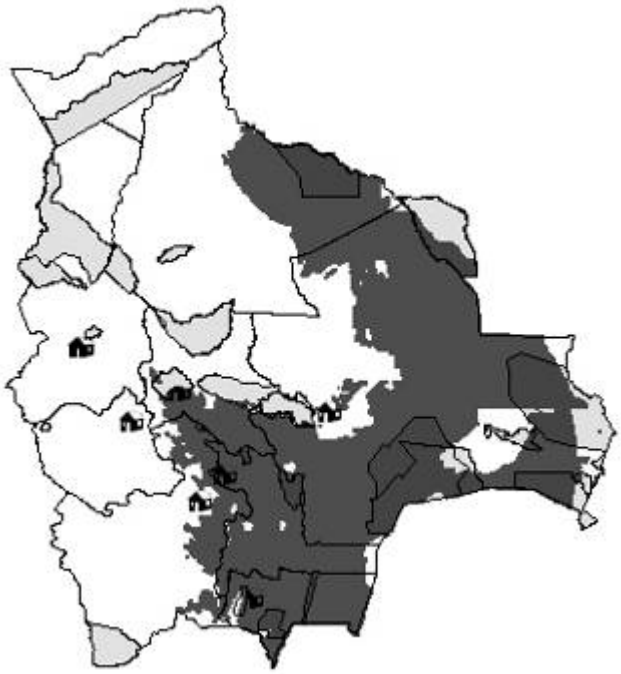

Figure 224 Extrapolated Distribution of *Amphisbaena angustifrons*

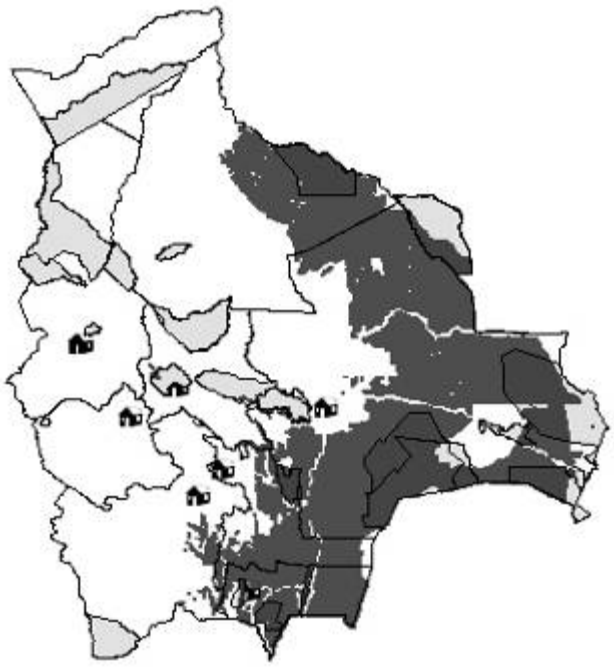

Figure 225 Fragmentation of Habitat of *Amphisbaena angustifrons*

Map Quality: High confidence
Global distribution: Argentina, Paraguay, Bolivia (Beni, Chuquisaca, Santa Cruz, Sucre, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 24764: 0
Distr. Total = 31918; EDC 1 = 19392; EDC 2 = 5372; EDC 3 = 2075; EDC 4 = 1586; EDC 5 = 3493
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6809 grid cells in Parks: Aguarague, Amboró, Carrasco, Cordillera de Sama, El Palmar, Iñao, Itenez, Kaa-Iya, NKM, Otuquis, San Matias, Tucavaca, Tariquia, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Gans (1972) mentions the subspecies *A. angustifrons angustifrons* from Villamontes in the Department Tarija. The two subspecies (the other one is *A. angustifrons plumbea*) can be distinguished by its number of body annuli and scale counts of Bolivian specimens give evidence that Bolivian specimens belong to *A. a. angustifrons*.

Amphisbaena bolivica MERTENS

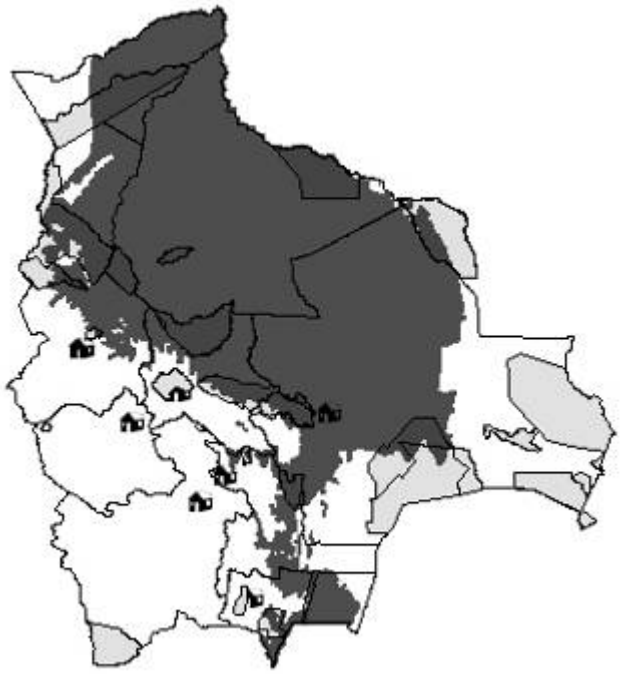

Figure 226 Extrapolated Distribution of *Amphisbaena bolivica*

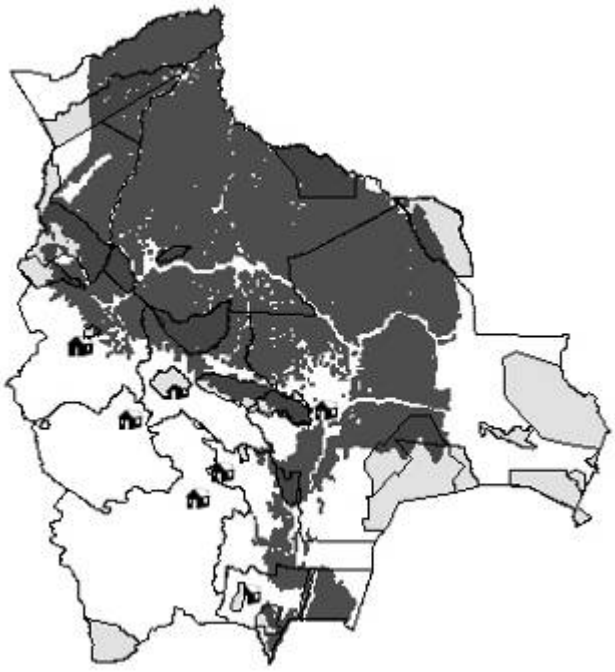

Figure 227 Fragmentation of Habitat of *Amphisbaena bolivica*

Map Quality: Medium confidence
Extrapolation of the species into Chuquisaca and Tarija Department may be an error. Species is not known to occur in Argentina and Paraguay.
Global distribution: Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 34006: 0
Distr. Total = 41838; EDC 1 = 25295; EDC 2 = 8711; EDC 3 = 4521; EDC 4 = 2467; EDC 5 = 844
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad and Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5930 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi, NKM, Pilon Lajas, Tariquia
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: This species originally was described as a subspecies of *Amphisbaena camura* which is distributed in Bolivia, Argentina, Paraguay and Brazil. This coincides with the extrapolated distribution which suggests distribution in theses neighboring countries.

Amphisbaena camura COPE

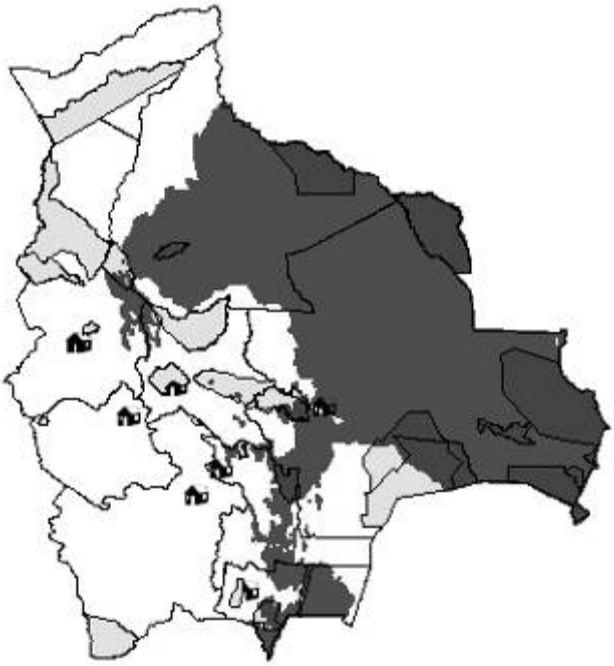

Figure 228 Extrapolated Distribution of *Amphisbaena camura*

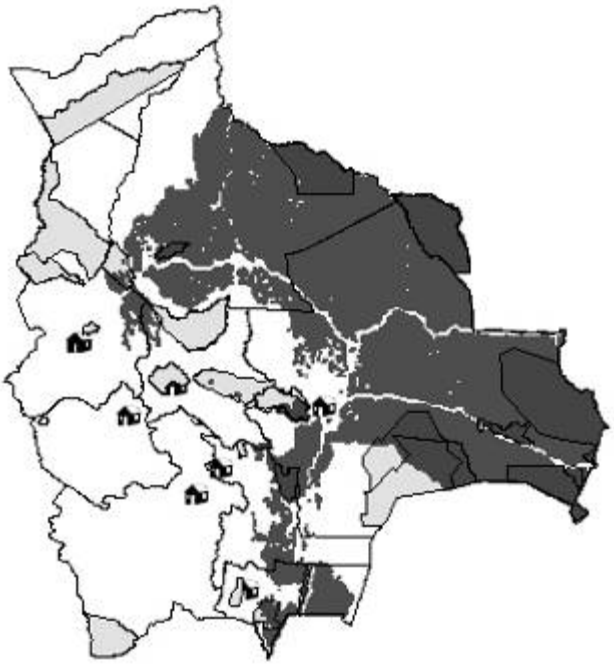

Figure 229 Fragmentation of Habitat of *Amphisbaena camura*

Map Quality: High confidence
Global distribution: Argentina, Paraguay, Brazil, Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 30737: 0
Distr. Total = 36328; EDC 1 = 23724; EDC 2 = 7013; EDC 3 = 3079; EDC 4 = 1969; EDC 5 = 543
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7980 grid cells in Parks: Aguarague, Amboró, Carrasco, EBB, El Palmar, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia

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Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Amphisbaena cegei MONTERO, SÁFADEZ, ÁLVAREZ

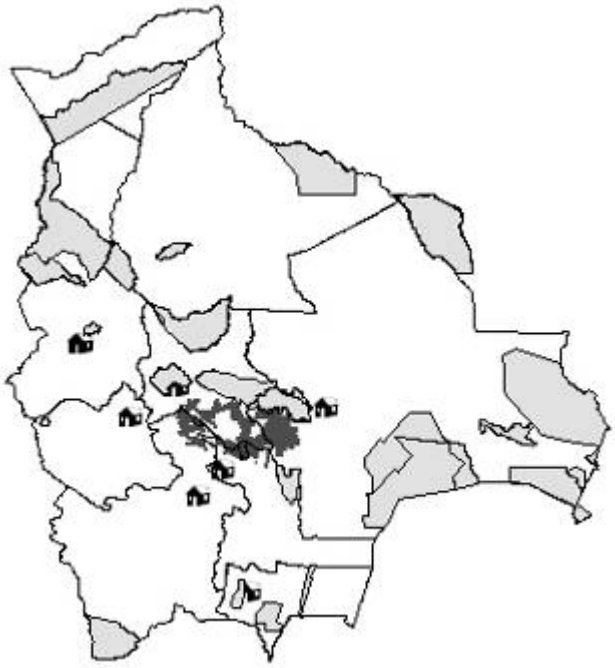

Figure 230 Extrapolated Distribution of *Amphisbaena cegei*

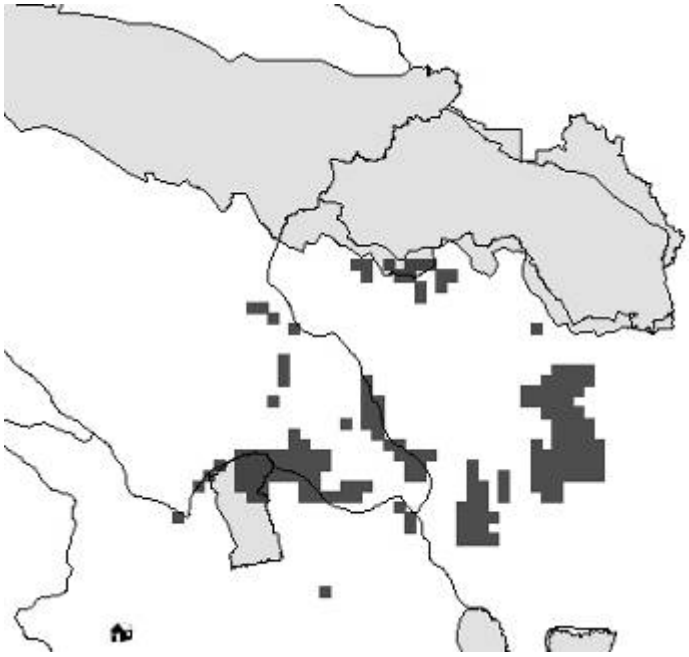

Figure 231 Fragmentation of Habitat of *Amphisbaena cegei*

Map Quality: High confidence
Global distribution: endemic for Bolivia (Santa Cruz, Cochabamba and Chuquisaca)
Taxonomic status: OK
Although this species is endemic for a restricted area there seem to be morphologic differences in populations. A population from Becerros (Province Florida) shows in general lower number of tail and body rings (outlined in red in **Figure 232**) than populations from other areas in the same province. As the sample is very small, there is an overlap, there is no geographical barrier and this is the only difference found, the taxonomic status will be considered as OK, although further studies may be needed.
Sensibility for habitat alteration: TOLERANT

Distribution Value: 184: 5
Distr. Total = 1036; EDC 1 = 78; EDC 2 = 57; EDC 3 = 49; EDC 4 = 234; EDC 5 = 618
Fragmentation: STRONG: 5
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **LOW: 2**
25 grid cells in Parks: Amboró, El Palmar
Use: NONE: 0
Rarity: VERY COMMON: 0

5+5+2+0+0 = 12

Conservation status: Vulnerable

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

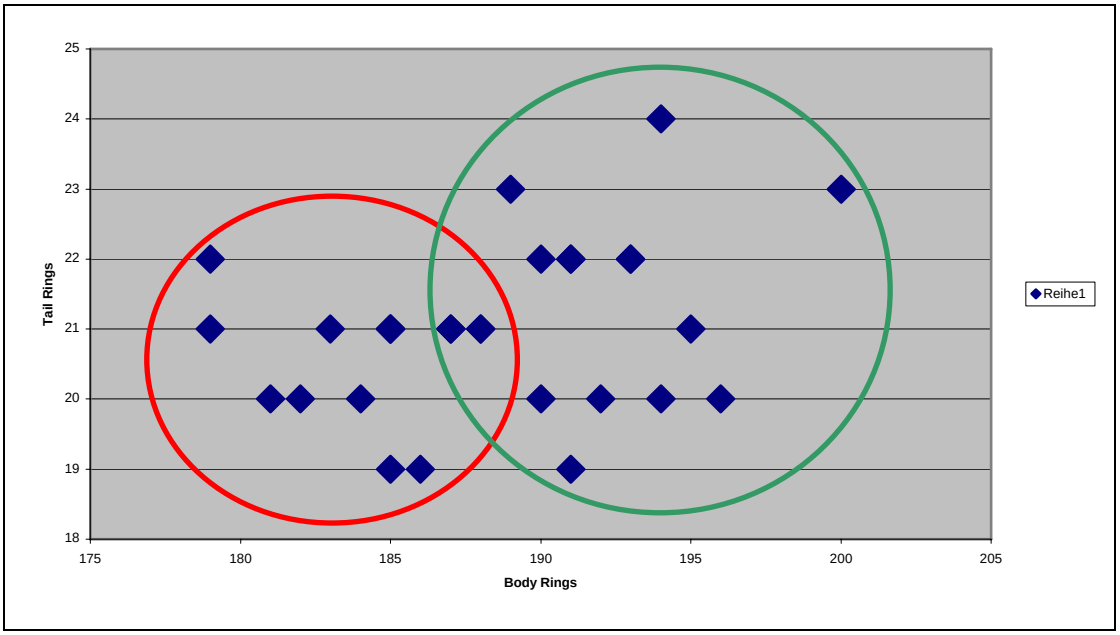

Figure 232: Comparison of tail and body rings of *Amphisbaena cegei* specimens from the locality Becerros (Province Florida; Department Santa Cruz), outlined in red, and specimens from other localities, outlined in green.

Amphisbaena darwinii DUMÉRIL & BIBRON

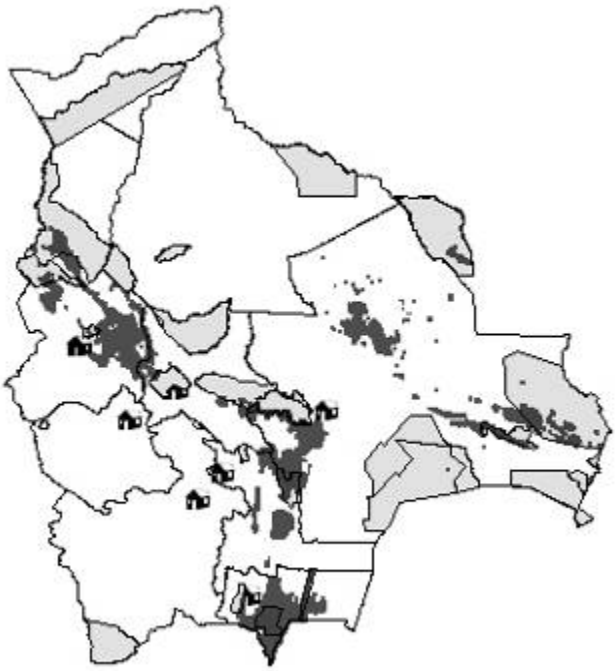

Figure 233 Extrapolated Distribution of *Amphisbaena darwinii*

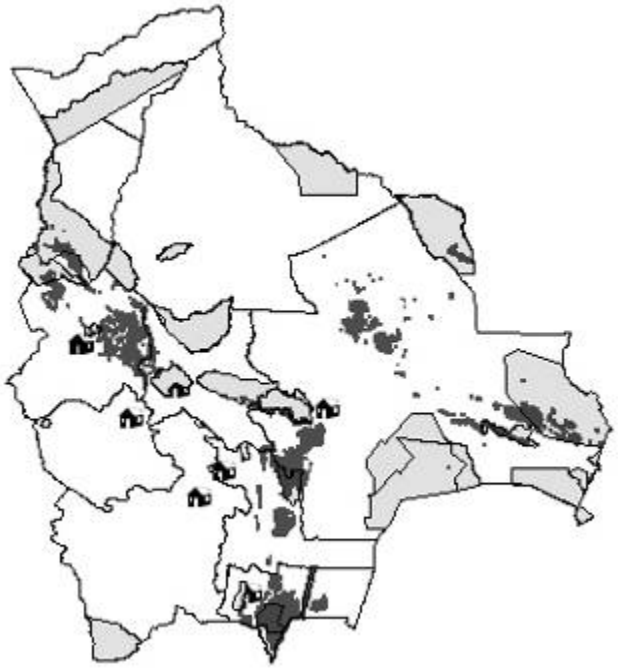

Figure 234 Fragmentation of Habitat of *Amphisbaena darwinii*

Map Quality: Low confidence
The extrapolation shows a very disjunctive habitat which is probably not true in this form. There is more collection data needed for better extrapolation results.
Global distribution: Brazil, Paraguay, Uruguay, Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 3448: 0
Distr. Total = 4604; EDC 1 = 2541; EDC 2 = 907; EDC 3 = 472; EDC 4 = 334; EDC 5 = 350
Fragmentation: SOME: 1
Some fragmentation.
Distribution in good National parks: **VERY STRONG: 0**
1096 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, Cordillera de Sama, Iñao, Kaa-Iya, Madidi, NKM, Pilon Lajas, San Matias, Tucavaca, Tariquia, Tunari
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Following Uetz (2005) the Bolivian populations belong to the subspecies *A. darwini heterozona*.

Amphisbaena fuliginosa LINNAEUS

Figure 235 Extrapolated Distribution of *Amphisbaena fuliginosa*

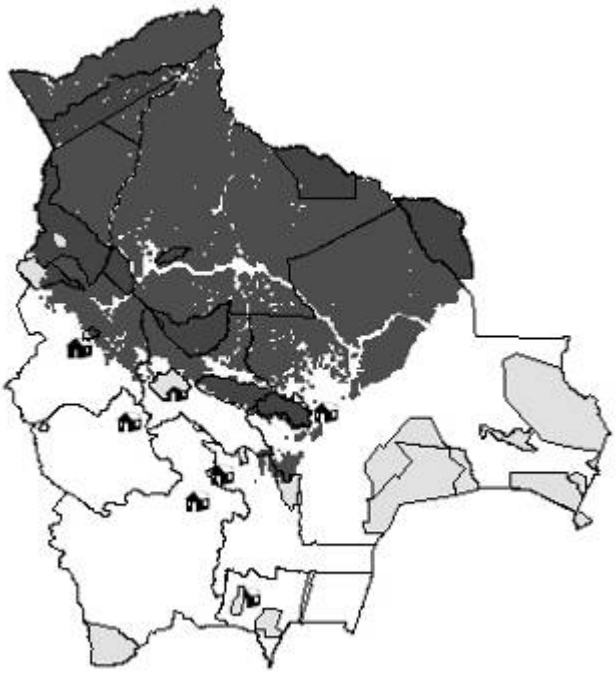

Figure 236 Fragmentation of Habitat of *Amphisbaena fuliginosa*

Map Quality: High confidence
Global distribution: Panama, Peru, Ecuador, Colombia, Brazil, Venezuela, Guiana, Surinam, French Guiana, Trinidad, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 33131: 0
Distr. Total = 40488; EDC 1 = 24836; EDC 2 = 8295; EDC 3 = 4354; EDC 4 = 2125; EDC 5 = 878
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7135 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Madidi, Manuripi, NKM, Pilon Lajas, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Amphisbaena silvestrii BOULENGER

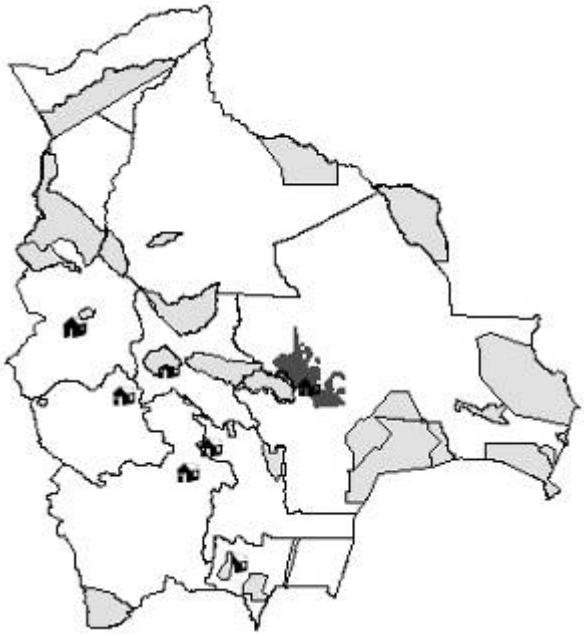

Figure 237 Extrapolated Distribution of *Amphisbaena silvestrii*

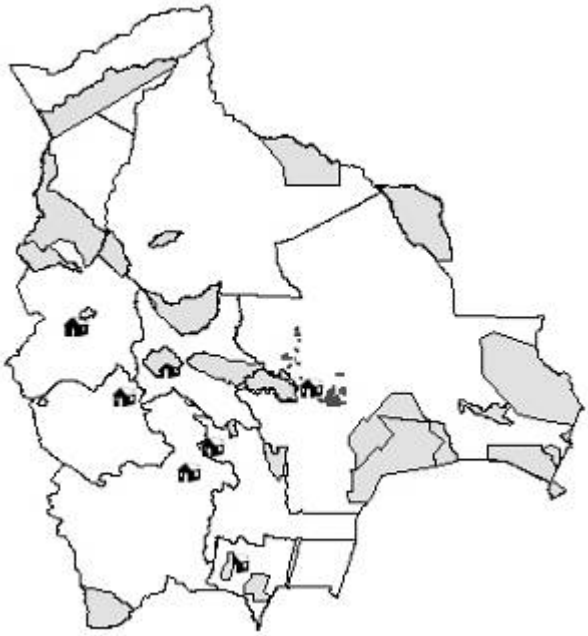

Figure 238 Fragmentation of Habitat of *Amphisbaena silvestrii*

Map Quality: High confidence
Global distribution: Brazil, Bolivia (Santa Cruz)
Taxonomic status: UNCERTAIN
Gans (1964) gives as difference of the only specimen from Bolivia to the Brazilian specimens an unusually high number of 12 dorsal and 14 ventral row segments. As the specimen was not seen and the locality is so far from other collected specimens the identification is considered as doubtful.

Sensibility for habitat alteration: SENSIBLE
Distribution Value: 113: 10
Distr. Total = 685; EDC 1 = 37; EDC 2 = 76; EDC 3 = 120; EDC 4 = 352; EDC 5 = 100
Fragmentation: VERY STRONG: 12
Strong fragmentation by strong habitat destruction near Santa Cruz.
Distribution in good National parks: **NONE: 3**
2 grid cells in Parks: Amboró
Use: NONE: 0
Rarity: RARE: 3

10+12+3+0+3 = 28

Conservation status: Critically Endangered

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: In Bolivia this species is just known from one specimen which has not been seen and is described by Gans (1964) having differences to other specimens of this species.

Amphisbaena slateri BOULENGER

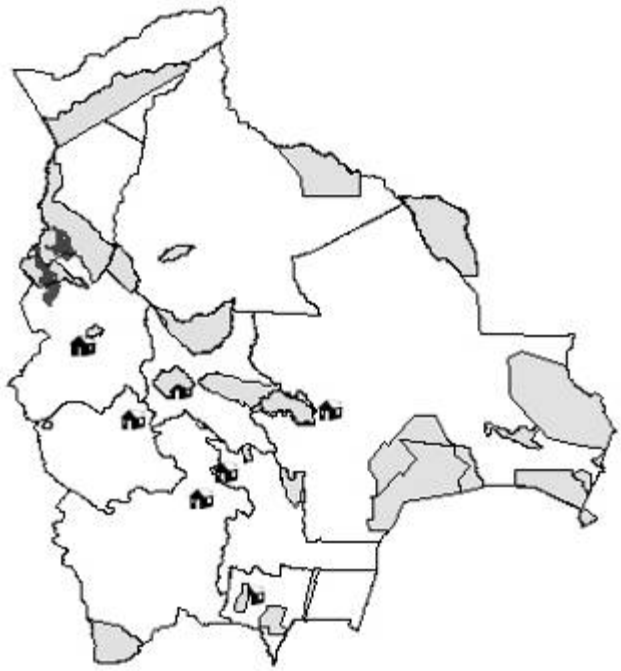

Figure 239 Extrapolated Distribution of *Amphisbaena slateri*

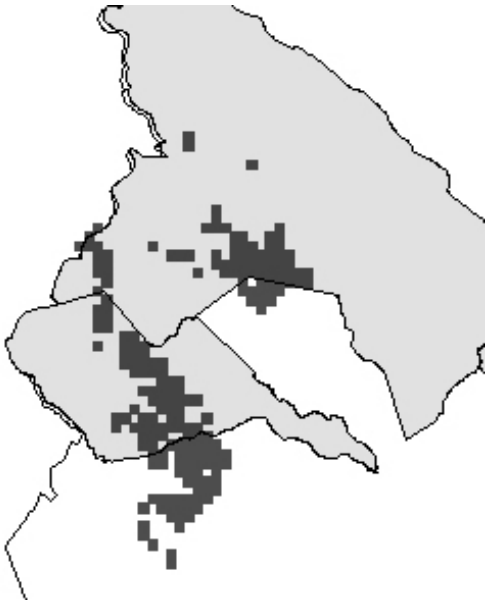

Figure 240 Fragmentation of Habitat of *Amphisbaena slateri*

Map Quality: High confidence
Global distribution: Peru, Bolivia (La Paz)
Taxonomic status: UNCERTAIN
Although Bolivian specimens differ somewhat from the Holotype, Gans (1967) consider them to belong to the same species. Bolivian specimens show higher number of dorsal segments (12 to 14 instead of 10), higher number of ventral segments (16 versus 14) and inferior number of body annuli (176 to 183 versus 206). This makes the taxonomic status doubtful.
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 201: 5
Distr. Total = 304; EDC 1 = 135; EDC 2 = 66; EDC 3 = 30; EDC 4 = 37; EDC 5 = 36
Fragmentation: NONE: 0
No fragmentation of habitat.
Distribution in good National parks: **VERY STRONG: 0 (more than 50%)**

144 grid cells in Parks: Apolobamba
Use: NONE: 0
Rarity: RARE: 3

5+0+0+0+3 = 8

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Species just known from three specimens. In Bolivia known from only two localities. Specimens show differences to Holotype.

Amphisbaena vermicularis WAGLER

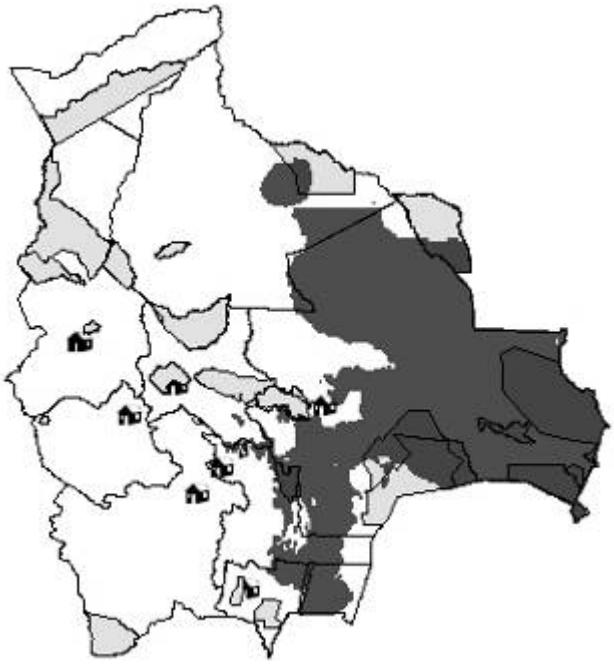

Figure 241 Extrapolated Distribution of *Amphisbaena vermicularis*

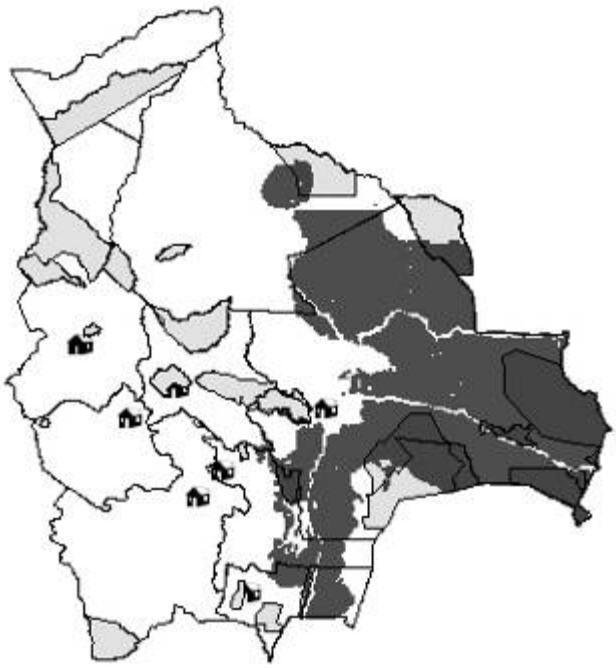

Figure 242 Fragmentation of Habitat of *Amphisbaena vermicularis*

Map Quality: High confidence
Global distribution: Brazil, Bolivia (Beni, Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 22049: 0
Distr. Total = 24532; EDC 1 = 17932; EDC 2 = 4117; EDC 3 = 1339; EDC 4 = 968; EDC 5 = 176
Fragmentation: SOME: 1

Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6287 grid cells in Parks: Aguarague, Amboró, El Palmar, Iñao, Itenez, Kaa-Iya, NKM, Otuquis, San Matias, Tucavaca
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status : NE
Comments: Type locality: „in Province Bahiae“ „aux environs de la ville Bahia“, Brazil. Holotype: ZSM 660/0

Cercolophia borelli (PERACCA)

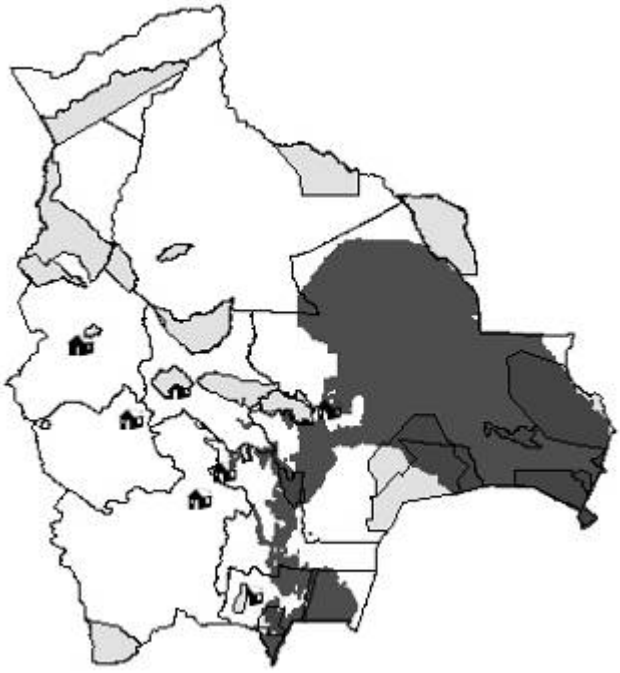

Figure 243 Extrapolated Distribution of *Cercolophia borelli*

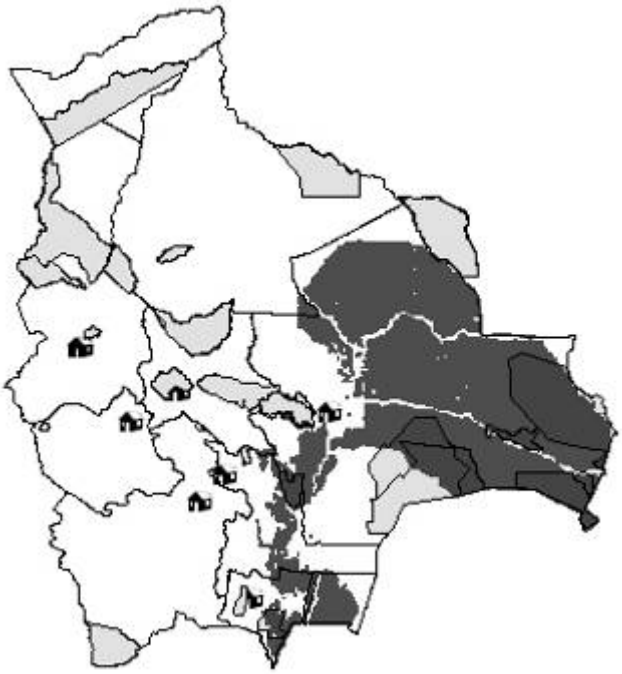

Figure 244 Fragmentation of Habitat of *Cercolophia borelli*

Map Quality: High confidence
Global distribution: Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 18138: 0
Distr. Total = 20978; EDC 1 = 14703; EDC 2 = 3435; EDC 3 = 1385; EDC 4 = 1135; EDC 5 = 320
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5229 grid cells in Parks: Aguarague, Amboró, Carrasco, El Palmar, Iñao, Kaa-Iya, Otuquis, San Matias, Tucavaca, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Cercolophia steindachneri (STRAUCH)

Figure 245 Extrapolated Distribution of *Cercolophia steindachneri*

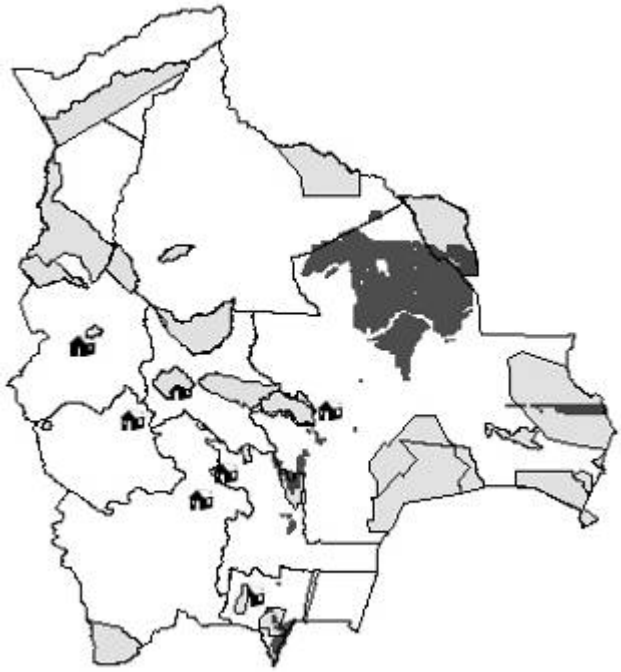

Figure 246 Fragmentation of Habitat of *Cercolophia steindachneri*

Map Quality: Low confidence
Distribution in Departments Chuquisaca and Tarija questionable, although more probable if the species would be confirmed being also distributed in Argentina. Also distribution in very separated protected areas as Iñao, San Mathias and Tariquia questionable.

Global distribution: Brazil, Argentina?, Bolivia (Beni, Chuquisaca?, Santa Cruz, Tarija?)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 4586: 0
Distr. Total = 5034; EDC 1 = 3927; EDC 2 = 659; EDC 3 = 259; EDC 4 = 165; EDC 5 = 24
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
605 grid cells in Parks: Amboró, Iñao, NKM, San Matias, Tariquia
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Leposternon microcephalum WAGLER

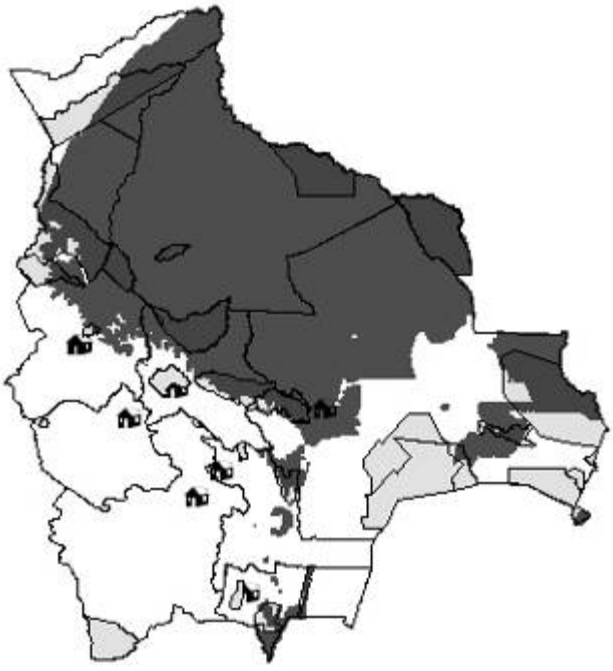

Figure 247 Extrapolated Distribution of *Leposternon microcephalum*

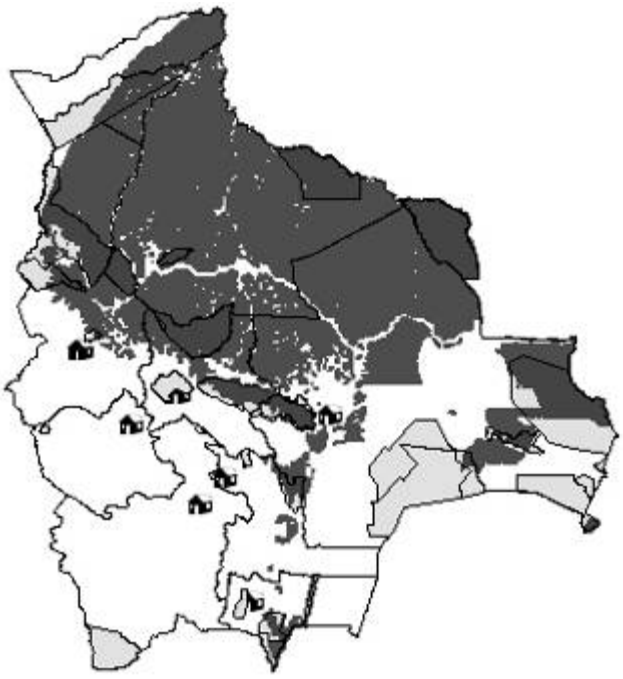

Figure 248 Fragmentation of Habitat of *Leposternon microcephalum*

Map Quality: Medium confidence

Some isolated distributions questionable, as those in Tarija and Chuquisaca Department.
Global distribution: Panama, Colombia, Venezuela, Guiana, Surinam, French Guiana, Peru, Brazil, Paraguay, Trinidad, Ecuador, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 33270: 0
Distr. Total = 40398; EDC 1 = 25269; EDC 2 = 8001; EDC 3 = 4196; EDC 4 = 2217; EDC 5 = 715
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz, Trinidad, Rurrenabaque and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7440 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Ophidians

3.2.17 Leptotyphlopidae

Figure 249 *Leptotyphlops melanotermus*

Figure 250 *Leptotyphlops melanotermus*

Figure 251 *Typhlops* cf. *brongersmianus*

Figure 252 *Leptotyphlops* sp.

Leptotyphlops melanotermus (COPE)

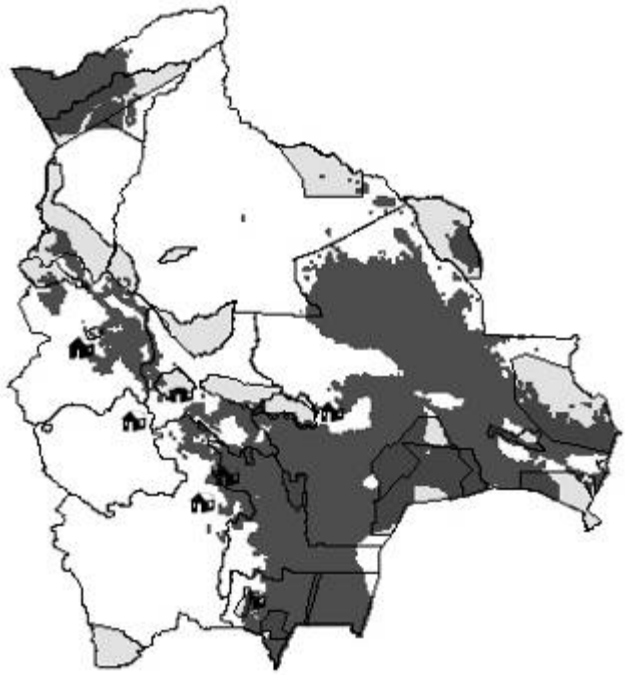

Figure 253 Extrapolated Distribution of *Leptotyphlops melanotermus*

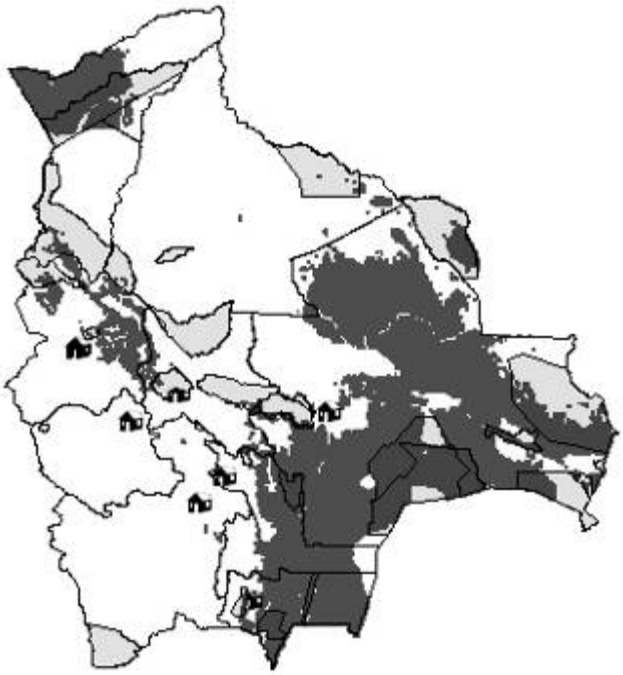

Figure 254 Fragmentation of Habitat of *Leptotyphlops melanotermus*

Map Quality: Medium confidence
The extrapolated habitat shows a very disjunctive habitat which probably is an extrapolation error. Especially distribution in Pando Department may be based on specimens which have been wrongly identified. Some material has not been seen.
Global distribution: Peru, Paraguay, Brazil, Argentina, Bolivia
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 23389: 0
Distr. Total = 27245; EDC 1 = 16429; EDC 2 = 5052; EDC 3 = 1908; EDC 4 = 1564; EDC 5 = 2292
Fragmentation: SOME: 1
Some fragmentation of habitat, mainly widening the gap between disjunctive habitats in the inter Andean dry valleys.
Distribution in good National parks: VERY STRONG: 0
6226 grid cells in parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, Iñao, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia, Torotoro, Tunari
Use/Other: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least Concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE

Leptotyphlops septemstriatus (SCHNEIDER)

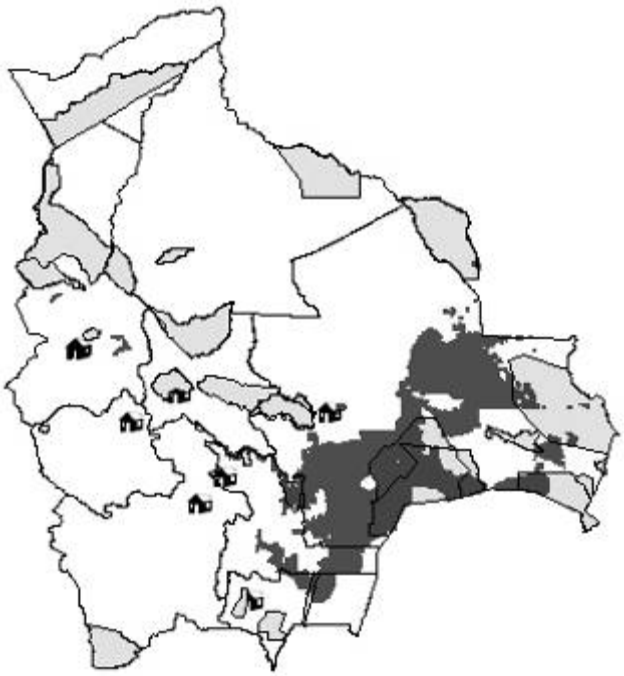

Figure 255 Extrapolated Distribution of *Leptotyphlops septemstriatus*

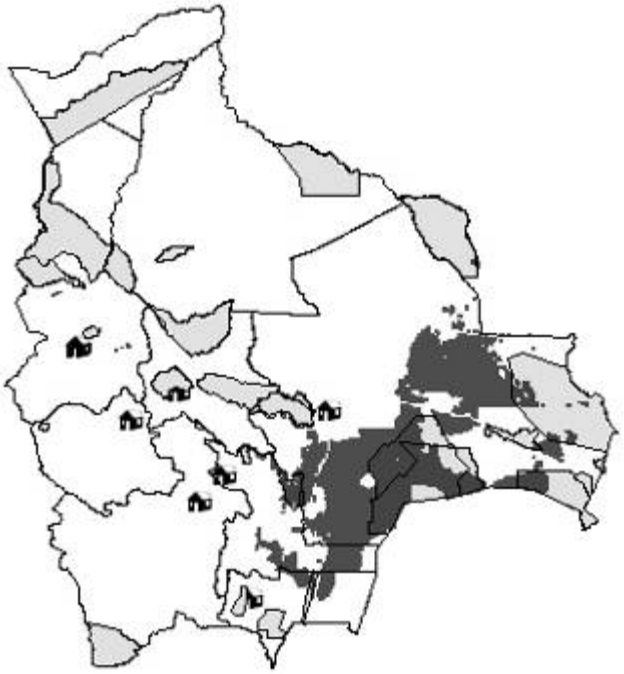

Figure 256 Fragmentation of Habitat of *Leptotyphlops septemstriatus*

Map Quality: High confidence
Global distribution: Brazil, Guyana, French Guiana, Venezuela, Bolivia (Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: UNCERTAIN
Specimens of *Leptotyphlops melanotermus* frequently are misidentified as *L. septemstriatus*. The distribution in Bolivia would be by far the southernmost, especially as the specimens are from southern Bolivia. As the specimens were not seen the occurrence in Bolivia can not be confirmed.
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 8023: 0
Distr. Total = 8760; EDC 1 = 6347; EDC 2 = 1676; EDC 3 = 425; EDC 4 = 280; EDC 5 = 32
Fragmentation: SOME: 1
Some fragmentation mainly by Highways
Distribution in good National parks: VERY STRONG: 0
2713 grid cells in Park: Aguarague, El Palmar, Iñao, Kaa-Iya, NKM, Otuquis, San Matias, Tucavaca
Use/Other: NONE: 0
Rarity: COMMON: 1

0+1+0+0+1 = 2 TAXONOMIC STATUTS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: Terra typica: unknown (fide Kornacker 1999).

Leptotyphlops striatula SMITH & LAUFE

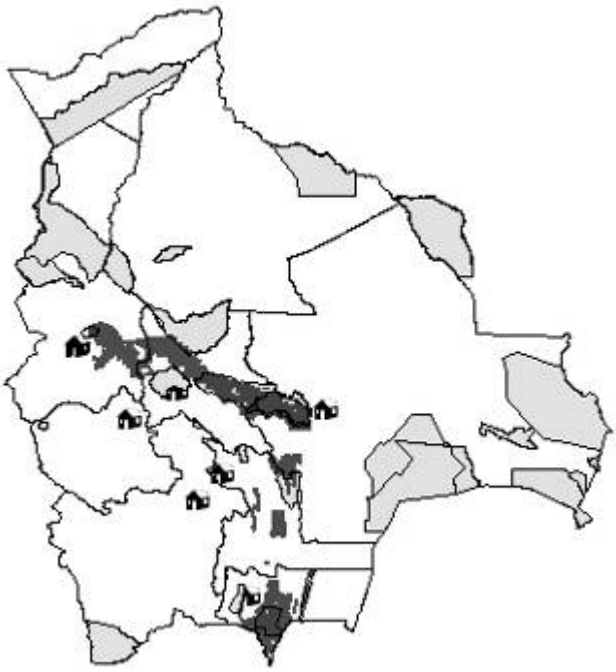

Figure 257 Extrapolated Distribution of *Leptotyphlops striatula*

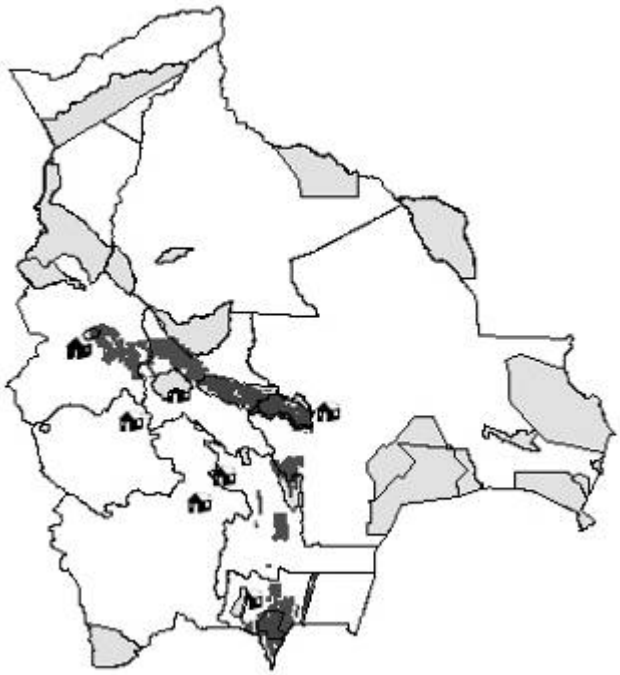

Figure 258 Fragmentation of Habitat of *Leptotyphlops striatula*

Map Quality: High confidence
Global distribution: Argentina, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: UNCERTAIN
Has been considered a synonym of *Leptotyphlops melanotermus* by Hahn 1980
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 2091: 0
Distr. Total = 2585; EDC 1 = 1661; EDC 2 = 430; EDC 3 = 185; EDC 4 = 123; EDC 5 = 186
Fragmentation: NONE: 0
Distribution in good National parks: STRONG: 1
1120 grid cells in Parks: Aguarague, Amboró, Carrasco, Cordillera de Sama, Cotapata, Iñao, Isiboro Sécure, Tariquia, Tunari
Use: NONE: 0
Rarity: VERY RARE: 5

0+0+1+0+5 = 6 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least Concern
Official IUN Conservation Status: NE
Comments: Terra typica: "Yamachi" = Yanacachi, Sur de Yungas, Bolivia. Has been considered a synonym of *Leptotyphlops melanotermus* by HAHN 1980. Holotype: U.S.N.M. 98889

Leptotyphlops undecimstriatus (SCHLEGEL)

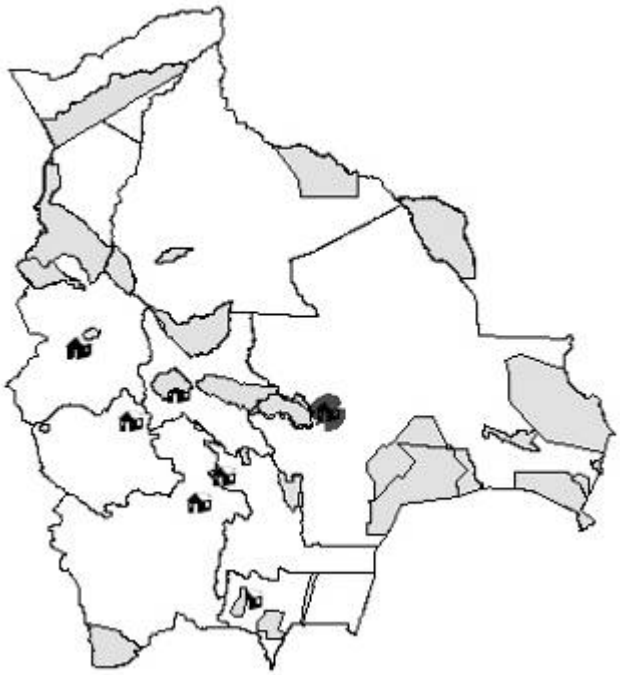

Figure 259 Extrapolated Distribution of *Leptotyphlops undecimstriatus*

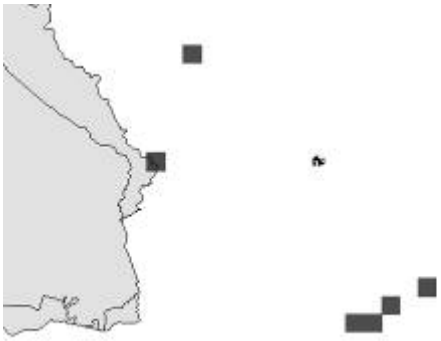

Figure 260 Fragmentation of Habitat of *Leptotyphlops undecimstriatus*

Map Quality: Medium confidence
Extrapolation is based on specimens from one locality (Type locality).
Global distribution: Endemic for Bolivia (Santa Cruz).
Taxonomic status: UNCERTAIN
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 6: 13
Distr. Total = 275; EDC 1 = 0; EDC 2 = 6; EDC 3 = 42; EDC 4 = 137; EDC 5 = 90
Fragmentation: VERY STRONG: 12
Very strong fragmentation because of habitat destruction in and around Santa Cruz
Distribution in good National parks: NONE: 3
NONE
Use: NONE: 0
Rarity: RARE: 3

13+12+3+0+3 = 31

Conservation status: Critically endangered

Conservation status IUCN: CR B1ab (iii)
Official IUCN Conservation Status: NE
Comments: Terra typica: Santa Cruz de la Sierra, Bolivia. Holotype: M.H.N.P.; now lost (according to Hahn 1980).

Leptotyphlops unguirostris (BOULENGER)

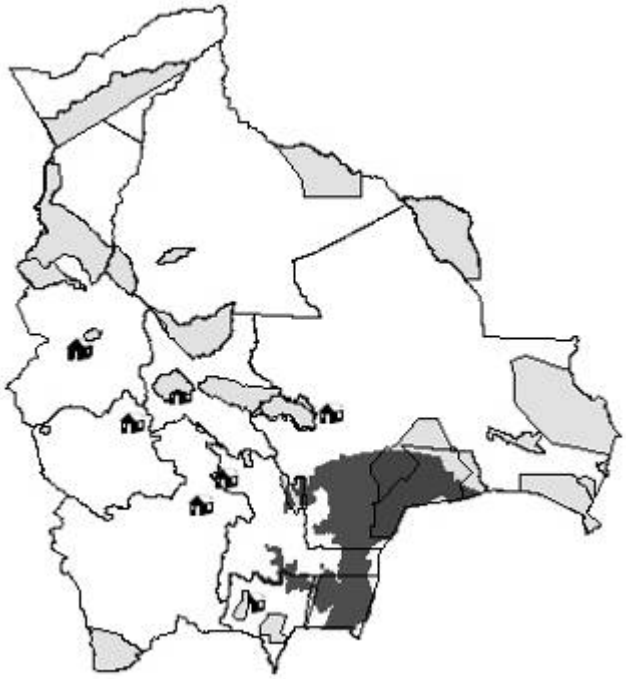

Figure 261 Extrapolated Distribution of *Leptotyphlops unguirostris*

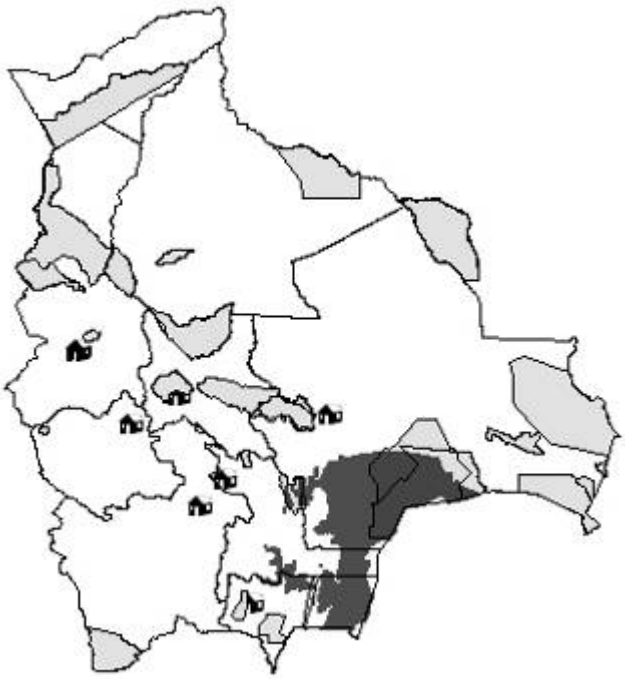

Figure 262 Fragmentation of Habitat of *Leptotyphlops unguirostris*

Map Quality: High confidence
Global distribution: Argentina, Paraguay, Bolivia (Chuquisaca, Santa Cruz, Tarija)
Taxonomic status:
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 4635: 0
Distr. Total = 4821; EDC 1 = 3575; EDC 2 = 1060; EDC 3 =120; EDC 4 = 61; EDC 5 = 5
Fragmentation: NONE: 0
Distribution in good National parks: VERY STRONG: 0
1928 grid cells in Parks: Aguarague, Iñao, Kaa-Iya
Use: NONE
Rarity: RARE: 3

0+0+0+0+3 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Cruz del Eje, Cordoba, Argentina. Holotype: B.M.N.H. 1946.1.11.52.

3.2.18 Typhlopidae

Typhlops brongersmianus VANZOLINI

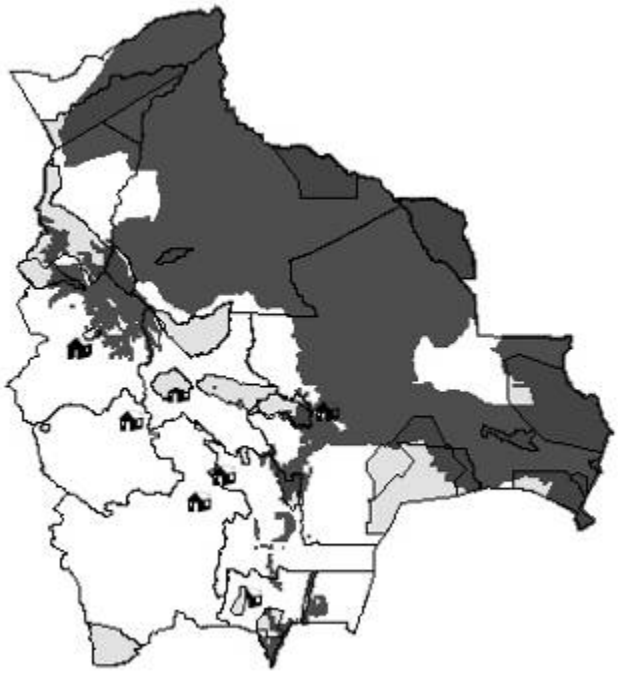

Figure 263 Extrapolated Distribution of *Typhlops brongersmianus*

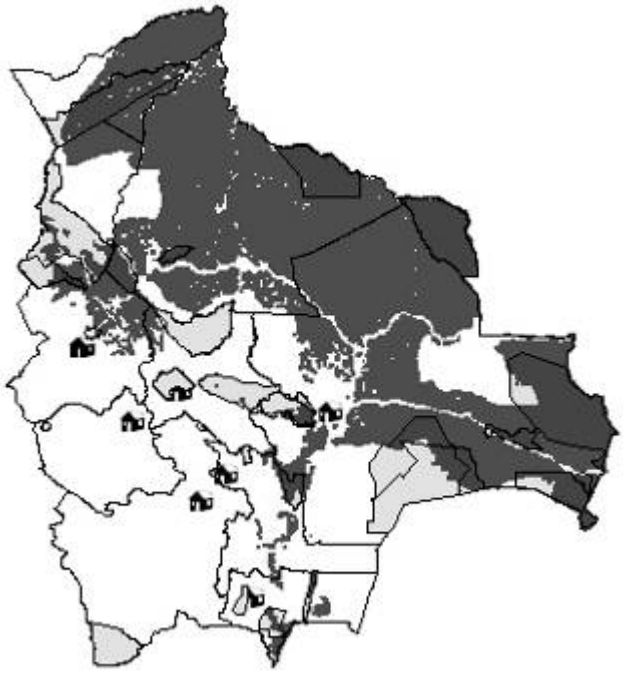

Figure 264 Fragmentation of Habitat of *Typhlops brongersmianus*

Map Quality: High confidence
Global distribution: Colombia?, Venezuela, Trinidad, Brazil, elsewhere east of the Andes, Argentina, Bolivia (Beni, Chuquisaca?, Cochabamba, La Paz, Pando, Santa Cruz, Tarija?)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 11851: 0
Distr. Total = 15802; EDC 1 = 8441; EDC 2 = 3839; EDC 3 = 2210; EDC 4 = 1033; EDC 5 = 22
Fragmentation: SOME: 1
Some fragmentation mainly caused by Highways
Distribution in good National parks: VERY STRONG: 0
9112 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: „Terra typica: "Barra de Itaipe, Ilheus, Bahia, Brasil". Typhlops brongersmai Vanzolini is preoccupied by *Typhlops florensis brongersmai* MERTENS. Named after Leo Daniel Brongersma (1907-1994) [obituary in Copeia 1995: 513 and Zool. Med. Leiden 69:177]. Holotype: Museu de Zoologia de Universidade de Sao Paulo, Brasil 5218“ (Uetz 2005).

Typhlops reticulatus (LINNAEUS)

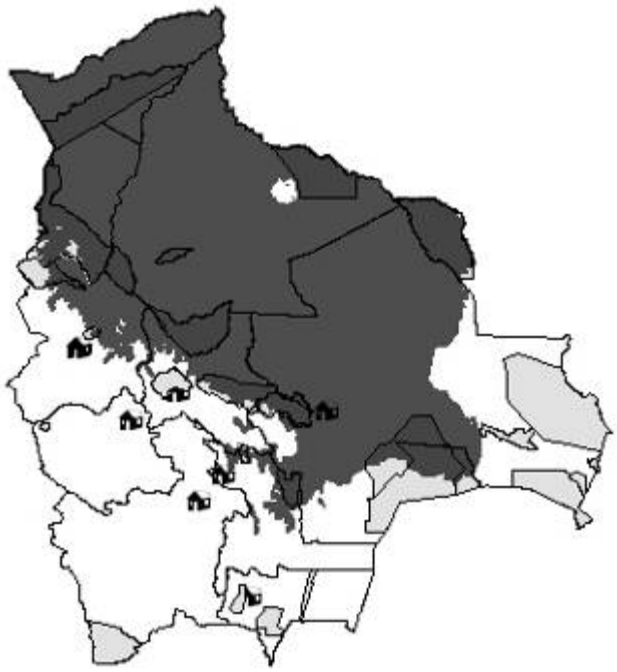

Figure 265 Extrapolated Distribution of *Typhlops reticulatus*

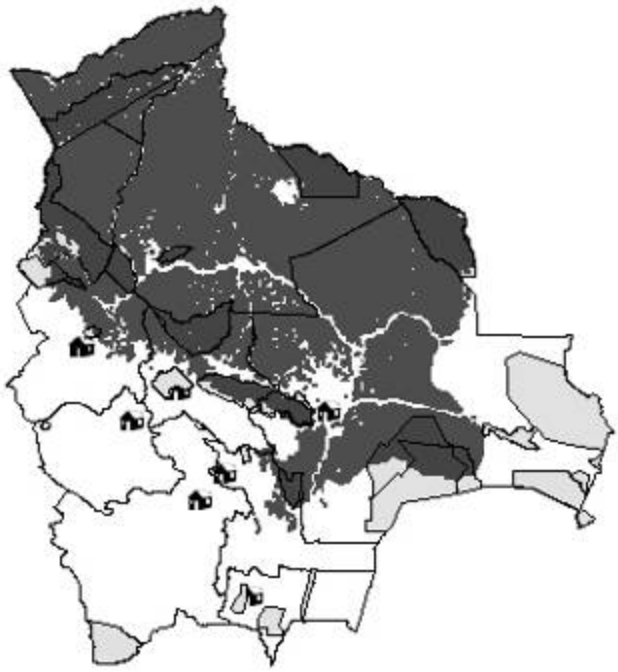

Figure 266 Fragmentation of Habitat of *Typhlops reticulatus*

Map Quality: High confidence
Global distribution: Colombia, Venezuela, Guyana, French Guiana, Surinam, Brazil, Peru, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: UNCERTAIN
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 8600: 0
Distr. Total = 9963; EDC 1 = 7213; EDC 2 = 1568; EDC 3 = 582; EDC 4 = 488; EDC 5 = 112
Fragmentation: SOME: 1
Some Fragmentation of Habitat by highways and by habitat destruction near Santa Cruz and Trinidad.
Distribution in good National parks: VERY STRONG: 0

9418 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 4 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "America"

3.2.19 Boidae

Figure 267 *Boa constrictor*

Figure 268 *Boa constrictor*, Head

Figure 269 *Corallus caninus*

Figure 270 *Eunectes notaeus*

Figure 271 *Corallus hortulanus*, juvenile

Figure 272 *Corallus hortulanus*

Boa constrictor LINNAEUS

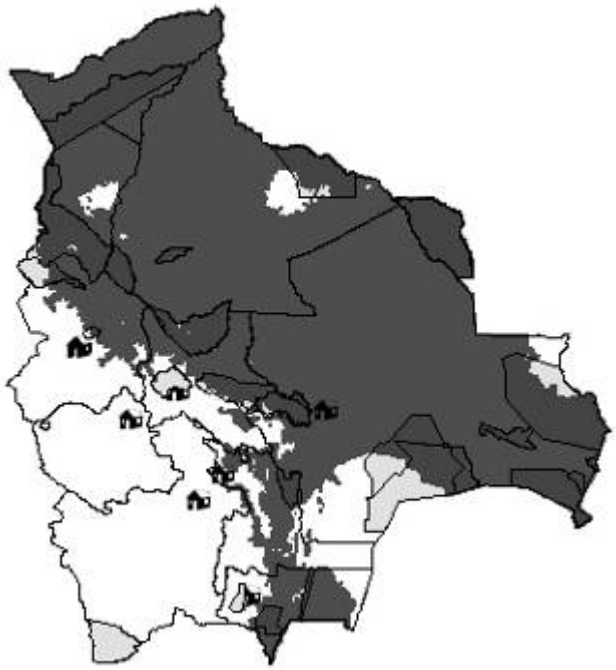

Figure 273 Extrapolated Distribution of *Boa constrictor*

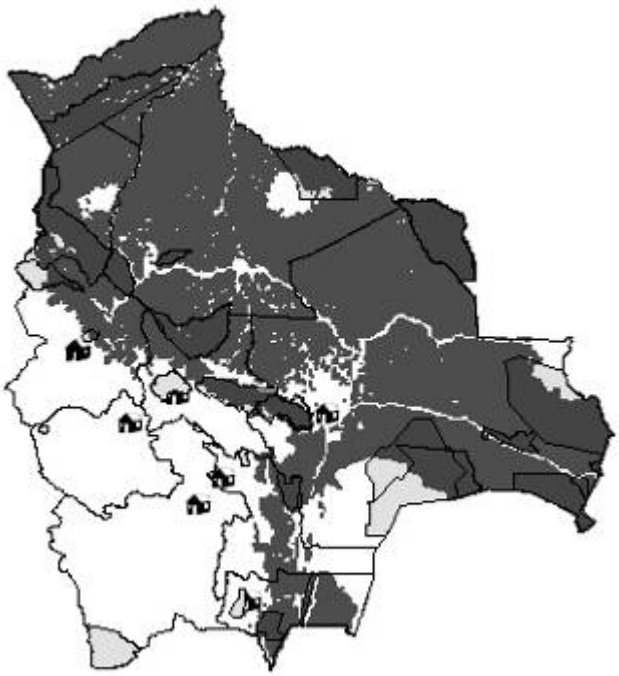

Figure 274 Fragmentation of Habitat of *Boa constrictor*

Map Quality: High confidence
Global distribution: Mexico , Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Guyana, French Guiana, Surinam, Peru, Brazil, Argentina, Paraguay, Trinidad, Tobago, Antilles, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 45751: 0
Distr. Total = 55192; EDC 1 = 35072; EDC 2 = 10679; EDC 3 = 5236; EDC 4 = 2924; EDC 5 = 1281
Fragmentation: SOME: 1
There is some fragmentation of habitat because of Highways and alteration of habitat near Santa Cruz, Trinidad and Rurrenabaque and in the Chapare region.
Distribution in good National parks: **VERY STRONG: 0**
13262 grid cells in Parks: Aguarague, Amboro, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia, Tunari
Use: SOME: 2
It is killed by occasion for its skin but also its meet is used. Together with *Iguana Iguana* it may be the most frequently found reptile pet in Bolivia. In the year 1964 National legislation (D.S. 6883 [11/9/1964] prohibited trade of this species for three years in the Departments of Chuqisaca, Tarija, Beni, Pando and Santa Cruz, including with this measure most of the Bolivian

distribution. A bit more than one month later the Departments Beni and Pando were excluded from this measure by a new Decreed (D.S. 6935). Since 1979 all trade of the species (excluding animals breaded in captivity) is prohibited by law (D.S. 16606).
Rarity: VERY COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix I. CITES Appendix II. Terra typica: "Indiis". Cuban subspecies *B. constrictor orophias* has been reported to prey on bats waiting near the entrance of caves using a sit and wait foraging strategy. It is also known to prey on resting bats.

Corallus caninus LINNAEUS

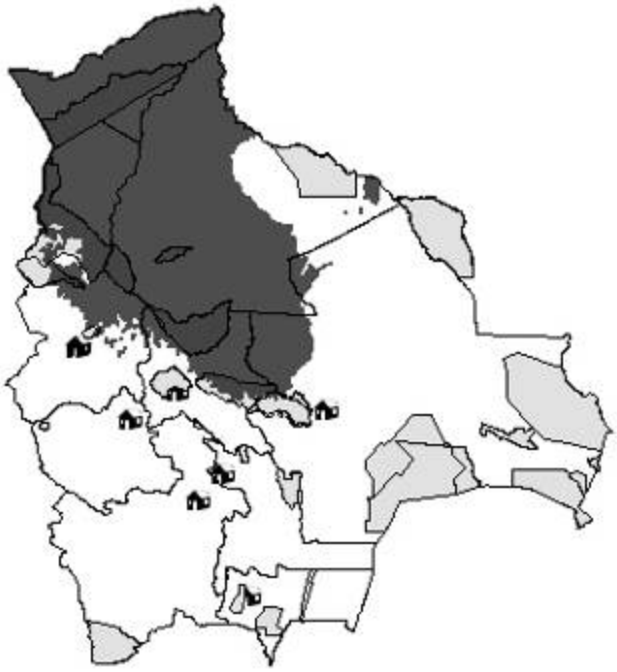

Figure 275 Extrapolated Distribution of *Corallus caninus*

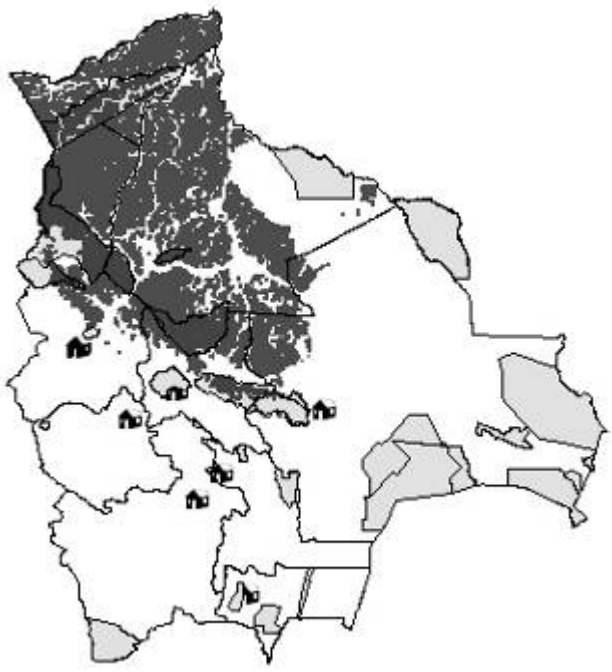

Figure 276 Fragmentation of Habitat of *Corallus caninus*

Map Quality: High confidence
Global distribution: Colombia, Venezuela, Brazil, Ecuador, Peru, Guyana, French Guiana, Surinam, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: VERY SENSIBLE

Distribution Value: 14738: 0
Distr. Total = 24985; EDC 1 = 14738; EDC 2 = 5818; EDC 3 = 3061; EDC 4 = 1031; EDC 5 = 337
Fragmentation: SOME: 1
Some Fragmentation of Habitat caused mainly by Highways and alteration of habitat near human settlements. The regions around Trinidad and in the Chapare are the most effected.
Distribution in good National parks: VERY STRONG: 0
4618 grid cells: Amboro, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi, Pilon Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: "America". Holotype: NRS Lin. 8

Corallus hortulanus (LINNAEUS)

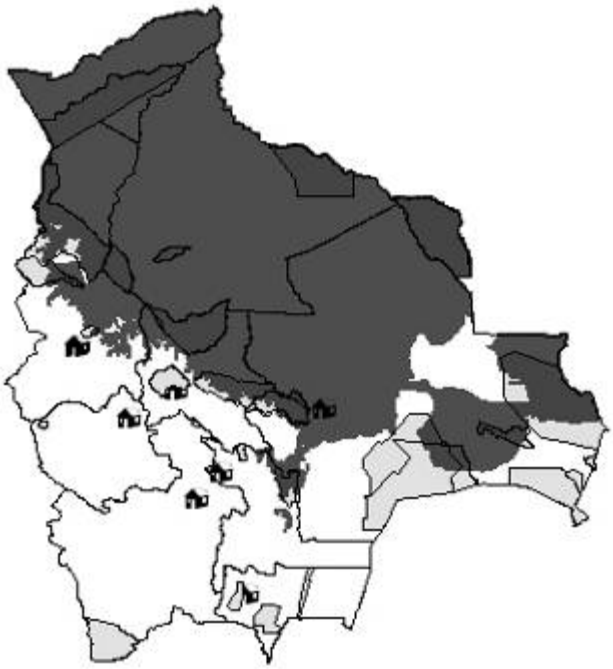

Figure 277 Extrapolated Distribution of *Corallus hortulanus*

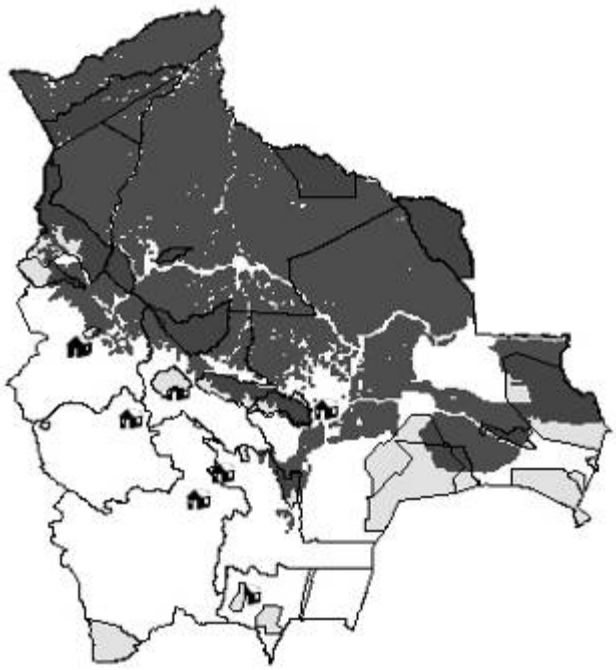

Figure 278 Fragmentation of Habitat of *Corallus hortulanus*

Map Quality: High confidence
Global distribution: Colombia, Venezuela, Guyana, Suriname, French Guiana, Brazil, Ecuador, Peru, Trinidad, Tobago, Windward Islands, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz,

Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 37758: 0
Distr. Total = 45559; EDC 1 = 28453; EDC 2 = 9305; EDC 3 = 4628; EDC 4 = 2408; EDC 5 = 765
Fragmentation: SOME: 1
Some fragmentation of habitat by Highways and near Santa Cruz and Trinidad and in the Chapare region.
Distribution in good National parks: VERY STRONG: 0
9888 grid cells in parks: Amboro, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi, NKM, Pilon Lajas, San Matias, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: "America" [Linnaeus 1758: 215]. Holotype: SMNH Lin. 7 (Uetz 2005).

Epicrates cenchria (LINNAEUS)

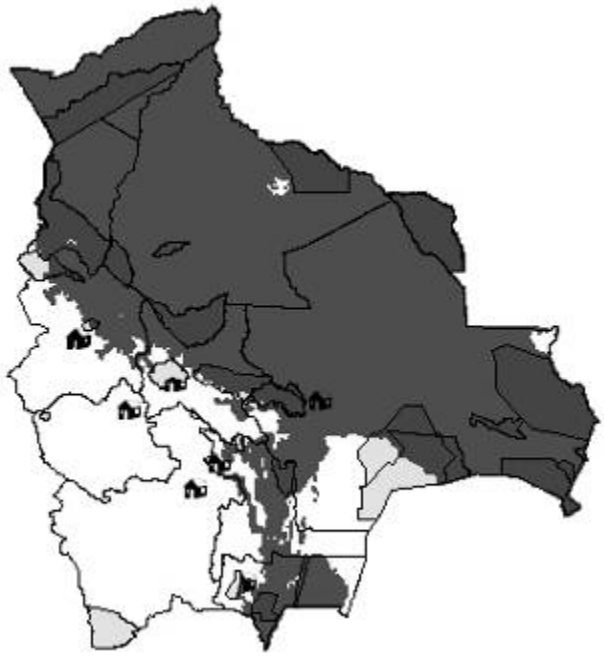

Figure 279 Extrapolated Distribution of *Epicrates cenchria*

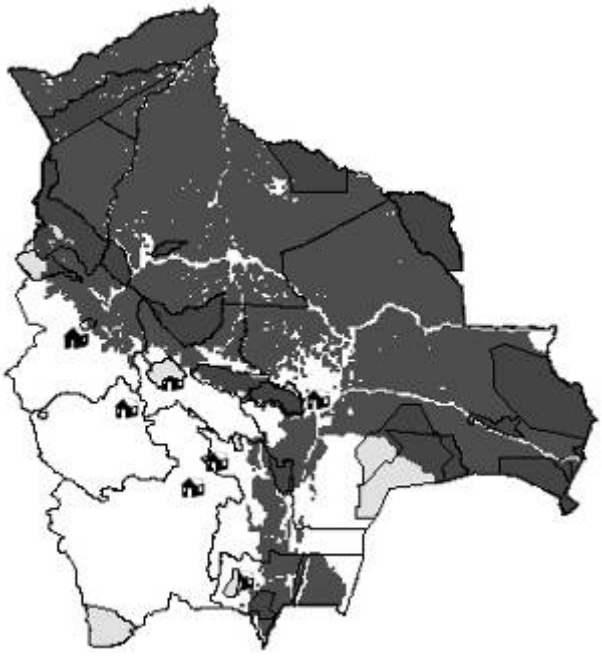

Figure 280 Fragmentation of Habitat of *Epicrates cenchria*

Map Quality: High confidence
Global distribution: Costa Rica, Panama, Trinidad, Tobago, French Guiana, Colombia, Venezuela, Peru, Brazil, Paraguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 46930: 0
Distr. Total = 56425; EDC 1 = 35952; EDC 2 = 10978; EDC 3 = 5324; EDC 4 = 2942; EDC 5 = 1229
Fragmentation: SOME:1
Some fragmentation of habitat by Highways and near cities Santa Cruz and Trinidad and in the Chapare region.
Distribution in good National parks: VERY STRONG: 0
13805 grid cells in Parks: Aguarague, Amboro, Apolobamba, Carrasco, Cavernas del Repechón, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi, NKM, Otuquis, Pilon Lajas, San Matias, Tucavaca, Tariquia, Tunari.
Use/Other: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: "Surinami"

Eunectes beniensis DIRKSEN

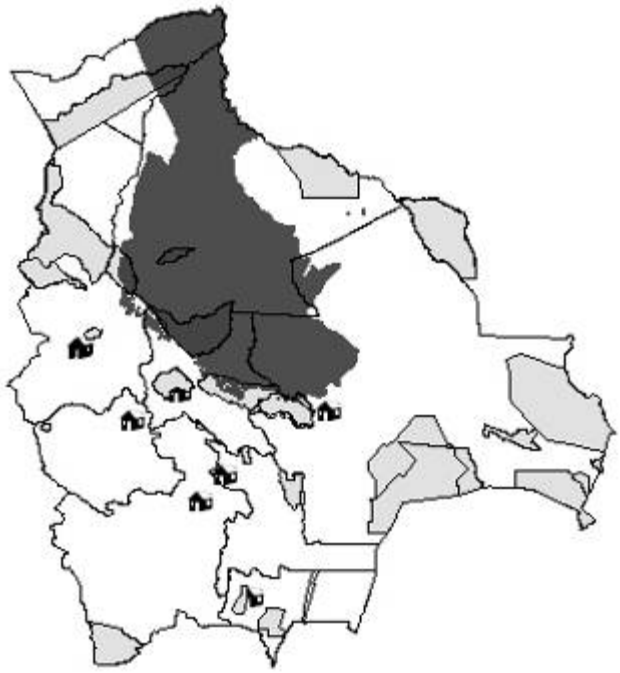

Figure 281 Extrapolated Distribution of *Eunectes beniensis*

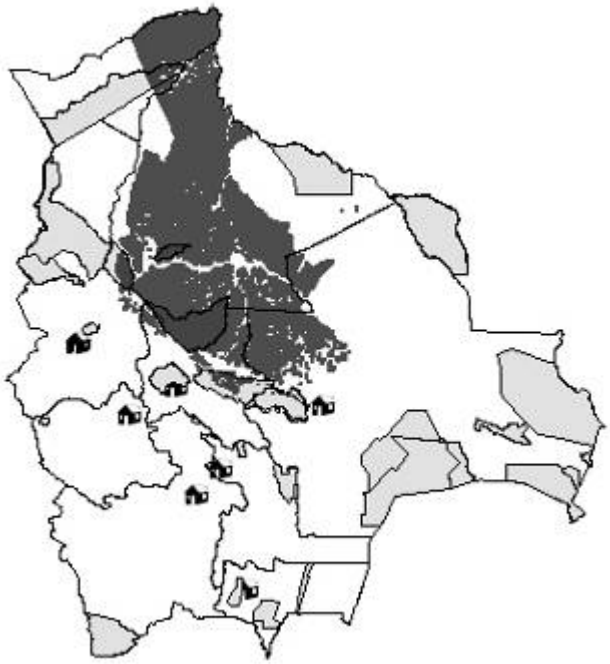

Figure 282 Fragmentation of Habitat of *Eunectes beniensis*

Map Quality: High confidence
Global distribution: Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 12869: 0
Distr. Total = 16774; EDC 1 = 8857; EDC 2 = 4012; EDC 3 = 2323; EDC 4 = 1213; EDC 5 = 369
Fragmentation: SOME: 1
Some Fragmentation of Habitat mainly caused by Highways.
Distribution in good National parks: VERY STRONG: 0
1865 grid cells in Parks: Amboro, Carrasco, Cavernas del Repechón, EBB, Isiboro Sécure, Manuripi, Pilon Lajas
Use: SOME: 2
No use is known but it is believed to undergo equal pressure as other species of the genus.
Rarity: RARE: 3

0+1+0+2+3 = 6

Conservation status: Near threatened

Conservation status IUCN: Least Concern
Official IUN Conservation Status: NE

Comments: CITES Appendix II. Terra typica: Bolivia (Beni: Trinidad). Holotype: AMNH 101924; Paratypes: CBF 1675, NKR 1735, NKR, UMMZ 56863. Dirksen (2002) proposes distribution in Brazil.

Eunectes murinus (LINNAEUS)

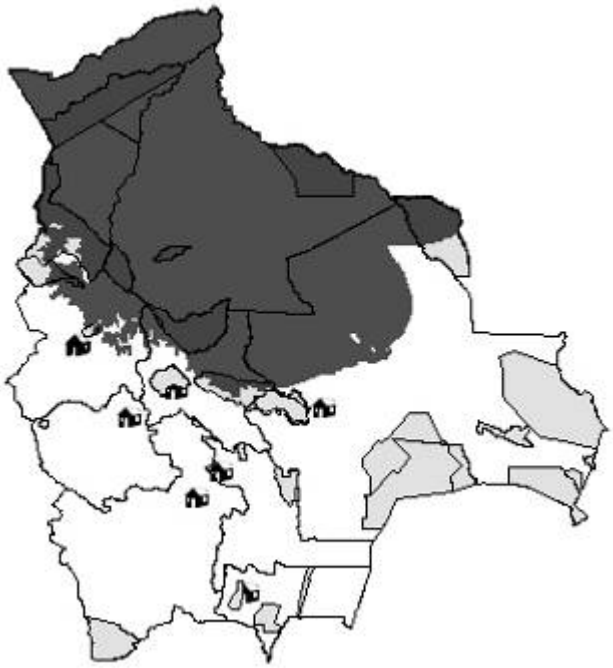

Figure 283 Extrapolated Distribution of *Eunectes murinus*

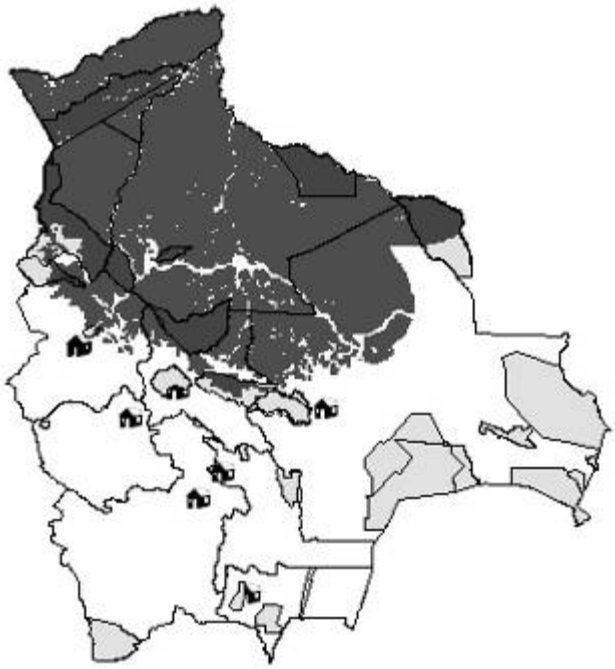

Figure 284 Fragmentation of Habitat of *Eunectes murinus*

Map Quality: High confidence
Global distribution: Venezuela, Colombia, Brazil, Peru, Guyana, French Guiana, Trinidad, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz).
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 29031: 0
Distr. Total = 34891; EDC 1 = 21497; EDC 2 = 7534; EDC 3 = 3879; EDC 4 = 1486; EDC 5 = 495
Fragmentation: SOME: 1
Some Fragmentation of Habitat mainly caused by Highways.
Distribution in good National parks: VERY STRONG: 0
6428 grid cells in Parks: Amboro, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Itenez, Madidi, Manuripi, NKM, Pilon Lajas
Use: SOME: 2
species used for its skin, meat and oil. Killed mostly by occasion (for example when met killing cattle) and not consequently hunted. In some areas of Bolivia species protected by the peoples own believes, as that killing an anaconda will cause drying of the inhabited lake. Since the listing of the species in CITES, skins from this species nearly have disappeared on the markets and

traders have switched to other species as Pythons (Dirksen 2002). Same national laws covering *Boa constrictor* also include *Eunectes murinus*.
Rarity: VERY COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: "America". *Eunectes murinus gigas* (Latreille in Buffon 1801) was synonymized by Dirksen & Boehme 1998. *E. murinus* is one of the largest snake species; one specimen reached 8.45 m (Bellosa 2003), according to other sources 9.6 m (Flindt 2002). Holotype: N.R.S. no. Lin. 9 (Uetz 2005)

Eunectes notaeus (COPE)

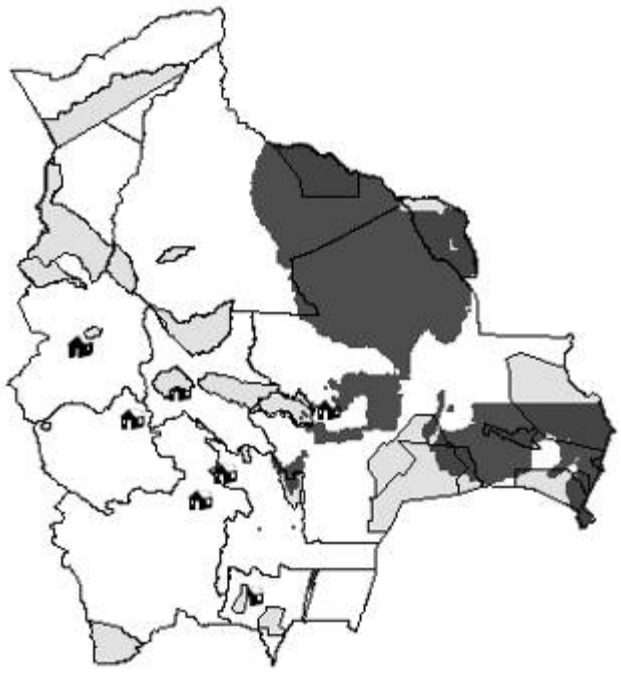

Figure 285 Extrapolated Distribution of *Eunectes notaeus*

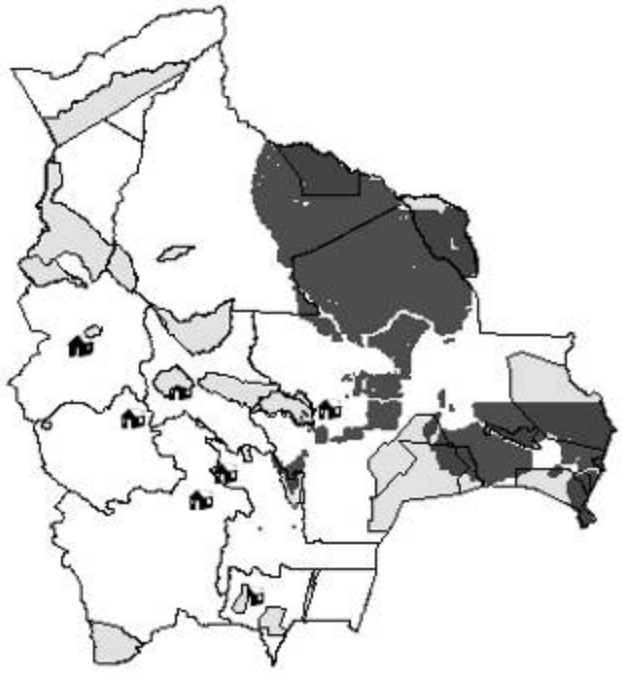

Figure 286 Fragmentation of Habitat of *Eunectes notaeus*

Map Quality: High confidence
Global distribution: Paraguay, Uruguay, Brazil, Argentina, Bolivia (Beni, Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 14951: 0
Distr. Total = 16661; EDC 1 = 12283; EDC 2 = 2668; EDC 3 = 1003; EDC 4 = 581; EDC 5 = 126

Fragmentation: SOME: 1
Very slight fragmentation by Highways. Habitat in Bolivia disjunctive.
Distribution in good National parks: VERY STRONG: 0
7795 grid cells in Parks: Aguarague (???), Amborò, Iñao, Itènez, Kaa-Iya, NKM, Otuquis, San Matìas, Tucavaca.
Use: SOME: 2
Species used for its skin, meat and oil. Killed mostly by occasion and not consequently hunted. In some areas of Bolivia species protected by the peoples own believes, as that killing an anaconda will cause drying of the nearby lake. Since 1987 no bigger export of this species had been recorded, but it is possible that the species had been smuggled to Argentina from where huge amounts of skins had been exported (Dirksen 2002). Same national laws covering *Boa constrictor* also include *Eunectes notaeus.*
Rarity: COMMON: 1

0+1+0+2+1 = 4

Conservation status: Least Concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: Paraguay River and its tributaries. Hybrids between *Eunectes notaeus* and *E. murinus* have been described and *E. deschauensei* is extremely closely related to *E. notaeus* (fide Dirksen & Boehme 1998). Holotype: USNM 4707 (lost fide Dirksen). Distribution in the Departments of Tarija and Chuquisaca are questionable.

3.2.20 Elapidae

Figure 287 *Micrurus narduccii* in defensive position Nº1, showing alarming colors of its venter.

Figure 288 *Micrurus narduccii* in defensive position Nº2, presenting the tip of tail as a false head.

Figure 289 *Micrurus serranus*, an endemic coral snakes for the Interandean Dry Valleys of Bolivia.

Figure 290 *Micrurus diana*, first published photo of this very rare coral snake, endemic for the Chiquitania Ecoregion.

Micrurus annellatus (PETERS)

Figure 291 Extrapolated Distribution of *Micrurus annelatus*

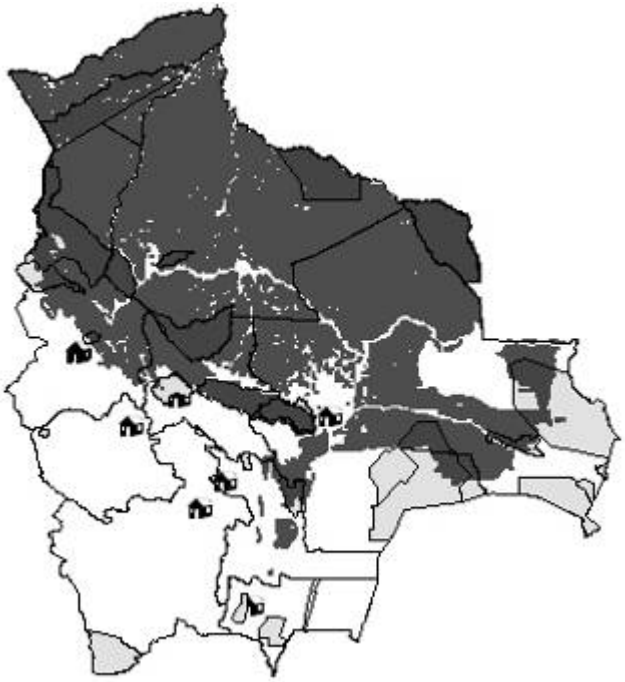

Figure 292 Fragmentation of Habitat of *Micrurus annelatus*

Map Quality: High confidence
Global distribution: Ecuador, Peru, Brazil, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 39246: 0
Distr. Total = 47488; EDC 1 = 29641; EDC 2 = 9605; EDC 3 = 4750; EDC 4 = 2523; EDC 5 = 969
Fragmentation: SOME: 1
Some Fragmentation by Highways and by strong habitat destruction near Santa Cruz, Trinidad and the Chapare region.
Distribution in good National parks: VERY STRONG: 0
10125 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi, NKM, Pilón Lajas**,** San Matìas, Tucavaca, Tunari
Use: SOME: 2
Killed by occasion because of its alarming color.
Rarity: COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Pozuzu" [Pasco Dep., Peru] [Elaps annelatus PETERS]. Holotype: ZMB 7185 [Elaps annelatus PETERS]

Micrurus diana (ROZE)

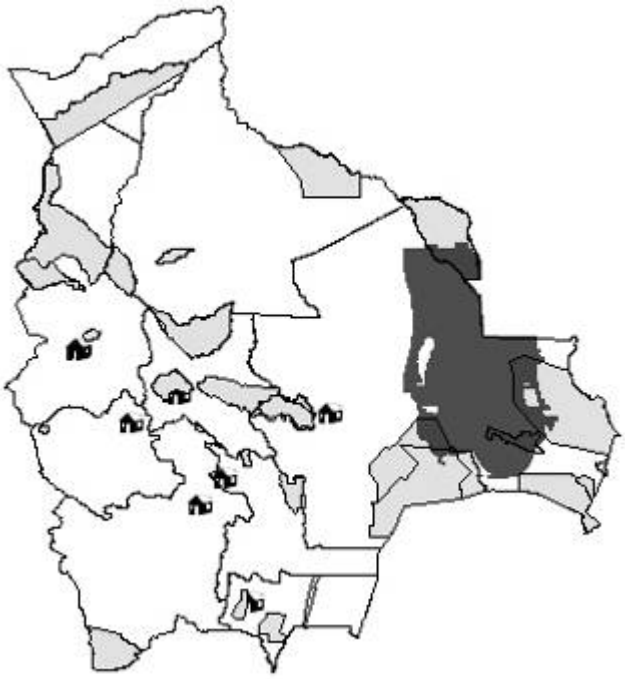

Figure 293 Extrapolated Distribution of *Micrurus diana*

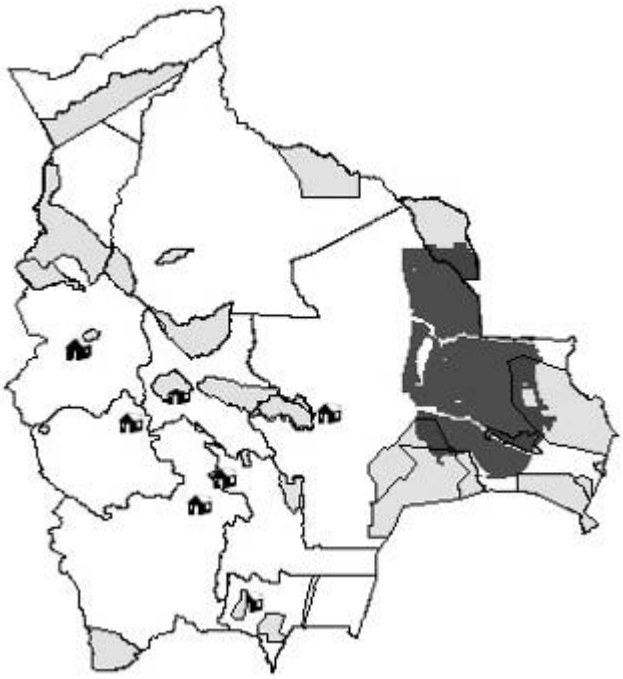

Figure 294 Fragmentation of Habitat of *Micrurus diana*

Map Quality: High confidence
Global distribution: Bolivia (Santa Cruz), probably Brazil
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 6826: 0
Distr. Total = 7446; EDC 1 = 5628; EDC 2 = 1198; EDC 3 = 391; EDC 4 = 222; EDC 5 = 7
Fragmentation: SOME: 1
Some Fragmentation of Habitat by highways.
Distribution in good National parks: VERY STRONG: 0
1558 grid cells in Parks: Kaa-Iya, NKM, San Matìas, Tucavaca
Use: SOME: 2
Killed by occasion because of its alarming color
Rarity: RARE: 3

0+1+0+2+3 = 6

Conservation status: Near Threatened

Conservation status IUCN: Near Threatened
Official IUCN Conservation Status: NE
Comments: Holotype: FMNH 159889, Type locality: vicinity of Santiago, Province Chiquitos.

Micrurus hemprichii (JAN)

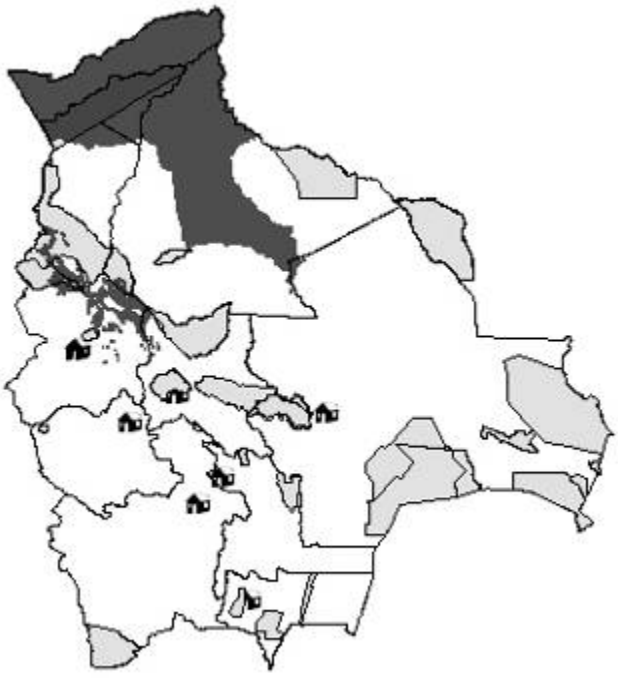

Figure 295 Extrapolated Distribution of *Micrurus hemprichii*

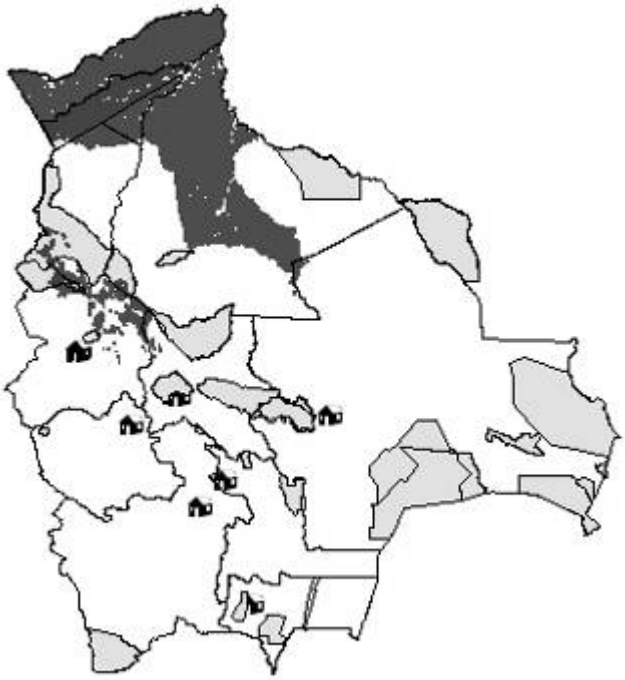

Figure 296 Fragmentation of Habitat of *Micrurus hemprichii*

Map Quality: High confidence
Global distribution: Colombia, Venezuela, Guyana, French Guiana, Surinam, Ecuador, Peru, Brazil, Bolivia (Beni, La Paz, Pando, Santa Cruz).
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 9606: 0
Distr. Total = 11250; EDC 1 = 6255; EDC 2 = 3351; EDC 3 = 1405; EDC 4 = 213; EDC 5 = 26
Fragmentation: NONE: 0
Distribution in good National parks: VERY STRONG: 0
1865 grid cells in Parks: Apolobamba, Cotapata, Isiboro Sécure, Madidi, Manuripi, Pilón Lajas
Use: SOME: 2
Killed by occasion because of its alarming color
Rarity: RARE: 3

0+0+0+2+3 = 5

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Cotypes, sex unknown, Colombia (MSNM, destroyed in World War II) and unknown locality (Harvey et al. 2003).

Micrurus lemniscatus (LINNAEUS)

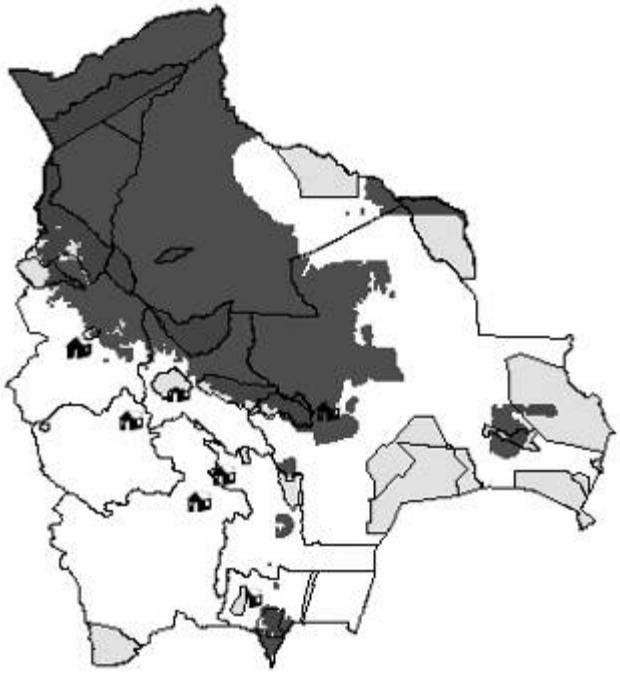

Figure 297 Extrapolated Distribution of *Micrurus lemniscatus*

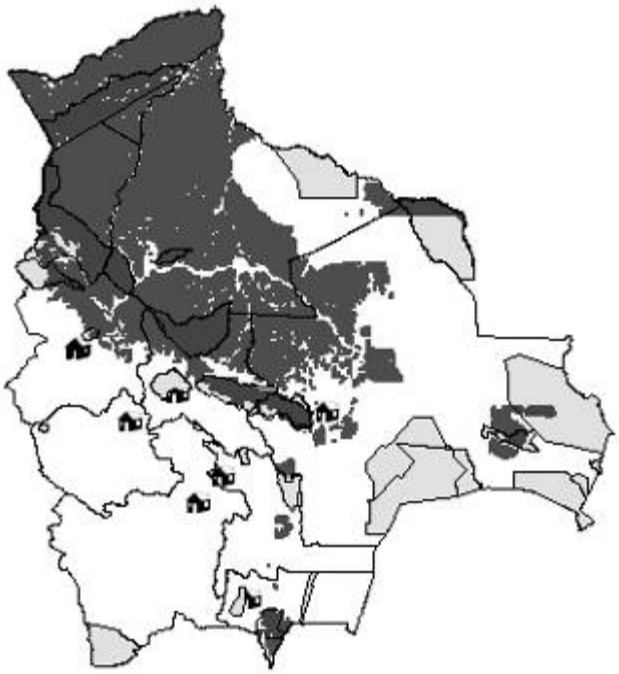

Figure 298 Fragmentation of Habitat of *Micrurus lemniscatus*

Map Quality: High confidence
Global distribution: Brazil, Colombia, Ecuador, French Guiana, Guyana, Surinam, Peru, Argentina, Trinidad, Venezuela, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 24957: 0
Distr. Total = 31451; EDC 1 = 18087; EDC 2 = 6870; EDC 3 = 3836; EDC 4 = 1961; EDC 5 = 697
Fragmentation: SOME: 1
Some Fragmentation of Habitat by Highways and habitat destruction near Santa Cruz, Trinidad and in the Chapare region. Habitat is extrapolated very disjunctive.
Distribution in good National parks: **VERY STRONG: 0**
6115 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Madidi, Manuripi, NKM, Pilón Lajas**,** San Matìas, Tucavaca, Tariquìa, Tunari
Use: SOME: 2
Killed by occasion because of its alarming color.
Rarity: COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Holotype „Asia“ (in error, Lectotype NRS L-93). Schmidt and Walker (1943) restricted the type locality to Belem, Pará, Brazil. Roze thought the specimen most likely came from northern Guianas (cited in Harvey et al. 2003).

Micrurus narduccii (JAN)

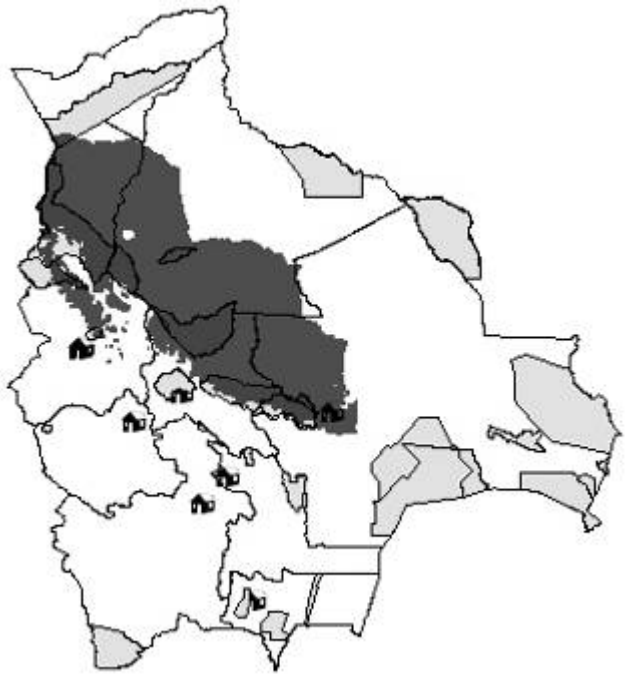

Figure 299 Extrapolated Distribution of *Micrurus narduccii*

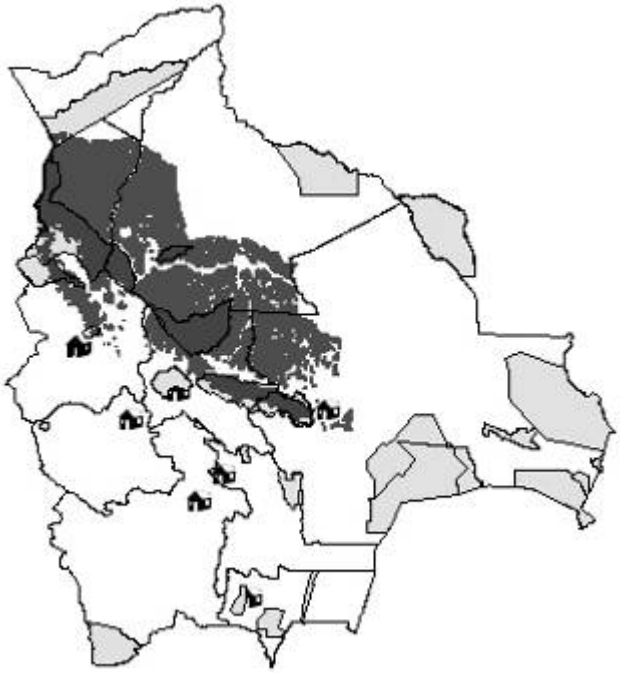

Figure 300 Fragmentation of Habitat of *Micrurus narduccii*

Map Quality: High confidence
Global distribution: Colombia, Ecuador, Peru, Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 11525: 0
Distr. Total = 15177; EDC 1 = 8977; EDC 2 = 2548 EDC 3 = 1836; EDC 4 = 1350; EDC 5 = 466
Fragmentation: SOME: 1
Some Fragmentation of Habitat by Highways and habitat destruction near Santa Cruz, Trinidad and in the Chapare region.
Distribution in good National parks: VERY STRONG: 0

3554 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi, Pilón Lajas.
Use: NONE: 0
Rarity: COMMON: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Holotype lost; Type locality: Bolivia (CSI, Number unknown, type locality restricted to „Buenavista, Provincia de Santa Cruz“ = Buena Vista, Province Ichìlo, by Roze and Bernal-Carlo (1987) (Harvey et al 2003).

Micrurus obscurus (JAN)

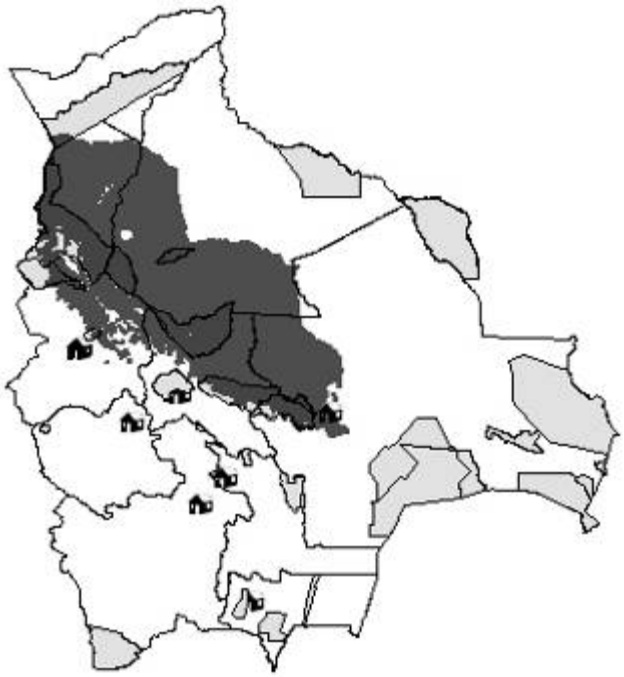

Figure 301 Extrapolated Distribution of *Micrurus obscurus*

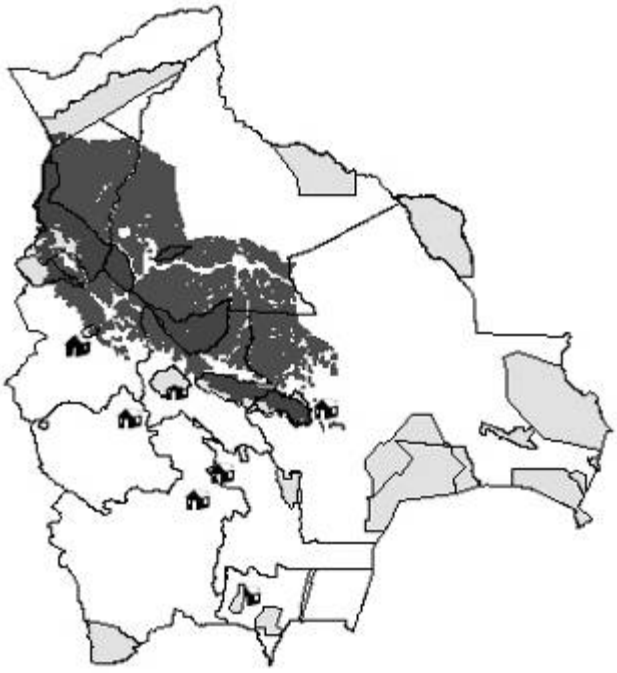

Figure 302 Fragmentation of Habitat of *Micrurus obscurus*

Map Quality: High confidence
Global distribution: From Colombia and Venezuela to Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 12001: 0
Distr. Total = 15520; EDC 1 = 9347; EDC 2 = 2654; EDC 3 = 1879; EDC 4 = 1227; EDC 5 = 413

Fragmentation: SOME: 1
Some Fragmentation by strong habitat alteration near Trinidad and in the Chapare region and by highways.
Distribution in good National parks VERY STRONG: 0
3806 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi, Pilón Lajas
Use: SOME: 2
Killed by occasion because of its alarming color
Rarity: COMMON: 1

0+1+0+2+1 = 4

Conservation status: Least Concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: Holotype: MSNM, destroyed in World War II, „Lima“ in error (type locality designated as „Iquitos, Peru“) (Harvey et al. 2003).

Micrurus pyrrhocryptus (COPE)

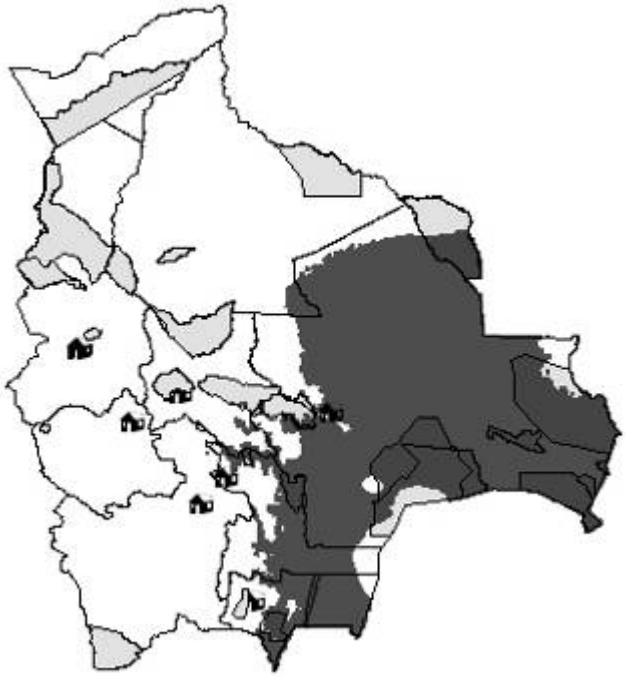

Figure 303 Extrapolated Distribution of *Micrurus pyrrhocryptus*

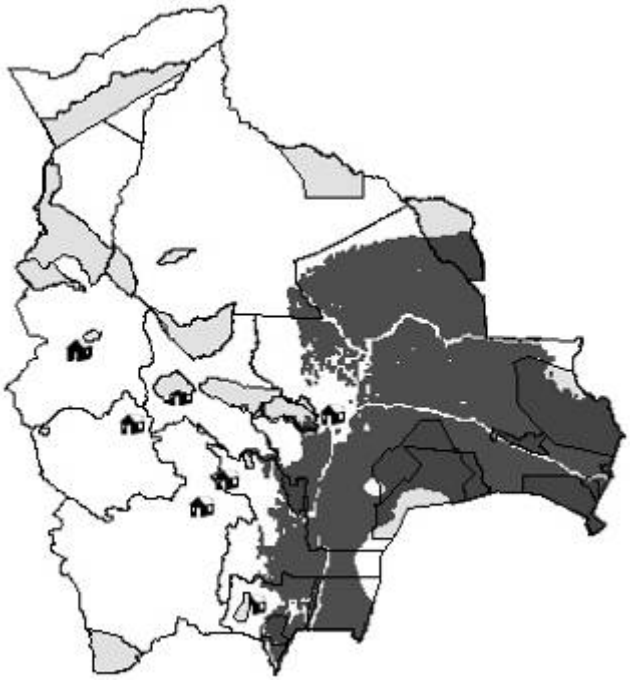

Figure 304 Fragmentation of Habitat of *Micrurus pyrrhocryptus*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK

Sensibility for habitat alteration: SENSIBLE
Distribution Value: 23087: 0
Distr. Total = 27150; EDC 1 = 18333; EDC 2 = 4754; EDC 3 = 1859; EDC 4 = 1637; EDC 5 = 567
Fragmentation: SOME: 1
Some Fragmentation by strong habitat alteration near Santa Cruz and by highways.
Distribution in good National parks VERY STRONG: 0
3806 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi, Pilón Lajas
Use: SOME: 2
Killed by occasion because of its alarming color.
Rarity: COMMON: 1

0+1+0+2+1 = 4

Conservation status: Least Concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: Holotype ANSP 5395 (sex unknown) from „Vermejo River, Argentine Chaco“ (Rio Bermejo, Chaco, Argentina (Scrocchi 1990)) (Harvey et al. 2003).

Micrurus serranus HARVEY, APARICIO & GONZALES

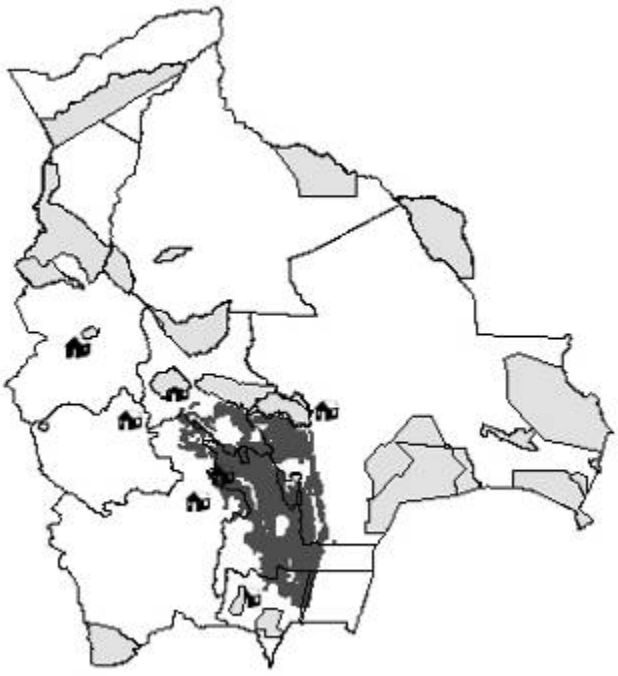

Figure 305 Extrapolated Distribution of *Micrurus serranus*

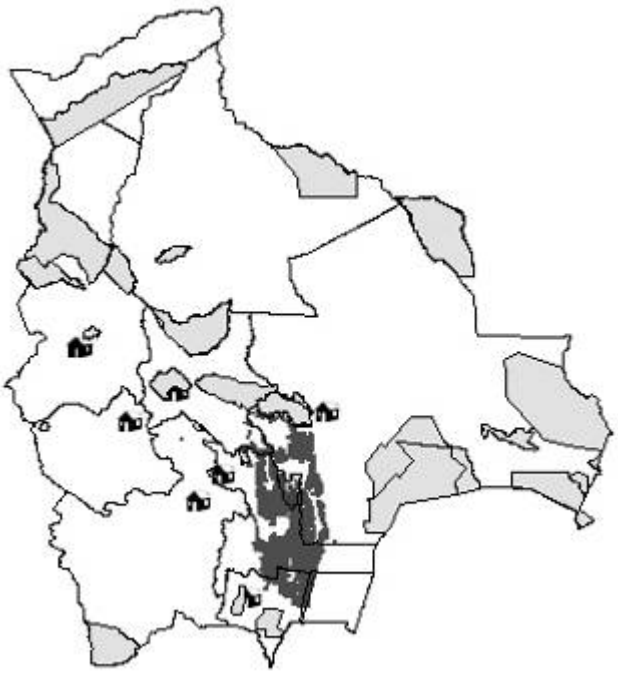

Figure 306 Fragmentation of Habitat of *Micrurus serranus*

Map Quality: High confidence

Global distribution: Endemic to Bolivia (Cochabamba, Chuquisaca, Potosi, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 2364: 0
Distr. Total = 4163; EDC 1 = 1397; EDC 2 = 622; EDC 3 = 345; EDC 4 = 444; EDC 5 = 1355
Fragmentation: NONE: 0
Distribution in good National parks STRONG: 1
303 grid cells in Parks: Aguarague, Amborò, Carrasco, El Palmar, Iñao, Torotoro, Tunari
Use: SOME: 2
Killed by occasion because of its alarming color.
Rarity: COMMON: 0

0+0+1+2+0 = 3

Conservation status: Least Concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: Holotype: male specimen, UTA 34561, 3 km N of Samaipata on the road to Mairana, Florida Province, Santa Cruz, Bolivia (Harvey et al. 2003).

Micrurus spixii WAGLER

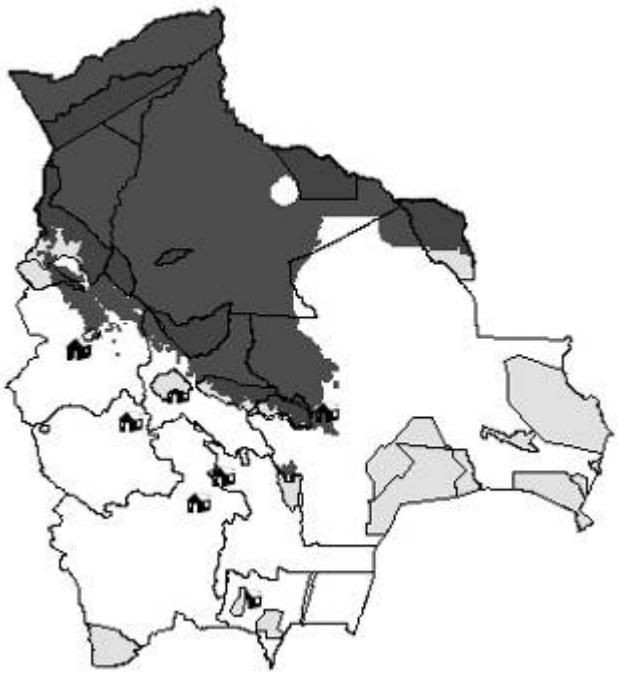

Figure 307 Extrapolated Distribution of *Micrurus spixii*

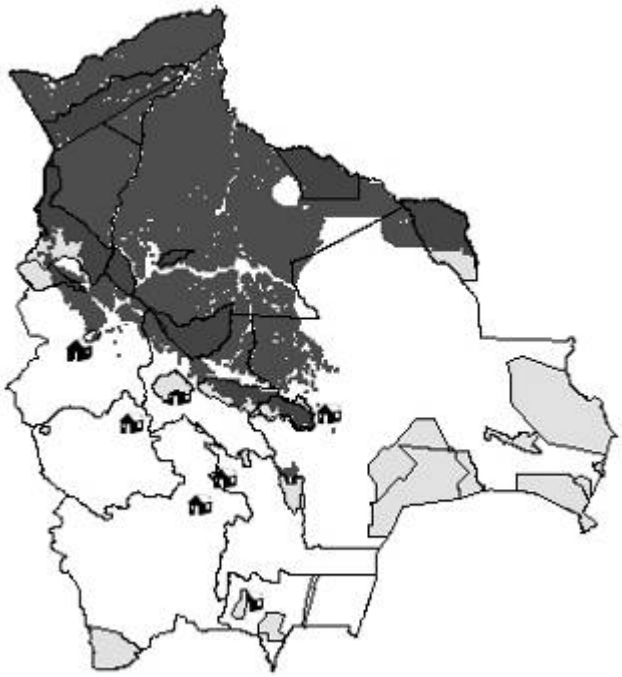

Figure 308 Fragmentation of Habitat of *Micrurus spixii*

Map Quality: High confidence

Global distribution: Brazil, Venezuela, Colombia, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 24714: 0
Distr. Total = 30043; EDC 1 = 17976; EDC 2 = 6738; EDC 3 = 3567; EDC 4 = 1370; EDC 5 = 392
Fragmentation: SOME: 1
Some Fragmentation by strong habitat alteration near Santa Cruz, Trinidad and the Chapare region and by highways.
Distribution in good National parks VERY STRONG: 0
1864 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Madidi, Manuripi, NKM, Pilón Lajas
Use: SOME: 2
Killed by occasion because of its alarming color.
Rarity: COMMON: 1

0+1+0+2+1 = 4

Conservation status: Least concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE
Comments: Holotype: male from Rio Solimoes, Brazil ZSMH 209/0

Micrurus surinamensis (CUVIER)

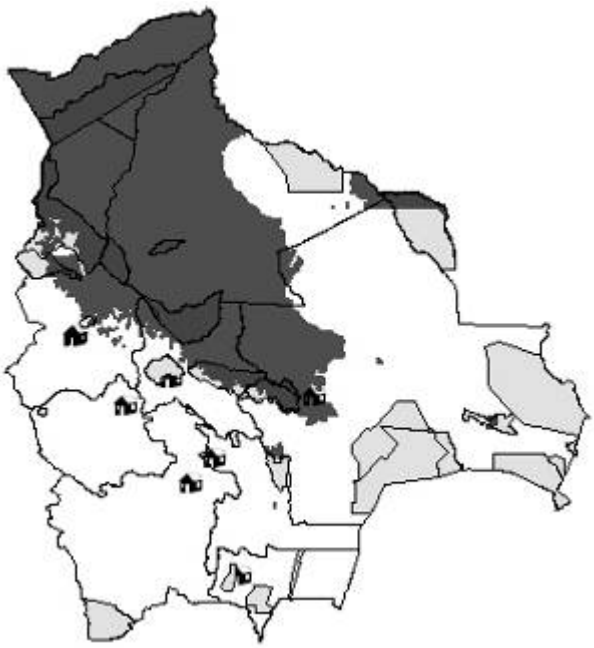

Figure 309 Extrapolated Distribution of *Micrurus surinamensis*

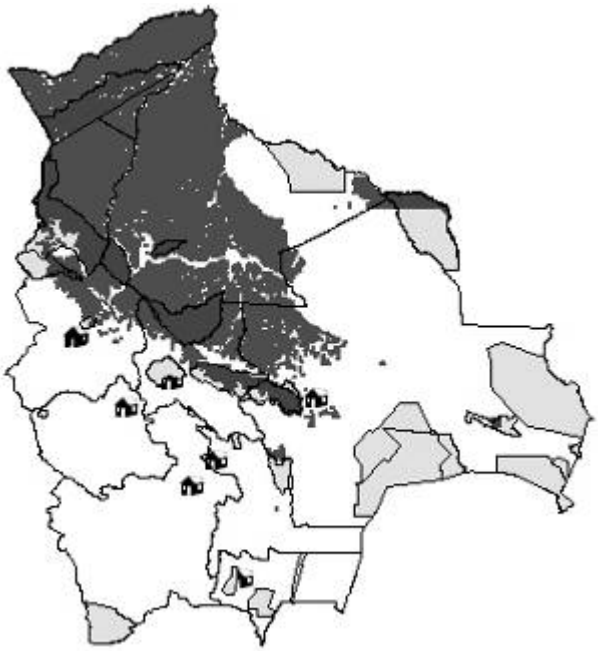

Figure 310 Fragmentation of Habitat of *Micrurus surinamensis*

Map Quality: High confidence
Global distribution: Guyana, French Guiana, Surinam, Colombia, Ecuador, Peru, Brazil, Venezuela, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 21761: 0
Distr. Total = 27371; EDC 1 = 15584; EDC 2 = 6177; EDC 3 = 3477; EDC 4 = 1635; EDC 5 = 498
Fragmentation: NONE: 0
Distribution in good National parks: STRONG: 1
1147 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Madidi, Manuripi, NKM, Pilón Lajas**,** San Matìas, Tucavaca, Tariquìa, Tunari.
Use: SOME: 2
Rarity: COMMON: 1

0+0+1+2+1 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Syntypes: a male (MNHN 3926) and a female (MNHN 3925) [“Roux-Esteve (1983) points out that MNHN 3924 is the specimen illustrated by Jan and Sordelli, however this specimen is not a type specimen. Schmidt designates MNHN „4629“ (=3926) as a lectotype” (Harvey et al. 2003)].

3.2.21 Colubridae

Figure 312 *Echinanthera* sp. nov. from the humid mountain forests in southern Amboro Nationalpark

Figure 313 *Apostolepis multicinta* from the interandean dry valleys of the Florida Province

Figure 314 *Lystrophis multicincta*, a false coral snake from mainly dry valleys habitat

Figure 315 *Liophis cei*, colubrid snake which inhabits valleys, Yungas and Tucuman forests from Bolivia to Argentina

Apostolepis ambinigra (PETERS)

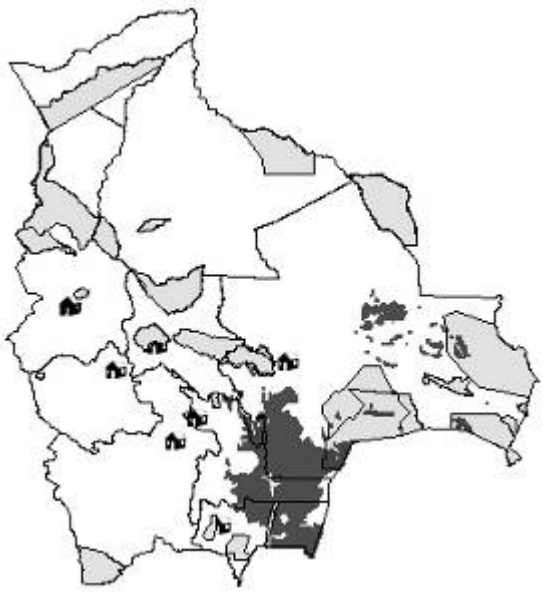

Figure 316 Extrapolated Distribution of *Apostolepis ambinigra*

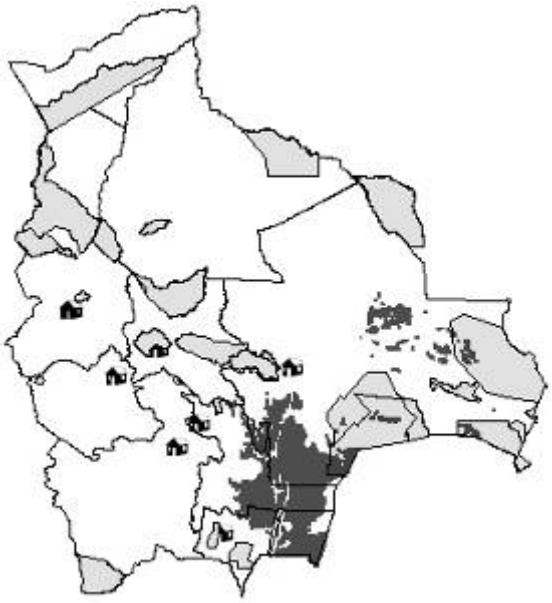

Figure 317 Fragmentation of Habitat of *Apostolepis ambinigra*

Map Quality: Medium confidence
The extrapolation is based on just one specimen. The fragments in the eastern Chaco, Pantanal and Chiquitania Region may be an extrapolation error but as this species is distributed in Paraguay and Brazil its occurrence is possible.
Global distribution: Brazil, Paraguay, Bolivia (Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 4298: 0
Distr. Total = 4895; EDC 1 = 2970; EDC 2 = 1328; EDC 3 = 391; EDC 4 = 184; EDC 5 = 22
Fragmentation: NONE: 0
No Fragmentation of Habitat. The species seems to have a disjunctive distribution but no human impacts seem to fragment the natural distribution.
Distribution in good National parks: **STRONG: 1**
611 grid cells in Parks: Aguarague, Kaa-Iya, Iñao, Otuquis, San Matìas, Tucavaca:
Use: NONE: 0
Rarity: RARE: 3

0+0+1+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: One specimen deposited in LACM (Number 37674) is identified as *Apostolepis ambiniger* and has been collected from Bolivia, Department Chuquisaca, near Carandaiti. If the

specimen is correctly identified this would be the first record for Bolivia. Harvey (1999) did not mention the species for Bolivia but regards its distribution in Bolivia as probable.

Apostolepis breviceps HARVEY, GONZALES & SCROCCHI

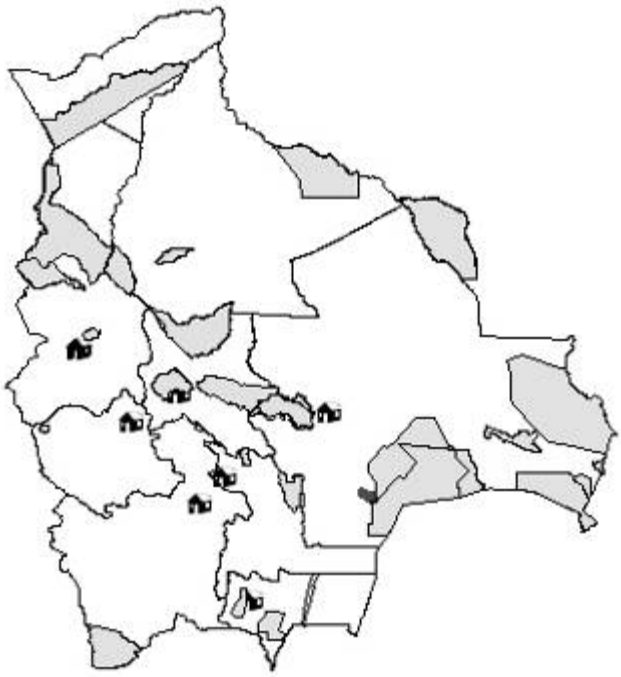

Figure 318 Extrapolated Distribution of *Apostolepis breviceps*

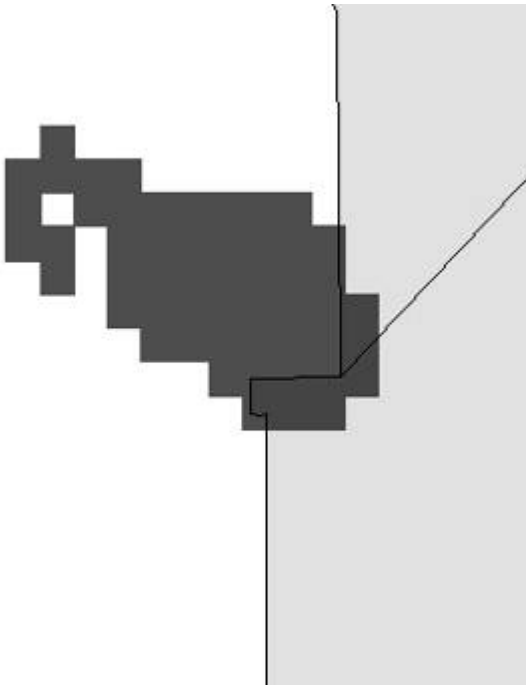

Figure 319 Fragmentation of Habitat of *Apostolepis breviceps*

Map Quality: Medium confidence
The extrapolation is based on specimens from 4 locations, all closely together. The distribution shows a very limited area which is because of all specimens have been found very near to each other which causes BIOME to restrict its area. There is no natural barrier so it may have a wider distribution as shown but no further specimens have been found. Although the habitat is very limited it is in a very good condition with 40 out of 56 grid cells in best condition and none in bad or worst.
Global distribution: Endemic for the Bolivian Chaco (Santa Cruz).
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 53: 5
Distr. Total = 56; EDC 1 = 40; EDC 2 = 13; EDC 3 = 3; EDC 4 = 0; EDC 5 = 0
Fragmentation: NONE: 0
No Fragmentation of Habitat.
Distribution in good National parks: NONE: 3
9 grid cells: Kaa-Iya
Use: NONE: 0
Rarity: NORMAL: 1

5+0+3+0+1 = 9

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Type locality: Cerro Cortado vicinity, Province Cordillera, Department Santa Cruz, Bolivia. Holotype: MNKR 1839

Apostolepis dorbignyi (SCHLEGEL)

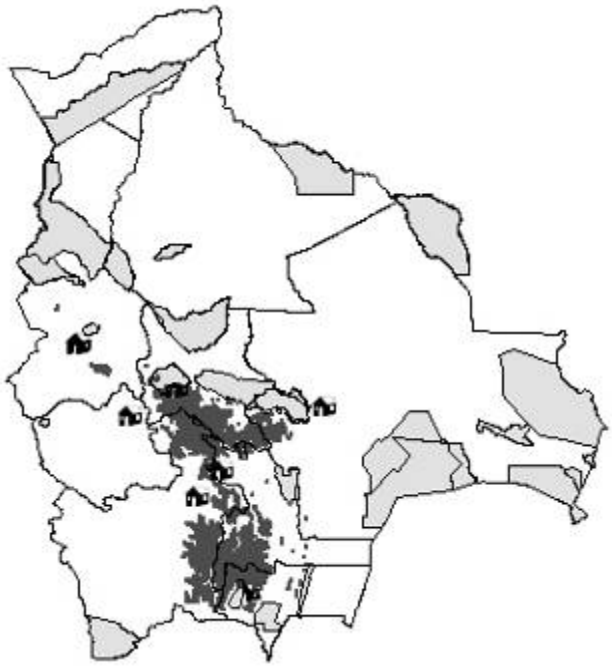

Figure 320 Extrapolated Distribution of *Apostolepis dorbignyi*

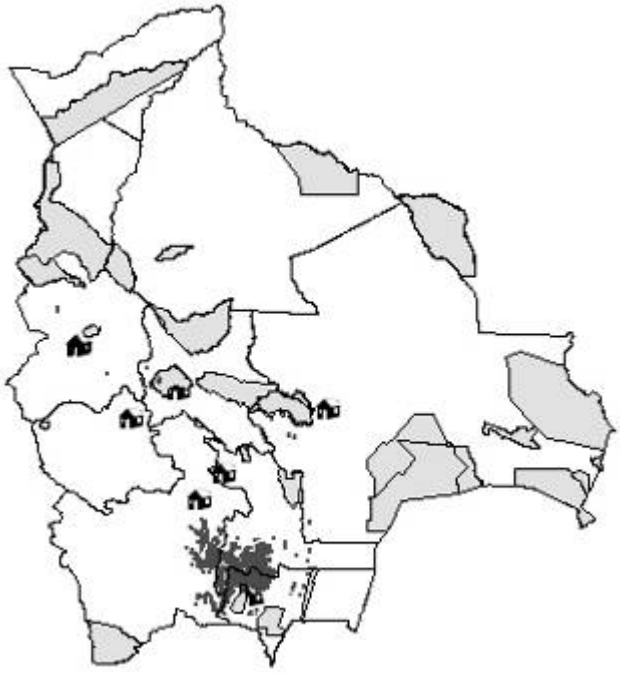

Figure 321 Fragmentation of Habitat of *Apostolepis dorbignyi*

Map Quality: Low confidence
The distribution is extrapolated on base of just one specimen found in southern Bolivia. Following Koslowsky the type locality „Chile„ is in error. He speculates that it might be in Mato Grosso/Brazil or eastern Bolivia. If this is true the type locality would be far outside the result of the extrapolation. Harvey (1999) states that claims, that the species occurs in Brazil and Paraguay, are not based on museum specimens to his knowledge.
Global distribution: Brazil?, Chile?, Paraguay? and Bolivia (Chuquisaca, Potosi, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 898: 2
Distr. Total = 3565; EDC 1 = 419; EDC 2 = 479; EDC 3 = 371; EDC 4 = 454; EDC 5 = 1842
Fragmentation: NONE: 0
No fragmentation of habitat but extreme reduction of natural habitat. If the species has a wider distribution as extrapolated the reduction may cause fragmentation.

Distribution in good National parks: SOME: 2
112 grid cells in parks: Tunari, Cordillera de Sama, Aguarague, El Palmar, Torotoro, Amboró, Tunari
Use: NONE: 0
Rarity: RARE: 3

2+0+2+0+3 = 7

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Following Harvey (1999) only known from two specimens. Harvey claims that the type locality „Chile“ almost certainly is in error. Holotype: MNHN 3664.

Apostolepis multicincta HARVEY

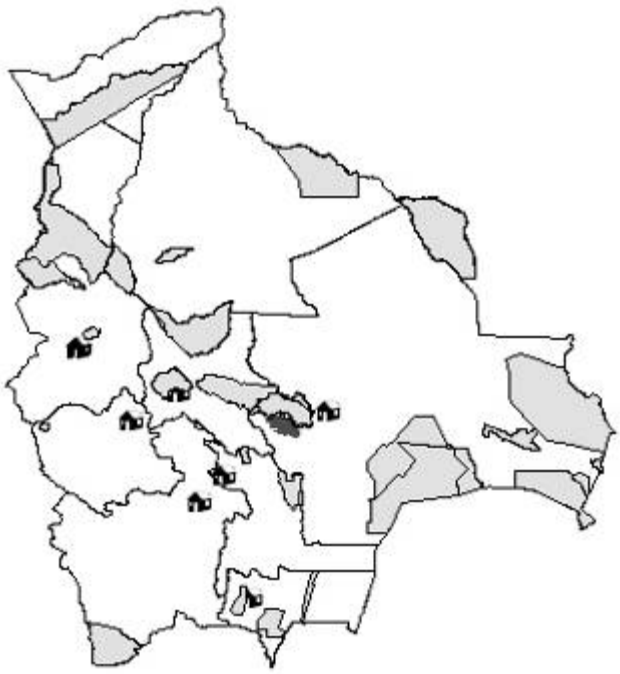

Figure 322 Extrapolated Distribution of *Apostolepis multicincta*

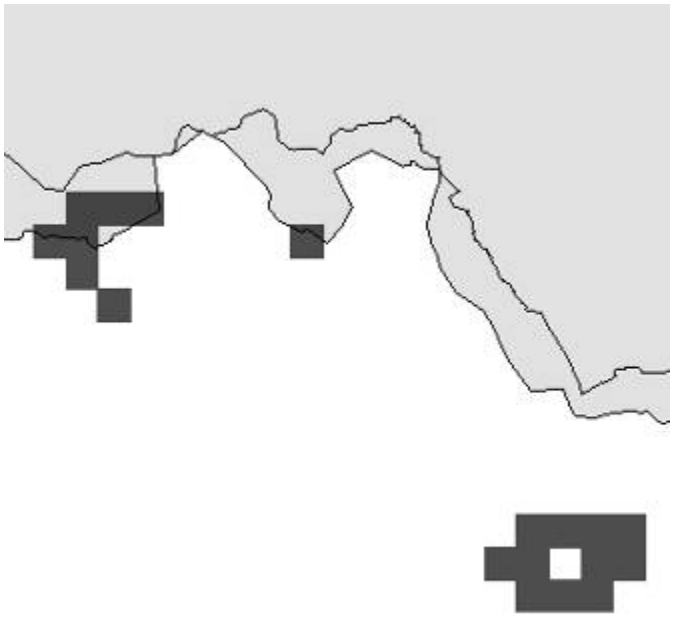

Figure 323 Fragmentation of Habitat of *Apostolepis multicincta*

Map Quality: High confidence
Global distribution: Endemic for the inter Andean Dry Valleys in Bolivia (Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 19: 10
Distr. Total = 123; EDC 1 = 8; EDC 2 = 11; EDC 3 = 13; EDC 4 = 26; EDC 5 = 65
Fragmentation: VERY STRONG: 12

The distribution of this recently described species is limited to the inter Andean dry valleys in Bolivia. These dry valleys undergo a very fast and intensive human impact, mainly caused by agriculture, because of very fertile soil. The conservation status of its habitat is very bad and specimen nearly always have been found away from human populations, which may indicate that this species is quite sensible to habitat change.

Distribution in good National parks: NONE: 3

8 grid cells in Park: Just in borders of the Amboró National Park.

Use/Other: SOME: 2

The snake is seen by local population as a very venomous snake because of its bright alarming red color. Additionally people think that the species has a venomous tip of tail, because it lifts the tail when it is disturbed or nervous.

Rarity: VERY COMMON: 0

10+12+3+2+0 = 27

Conservation status: Critically endangered

Conservation status IUCN: VU (D2)

Official IUCN Conservation Status: NE

Comments: Type locality: Pampagrande, Province Florida, Department Santa Cruz, Bolivia. Holotype: MNKR 726. The resulting category seems quite high compared to the frequent findings of this species.

Apostolepis nigroterminata BOULENGER

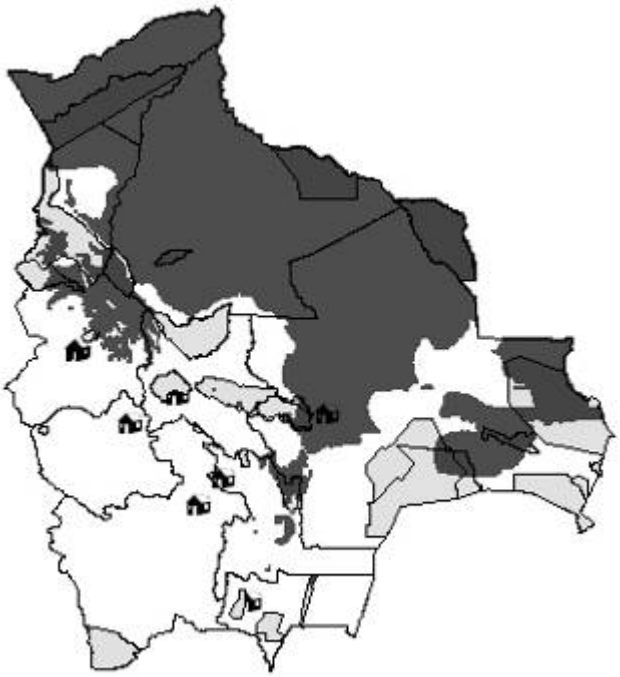

Figure 324 Extrapolated Distribution of *Apostolepis nigroterminata*

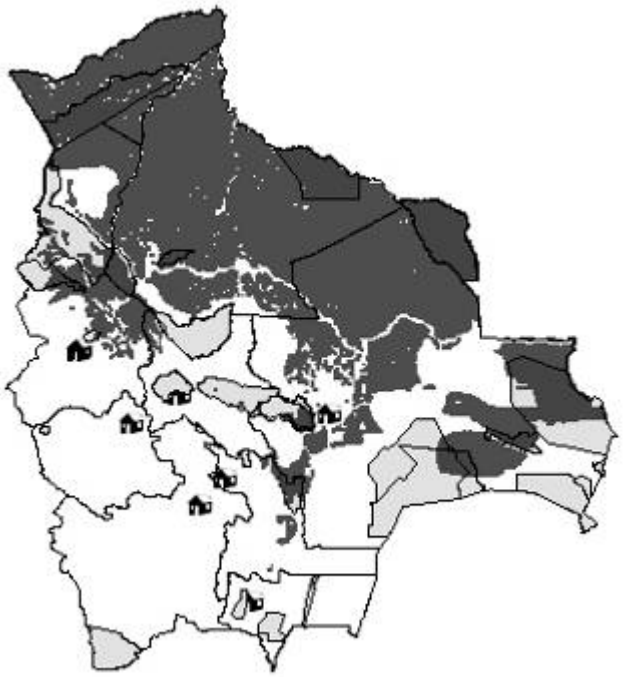

Figure 325 Fragmentation of Habitat of *Apostolepis nigroterminata*

Map Quality: High confidence
What seems to be a disjunctive habitat, in southeastern Bolivia may be connected through Brazil. The habitat in this area may be too humid, as it presents parts of the savannas of inundation of the Pantanal.
Global distribution: Brazil, Peru and Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: UNCERTAIN
The discussion of the synonymies with *Apostolepis borelli* has a long tradition and is still actual. Amaral puts *A. borelli* 1930 in synonymy with *A. nigroterminata*, which was not followed by Ferrarezi (1993) but by Harvey (1999). Ferrazi finally was convinced by the paper of Harvey (1999) that *A. borelli* is a synonym of *A. nigroterminata* (pers. comunication). Christine Strüssman although is not sharing this opinion (pers. comunication). In the present work *A. borelli* will be regarded as a synonym of *A. nigroterminata*. Harvey (1999) mentiones some doubts about a specimen from Beni which could be a „cryptic species“ but which does not posses suficient „convincing diagnostic features“ to be identified as a own species. This may have influence on the distribution and ergo on the conservation status later on.
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 31580: 0
Distr. Total = 38264; EDC 1 = 23245; EDC 2 = 8335; EDC 3 = 4057; EDC 4 = 2024; EDC 5 = 603
Fragmentation: SOME: 1
Some Fragmentation of Habitat mainly caused by highways and strong habitat destruction near Santa Cruz. Two big blocks are separated naturally by very humid savannas.
Distribution in good National parks: VERY STRONG: 0
7074 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, Noel Kempff Mercado, Pilón Lajas, San Matías, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUN Conservation Status: NE
Comments: The conservation status has been set to “Near threatened” because of uncertain taxonomic status. Type locality: „Cayaria“ (Callaria, Ucayali, Peru). Holotype: BMNH 1946.1.9.77

Apostolepis phillipsi (HARVEY)

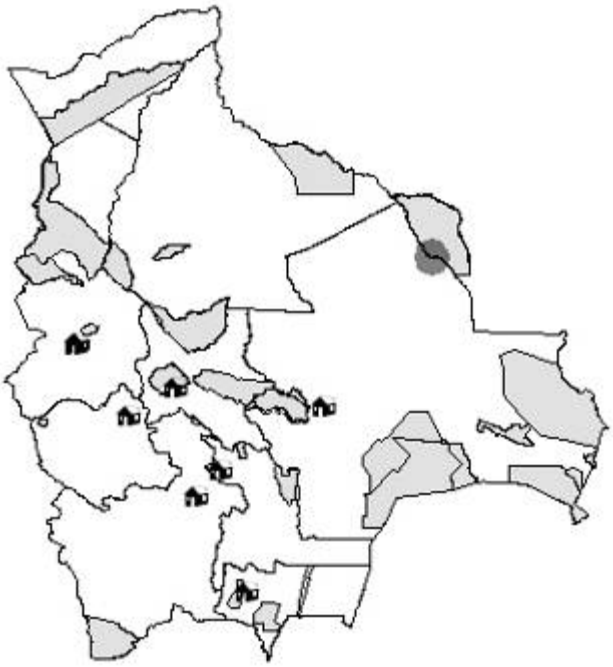

Figure 326 Extrapolated Distribution of *Apostolepis phillipsi*

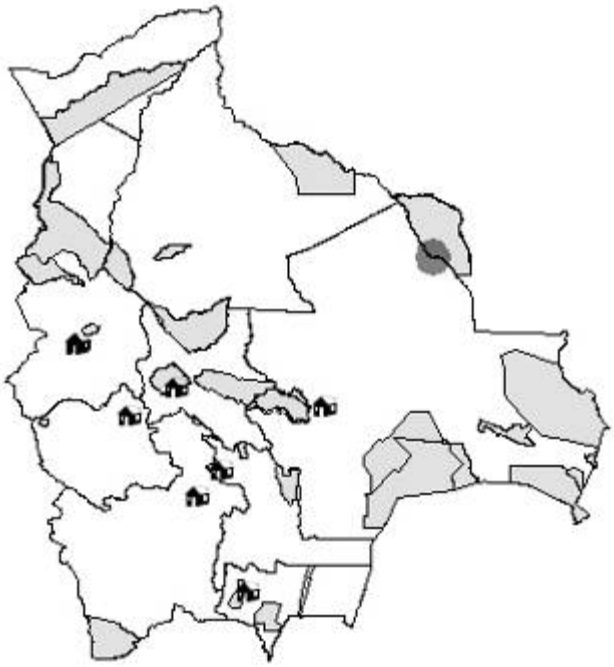

Figure 327 Fragmentation of Habitat of *Apostolepis phillipsi*

Map Quality: Medium confidence
Extrapolation is based on specimens from one locality (Type locality). Caused by extrapolation with very limited data, the distribution may be underestimated.
Global distribution: Endemic for Bolivia (Santa Cruz).
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 310: 5
Distr. Total = 320; EDC 1 = 246; EDC 2 = 64; EDC 3 = 9; EDC 4 = 1; EDC 5 = 0
Fragmentation: NONE: 0
The very limited distribution area is situated in very healthy habitat resulting in no fragmentation.
Distribution in good National parks: STRONG: 1
158 grid cells in Parks: Noel Kempff Mercado
Use: NONE: 0
Rarity: VERY RARE: 8

5+0+1+0+8 = 14

Conservation status: Vulnerable

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Just known from type locality: Estancia El Refugio, Province Velasco, Santa Cruz, Bolivia. Holotype: UTA 43940. Although the species has been described 7 years ago, no other specimen has been found in this area, which is quite frequently visited by scientists.

Apostolepis quinquelineata species complex

Map Quality: High confidence
Global distribution: Amazonian regions
Taxonomic status: UNCERTAIN
This is a species complex composed of several species including: *A. quinquelineata*, *A. pymi A. rondoni* and may be others. As all these are considered as synonyms of one of the others the species status remains unclear until further studies.
Sensibility for habitat alteration: SENSIBLE
Distribution Value: UNKNOWN
Fragmentation: UNKNOWN
Distribution in good National parks: UNKNOWN
Use: NONE
Rarity: UNKNOWN

Conservation status: DD

Conservation status IUCN: DD
Official IUCN Conservation Status: NE
Comments: Distribution in Bolivia of one of the members of this complex is unclear. No specimens have been seen. Uetz (2005) cites *Apostolepis quinquelineata* as distributed in Bolivia. This would be by far the southernmost distribution for this species and is considered here as doubtful.

Apostolepis tenuis RUTHVEN

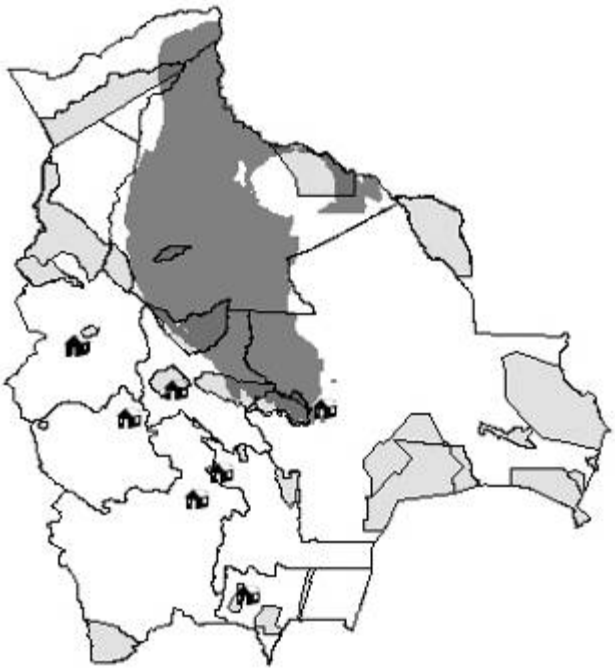

Figure 328 Extrapolated Distribution of *Apostolepis tenuis*

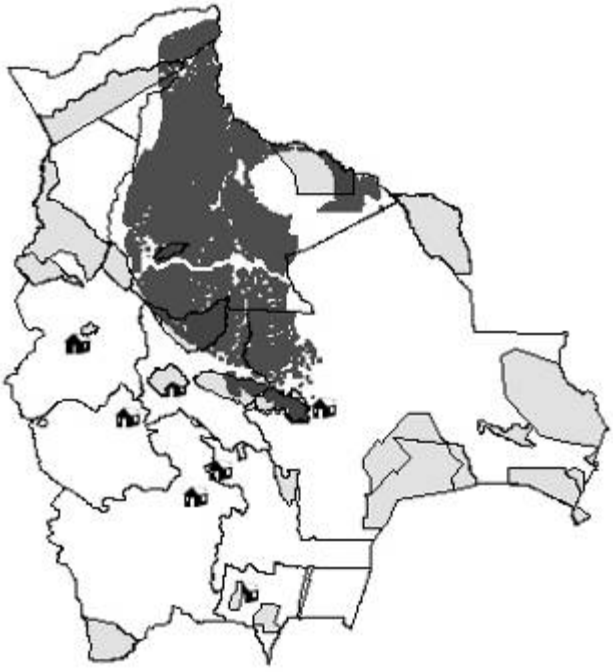

Figure 329 Fragmentation of Habitat of *Apostolepis tenuis*

Map Quality: Medium confidence
The extrapolation is based on the only two specimens known of this species. The „hole“ in the extrapolated distribution is caused by very different climate data, which may be caused by low coverage of weather stations.
Global distribution: Bolivia (Beni, Cochabamba, Pando, Santa Cruz), probably Brazil
Taxonomic status: OK
The species has been revalidated from the synonymy with *A. ambiniger* by Hartweg (1923). Harvey (1999) concludes that in base of this there has been some misidentification, as by Fugler (1986) who cited *A. ambiniger* instead of *A. tenuis* for Bolivia.
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 12280: 0
Distr. Total = 15802; EDC 1 = 8441; EDC 2 = 3839; EDC 3 = 2210; EDC 4 = 1033; EDC 5 = 22
Fragmentation: SOME: 1
Some Fragmentation by highway in a big northern and a big southern block. Also the Chapare region cuts the populations in the Amboró and Carrasco National parks from more northern populations. The gaps are not wide enough to really separate the populations.
Distribution in good National parks: VERY STRONG: 0
1962 grid cells in Parks: Amboró, Carrasco, EBB, Isiboro Sécure, Itènez, Manuripi-Heath
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Just known from two localities in Bolivia: Department Beni, Province Vaca Diez, Guayaramerín and from Department Santa Cruz, Province Ichilo, Buena Vista (Type locality). Holotype: UMMZ 64436

Apostolepis vittata (COPE)

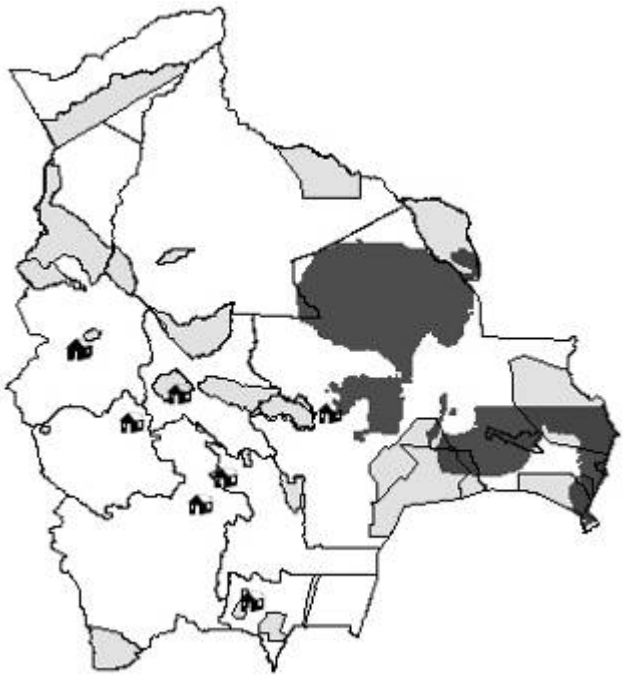

Figure 330 Extrapolated Distribution of *Apostolepis vittata*

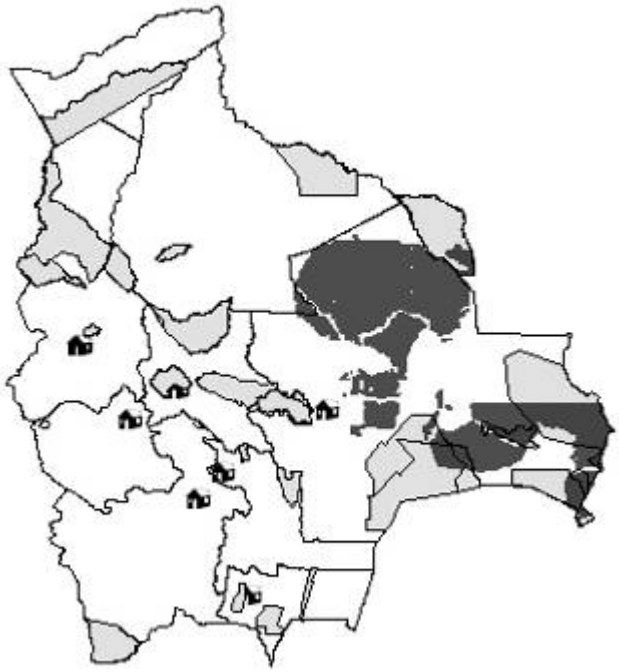

Figure 331 Fragmentation of Habitat of *Apostolepis vittata*

Map Quality: Medium confidence
The extrapolation appears quite strange. Certainly the two big fragments are connected through Brazil. The sharp upper line of the southern block is caused by bad climate data (see comments on maps). The big gap between the blocks is caused by very humid savanna of inundation which is excluded here as probable habitat of this species.
Global distribution: Brazil and Bolivia (Santa Cruz, Beni).
Taxonomic status: UNCERTAIN
Following Harvey (1999) the only two Bolivian specimens differ from the Holotype in several noteworthy characteristics so that the „status of the Bolivian populations should be reconsidered when larger samples become available“.
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 8781: 0
Distr. Total = 9963; EDC 1 = 7213; EDC 2 = 1568; EDC 3 = 582; EDC 4 = 488; EDC 5 = 112
Fragmentation: SOME: 1

Some Fragmentation of Habitat by highways. Northern and southern distribution areas are separated by very humid Pantanal naturally and may be connected in Brazil.
Distribution in good National parks: VERY STRONG: 0
2153 grid cells in Parks: Kaa-Iya, Noel Kempff Mercado, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Specimens not seen. In Bolivia just known from two localities: Department Santa Cruz, Province Nuflo de Chavez, Rio San Julian and Province German Busch, Puerto Suarez. Type locality: Chupada, Mato Grosso, Brazil. Holotype: ANSP 11293

Atractus balzani BOULENGER

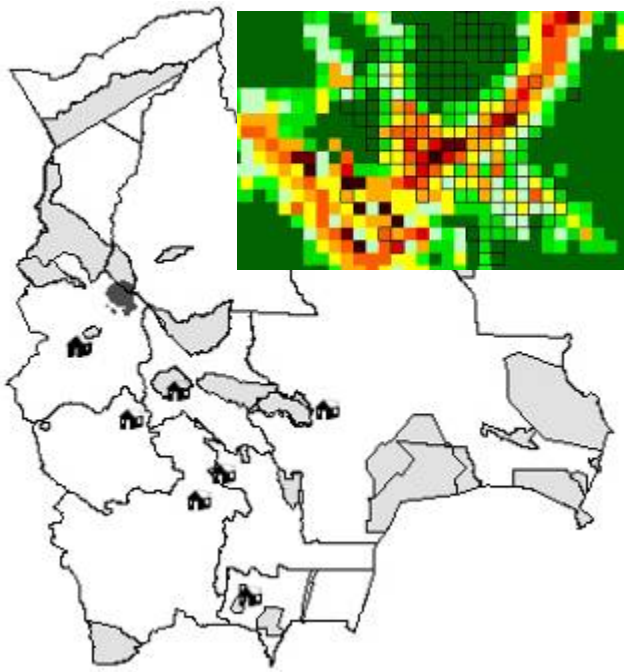

Figure 332 Extrapolated Distribution of *Atractus balzani*

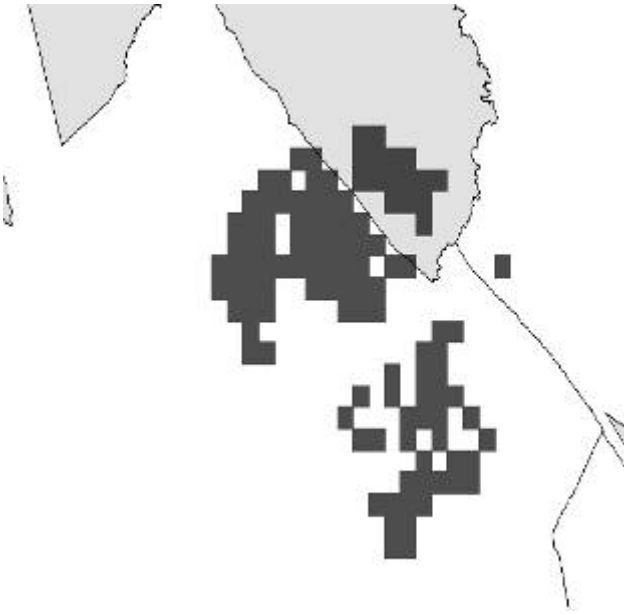

Figure 333 Fragmentation of Habitat of *Atractus balzani*

Map Quality: High confidence
Extrapolation based on one specimen (the Holotype).
Global distribution: Endemic for Bolivia (Beni, La Paz)
Taxonomic status: OK
The species has been described from Missiones Mosetenes, NW Bolivia and until now the Holotype is the only specimen known.

Sensibility for habitat alteration: SENSIBLE
Distribution Value: 115: 5
Distr. Total = 179; EDC 1 = 72; EDC 2 = 43; EDC 3 = 38; EDC 4 = 22; EDC 5 = 4
Fragmentation: STRONG: 5
Strong Fragmentation of Habitat mainly caused by agriculture on very fertile soils in these inter Andean valleys.
Distribution in good National parks: **NONE: 3**
24 grid cells in Parks: Pilón Lajas
Use: NONE: 0
Rarity: VERY RARE: 8

5+5+3+0+8 = 21

Conservation status: Endangered

Conservation status IUCN: EN B1ab(iii)
There is no more than one known existing locality. The extrapolated area is undergoing very rapid anthropogenic changes caused mostly by agriculture.
Official IUCN Conservation Status: NE
Comments: Type locality: Province Yungas at 1600 m., Missiones Mosetenes in Department La Paz. Holotype: MCSNG 28874. coll. L. Balzan, 1891. The species has not been rediscovered since 107 years now and may have gone extinct, but there is more intensive fieldwork in the area needed to support this opinion.

Atractus bocki WERNER

Figure 334 Extrapolated Distribution of *Atractus bocki*

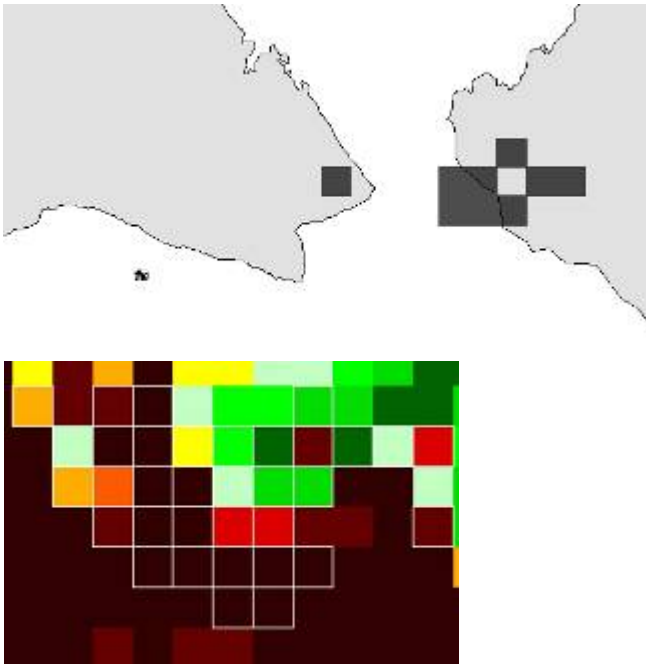

Figure 335 Fragmentation of Habitat of *Atractus bocki*

Map Quality: High confidence
Global distribution: Endemic for Bolivia (Cochabamba)
Taxonomic status: OK
Amaral (1929) (cited in Peters & Orejas-Miranda 1970) indicated that this was a synonym of *A. mode*stus from Ecuador which is considered as wrong here as the valley locality is a typical endemic location and the species has not been found again in any place in Bolivia connecting it to the north. *Atractus modestus* is not known for Bolivia.
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 9: 10
Distr. Total = 33; EDC 1 = 5; EDC 2 = 4; EDC 3 = 3; EDC 4 = 4; EDC 5 = 17
Fragmentation: STRONG: 5
Populations in National parks are separated by an area with its natural habitat nearly completely destroyed. Also in National parks populations with uncertain size are just represented near the borders which suffer frequently human impact by illegal deforestation and hunting.
Distribution in good National parks: NONE: 3
14 grid cells in Parks: Carrasco and Tunari
Use: NONE: 0
Rarity: VERY RARE: 8

10+5+3+0+8 = 26

Conservation status: Critically endangered

Conservation status IUCN: EN B2ab(iii)
There is no more than one known existing locality. the extrapolated area is undergoing very rapid anthropogenic changes caused mostly by agriculture. Since the discovery in 1898 most of the original habitat has been destroyed.
Official IUCN Conservation Status: NE
Comments: Type, collected by G. Bock, has been deposited in ZMH but has been lost/destroyed during world war II (pers. com. Jakob Hallermann). Terra typica: Cochabamba, Department of Cochabamba, Bolivia. The species may have gone extinct, but there is more intensive fieldwork in the area needed to support this opinion.

Atractus boettgeri BOULENGER

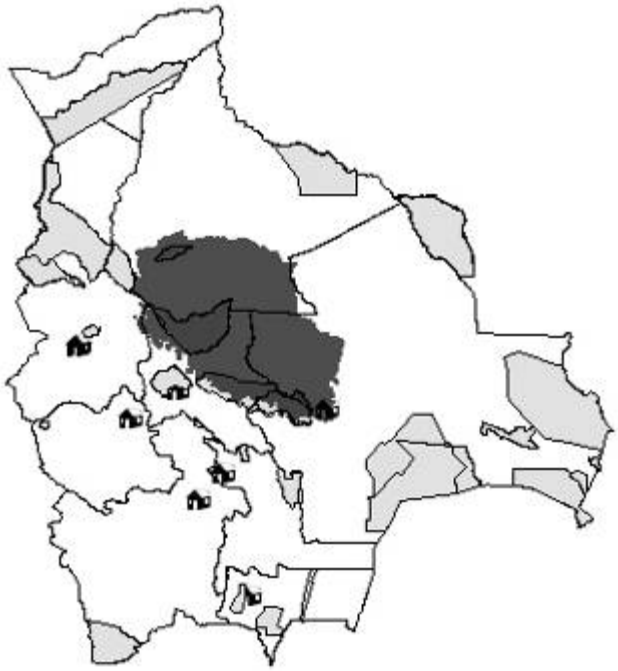

Figure 336 Extrapolated Distribution of *Atractus boettgeri*

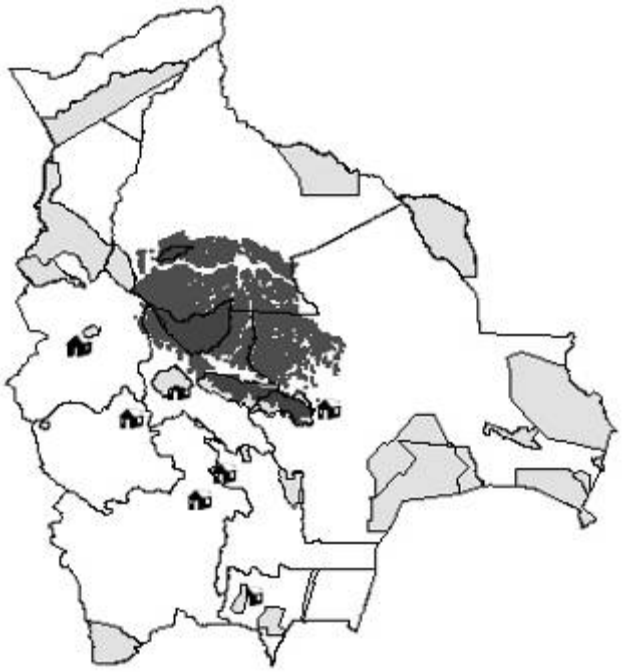

Figure 337 Fragmentation of Habitat of *Atractus boettgeri*

Map Quality: High confidence
The extrapolation is based on 4 localities.
Global distribution: Endemic for Bolivia (Beni, Cochabamba, La Paz, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 6055: 0
Distr. Total = 8836; EDC 1 = 4421; EDC 2 = 1634; EDC 3 = 1301; EDC 4 = 1087; EDC 5 = 393
Fragmentation: SOME: 1
Some Fragmentation by strong habitat alteration near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks VERY STRONG: 0
1843 grid cells in Parks: Amboró, Carrasco, Cavernas del Repechón, EBB, Isiboro Sécure, Pilón Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least Concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Comments: Terra typica: Yungas, Sierra de las Yungas, Dep. de Cochabamba. Bolivia. Holotype: BMNH 1946.1.6.29 (formerly 1895.11.21.27) (pers com. Colin Mc Carthy).

Atractus latifrons (GÜNTHER)

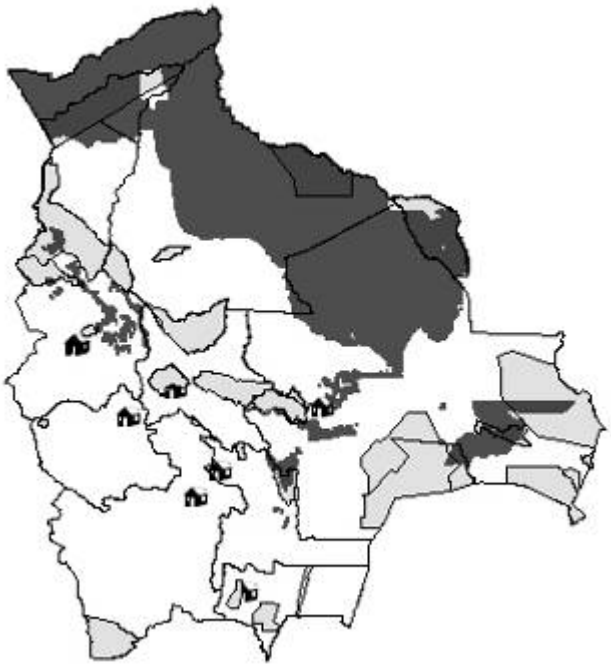

Figure 338 Extrapolated Distribution of *Atractus latifrons*

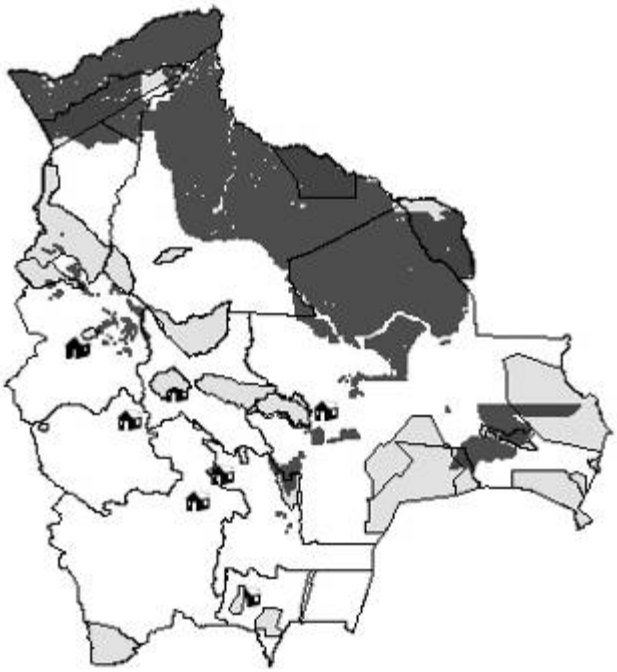

Figure 339 Fragmentation of Habitat of *Atractus latifrons*

Map Quality: Medium confidence. Extrapolation to the Departments of La Paz and Chuquisaca may be wrong. The big gap to the southern population in the Chiquitania region may be connected through Brazil. The sharp line of the southern block is caused by bad climate data (see comments on maps).
Global distribution: Brazil, Peru, Colombia, French Guiana, Colombia, Bolivia (Beni, Chuquisaca?, La Paz?, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 20482: 0
Distr.. Total = 23466; EDC 1 = 15167; EDC 2 = 5315; EDC 3 = 2117; EDC 4 = 684; EDC 5 = 183
Fragmentation: SOME: 1
Some Fragmentation by strong habitat alteration near Santa Cruz and by highways.
Distribution in good National parks VERY STRONG: 0
3912 grid cells in Parks: Amboró, Apolobamba, Cotapata, Iñao, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, San Matías, Tucavaca
Use: SOME: 2
Because of its coral like coloration it is believed to be very venomous and killed by occasion.
Rarity: NORMAL: 1

Although only recently discovered for Bolivia there are already 8 specimens of this species known in the country.

0+1+0+2+1 = 4

Conservation status: Least Concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Type Locality: Pebas, Departamento de Loreto, Peru. This species often is confused with *Atractus elaps* but the latter shows the fifth supralabial much higher than the fourth and have 15 dorsal scale rows. All specimens examined were previously identified as *A. elaps*, whose distribution in Bolivia therefore becomes doubtful.

Atractus major BOULENGER

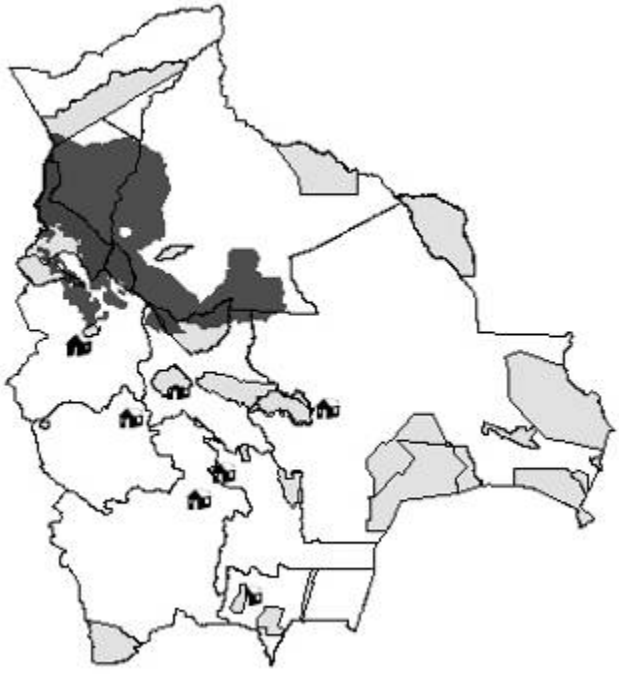

Figure 340 Extrapolated Distribution of *Atractus major*

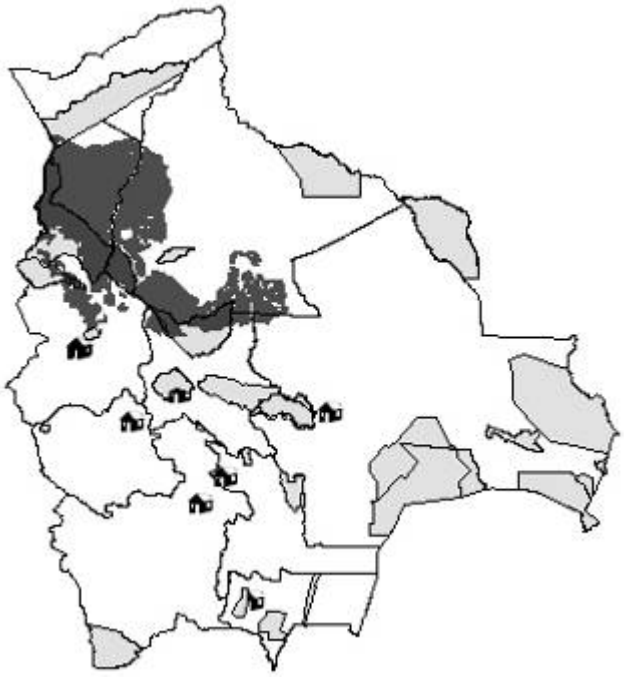

Figure 341 Fragmentation of Habitat of *Atractus major*

Map Quality: High confidence
Global distribution: Ecuador, Colombia, Venezuela, Brazil, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 6689: 0
Distr. Total = 7831; EDC 1 = 5499; EDC 2 = 1190; EDC 3 = 799; EDC 4 = 281; EDC 5 = 62
Fragmentation: SOME : 1
Very little Fragmentation of small areas with narrow gaps.
Distribution in good National parks VERY STRONG: 0

2017 grid cells in Parks: Apolobamba, Cotapata, Isiboro Sécure, Madidi, Manuripi-Heath, Pilón Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least Concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Canelos, Provinzia Pastaza, Ecuador. This species only recently has been known to occur in Bolivia and is known there from three specimens.

Atractus snethlageae DA CUNHA & DO NASCIMIENTO

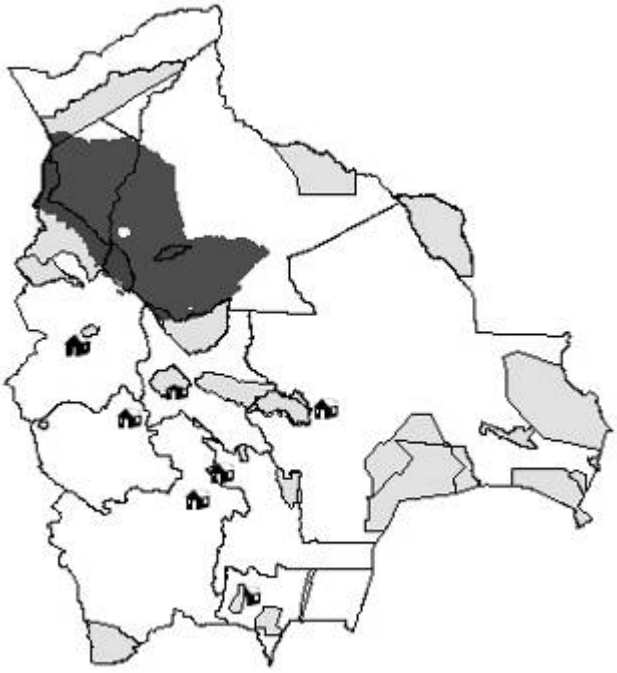

Figure 342 Extrapolated Distribution of *Atractus snethlageae*

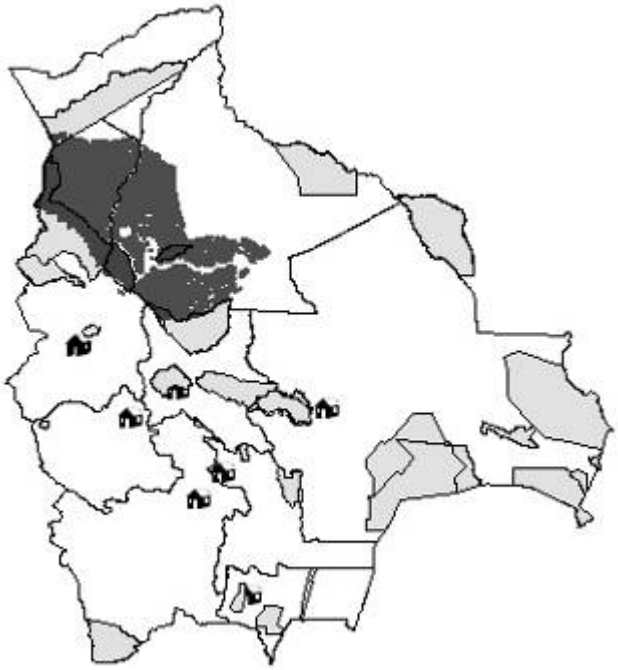

Figure 343 Fragmentation of Habitat of *Atractus snethlageae*

Map Quality: High confidence
Extrapolation based on three localities.
Global distribution: Brazil, Suriname, Bolivia (Beni, Cochabamba, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 6490: 0
Distr. Total = 7818; EDC 1 = 5032; EDC 2 = 1458; EDC 3 = 870; EDC 4 = 345; EDC 5 = 113
Fragmentation: SOME: 1

Some fragmentation by highways but not separating areas completely
Distribution in good National parks VERY STRONG: 0
1366 grid cells in Parks: EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilón Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Colônia Nova, Rio Gurupi, Pará, Rodovia Br-316, 10 Km antes do Gurupi. Holotype: MPEG 10.131. This species only recently has been found to occur in Bolivia (Embert, Gonzales & Montaño, in prep). Here it is just known from three specimens.

Atractus taeniatus GRIFFIN

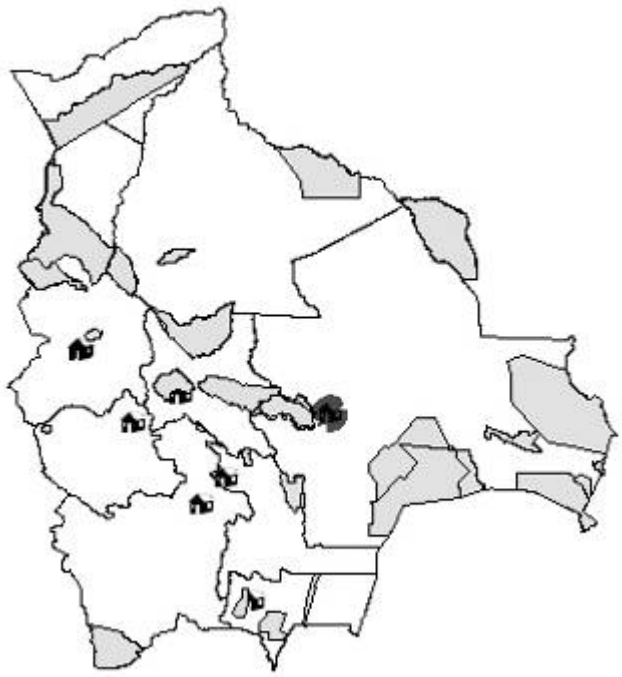

Figure 344 Extrapolated Distribution of *Atractus taeniatus*

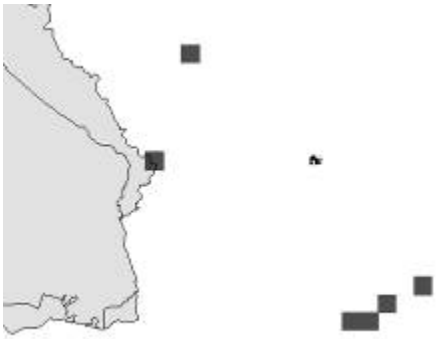

Figure 345 Fragmentation of Habitat of *Atractus taeniatus*

Map Quality: High confidence
Global distribution: Bolivia (Santa Cruz)
Taxonomic status: UNCERTAIN
The type specimen is the only one known for Bolivia. A revision of the type is necessary to confirm the species status.
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 6: 13
Distr. Total = 275; EDC 1 = 0; EDC 2 = 6; EDC 3 = 42; EDC 4 = 137; EDC 5 = 90
Fragmentation: VERY STRONG: 12
The natural habitat of this species has been destroyed nearly completely.
Distribution in good National parks NONE: 3
5 grid cells in Parks: Amboró
Use: NONE: 0
Rarity: VERY RARE: 8

13+12+3+0+8 = 36

Conservation status: Critically endangered

Conservation status IUCN: CR 1ab(iii)
Official IUCN Conservation Status: NE
Comments: No specimens examined. Terra typica: Santa Cruz de la Sierra, Department of Santa Cruz, Bolivia. If this species is a valid species and has been endemic to the area of Santa Cruz its survival is doubtful. It has been described nearly 90 years ago when Santa Cruz de la Sierra still was a small town and much of its natural habitat still was existent. If it is the same species as found in Brazil and Argentina (which is doubtful following Paulo Passo (pers. comunication)) at least the topo-population may be extinct. Holotype: Carnegie Museum of Natural Science No. 117.

Boiruna maculata (BOULENGER)

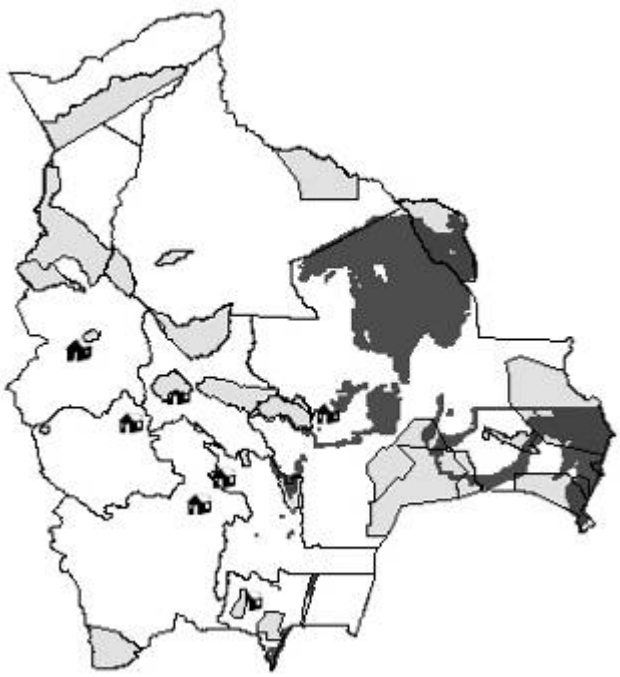

Figure 346 Extrapolated Distribution of *Boiruna maculata*

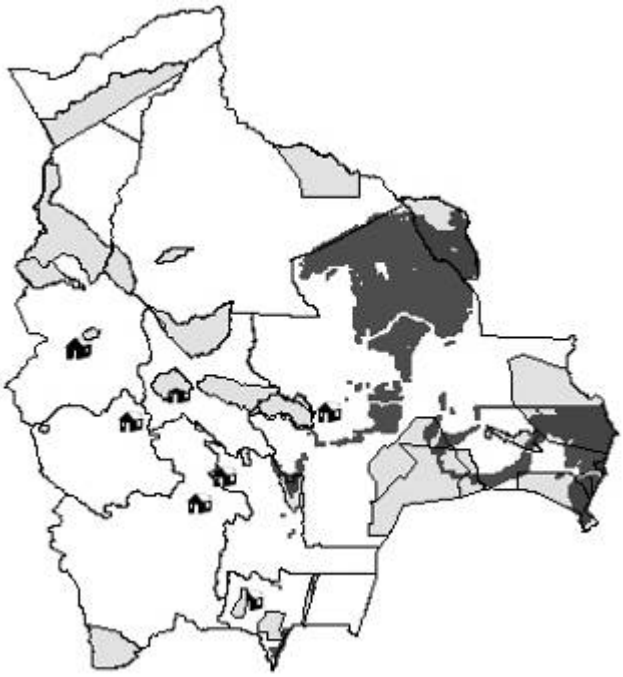

Figure 347 Fragmentation of Habitat of *Boiruna maculata*

Map Quality: Medium confidence
The extrapolation is only based on two specimens. The two big blocks are probably connected through Brazil. The sharp upper line in the southern block is caused by bad climate data (see comments on maps). Distribution into Departments of Chuquisaca and Tarija are probably wrong although possible regarding the global distribution in Argentina and Paraguay.
Global distribution: Argentina, Brazil, Paraguay, Uruguay and Bolivia (Beni, Chuquisaca?, Santa Cruz, Tarija?)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 7920: 0
Distr. Total = 8737; EDC 1 = 6688; EDC 2 = 1232; EDC 3 = 445; EDC 4 = 309; EDC 5 = 63
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: VERY STRONG: 0
2530 grid cells in Parks: Aguarague, Amboró, Iñao, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: RARE : 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Holotype: a female, BMNH 1946.1.9.33 from Uruguay.

Chironius exoletus (LINNAEUS)

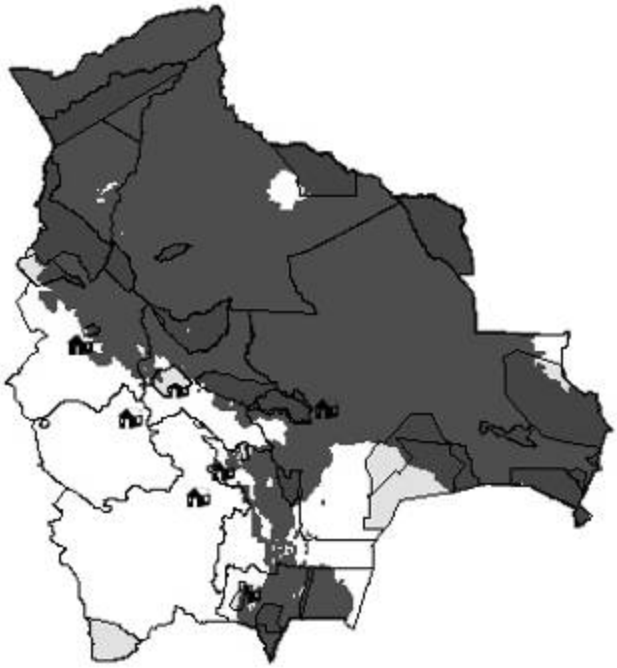

Figure 348 Extrapolated Distribution of *Chironius exoletus*

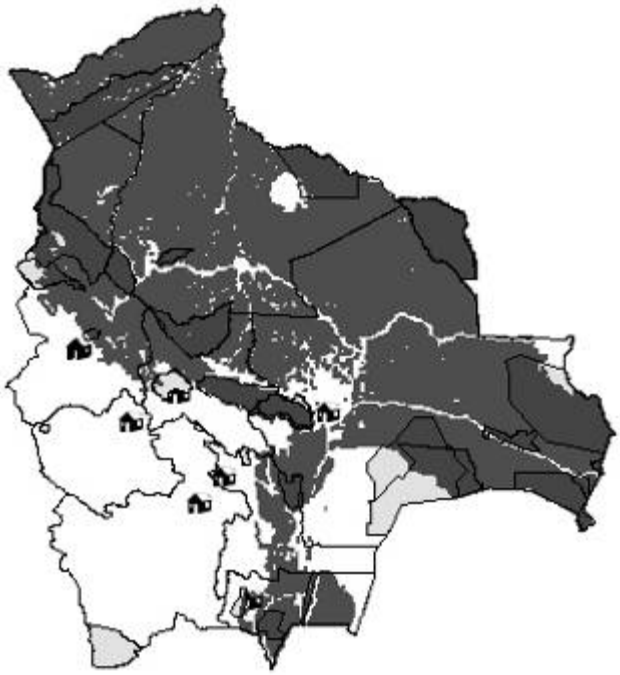

Figure 349 Fragmentation of Habitat of *Chironius exoletus*

Map Quality: High confidence
Global distribution: Costa Rica, Panama, Colombia, Brazil, Argentina, Peru, Ecuador, Venezuela, Guyana, Surinam, French Guiana, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija).
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 46859: 0
Distr. Total = 56610; EDC 1 = 35871; EDC 2 = 10988; EDC 3 = 5350; EDC 4 = 2971; EDC 5 = 1430
Fragmentation: SOME: 1
Some Fragmentation mainly by strong habitat destruction around Santa Cruz and by highways
Distribution in good National parks: VERY STRONG: 0
13777 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matìas, Tucavaca, Tariquìa, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Holotype: Number 150 of Linnaeus´ Collection at ZMUU (Dixon et al. 1993). Type Locality „habitat in Indiis“ in error. One of the most commonly found snakes. Very fast and aggressive snake.

Chironius flavolineatus (JAN)

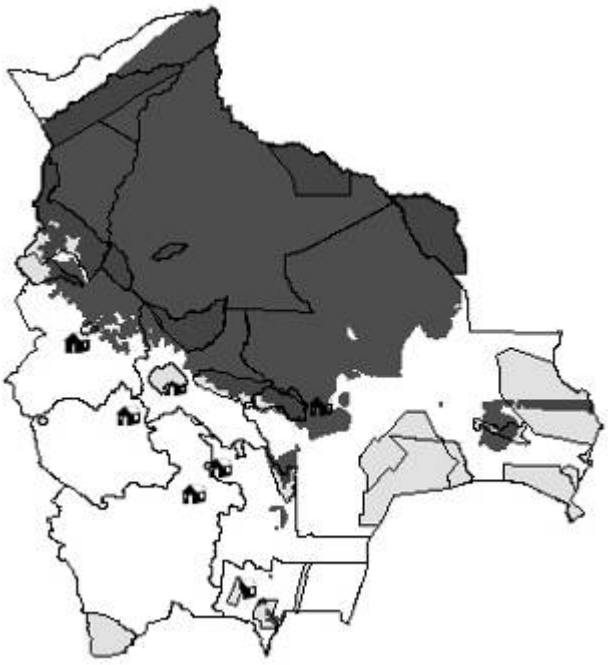

Figure 350 Extrapolated Distribution of *Chironius flavolineatus*

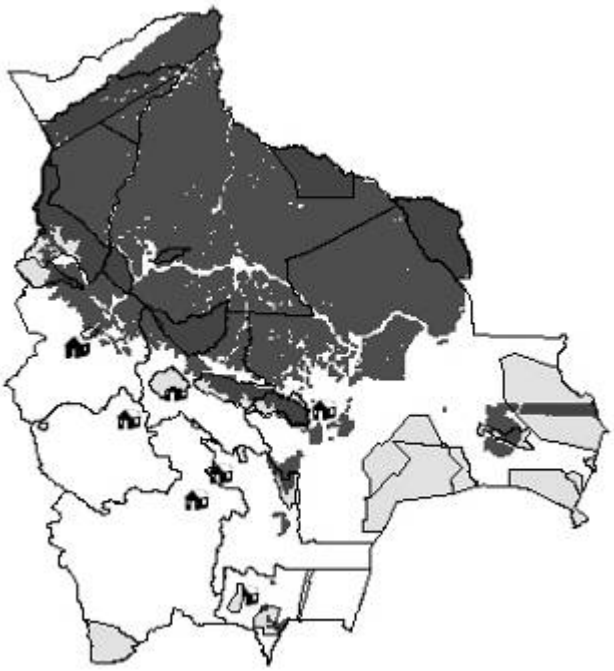

Figure 351 Fragmentation of Habitat of *Chironius flavolineatus*

Map Quality: High confidence
Disjunctive southern habitat probably is connected through Brazil. The sharp upper line in the southern block is caused by bad climate data (see comments on maps).
Global distribution: Brazil, Paraguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz).
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 31196: 0
Distr. Total = 37990; EDC 1 = 23631; EDC 2 = 7565; EDC 3 = 4078; EDC 4 = 2033; EDC 5 = 683
Fragmentation: SOME: 1
Some Fragmentation mainly by strong habitat destruction around Santa Cruz and by highways
Distribution in good National parks VERY STRONG: 0
7922 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matìas, Tucavaca, Tariquìa

Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Holotype „supposedly exists in the Milan Museum. Two specimens, one from Brazil and one from "Bahia", were mentioned in the original description, but no specific specimen was designated as the Holotype" (Dixon et al. 1993).

Chironius fuscus (LINNAEUS)

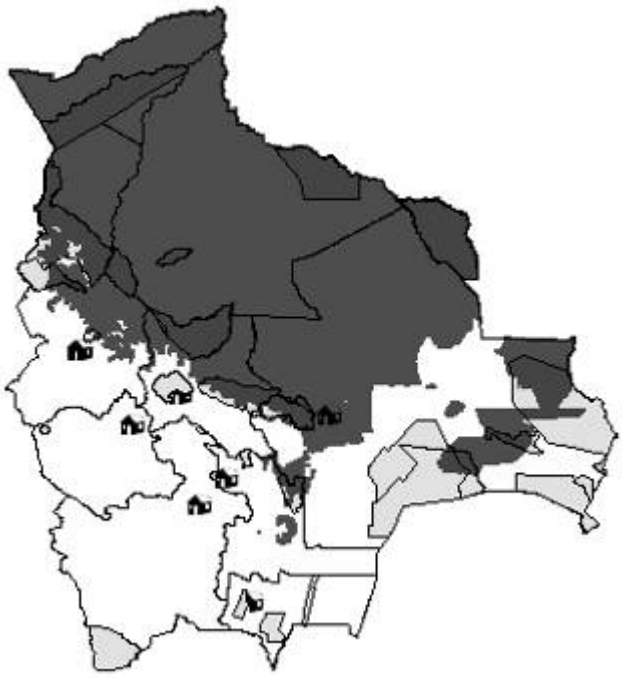

Figure 352 Extrapolated Distribution of *Chironius fuscus*

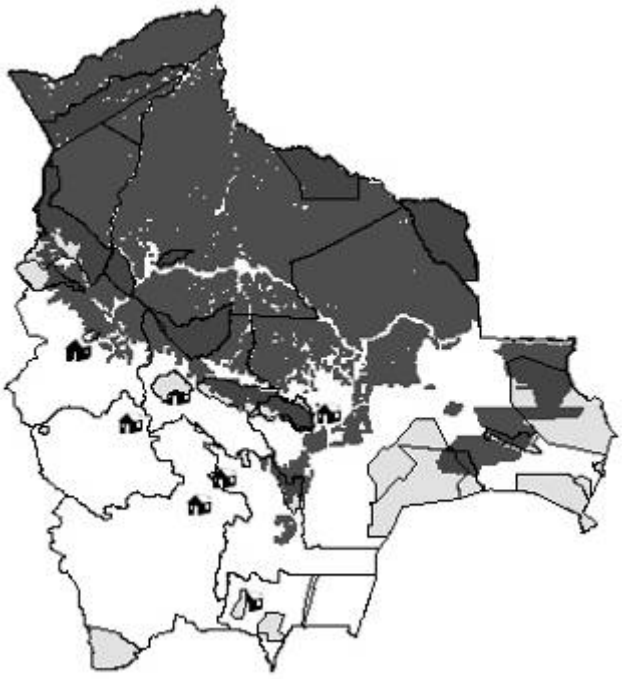

Figure 353 Fragmentation of Habitat of *Chironius fuscus*

Map Quality: High confidence
Global distribution: Brazil, Peru, Ecuador, Colombia, Venezuela, Guyana, Surinam, French Guyana, Bolivia (Beni, Chuquisaca, Cochabamba, Pando, La Paz, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 35928: 0
Distr. Total = 43570; EDC 1 = 26919; EDC 2 = 9009; EDC 3 = 4545; EDC 4 = 2337; EDC 5 = 760
Fragmentation: SOME: 1

Some Fragmentation mainly by strong habitat destruction around Santa Cruz and in the Chapare region and by highways**.**

Distribution in good National parks VERY STRONG: 0

9220 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca

Use: NONE: 0

Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE

Comments: Holotype „apparently curated by NRM (fide Andersson, 1899:18); museum number not known; from "Asia, locality in error." (Dixon et al. 1993).

Chironius laurenti DIXON, WIEST & CEI

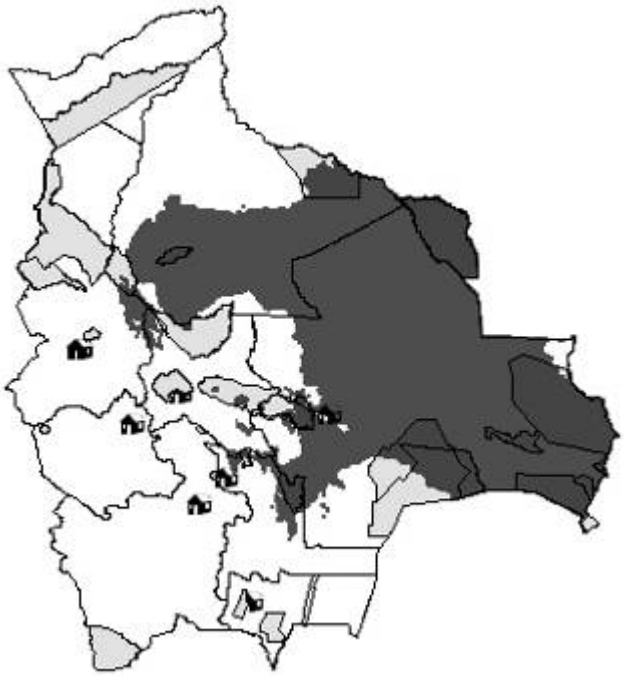

Figure 354 Extrapolated Distribution of *Chironius laurenti*

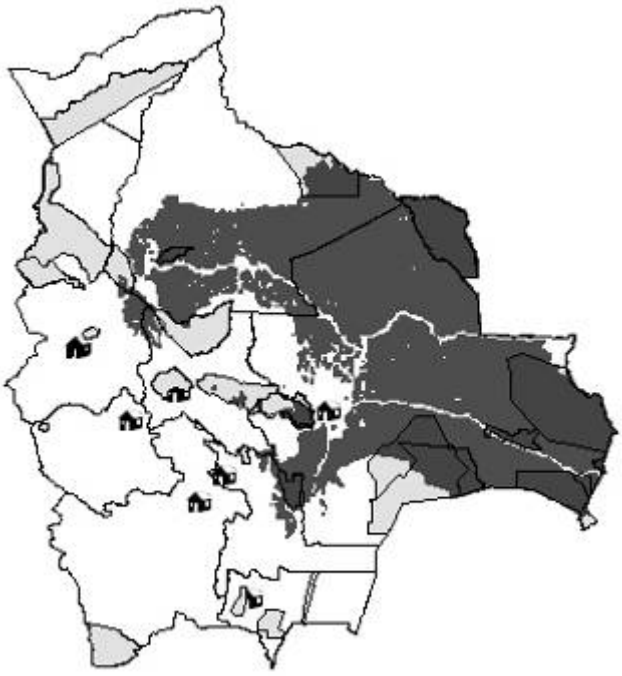

Figure 355 Fragmentation of Habitat of *Chironius laurenti*

Map Quality: Medium confidence

The species entering the inter Andean valleys surely is an over prediction.

Global distribution: Brazil and Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz)

Taxonomic status: OK

Sensibility for habitat alteration: SENSIBLE

Distribution Value: 26543: 0
Distr. Total = 31374; EDC 1 = 21179; EDC 2 = 5364; EDC 3 = 2487; EDC 4 = 1802; EDC 5 = 542
Fragmentation: SOME: 1
Some Fragmentation mainly by strong habitat destruction around Santa Cruz and by highways
Distribution in good National parks: VERY STRONG: 0
7805 grid cells in Parks: Amboró, Carrasco, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Holotype: AMNH 101815, from Bolivia, Department of Beni, Rio Mamoré, ca. 23 km W San Javier.

Chironius monticola ROZE

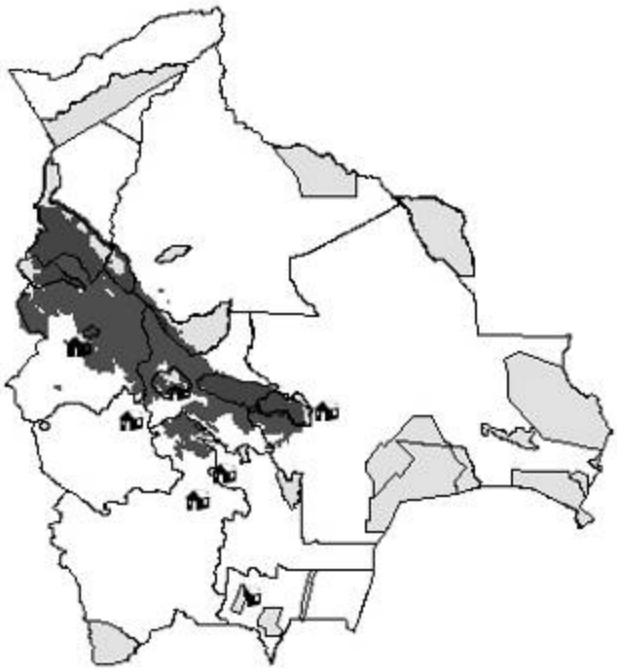

Figure 356 Extrapolated Distribution of *Chironius monticola*

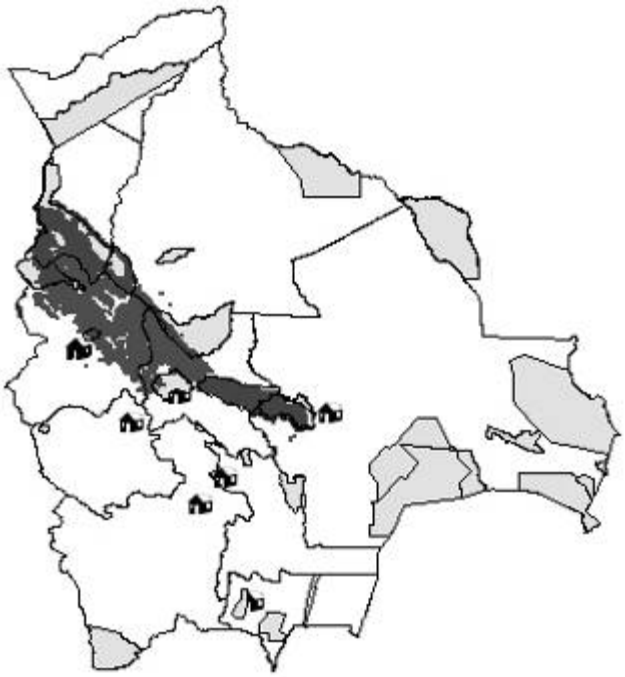

Figure 357 Fragmentation of Habitat of *Chironius monticola*

Map Quality: High confidence
Global distribution: Venezuela, Colombia, Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Santa Cruz)

Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 4915: 0
Distr. Total = 7474; EDC 1 = 4020; EDC 2 = 895; EDC 3 = 541; EDC 4 = 563; EDC 5 = 1455
Fragmentation: NONE: 0
Distribution in good National parks VERY STRONG: 0
2930 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, Isiboro Sécure, Madidi, Pilón Lajas, Torotoro, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+0+0+0+1 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Holotype: MBUCV 2019, from Venezuela, Distrito Federal, El Junquito.

Chironius multiventris SCHMIDT & WALKER

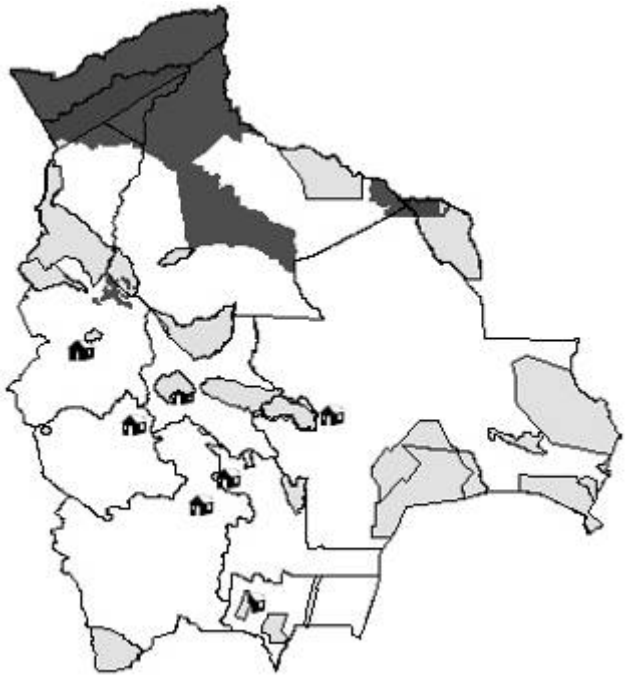

Figure 358 Extrapolated Distribution of *Chironius multiventris*

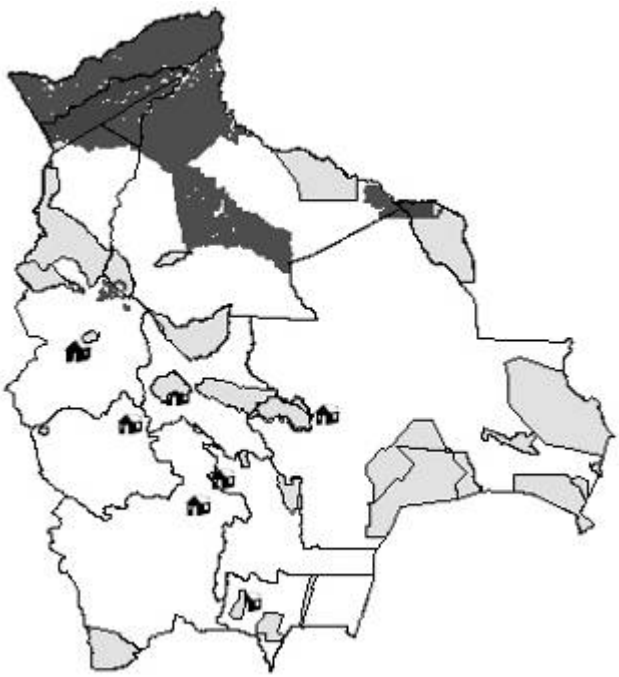

Figure 359 Fragmentation of Habitat of *Chironius multiventris*

Map Quality: High confidence
Extrapolation based on two very humid forest localities separated by savanna. This causes the disjunctive area which probably is connected through Brazil.

Global distribution: Brazil, Peru, Ecuador, Colombia, Venezuela, Bolivia (Beni, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 8747: 0
Distr. Total = 10379; EDC 1 = 5659; EDC 2 = 3088; EDC 3 = 1415; EDC 4 = 200; EDC 5 = 17
Fragmentation: NONE: 0
Distribution in good National parks VERY STRONG: 0
1648 grid cells in Parks: Manuripi-Heath, NKM, Pilón Lajas
Use: NONE: 0
Rarity: RARE: 3

0+0+0+0+3 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Holotype: FMNH 38250; a female from Peru, Department of Madre de Dios, Selvas del Rio Madre de Dios. In Bolivia just known from two localities.

Chironius quadricarinatus (BOIE)

Figure 360 Extrapolated Distribution of *Chironius quadricarinatus*

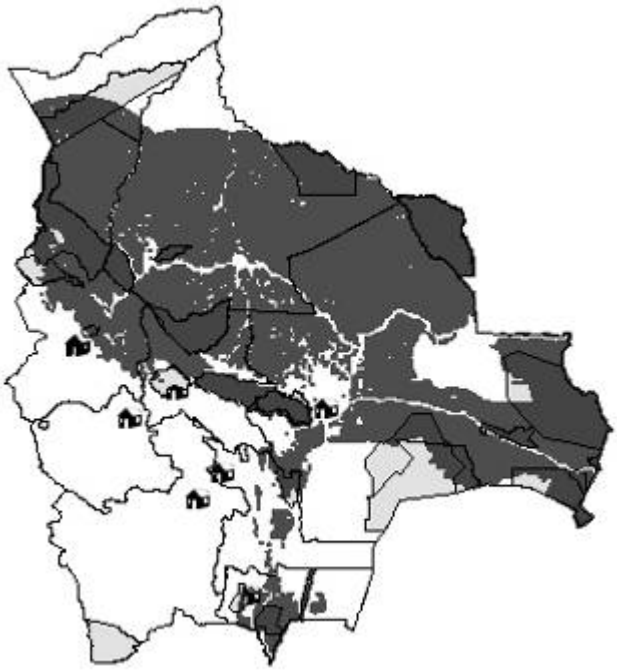

Figure 361 Fragmentation of Habitat of *Chironius quadricarinatus*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 39147: 0
Distr. Total = 47127; EDC 1 = 30497; EDC 2 = 8650; EDC 3 = 4177; EDC 4 = 2632; EDC 5 = 1171
Fragmentation: SOME: 1
Some Fragmentation mainly by strong habitat destruction around Santa Cruz and in the Chapare region and by highways
Distribution in good National parks: VERY STRONG: 0
12314 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cordillera de Sama, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Holotype: RMNH 605, from Brazil. The subspecies *Chironius quadricarinatus maculoventris* DIXON, WIEST & CEI 1993, distributed in Argentina, Paraguay and southern Bolivia (Chuquisaca, Tarija) has only recently been discovered for Bolivia and is just known from one specimen in the country: Villamontes, Department Santa Cruz. Holotype: UZMK 60816, from Argentina, Province of Corrientes, Plata Staterne.

Chironius scurrulus (WAGLER)

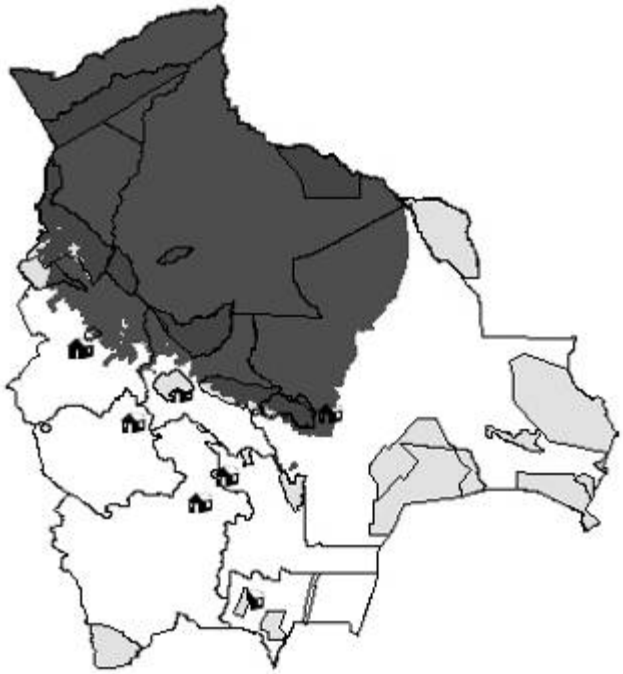

Figure 362 Extrapolated Distribution of *Chironius scurrulus*

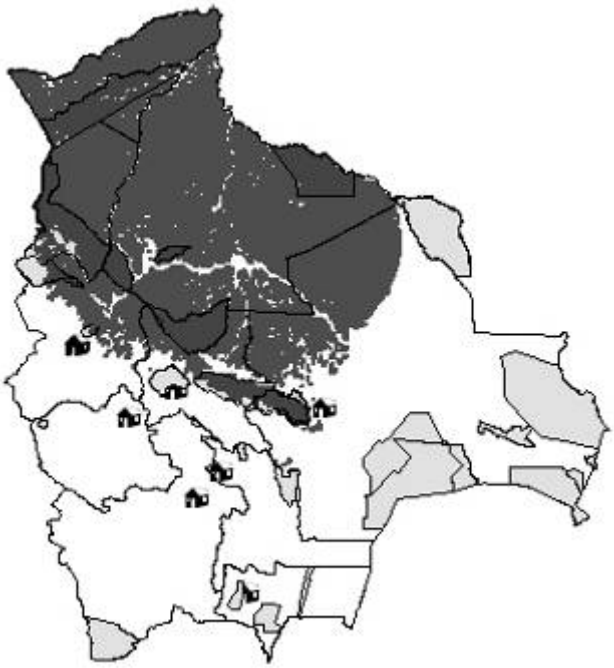

Figure 363 Fragmentation of Habitat of *Chironius scurrulus*

Map Quality: High confidence
Global distribution: Brazil, Colombia, Ecuador, Venezuela, Peru, Trinidad, Guyana, Surinam, French Guiana, Bolivia (Beni, Cochabamba, La Paz, Pando Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 28588: 0
Distr. Total = 34823; EDC 1 = 21244; EDC 2 = 7344; EDC 3 = 3836; EDC 4 = 1733; EDC 5 = 639
Fragmentation: SOME: 1
Some Fragmentation mainly by strong habitat destruction around Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: VERY STRONG: 0
6533 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Type was probably originally deposited in the Zoologische Staatssammlung München, but Dr. Hellmich, Museum of Zoology, München, informed Hoge and Maranhao Nina that this type was either lost or destroyed during World War II.

Clelia bicolor (PERACCA)

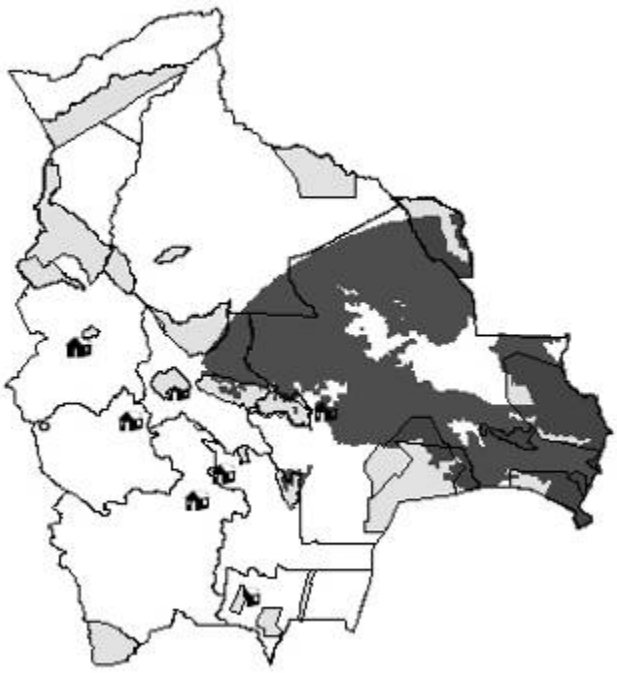

Figure 364 Extrapolated Distribution of *Clelia bicolor*

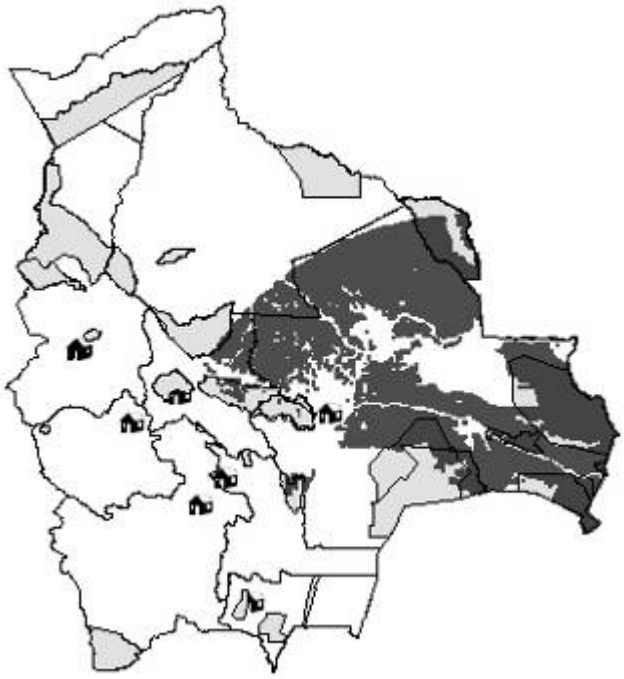

Figure 365 Fragmentation of Habitat of *Clelia bicolor*

Map Quality: High confidence
Extrapolation based on one specimen.
Global distribution: Argentina, Brazil, Paraguay, Peru y Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 15267: 0
Distr. Total = 18518; EDC 1 = 12244; EDC 2 = 3023; EDC 3 = 1486; EDC 4 = 1384; EDC 5 = 381
Fragmentation: STRONG: 5
Strong Fragmentation mainly in the area northeast of Santa Cruz, splitting the habitat in a northern and southern block. Also some fragmentation by Highways.
Distribution in good National parks VERY STRONG: 0
4695 grid cells in Parks: Amboró, Carrasco, Cavernas del Repechón, Iñao, Isiboro Sécure, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: RARE: 3

0+5+0+0+3 = 8

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: There is just on specimen known from Bolivia (Parque Nacional Otuquis, Retóno), which the author was not able to detect in collections. So the presence of the species in Bolivia remains uncertain, although probable as it has been reported from nearly all (excluding Chile) surrounding countries.

Clelia clelia (DAUDIN)

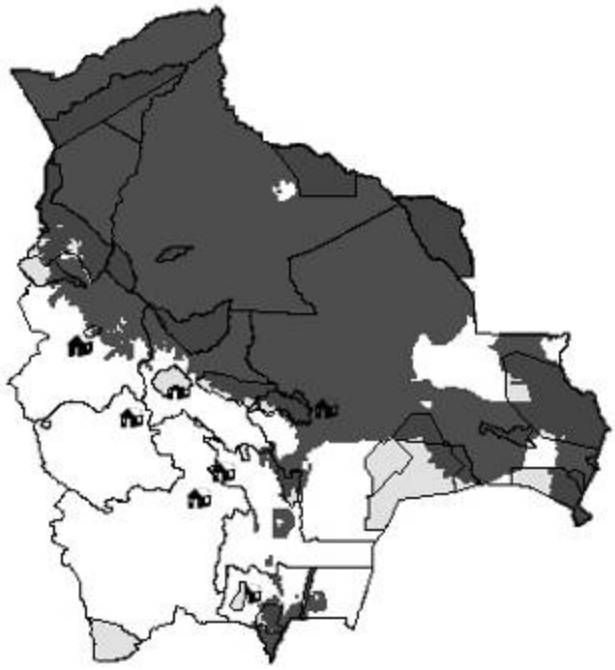

Figure 366 Extrapolated Distribution of *Clelia clelia*

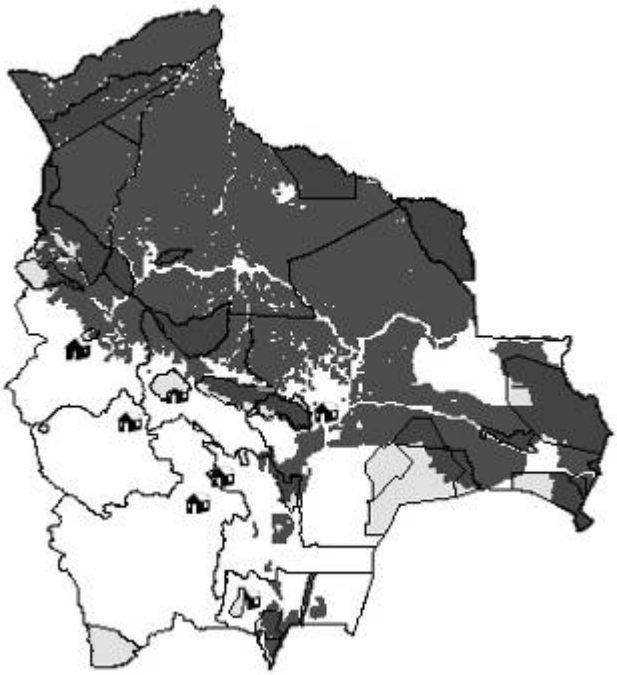

Figure 367 Fragmentation of Habitat of *Clelia clelia*

Map Quality: High confidence
Global distribution: Mexico, Belize, Guatemala, El Salvador, Nicaragua ?, Honduras, Costa Rica, Panama, Colombia, French Guiana, Venezuela, Ecuador, Uruguay, Paraguay, Argentina, Brazil, Peru, Lesser Antilles: Dominica, St. Lucia, Grenada, Trinidad and Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 40807: 0
Distr. Total = 49076; EDC 1 = 31013; EDC 2 = 9794; EDC 3 = 4868; EDC 4 = 2578; EDC 5 = 823
Fragmentation: SOME: 1
Some Fragmentation mainly by strong habitat destruction around Santa Cruz and the Chapare region and by highways**.**

Distribution in good National parks VERY STRONG: 0
11922 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: Suriname, Holotype not located.

Clelia langeri REICHLE & EMBERT

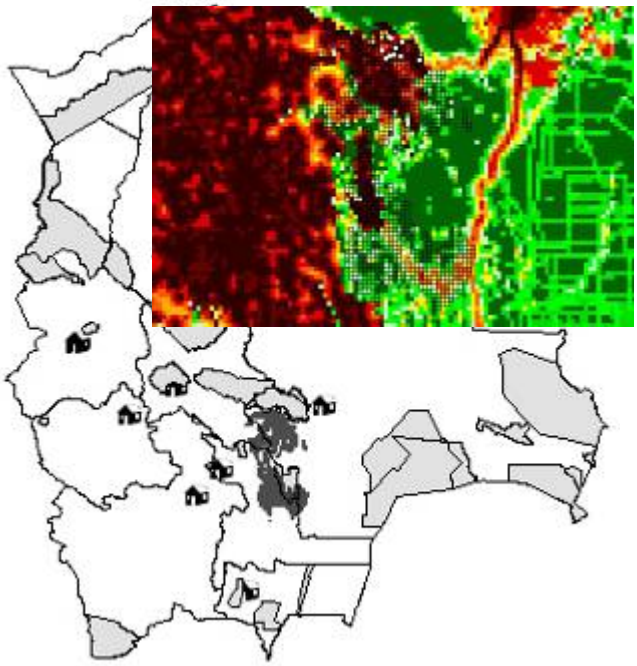

Figure 368 Extrapolated Distribution of *Clelia langeri*

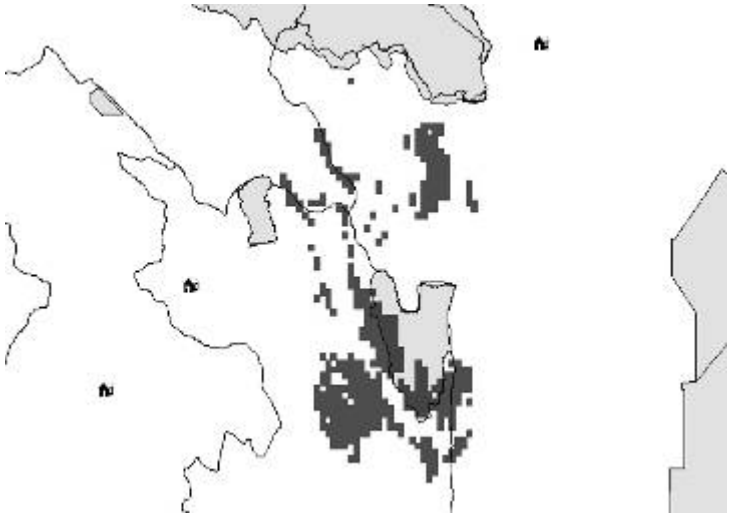

Figure 369 Fragmentation of Habitat of *Clelia langeri*

Map Quality: High confidence
Global distribution: Endemic for Bolivia (Santa Cruz, Chuquisaca, Cochabamba)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 442: 2
Distr. Total = 959; EDC 1 = 266; EDC 2 = 176; EDC 3 = 117; EDC 4 = 148; EDC 5 = 252
Fragmentation: STRONG: 5
Strong Fragmentation in several small populations, mainly by agriculture
Distribution in good National parks: **STRONG: 2**

90 grid cells in Parks: Amboró, Iñao
Use: NONE: 0
Rarity: VERY COMMON: 0

2+5+2+0+0 = 9

Conservation status: Near Threatened

Conservation status IUCN: Near Threatened
Official IUCN Conservation Status: NE
Comments: Endemic for the inter Andean valleys with its core population almost certainly in the valleys of the Province Florida (Department Santa Cruz) where a rapid habitat destruction is going on.

Dendrophidion dendrophis (SCHLEGEL)

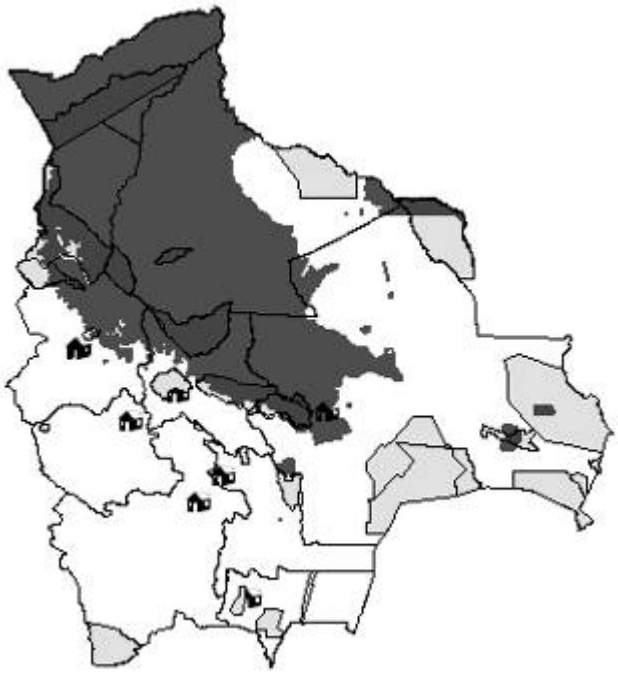

Figure 370 Extrapolated Distribution of *Dendrophidion dendrophis*

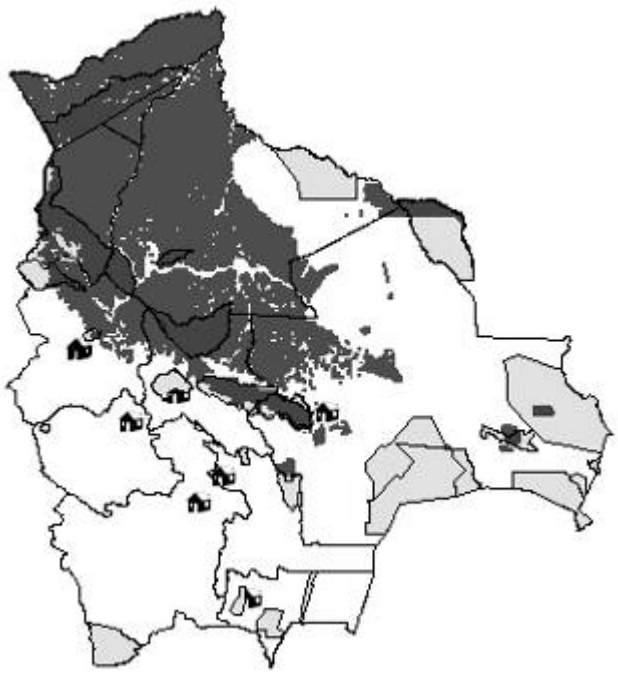

Figure 371 Fragmentation of Habitat of *Dendrophidion dendrophis*

Map Quality: Medium confidence
Very isolated distribution in eastern Bolivia is questionable, also regarding the global distribution of the species.
Global distribution: Colombia, Ecuador, Venezuela, Peru, Brazil, French Guiana y Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: UNCERTAIN
Taxonomic status of this species is not really clear. Examined specimens show several differences: Differs from *Dendrophidion dendrophis* in French Guyana by having a slightly higher number of Ventral scales (149-162 versus 143-155 [Chippaux 1986] but versus 153-154

for Brazilian (Carajás, Pará) specimen [do Nascimento et al. 1987] and a distinct lower number of Subcaudals (136-170 versus 178-191) in specimens from French Guyana [Chippaux 1986], versus always more than 165 Subcaudals in Venezuelan specimens [Kornacker 1999] and versus 161-170 Subcaudals in Brazilian (Carajás, Pará) specimen [do Nascimento et al. 1987]).

Sensibility for habitat alteration: SENSIBLE

Distribution Value: 22895: 0

Distr. Total = 28950; EDC 1 = 16431; EDC 2 = 6464; EDC 3 = 3641; EDC 4 = 1784; EDC 5 = 630

Fragmentation: SOME: 1

Some Fragmentation mainly by strong habitat destruction around Santa Cruz and the Chapare region and by highways

Distribution in good National parks: VERY STRONG: 0

5705 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca

Use: NONE: 0

Rarity: VERY COMMON: 0

0+1+0+0+0 = 1 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE

Comments: Terra typica: "Cayena" [=Cayenne].

Dipsas catesbyi SENTZEN

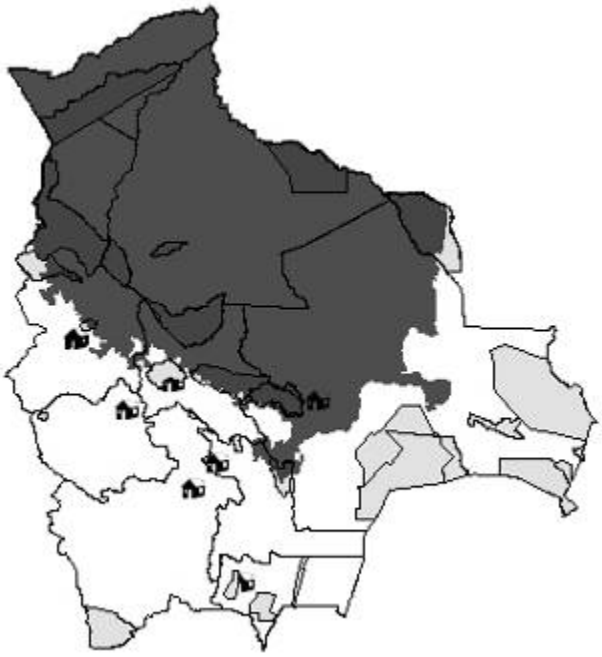

Figure 372 Extrapolated Distribution of *Dipsas catesbyi*

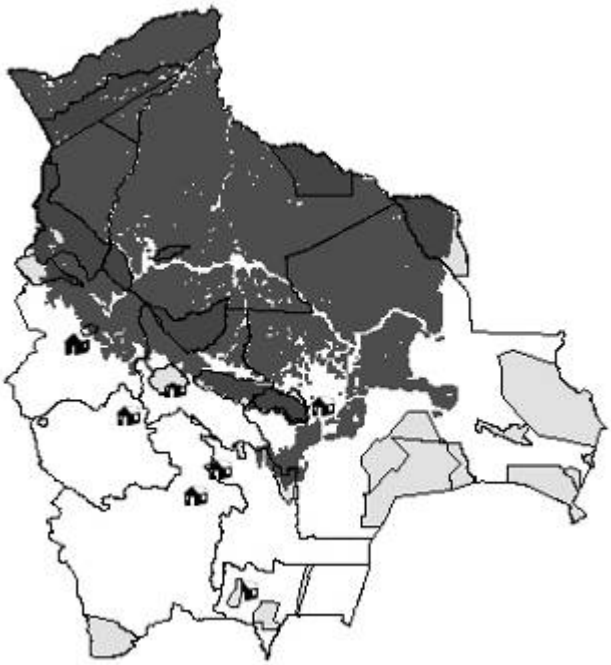

Figure 373 Fragmentation of Habitat of *Dipsas catesbyi*

Map Quality: High confidence
Global distribution: Peru, Ecuador, Colombia, Venezuela, Guyana, Brazil, French Guiana, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 33837: 0
Distr. Total = 41443; EDC 1 = 25235; EDC 2 = 8602; EDC 3 = 4486; EDC 4 = 2281; EDC 5 = 839
Fragmentation: SOME: 1
Some Fragmentation mainly by strong habitat destruction around Santa Cruz and the Chapare region and by highways
Distribution in good National parks: VERY STRONG: 0
7887 cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "probably America" (fide Kornacker 1999).

Dipsas chaparensis REYNOLDS & FOSTER

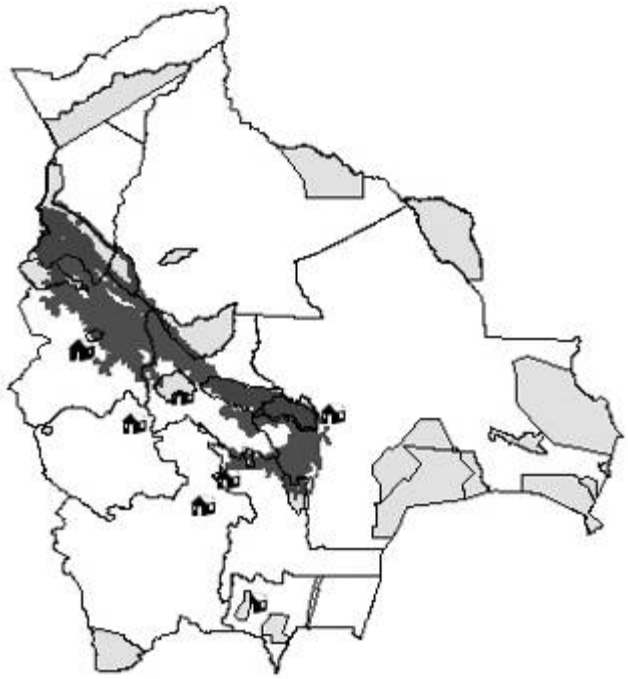

Figure 374 Extrapolated Distribution of *Dipsas chaparensis*

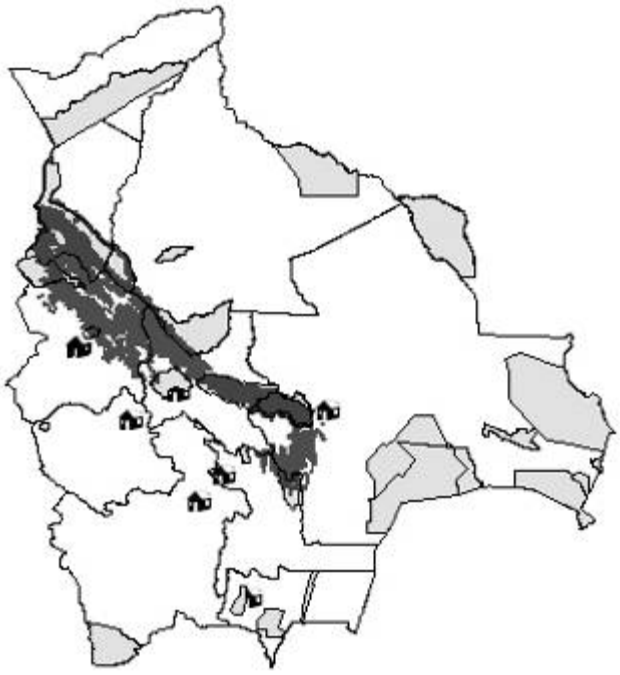

Figure 375 Fragmentation of Habitat of *Dipsas chaparensis*

Map Quality: High confidence
Global distribution: Bolivia (Beni, Cochabamba, La Paz, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 4696: 0
Distr. Total = 6011; EDC 1 = 3922; EDC 2 = 774; EDC 3 = 412; EDC 4 = 355; EDC 5 = 548
Fragmentation: NONE: 0
Distribution in good National parks: VERY STRONG: 0
2609 (10436 km²) grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, El Palmar, Iñao, Isiboro Sécure, Madidi, Pilón Lajas, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+0+0+0+1 = 1

Conservation status: Least Concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Specimens of *Dipsas boettgeri* reported from Bolivia turned out to belong to *Dipsas chaparensis* what makes the Distribution of *Dipsas boettgeri* in Bolivia doubtful.

Dipsas indica LAURENTI

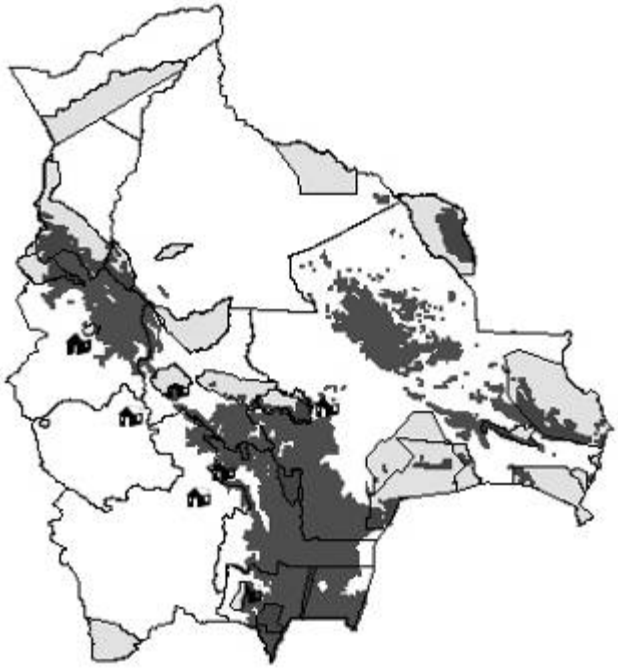

Figure 376 Extrapolated Distribution of *Dipsas indica*

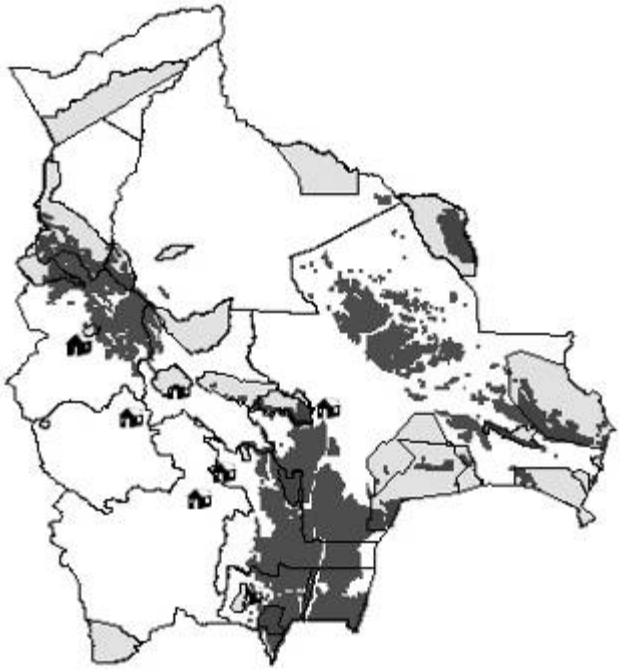

Figure 377 Fragmentation of Habitat of *Dipsas indica*

Map Quality: Low confidence
The map shows strong problems caused by incomplete data. One specimen is known from Pando without exact locality. That's why it was not included in the extrapolation and Pando is excluded from the area of distribution although it should be included. At all the extrapolation shows a very disjunctive habitat.
Global distribution: Colombia, Venezuela, Guyana, Surinam, French Guiana, Brazil, Ecuador, Peru, Paraguay, Bolivia (Beni, Cochabamba, Chuquisaca, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 11011: 0
Distr. Total = 14937; EDC 1 = 8229; EDC 2 = 2782; EDC 3 = 1227; EDC 4 = 994; EDC 5 = 1705
Fragmentation: NONE: 0
The habitat seems very disjunctive but there is nearly no fragmentation caused by human impact although some habitat reduction is notable.
Distribution in good National parks VERY STRONG: 0
3246 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, Iñao, Isiboro Sécure, Kaa-Iya, Madidi, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa, Torotoro, Tunari
Use: NONE: 0
Rarity: RARE: 3

0+0+0+0+3 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Ceylon". Terra typica: in error (see comment) [indica]

Dipsas pavonina SCHLEGEL

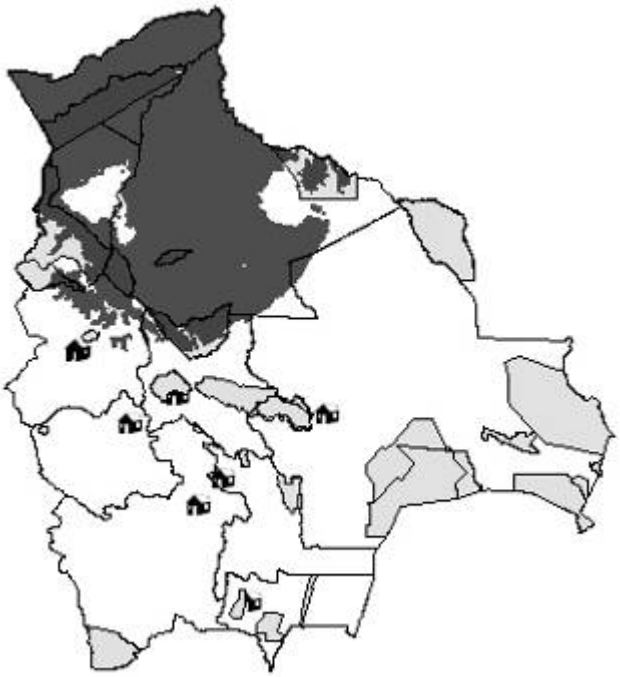

Figure 378 Extrapolated Distribution of *Dipsas pavonina*

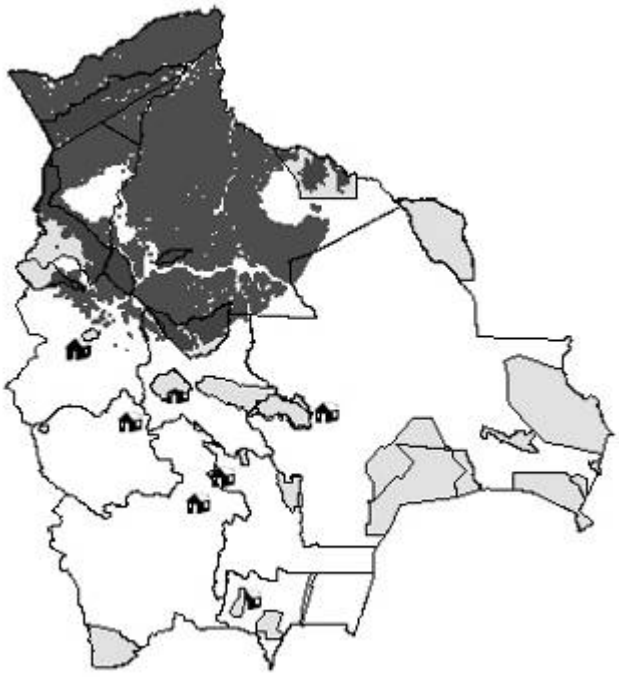

Figure 379 Fragmentation of Habitat of *Dipsas pavonina*

Map Quality: High confidence
Global distribution: Guyana, Surinam, French Guiana, Venezuela, Brazil, Colombia, Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 17559: 0
Distr. Total = 21015; EDC 1 = 12221; EDC 2 = 5338; EDC 3 = 2576; EDC 4 = 682; EDC 5 = 198
Fragmentation: SOME: 1
Some Fragmentation mainly by highways
Distribution in good National parks: VERY STRONG: 0
3926 grid cells in Parks: Apolobamba, EBB, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, Pilón Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Guyanas".

Drepanoides anomalus (JAN)

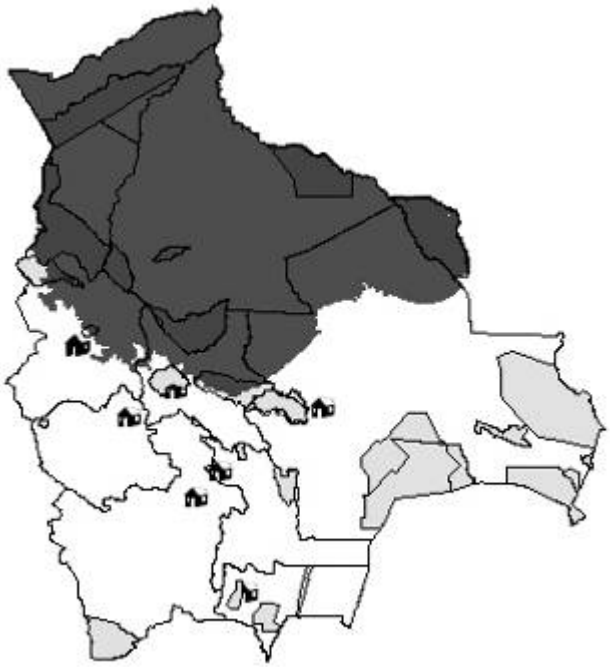

Figure 380 Extrapolated Distribution of *Drepanoides anomalus*

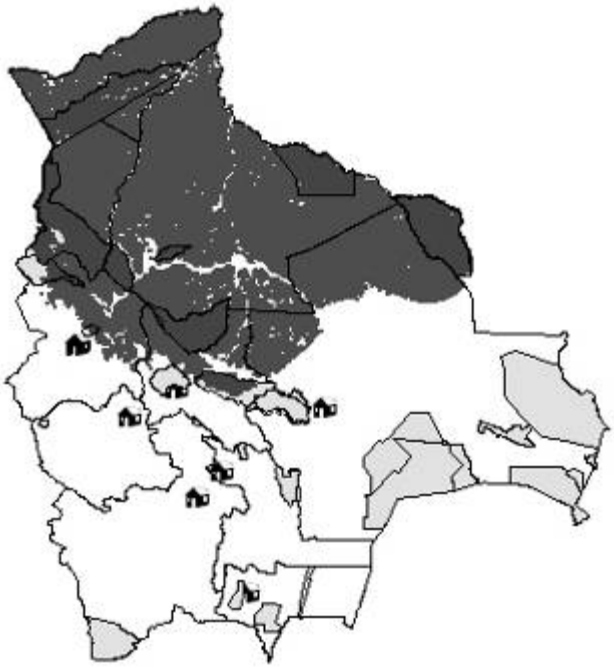

Figure 381 Fragmentation of Habitat of *Drepanoides anomalus*

Map Quality: High confidence
Global distribution: Brazil, Colombia, Peru, Ecuador, French Guiana, Bolivia (Beni, Cochabamba La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 30028: 0
Distr. Total = 35193; EDC 1 = 22643; EDC 2 = 7385; EDC 3 = 3566; EDC 4 = 1125; EDC 5 = 474
Fragmentation: SOME: 1
Some fragmentation in the Chapare region and by highways
Distribution in good National parks: **VERY STRONG: 0**
7348 grid cells in Parks: Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Comments: Terra typica: South America and Brazil

Drymarchon corais (BOIE)

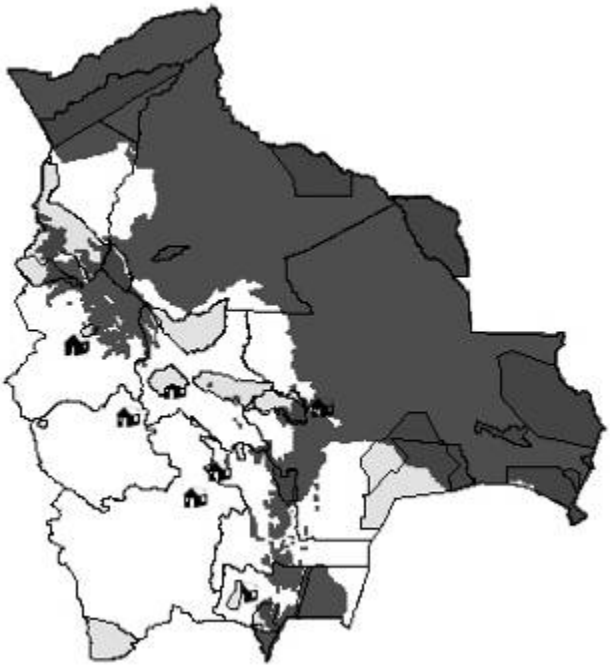

Figure 382 Extrapolated Distribution of *Drymarchon corais*

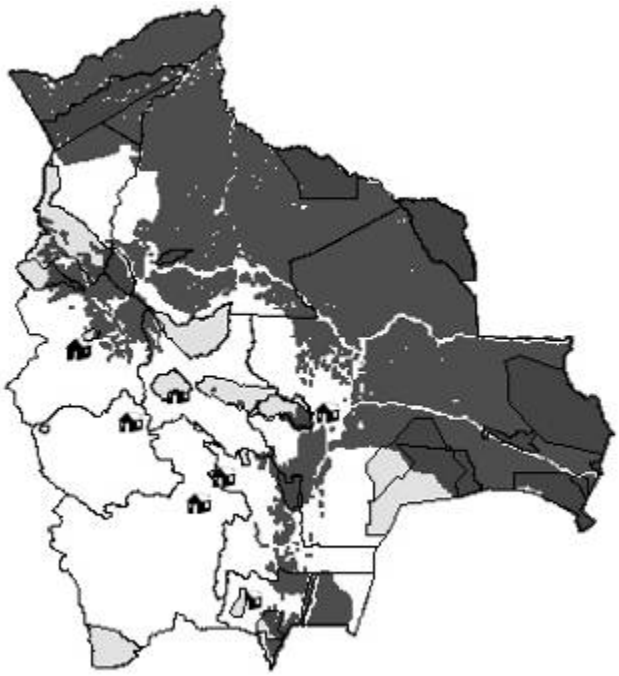

Figure 383 Fragmentation of Habitat of *Drymarchon corais*

Map Quality: Medium confidence
Global distribution: USA, Mexico, Guatemala, Honduras, Belize, El Salvador, Nicaragua, Costa Rica, Panama, Trinidad, Tobago, French Guiana, Colombia, Venezuela, Brazil, Ecuador, Peru, Argentina, Paraguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 38304: 0
Distr. Total = 45451; EDC 1 = 28841; EDC 2 = 9463; EDC 3 = 4289; EDC 4 = 2206; EDC 5 = 652
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways
Distribution in good National parks: **VERY STRONG: 0**
10422 grid cells in Parks: Aguaragüe, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: VERY COMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: America [*Drymarchon corais corais*]

Drymobius rhombifer (GÜNTHER)

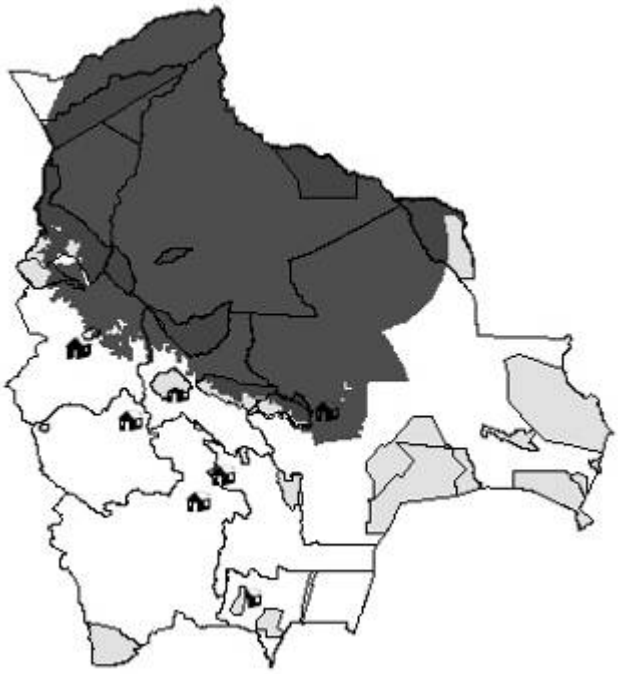

Figure 384 Extrapolated Distribution of *Drymobius rhombifer*

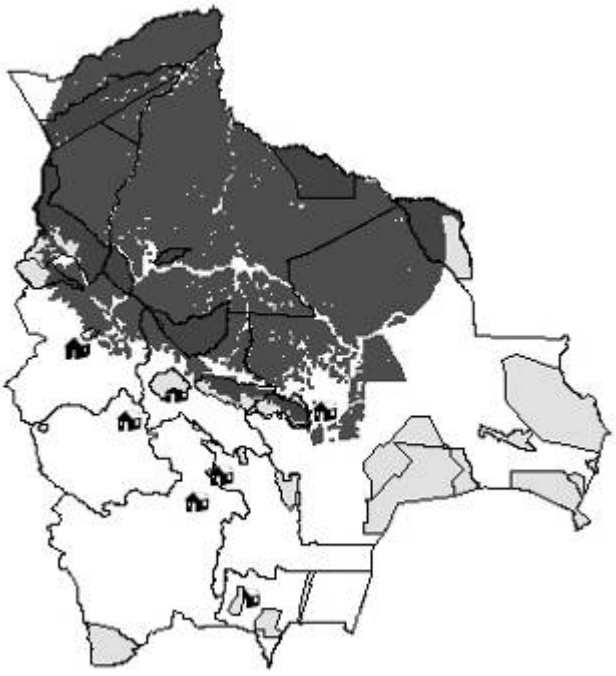

Figure 385 Fragmentation of Habitat of *Drymobius rhombifer*

Map Quality: High confidence
Global distribution: Nicaragua, Costa Rica, Panama, Colombia, Venezuela, French Guiana, Ecuador, Peru, Brazil, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz).
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 30033: 0
Distr. Total = 37032; EDC 1 = 22235; EDC 2 = 7798; EDC 3 = 4204; EDC 4 = 2077; EDC 5 = 718
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6860 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comment: Terra typica: "Antioquia (Neugranada)" [Colombia]. Holotype: ZMB 9525 *Drymoluber dichrous*.

Drymoluber dichrous (PETERS)

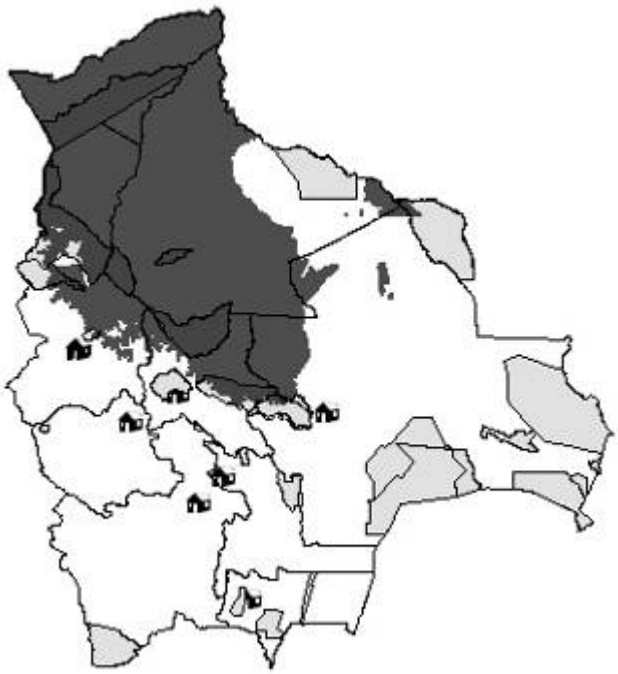

Figure 386 Extrapolated Distribution of *Drymoluber dichrous*

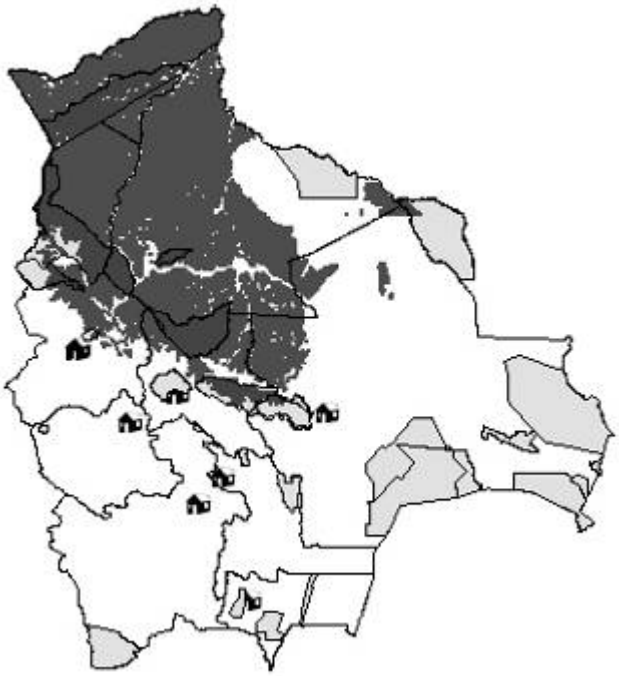

Figure 387 Fragmentation of Habitat of *Drymoluber dichrous*

Map Quality: High confidence
Global distribution: Colombia, Ecuador, Peru, Brazil, Venezuela, French Guiana, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 21177: 0
Distr. Total = 25832; EDC 1 = 15267; EDC 2 = 5910; EDC 3 = 3152; EDC 4 = 1095; EDC 5 = 408
Fragmentation: SOME: 1
Some fragmentation by highways and in the Chapare region
Distribution in good National parks: **VERY STRONG: 0**
4877 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: NONE: 0

Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Brasilien [und] angeblich aus Surinam"; Syntypes: ZMB 1661-2

Echinanthera occipitalis (JAN)

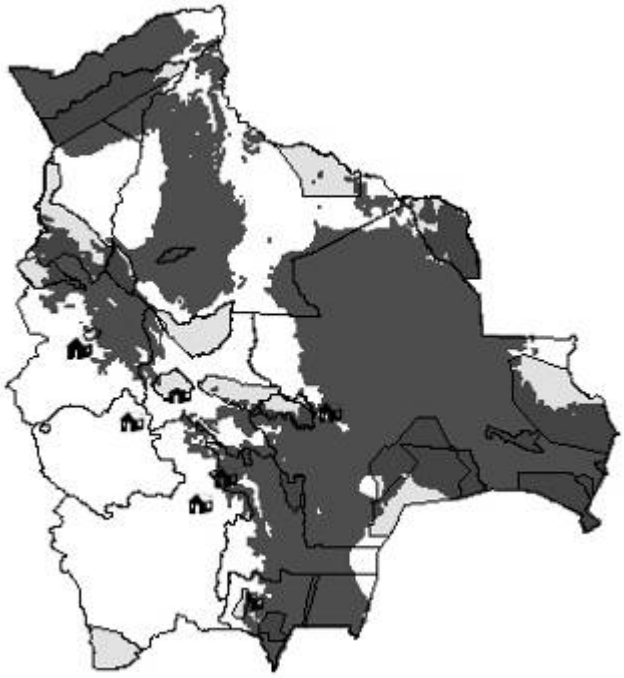

Figure 388 Extrapolated Distribution of *Echinanthera occipitalis*

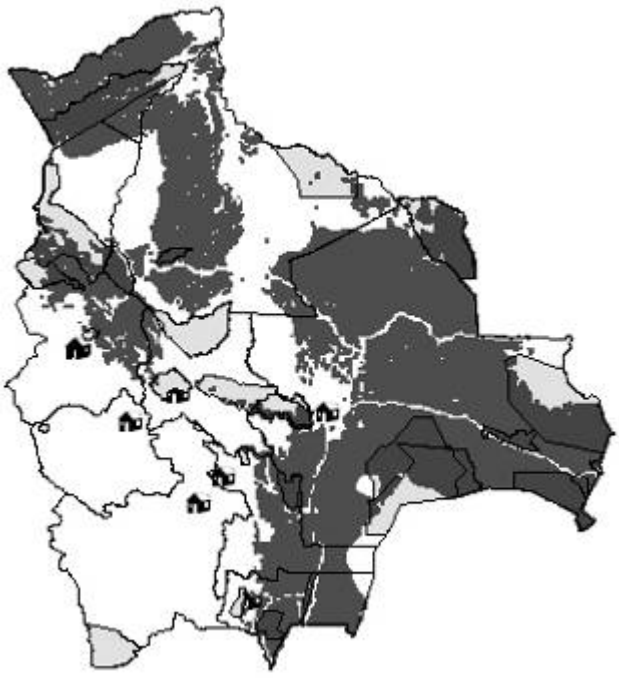

Figure 389 Fragmentation of Habitat of *Echinanthera occipitalis*

Map Quality: Medium confidence
Global distribution: Peru, Paraguay, Argentina, Colombia, Uruguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Potosi, Santa Cruz, Tarija)
Taxonomic status: UNCERTAIN
There may be two different species in Bolivia. Lowland species show typical species characters, whereas species from the inter Andean dry valleys have higher numbers in Ventral and Subcaudal scale counts, SL in contact with eye and an absent middorsal line. Pholidosis data suggest two major morphological groups, one from the inter Andean dry valleys and one from the lowland of Bolivia, whereas extrapolated distribution shows disjunctive distribution splitting in a northern and a southern group.
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 34801: 0
Distr. Total = 42566; EDC 1 = 26309; EDC 2 = 8492; EDC 3 = 3534; EDC 4 = 2393; EDC 5 = 1838
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
9342 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquìa, Torotoro, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Bahia, Brazil

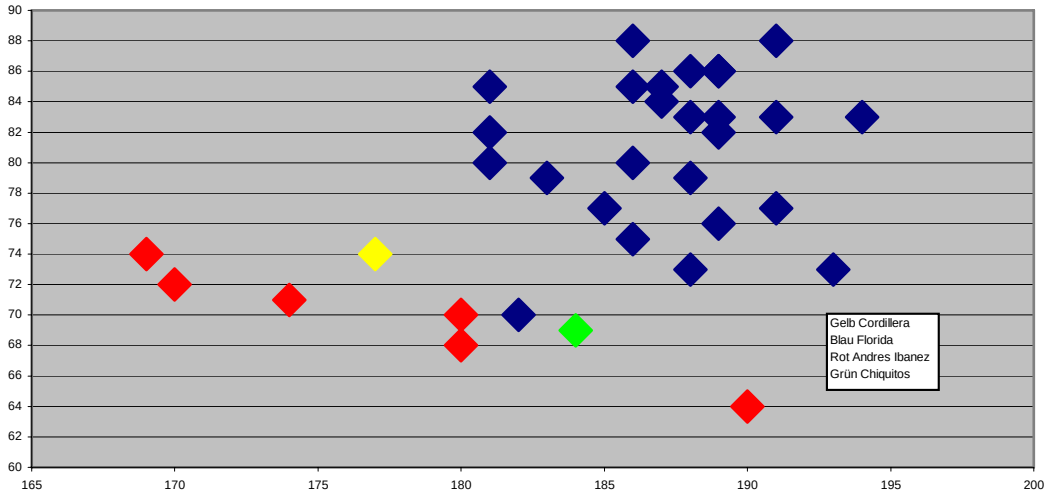

Figure 390 Comparison of SC/V scale counts from different areas in Bolivia (blue = inter Andean dry valleys; yellow = Cordillera; red = Province Andres Ibañez; Green = Chiquitania)

Echinanthera sp. nov.

Figure 391: ***Echinanthera*** **sp. nov.**

Global distribution: endemic for the yungas region of the inter Andean dry valleys (Province Florida)
Taxonomic status: OK
This is a new species of the genus *Echinanthera* and is in description by Embert, Gonzales & Reichle. Until now just known from one locality in the Yungas of the inter Andean dry valleys
Sensibility for habitat alteration: SENSIBLE
Distribution Value: UNKNOWN
Fragmentation: UNKNOWN
Distribution in good National parks:
All three specimens have been found in the border region to the Amboró National park.
Use: NONE
Rarity: Just known from three specimens

Conservation status: DD

Conservation status IUCN: DD
Official IUCN Conservation Status: NE
Comments: In description by the Author of this work and two coauthors

Erythrolamprus aesculapii (LINNAEUS)

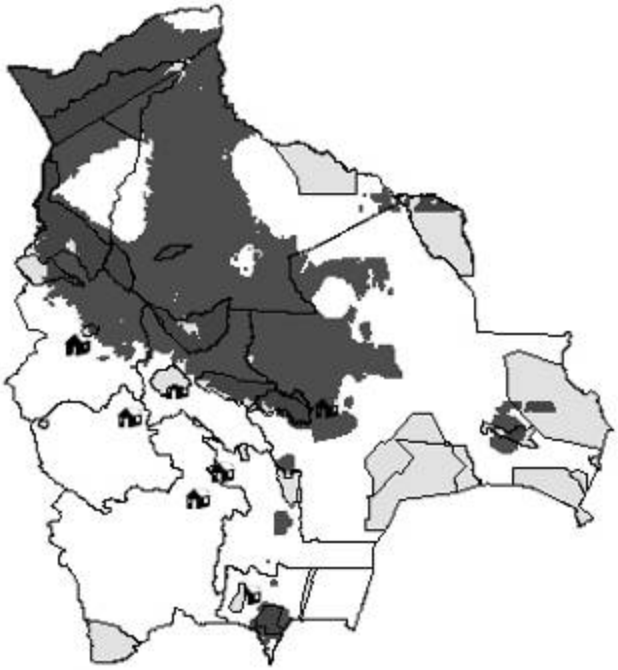

Figure 392 Extrapolated Distribution of *Erythrolamprus aesculapii*

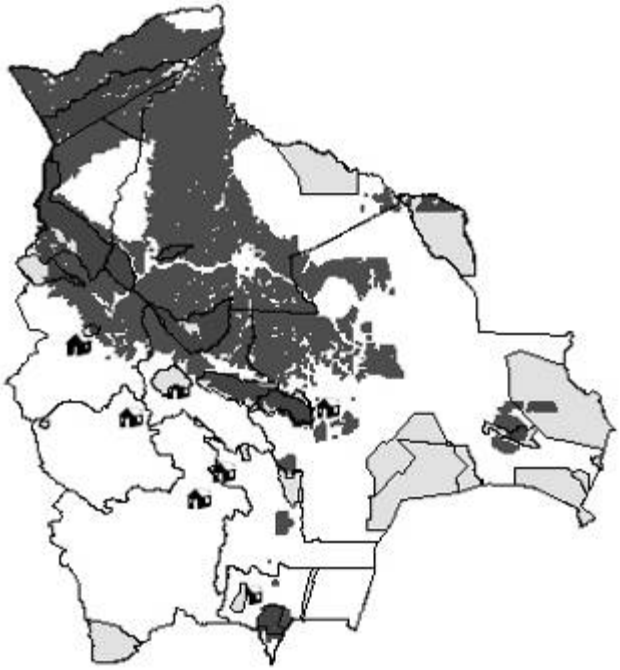

Figure 393 Fragmentation of Habitat of *Erythrolamprus aesculapii*

Map Quality: High confidence
Global distribution: Brazil, Peru, Colombia, Ecuador, French Guiana, Venezuela, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 21249: 0
Distr. Total = 26911; EDC 1 = 15154; EDC 2 = 6095; EDC 3 = 3217; EDC 4 = 1776; EDC 5 = 669
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5924 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: VERY COMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Some material in Bolivian collections which had been identified as *Erythrolamprus aesculapii* seem to belong to another species of *Erythrolamprus* (here listed as *Erythrolamprus* sp.).

Erythrolamprus sp.

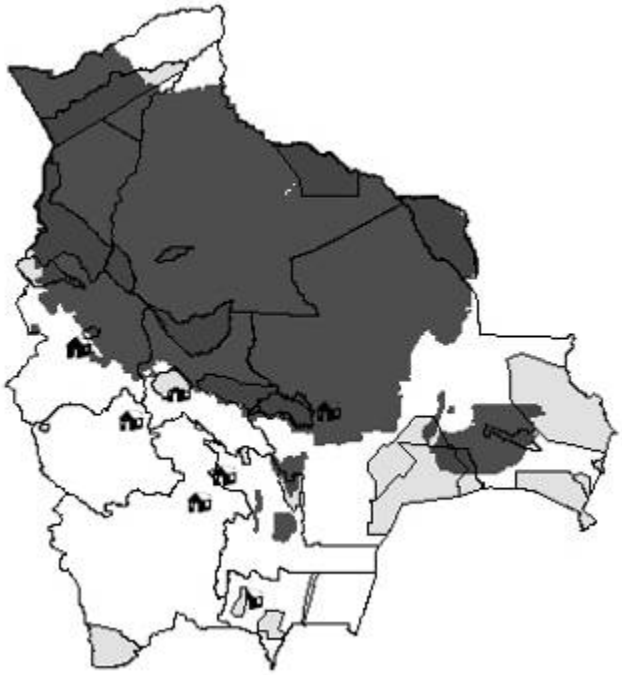

Figure 394 Extrapolated Distribution of *Erythrolamprus* sp.

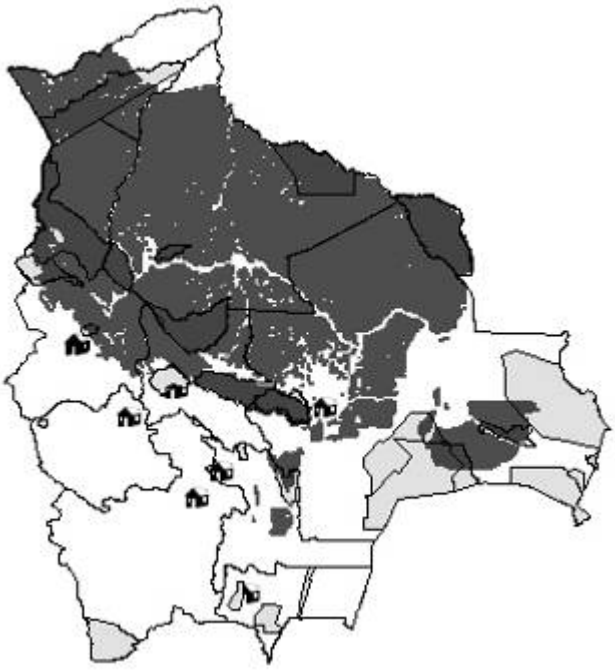

Figure 395 Fragmentation of Habitat of *Erythrolamprus* sp.

Map Quality: High confidence
Global distribution: UNKNOWN, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz), probably Brazil, probably Peru
Taxonomic status: UNCERTAIN
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 34579: 0
Distr. Total = 41981; EDC 1 = 26172; EDC 2 = 8407; EDC 3 = 4159; EDC 4 = 2309; EDC 5 = 934
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
8914 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: The species differs mainly by its coloration from *Erythrolamprus aesculapii* and is regarded as a separate species. Closer examination of the species is in progress.

Helicops angulatus (LINNAEUS)

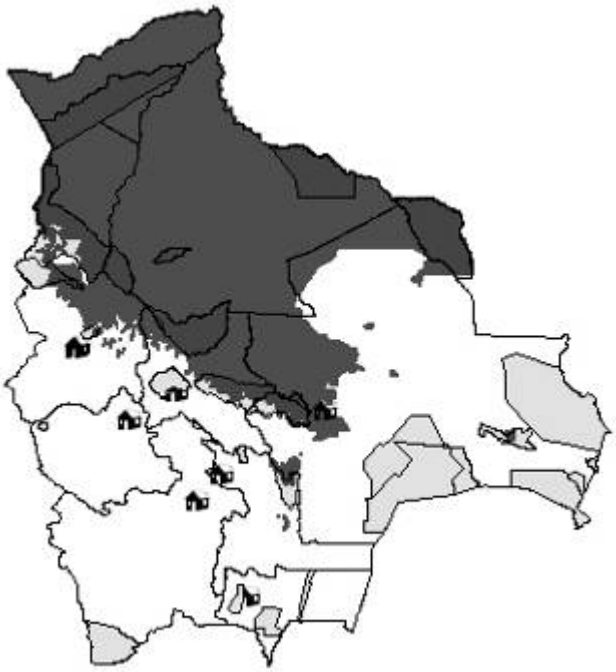

Figure 396 Extrapolated Distribution of *Helicops angulatus*

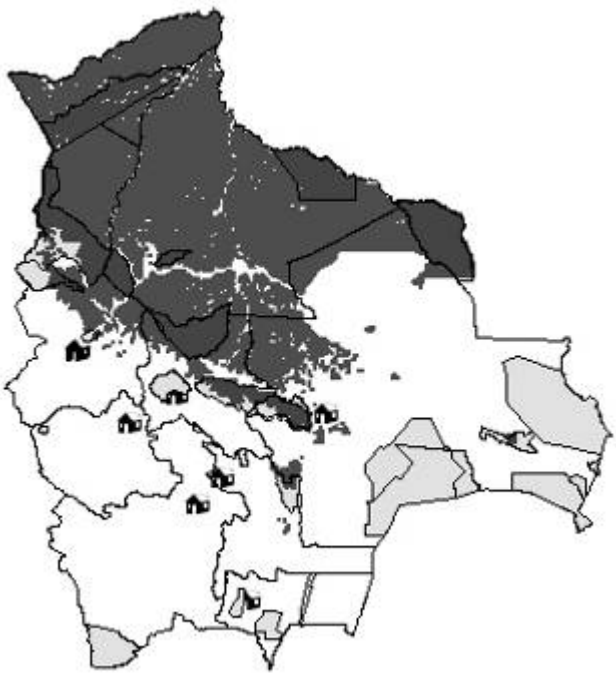

Figure 397 Fragmentation of Habitat of *Helicops angulatus*

Map Quality: High confidence
Distribution in Tucavaca National park is questionable as it would present a very isolated population.
Global distribution: Venezuela, Colombia, Brazil, Peru, Trinidad, Ecuador, French Guiana, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 27220: 0
Distr. Total = 33237; EDC 1 = 20006; EDC 2 = 7214; EDC 3 = 3813; EDC 4 = 1696; EDC 5 = 508
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

7429 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, NKM, Pilón Lajas, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Asia" (in error).

Helicops leopardinus (SCHLEGEL)

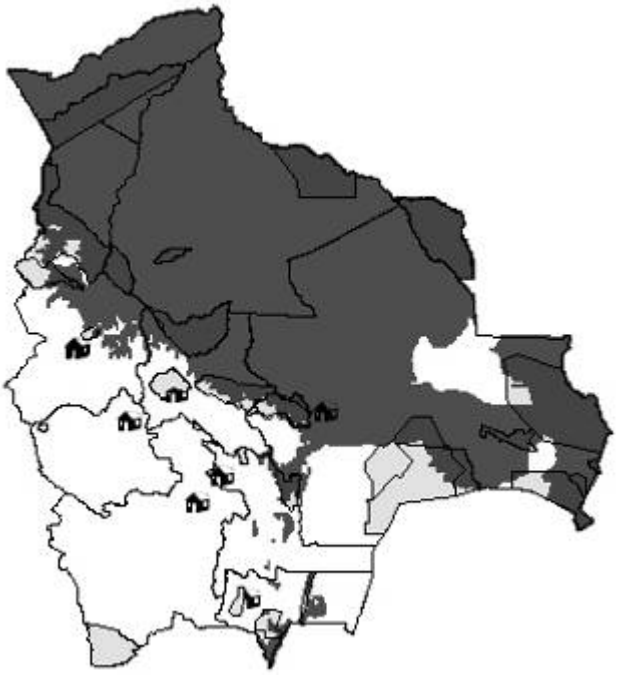

Figure 398 Extrapolated Distribution of *Helicops leopardinus*

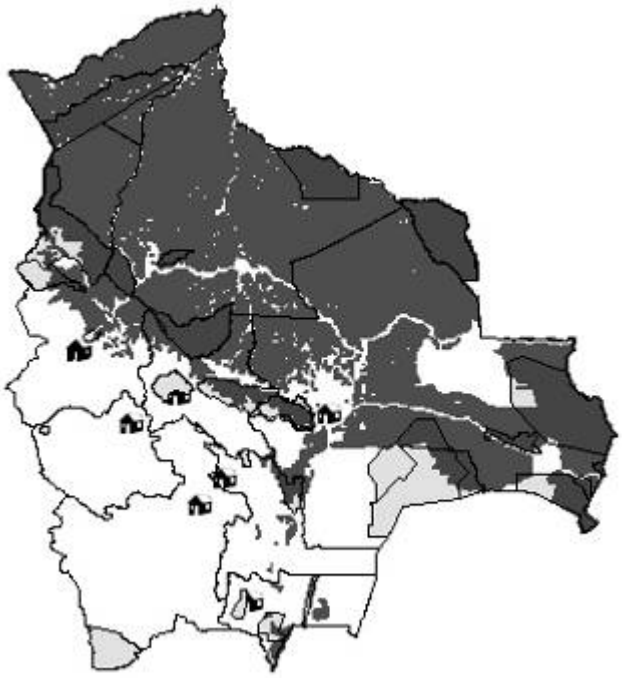

Figure 399 Fragmentation of Habitat of *Helicops leopardinus*

Map Quality: High confidence
Global distribution: Guiana, Surinam, French Guiana, Brazil, Paraguay, Argentina, Colombia, Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 40387: 0
Distr. Total = 48502; EDC 1 = 30663; EDC 2 = 9724; EDC 3 = 4794; EDC 4 = 2547; EDC 5 = 774
Fragmentation: SOME: 1

Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.

Distribution in good National parks: **VERY STRONG: 0**

11617 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquìa

Use: NONE: 0

Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE

Comments: Terra typica: unknown (fide Starace 1998). The occurrence of *Helicops leopardinus* in Colombia has been questioned (Pérez-Santos & Moreno, cited in Cadle, Herpetologica 48 (1): 137)

Helicops polylepis GÜNTHER

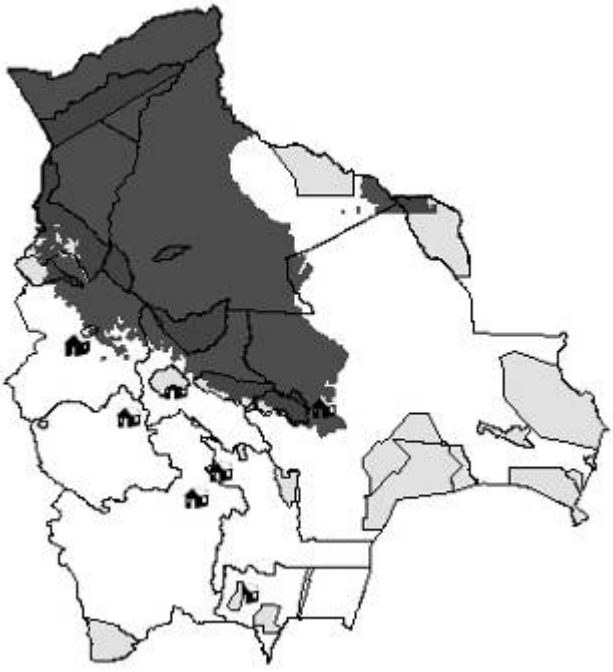

Figure 400 Extrapolated Distribution of *Helicops polylepis*

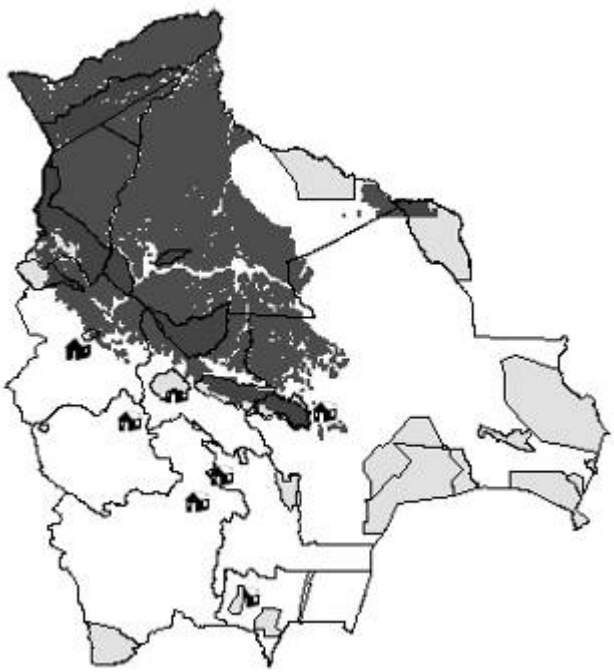

Figure 401 Fragmentation of Habitat of *Helicops polylepis*

Map Quality: High confidence

Global distribution: Brazil, Colombia, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)

Taxonomic status: OK

Sensibility for habitat alteration: SENSIBLE
Distribution Value: 21952: 0
Distr. Total = 27483; EDC 1 = 15819; EDC 2 = 6133; EDC 3 = 3452; EDC 4 = 1584; EDC 5 = 495
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5507 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Upper Amazon.

Hydrodynastes gigas (DUMÉRIL, BIBRON & DUMÉRIL)

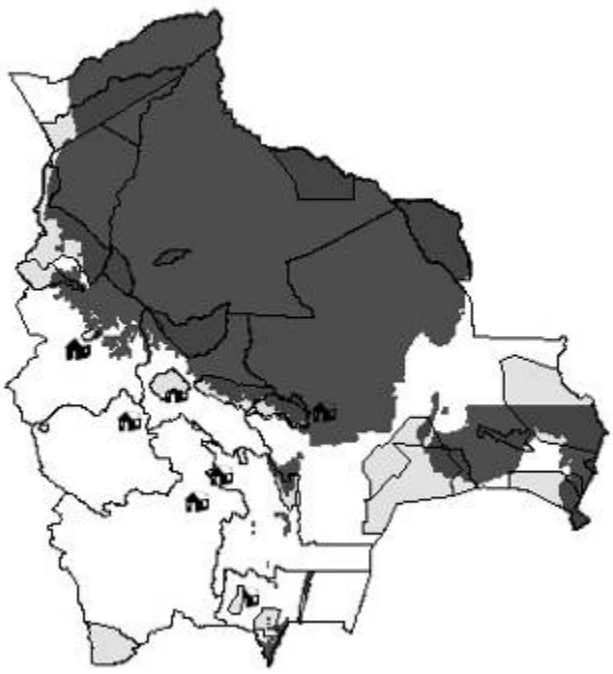

Figure 402 Extrapolated Distribution of *Hydrodynastes gigas*

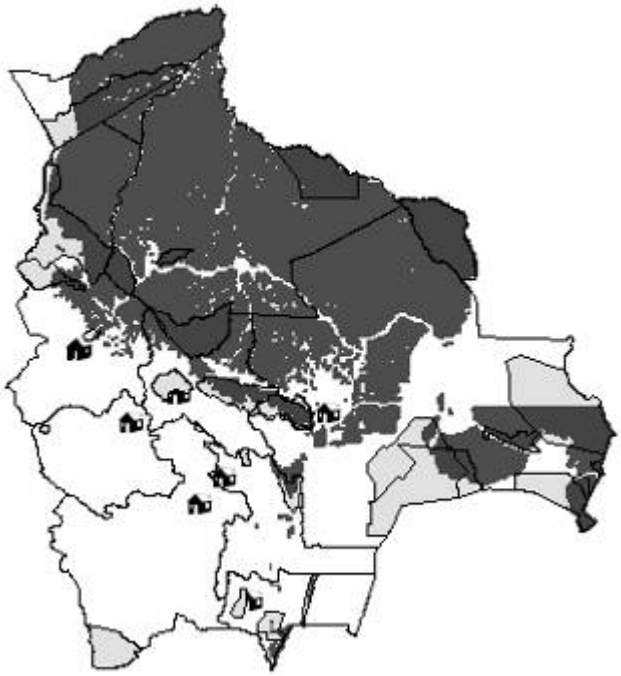

Figure 403 Fragmentation of Habitat of *Hydrodynastes gigas*

Map Quality: High confidence

Global distribution: French Guiana, Brazil, Paraguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 36259: 0
Distr. Total = 34883; EDC 1 = 26279; EDC 2 = 8604; EDC 3 = 4402; EDC 4 = 2280; EDC 5 = 721
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
8935 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix II. Terra typica: Corrientes, Argentina.

Hydrops triangularis (WAGLER)

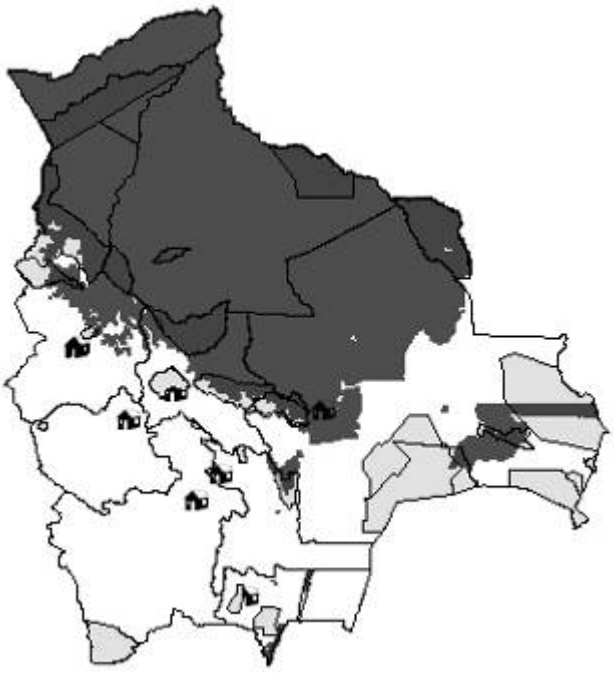

Figure 404 Extrapolated Distribution of *Hydrops triangularis*

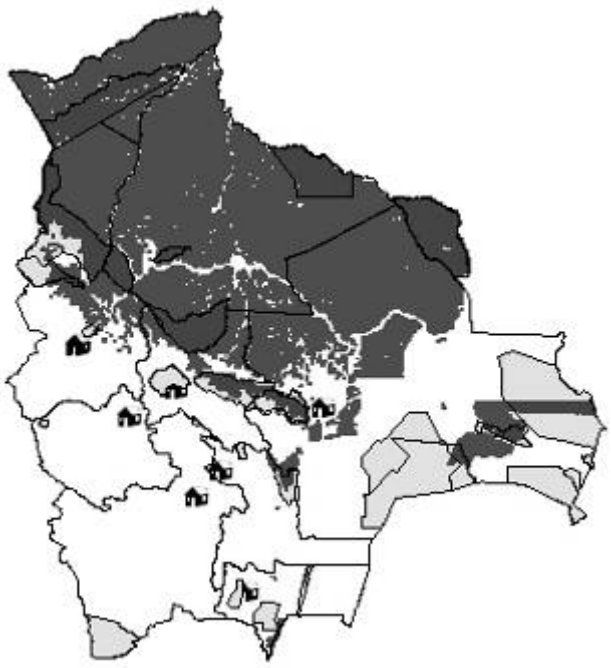

Figure 405 Fragmentation of Habitat of *Hydrops triangularis*

Map Quality: High confidence
Global distribution: Venezuela, Guyana, Surinam, French Guiana, Trinidad, Peru, Ecuador, Brazil, Colombia, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 33035: 0
Distr. Total = 40265; EDC 1 = 24623; EDC 2 = 8412; EDC 3 = 4352; EDC 4 = 2183; EDC 5 = 695
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7883 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Ega (= Tefé) Lago Tefé, at confluence with Rio Amazon, Brazil.

Imantodes cenchoa (LINNAEUS)

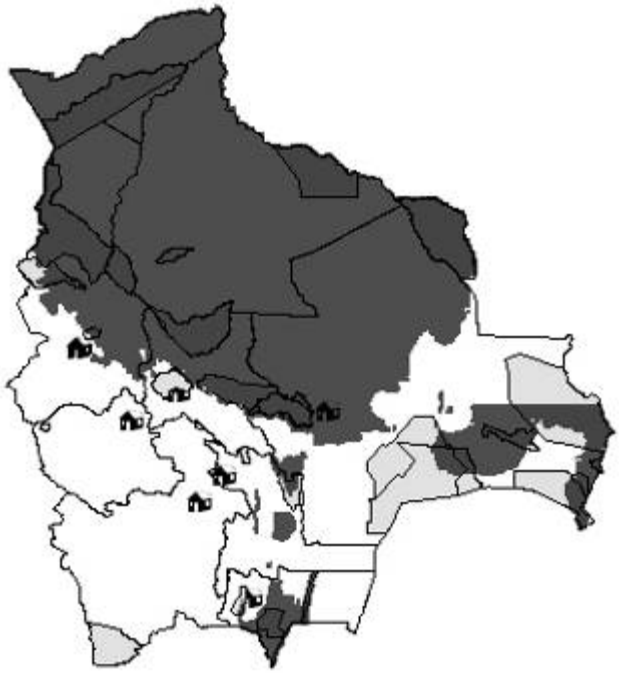

Figure 406 Extrapolated Distribution of *Imantodes cenchoa*

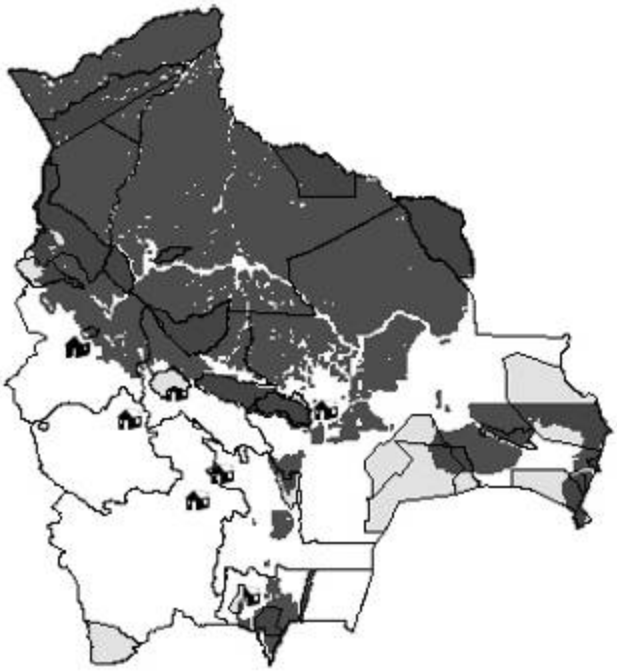

Figure 407 Fragmentation of Habitat of *Imantodes cenchoa*

Map Quality: High confidence
Global distribution: Mexico, Guatemala, Honduras, Belize, El Salvador, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, French Guiana, Brazil, Paraguay, Peru, Trinidad, Tobago, Argentina, Ecuador, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 38161: 0
Distr. Total = 46282; EDC 1 = 28722; EDC 2 = 9439; EDC 3 = 4742; EDC 4 = 2460; EDC 5 = 919
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
10612 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cordillera de Sama, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "America"

Imantodes lentiferus COPE

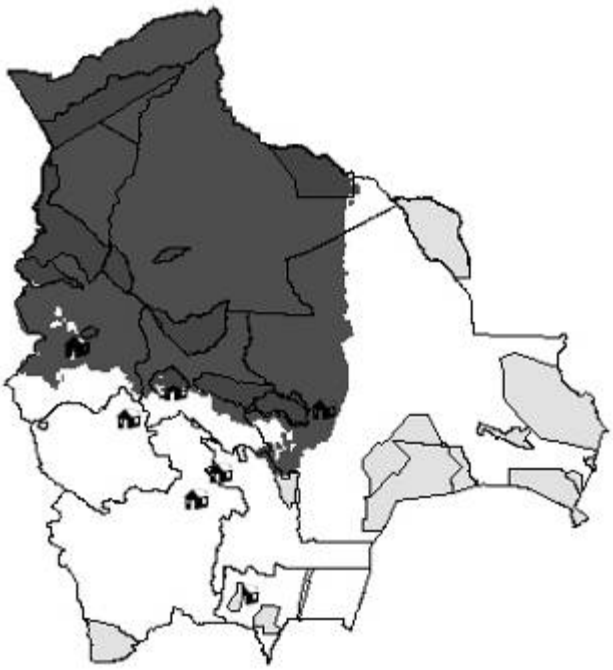

Figure 408 Extrapolated Distribution of *Imantodes lentiferus*

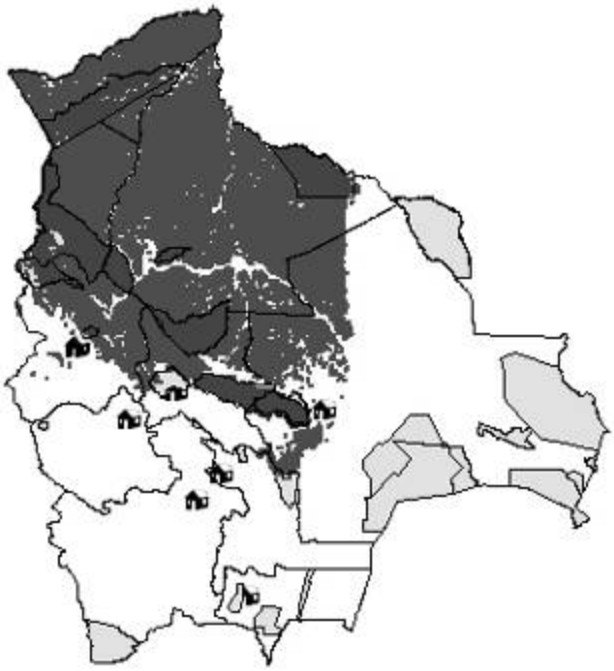

Figure 409 Fragmentation of Habitat of *Imantodes lentiferus*

Map Quality: High confidence
Global distribution: Brazil, Colombia, Venezuela, Ecuador, Peru, French Guiana, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 28130: 0
Distr. Total = 36750; EDC 1 = 20489; EDC 2 = 7641; EDC 3 = 4216; EDC 4 = 2460; EDC 5 = 1944
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7495 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Madidi, Manuripi-Heath, Pilón Lajas, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Pebas, Ecuador.

Leptodeira annulata (LINNAEUS)

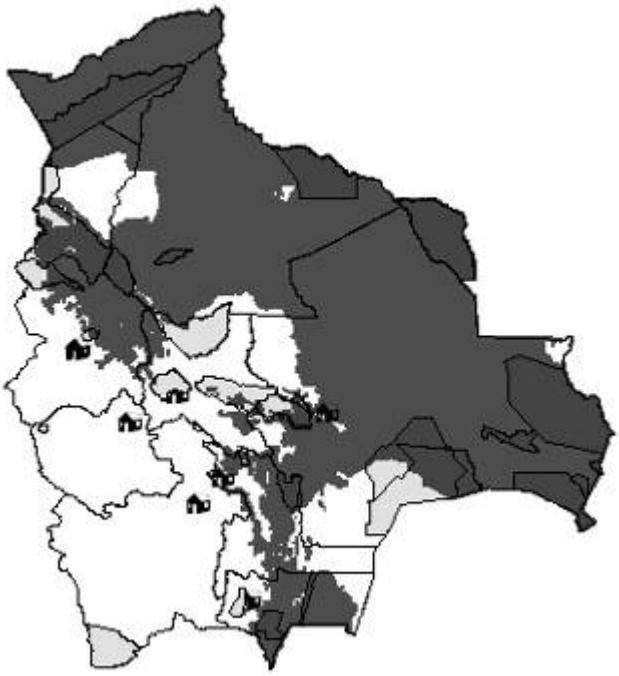

Figure 410 Extrapolated Distribution of *Leptodeira annulata*

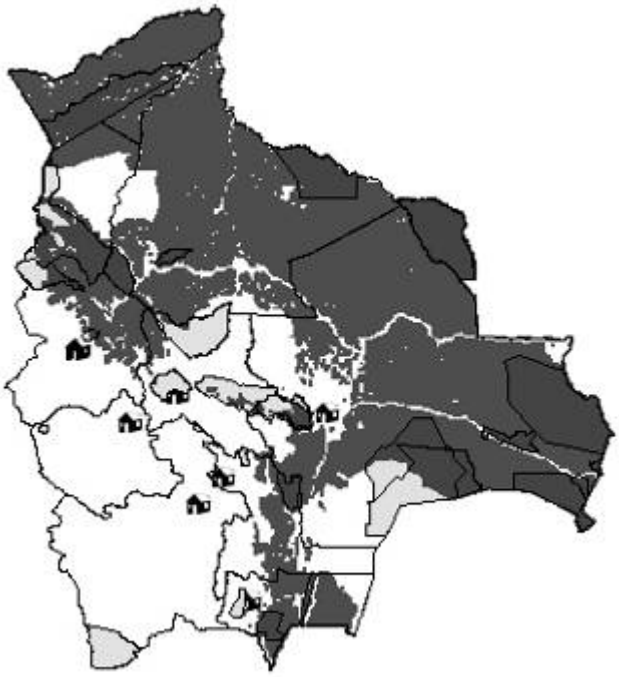

Figure 411 Fragmentation of Habitat of *Leptodeira annulata*

Map Quality: High confidence
Global distribution: Mexico, Guatemala, Honduras, Belize, El Salvador, Nicaragua, Costa Rica, Panama, French Guiana, Colombia, Venezuela, Brazil, Paraguay, Peru, Argentina, Trinidad, Tobago, Isla Margarita, Ecuador, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 41798: 0
Distr. Total = 50032; EDC 1 = 31709; EDC 2 = 10089; EDC 3 = 4614; EDC 4 = 2475; EDC 5 = 1145
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**

11994 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "America".

Leptophis ahaetulla (LINNAEUS)

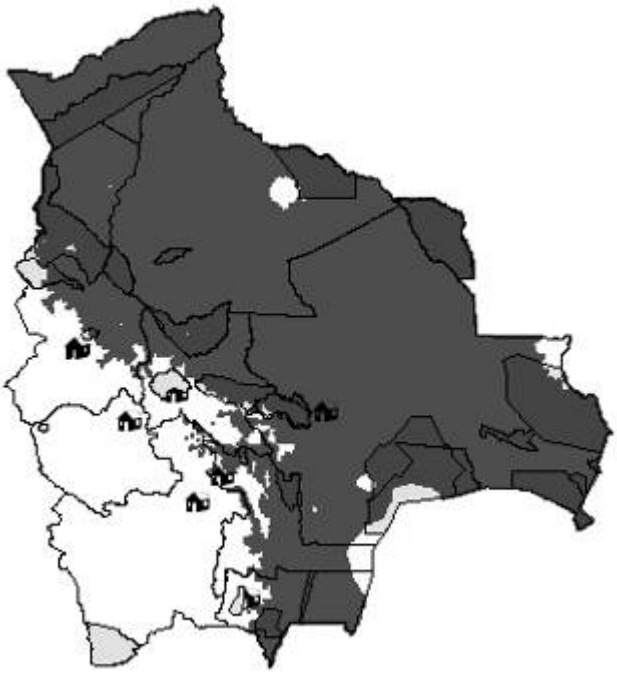

Figure 412 Extrapolated Distribution of *Leptophis ahaetulla*

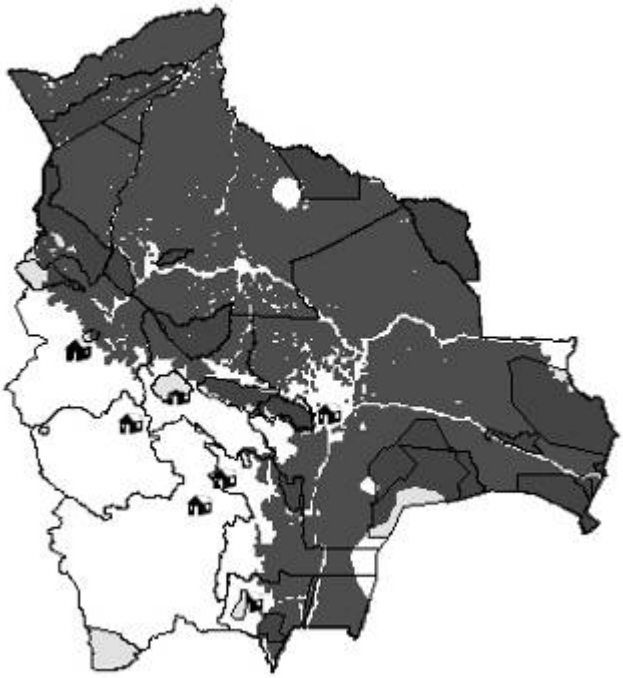

Figure 413 Fragmentation of Habitat of *Leptophis ahaetulla*

Map Quality: High confidence
Global distribution: Mexico, Guatemala, Honduras, Belize, El Salvador, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Trinidad, Tobago, French Guiana, Brazil, Ecuador, Paraguay, Peru, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Potosi, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 49832: 0
Distr. Total = 59851; EDC 1 = 38037; EDC 2 = 11795; EDC 3 = 5486; EDC 4 = 3079; EDC 5 = 1454
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
14480 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa, Torotoro, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Asia, America" (in error)

Liophis almadensis (WAGLER)

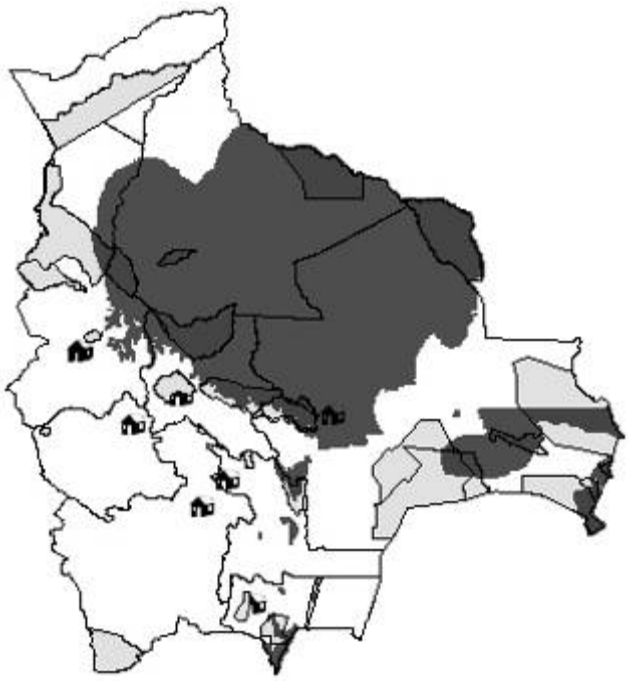

Figure 414 Extrapolated Distribution of *Liophis almadensis*

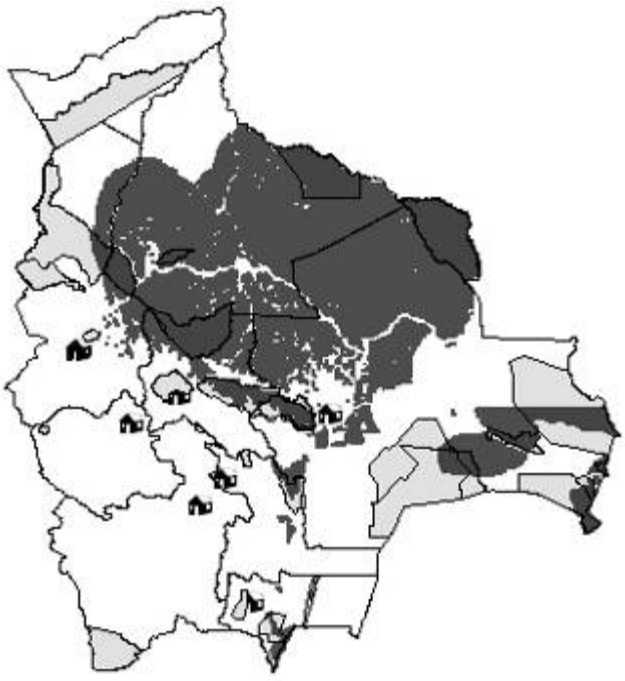

Figure 415 Fragmentation of Habitat of *Liophis almadensis*

Map Quality: High confidence

Global distribution: Brazil, Paraguay, Argentina, Uruguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 25079: 0
Distr. Total = 31026; EDC 1 = 19137; EDC 2 = 5942; EDC 3 = 3236; EDC 4 = 2037; EDC 5 = 674
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6374 grid cells in Parks: Aguarague, Amboró, Carrasco, Cavernas del Repechón, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Almada, Bahia, Brazil. Lectotype designated by Hoogmoed & Gruber 1983.

Liophis andinus DIXON

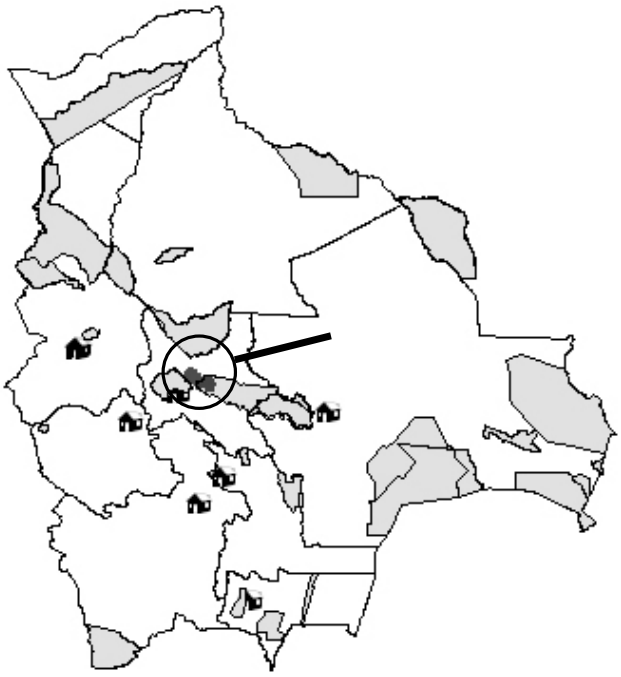

Figure 416 Extrapolated Distribution of *Liophis andinus*

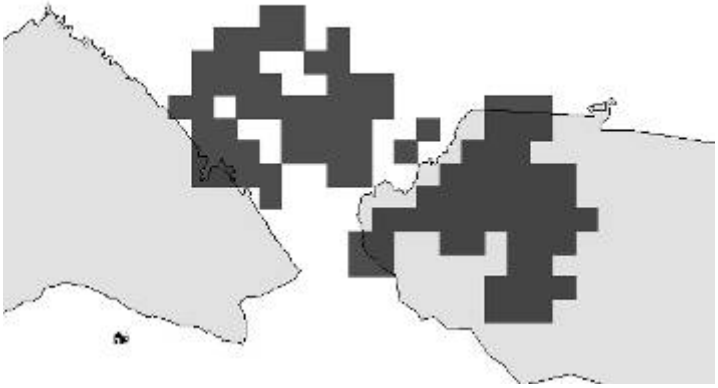

Figure 417 Fragmentation of Habitat of *Liophis andinus*

Map Quality: High confidence
Global distribution: Bolivia (Cochabamba)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 100: 5
Distr. Total = 118; EDC 1 = 65; EDC 2 = 35; EDC 3 = 14; EDC 4 = 4; EDC 5 = 0
Fragmentation: SOME: 1
Some fragmentation splitting the population in two, yet not separated by a wide gap (just 2 to 4 km).
Distribution in good National parks: **VERY STRONG : 0** (more than 50%)
67 grid cells in Parks: Carrasco, Tunari
Use: NONE: 0
Rarity: VERY RARE: 8

5+1+0+0+8 = 14

Conservation status: Vulnerable

Conservation status IUCN: VU B2ab(iii)
Official IUCN Conservation Status: **NE**
Comments: Terra typica: Bolivia, Cochabamba, Incachaca, 2500 m

Liophis anomalus (GÜNTHER)

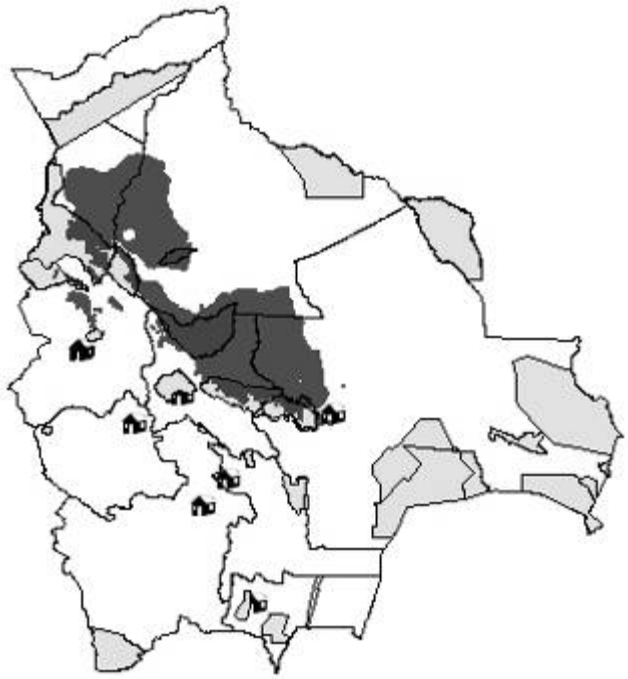

Figure 418 Extrapolated Distribution of *Liophis anomalus*

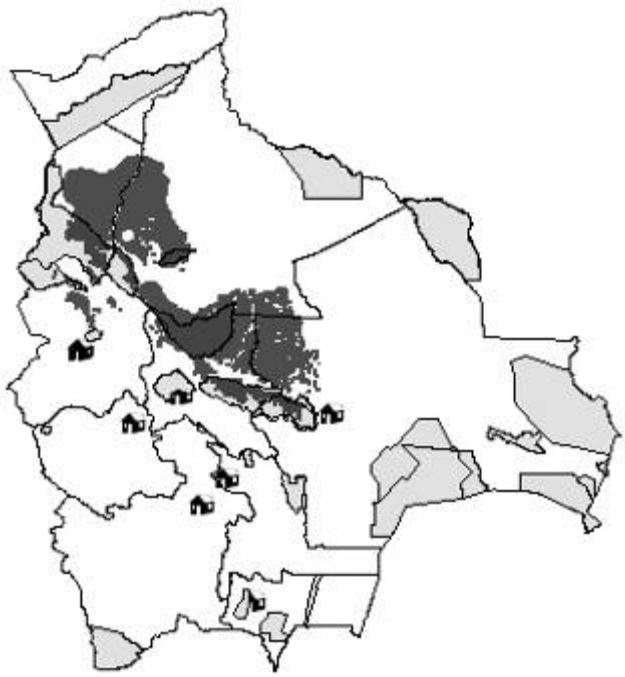

Figure 419 Fragmentation of Habitat of *Liophis anomalus*

Map Quality: High confidence
The extrapolation is based on just two localities.
Global distribution: Brazil, Uruguay, Paraguay, Argentina, Bolivia (Beni, Cochabamba, La Paz, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 6529: 0
Distr. Total = 8520; EDC 1 = 5072; EDC 2 = 1457; EDC 3 = 1095; EDC 4 = 697; EDC 5 = 199
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region.
Distribution in good National parks: **VERY STRONG: 0**
2069 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, EBB, Isiboro Sécure, Madidi, Pilón Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Comments: Uetz (2005) does not cite this species for Bolivia. Specimens are from Departments Beni and La Paz and have not been seen.

Liophis ceii DIXON

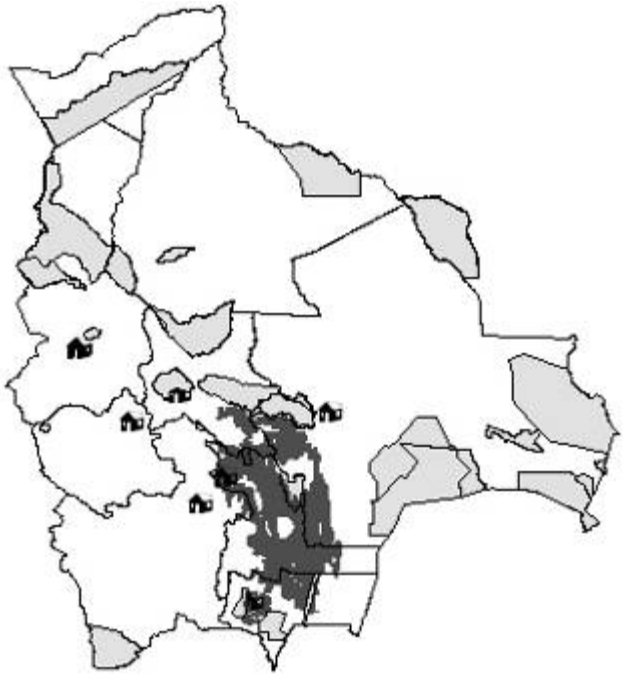

Figure 420 Extrapolated Distribution of *Liophis ceii*

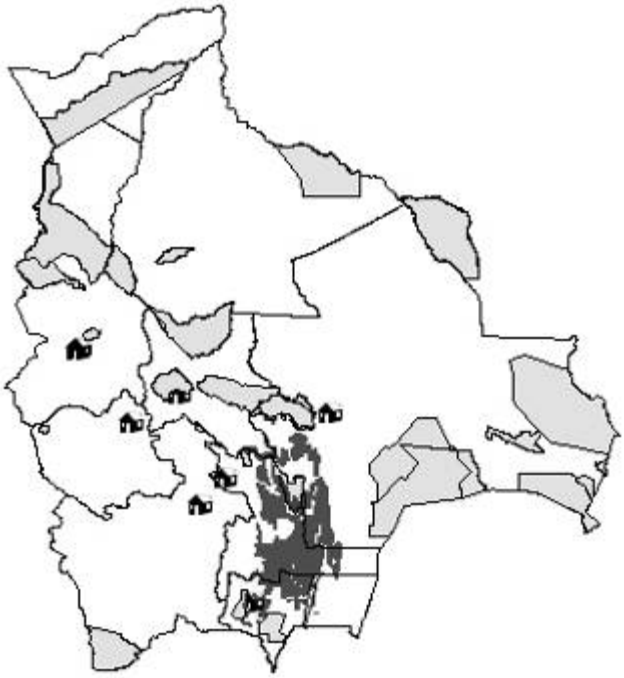

Figure 421 Fragmentation of Habitat of *Liophis ceii*

Map Quality: High confidence
Global distribution: Argentina, Bolivia (Chuquisaca, Cochabamba, Potosi, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 2178: 0
Distr. Total = 4072; EDC 1 = 1438; EDC 2 = 740; EDC 3 = 391; EDC 4 = 451; EDC 5 = 1052
Fragmentation: SOME: 1
Some fragmentation by habitat destruction in the Valleys, Yungas and Tucuman forest regions.
Distribution in good National parks: **STRONG: 1**
211 grid cells in Parks: Aguarague, Amboró, Carrasco, Cordillera de Sama, El Palmar, Iñao, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+1+0+0 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Comments: Terra typica: Near Tucumán, Province of Tucumán, Argentina

Liophis cobellus (LINNAEUS)

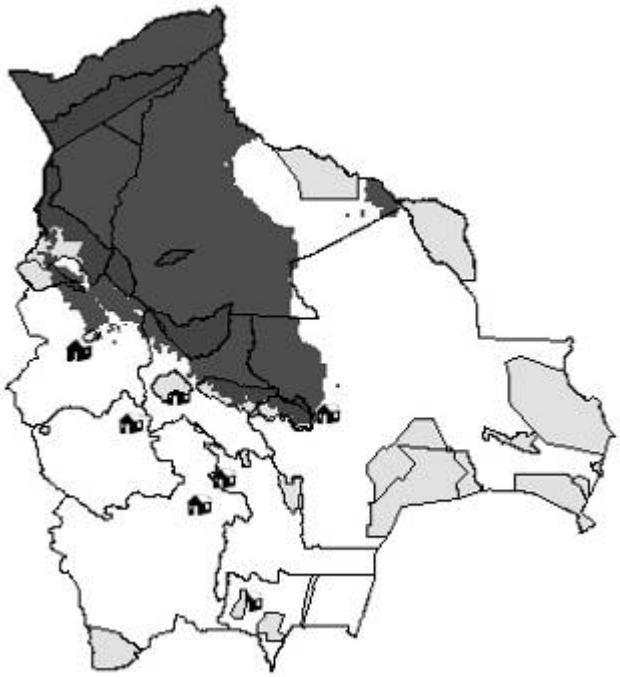

Figure 422 Extrapolated Distribution of *Liophis cobellus*

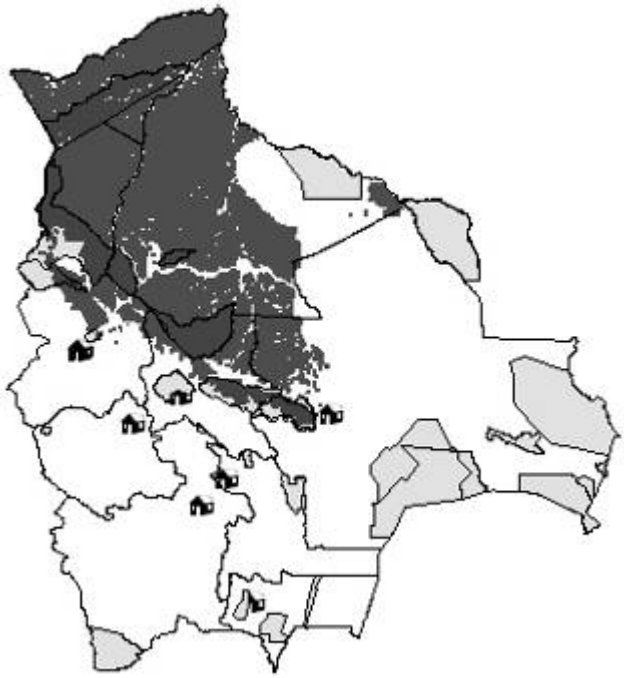

Figure 423 Fragmentation of Habitat of *Liophis cobellus*

Map Quality: High confidence
Global distribution: Colombia, Venezuela, Trinidad, Guyana, Suriname, French Guiana, Brazil, Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 20369: 0
Distr. Total = 25109; EDC 1 = 14596; EDC 2 = 5773; EDC 3 = 3158; EDC 4 = 1233; EDC 5 = 349
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4927 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilón Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: America ; *Liophis cobellus dyticus*: western Amazon basin, from Lomalinda, Colombia, south to Buenavista, Bolivia, and east to Porto Velho, Brazil; terra typica: Peru, Loreto, Monte Carmelo (= Raquena).

Liophis dilepis (COPE)

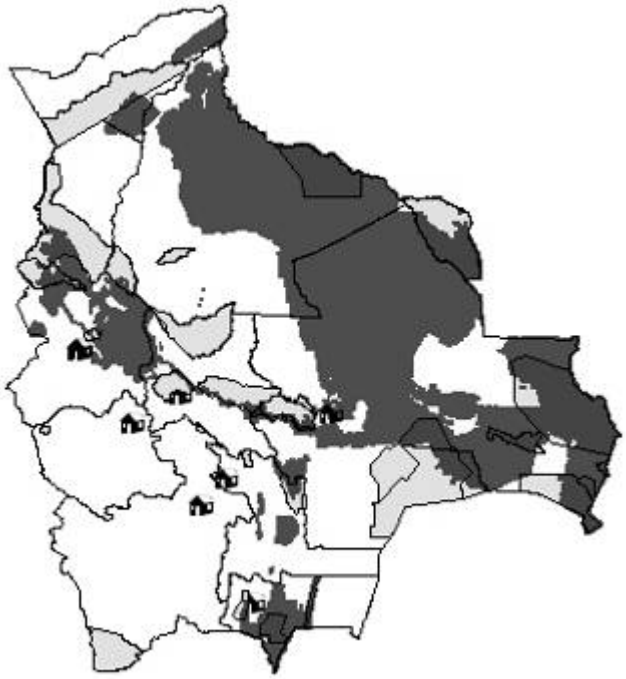

Figure 424 Extrapolated Distribution of *Liophis dilepis*

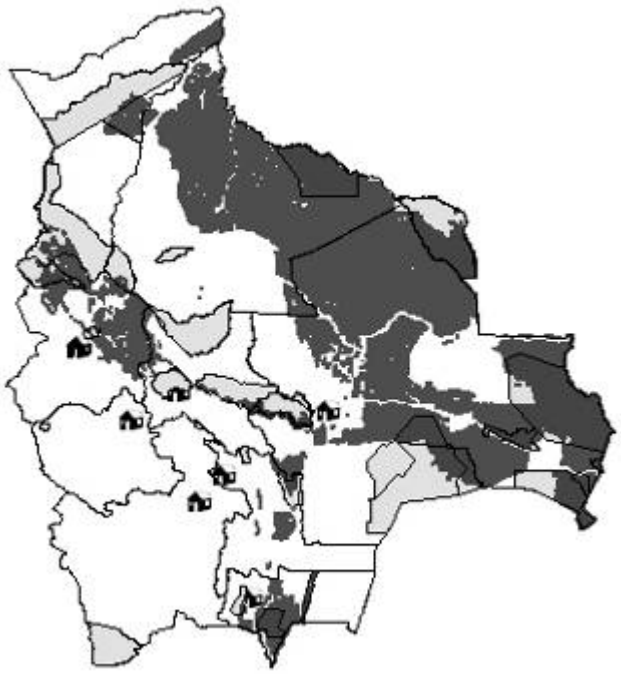

Figure 425 Fragmentation of Habitat of *Liophis dilepis*

Map Quality: Medium confidence
Distribution in Departments La Paz and Tarija is doubtful.
Global distribution: Bolivia, Brazil, Paraguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 25238: 0
Distr. Total = 29613; EDC 1 = 19419; EDC 2 = 5819; EDC 3 = 2338; EDC 4 = 1391; EDC 5 = 646
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6796 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquìa, Tunari
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Paraguay

Liophis flavifrenatus (COPE)

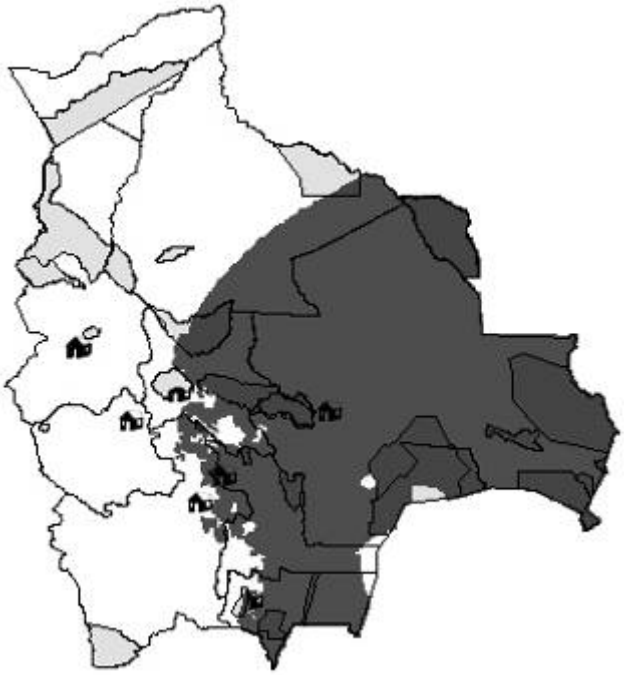

Figure 426 Extrapolated Distribution of *Liophis flavifrenatus*

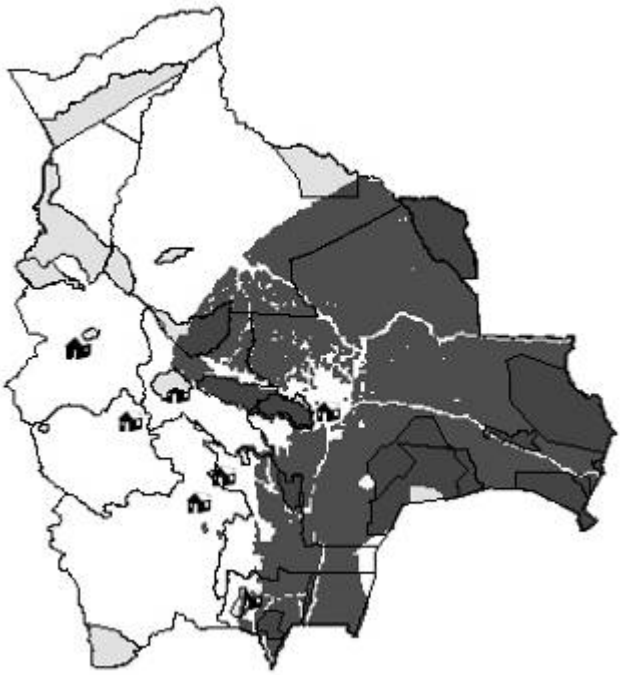

Figure 427 Fragmentation of Habitat of *Liophis flavifrenatus*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, Potosi, Santa Cruz, Tarija)
Taxonomic status: OK
Distribution status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 31985: 0
Distr. Total = 40552; EDC 1 = 25272; EDC 2 = 6713; EDC 3 = 3080; EDC 4 = 2721; EDC 5 = 2766
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

10394 grid cells in Parks: Aguarague, Amboró, Carrasco, Cavernas del Repechón, Cordillera de Sama, El Palmar, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca, Tariquìa, Torotoro, Tunari
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Rio Bermejo region, Paraguay. The species is not mentioned in Uetz (2005) for Bolivia.

Liophis jaegeri (GÜNTHER)

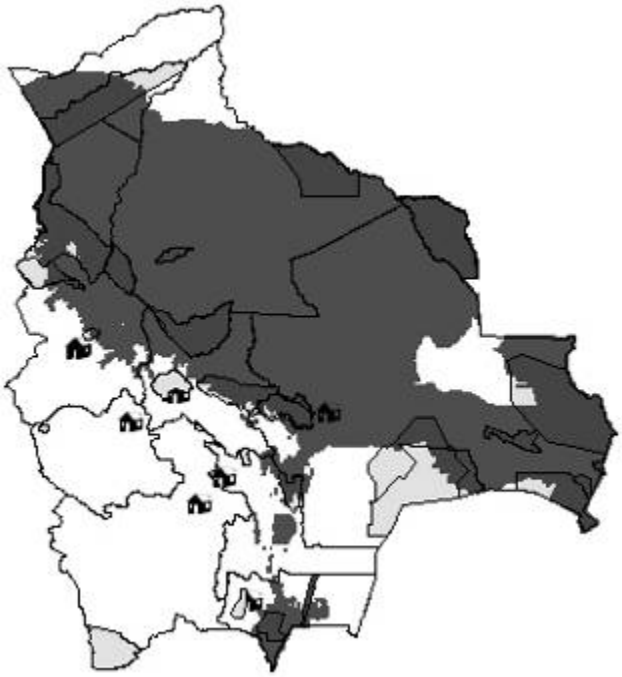

Figure 428 Extrapolated Distribution of *Liophis jaegeri*

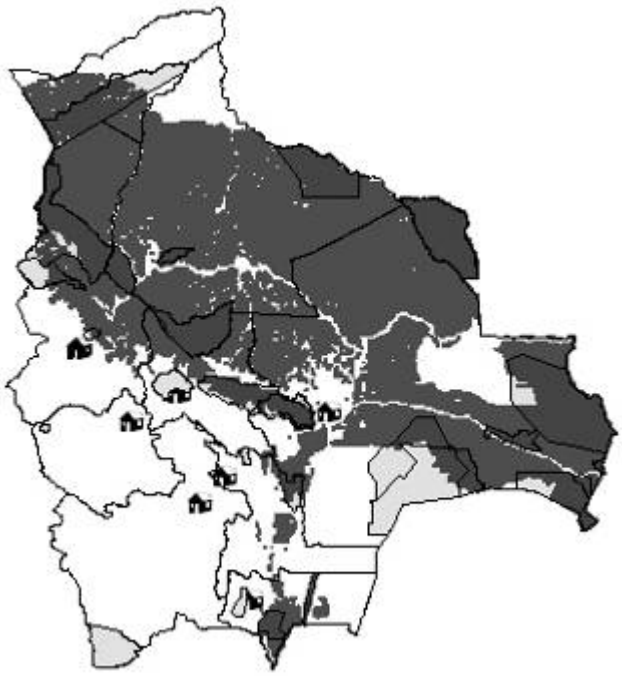

Figure 429 Fragmentation of Habitat of *Liophis jaegeri*

Map Quality: High confidence
Global distribution: Brazil (Rio Grande do Sul), Uruguay, Paraguay, Bolivia, Argentina (Misiones, Corrientes, Entre Rios, Santa Fe, Buenos Aires)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 39035: 0
Distr. Total = 46797; EDC 1 = 30133; EDC 2 = 8902; EDC 3 = 4301; EDC 4 = 2567; EDC 5 = 894

Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
12045 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Brazil. *Liophis jaegeri coralliventris* (Boulenger 1894) has also been considered as a valid species, *Liophis coralliventris*. Several subspecies. For Bolivia *Liophis jaegeri jaegeri* with terra typica: "Indiis"; restricted to Santos, Sao Paulo (Brazil) (Gans 1964).

Liophis meridionalis (SCHENKEL)

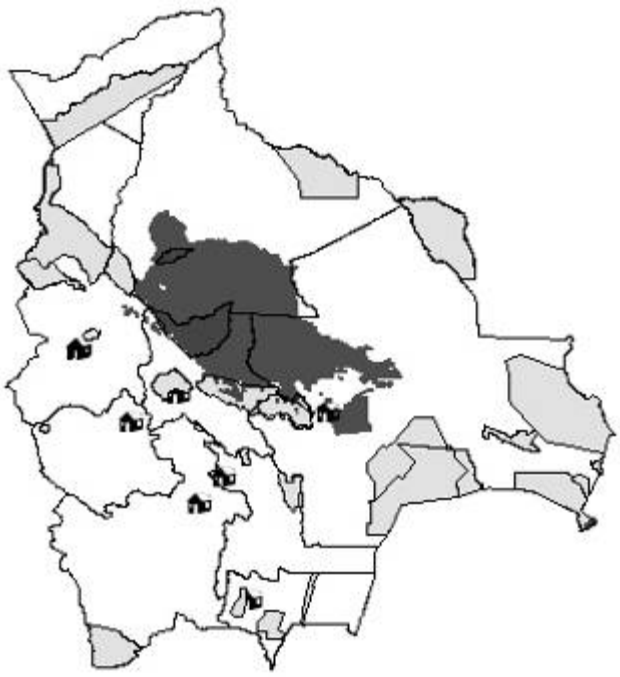

Figure 430 Extrapolated Distribution of *Liophis meridionalis*

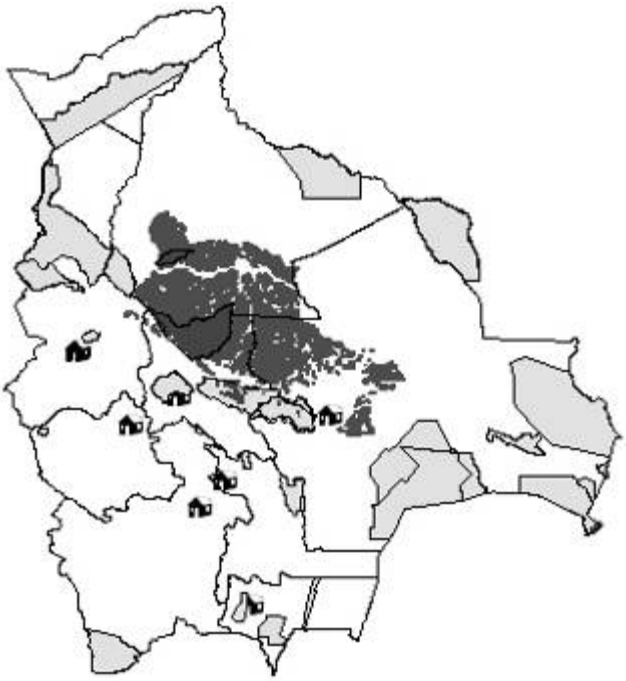

Figure 431 Fragmentation of Habitat of *Liophis meridionalis*

Map Quality: High confidence
Global distribution: Argentina, Brazil, Bolivia (Beni, Cochabamba, La Paz, Santa Cruz)
Taxonomic status: OK

Sensibility for habitat alteration: SENSIBLE
Distribution Value: 5841: 0
Distr. Total = 8427; EDC 1 = 4005; EDC 2 = 1836; EDC 3 = 1287; EDC 4 = 973; EDC 5 = 326
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
1200 grid cells in Parks: Amboró, Carrasco, Cavernas del Repechón, EBB, Isiboro Sécure, Otuquis, Pilón Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Liophis miliaris (LINNAEUS)

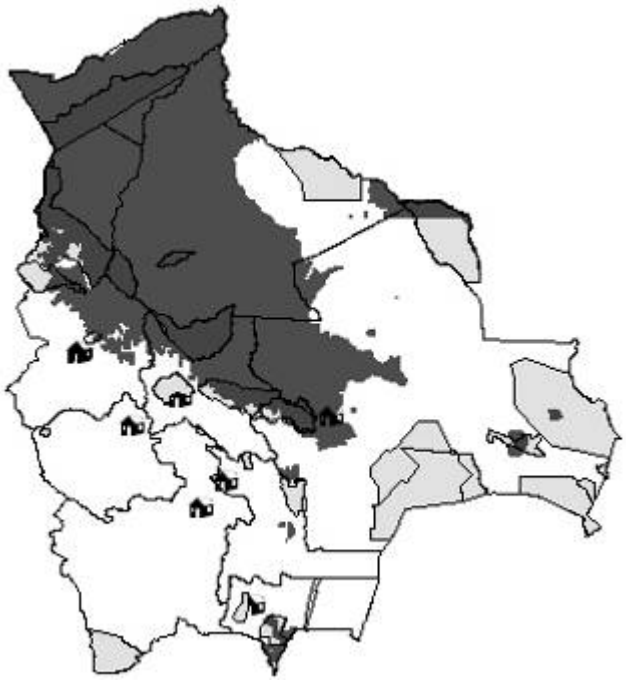

Figure 432 Extrapolated Distribution of *Liophis miliaris*

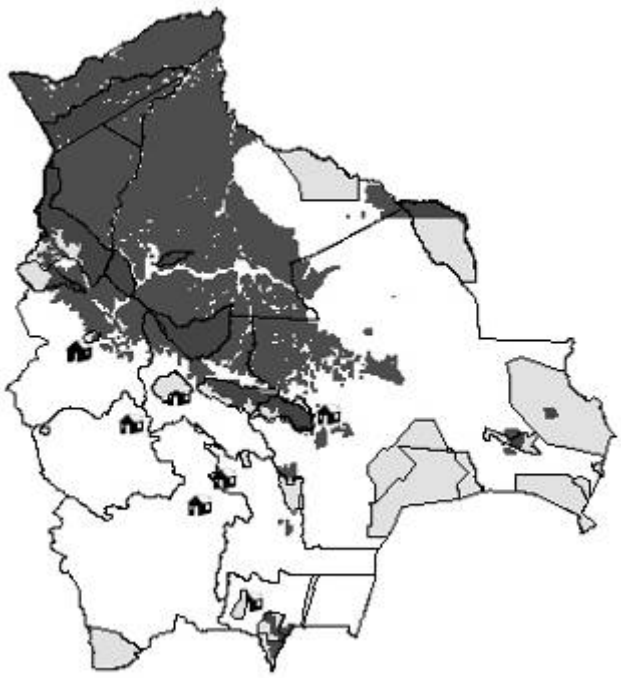

Figure 433 Fragmentation of Habitat of *Liophis miliaris*

Map Quality: High confidence
Distribution in the eastern Chiquitania Region, in Otuquis and San Matías National parks, and in Departments Chuquisaca and Tarija is questionable.

Global distribution: Brazil, Uruguay, Paraguay, Peru, Argentina, Colombia, French Guiana, Venezuela, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 22628: 0
Distr. Total = 28697; EDC 1 = 16217; EDC 2 = 6411; EDC 3 = 3632; EDC 4 = 1802; EDC 5 = 635
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare Region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5745 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilón Lajas, San Matías, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Liophis poecilogyrus (WIED-NEUWIED)

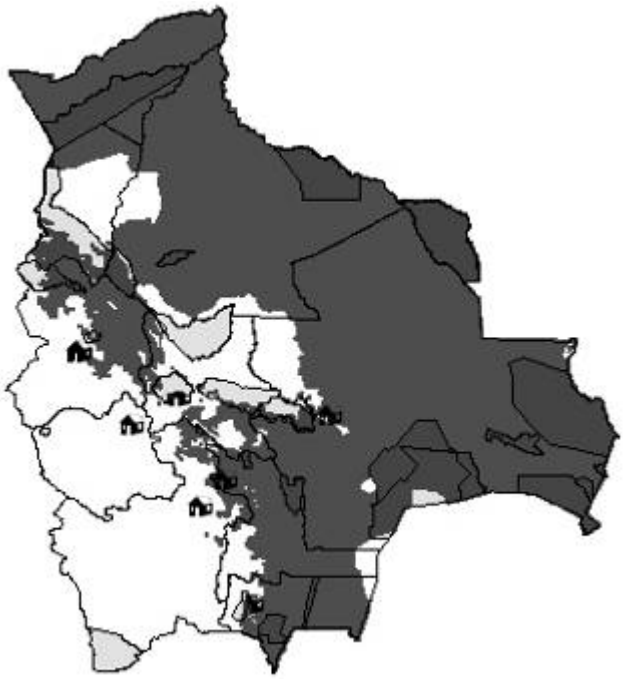

Figure 434 Extrapolated Distribution of *Liophis poecilogyrus*

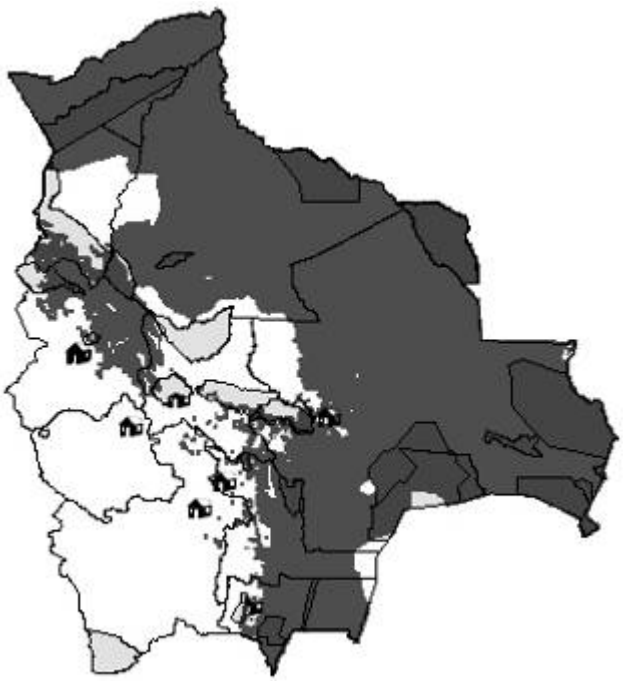

Figure 435 Fragmentation of Habitat of *Liophis poecilogyrus*

Map Quality: High confidence
Global distribution: Argentina, Uruguay, Brazil, Ecuador, Venezuela, Paraguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Potosi, Santa Cruz, Tarija)
Taxonomic status: UNCERTAIN
The species probably is a species complex.
Distribution status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 49778: 0
Distr. Total = 55117; EDC 1 = 33641; EDC 2 = 11268; EDC 3 = 4869; EDC 4 = 2814; EDC 5 = 2525
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
12558 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa, Torotoro, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: several subspecies: *L. p. reticulatus*: Bolivia, N Argentina, Paraguay, Brazil (Mato Grosso); Terra typica: Makthlawaiya, Paraguayan Chaco.

Liophis reginae (LINNAEUS)

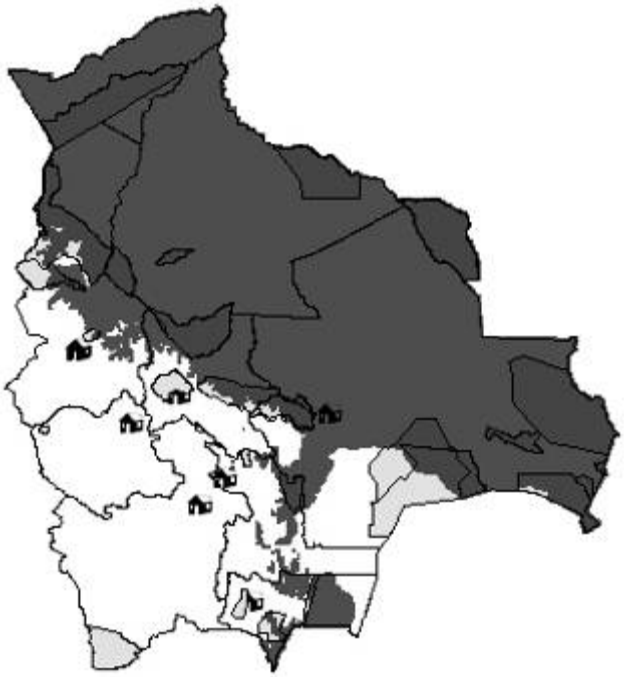

Figure 436 Extrapolated Distribution of *Liophis reginae*

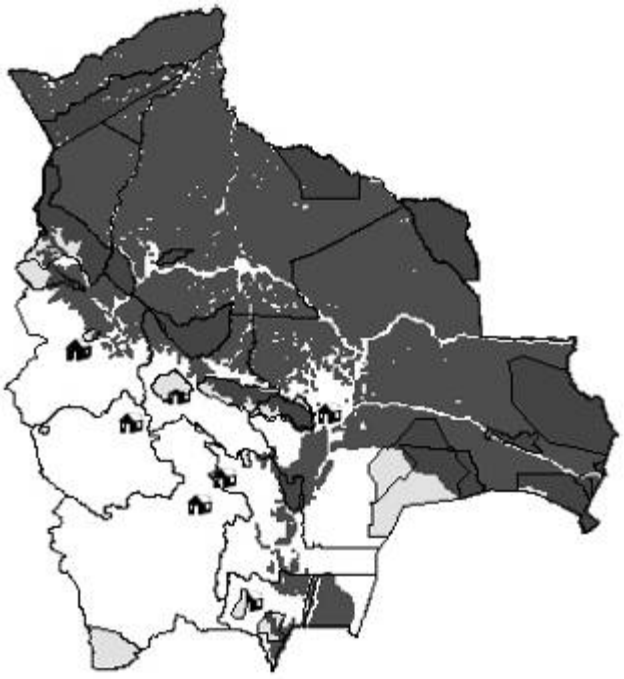

Figure 437 Fragmentation of Habitat of *Liophis reginae*

Map Quality: High confidence
Global distribution: Ecuador, Colombia, Venezuela, French Guiana, Brazil, Peru, Trinidad, Guyana, Paraguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 44729: 0
Distr. Total = 53367; EDC 1 = 34202; EDC 2 = 10527; EDC 3 = 5113; EDC 4 = 2720; EDC 5 = 805
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare Region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
12829 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Indiis".

Liophis sagittifer (JAN)

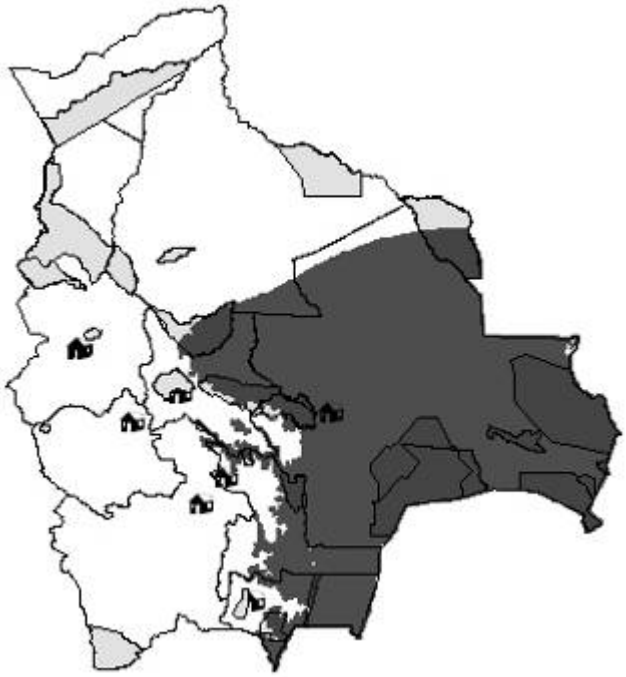

Figure 438 Extrapolated Distribution of *Liophis sagittifer*

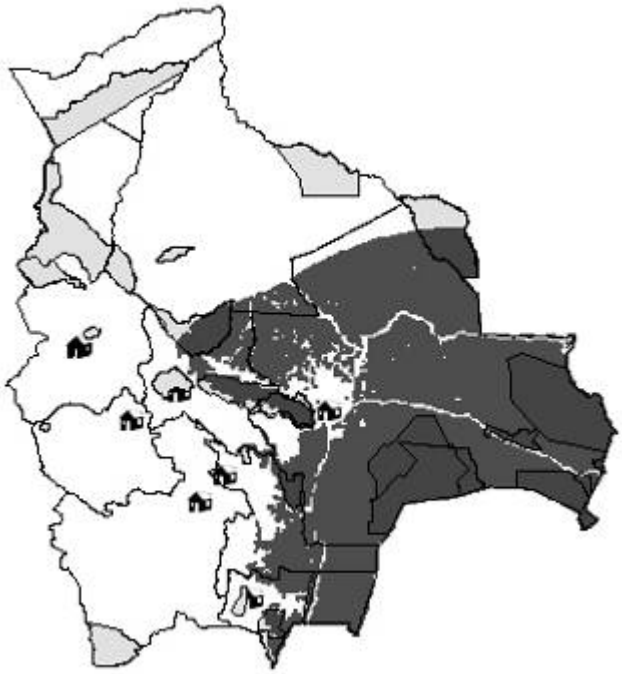

Figure 439 Fragmentation of Habitat of *Liophis sagittifer*

Map Quality: High confidence
Global distribution: Argentina, Brazil, Paraguay, Uruguay, Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 27436: 0
Distr. Total = 32758; EDC 1 = 21775; EDC 2 = 5661; EDC 3 = 2396; EDC 4 = 2144; EDC 5 = 782
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
9278 grid cells in Parks: Aguarague, Amboró, Carrasco, Cavernas del Repechón, El Palmar, Iñao, Isiboro Sécure, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca, Tariquìa, Torotoro
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Uetz (2005) mentions the subspecies *Liophis sagittifer modestus* for southern Bolivia without providing exact locality: *Liophis sagittifer modestus*: S Bolivia, N Argentina, Uruguay, Brazil (Rio Grande do Sul).

Liophis taeniurus (TSCHUDI)

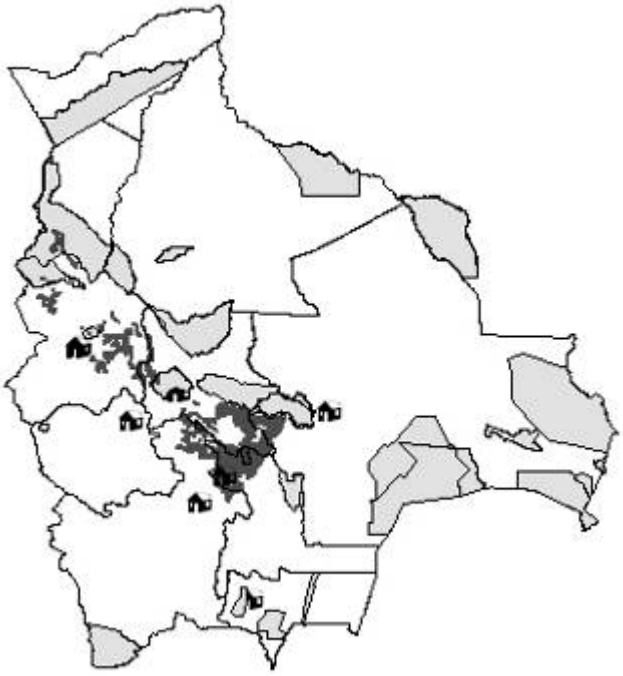

Figure 440 Extrapolated Distribution of *Liophis taeniurus*

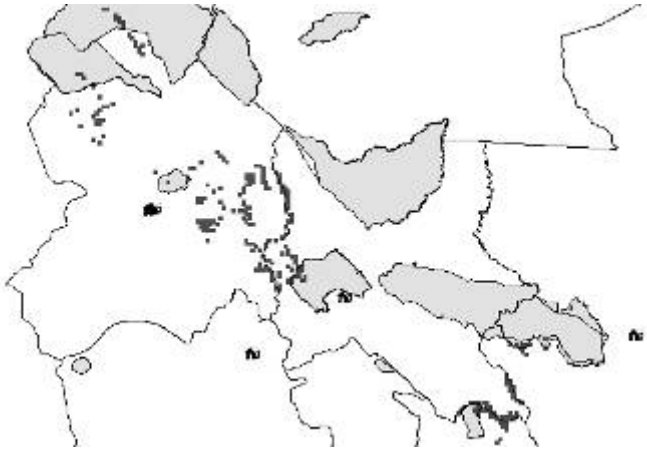

Figure 441 Fragmentation of Habitat of *Liophis taeniurus*

Map Quality: High confidence
Global distribution: Peru, Ecuador, Colombia, Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 268: 5
Distr. Total = 1726; EDC 1 = 153; EDC 2 = 115; EDC 3 = 94; EDC 4 = 324; EDC 5 = 1040
Fragmentation: VERY STRONG: 12
Very strong fragmentation throughout the entire habitat. Although the habitat is disjunctive, gaps are extremely widened and habitat is reduced to very small areas.
Distribution in good National parks: **STRONG: 1**
173 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, El Palmar, Madidi, Torotoro, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

5+12+1+0+1 = 19

Conservation status: Endangered

Conservation status IUCN: EN B1ab(i,ii,iii)
Official IUCN Conservation Status: NE
Comments: In Bolivia just known from 4 localities, but nine specimens, in the inter Andean dry valleys.

Liophis typhlus (LINNAEUS)

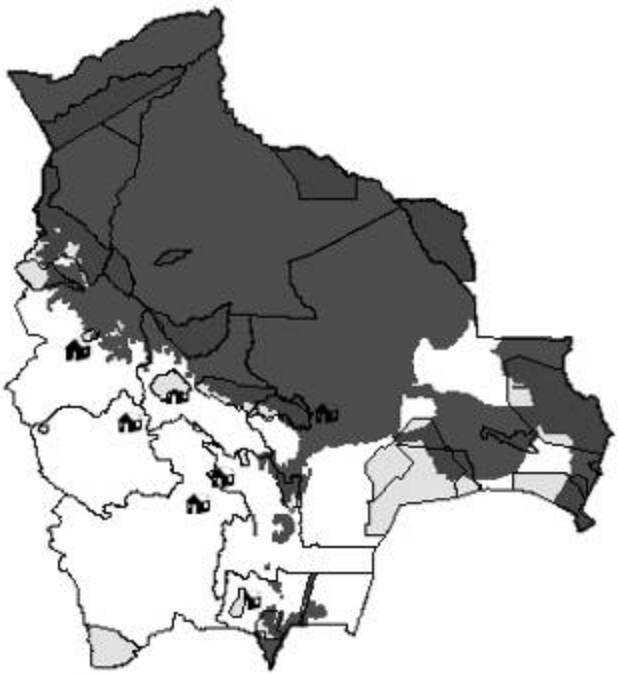

Figure 442 Extrapolated Distribution of *Liophis typhlus*

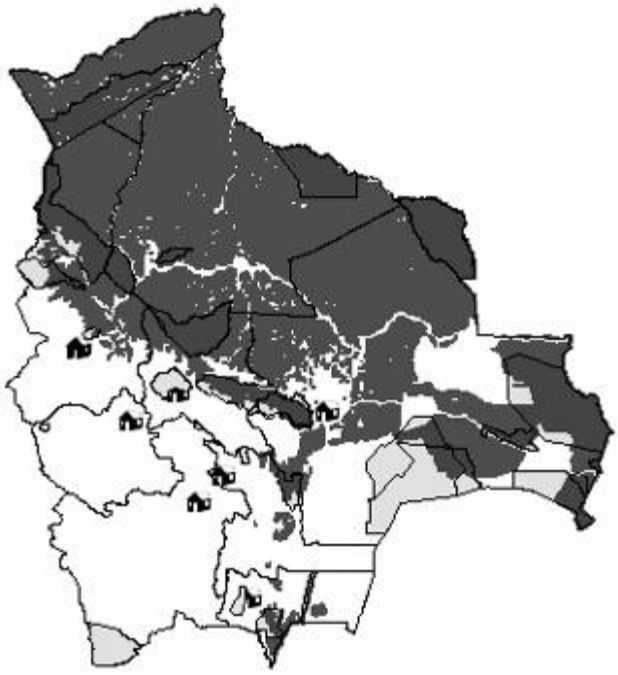

Figure 443 Fragmentation of Habitat of *Liophis typhlus*

Map Quality: High confidence
Global distribution: Colombia, Venezuela, Guyana, Surinam, French Guiana, Brazil, Peru, Ecuador, Argentina (?), Paraguay, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 39815: 0
Distr. Total = 47957; EDC 1 = 30108; EDC 2 = 9707; EDC 3 = 4814; EDC 4 = 2527; EDC 5 = 801
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

11994 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Indiis".

Lystrophis pulcher (JAN)

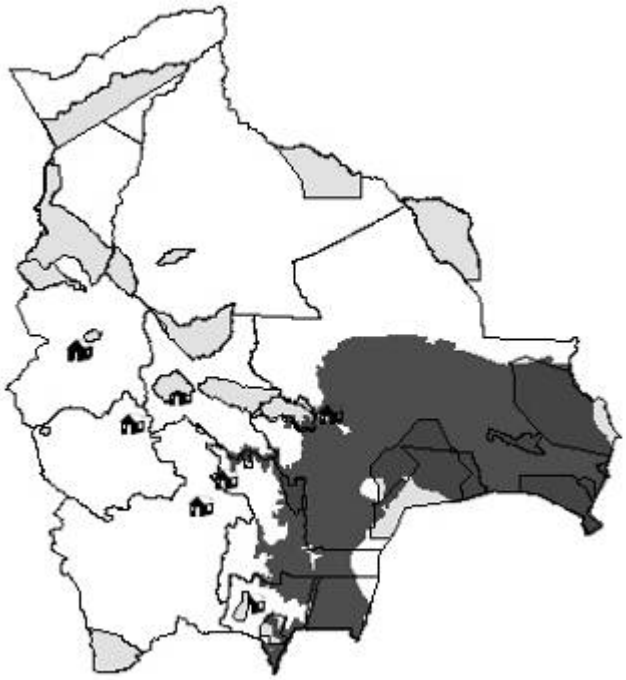

Figure 444 Extrapolated Distribution of *Lystrophis pulcher*

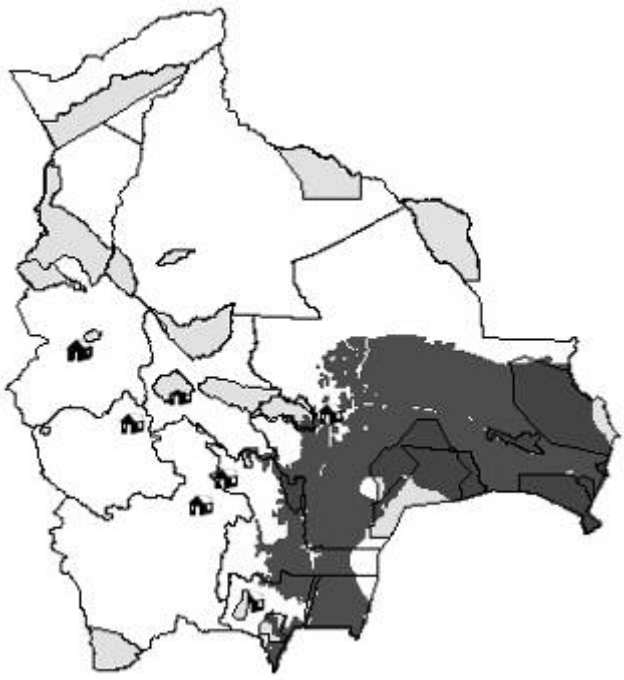

Figure 445 Fragmentation of Habitat of *Lystrophis pulcher*

Map Quality: Medium confidence
Species does not enter the region of the inter Andean dry valleys. Genus represented here by *Lystrophis semicinctus* (see also comments for *Lystrophis semicinctus*).
Global distribution: Argentina, Paraguay, Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 16102: 0
Distr. Total = 18892; EDC 1 = 12555; EDC 2 = 3547; EDC 3 = 1270; EDC 4 = 1202; EDC 5 = 318
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz.
Distribution in good National parks: **VERY STRONG: 0**
5988 grid cells in Parks: Aguarague, Amboró, El Palmar, Iñao, Kaa-Iya, Otuquis, San Matías, Tucavaca, Tariquìa
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Lystrophis semicinctus (DUMERIL, BIBRON & DUMERIL)

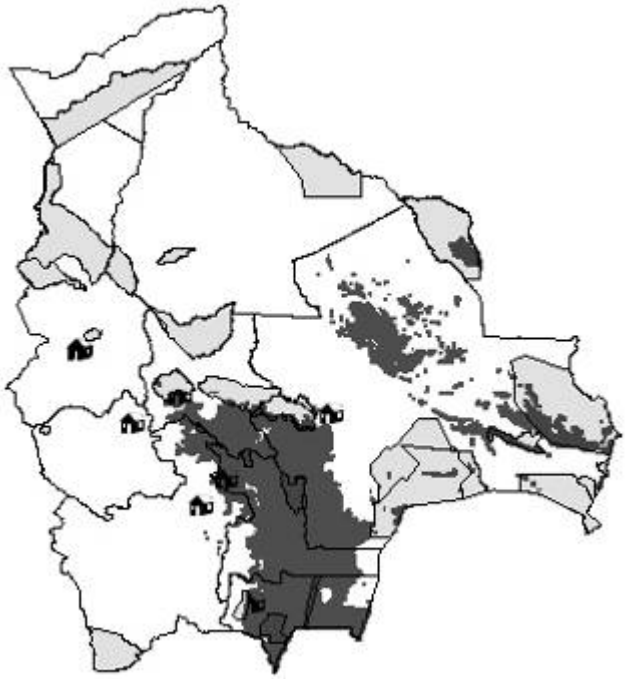

Figure 446 Extrapolated Distribution of *Lystrophis semicinctus*

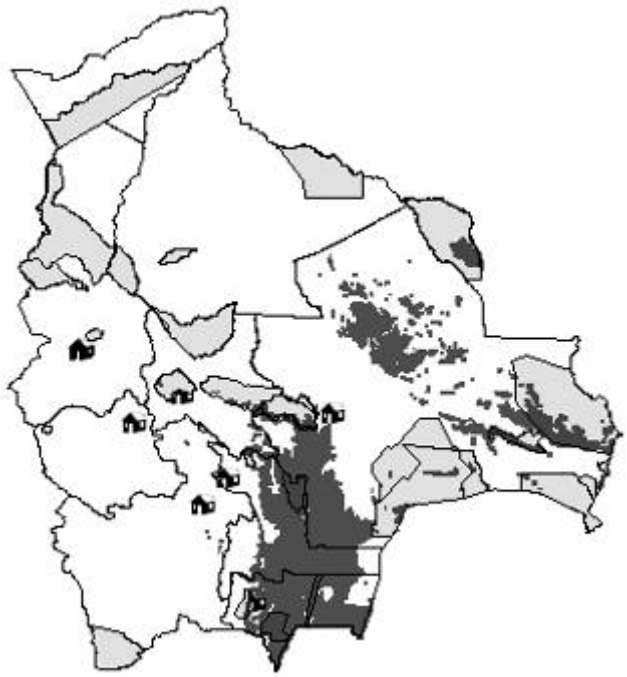

Figure 447 Fragmentation of Habitat of *Lystrophis semicinctus*

Map Quality: Low confidence
Lystrophis semicinctus does not occur in the Chiquitania and Pantanal regions. This surely is result of confusion of names in literature data as *L. semcinctus* has been synonymized with *L. pulcher* and later revalidated.

Global distribution: Argentina, Brazil, Paraguay, Bolivia (Chuqisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 7623: 0
Distr. Total = 11821; EDC 1 = 5465; EDC 2 = 2158; EDC 3 = 933; EDC 4 = 889; EDC 5 = 2376
Fragmentation: NONE: 1
Distribution in good National parks: **VERY STRONG: 0**
1974 grid cells in Parks: Aguarague, Amboró, Carrasco, Cordillera de Sama, El Palmar, Iñao, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca, Tariquìa, Torotoro, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Although the extrapolation includes areas which are not occupied by the species (see map quality) this does not affect the result for the status of conservation.

Mastigodryas bifossatus (RADDI)

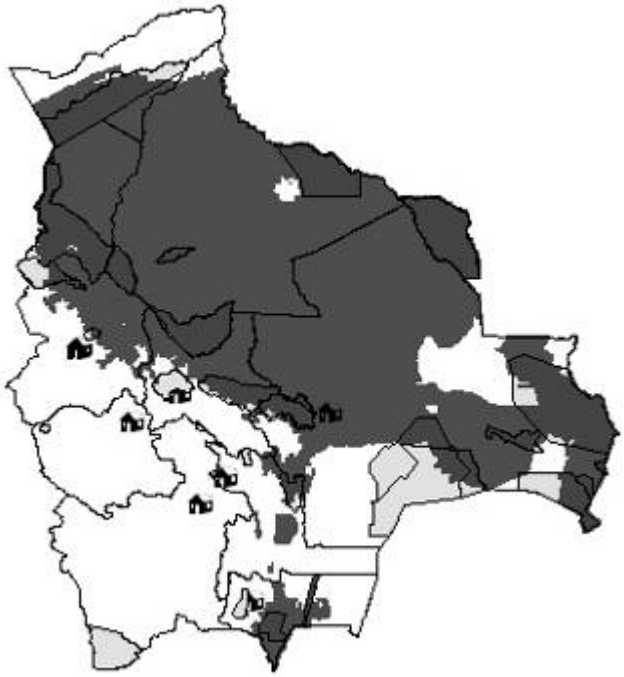

Figure 448 Extrapolated Distribution of *Mastigodryas bifossatus*

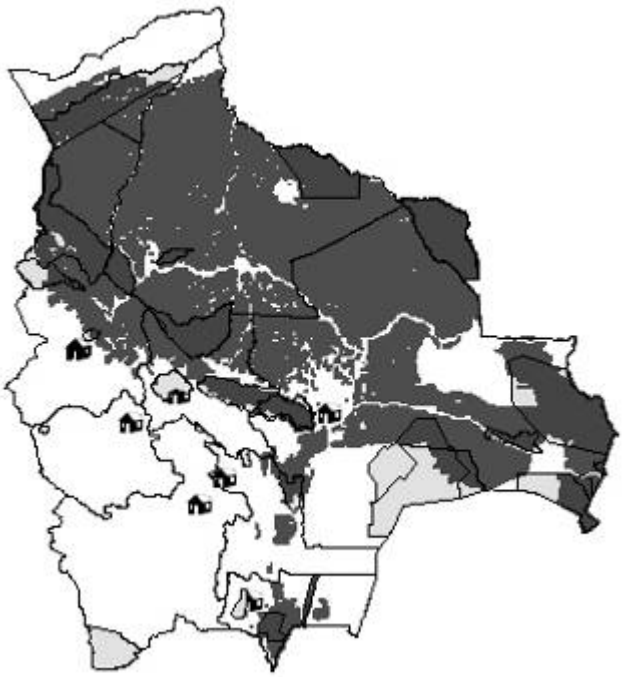

Figure 449 Fragmentation of Habitat of *Mastigodryas bifossatus*

Map Quality: High confidence

Global distribution: Colombia, Venezuela, French Guiana, Brazil, Paraguay, Argentina, Peru, Uruguay, Bolivia(Beni, Cochabamba, Chuquisaca, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 30912: 0
Distr. Total = 46720; EDC 1 = 30013; EDC 2 = 8899; EDC 3 = 4407; EDC 4 = 2507; EDC 5 = 894
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
11898 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tariquìa, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: In Bolivia subspecies *Mastigodryas bifossatus bifossatus* with terra typica: Rio de Janeiro

Mastigodryas boddaerti (SENTZEN)

Figure 450 Extrapolated Distribution of *Mastigodryas boddaerti*

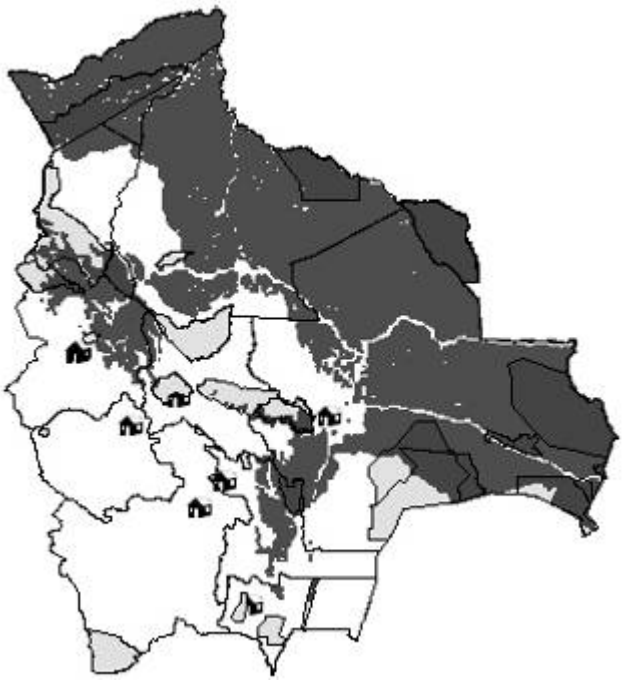

Figure 451 Fragmentation of Habitat of *Mastigodryas boddaerti*

Map Quality: High confidence
Global distribution: Colombia, Venezuela, Brazil, Ecuador, Trinidad, French Guiana, Peru, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 37072: 0
Distr. Total = 44110; EDC 1 = 28027; EDC 2 = 9045; EDC 3 = 3950; EDC 4 = 2009; EDC 5 = 1079
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
10247 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilón Lajas, San Matías, Tucavaca, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Oxybelis aeneus (WAGLER)

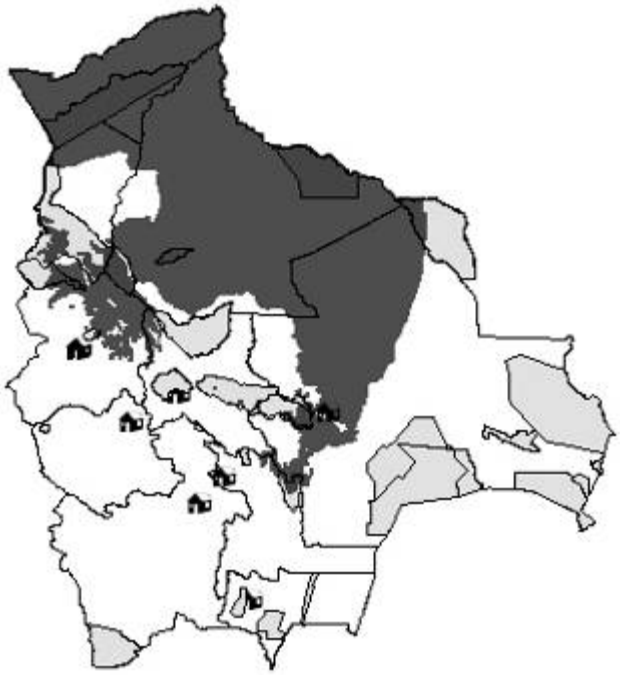

Figure 452 Extrapolated Distribution of *Oxybelis aeneus*

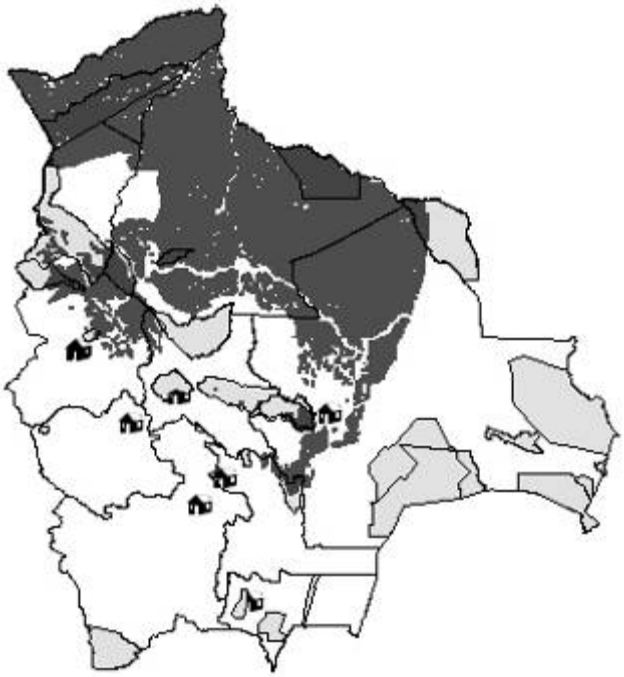

Figure 453 Fragmentation of Habitat of *Oxybelis aeneus*

Map Quality: High confidence
Global distribution: USA, Mexico, Guatemala, El Salvador, Honduras, Belize, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Brazil, Peru, Guyana, Surinam, French Guiana, Trinidad, Tobago, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 23536: 0
Distr. Total = 29185; EDC 1 = 16712; EDC 2 = 6824; EDC 3 = 3486; EDC 4 = 1614; EDC 5 = 549
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4036 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Madidi, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Terra typica: Solimöens, Tefé, Amazonas, Brazil.

Oxybelis fulgidus (DAUDIN)

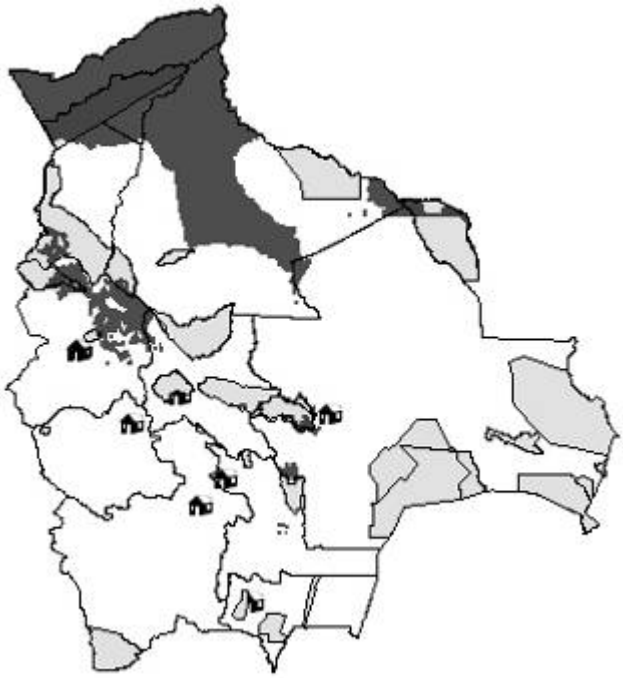

Figure 454 Extrapolated Distribution of *Oxybelis fulgidus*

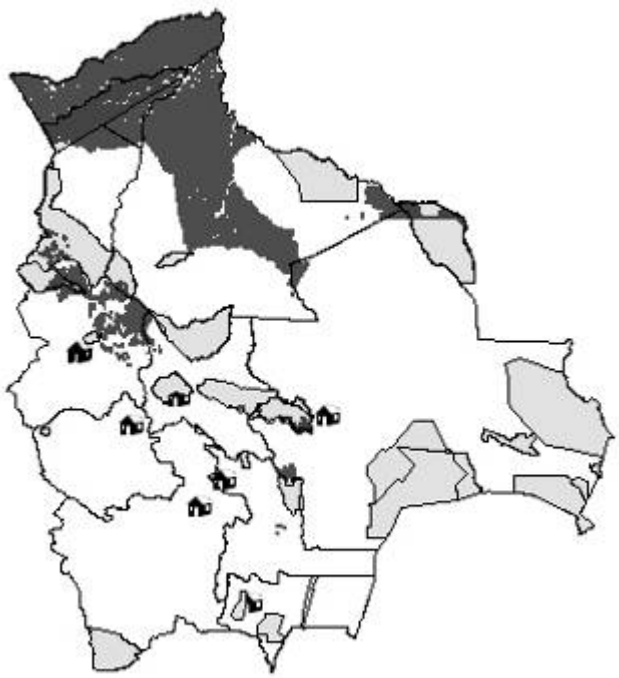

Figure 455 Fragmentation of Habitat of *Oxybelis fulgidus*

Map Quality: Medium confidence
The distribution has been extrapolated very disjunctive which may be an error, although the easternmost area of distribution may be connected through Brazil.
Global distribution: Mexico, Guatemala, El Salvador, Honduras, Belize, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Brazil, Peru, Guyana, Surinam, French Guiana, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 10469: 0
Distr. Total = 12359; EDC 1 = 6897; EDC 2 = 3572; EDC 3 = 1574; EDC 4 = 254; EDC 5 = 62
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
2011 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, Iñao, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Surinam

Oxyrhopus formosus (WIED)

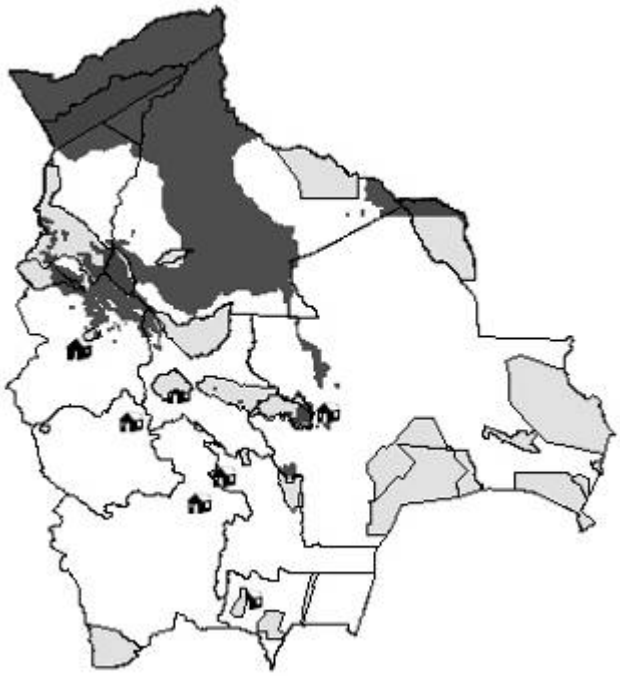

Figure 456 Extrapolated Distribution of *Oxyrhopus formosus*

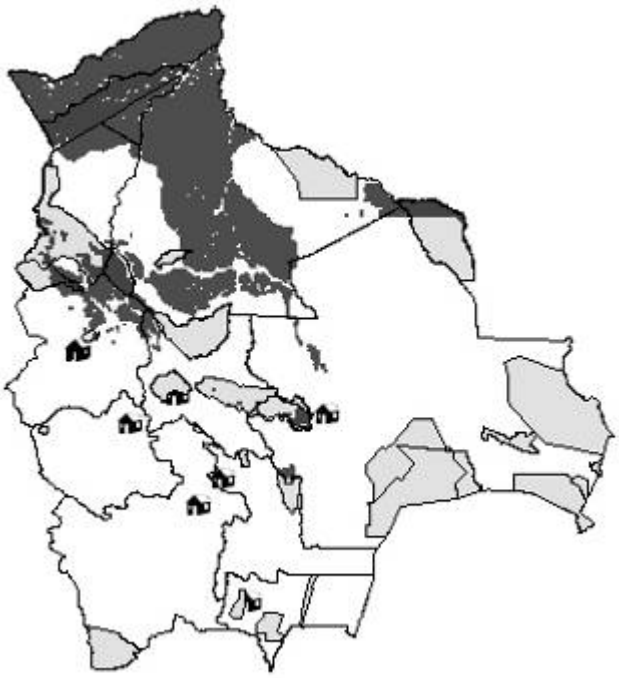

Figure 457 Fragmentation of Habitat of *Oxyrhopus formosus*

Map Quality: Medium confidence
The distribution has been extrapolated very disjunctive which may be an error, although the easternmost area of distribution may be connected through Brazil.
Global distribution: Colombia, Venezuela, Ecuador, Peru, Guyana, Surinam, French Guiana, Brazil, Argentina, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 13039: 0
Distr. Total = 15844; EDC 1 = 8689; EDC 2 = 4350; EDC 3 = 2100; EDC 4 = 547; EDC 5 = 158
Fragmentation: SOME: 1
Some fragmentation by habitat destruction by highways.
Distribution in good National parks: **VERY STRONG: 0**
2602 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Bahia, Brazil

Oxyrhopus guibei HOGE & ROMANO

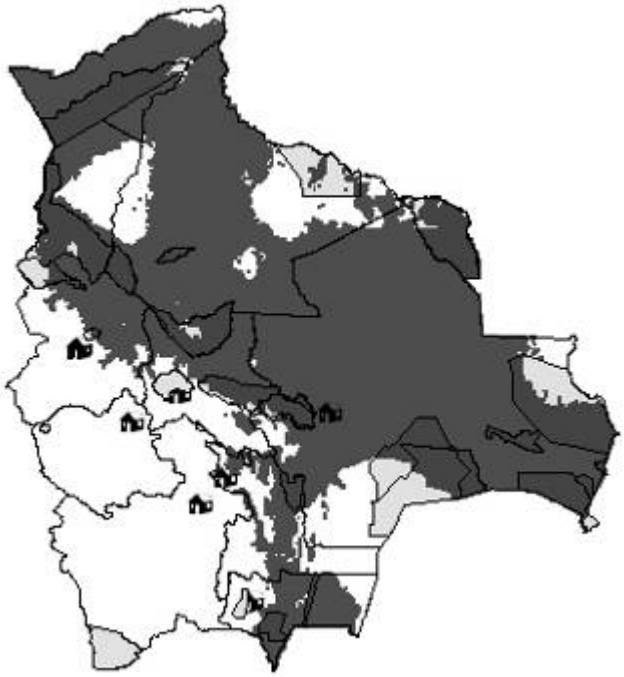

Figure 458 Extrapolated Distribution of *Oxyrhopus guibei*

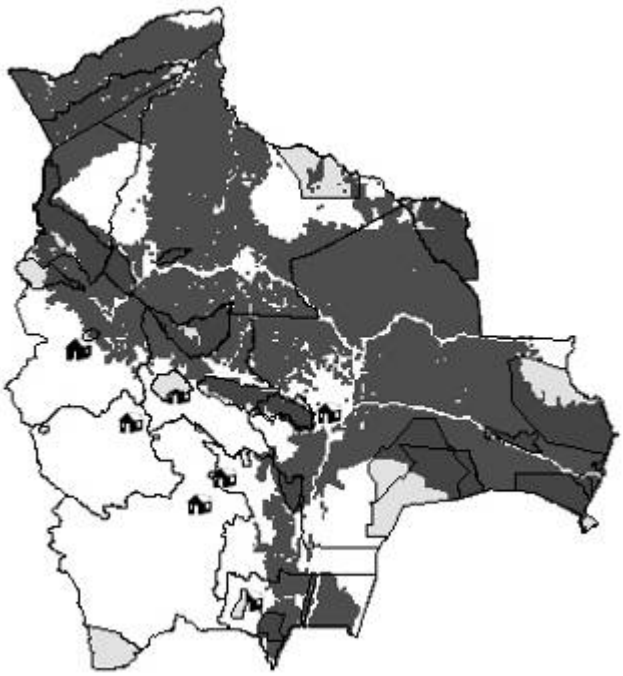

Figure 459 Fragmentation of Habitat of *Oxyrhopus guibei*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Peru, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 40303: 0
Distr. Total = 48670; EDC 1 = 30748; EDC 2 = 9555; EDC 3 = 4475; EDC 4 = 2734; EDC 5 = 1158
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
11546 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquia, Tunari

Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Oxyrhopus melanogenys (TSCHUDI)

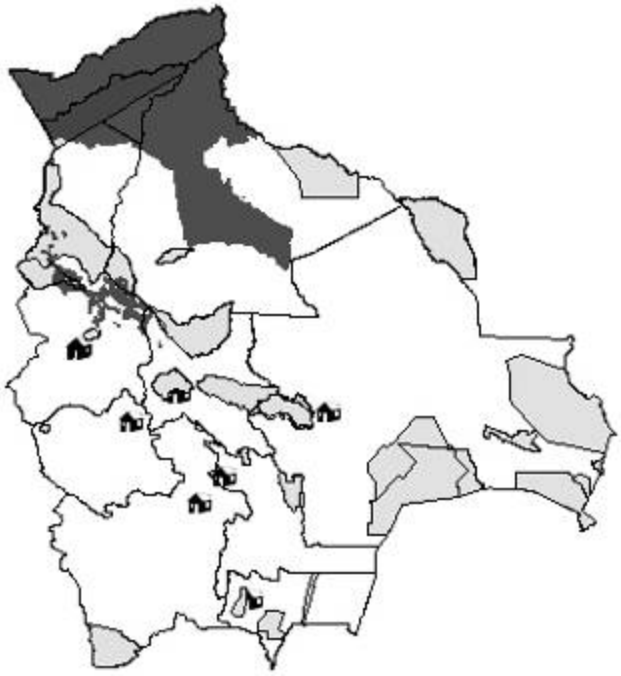

Figure 460 Extrapolated Distribution of *Oxyrhopus melanogenys*

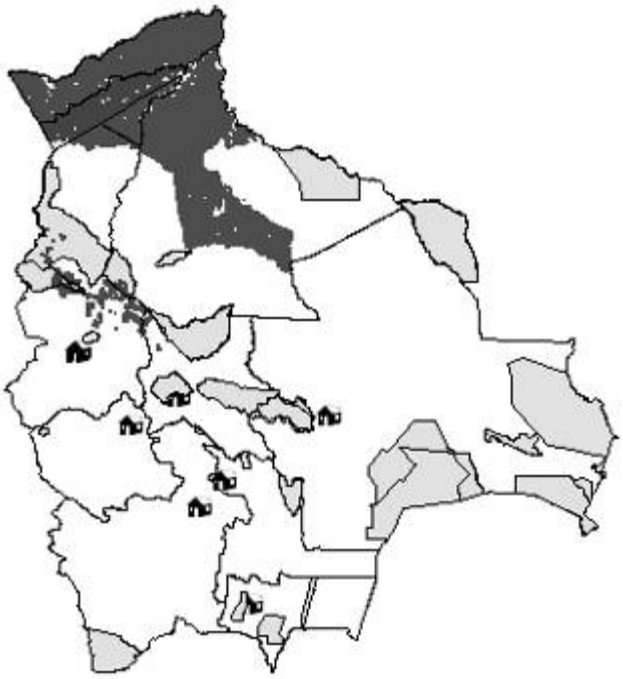

Figure 461 Fragmentation of Habitat of *Oxyrhopus melanogenys*

Map Quality: Medium confidence
Distribution in central parts of La Paz Department is questionable.
Global distribution: Peru, Brazil, Ecuador, Colombia, Bolivia (Beni, Cochabamba, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 8960: 0
Distr. Total = 10581; EDC 1 = 5765; EDC 2 = 3195; EDC 3 = 1389; EDC 4 = 208; EDC 5 = 24
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
1604 grid cells in Parks: Apolobamba, Cotapata, Isiboro Sécure, Madidi, Manuripi-Heath, Pilon Lajas

Use: NONE: 0
Rarity: VERY COMMON: 0

0+0+0+0+0 = 0

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Peru

Oxyrhopus petola (LINNAEUS)

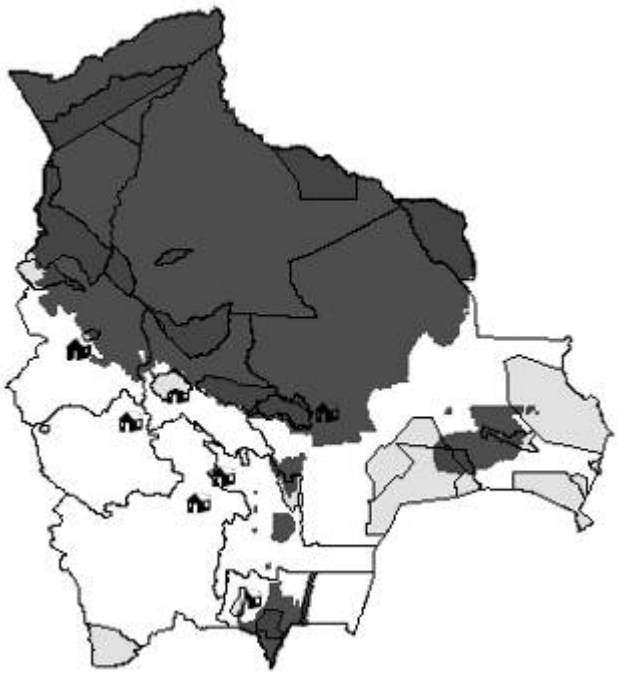

Figure 462 Extrapolated Distribution of *Oxyrhopus petola*

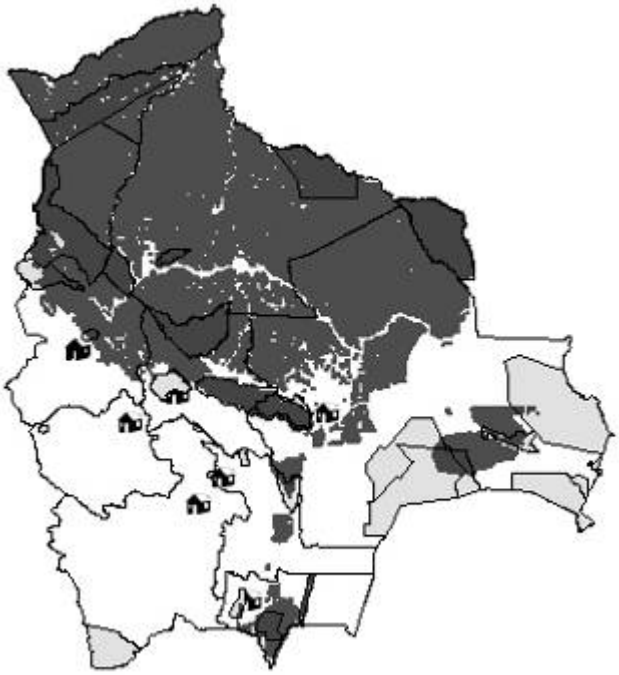

Figure 463 Fragmentation of Habitat of *Oxyrhopus petola*

Map Quality: Medium confidence
Distribution in Departments of Chuquisaca and Tarija is based on extrapolation and questionable as there are no collections of this species from these Departments
Global distribution: Mexico, Guatemala, El Salvador, Trinidad, Tobago, Honduras, Belize, Nicaragua, Costa Rica, Panama, French Guiana, Colombia, Venezuela, Ecuador, Brazil, Peru, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 36400: 0
Distr. Total = 44331; EDC 1 = 27264; EDC 2 = 9136; EDC 3 = 4651; EDC 4 = 2392; EDC 5 = 888
Fragmentation: SOME: 1

Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.

Distribution in good National parks: **VERY STRONG: 0**

9333 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cordillera de Sama, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilon Lajas, San Matías, Tucavaca, Tariquia, Tunari

Use: NONE: 0

Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE

Comments: Terra typica: "Africa" (fide Linnaeus 1758; in error). In Bolivia subspecies: *Oxyrhopus petola digitalis* (Reuss, 1834)

Oxyrhopus rhombifer (DUMÉRIL, BIBRON & DUMÉRIL)

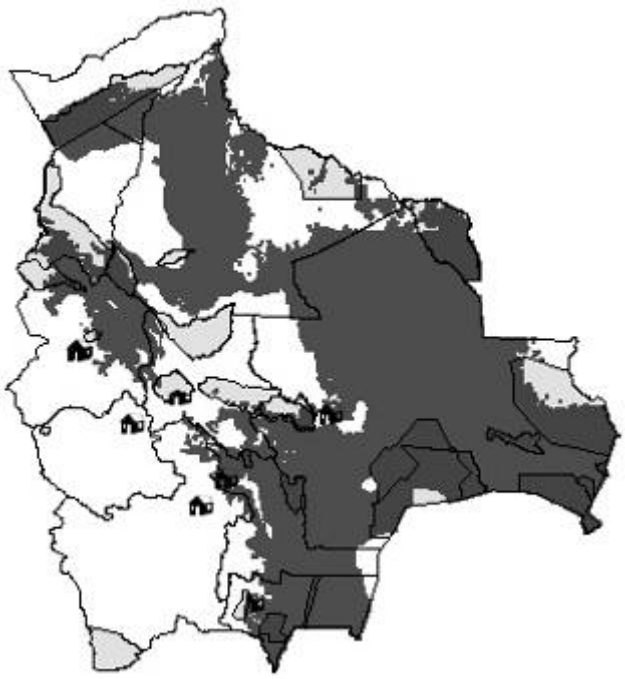

Figure 464 Extrapolated Distribution of *Oxyrhopus rhombifer*

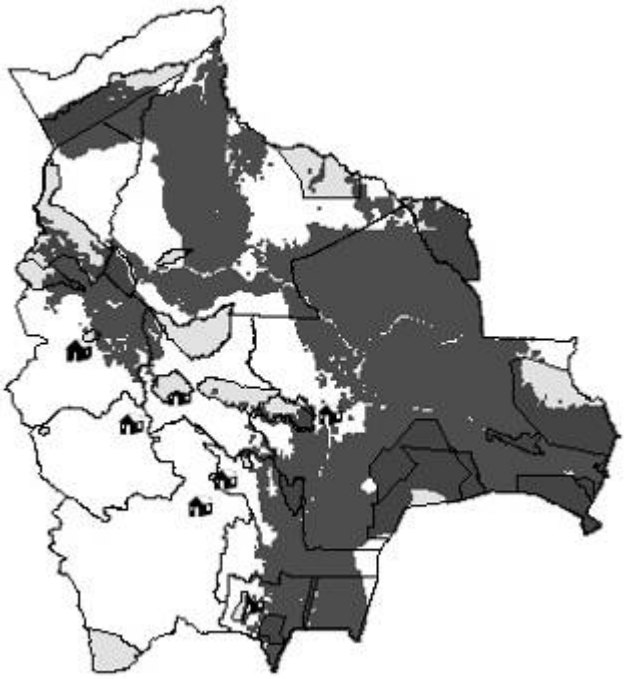

Figure 465 Fragmentation of Habitat of *Oxyrhopus rhombifer*

Map Quality: High confidence

Global distribution: Brazil, Peru, Paraguay, Uruguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)

Taxonomic status: OK

Sensibility for habitat alteration: TOLERANT

Distribution Value: 34382: 0
Distr. Total = 41538; EDC 1 = 26374; EDC 2 = 8008; EDC 3 = 3249; EDC 4 = 2134; EDC 5 = 1773
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and by highways.
Distribution in good National parks: **VERY STRONG: 0**
9436 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquia, Torotoro, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: In Bolivia two subspecies: *Oxyrhopus rhombifer rhombifer* (DUMÉRIL, BIBRON & DUMÉRIL) and *Oxyrhopus rhombifer inaequifasciatus* WERNER.

Oxyrhopus sp. nov

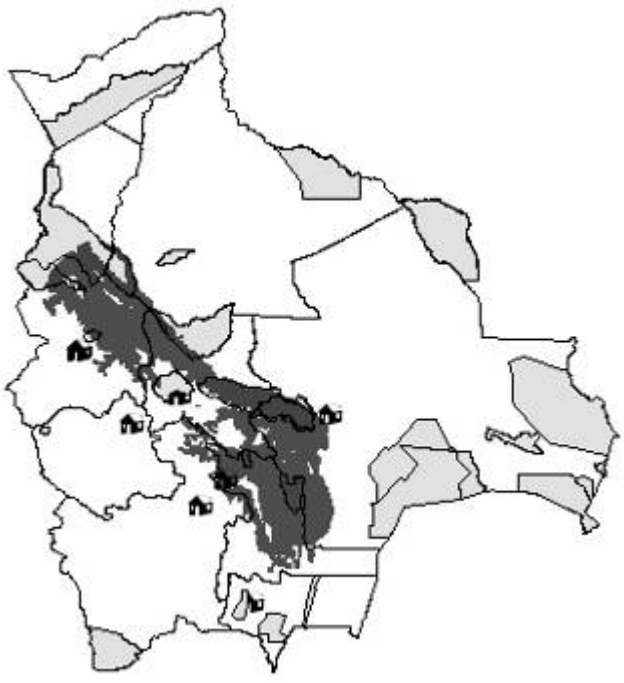

Figure 466 Extrapolated Distribution of *Oxyrhopus sp. nov*

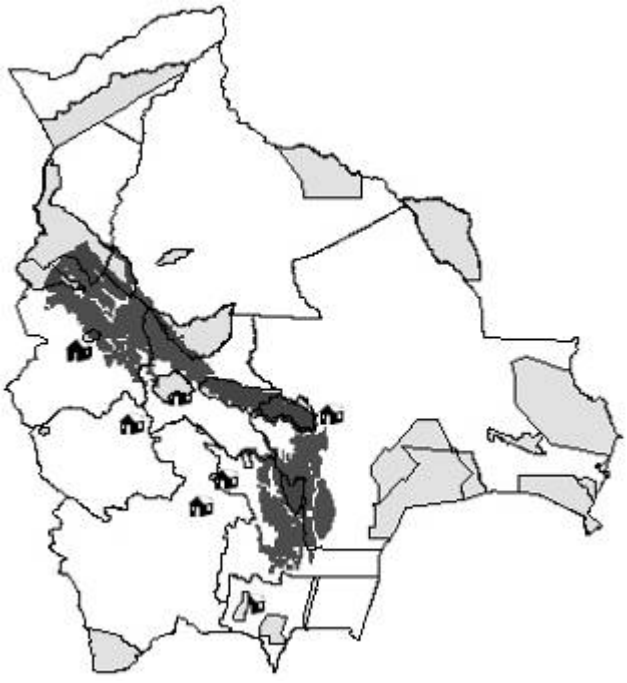

Figure 467 Fragmentation of Habitat of *Oxyrhopus sp. nov*

Map Quality: High confidence
Global distribution: Bolivia (Chuquisaca, Cochabamba, La Paz, Santa Cruz)

Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 5312: 0
Distr. Total = 7851; EDC 1 = 4096; EDC 2 = 1216; EDC 3 = 647; EDC 4 = 613; EDC 5 = 1279
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and and by highways.
Distribution in good National parks: **VERY STRONG: 0**
2057 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, El Palmar, Iñao, Isiboro Sécure, Madidi, Pilon Lajas, Torotoro, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Bolivia, Santa Cruz, Florida,

Oxyrhopus trigeminus (DUMERIL, BIBRON & DUMERIL)

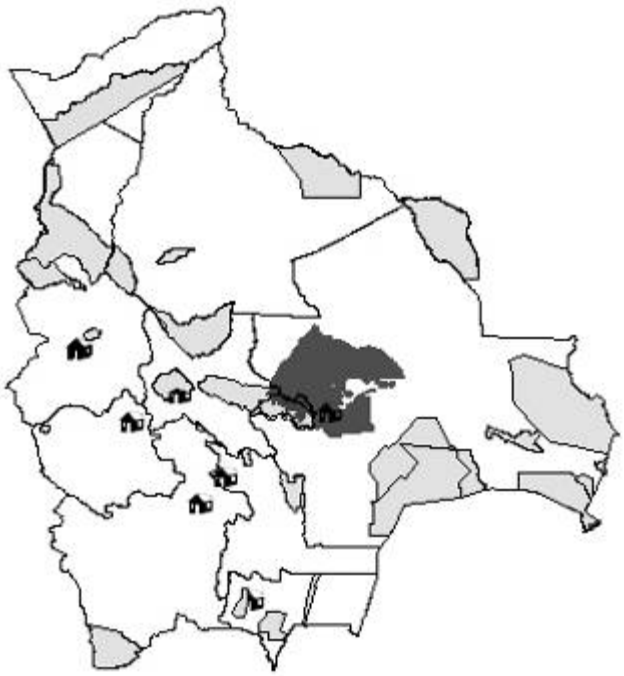

Figure 468 Extrapolated Distribution of *Oxyrhopus trigeminus*

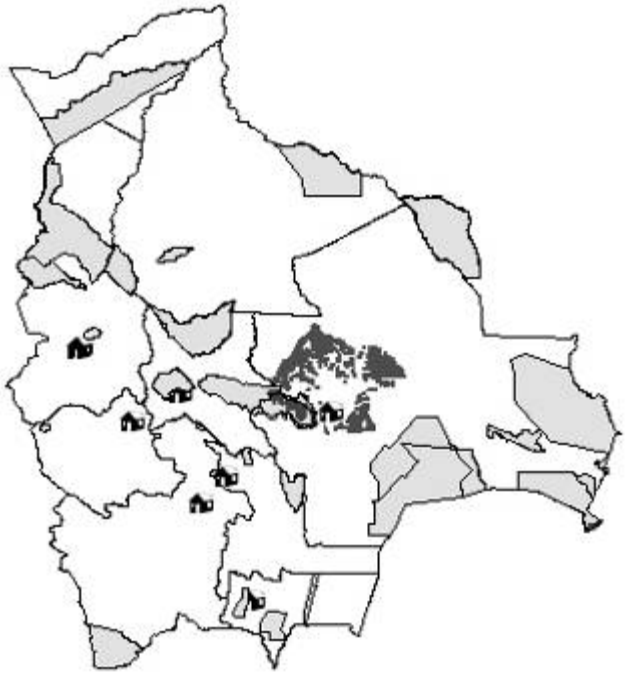

Figure 469 Fragmentation of Habitat of *Oxyrhopus trigeminus*

Map Quality: Medium confidence

Although several specimens are known in collections just one specimen was found with exact locality. Other specimens have been collected from „Beni Department“. The extrapolation is based on one specimen from the locality “Warnes“ which causes the restricted distribution.
Global distribution: Brazil, Venezuela, Paraguay, Peru, Bolivia (Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 1136: 2
Distr. Total = 2788; EDC 1 = 592; EDC 2 = 544; EDC 3 = 544; EDC 4 = 835; EDC 5 = 273
Fragmentation: STRONG: 5
Very strong fragmentation by strong habitat destruction near Santa Cruz
Distribution in good National parks: **STRONG: 1**
336 grid cells in Parks: Amboró, Carrasco, Otuquis
Use: NONE: 0
Rarity: NORMAL: 1

2+5+1+0+1 = 9

Conservation status: Near threatened

Conservation status IUCN: VU B1ab(i)
Species has an extrapolated distribution including less than 20.000 km², habitat is strongly fragmented and habitat destruction in these areas are very rapid and strong, reducing its distribution continuously.
Official IUCN Conservation Status: NE
Comments: Terra typica: Distrito Federal, Brazil

Phalotris tricolor (DUMÉRIL, BIBRON & DUMÉRIL)

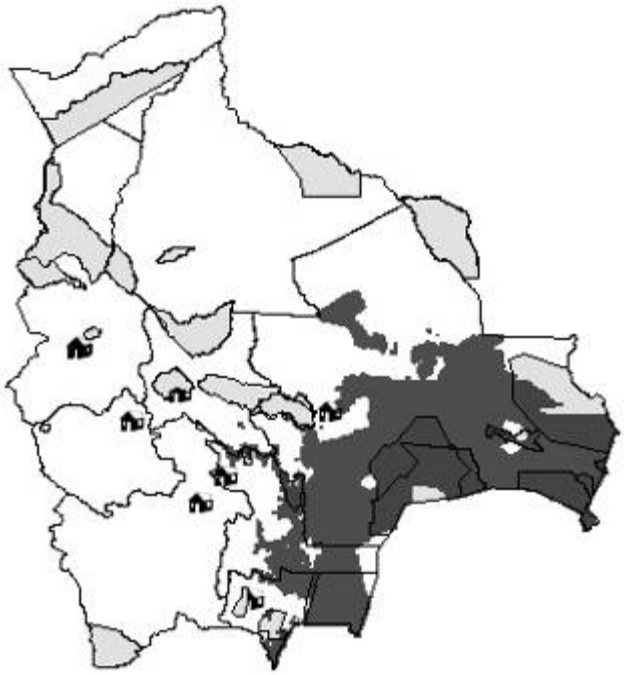

Figure 470 Extrapolated Distribution of *Phalotris tricolor*

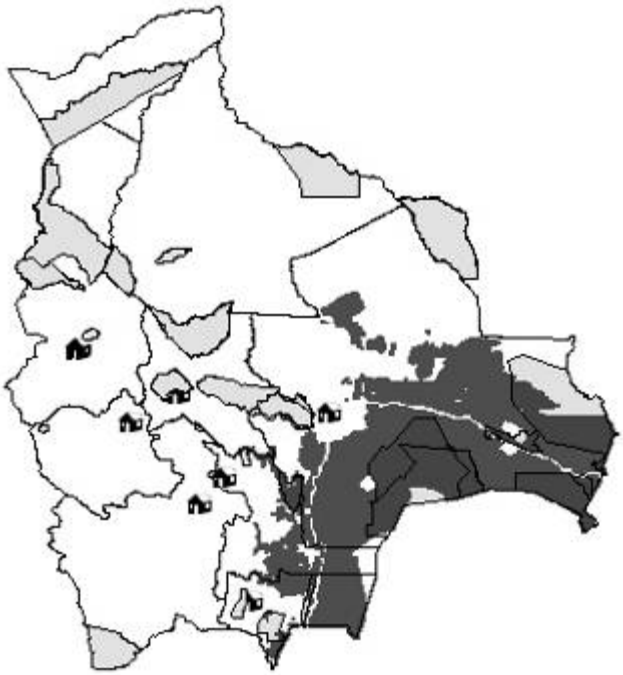

Figure 471 Fragmentation of Habitat of *Phalotris tricolor*

Map Quality: High confidence
Global distribution: Brazil, Uruguay, Argentina, Paraguay, Bolivia (Chuquisaca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 14846: 0
Distr. Total = 16619; EDC 1 = 11722; EDC 2 = 3124; EDC 3 = 938; EDC 4 = 688; EDC 5 = 147
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
5472 grid cells in Parks: Aguarague, Amboró, El Palmar, Iñao, Kaa-Iya, Otuquis, San Matías, Tucavaca, Tariquia
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Philodryas aestiva (DUMERIL, BIBRON & DUMERIL)

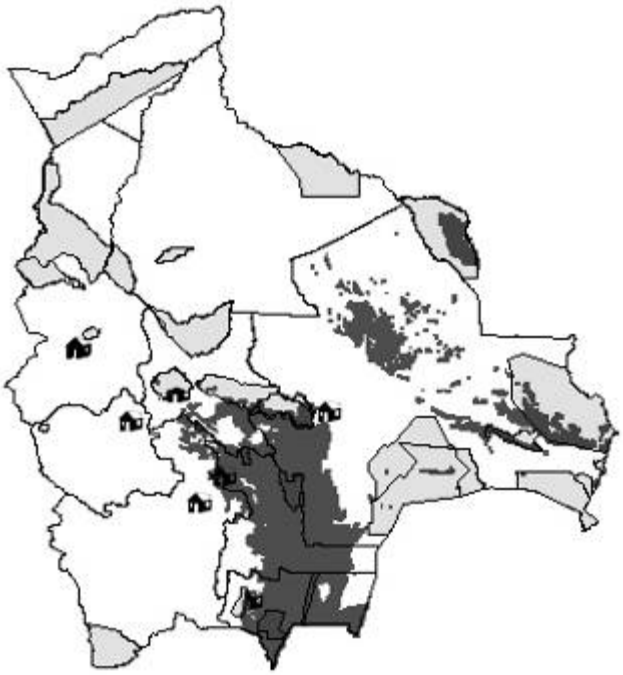

Figure 472 Extrapolated Distribution of *Philodryas aestiva*

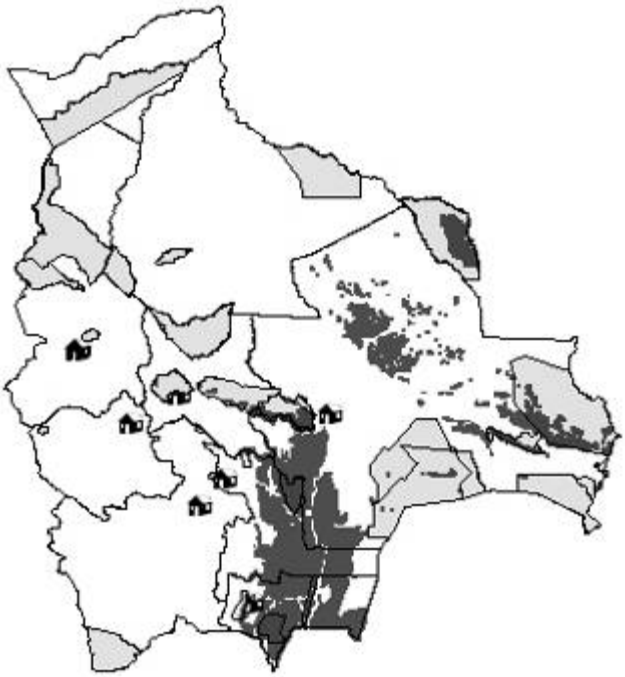

Figure 473 Fragmentation of Habitat of *Philodryas aestiva*

Map Quality: Medium confidence
The extrapolation shows naturally very disjunctive habitat. The isolated spots in eastern Santa Cruz are regarded as an extrapolation error as there are no collections from there (out of a total of 17 collections from western Santa Cruz and eastern Cochabamba). On the other hand the species is known from Brazil which would support distribution in theses areas.
Global distribution: Brazil, Paraguay, Uruguay, Argentina, Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 7073: 0
Distr. Total = 10262; EDC 1 = 5115; EDC 2 = 1958; EDC 3 = 878; EDC 4 = 762; EDC 5 = 1549
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
2132 grid cells in Parks: Aguarague, Amboró, Carrasco, Cordillera de Sama, El Palmar, Iñao, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca, Tariquia, Torotoro, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Philodryas baroni BERG

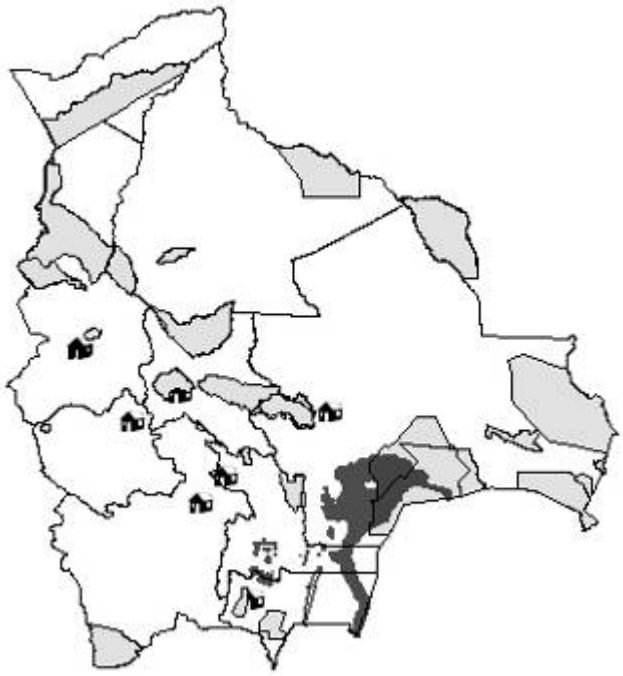

Figure 474 Extrapolated Distribution of *Philodryas baroni*

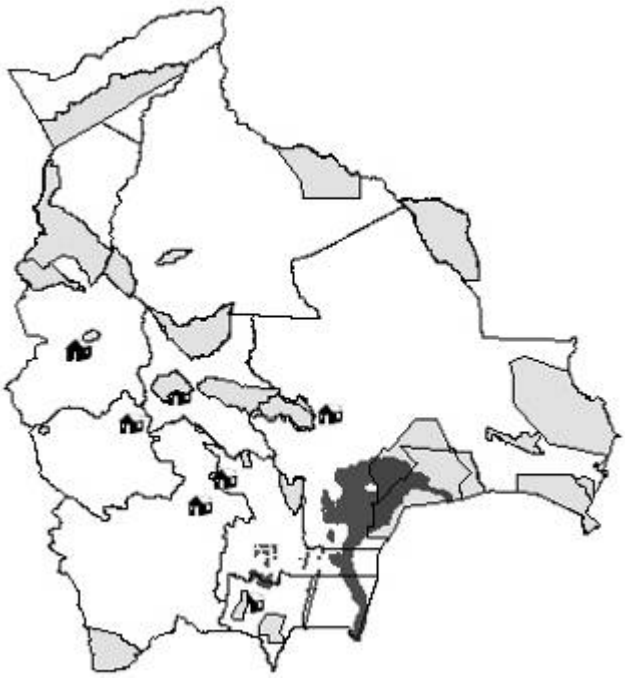

Figure 475 Fragmentation of Habitat of *Philodryas baroni*

Map Quality: High confidence
Global distribution: Argentina, Paraguay, Bolivia (Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 2241: 0
Distr. Total = 2296; EDC 1 = 1695; EDC 2 = 546; EDC 3 = 26; EDC 4 = 9; EDC 5 = 20
Fragmentation: NONE: 0
Distribution in good National parks: **STRONG: 1**
910 grid cells in Parks: Kaa-Iya
Use: NONE: 0
Rarity: RARE: 3

0+0+1+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Bahia, Brazil

Philodryas mattogrossensis KOSLOWSKY

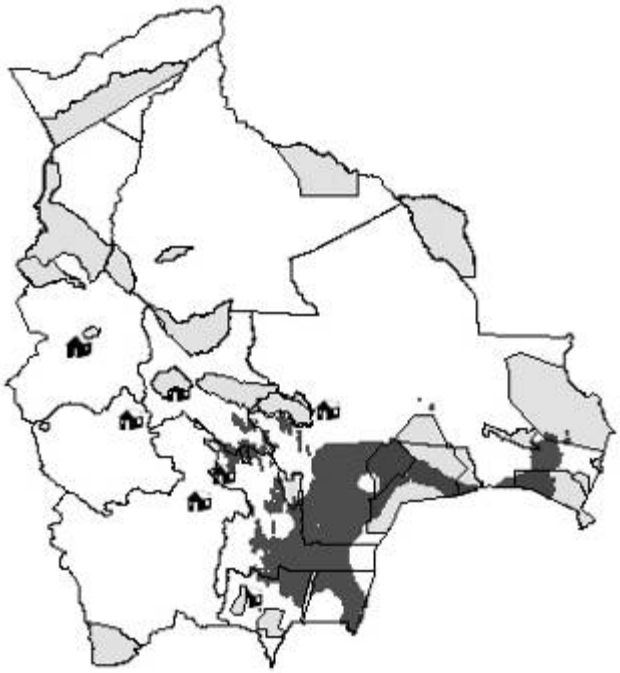

Figure 476 Extrapolated Distribution of *Philodryas mattogrossensis*

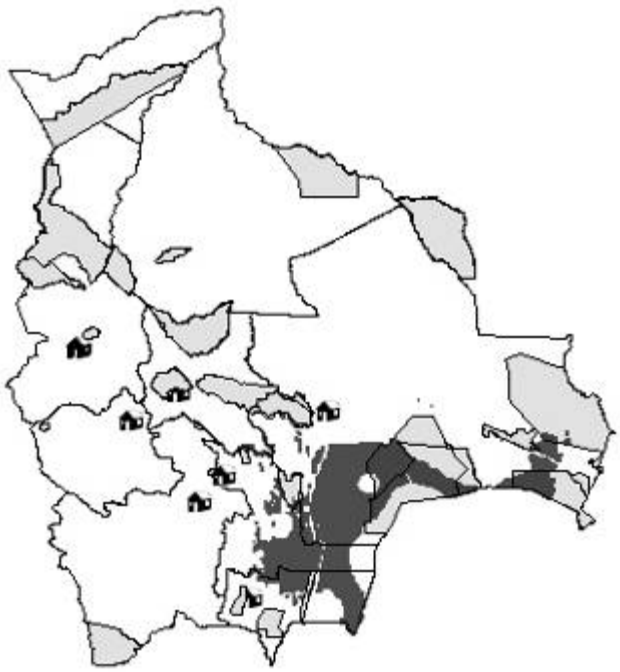

Figure 477 Fragmentation of Habitat of *Philodryas mattogrossensis*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Chuquisca, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 5379: 0
Distr. Total = 6282; EDC 1 = 4013; EDC 2 = 1366; EDC 3 = 366; EDC 4 = 292; EDC 5 = 245
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
1581 grid cells in Parks: Aguarague, El Palmar Iñao, Kaa-Iya, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: NORMAL: 1

0+0+0+0+1 = 1

Conservation status: Least Concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Philodryas olfersii (LICHTENSTEIN)

Figure 478 Extrapolated Distribution of *Philodryas olfersii*

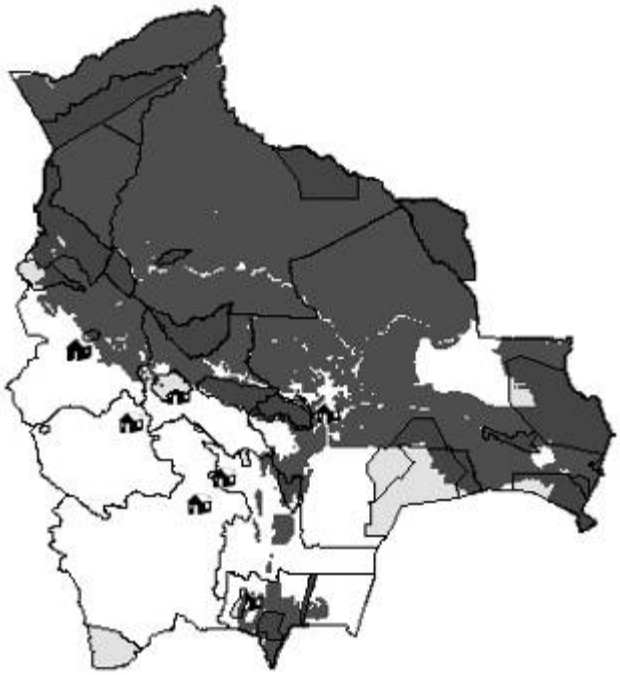

Figure 479 Fragmentation of Habitat of *Philodryas olfersii 3*

Map Quality: High confidence
Global distribution: Brazil, Peru, Paraguay, Uruguay, Argentina, Colombia, French Guiana, Venezuela, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 48362: 0
Distr. Total = 52196; EDC 1 = 33010; EDC 2 = 10312; EDC 3 = 5040; EDC 4 = 2739; EDC 5 = 1095
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
12967 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cordillera de Sama, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquia, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Terra typica; Brazil

Philodryas patagoniensis (GIRARD)

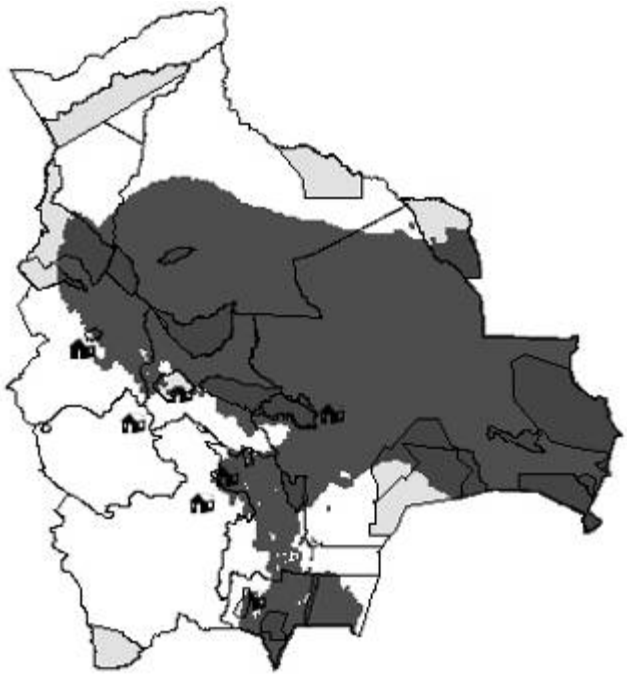

Figure 480 Extrapolated Distribution of *Philodryas patagoniensis*

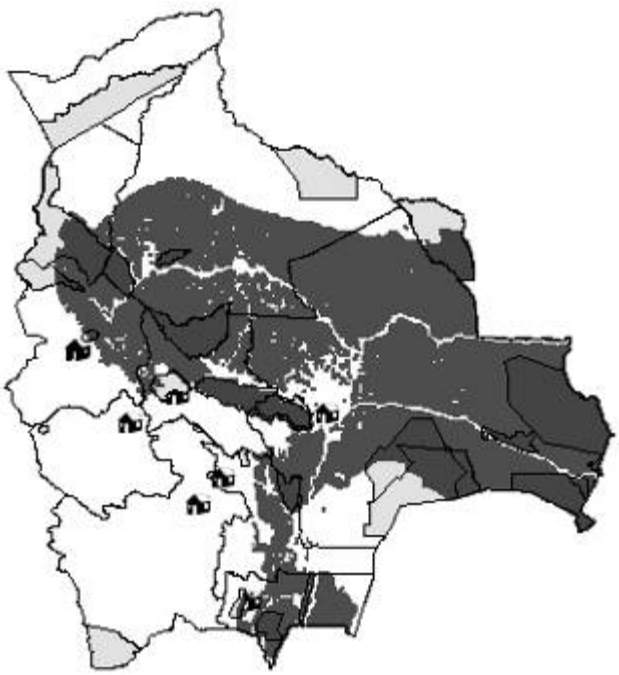

Figure 481 Fragmentation of Habitat of *Philodryas patagoniensis*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Uruguay, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 34208: 0
Distr. Total = 42708; EDC 1 = 26764; EDC 2 = 7444; EDC 3 = 3717; EDC 4 = 2844; EDC 5 = 1939
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
10242 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Kaa-Iya, Madidi, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquia, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Philodryas psammophidea GÜNTHER

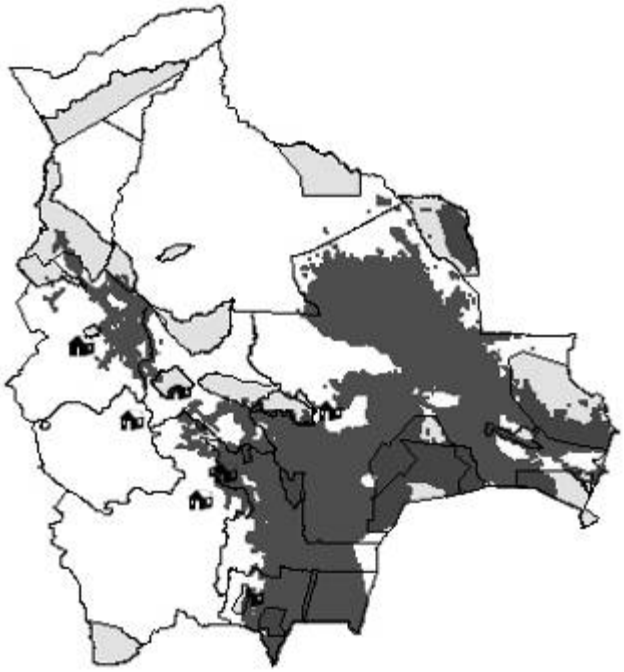

Figure 482 Extrapolated Distribution of *Philodryas psammophidea*

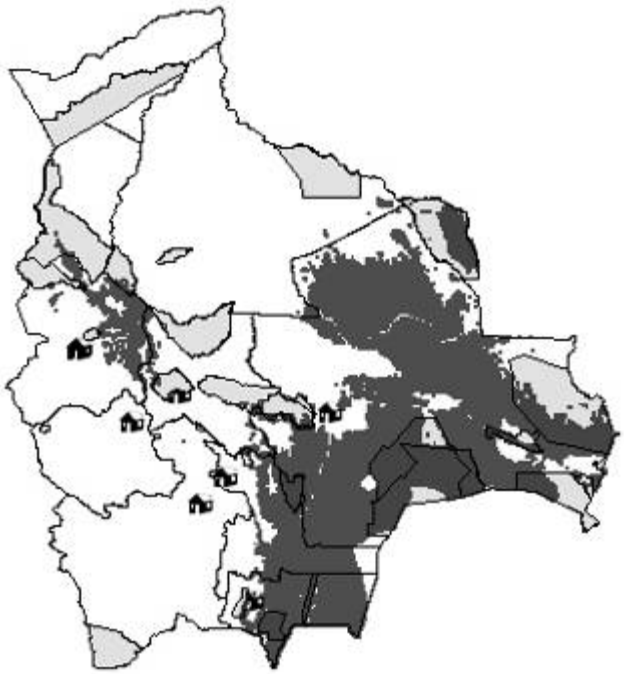

Figure 483 Fragmentation of Habitat of *Philodryas psammophidea*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Uruguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: UNCERTAIN
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 21496: 0
Distr. Total = 24826; EDC 1 = 15619; EDC 2 = 4239; EDC 3 = 1638; EDC 4 = 1457; EDC 5 = 1873
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction south of Amboro y Carrasco National parks which widens the gap between a big eastern block from a small western block.
Distribution in good National parks: **VERY STRONG: 0**
5600 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, Iñao, Isiboro Sécure, Kaa-Iya, Madidi, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquia, Torotoro, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Tucumán, Argentina. Hussam Zaher together with the author of the present work are working at the moment on a revision of the species and have found some significant differences in the populations of the inter Andean dry valleys.

Philodryas varia (JAN)

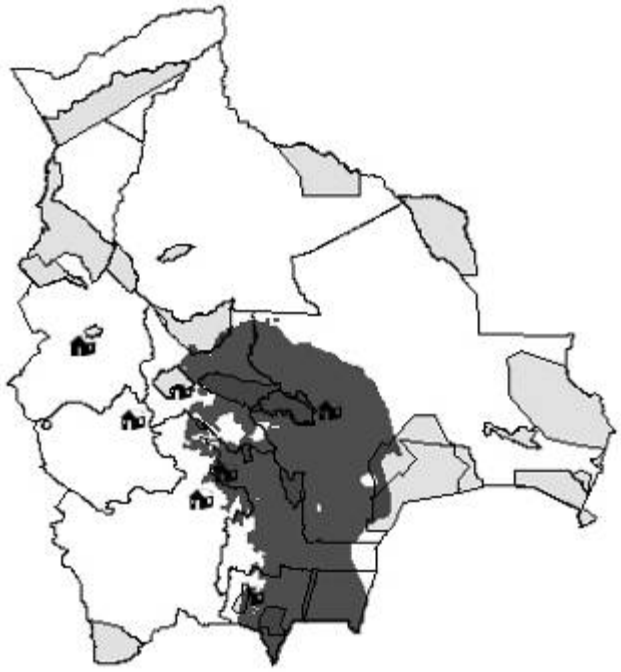

Figure 484 Extrapolated Distribution of *Philodryas varia*

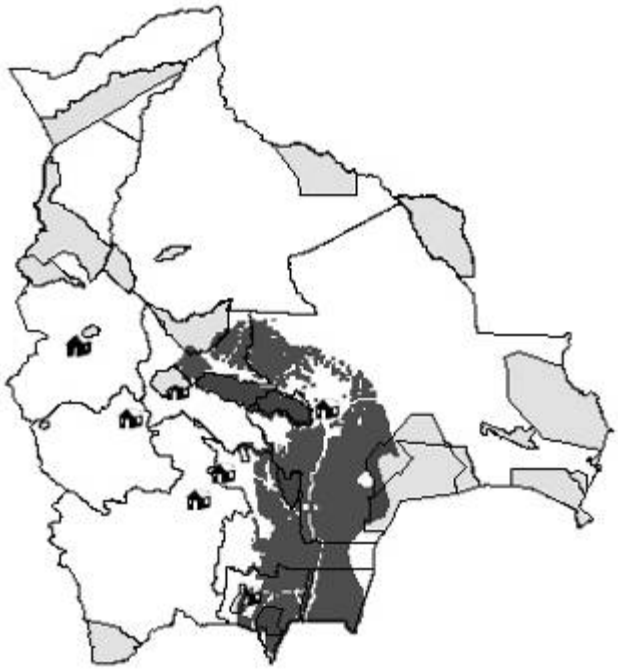

Figure 485 Fragmentation of Habitat of *Philodryas varia*

Map Quality: High confidence
Global distribution: Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 9394: 0
Distr. Total = 14819; EDC 1 = 6560; EDC 2 = 2834; EDC 3 = 1517; EDC 4 = 1800; EDC 5 = 2108
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

2520 grid cells in Parks: Aguarague, Amboró, Carrasco, Cavernas del Repechón, Cordillera de Sama, El Palmar, Iñao, Isiboro Sécure, Kaa-Iya, Tariquia, Torotoro, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Philodryas viridissima (LINNAEUS)

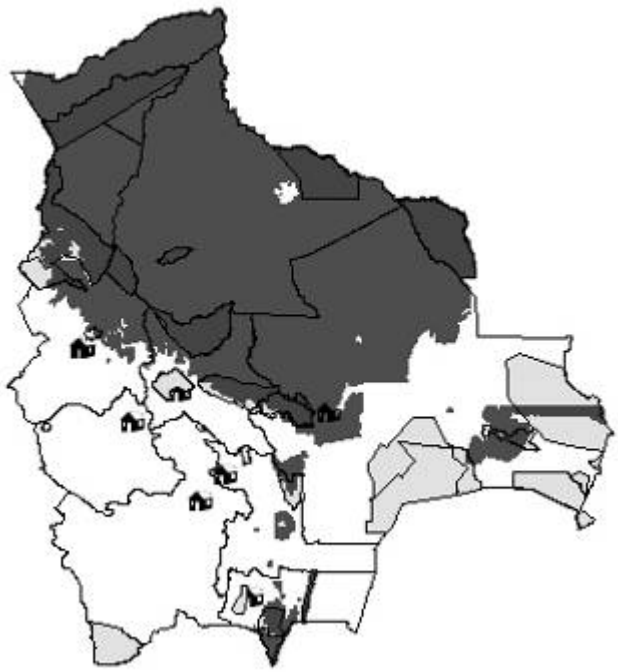

Figure 486 Extrapolated Distribution of *Philodryas viridissima*

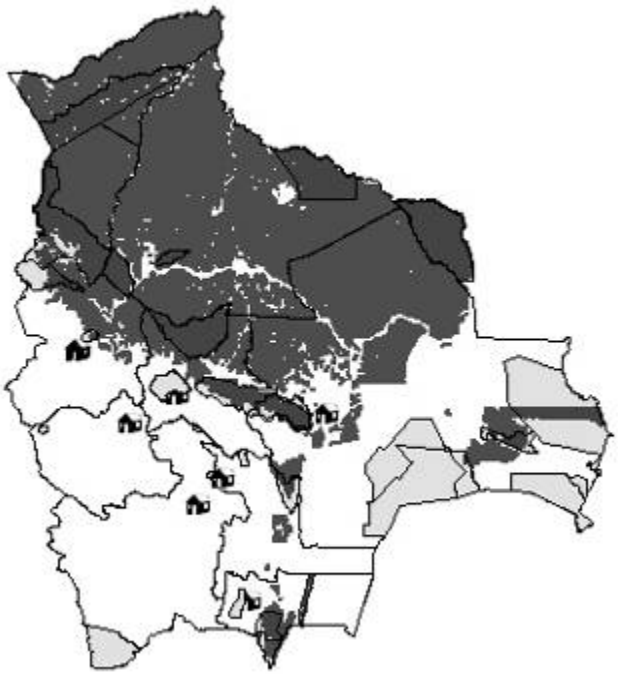

Figure 487 Fragmentation of Habitat of *Philodryas viridissima*

Map Quality: High confidence
The extrapolated distribution shows some separated areas of distribution, all of them missing collections to prove that the species occurs there. As the species occurs in Brazil, Paraguay and Argentina distribution there is possible if not probable.
Global distribution: Paraguay, Brazil, Venezuela, Guyana, Surinam, French Guiana, Argentina, Peru, Colombia, Ecuador, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz,Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 34015: 0
Distr. Total = 41373; EDC 1 = 25477; EDC 2 = 8538; EDC 3 = 4433; EDC 4 = 2186; EDC 5 = 739
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
8525 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Pilon Lajas, San Matías, Tucavaca, Tariquia
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Surinami"

Phimophis vittatus (BOULENGER)

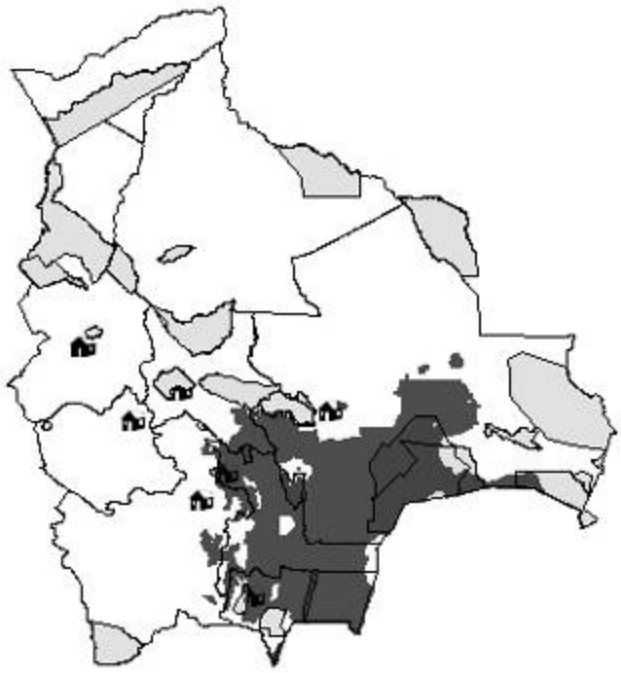

Figure 488 Extrapolated Distribution of *Phimophis vittatus*

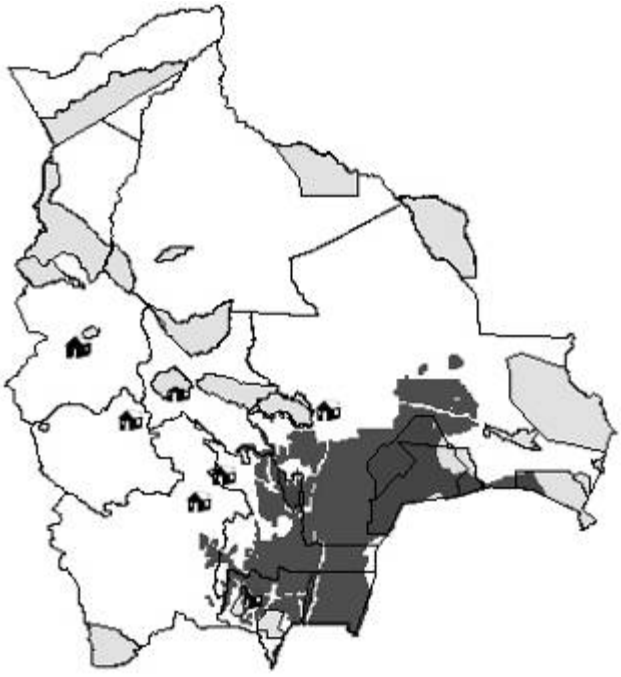

Figure 489 Fragmentation of Habitat of *Phimophis vittatus*

Map Quality: High confidence
Global distribution: Argentina, Paraguay, Bolivia (Santa Cruz, Tarija)

Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 9904: 0
Distr. Total = 13019; EDC 1 = 7351; EDC 2 = 2553; EDC 3 = 883; EDC 4 = 776; EDC 5 = 1456
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
3056 grid cells in Parks: Aguarague, Amboró, Cordillera de Sama, El Palmar, Iñao, Kaa-Iya, Otuquis, Tucavaca, Tariquia
Use: NONE: 0
Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Pseudoboa coronata SCHNEIDER

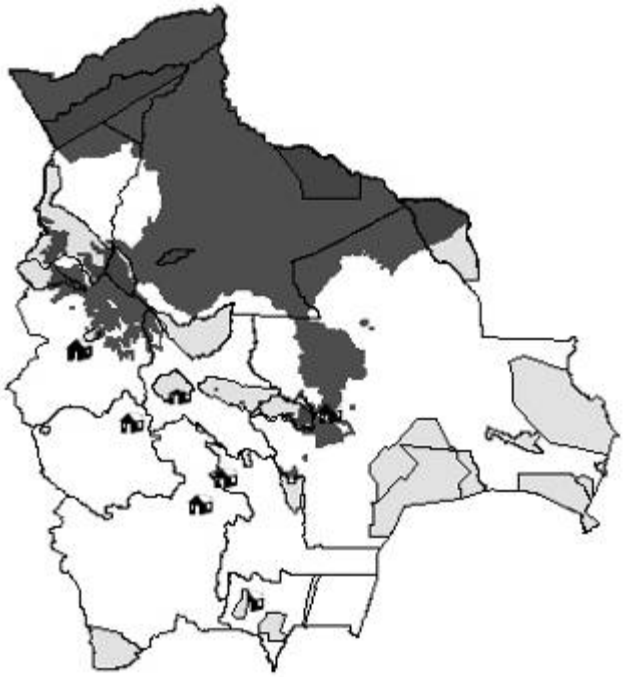

Figure 490 Extrapolated Distribution of *Pseudoboa coronata*

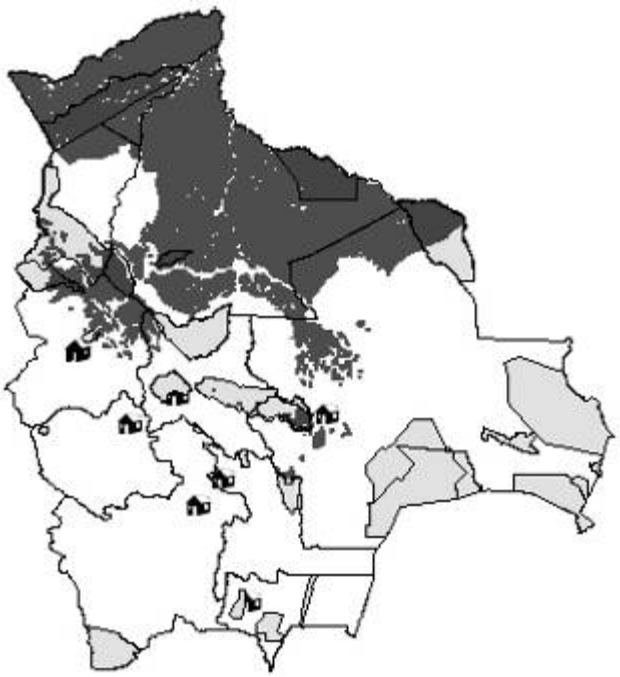

Figure 491 Fragmentation of Habitat of *Pseudoboa coronata*

Map Quality: High confidence
Global distribution: Guyana, Surinam, French Guiana, Brazil, Colombia, Venezuela, Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)

Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 20113: 0
Distr. Total = 24809; EDC 1 = 14025; EDC 2 = 6088; EDC 3 = 3024; EDC 4 = 1250; EDC 5 = 422
Fragmentation: SOME: 1
Some fragmentation, mainly by strong habitat destruction near Santa Cruz separating naturally connected areas. Further fragmentation in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
4324 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Madidi, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "America"

Pseudoboa nigra (DUMÉRIL, BIBRON & DUMÉRIL)

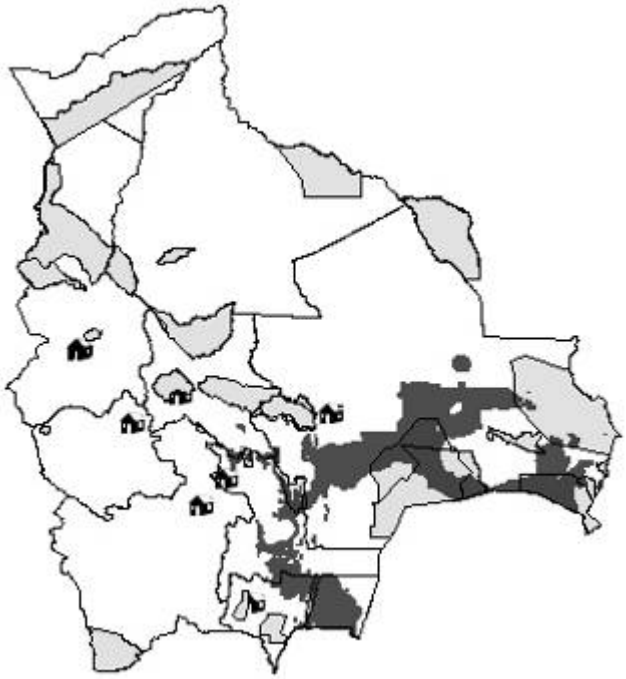

Figure 492 Extrapolated Distribution of *Pseudoboa nigra*

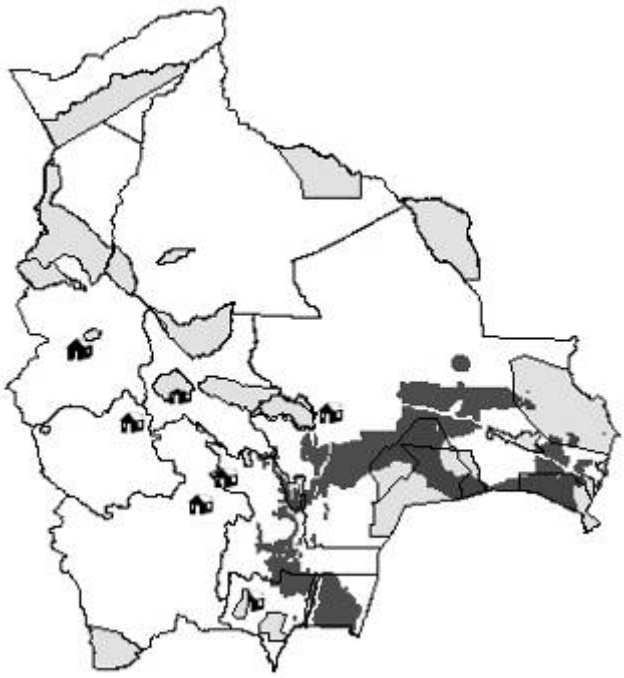

Figure 493 Fragmentation of Habitat of *Pseudoboa nigra*

Map Quality: High confidence

Global distribution: Argentina, Brazil, Paraguay, Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 5864: 0
Distr. Total = 6585; EDC 1 = 4815; EDC 2 = 1049; EDC 3 = 370; EDC 4 = 285; EDC 5 = 66
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
2171 grid cells in Parks: Aguarague, El Palmar, Iñao, Kaa-Iya, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Surinam

Pseudoeryx plicatilis (LINNAEUS)

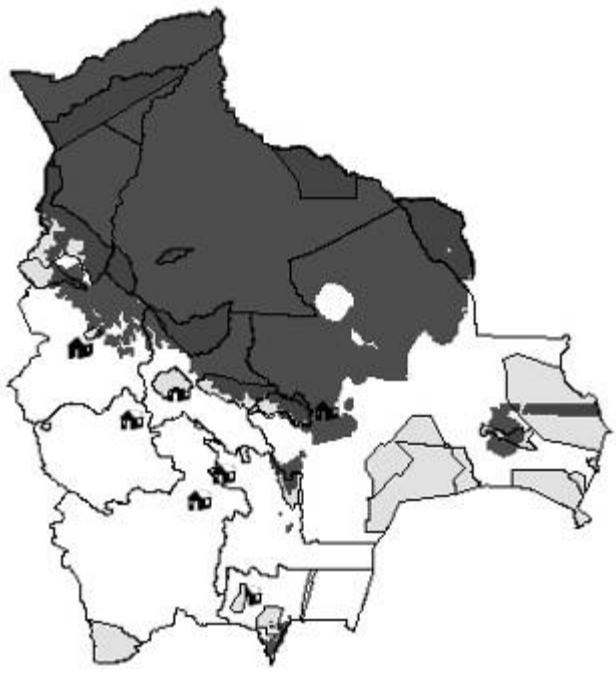

Figure 494 Extrapolated Distribution of *Pseudoeryx plicatilis*

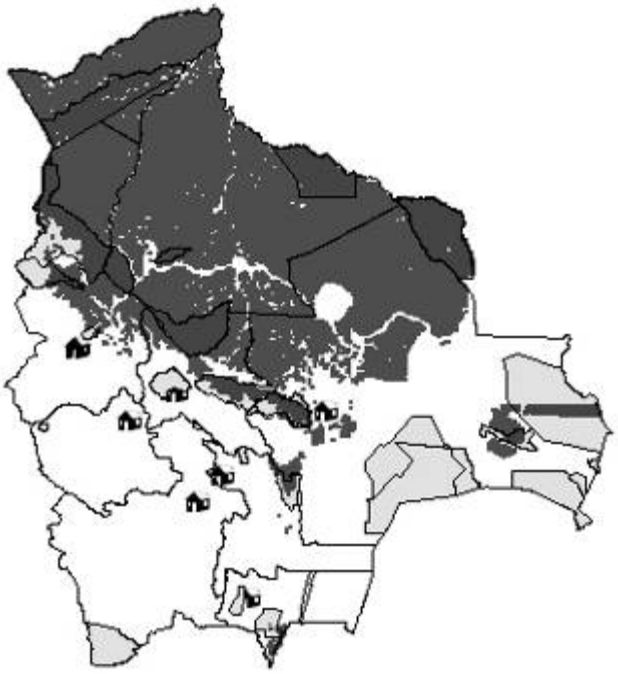

Figure 495 Fragmentation of Habitat of *Pseudoeryx plicatilis*

Map Quality: High confidence

The extrapolated distribution shows some separated areas of distribution, all of them missing collections to prove that the species occurs there. As the species occurs in Brazil, Paraguay and Argentina distribution there is possible if not probable.

Global distribution: Colombia, Venezuela, Ecuador, Peru, Guyana, Surinam, French Guiana, Paraguay, Argentina, Brazil, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)

Taxonomic status: OK

Sensibility for habitat alteration: SENSIBLE

Distribution Value: 31930: 0

Distr. Total = 38895; EDC 1 = 23806; EDC 2 = 8124; EDC 3 = 4238; EDC 4 = 2053; EDC 5 = 674

Fragmentation: SOME: 1

Some fragmentation by strong habitat destruction near Santa Cruz. Further fragmentation in the Chapare region and by highways.

Distribution in good National parks: **VERY STRONG: 0**

7679 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Madidi, Manuripi-Heath, NKM, Pilon Lajas, San Matías, Tucavaca, Tariquia

Use: NONE: 0

Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE

Comments: Terra typica: "Ternataeis"

Pseustes poecilonotus (GÜNTHER)

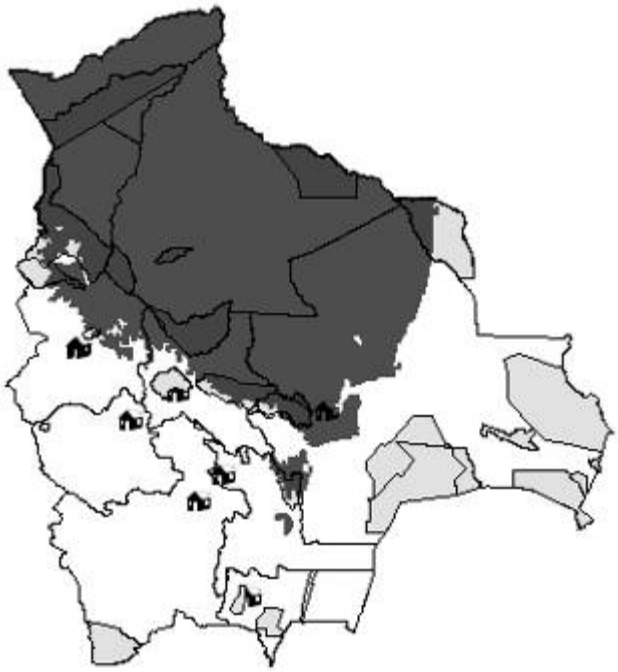

Figure 496 Extrapolated Distribution of *Pseustes poecilonotus*

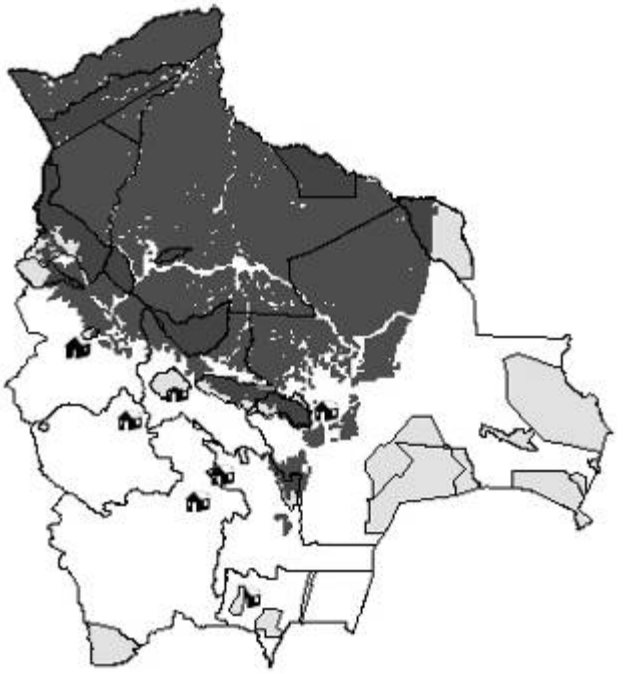

Figure 497 Fragmentation of Habitat of *Pseustes poecilonotus*

Map Quality: High confidence
Global distribution: Mexico, Guatemala, El Salvador, Honduras, Belize, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Brazil, Ecuador, Peru, Trinidad, Guyana, Surinam, French Guiana, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 30458: 0
Distr. Total = 37438; EDC 1 = 22525; EDC 2 = 7933; EDC 3 = 4242; EDC 4 = 2034; EDC 5 = 704
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz. Further fragmentation in the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6850 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Madidi, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Pseustes sulphureus (WAGLER)

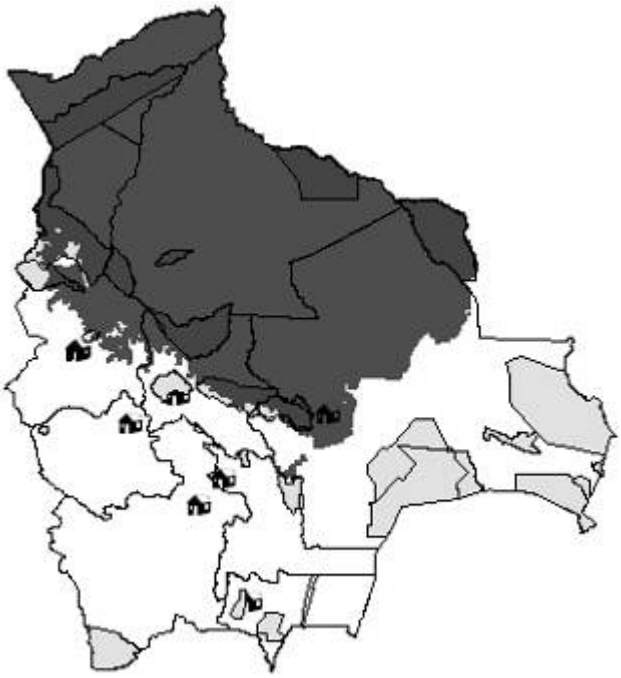

Figure 498 Extrapolated Distribution of *Pseustes sulphureus*

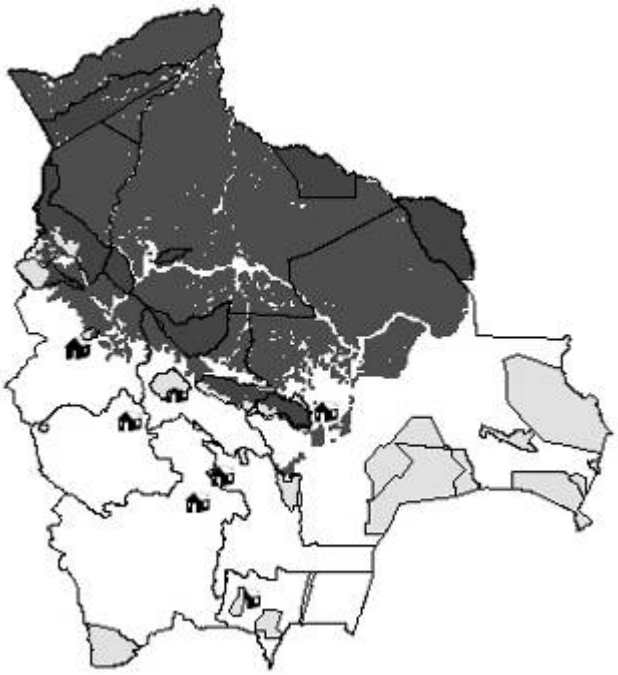

Figure 499 Fragmentation of Habitat of *Pseustes sulphureus*

Map Quality: High confidence
Global distribution: Peru, Ecuador, Brazil, Guyana, Surinam, French Guiana, Trinidad, Colombia, Venezuela, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 32123: 0
Distr. Total = 39296; EDC 1 = 23991; EDC 2 = 8132; EDC 3 = 4310; EDC 4 = 2124; EDC 5 = 739
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7630 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Madidi, Manuripi-Heath, NKM, Pilon Lajas
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Rio Japura, Brazil

Psomophis genimaculatus (BOETTGER)

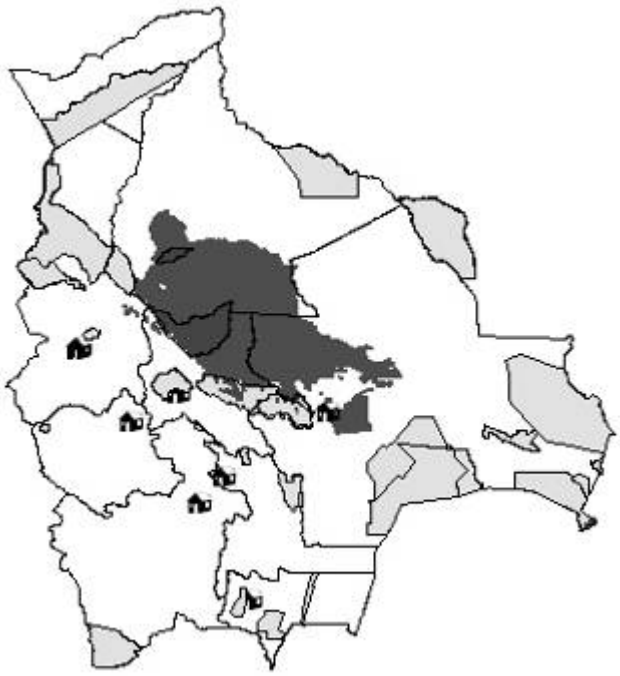

Figure 500 Extrapolated Distribution of *Psomophis genimaculatus*

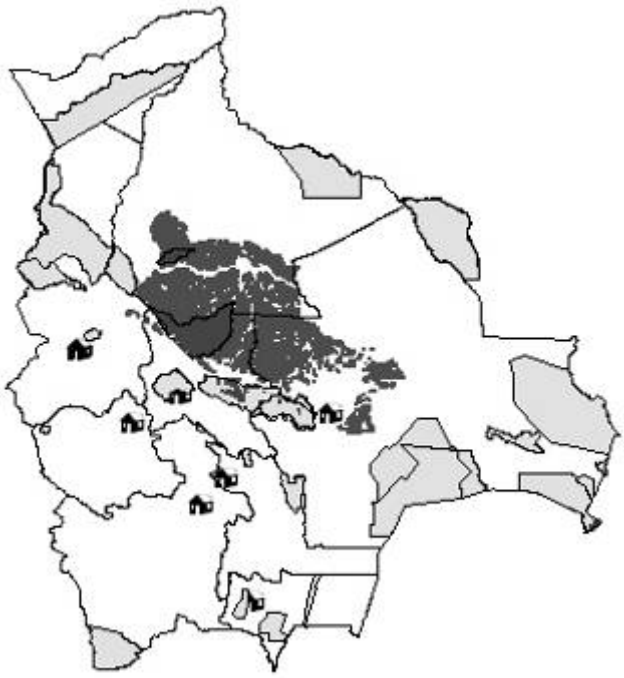

Figure 501 Fragmentation of Habitat of *Psomophis genimaculatus*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Beni, Cochabamba, La Paz, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 5841: 0
Distr. Total = 8427; EDC 1 = 4005; EDC 2 = 1836; EDC 3 = 1287; EDC 4 = 973; EDC 5 = 326
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
1200 grid cells in Parks: Amboró, Carrasco, Cavernas del Repechón, EBB, Isiboro Sécure, Otuquis, Pilon Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Psommophis obtusus (COPE)

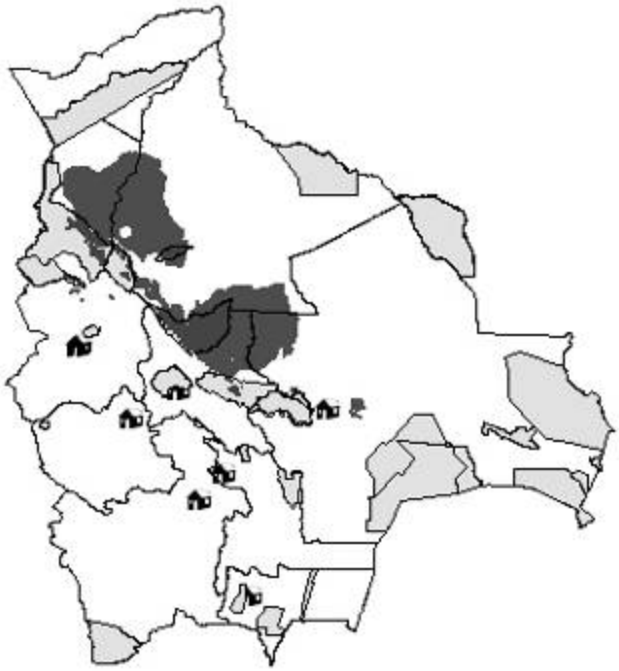

Figure 502 Extrapolated Distribution of *Psommophis obtusus*

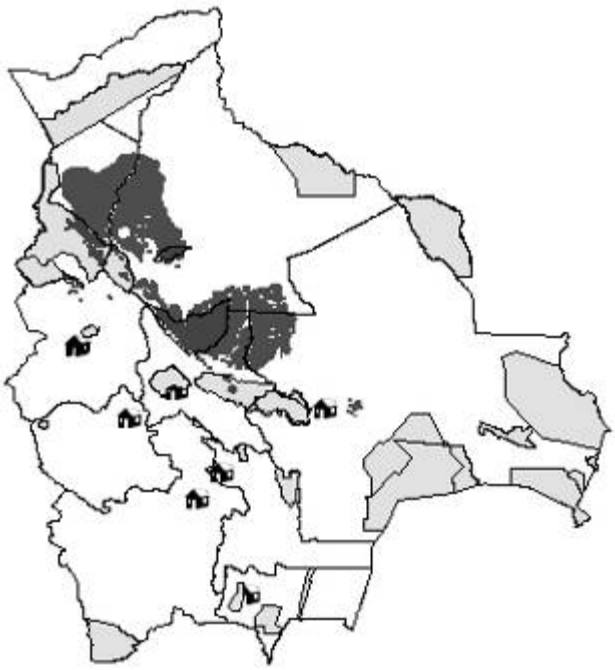

Figure 503 Fragmentation of Habitat of *Psommophis obtusus*

Map Quality: High confidence
Global distribution: Brazil (Rio Grande do Sul), S Paraguay, Argentina (Chaco, Entre Rios ?, Corrientes ?), Uruguay, Bolivia (Beni, Cochabamba, La Paz, Santa Cruz)
Taxonomic status: UNCERTAIN
Distribution status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 5087: 0
Distr. Total = 6285; EDC 1 = 3955; EDC 2 = 1132; EDC 3 = 779; EDC 4 = 315; EDC 5 = 104
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
1200 grid cells in Parks: Amboró, Apolobamba, Carrasco, EBB, Isiboro Sécure, Madidi, Pilón Lajas
Use: NONE: 0
Rarity: RARE: 3

0+0+0+0+3 = 3 TAXONOMIC STATUS UNCERTAIN

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Paysandœ, Uruguay

Rhinobothryum lentiginosum (SCOPOLI)

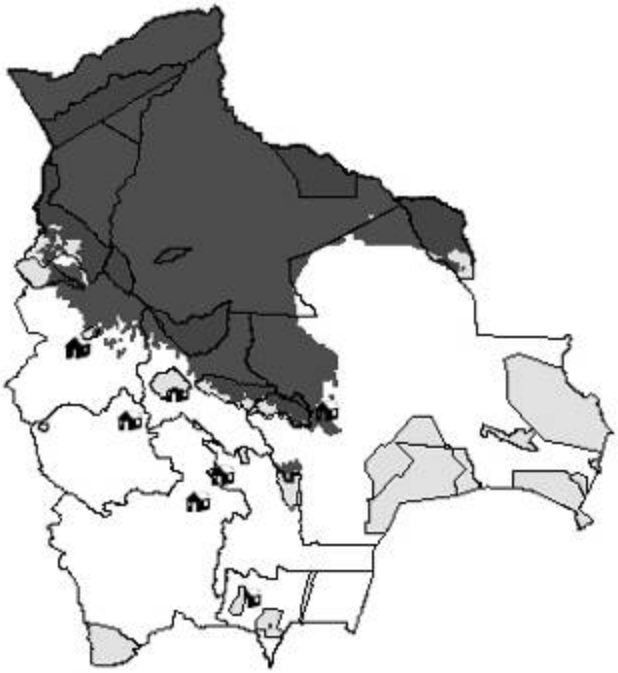

Figure 504 Extrapolated Distribution of *Rhinobothryum lentiginosum*

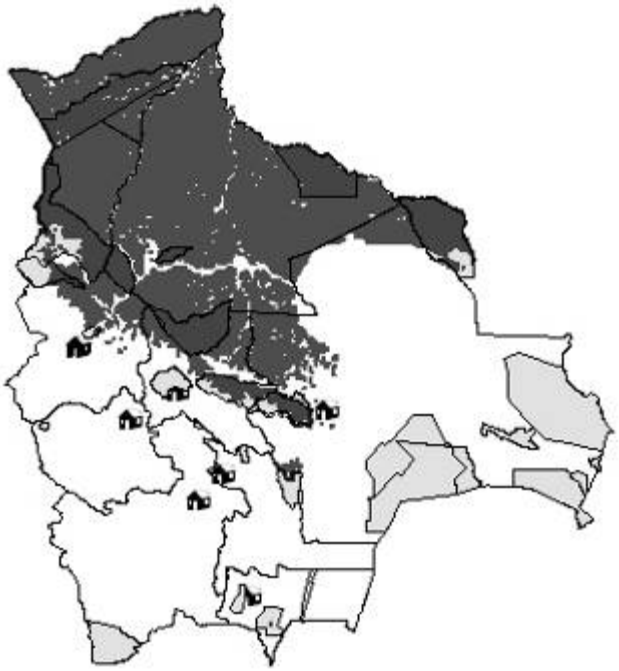

Figure 505 Fragmentation of Habitat of *Rhinobothryum lentiginosum*

Map Quality: High confidence
Global distribution: Paraguay, Brazil, Venezuela, French Guiana, Colombia, Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 25946: 0
Distr. Total = 31499; EDC 1 = 18964; EDC 2 = 6982; EDC 3 = 3669; EDC 4 = 1454; EDC 5 = 430
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7146 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Madidi, Manuripi-Heath, NKM, Pilon Lajas, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica not given by Scopoli (1785)

Sibynomorphus lavillai SCROCCHI, PORTO & REY

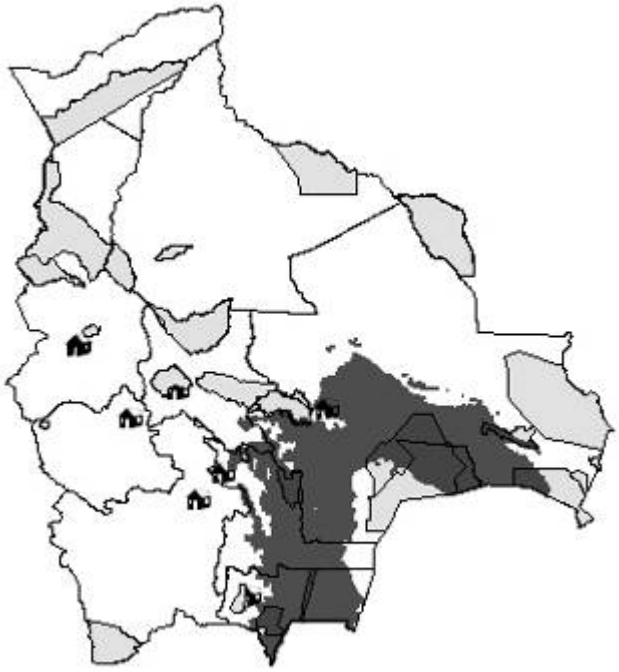

Figure 506 Extrapolated Distribution of *Sibynomorphus lavillai*

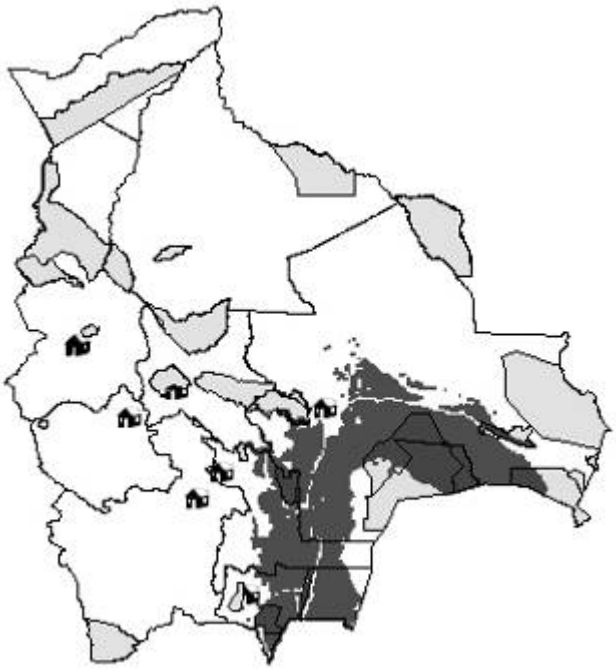

Figure 507 Fragmentation of Habitat of *Sibynomorphus lavillai*

Map Quality: High confidence
Global distribution: Argentina, Paraguay, Bolivia (Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 9937: 0
Distr. Total = 12499; EDC 1 = 7515; EDC 2 = 2422; EDC 3 = 1001; EDC 4 = 1011; EDC 5 = 550
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
2959 grid cells in Parks: Aguarague, Amboró, El Palmar, Iñao, Kaa-Iya, Otuquis, Tucavaca, Tariquia
Use: NONE: 0

Rarity: NORMAL: 1

0+1+0+0+1 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Sibynomorphus turgidus (COPE)

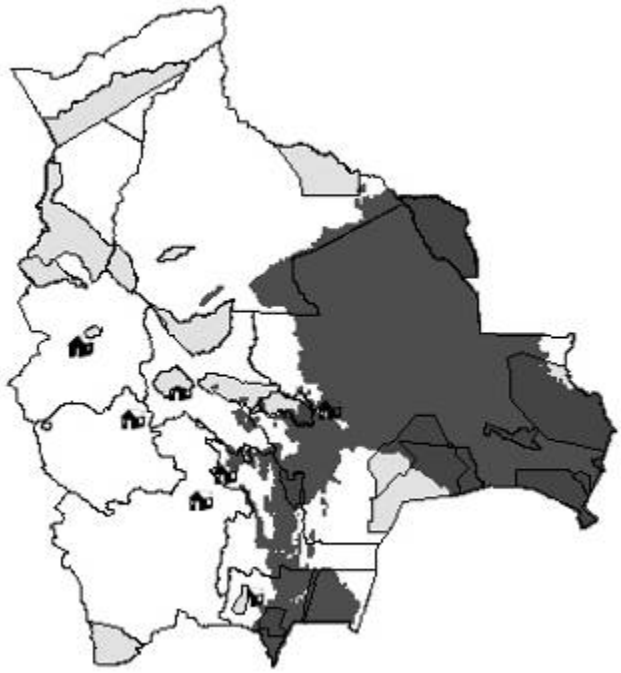

Figure 508 Extrapolated Distribution of *Sibynomorphus turgidus*

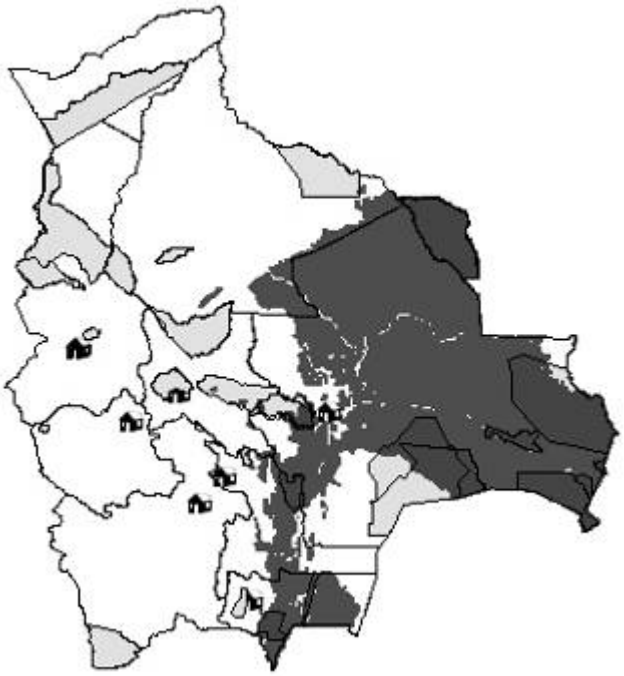

Figure 509 Fragmentation of Habitat of *Sibynomorphus turgidus*

Map Quality: High confidence
Global distribution: Paraguay, Brazil, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 22530: 0
Distr. Total = 26738; EDC 1 = 18222; EDC 2 = 4308; EDC 3 = 1936; EDC 4 = 1651; EDC 5 = 621
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
7163 grid cells in Parks: Aguarague, Amboró, Carrasco, El Palmar, Iñao, Itenez, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca, Tariquia

Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Siphlophis compressus (DAUDIN)

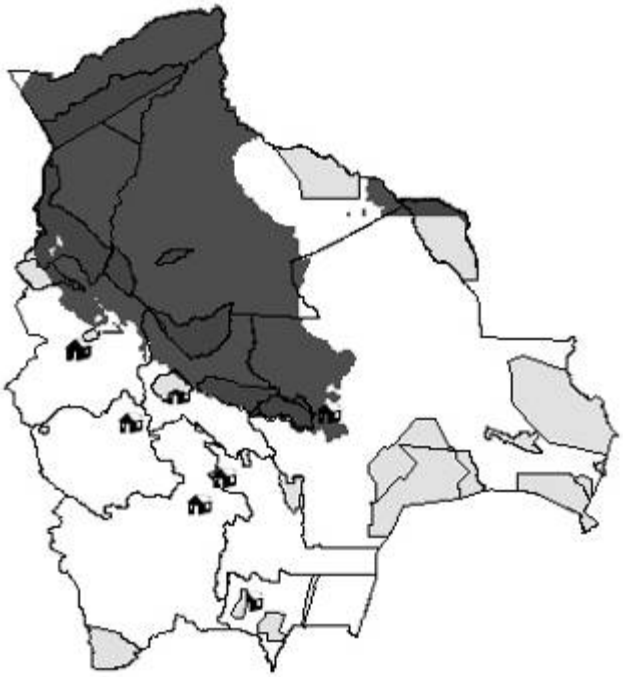

Figure 510 Extrapolated Distribution of *Siphlophis compressus*

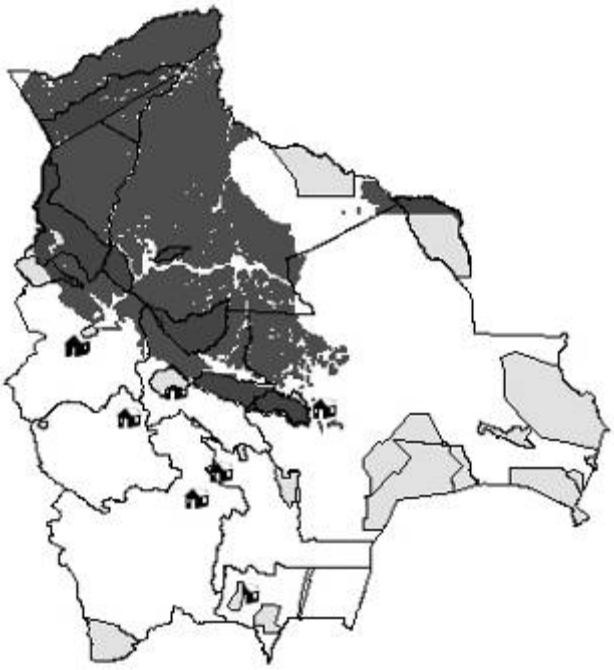

Figure 511 Fragmentation of Habitat of *Siphlophis compressus*

Map Quality: High confidence
Global distribution: Costa Rica, Panama, French Guiana, Peru, Brazil, Colombia, Ecuador, Venezuela, Trinidad, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 22267: 0
Distr. Total = 27604; EDC 1 = 16200; EDC 2 = 6067; EDC 3 = 3380; EDC 4 = 1501; EDC 5 = 456
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**

6102 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Surinam

Spilotes pullatus (LINNAEUS)

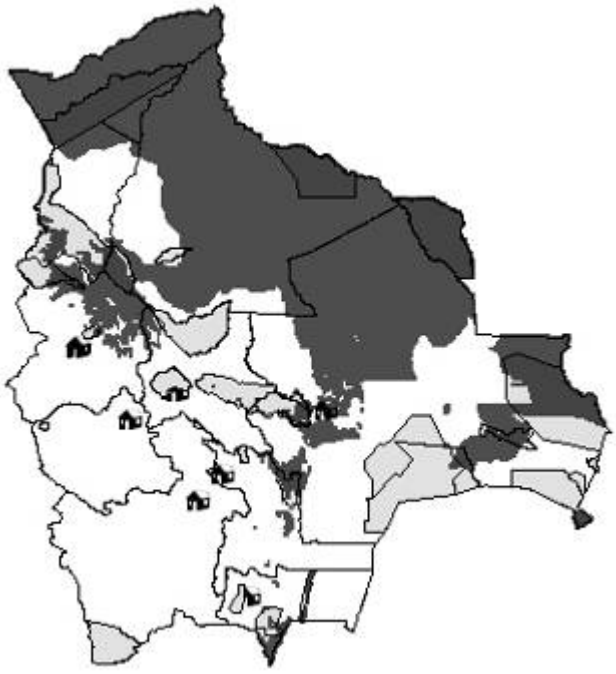

Figure 512 Extrapolated Distribution of *Spilotes pullatus*

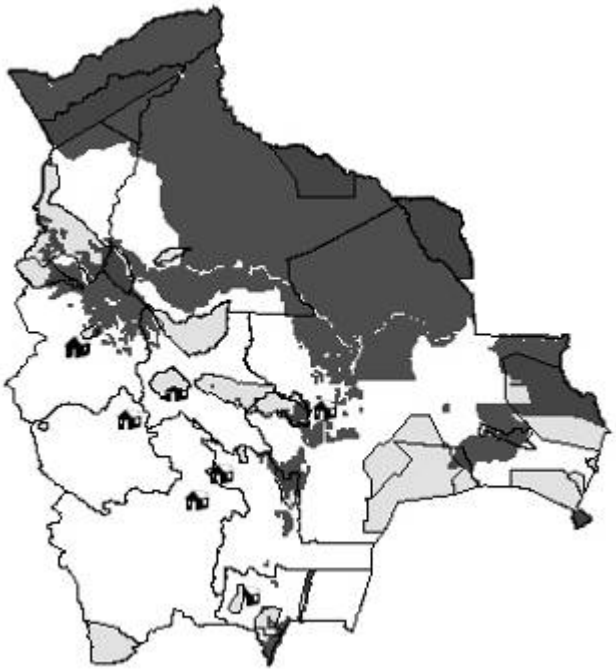

Figure 513 Fragmentation of Habitat of *Spilotes pullatus*

Map Quality: High confidence
Global distribution: Mexico, Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Trinidad, Tobago, Colombia, Venezuela, Brazil, Ecuador, Peru, Argentina, Guyana, Surinam, French Guiana, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 27691: 0
Distr. Total = 32903; EDC 1 = 20423; EDC 2 = 7268; EDC 3 = 3329; EDC 4 = 1425; EDC 5 = 458

Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
6636 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Asia" (fide Linnaeus 1758; in error).

Tachymenis attenuata WALKER

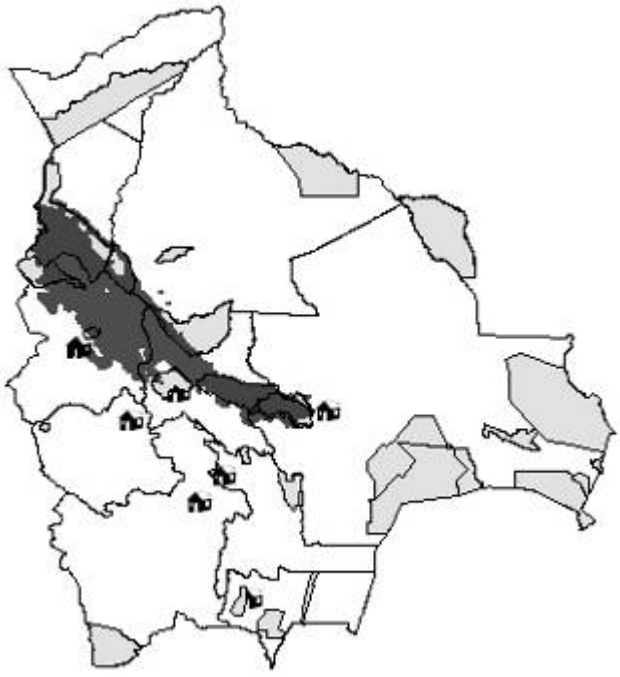

Figure 514 Extrapolated Distribution of *Tachymenis attenuata*

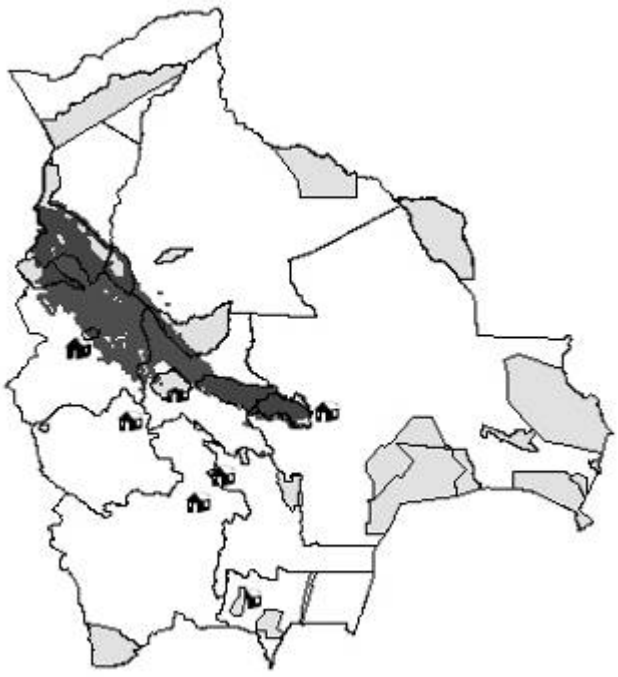

Figure 515 Fragmentation of Habitat of *Tachymenis attenuata*

Map Quality: High confidence
Global distribution: Peru, Bolivia (Cochabamba, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 4744: 0
Distr. Total = 5810; EDC 1 = 3957; EDC 2 = 787; EDC 3 = 408; EDC 4 = 270; EDC 5 = 388
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
2848 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, Isiboro Sécure, Madidi, Pilon Lajas, Tunari
Use: NONE: 0
Rarity: NORMAL: 1

0+0+0+0+1 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Peru (Dep. Madre de Dios)

Tachymenis elongata DESPAX

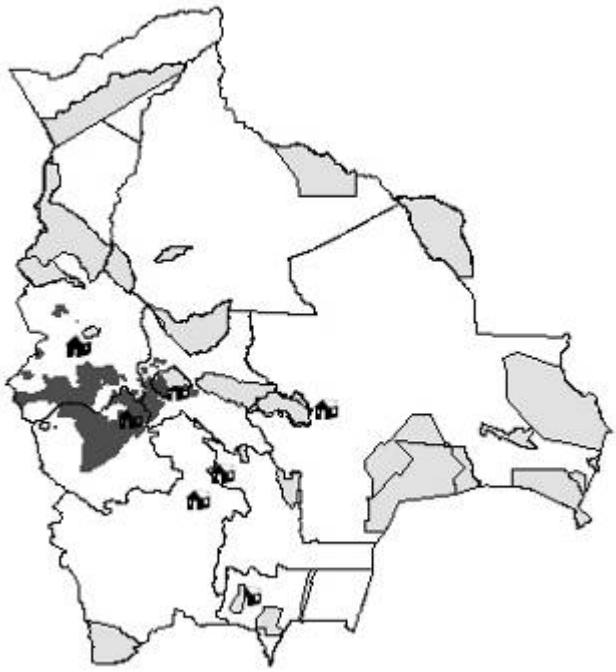

Figure 516 Extrapolated Distribution of *Tachymenis elongata*

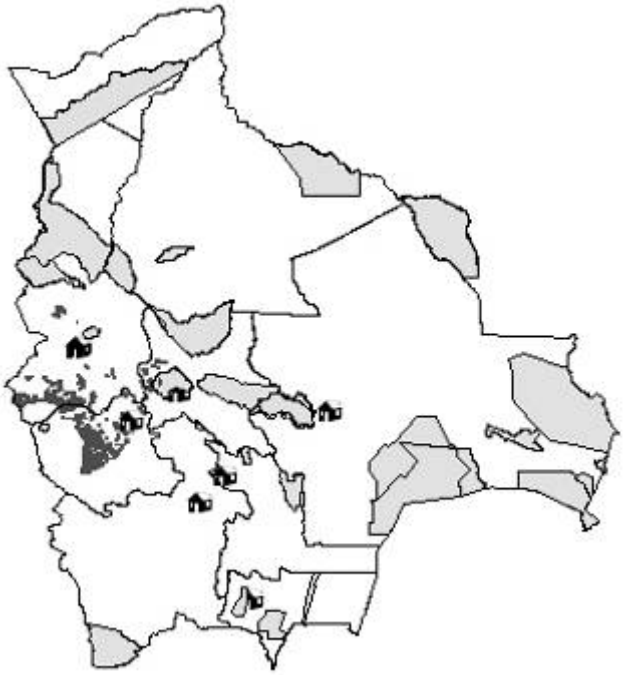

Figure 517 Fragmentation of Habitat of *Tachymenis elongata*

Map Quality: High confidence
Global distribution: Peru, Bolivia (La Paz, Cochabamba, Oruro)
Taxonomic status: OK
Distribution status: OK
Sensibility for habitat alteration: SENSIBLE

Distribution Value: 339: 5
Distr. Total = 2213; EDC 1 = 106; EDC 2 = 233; EDC 3 = 379; EDC 4 = 688; EDC 5 = 807
Fragmentation: VERY STRONG: 12
Very strong fragmentation by strong habitat destruction near Oruro, Cochabamba and La Paz.
Distribution in good National parks: **LOW: 2**
30 grid cells in Parks: Apolobamba, Tunari
Use: NONE: 0
Rarity: RARE: 3

5+12+2+0+3 = 22

Conservation status: Critically endangered

Conservation status IUCN: EN B1ab(i)
Species distribution is below 5000km², strongly fragmented and underlies very fast and strong habitat destruction.
Official IUCN Conservation Status: NE
Comments: Elevation 2600-2980 m. Terra typica: Tablazo de Payta, Peru, 30 m.

Tachymenis peruviana WIEGMANN

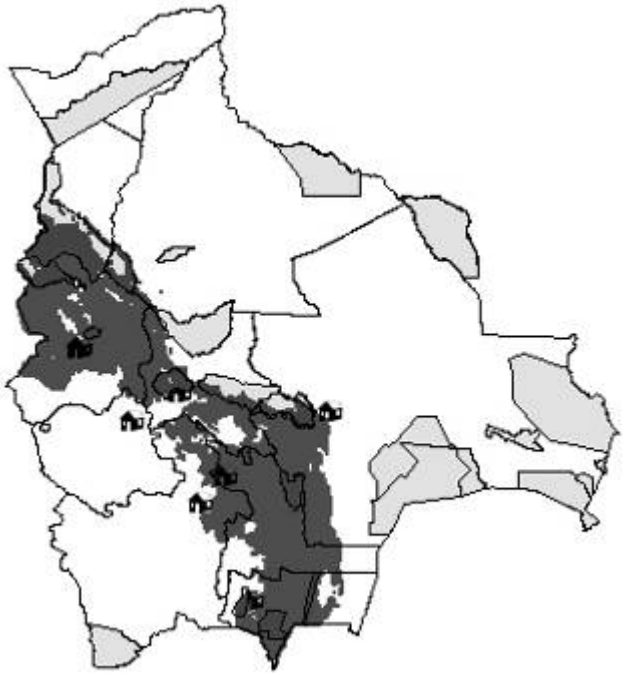

Figure 518 Extrapolated Distribution of *Tachymenis peruviana*

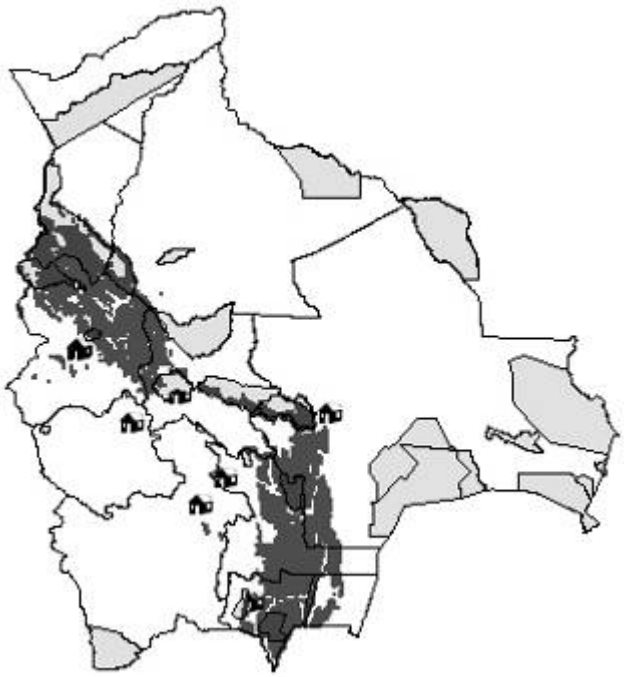

Figure 519 Fragmentation of Habitat of *Tachymenis peruviana*

Map Quality: High confidence
Global distribution: Peru, Chile, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Potosi, Tarija)
Taxonomic status: OK

Sensibility for habitat alteration: SENSIBLE
Distribution Value: 7657: 0
Distr. Total = 14463; EDC 1 = 5602; EDC 2 = 2055; EDC 3 = 1312; EDC 4 = 1525; EDC 5 = 3969
Fragmentation: STRONG: 5
Strong fragmentation by strong habitat destruction near Cochabamba.
Distribution in good National parks: **VERY STRONG: 0**
3070 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, Iñao, Isiboro Sécure, Madidi, Pilon Lajas, Tariquia, Torotoro, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+5+0+0+0 = 5

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Elevation 2600-2980 m.

Tachymenis tarmensis WALKER

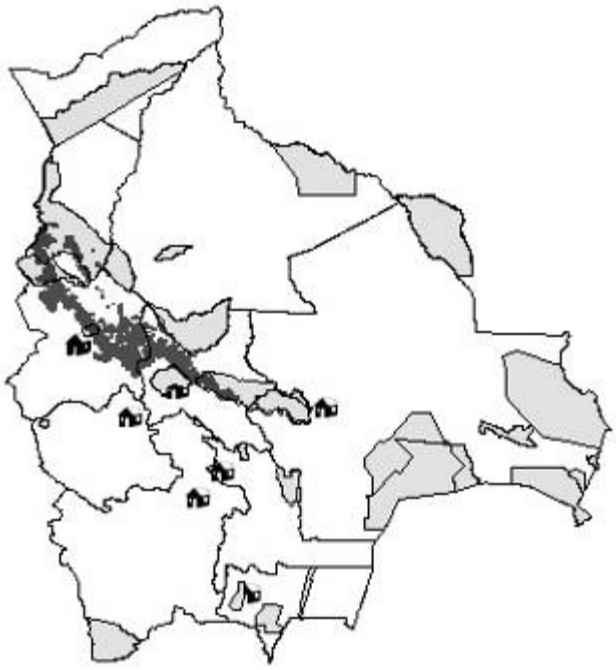

Figure 520 Extrapolated Distribution of *Tachymenis tarmensis*

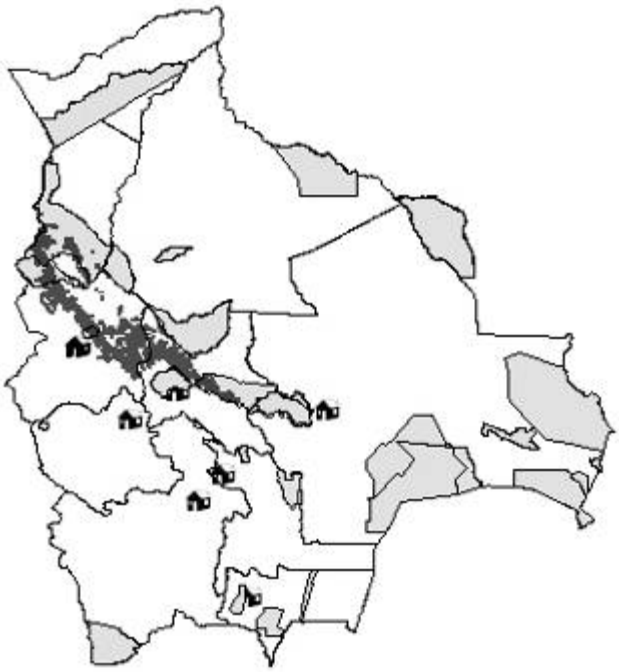

Figure 521 Fragmentation of Habitat of *Tachymenis tarmensis*

Map Quality: High confidence
Global distribution: Peru, Bolivia (Cochabamba, La Paz)
Taxonomic status: OK

Sensibility for habitat alteration: SENSIBLE
Distribution Value: 1515: 2
Distr. Total = 1689; EDC 1 = 1258; EDC 2 = 257; EDC 3 = 47; EDC 4 = 39; EDC 5 = 88
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
532 grid cells in Parks: Apolobamba, Carrasco, Cotapata, Isiboro Sécure, Madidi, Pilon Lajas, Tunari
Use: NONE: 0
Rarity: RARE: 3

2+0+0+0+3 = 5

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Tarma, Dep. de Junin, Peru

Tantilla melanocephala (LINNAEUS)

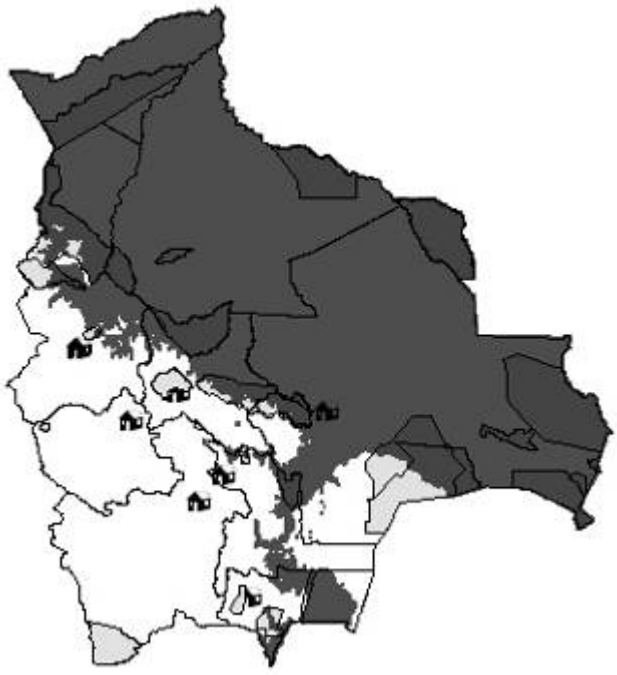

Figure 522 Extrapolated Distribution of *Tantilla melanocephala*

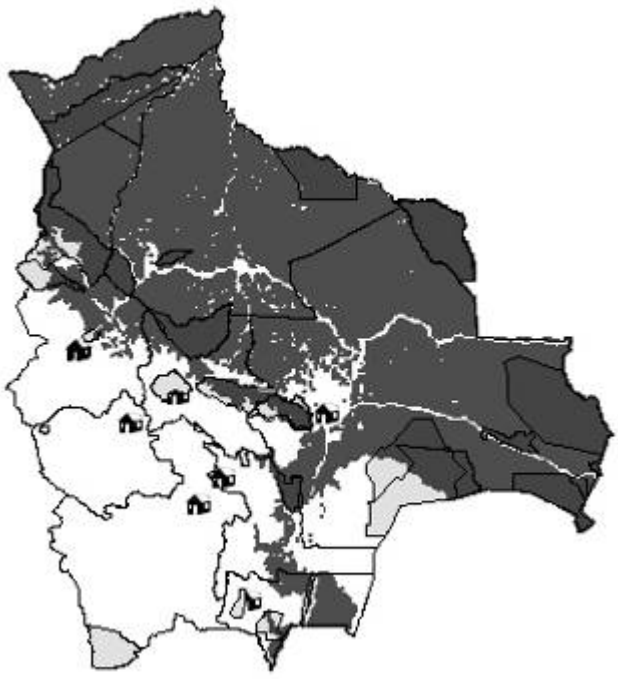

Figure 523 Fragmentation of Habitat of *Tantilla melanocephala*

Map Quality: High confidence
Global distribution: Mexico?, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Trinidad, Tobago, Colombia, Venezuela, Brazil, Argentina, Uruguay, Guyana, Surinam, French Guiana, Ecuador, Peru, Bolivia (Beni,Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija).

Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 45346: 0
Distr. Total = 54005; EDC 1 = 34734; EDC 2 = 10612; EDC 3 = 5108; EDC 4 = 2734; EDC 5 = 817
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
13059 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquia
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "America".

Tantilla sp. nov.

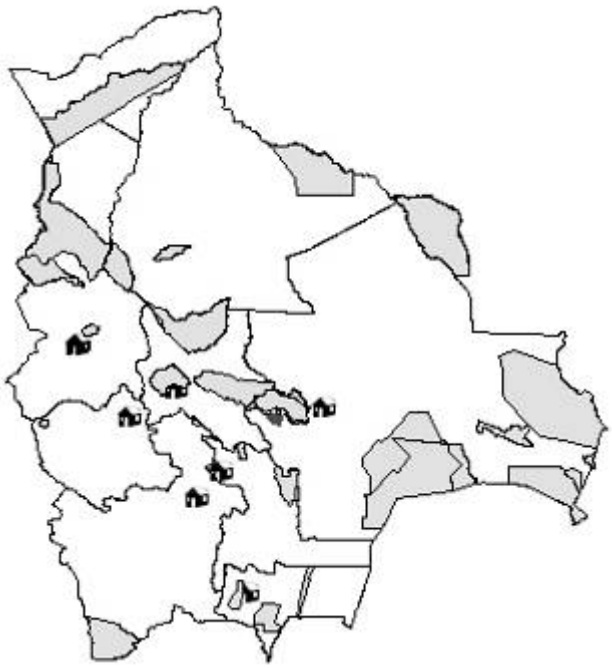

Figure 524 Extrapolated Distribution of *Tantilla* sp. nov

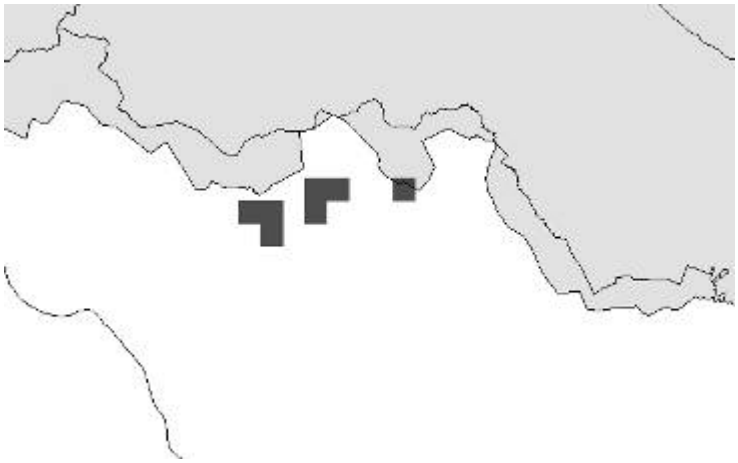

Figure 525 Fragmentation of Habitat of *Tantilla* sp. nov

Map Quality: High confidence
Global distribution: Bolivia (Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 7: 10
Distr. Total = 43; EDC 1 = 2; EDC 2 = 1; EDC 3 = 4; EDC 4 = 10; EDC 5 = 26
Fragmentation: STRONG: 5
Some fragmentation of the very limited habitat. Although habitat reduced drastically no wide gaps or strongly separated distribution areas are to be found.
Distribution in good National parks: **NONE: 3**
Use: NONE: 0
Rarity: VERY COMMON: 0

10+5+3+0+0 = 18

Conservation status: Endangered

Conservation status IUCN: EN B2ab(iii)
Specimens from the inter Andean dry valleys have been found to be significantly different to specimens from the lowlands supposing them to belong to a new species which would be endemic to a small area in the inter Andean dry valleys. This area underlies a high anthropogenic pressure by fast habitat destruction for agriculture. Although the species seems to be quite tolerant, as it has been found in quite degenerated habitat the evaluation in this work found it to be endangered. The same result has been obtained using the Official IUCN methodology. It is known from a very small area with few localities known for this species. Habitat destruction and reduction of habitat quality are the main reasons for the result.
Official IUCN Conservation Status: NE
Comments:

Thamnodynastes chaquensis BERGNA & ALVAREZ

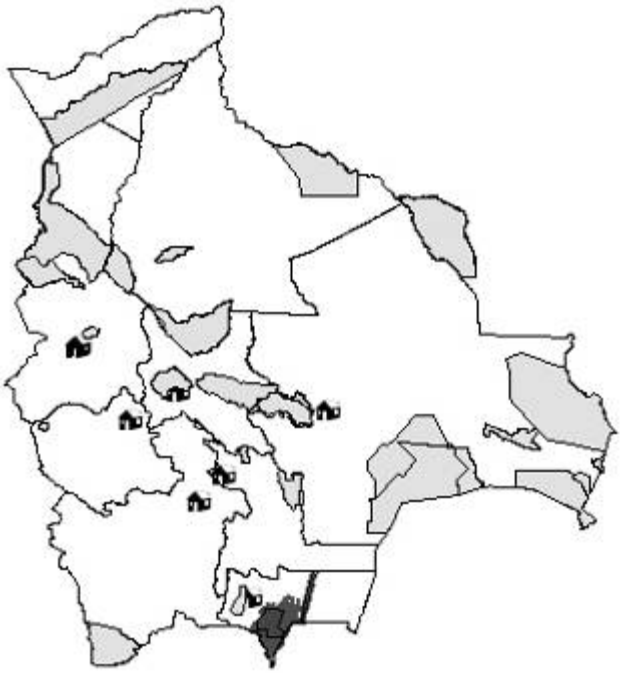

Figure 526 Extrapolated Distribution of *Thamnodynastes chaquensis*

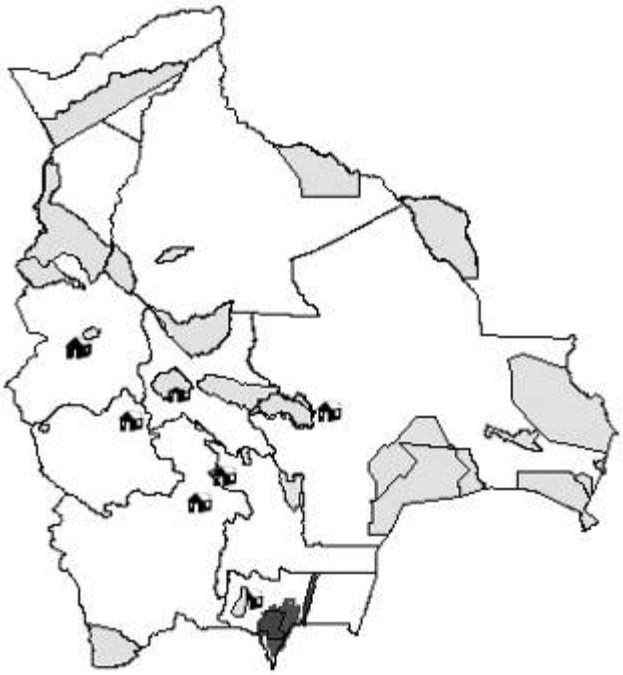

Figure 527 Fragmentation of Habitat of *Thamnodynastes chaquensis*

Map Quality: High confidence
Global distribution: Argentina, Paraguay, Uruguay, Bolivia (Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 478: 5
Distr. Total = 603; EDC 1 = 371; EDC 2 = 107; EDC 3 = 67; EDC 4 = 38; EDC 5 = 20
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
283 grid cells in Parks: Aguarague, Tariquia
Use: NONE: 0
Rarity: RARE: 3

5+0+0+0+3 = 8

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Viviparous

Thamnodynastes pallidus (LINNAEUS)

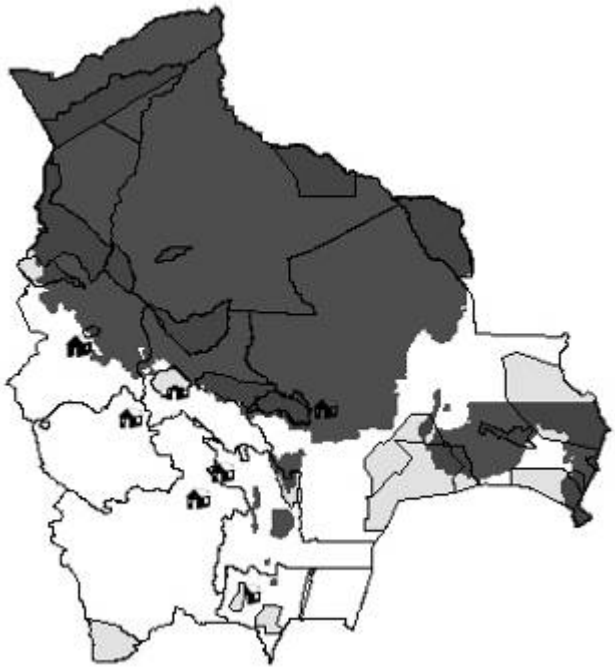

Figure 528 Extrapolated Distribution of *Thamnodynastes pallidus*

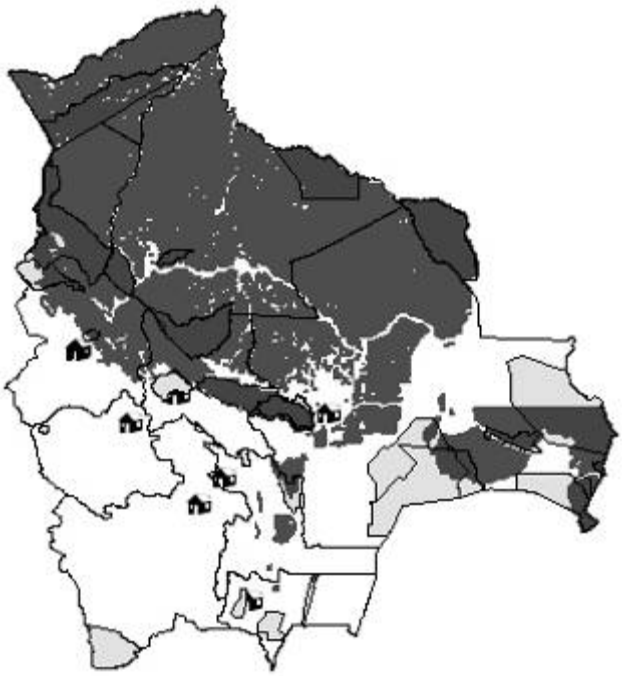

Figure 529 Fragmentation of Habitat of *Thamnodynastes pallidus*

Map Quality: High confidence
Global distribution: Guyana, Surinam, French Guiana, Brazil, Peru, Venezuela, Colombia, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 38302: 0
Distr. Total = 46320; EDC 1 = 28901; EDC 2 = 9401; EDC 3 = 4661; EDC 4 = 2425; EDC 5 = 932
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
11898 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tunari
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern

Official IUCN Conservation Status: NE
Comments: Terra typica: "Indiis"

Thamnodynastes sp.

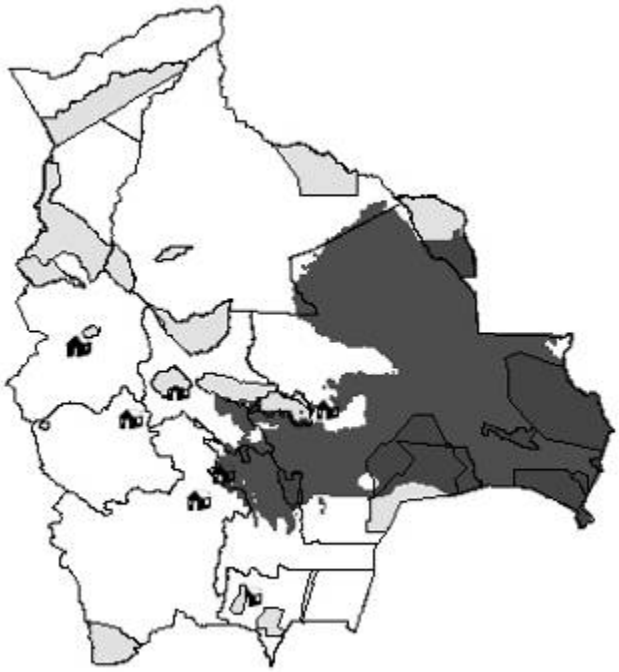

Figure 530 Extrapolated Distribution of *Thamnodynastes* sp.

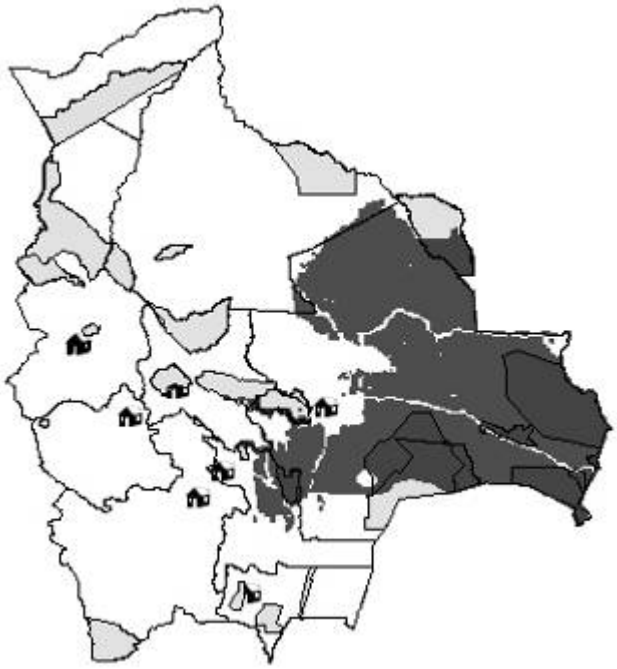

Figure 531 Fragmentation of Habitat of *Thamnodynastes* sp.

Map Quality: High confidence
Global distribution:
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 19816: 0
Distr. Total = 23238; EDC 1 = 16388; EDC 2 = 3428; EDC 3 = 1251; EDC 4 = 1108; EDC 5 = 1063
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
6797 grid cells in Parks: Amboró, Carrasco, El Palmar, Iñao, Kaa-Iya, NKM, Otuquis, San Matías, Tucavaca
Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Tomodon orestes HARVEY & MUÑOZ

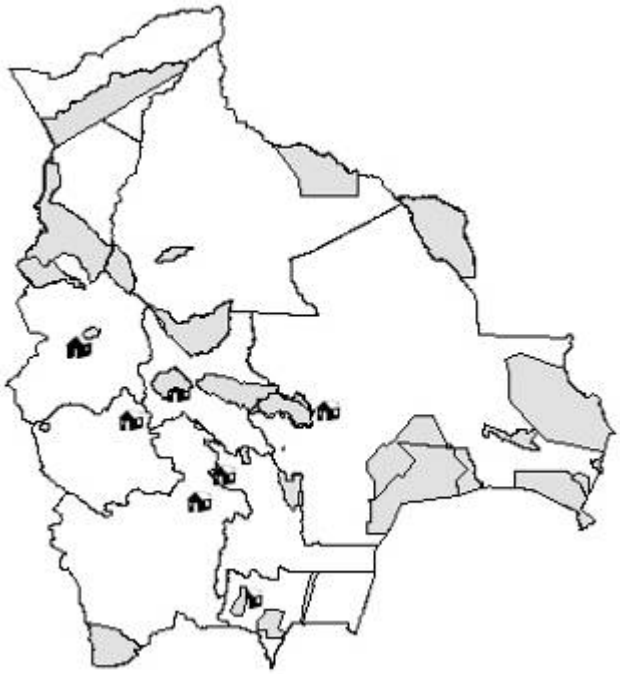

Figure 532 Extrapolated Distribution of *Tomodon orestes*

Map Quality: High confidence
Global distribution: Bolivia (Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 0: 13
Distr. Total = 0; EDC 1 = 0; EDC 2 = 0; EDC 3 = 0; EDC 4 = 0; EDC 5 = 2
Fragmentation: NONE: 0
All habitat (7,2km²) is in worst condition (EDC5) and that fore no habitat better than EDC3 is left over.
Distribution in good National parks: **NONE: 3**
Use: NONE: 0
Rarity: RARE: 3

13+0+3+0+3 = 19

Conservation status: Endangered

Conservation status IUCN: CR 1ab(iii)
Official IUCN Conservation Status: NE

Comments: Terra typica: close to the Río Erquis, Reserva de Sama, Méndez province, Tarija, Bolivia, 2754 m elevation (21° 28' 56" S, 64° 50' 32" W). Named after the Greek noun in apposition, meaning an inhabitant of mountains. Holotype: CBF 2316.

Waglerophis merremi WAGLER

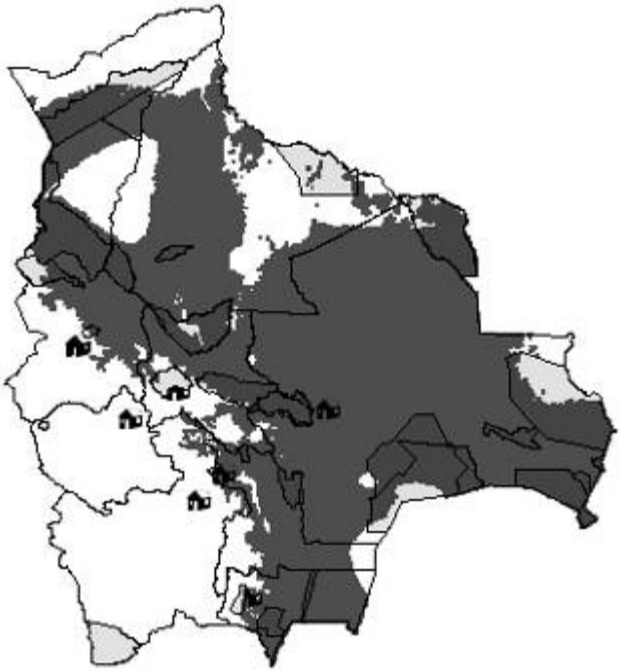

Figure 533 Extrapolated Distribution of *Waglerophis merremi*

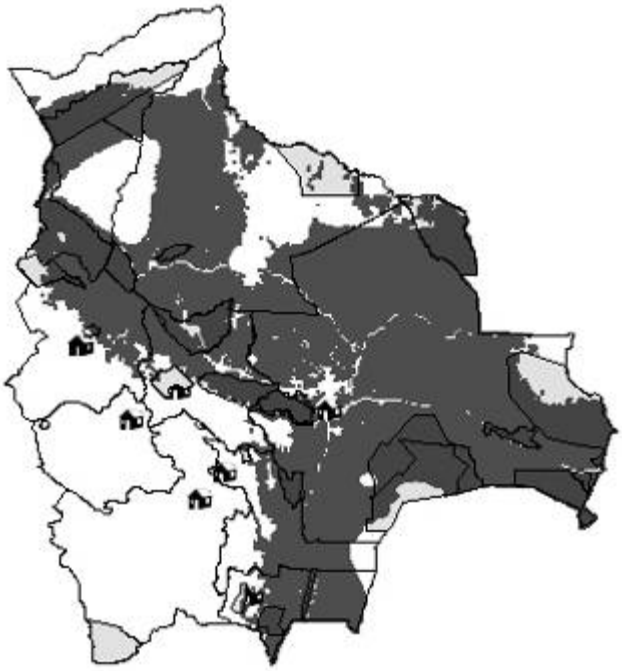

Figure 534 Fragmentation of Habitat of *Waglerophis merremi*

Map Quality: High confidence
Global distribution: Guyana, Surinam, French Guiana, Brazil, Venezuela, Paraguay, Argentina, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 39525: 0
Distr. Total = 48485; EDC 1 = 30534; EDC 2 = 8991; EDC 3 = 3994; EDC 4 = 2912; EDC 5 = 2054
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
12071 grid cells in Parks: Aguarague, Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itenez, Kaa-Iya, Madidi, Manuripi-Heath, NKM, Otuquis, Pilon Lajas, San Matías, Tucavaca, Tariquia, Tunari
Use: SOME: 2
This false Bothrops is regarded as very venomous and killed by occasion.
Rarity: VERY COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Bahia, Brazil. In Bolivia two different subspecies may occur, one unknown to the science until now.

Xenodon neuwiedi GÜNTHER

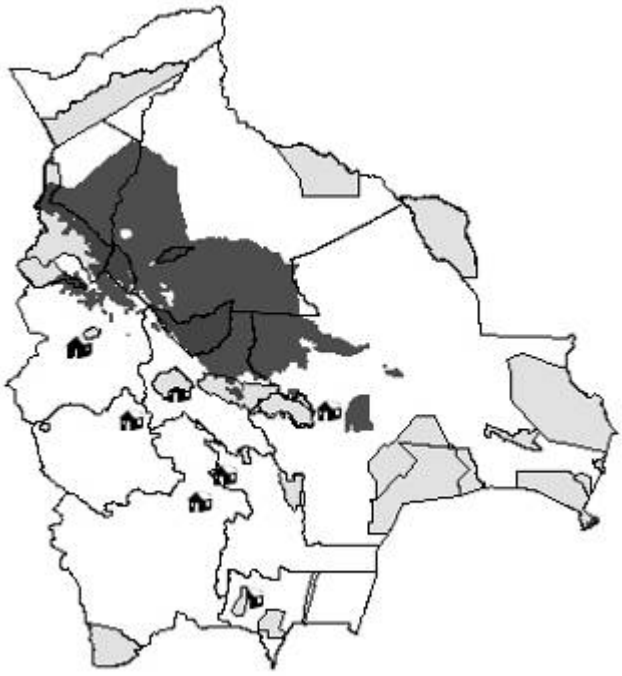

Figure 535 Extrapolated Distribution of *Xenodon neuwiedi*

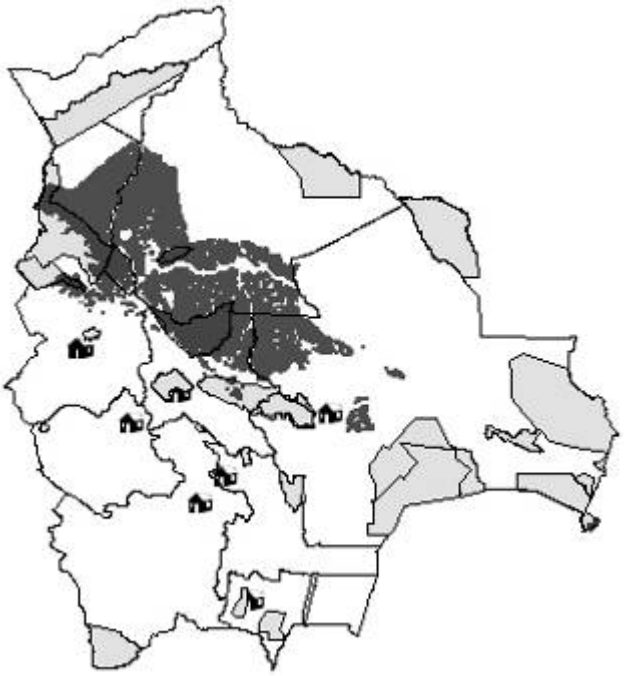

Figure 536 Fragmentation of Habitat of *Xenodon neuwiedi*

Map Quality: High confidence
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 8662: 0
Distr. Total = 11107; EDC 1 = 6356; EDC 2 = 2306; EDC 3 = 1462; EDC 4 = 724; EDC 5 = 259
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
1975 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, EBB, Isiboro Sécure, Madidi, Otuquis, Pilon Lajas
Use: NONE: 0
Rarity: RARE: 3

0+1+0+0+3 = 4

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Xenodon rabdocephalus (WIED)

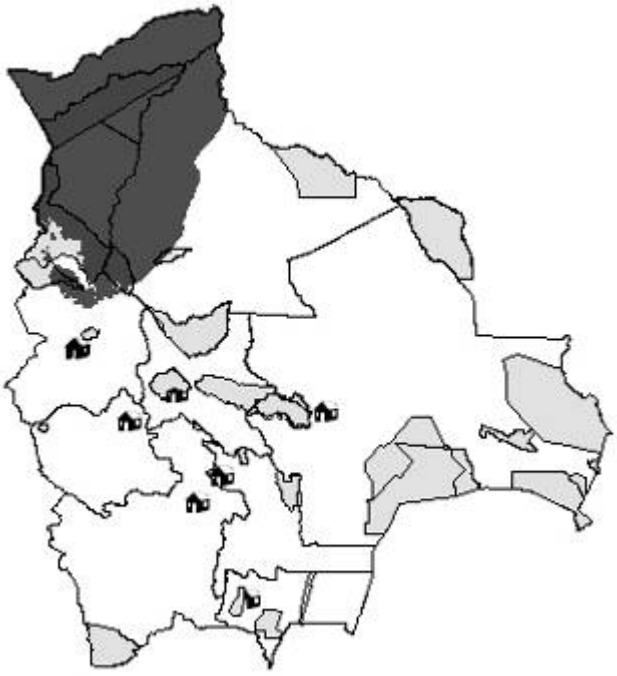

Figure 537 Extrapolated Distribution of *Xenodon rabdocephalus*

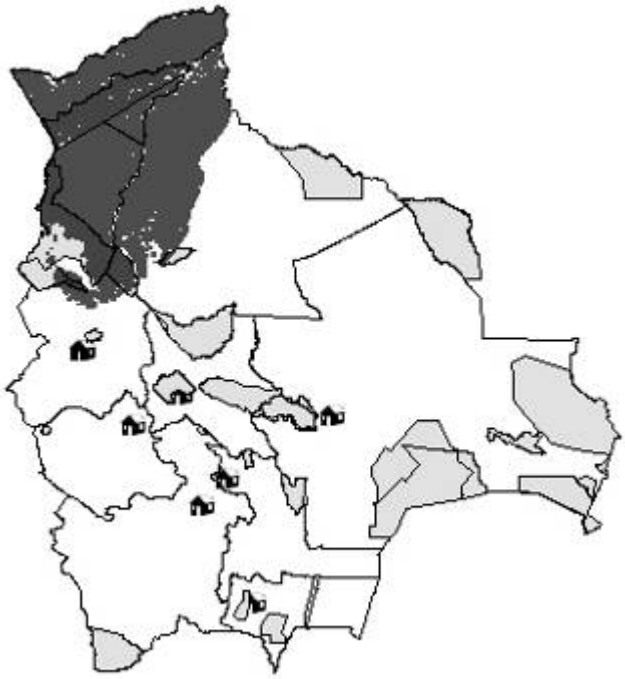

Figure 538 Fragmentation of Habitat of *Xenodon rabdocephalus*

Map Quality: High confidence
Global distribution: Mexico, Guatemala, Honduras, Nicaragua, Belize, El Salvador, Costa Rica, Panama, Colombia, Venezuela, Ecuador, Brazil, Peru, Guyana, Surinam, French Guiana, Bolivia (Beni, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 11727: 0
Distr. Total = 13721; EDC 1 = 8409; EDC 2 = 3318; EDC 3 = 1594; EDC 4 = 342; EDC 5 = 58
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
2920 grid cells in Parks: Apolobamba, EBB, Madidi, Manuripi-Heath, Pilon Lajas
Use: NONE: 0
Rarity: RARE: 3

0+0+0+0+3 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Xenodon severus (LINNAEUS)

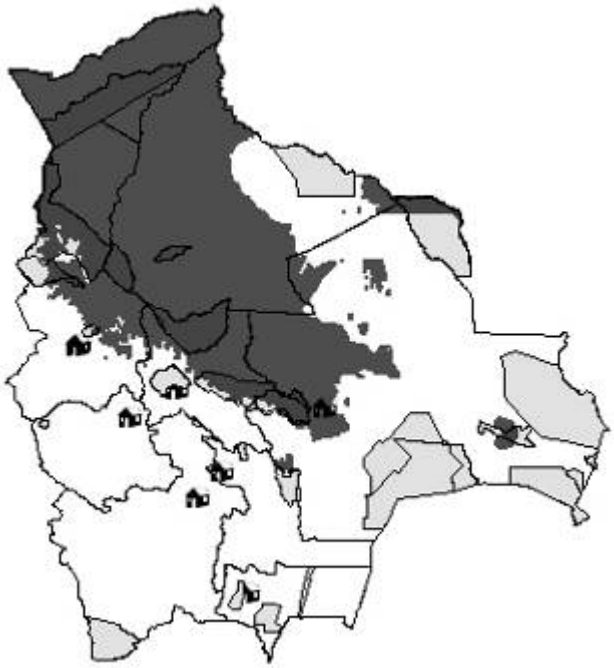

Figure 539 Extrapolated Distribution of *Xenodon severus*

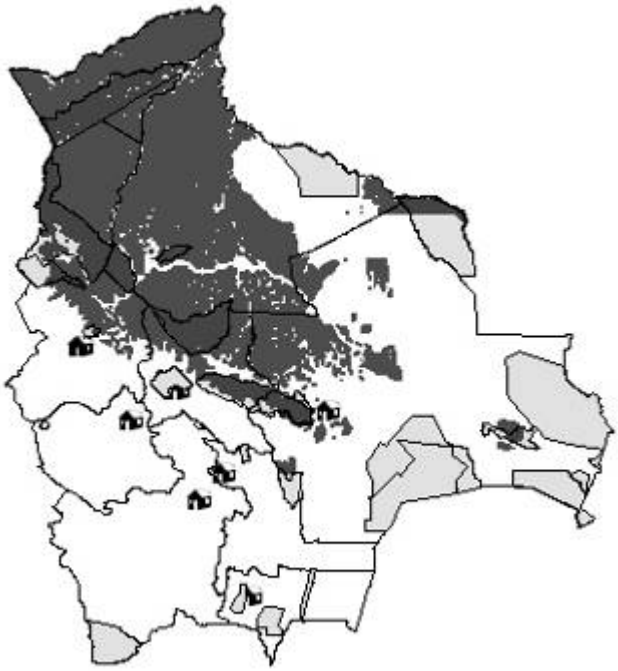

Figure 540 Fragmentation of Habitat of *Xenodon severus*

Map Quality: High confidence
Global distribution: Brazil, Venezuela, Colombia, Ecuador, Peru, French Guiana, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 23073: 0
Distr. Total = 29171; EDC 1 = 16572; EDC 2 = 6501; EDC 3 = 3654; EDC 4 = 1807; EDC 5 = 637
Fragmentation: SOME: 1
Some fragmentation by strong habitat destruction near Santa Cruz and the Chapare region and by highways.
Distribution in good National parks: **VERY STRONG: 0**
5681 grid cells in Parks: Amboró, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Madidi, Manuripi-Heath, NKM, Pilon Lajas, Tucavaca
Use: NONE: 0

Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: "Asia" (in error)

Xenopholis scalaris (WUCHERER)

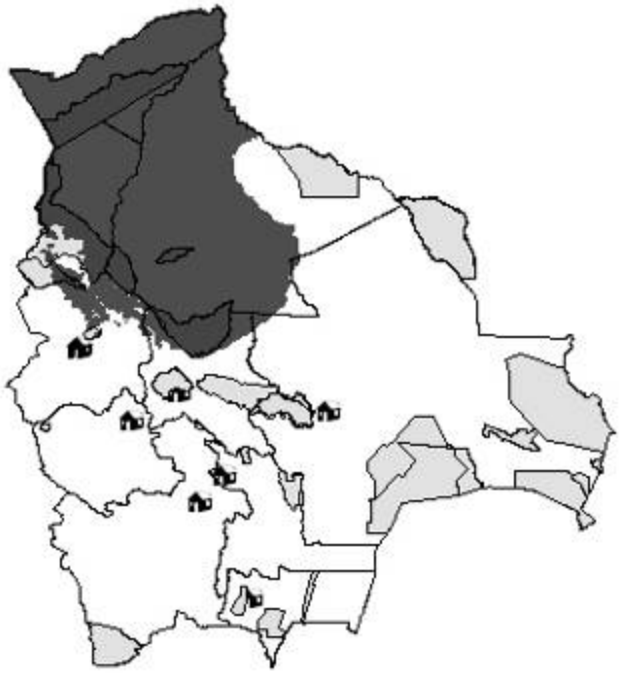

Figure 541 Extrapolated Distribution of *Xenopholis scalaris*

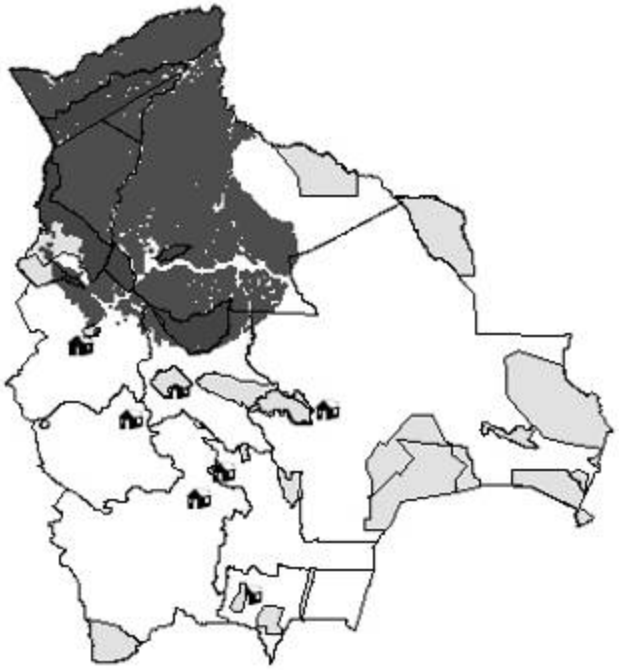

Figure 542 Fragmentation of Habitat of *Xenopholis scalaris*

Map Quality: High confidence
Global distribution: Peru, Ecuador, Brazil, French Guiana, Colombia, Bolivia (Beni, Cochabamba, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 18135: 0
Distr. Total = 21600; EDC 1 = 12936; EDC 2 = 5199; EDC 3 = 2592; EDC 4 = 702; EDC 5 = 171
Fragmentation: SOME: 1
Some fragmentation by highways.
Distribution in good National parks: **VERY STRONG: 0**
41128 grid cells in Parks: Apolobamba, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi-Heath, Pilon Lajas

Use: NONE: 0
Rarity: VERY COMMON: 0

0+1+0+0+0 = 1

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Canavieras, Matta de Sao Joao, Brazil

Xenoxybelis argenteus (DAUDIN)

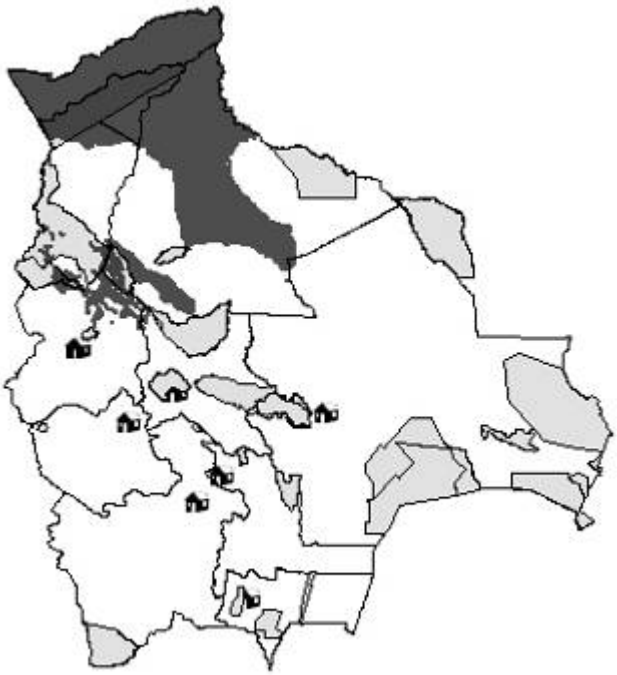

Figure 543 Extrapolated Distribution of *Xenoxybelis argenteus*

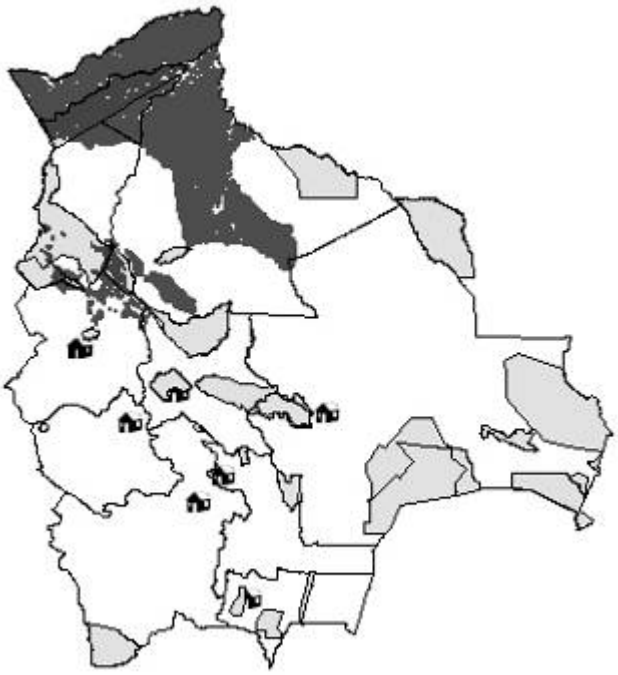

Figure 544 Fragmentation of Habitat of *Xenoxybelis argenteus*

Map Quality: High confidence
Global distribution: Brazil, Colombia, Ecuador, Frensh Guiana, Guyana, Peru, Venezuela, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 10034: 0
Distr. Total = 11804; EDC 1 = 6543; EDC 2 = 3491; EDC 3 = 1474; EDC 4 = 251; EDC 5 = 45
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
1820 grid cells in Parks: Apolobamba, Cotapata, Isiboro Sécure, Madidi, Manuripi-Heath, Pilon Lajas, San Matías
Use: NONE: 0

Rarity: RARE: 3

0+0+0+0+3 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

3.2.22 Viperidae

Figure 545 *Bothrops sanctaecruzis*

Figure 546 *Lachesis muta*

Figure 547 *Bothrops mattogrossensis*

Figure 548 *Bothrops andianus*

Figure 549 *Crotalus durissus*

Figure 550 *Crotalus durissus*

Bothriopsis bilineata (WIED)

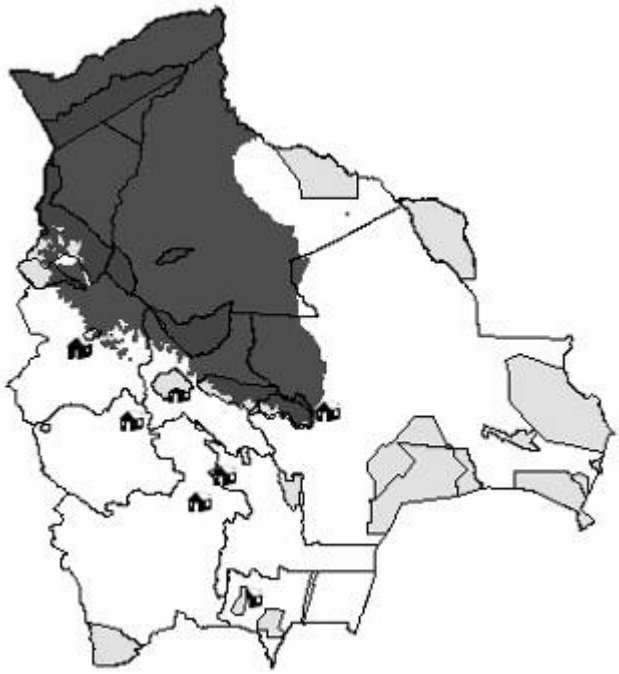

Figure 551 Extrapolated Distribution of *Bothriopsis bilineata*

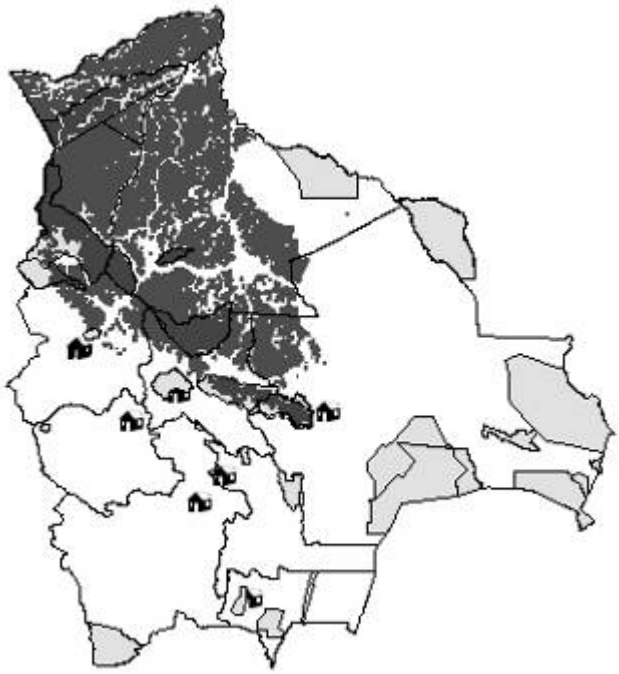

Figure 552 Fragmentation of Habitat of *Bothriopsis bilineata*

Map Quality: High confidence
Global distribution: Brazil, Venezuela, Colombia, Ecuador, Peru, Guyana, Surinam, French Guiana, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: VERY SENSIBLE
Distribution Value: 35072: 0
Distr. Total = 55192; EDC 1 = 35072; EDC 2 = 10679; EDC 3 = 5236; EDC 4 = 2924; EDC 5 = 1281
Fragmentation: SOME: 1
Some fragmentation of habitat because of Highways and alteration of habitat near Santa Cruz, Trinidad and in the Chapare region.
Distribution in good National parks: **VERY STRONG: 0**
13262 grid cells in Parks: Aguarague, Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, El Palmar, EBB, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi, NKM, Otuquis, Pilón Lajas, San Matìas, Tucavaca, Tariquìa, Tunari
Use: SOME: 2
Species killed by occasion because it is known as venomous
Rarity: VERY COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Marobá, Rio Peruhype, Estado da Bahia, Brazil

Bothriopsis oligolepis (WERNER)

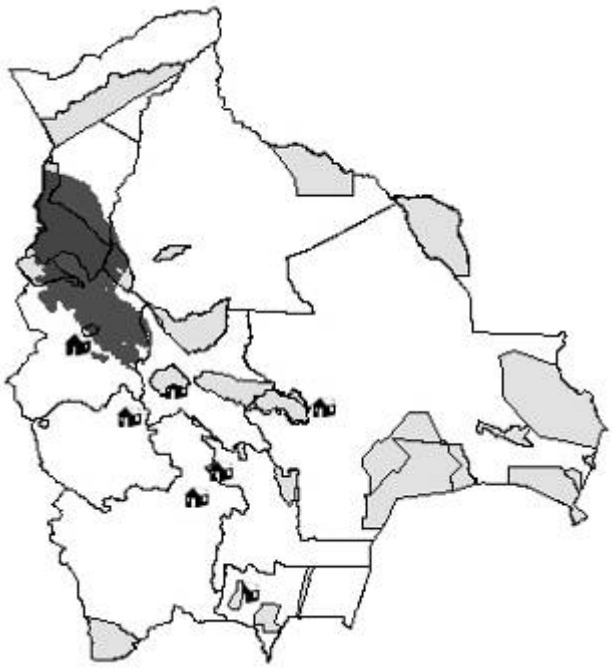

Figure 553 Extrapolated Distribution of *Bothriopsis oligolepis*

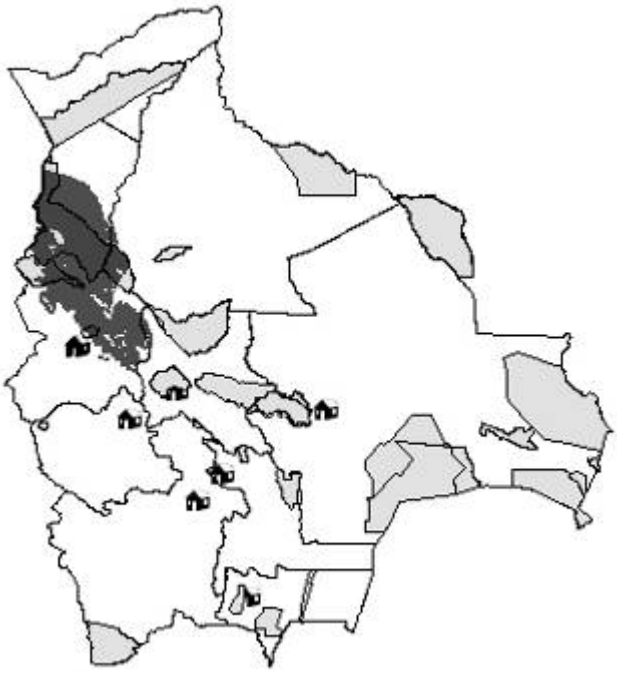

Figure 554 Fragmentation of Habitat of *Bothriopsis oligolepis*

Map Quality: High confidence
Global distribution: Peru, Bolivia (Beni, La Paz, Pando)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 3765: 0
Distr. Total = 4364; EDC 1 = 3116; EDC 2 = 649; EDC 3 = 296; EDC 4 = 139; EDC 5 = 164
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
1963 grid cells in Parks: Apolobamba, Cotapata, Madidi, Pilón Lajas
Use: SOME: 2
Species killed by occasion because it is known as venomous
Rarity: RARE: 3

0+0+0+2+3 = 5

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Comments: Terra typica: Bolivia

Bothriopsis taeniata WAGLER

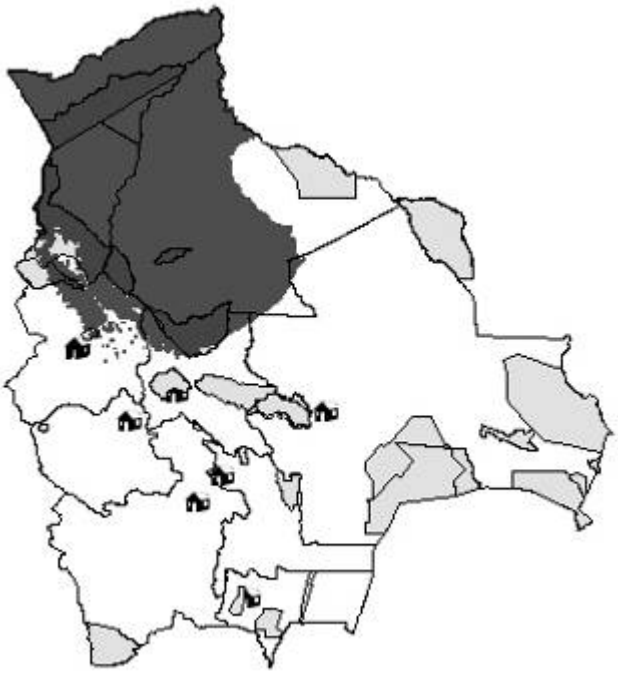

Figure 555 Extrapolated Distribution of *Bothriopsis taeniata*

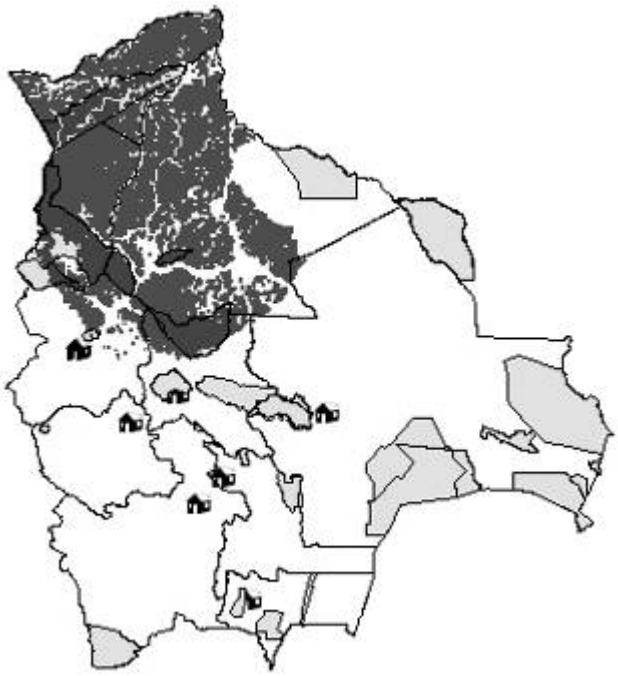

Figure 556 Fragmentation of Habitat of *Bothriopsis taeniata*

Map Quality: High confidence
Global distribution: Brazil, Colombia, Ecuador, Peru, Bolivia (Beni, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: VERY SENSIBLE
Distribution Value: 13253: 0
Distr. Total = 21863; EDC 1 = 13253; EDC 2 = 5188; EDC 3 = 2563; EDC 4 = 685; EDC 5 = 173
Fragmentation: SOME: 1
Some fragmentation of habitat because of Highways and alteration of habitat near Trinidad and Rurrenabaque.
Distribution in good National parks: **VERY STRONG: 0**
4222 grid cells in Parks: Apolobamba, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi, Pilón Lajas **Use: SOME: 2**
Species killed by occasion because it is known as venomous
Rarity: RARE: 3

0+1+0+2+3 = 6

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Amazonas, Brazil

Bothrocophias hyoprora (AMARAL)

Figure 557 Extrapolated Distribution of *Bothrocophias hyoprora*

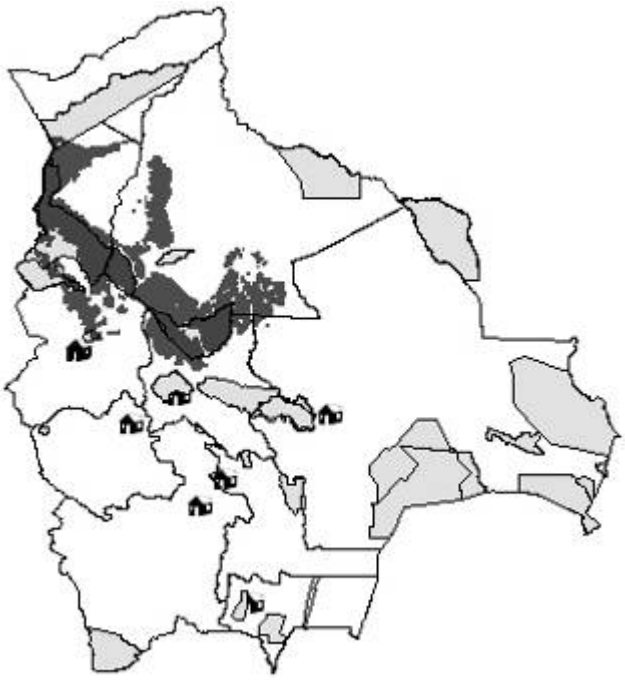

Figure 558 Fragmentation of Habitat of *Bothrocophias hyoprora*

Map Quality: High confidence
Global distribution: Colombia, Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 5321: 0
Distr. Total = 6193; EDC 1 = 4352; EDC 2 = 969; EDC 3 = 598; EDC 4 = 226; EDC 5 = 48
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
2381 grid cells in Parks: Apolobamba, Cotapata, Isiboro Sécure, Madidi, Manuripi, Pilon Lajas
Use: SOME: 2
Species killed by occasion because it is known as venomous
Rarity: RARE: 3

0+0+0+2+3 = 5

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Species is not reported for Bolivia by Uetz (2000).

Bothrocophias microphtalmus (COPE)

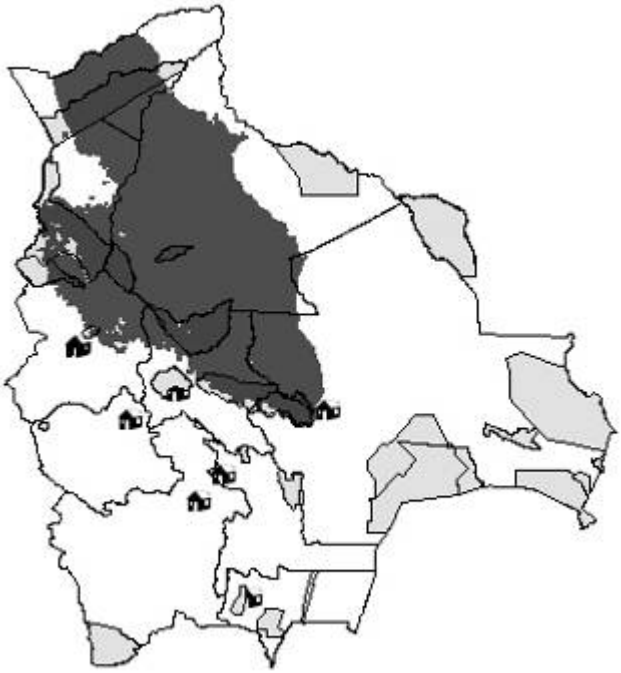

Figure 559 Extrapolated Distribution of *Bothrocophias microphtalmus*

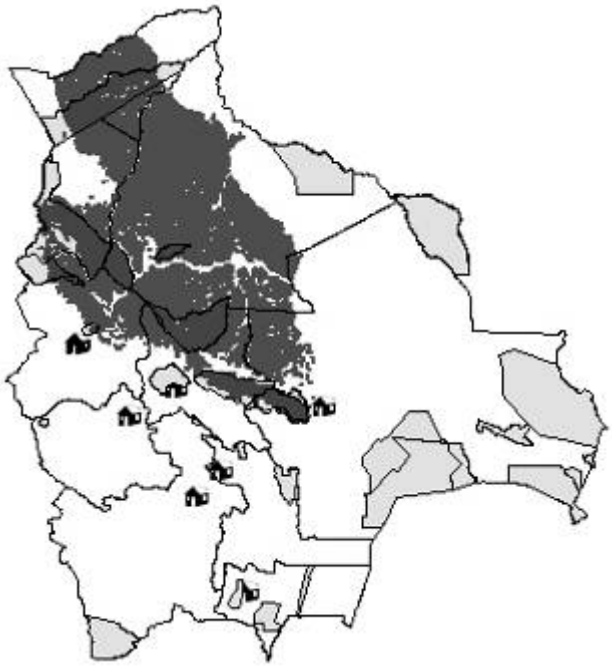

Figure 560 Fragmentation of Habitat of *Bothrocophias microphtalmus*

Map Quality: High confidence
Global distribution: Ecuador, Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 16892: 0
Distr. Total = 21042; EDC 1 = 12019; EDC 2 = 4873; EDC 3 = 2615; EDC 4 = 1139; EDC 5 = 396
Fragmentation: SOME: 1
Some fragmentation of habitat because of Highways and alteration of habitat near Santa Cruz, Trinidad and in the Chapare region.
Distribution in good National parks: **VERY STRONG: 0**
4543 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Madidi, Manuripi, Pilón Lajas
Use: SOME: 2
Species killed by occasion because it is known as venomous
Rarity: RARE: 3

0+1+0+2+3 = 6

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Bothrops andianus AMARAL

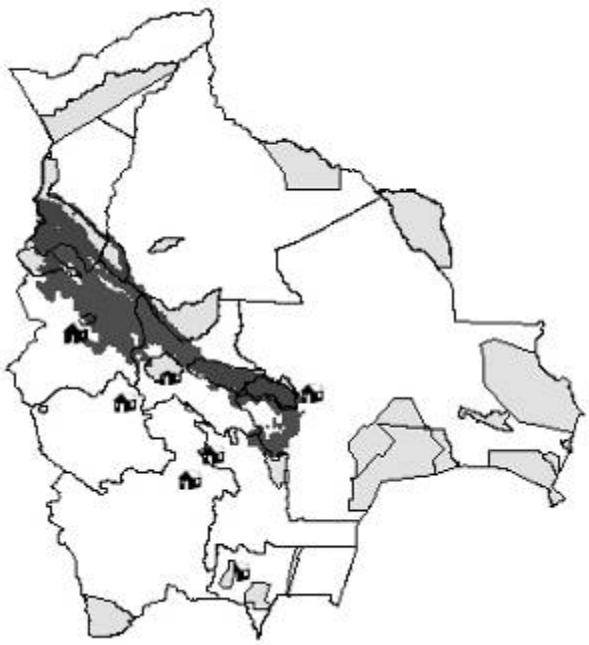

Figure 561 Extrapolated Distribution of *Bothrops andianus*

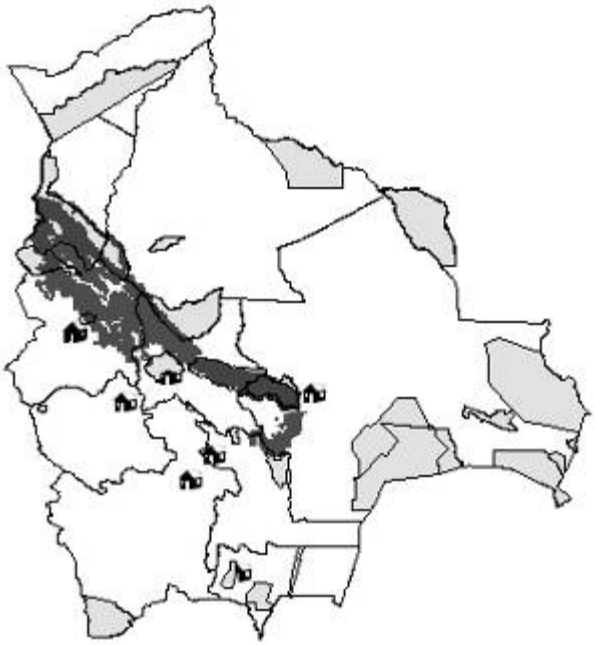

Figure 562 Fragmentation of Habitat of *Bothrops andianus*

Map Quality: High confidence
Global distribution: Peru, Bolivia (Beni, Cochabamba, Chuquisaca, La Paz, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 4573: 0
Distr. Total = 5533; EDC 1 = 3837; EDC 2 = 736; EDC 3 = 392; EDC 4 = 239; EDC 5 = 329
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
2539 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, Iñao, Isiboro Sécure, Madidi, Pilón Lajas, Tunari
Use: SOME: 2
species killed by occasion because it is known as venomous
Rarity: COMMON: 0

0+0+0+2+0 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Machu Picchu, Department Cuzco, Peru, 8000-10,000 ft. (Uetz 2005)

Bothrops atrox (LINNAEUS)

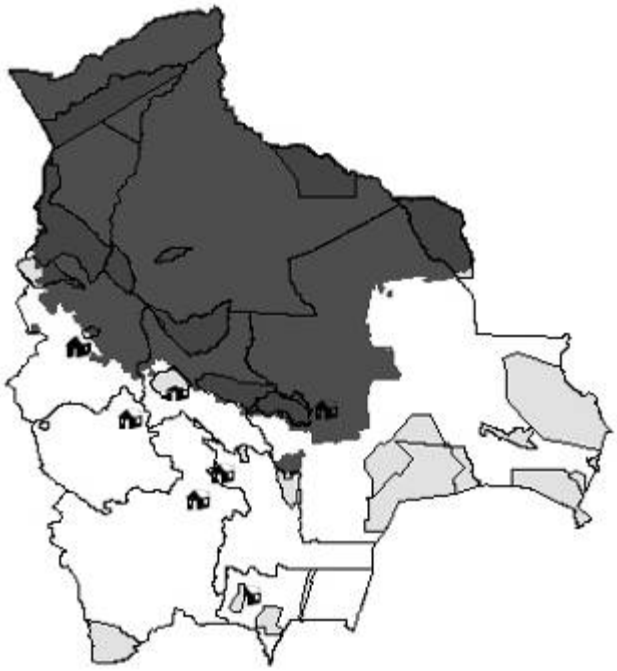

Figure 563 Extrapolated Distribution of *Bothrops atrox*

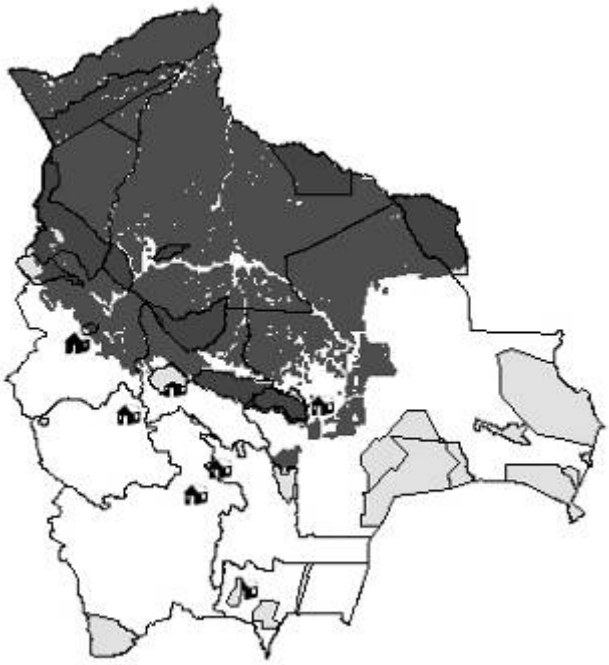

Figure 564 Fragmentation of Habitat of *Bothrops atrox*

Map Quality: High confidence
Global distribution: Guyana, Surinam, French Guiana, Venezuela, Brazil, Colombia, Ecuador, Peru, Trinidad, Bolivia (Cochabamba, Beni, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 32209: 0
Distr. Total = 39552; EDC 1 = 23955; EDC 2 = 8254; EDC 3 = 4307; EDC 4 = 2168; EDC 5 = 868
Fragmentation: SOME: 1
Some fragmentation of habitat because of Highways and alteration of habitat near Santa Cruz, Trinidad and in the Chapare region.
Distribution in good National parks: **VERY STRONG: 0**
8354 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Iñao, Isiboro Sécure, Itènez, Madidi, Manuripi, NKM, Pilón Lajas, Tunari
Use: SOME: 2
Species killed by occasion because it is known as venomous
Rarity: VERY COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: „Terra typica: "Asia". This species may include a number of other nominal species, especially *B. colombiensis, B. isabelae, B. leucurus, B. marajoensis, B. moojeni, B. pradoi*. In addition, *B. atrox* has often been confused with *B. asper*. *Bothrops isabelae* has been synonymized with *B. atrox* by several authors but used as a valid species by Kornacker (1999). See also McDiarmid et al. (1999) for discussion.“ (Uetz 2005).

Bothrops jonathani HARVEY

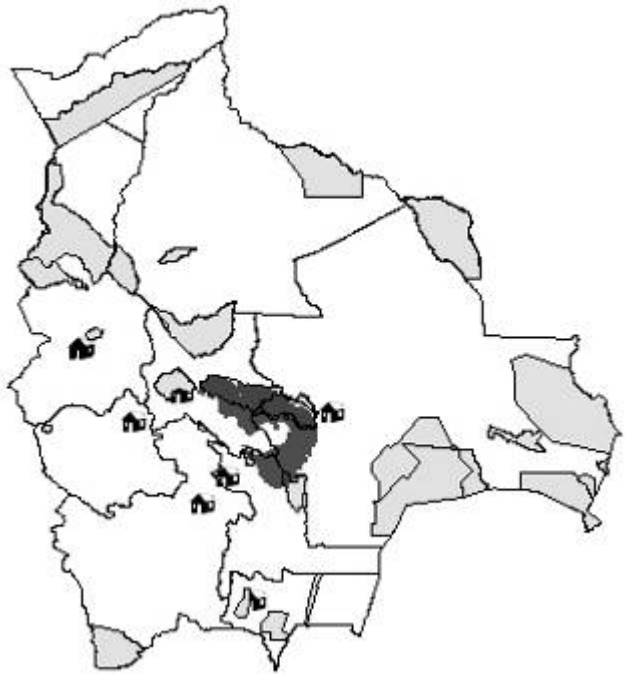

Figure 565 Extrapolated Distribution of *Bothrops jonathani*

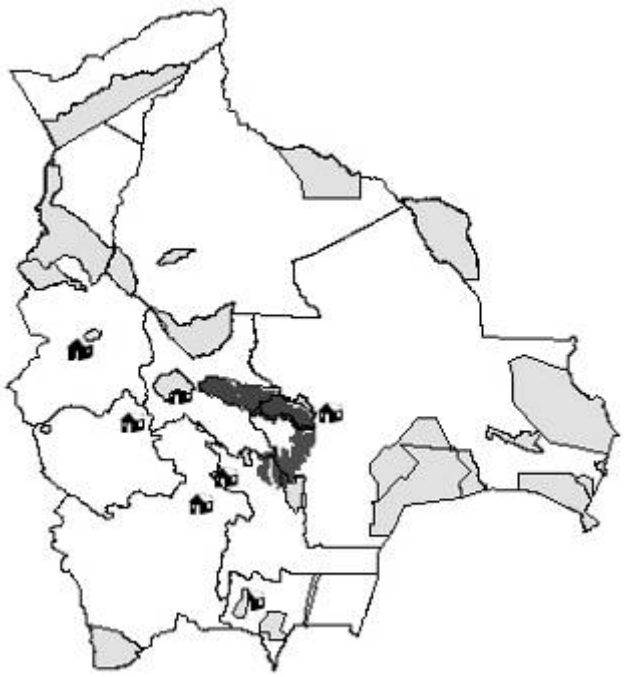

Figure 566 Fragmentation of Habitat of *Bothrops jonathani*

Map Quality: High confidence
Global distribution: Bolivia (Chuquisaca, Cochabamba, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 1177: 2
Distr. Total = 1853; EDC 1 = 912; EDC 2 = 265; EDC 3 = 125; EDC 4 = 169; EDC 5 = 382
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
974 grid cells in Parks: Amborò, Carrasco, El Palmar, Iñao
Use: SOME: 2

Species killed by occasion because it is known as venomous
Rarity: NORMAL: 1

2+0+0+2+1 = 5

Conservation status: Least concern

Conservation status IUCN: Least Concern
Official IUCN Conservation Status: NE

Bothrops matogrossensis AMARAL

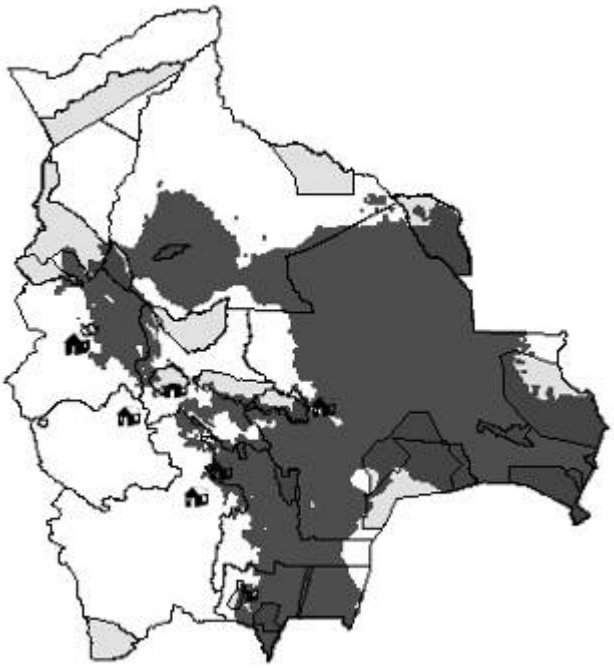

Figure 567 Extrapolated Distribution of *Bothrops matogrossensis*

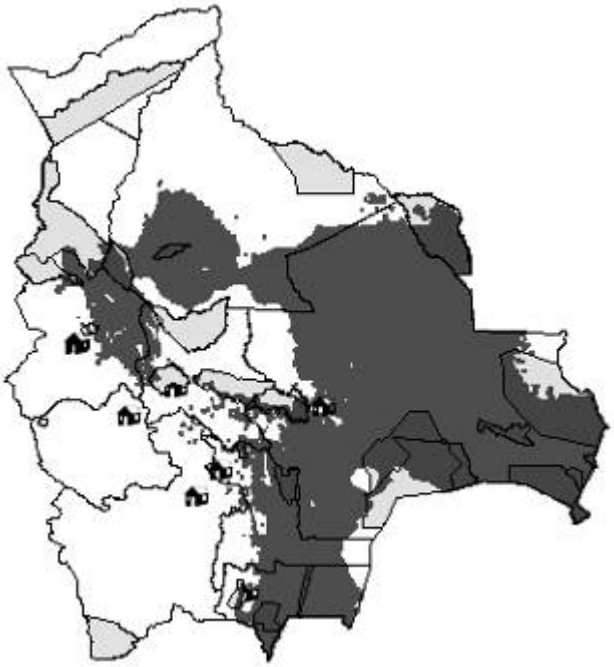

Figure 568 Fragmentation of Habitat of *Bothrops matogrossensis*

Map Quality: Medium confidence
Global distribution: Brazil, Bolivia **(**Beni, Chuquisaca, Cochabamba, La Paz, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: TOLERANT
Distribution Value: 31794: 0
Distr. Total = 36402; EDC 1 = 22352; EDC 2 = 6603; EDC 3 = 2839; EDC 4 = 2384; EDC 5 = 2224
Fragmentation: NONE: 0
the species shows tolerance for habitat alteration, enters into plantations and is frequently found within human urbanizations.
Distribution in good National parks: **VERY STRONG: 0**

7727 grid cells in Parks: Aguarague, Amborò, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, EBB, Iñao, Kaa-Iya, Madidi, NKM, Otuquis, Pilón Lajas, San Matìas, Tucavaca, Tariquìa, Torotoro, Tunari
Use: SOME: 2
species killed by occasion because it is known as venomous
Rarity: VERY COMMON: 0

0+0+0+2+0 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments:

Bothrops moojeni (HOGE)

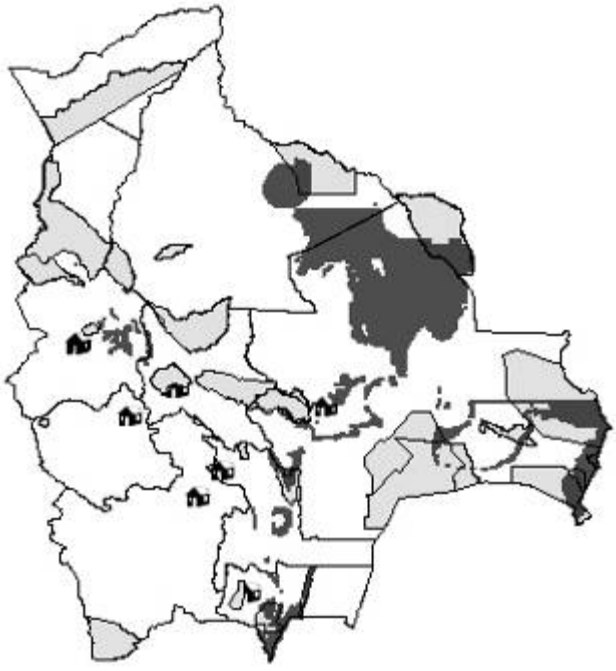

Figure 569 Extrapolated Distribution of *Bothrops moojeni*

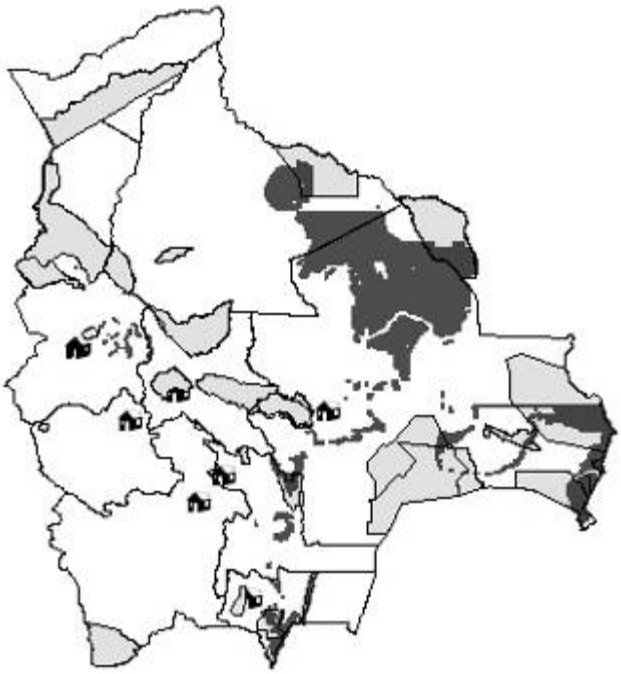

Figure 570 Fragmentation of Habitat of *Bothrops moojeni*

Map Quality: Low confidence
This extrapolation is based on the collection of only 3 specimens. The very isolated areas in the Departments of Tarija, Chuquisaca, La Paz and Cochabamba are surely not correct as shown. Distribution in Santa Cruz and Beni Department could be as shown but has to be proven by collection of more material.
Global distribution: Brazil, Paraguay, Argentina, Bolivia (Beni, Chuquisaca?, Cochabamba?, Santa Cruz, Tarija?)
Taxonomic status: OK

Sensibility for habitat alteration: SENSIBLE
Distribution Value: 7688: 0
Distr. Total = 8638; EDC 1 = 6356; EDC 2 = 1332; EDC 3 = 488; EDC 4 = 333; EDC 5 = 129
Fragmentation: SOME: 1
Some fragmentation of habitat because of Highways
Distribution in good National parks: **VERY STRONG: 0**
13262 grid cells in Parks: Aguarague, Amborò, Cotapata, Iñao, Itènez, Kaa-Iya, NKM, Otuquis, San Matìas, Tucavaca, Tariquìa
Use: SOME: 2
Species killed by occasion because it is known as venomous
Rarity: RARE: 3

0+1+0+2+3 = 6

Conservation status: Near Threatened

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Brasilia, Federal District, Brazil.

Bothrops sanctaecruzis HOGE, 1966

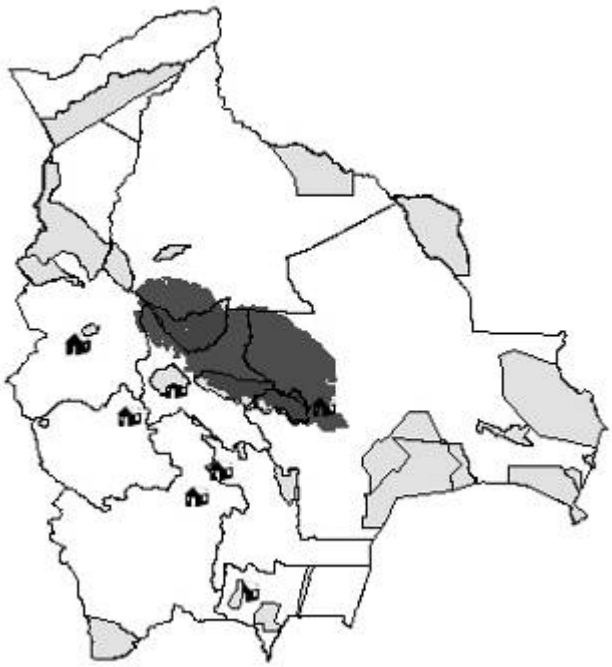

Figure 571 Extrapolated Distribution of *Bothrops sanctaecruzis*

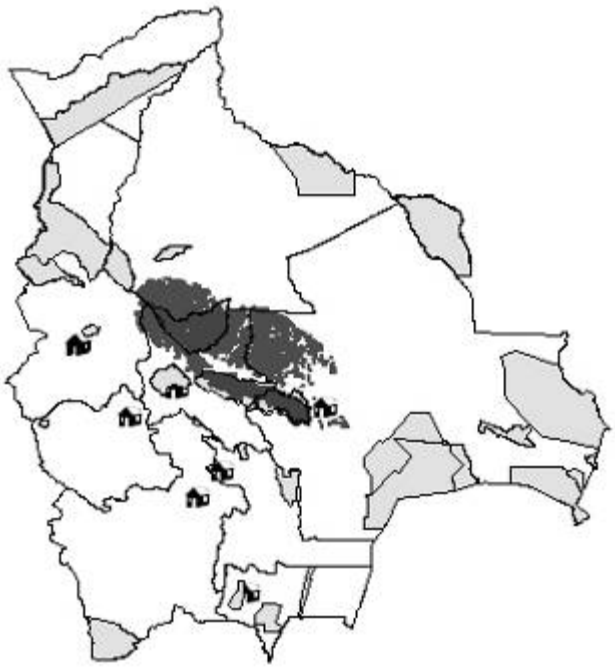

Figure 572 Fragmentation of Habitat of *Bothrops sanctaecruzis*

Map Quality: High confidence
Global distribution: Bolivia (Beni, Chuquisaca, Cochabamba, Santa Cruz)
Taxonomic status: OK

Sensibility for habitat alteration: SENSIBLE
Distribution Value: 4008: 0
Distr. Total = 5850; EDC 1 = 3172; EDC 2 = 836; EDC 3 = 710; EDC 4 = 841; EDC 5 = 291
Fragmentation: SOME: 1
Some fragmentation of habitat because of Highways and alteration of habitat near Santa Cruz and in the Chapare region.
Distribution in good National parks: **VERY STRONG: 0**
1782 grid cells in Parks: Amborò, Carrasco, Cavernas del Repechón, Isiboro Sécure
Use: SOME: 2
species killed by occasion because it is known as venomous
Rarity: COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE

Crotalus durissus LINNAEUS

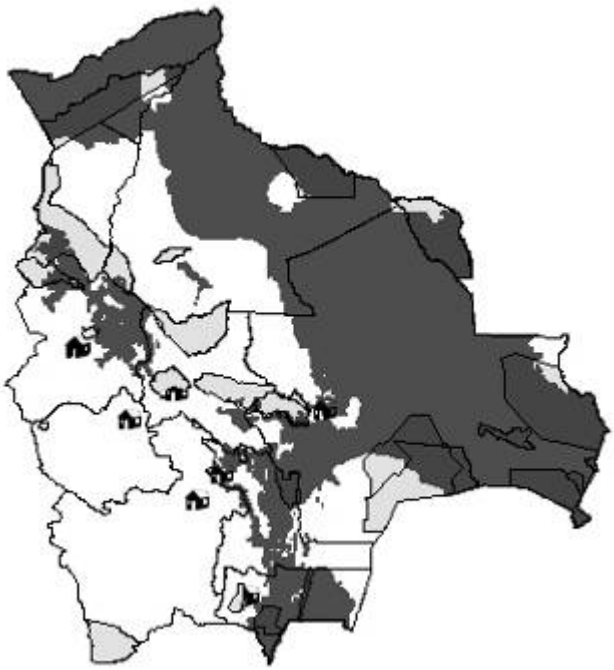

Figure 573 Extrapolated Distribution of *Crotalus durissus*

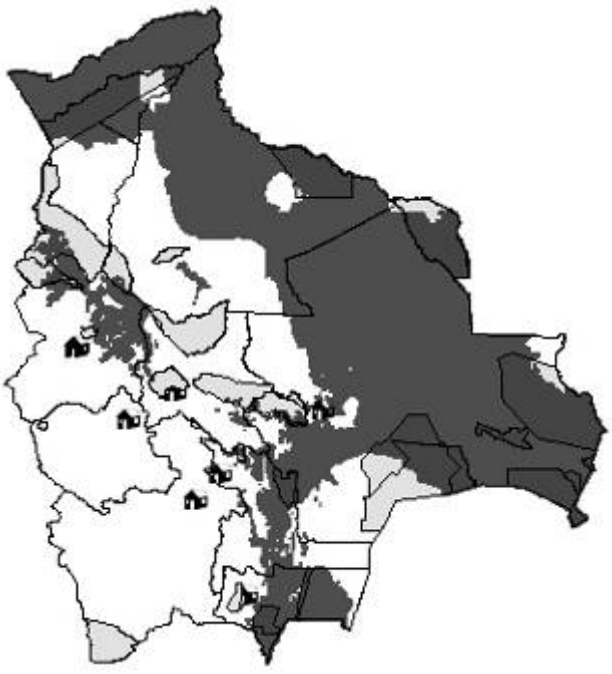

Figure 574 Fragmentation of Habitat of *Crotalus durissus*

Map Quality: High confidence

Global distribution: Mexico, Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Brazil, Venezuela, Guyana, Surinam, French Guiana, Argentina, Paraguay, Uruguay, Aruba I, Colombia, Bolivia (Beni, Chuquisaca, Cochabamba, La Paz, Pando, Santa Cruz, Tarija)
Taxonomic status: OK
Sensibility for habitat alteration: VERY TOLERANT
Distribution Value: 39722: 0
Distr. Total = 40672; EDC 1 = 26406; EDC 2 = 8119; EDC 3 = 3380; EDC 4 = 1817; EDC 5 = 950
Fragmentation: NONE: 0
Distribution in good National parks: **VERY STRONG: 0**
9353 grid cells in Parks: Aguarague, Amborò, Apolobamba, Carrasco, Cordillera de Sama, Cotapata, El Palmar, Iñao, Isiboro Sécure, Itènez, Kaa-Iya, Madidi, Manuripi, NKM, Otuquis, Pilón Lajas, San Matìas, Tucavaca, Tariquìa, Tunari
Use: SOME: 2
Species killed by occasion because it is known as venomous
Rarity: VERY COMMON: 0

0+0+0+2+0 = 2

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: CITES Appendix III. Terra typica: "America"

Lachesis muta (LINNAEUS)

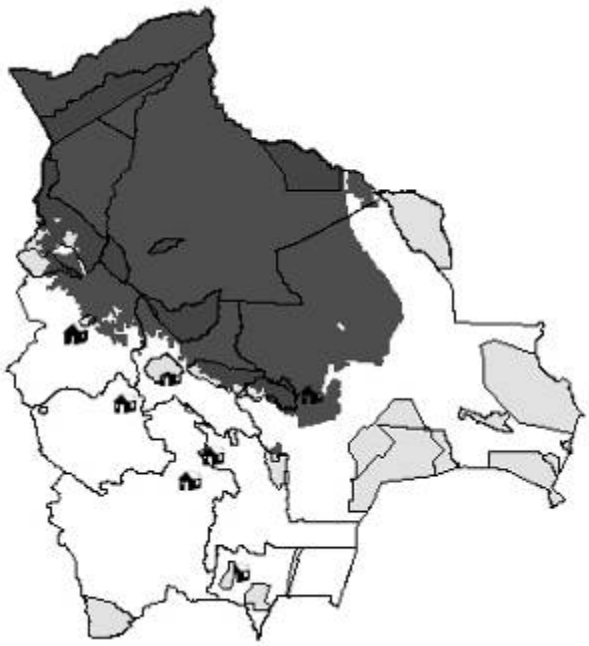

Figure 575 Extrapolated Distribution of *Lachesis muta*

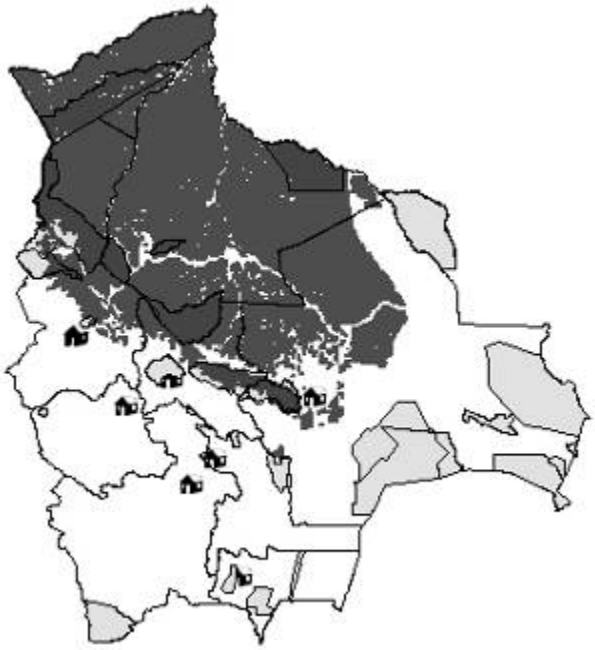

Figure 576 Fragmentation of Habitat of *Lachesis muta*

Map Quality: High confidence
Global distribution: Colombia, Ecuador, Brazil, Venezuela, Surinam, French Guiana, Guyana, Trinidad,
Peru, Bolivia (Beni, Cochabamba, La Paz, Pando, Santa Cruz)
Taxonomic status: OK
Sensibility for habitat alteration: SENSIBLE
Distribution Value: 28641: 0
Distr. Total = 35441; EDC 1 = 21062; EDC 2 = 7579; EDC 3 = 4070; EDC 4 = 2032; EDC 5 = 698
Fragmentation: SOME: 1
Some fragmentation of habitat because of highways and alteration of habitat near Santa Cruz, Trinidad and in the Chapare region.
Distribution in good National parks: **VERY STRONG: 0**
6317 grid cells in Parks: Amborò, Apolobamba, Carrasco, Cavernas del Repechón, Cotapata, EBB, Isiboro Sécure, Itènez, Madidi, Manuripi, Pilón Lajas
Use: SOME: 2
Species killed by occasion because it is known as venomous
Rarity: COMMON: 0

0+1+0+2+0 = 3

Conservation status: Least concern

Conservation status IUCN: Least concern
Official IUCN Conservation Status: NE
Comments: Terra typica: Surinam; restricted to “Vitória, ES, Brazil“.

3.3 Abstract of the Results

A total of 269 reptile species have been evaluated for its conservation status. 211 of them are evaluated for the category “lower risk” (or Least Concern). This is 79% of the total species number evaluated. The results vary strongly within the different families. Boidae for example just showed one species worse than the category “Least Concern”. From the 14 Liolaemidae evaluated, just four resulted as “Least Concern”; all others from this family showed higher categories. 34 species were evaluated as “Nearly Threatened” (13 %), 9 species as “Vulnerable” (3 %), 6 as “Endangered” (2 %) and 9 species as “Critically Endangered” (3 %).

6379 datasets (264 caimans, 401 turtles, 2539 ophidians, 3175 lizards) were used to generate 268 (7 Boidae, 10 Elapidae, 4 Caimans, 14 turtles, 13 Vipers, 114 Colubrids, 5 Leptotyphlopids, 2 Typhlopids, 99 lizards) extrapolated distribution maps, this is a medium of 24 datasets per map. Additionally 266 fragmentation maps were generated and maps of species richness, endemism and others.

For all species included in this work in addition the IUCN methodology (3.1 (2001)) was applied (see also discussion). In several cases the results varied from the results obtained by the methodology used and elaborated for this work. Chapter 3.4 gives a more exact comparison of the results of these two methodologies. 255 species of the total 269 species have been evaluated as “Least Concern”, one as “Near Threatened”, three as “Vulnerable”, eight as “Endangered” and 4 as “Critically Endangered”.

Also the official IUCN Conservation status has been listed for all species. 258 species has been found as “Not Evaluated”, seven as in “Lower risk” and four as “Vulnerable”.

Finally 23 species have been found to be listed in CITES II, one species in CITES I and one species in CITES III.

In the observation column of **Table 4** are also mentioned the 14 Species which have been “raised” into the category “Near Threatened” because of taxonomic problems.

In the following table the results of the evaluations are listed in detail for all 269 species. The results have been splinted for Ophidians, Sauria, Caimans and Turtles. The first column shows the species names, the second shows the detailed values given in the evaluation which led to the Conservation status result listed in the third column. The fourth column shows the results using the IUCN methodology, the fifth column the official IUCN Conservation status (ver 3.1 (2001)) and the last column shows comments and if the species is included in one of the CITES appendices. The order of the values in the first column is: Distribution + Fragmentation + Distribution in Protected Areas + Use + Rarity.

Species name	Points	Conser-vation status	Conser-vation status IUCN	Official Conser-vation status IUCN	Observations
TESTUDINES					
Chelidae					
Acanthochelys macrocephala	0+1+0+2+0 = 1	LC	LC	LR/nt ver 2.3 (1994)	
Acanthochelys pallidipectoris	2+0+2+2+3 = 9	NT	LC	VU A1c, D1 ver 2.3 (1994)	
Chelus fimbriatus	0+1+0+0+0 = 1	LC	LC	NE	
Phrynops geoffroanus	0+1+0+2+0 = 1	LC	LC	NE	
Phrynops gibbus	0+1+0+2+3 = 6	NT	LC	NE	
Phrynops nasutus	0+1+0+2+1 = 4	LC	LC	NE	
Phrynops raniceps	0+1+0+2+3 = 6	NT	LC	NE	
Platemys platycephala	0+1+0+0+0 = 1	LC	LC	NE	
Kinosternidae					
Kinosternon scorpioides	0+0+0+0+0 = 0	LC	LC	NE	
Podocnemididae					
Podocnemis expansa	0+0+0+2+3 = 5	LC	LC	LR/cd ver 2.3 (1994)	CITES: Appendice II
Podocnemis unifilis	0+1+0+2+0 = 3	LC	LC	VU A1acd ver 2.3 (1994)	CITES Appendice II
Testudinidae					
Geochelone carbonaria	0+1+0+2+0 = 3	LC	LC	VU A1cd+2cd ver 2.3 (1994)	CITES Appendice II
Geochelone chilensis	0+0+0+2+0 = 2	LC	LC	NE	CITES Appendice II
Geochelone denticulata	0+1+0+2+0 = 3	LC	LC	VU A1cd+2cd ver 2.3 (1994)	CITES Appendice II
CROCODYLIA					
Alligatoridae					
Caiman latirostris	0+0+0+10+3 => 13	VU	LC	LR/lc ver 2.3 (1994)	CITES Appendice I
Caiman yacare	0+1+0+10+0 = 11	VU (populations)	LC	LR/lc ver 2.3 (1994)	CITES Appendice II
Melanosuchus niger	0+1+0+10+1 = 12	VU	LC	LR/cd ver 2.3 (1994)	CITES Appendice II
Paleosuchus palpebrosus	0+1+0+0+1 = 2	LC	LC	LR/lc ver 2.3 (1994)	CITES Appendice II
Paleosuchus trigonatus	0+1+0+0+3 = 4	LC	LC	LR/lc ver 2.3 (1994)	CITES Appendice II
LEPIDOSAURIA					
Hoplocercidae					
Enyalioides palpebralis	0+1+0+0+0 = 1	LC	LC	NE	
Hoplocercus spinosus	0+1+0+0+1 = 2	LC	LC	NE	
Iguanidae					
Iguana iguana	0+0+0+1+0 = 1	LC	LC	NE	CITES Appendice II

Polychridae					
Polychrus acutirostris	0+1+0+0+0 = 1	LC	LC	NE	
Polychrus liogaster	0+1+0+0+0 = 1	LC	LC	NE	
Urostrophus gallardoi	0+1+0+0+0 = 1	LC	LC	NE	
Norops fuscoauratus	0+1+0+0+0 = 1	LC	LC	NE	
Norops meridionalis	0+1+0+0+1 = 2	LC	LC	NE	
Norops ortonii	0+1+0+0+0 = 1	LC	LC	NE	
Dactyloa punctatus	0+1+0+0+0 = 1	LC	LC	NE	
Norops scapularis	0+1+0+0+3 = 4	LC	LC	NE	
Tropiduridae					
Stenocercus aculeatus	0+0+0+0+0 = 0	LC	LC	NE	
Stenocercus caducus	0+1+0+0+0 = 1	LC	LC	NE	
Stenocercus marmoratus	2+1+1+0+0 = 4	LC	LC	NE	
Stenocercus prionotus	0+0+1+0+3 = 4	LC	LC	NE	
Stenocercus roseiventris	0+1+0+0+0 = 1	LC	LC	NE	
Tropidurus callathelys	5+0+0+0+8 = 13	VU	LC	NE	
Tropidurus chromatops	2+0+0+0+3 = 5	LC	LC	NE	
Tropidurus etheridgei	0+0+0+0+0 = 0	LC	LC	NE	
Tropidurus melanopleurus	0+1+0+0+0 = 1	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Tropidurus plica	0+1+0+0+0 = 1	LC	LC	NE	
Tropidurus spinulosus	0+1+0+0+0 = 1	LC	LC	NE	
Tropidurus torquatus	0+1+0+0+0 = 1	LC	LC	NE	
Tropidurus umbra	0+1+0+0+0 = 1	LC	LC	NE	
Tropidurus xanthochilus	5+0+1+0+8 = 14	VU	LC	NE	
Uranoscodon superciliosus	0+1+0+0+3 = 4	LC	LC	NE	
Liolaemidae					
Liolaemus alticolor	0+5+1+0+0 = 6	NT	LC	NE	
Liolaemus chacoensis	2+0+2+0+0 = 4	LC	LC	NE	
Liolaemus cranwelli	10+12+3+0+8 = 33	CR	EN 1ab (iii)	NE	
Liolaemus dorbignyi	0+1+1+0+3 = 5	LC	LC	NE	
Liolaemus fittkaui	13+12+3+0+3 = 31	CR	CR ab(iii)	NE	
Liolaemus forsteri	5+0+2+0+3 = 10	NT	LC	NE	
Liolaemus islugensis	0+1+0+0+0 = 1	LC	LC	NE	
Liolaemus jamesi	2+0+1+0+3 = 6	NT	LC	NE	
Liolaemus orientalis	0+5+1+0+0 = 6	NT	LC	NE	
Liolaemus ornatus	0+5+2+0+1 = 8	NT	LC	NE	
Liolaemus pantherinus	0+12+2+0+3 = 17	EN	LC	NE	
Liolaemus schmidti	5+0+3+0+3 = 11	VU	LC	NE	
Liolaemus signifer	0+5+0+0+0 = 5	LC	LC	NE	
Liolaemus variegatus	10+1+3+0+3 = 17	EN	EN 1ab(iii)	NE	
Gekkonidae					
Gonatodes hasemani	0+0+0+0+0 = 0	LC	LC	NE	
Gonatodes humeralis	0+1+0+0+0 = 1	LC	LC	NE	

Hemidactylus mabouia	0+0+0+0+0 = 0	LC	LC	NE	
Homonota fasciata	0+1+0+0+0 = 1	LC	LC	NE	
Lygodactylus wetzeli	0+1+0+0+0 = 1	LC	LC	NE	
Phyllopezus pollicaris	0+1+0+0+0 = 1	LC	LC	NE	
Thecadactylus rapicauda	0+1+0+0+0 = 1	LC	LC	NE	
Gymnophtalmidae					
Alopoglossus angulatus	0+1+0+0+3 = 4	LC	LC	NE	
Arthrosaura kockii	0+0+0+0+3 = 3	LC	LC	NE	
Bachia dorbignyi	0+1+0+0+0 = 1	LC	LC	NE	
Cnemidophorus lacertoides	0+1+0+0+0 = 1	LC	LC	NE	
Cnemidophorus ocellifer	0+1+0+0+0 = 1	LC	LC	NE	
Iphisa elegans	0+1+0+0+1 = 2	LC	LC	NE	
Micrablepharus maximiliani	0+1+0+0+0 = 1	LC	LC	NE	
Potamites ecleopus	0+1+0+0+0 = 1	LC	LC	NE	
Potamites ocellatus	0+2+0+0+0 = 2	LC	LC	NE	
Opipeuter xestus	0+0+0+0+0 = 0	LC	LC	NE	
Cercosaura (Pantodactylus) schreibersii	0+1+0+0+0 = 1	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Cercosaura (Prionodactylus) argulus	0+1+0+0+0 = 1	LC	LC	NE	
Cercosaura (Prionodactylus) eigenmannii	0+1+0+0+0 = 1	LC	LC	NE	
Cercosaura (Prionodactylus) manicatus	0+1+0+0+0 = 1	LC	LC	NE	
Proctoporus bolivianus	2+0+0+0+0 = 2	LC	LC	NE	
Proctoporus guentheri	0+0+0+0+1 = 1	LC	LC	NE	
Vanzosaura rubricauda	0+1+0+0+0 = 1	LC	LC	NE	
Teiidae					
Ameiva ameiva	0+0+0+0+0 = 0	LC	LC	NE	
Ameiva vittata	13+12+3+0+8 = 36	CR	EN 1ab (iii)	NE	
Cercosaura ocellata	0+1+0+0+0 = 1	LC	LC	NE	
Dracaena paraguayensis	0+1+0+0+1 = 1	LC	LC	NE	CITES Appendice II
Kentropyx altamazonica	0+1+0+0+0 = 1	LC	LC	NE	
Kentropyx calcarata	0+1+0+0+0 = 1	LC	LC	NE	
Kentropyx paulensis	0+1+0+0+3 = 4	LC	LC	NE	
Kentropyx pelviceps	0+1+0+0+0 = 1	LC	LC	NE	
Kentropyx vanzoi	0+1+0+0+0 = 1	LC	LC	NE	
Kentropyx viridistriga	0+1+0+0+0 = 1	LC	LC	NE	
Teius cyanogaster	0+1+0+0+3 = 4	LC	LC	NE	
Teius teyou	0+1+0+0+0 = 1	LC	LC	NE	
Tupinambis merianae	0+1+0+0+0 = 1	LC	LC	NE	CITES Appendice II
Tupinambis rufescens	0+1+0+1+0 = 2	LC	LC	NE	CITES Appendice II
Tupinambis teguixin	0+1+0+1+0 = 2	LC	LC	NE	CITES Appendice II
Scincidae					
Mabuya cochabambae	0+1+0+0+3 = 4	LC	LC	NE	
Mabuya dorsivittata	0+1+0+0+3 = 4	LC	LC	NE	

Mabuya frenata	0+1+0+0+0 = 1	LC	LC	NE	
Mabuya guaporicola	0+1+0+0+0 = 1	LC	LC	NE	
Mabuya nigropunctata	0+1+0+0+0 = 1	LC	LC	NE	
Anguidae					
Diploglossus fasciatus	0+1+0+0+1 = 2	LC	LC	NE	
Ophiodes intermedius	0+1+0+0+0 = 1	NT	LC	NE	TAXONOMIC PROBLEMS (SPECIES COMPLEX)
Amphisbaenidae					
Amphisbaena alba	0+1+0+0+0 = 1	LC	LC	NE	
Amphisbaena angustifrons	0+1+0+0+1 = 2	LC	LC	NE	
Amphisbaena bolivica	0+1+0+0+3 = 4	LC	LC	NE	
Amphisbaena camura	0+1+0+0+0 = 1	LC	LC	NE	
Amphisbaena cegei	5+5+2+0+0 = 12	VU	LC	NE	
Amphisbaena darwinii	0+1+0+0+3 = 4	LC	LC	NE	
Amphisbaena fuliginosa	0+1+0+0+0 = 1	LC	LC	NE	
Amphisbaena silvestrii	10+12+3+0+3 = 28	CR	LC	NE	
Amphisbaena slateri	5+0+0+0+3 = 8	NT	LC	NE	
Amphisbaena vermicularis	0+1+0+0+3 = 4	LC	LC	NE	
Cercolophia borelli	0+1+0+0+0 = 1	LC	LC	NE	
Cercolophia steindachneri	0+1+0+0+3 = 4	LC	LC	NE	
Leposternon microcephalum	0+1+0+0+0 = 1	LC	LC	NE	
Infraorden SERPENTES					
Leptotyphlopidae		LC	LC	NE	
Leptotyphlops melanotermus	0+1+0+0+0 = 1	LC	LC	NE	
Leptotyphlops septemstriatus	0+1+0+0+1 = 2	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Leptotyphlops striatula	0+0+1+0+5 = 6	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Leptotyphlops undecimstriatus	13+12+3+0+3 = 31	CR	CR B1ab (iii)	NE	
Leptotyphlops unguirostris	0+0+0+0+3 = 3	LC	LC	NE	
Typhlopidae					
Typhlops brongersmianus	0+1+0+0+0 = 1	LC	LC	NE	
Typhlops reticulatus	0+1+0+0+0 = 4	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Boidae					
Boa constrictor	0+1+0+0+0 = 3	LC	LC	NE	CITES Appendice II
Corallus caninus	0+1+0+0+3 = 4	LC	LC	NE	CITES Appendice II
Corallus hortulanus	0+1+0+0+0 = 1	LC	LC	NE	CITES Appendice II
Epicrates cenchria	0+1+0+0+0 = 1	LC	LC	NE	CITES Appendice II

Eunectes beniensis	0+1+0+2+3 = 6	NT	LC	NE	CITES Appendice II
Eunectes murinus	0+1+0+2+0 = 3	LC	LC	NE	CITES Appendice II
Eunectes notaeus	0+1+0+2+1 = 4	LC	LC	NE	CITES Appendice II
Elapidae					
Micrurus annellatus	0+1+0+2+0 = 3	LC	LC	NE	
Micrurus diana	0+1+0+2+3 = 6	NT	NT	NE	
Micrurus hemprichii	0+0+0+2+3 = 5	LC	LC	NE	
Micrurus lemniscatus	0+1+0+2+0 = 3	LC	LC	NE	
Micrurus narduccii	0+1+0+0+1 = 2	LC	LC	NE	
Micrurus obscurus	0+1+0+2+1 = 4	LC	LC	NE	
Micrurus pyrrhocryptus	0+1+0+2+1 = 4	LC	LC	NE	
Micrurus serranus	0+0+1+2+0 = 3	LC	LC	NE	
Micrurus spixii	0+1+0+2+1 = 4	LC	LC	NE	
Micrurus surinamensis	0+0+1+2+1 = 4	LC	LC	NE	
Colubridae					
Apostolepis ambiniger	0+0+1+0+3 = 4	LC	LC	NE	
Apostolepis breviceps	5+0+3+0+1 = 9	NT	LC	NE	
Apostolepis dorbignyi	2+0+2+0+3 = 7	NT	LC	NE	
Apostolepis multicincta	10+12+3+2+0 = 27	CR	VU (D2)	NE	
Apostolepis nigroterminata	0+1+0+0+0 = 1	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Apostolepis phillipsi	5+0+1+0+8 = 14	VU	LC	NE	
Apostolepis tenuis	0+1+0+0+3 = 4	LC	LC	NE	
Apostolepis vittata	0+1+0+0+3 = 4	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Atractus balzani	5+5+3+0+8 = 21	EN	EN B1ab (iii)	NE	
Atractus bocki	10+5+3+0+8 = 26	CR	EN B1ab (iii)	NE	
Atractus boettgeri	0+1+0+0+3 = 4	LC	LC	NE	
Atractus latifrons	0+1+0+2+1 = 4	LC	LC	NE	
Atractus major	0+1+0+0+3 = 4	LC	LC	NE	
Atractus snethlageae	0+1+0+0+3 = 4	LC	LC	NE	
Atractus taeniatus	13+12+3+0+8 = 36	CR	CR 1ab (iii)	NE	
Boiruna maculata	0+1+0+0+3 = 4	LC	LC	NE	
Chironius exoletus	0+1+0+0+0 = 1	LC	LC	NE	
Chironius flavolineatus	0+1+0+0+0 = 1	LC	LC	NE	
Chironius fuscus	0+1+0+0+0 = 1	LC	LC	NE	
Chironius laurenti	0+1+0+0+0 = 1	LC	LC	NE	
Chironius monticola	0+0+0+0+1 = 1	LC	LC	NE	
Chironius multiventris multiventris	0+0+0+0+3 = 3	LC	LC	NE	
Chironius quadricarinatus	0+1+0+0+1 = 2	LC	LC	NE	
Chironius scurrulus	0+1+0+0+0 = 1	LC	LC	NE	
Clelia bicolor	0+5+0+0+3 = 8	NT	LC	NE	
Clelia clelia	0+1+0+0+0 = 1	LC	LC	NE	CITES Appendice II

Clelia langeri	2+5+2+0+0 = 9	NT	LC	NE	
Dendrophidion dendrophis	0+1+0+0+0 = 1	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Dipsas catesbyi	0+1+0+0+0 = 1	LC	LC	NE	
Dipsas chaparensis	0+0+0+0+1 = 1	LC	LC	NE	
Dipsas indica	0+0+0+0+3 = 3	LC	LC	NE	
Dipsas pavonina	0+1+0+0+3 = 4	LC	LC	NE	
Drepanoides anomalus	0+1+0+0+1 = 2	LC	LC	NE	
Drymarchon corais	0+1+0+0+0 = 1	LC	LC	NE	
Drymobius rhombifer	0+1+0+0+0 = 1	LC	LC	NE	
Drymoluber dichrous	0+1+0+0+0 = 1	LC	LC	NE	
Echinanthera occipitalis	0+1+0+0+0 = 1	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Erythrolamprus aesculapii	0+1+0+0+0 = 1	LC	LC	NE	
Erythrolamprus sp.	0+1+0+0+0 = 1	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Helicops angulatus	0+1+0+0+0 = 1	LC	LC	NE	
Helicops leopardinus	0+1+0+0+0 = 1	LC	LC	NE	
Helicops polylepis	0+1+0+0+0 = 1	LC	LC	NE	
Hydrodynastes gigas	0+1+0+0+0 = 1	LC	LC	NE	CITES Appendice II
Hydrops triangularis	0+1+0+0+3 = 4	LC	LC	NE	
Imantodes cenchoa	0+1+0+0+0 = 1	LC	LC	NE	
Imantodes lentiferus	0+1+0+0+1 = 2	LC	LC	NE	
Leptodeira annulata	0+1+0+0+0 = 1	LC	LC	NE	
Leptophis ahaetulla	0+1+0+0+0 = 1	LC	LC	NE	
Liophis almadensis	0+1+0+0+0 = 1	LC	LC	NE	
Liophis andinus	5+1+0+0+8 = 14	VU	VU B2ab(iii)	NE	
Liophis anomalus	0+1+0+0+3 = 4	LC	LC	NE	
Liophis ceii	0+1+1+0+0 = 2	LC	LC	NE	
Liophis cobellus	0+1+0+0+0 = 1	LC	LC	NE	
Liophis dilepis	0+1+0+0+3 = 4	LC	LC	NE	
Liophis flavifrenatus	0+1+0+0+3 = 4	LC	LC	NE	
Liophis jaegeri	0+1+0+0+0 = 1	LC	LC	NE	
Liophis meridionalis	0+1+0+0+3 = 4	LC	LC	NE	
Liophis miliaris	0+1+0+0+0 = 1	LC	LC	NE	
Liophis poecilogyrus	0+0+0+0+0 = 0	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Liophis reginae	0+1+0+0+0 = 1	LC	LC	NE	
Liophis sagittifer	0+1+0+0+3 = 4	LC	LC	NE	
Liophis taeniurus	5+12+1+0+1 = 19	EN	EN B1ab (i,ii,iii)	NE	
Liophis typhlus	0+1+0+0+0 = 1	LC	LC	NE	
Lystrophis pulcher	0+1+0+0+0 = 1	LC	LC	NE	
Lystrophis semicinctus	0+1+0+0+0 = 1	LC	LC	NE	
Mastigodryas bifossatus	0+1+0+0+0 = 1	LC	LC	NE	
Mastigodryas boddaerti	0+1+0+0+0 = 1	LC	LC	NE	
Oxybelis aeneus	0+1+0+0+0 = 1	LC	LC	NE	
Oxybelis fulgidus	0+0+0+0+0 = 0	LC	LC	NE	

Oxyrhopus formosus	0+1+0+0+0 = 1	LC	LC	NE	
Oxyrhopus guibei	0+1+0+0+0 = 1	LC	LC	NE	
Oxyrhopus melanogenys	0+0+0+0+0 = 0	LC	LC	NE	
Oxyrhopus petola	0+1+0+0+0 = 1	LC	LC	NE	
Oxyrhopus rhombifer	0+1+0+0+0 = 1	LC	LC	NE	
Oxyrhopus sp. nov	0+1+0+0+1 = 2	LC	LC	NE	
Oxyrhopus trigeminus	2+5+1+0+1 = 9	NT	VU B1ab (i)	NE	
Phalotris tricolor	0+1+0+0+1 = 2	LC	LC	NE	
Philodryas aestivus	0+1+0+0+0 = 1	LC	LC	NE	
Philodryas baroni	0+0+1+0+3 = 4	LC	LC	NE	
Philodryas mattogrossensis	0+0+0+0+1 = 1	LC	LC	NE	
Philodryas olfersii	0+1+0+0+0 = 1	LC	LC	NE	
Philodryas patagoniensis	0+1+0+0+0 = 1	LC	LC	NE	
Philodryas psammophideus	0+1+0+0+0 = 1	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Philodryas varius	0+1+0+0+0 = 1	LC	LC	NE	
Philodryas viridissimus	0+1+0+0+1 = 2	LC	LC	NE	
Phimophis vittatus	0+1+0+0+1 = 2	LC	LC	NE	
Pseudoboa coronata	0+1+0+0+0 = 1	LC	LC	NE	
Pseudoboa nigra	0+1+0+0+0 = 1	LC	LC	NE	
Pseudoeryx plicatilis	0+1+0+0+0 = 1	LC	LC	NE	
Pseustes poecilonotus	0+1+0+0+0 = 1	LC	LC	NE	
Pseustes sulphureus	0+1+0+0+0 = 1	LC	LC	NE	
Psomophis genimaculatus	0+1+0+0+3 = 4	LC	LC	NE	
Psommophis obtusus	0+0+0+0+3 = 3	NT	LC	NE	TAXONOMIC STATUS UNCERTAIN
Rhinobothryum lentiginosum	0+1+0+0+0 = 1	LC	LC	NE	
Sibynomorphus lavillai	0+1+0+0+1 = 2	LC	LC	NE	
Sibynomorphus turgidus	0+1+0+0+0 = 1	LC	LC	NE	
Siphlophis compressus	0+1+0+0+0 = 1	LC	LC	NE	
Spilotes pullatus	0+1+0+0+0 = 1	LC	LC	NE	
Tachymenis attenuata	0+0+0+0+1 = 1	LC	LC	NE	
Tachymenis elongata	5+12+2+0+3 = 22	CR	EN B1ab (i)	NE	
Tachymenis peruviana	0+5+0+0+0 = 5	LC	LC	NE	
Tachymenis tarmensis	2+0+0+0+3 = 5	LC	LC	NE	
Tantilla melanocephala	0+1+0+0+0 = 1	LC	LC	NE	
Tantilla sp nov??	10+5+3+0+0 = 18	EN	EN B1ab (iii)	NE	
Thamnodynastes chaquensis	5+0+0+0+3 = 8	NT	LC	NE	
Thamnodynastes pallidus	0+1+0+0+0 = 1	LC	LC	NE	
Thamnodynastes sp1	0+1+0+0+0 = 1	LC	LC	NE	
Tomodon orestes	13+0+3+0+3 = 19	EN	CR 1ab(iii)	NE	
Waglerophis merremi	0+1+0+2+0 = 3	LC	LC	NE	
Xenodon neuwiedi	0+1+0+0+3 = 4	LC	LC	NE	
Xenodon rabdocephalus	0+0+0+0+3 = 3	LC	LC	NE	
Xenodon severus	0+1+0+0+0 = 1	LC	LC	NE	
Xenopholis scalaris	0+1+0+0+0 = 1	LC	LC	NE	

Xenoxybelis argenteus	0+0+0+0+3 = 3	LC	LC	NE	
Viperidae			LC	NE	
Bothrops andianus	0+0+0+2+0 = 2	LC	LC	NE	
Bothrops atrox	0+1+0+2+0 = 3	LC	LC	NE	
Bothrops bilineatus	0+1+0+2+0 = 3	LC	LC	NE	
Bothrops hyoprorus	0+0+0+2+3 = 5	LC	LC	NE	
Bothrops jonathani	2+0+0+2+1 = 5	LC	LC	NE	
Bothrops mattogrossensis	0+0+0+2+0 = 2	LC	LC	NE	
Bothrops microphtalmus	0+1+0+2+3 = 6	NT	LC	NE	
Bothrops moojeni	0+1+0+2+3 = 6	NT	LC	NE	
Bothrops oligolepis	0+0+0+2+3 = 5	LC	LC	NE	
Bothrops sanctaecruzis	0+1+0+2+0 = 3	LC	LC	NE	
Bothrops taeniatus	0+1+0+2+3 = 6	NT	LC	NE	
Crotalus durissus	0+0+0+2+0 = 2	LC	LC	NE	CITES Appendice III
Lachesis muta	0+1+0+2+0 = 3	LC	LC	NE	

Table 4 Results of the evaluations for all 269 species evaluated

Family	**Conservation status**	**Conser-vation status IUCN**	**Official Conser-vation status IUCN**
Turtles (14)	**11 LC, 3 NT**	**14 LC**	**8 NE, 2 LR, 4 VU**
Chelidae (8)	5 LC, 3 NT	8 LC	6 NE, 1 LR, 1 VU
Kinosternidae (1)	1 LC	1 LC	1 NE
Podocnemidae (2)	2 LC	2 LC	1 LR, 1 VU
Testudinidae (3)	3 LC	3 LC	1 NE, 2 VU
Caimanes (5)	**2 LC, 3 VU**	**5 LC**	**5 LR**
Alligatoridae (5)	2 LC, 3 VU	5 LC	5 LR
Sauria (99)	**80 LC, 9 NT, 4 VU, 2 EN, 4 CR**	**95 LC, 3 EN, 1 CR**	**99 NE**
Amphisbaenidae (13)	10 LC, 1 NT, 1 VU, 1 CR	13 LC	13 NE
Anguidae (2)	1 LC, 1 NT	2 LC	2 NE
Gymnophtalmidae (17)	16 LC, 1 NT	17 LC	17 NE
Gekkonidae (12)	12 LC	12 LC	12 NE
Iguanidae (1)	1 LC	1 LC	1 NE
Liolaemidae (14)	4 LC, 5 NT, 1 VU, 2 EN, 2 CR	11 LC, 2 EN, 1 CR	14 NE
Polychrotidae (3)	3 LC	3 LC	3 NE
Scincidae (5)	5 LC	5 LC	5 NE
Teiidae (15)	14 LC, 1 CR	14 LC, 1 EN	15 NE
Tropiduridae (15)	12 LC, 1 NT, 2 VU	15 LC	15 NE
Hoplocercidae (2)	2 LC	2 LC	2 NE
Ophidia (151)	**118 LC, 22 NT, 2 VU, 4 EN, 5 CR**	**139 LC, 1 NT, 3 VU, 5 EN, 3 CR**	**151 NE**
Boidae (7)	6 LC, 1 NT	7 LC	7 NE
Elapidae (10)	9 LC, 1 NT	9 LC, 1 NT	10 NE

Leptotyphlopidae (5)	2 LC, 2 NT, 1 CR	4 LC, 1 CR	5 NE
Typhlopidae (2)	1 LC, 1 NT	2 LC	2 NE
Colubridae (114)	90 LC, 14 NT, 2 VU, 4 EN, 4 CR	104 LC, 3 VU, 5 EN, 2 CR	114 NE
Viperidae (13)	10 LC, 3 NT	13 LC	13 NE
TOTAL (269)	**211 LC, 34 NT, 9 VU, 6 EN, 9 CR**	**254 LC, 1 NT, 3 VU, 7 EN, 4 CR**	**258 NE, 7 LR, 4 VU**

Table 5 : Abstract of the results of the evaluations for all 269 species evaluated

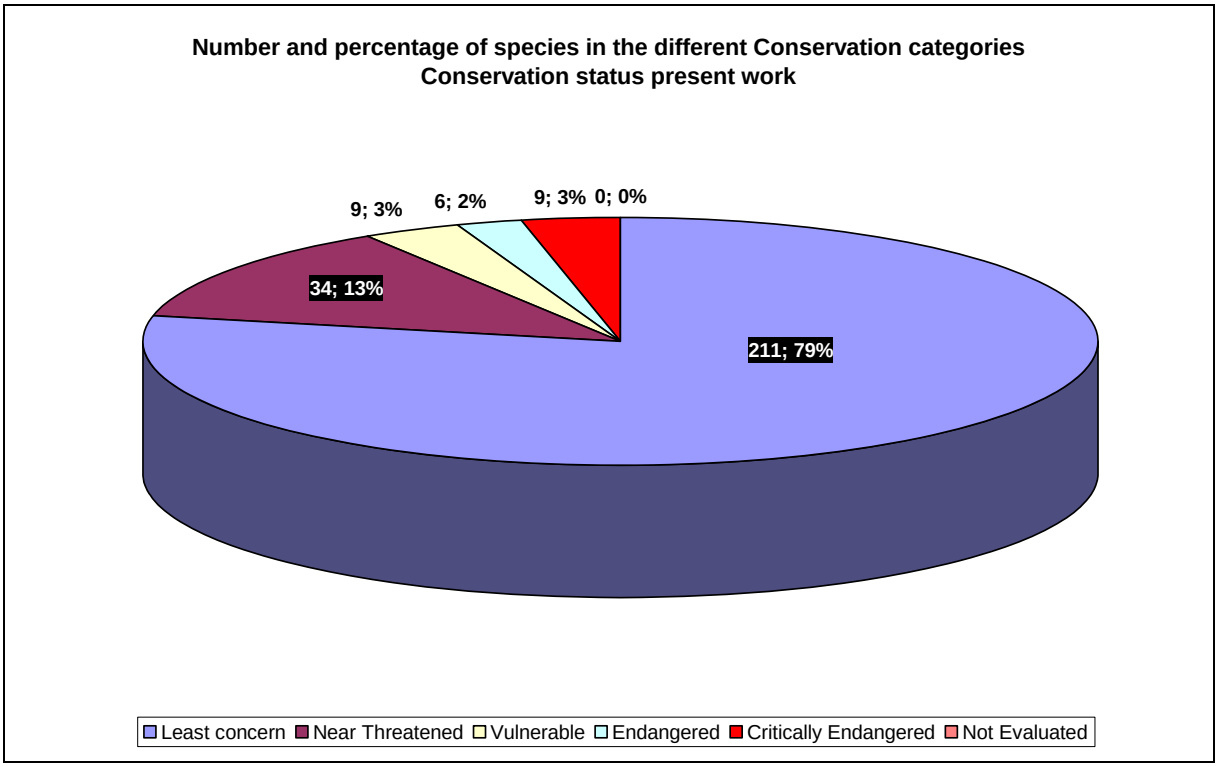

Figure 577: Number and percentage of reptile species in the different Conservation categories. Conservation status present work

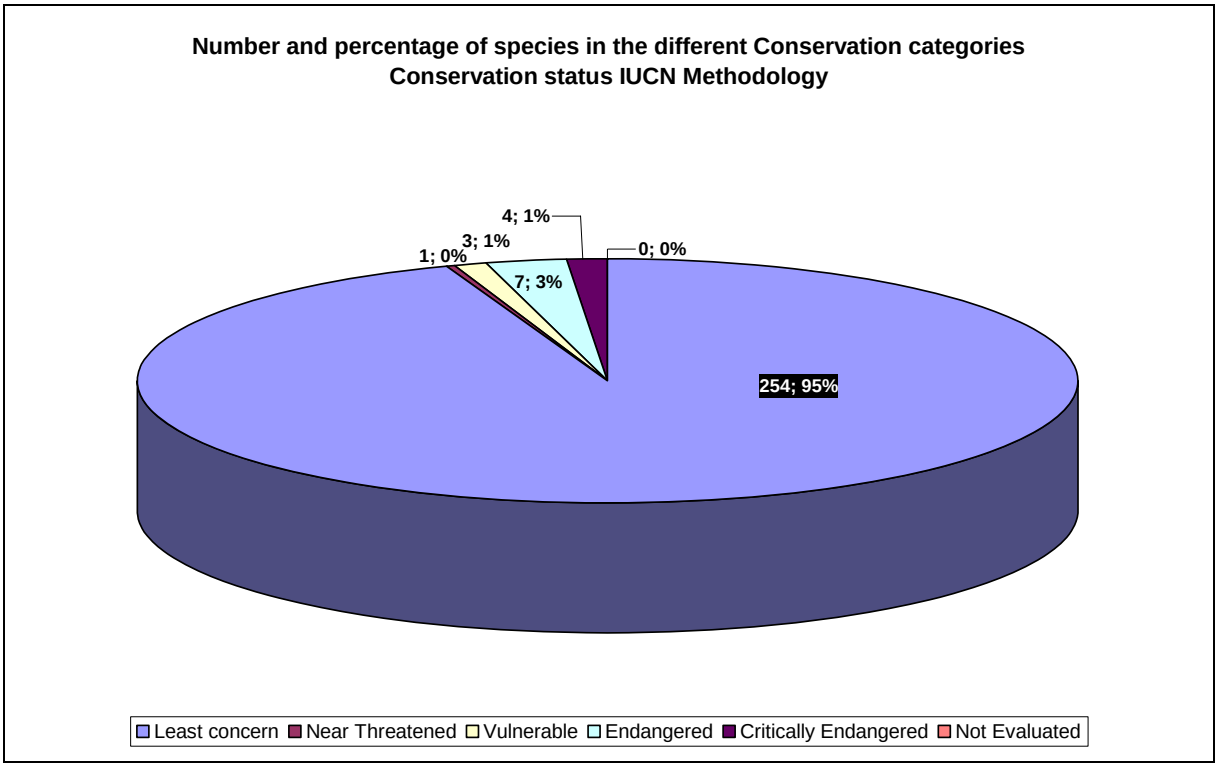

Figure 578: Number and percentage of species in the different Conservation categories. Conservation status IUCN Methodology

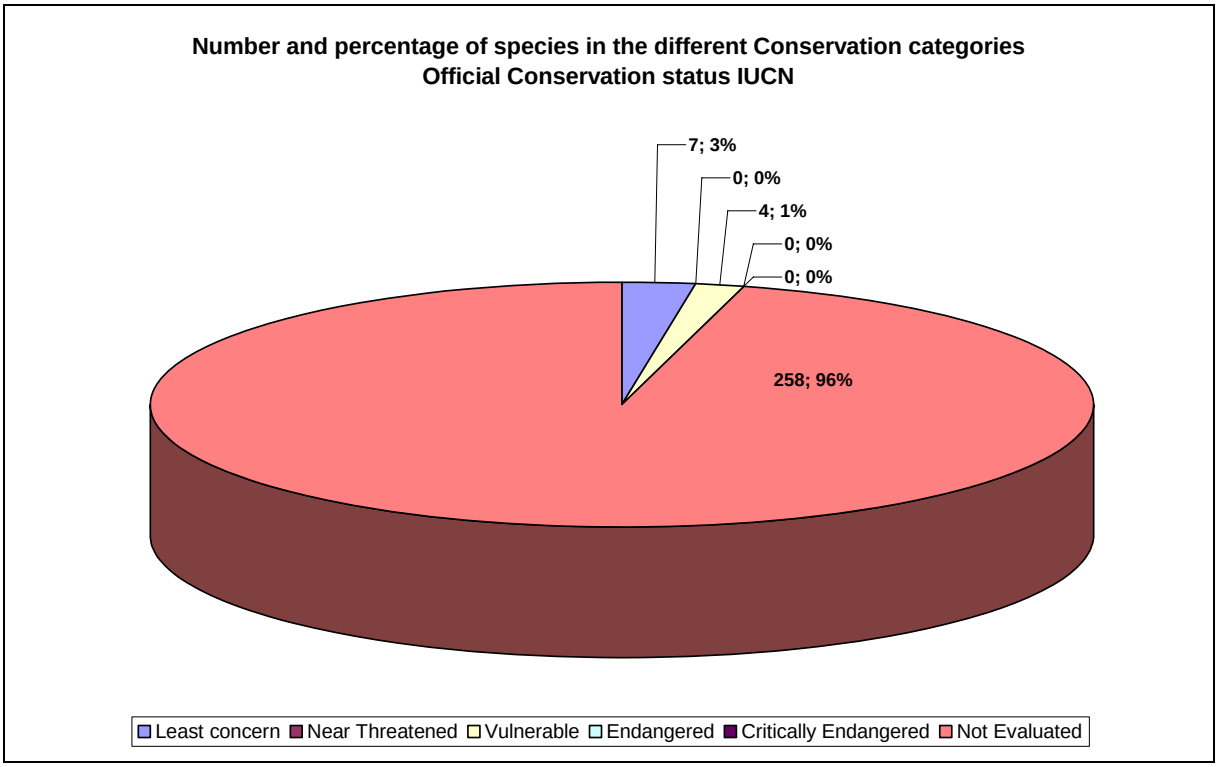

Figure 579: Number and percentage of species in the different Conservation categories. Official Conservation status IUCN

3.4 Comparison of the results of the two methodologies:

269 species were evaluated using both methodologies. The methodology elaborated for this work evaluated more species in higher categories. The new methodology showed 211 species in the category “Least Concern”, the IUCN methodology 254 species. 34 species have been evaluated as “Near Threatened” using the new methodology, just 1 species using the IUCN methodology. 14 species have been raised into the “Near Threatened” category using the new methodology because of taxonomic problems. The reasons for classification in the “Near Threatened” category differed also within the families. In Boidae, Elapidae and Chelidae it is a combination of rarity and use, in Colubridae normally the distribution factor is the main reason. In Liolaemidae, mostly habitat fragmentation and in caimans it is the use of the species. The results for the other categories did not differ that strong.

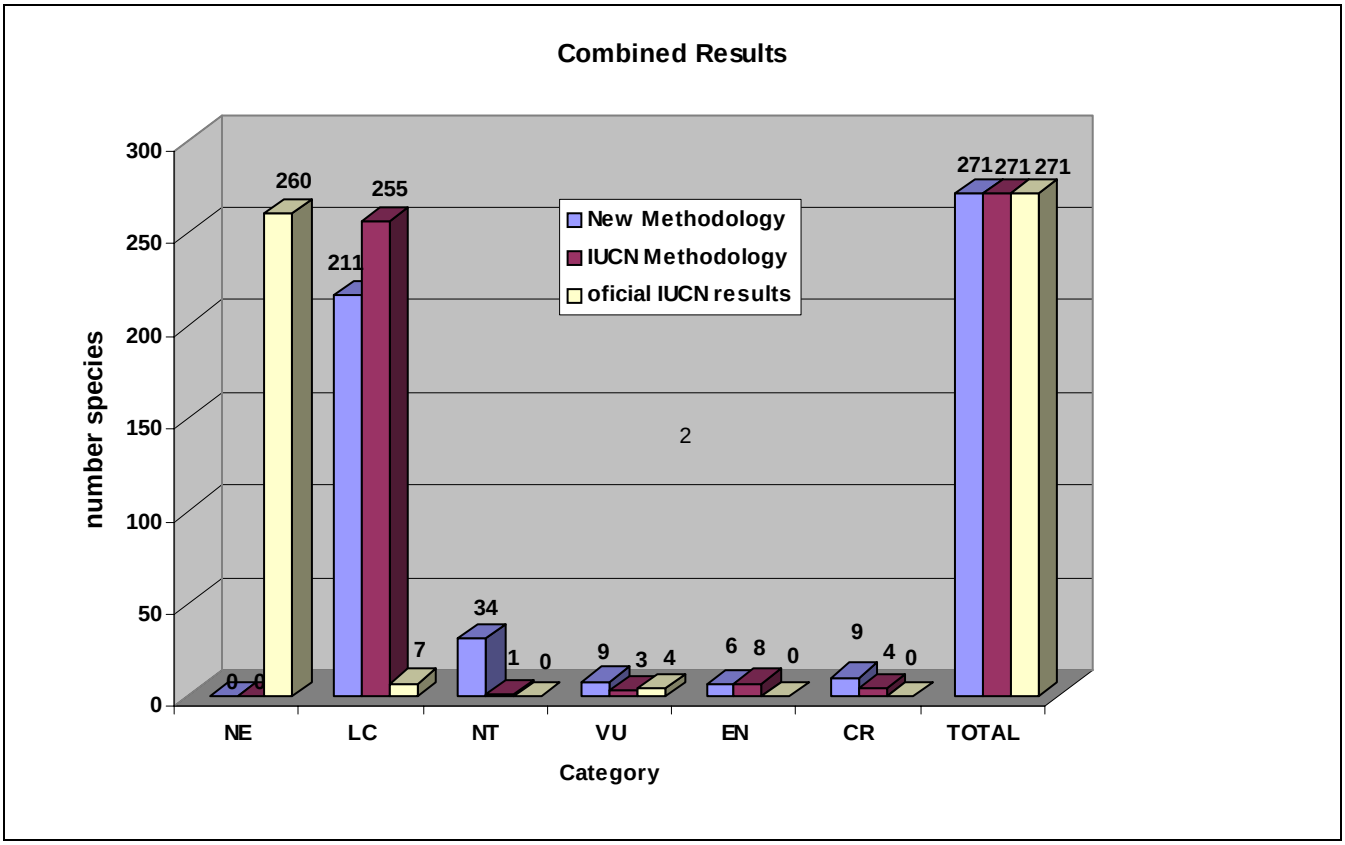

Figure 580: Combined results of the evaluation using the new methodology, the IUCN methodology and the official IUCN conservations status.

3.5 Detailed description of results

3.5.1 Ophidia

Family	Conservation status	Conser-vation status IUCN	Official Conser-vation status IUCN
Ophidia (151)	**118 LC, 22 NT, 2 VU, 4 EN, 5 CR**	**139 LC, 1 NT, 3 VU, 5 EN, 3 CR**	**151 NE**
Boidae (7)	6 LC, 1 NT	7 LC	7 NE
Elapidae (10)	9 LC, 1 NT	9 LC, 1 NT	10 NE
Leptotyphlopidae (5)	2 LC, 2 NT, 1 CR	4 LC, 1 CR	5 NE
Typhlopidae (2)	1 LC, 1 NT	2 LC	2 NE
Colubridae (114)	90 LC, 14 NT, 2 VU, 4 EN, 4 CR	104 LC, 3 VU, 5 EN, 2 CR	114 NE
Viperidae (13)	10 LC, 3 NT	13 LC	13 NE

Table 6 Results of the evaluation of the Conservation status for Ophidians

The Ophidia have with 151 species the highest number of species evaluated. 118 species did not show any threat. 22 species were evaluated as “Near Threatened”, ten of them have been raised into this category because of taxonomic problems. One species is a member of the Leptotyphlopidae (*Leptotyphlops striatula*), one species a member of the Typhlopidae (*Typhlops reticulatus*) and all other members of the Colubridae. The taxonomic problems mostly were probable species complexes which could result in splitting the species in two or more species, resulting in reduction of habitat and other possible negative effects on its conservation status (see also discussion).
Two species (*Apostolepis phillipsi, Liophis andinus*) have been evaluated as “Vulnerable”, both because of having a very limited habitat size and being extremely rare.
Four species have been evaluated as being “Endangered”. *Atractus balzani* is extremely rare, not being rediscovered in the last 107 years and shows a small strongly fragmented habitat size. *Liophis taeniurus* shows a small habitat size additionally strongly fragmented. *Tantilla* sp. nov. is an endemic inhabitant of the Interandean Dry Valleys, shows a very restricted habitat size, being strongly fragmented. *Tomodon orestes* only recently was described on base of one specimen from strongly disturbed habitat. Habitat size and quality and its rarity are the main reasons for the result as “Endangered”.
Five species resulted as being “Critically Endangered”. One Leptotyphlopidae, *Leptotyphlops undecimstriatus*, was described in 1980 from Santa Cruz de la Sierra. Just one specimen is known (the Holotype, now lost), its extrapolated habitat size is based on the one specimen and that fore naturally very restricted, and as the city of Santa Cruz is its supposed habitat, the quality of habitat is very low, resulting in a very strong fragmentation. As the type is lost its taxonomic status is at least unclear. *Apostolepis multicincta* is endemic to the Interandean Dry Valleys, resulting in a restricted habitat size being very strongly fragmented. *Atractus bocki* and *Atractus taeniatus* both are just known from one locality. *Atractus bocki* has been described from the city of Cochabamba 108 years ago. Cochabamba by then was a small town surrounded by still a lot of good habitat. Now not only the city has grown but nearly all surrounding natural habitat has been destroyed and altered resulting in very restricted and strongly fragmented possible habitat size.

The type was originally deposited in Hamburg (ZMH) but has been destroyed in World War II, making it difficult to verify its taxonomic validity. *Atractus taeniatus* has been described from Santa Cruz de la Sierra 90 years ago, resulting in the same effects as described for *Atractus bocki*. Although listed for Brazil and Argentina, Paulo Passo doubts its existence in these countries (pers. comunication). *Tachymenis elongata* suffers from a small habitat size being very strongly fragmented by human activity as agriculture.

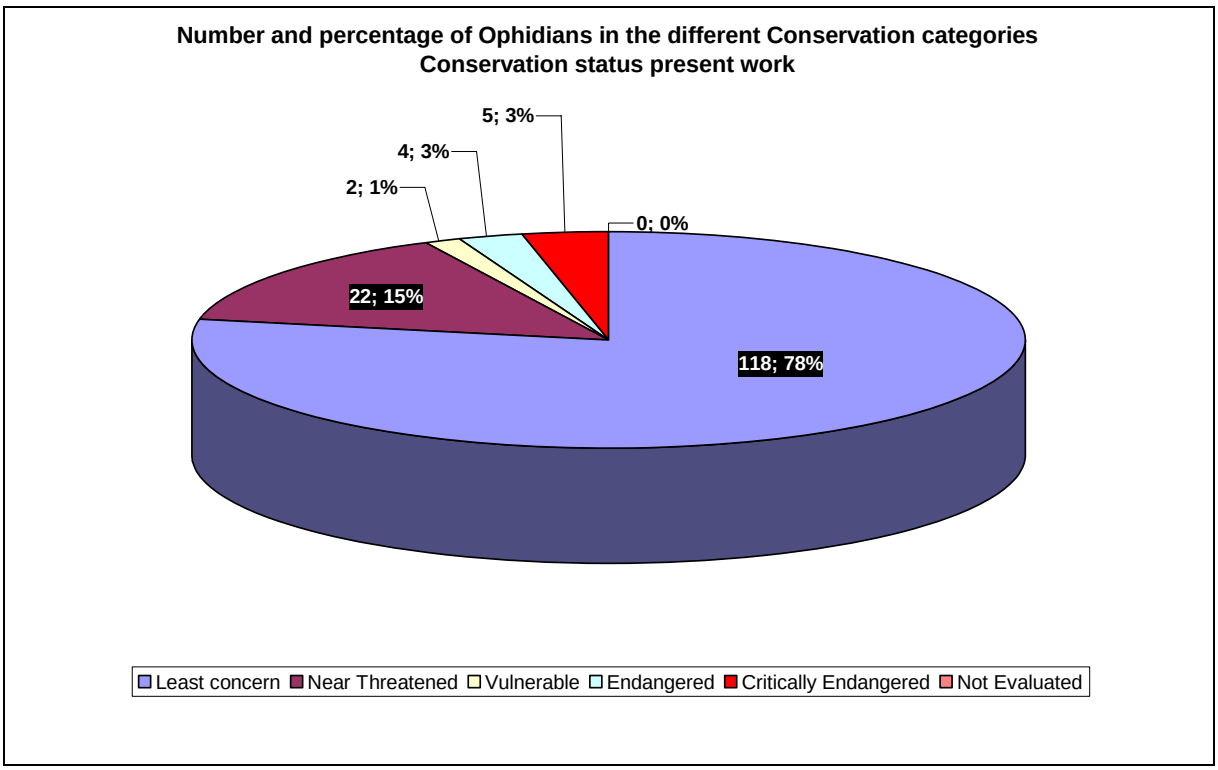

Figure 581: Number and percentage of Ophidians in the different Conservation categories. Conservation status present work

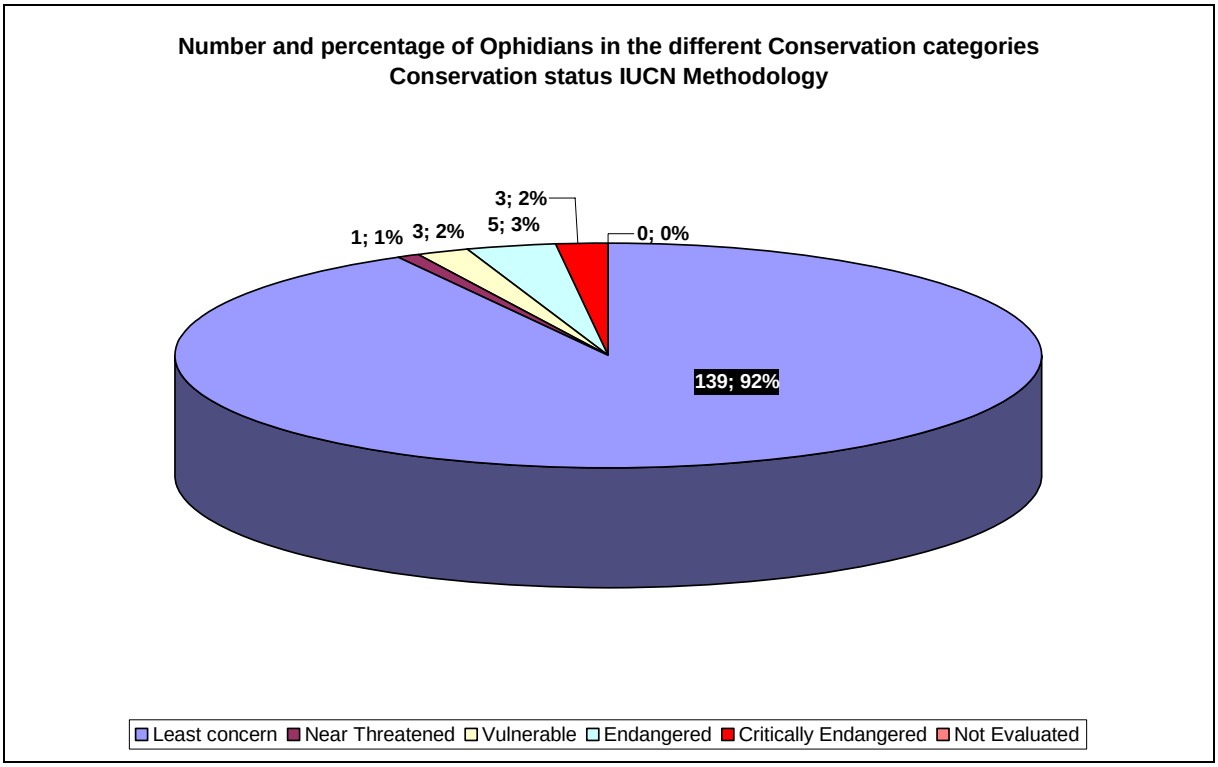

Figure 582: Number and percentage of Ophidians in the different Conservation categories. Conservation status IUCN Methodology

3.5.2 Sauria

Family	**Conservation status**	**Conser-vation status IUCN**	**Oficial Conser-vation status IUCN**
Sauria (99)	**80 LC, 9 NT, 4 VU, 2 EN, 4 CR**	**95 LC, 3 EN, 1 CR**	**99 NE**
Amphisbaenidae (13)	10 LC, 1 NT, 1 VU, 1 CR	13 LC	13 NE
Anguidae (2)	1 LC, 1 NT	2 LC	2 NE
Gymnophtalmidae (17)	16 LC, 1 NT	17 LC	17 NE
Gekkonidae (12)	12 LC	12 LC	12 NE
Iguanidae (1)	1 LC	1 LC	1 NE
Liolaemidae (14)	4 LC, 5 NT, 1 VU, 2 EN, 2 CR	11 LC, 2 EN, 1 CR	14 NE
Polychrotidae (3)	3 LC	3 LC	3 NE
Scincidae (5)	5 LC	5 LC	5 NE
Teiidae (15)	14 LC, 1 CR	14 LC, 1 EN	15 NE
Tropiduridae (15)	12 LC, 1 NT, 2 VU	15 LC	15 NE

Table 7: Results of the evaluation of the Conservation status for Sauria

With 99 species the lizards have the second highest number of species evaluated. 80 species did not show any threat. Nine species were evaluated as “Near Threatened”. Four of them have been raised into this category because of taxonomic problems. The taxonomic problems mostly were probable species complexes which could result in splitting the species in two or more species resulting in reduction of habitat and other possible negative effects on its conservation status (see also discussion). The other five species are all members of the genus *Liolaemus* and are suffering mainly fragmentation of habitat by very intensive human activity, resulting in strongly altered natural habitat.

Four species have been evaluated as being “Vulnerable”, One member of the family Amphisbaenidae, one Liolaemidae and two Tropiduridae. *Amphisbaena cegei* showed very restricted and fragmented habitat size, *Liolaemus schmidti* resulted to have restricted habitat size, not being present in any protected area and being a “rare” species. Both *Tropidurus*, *Tropidurus callathelys* and *Tropidurus xanthochylus* are endemic to a very restricted area in the Noel Kempff Mercado National Park and are considered as rare.

Two species have been evaluated as “Endangered”, *Liolaemus pantherinus* and *Liolaemus variegatus*. The two species showed a similar patter, big habitat size, being very strongly fragmented, absent in all protected areas and considered to be rare.

Four species have been evaluated as “Critically Endangered”, one member of the family Amphisbaenidae, one member of the Teiidae and two Liolaemidae. *Amphisbaena silvestrii* had been reported by Carl Gans in 1964 from Santa Cruz on base of two specimens. He himself gives some taxonomic differences to specimens from Brazil leaving some doubts if the specimens really belong to this species. Having a very restricted habitat size, strongly fragmented by the growth of the City Santa Cruz and being a very rare species not having been found for the last 43 years resulted in this high category. *Ameiva vittata* was described from the village Parotani in Bolivia on base of one specimen. The species has not been found for over 100 years despite recent efforts by Robert Langstroth (pers. comunication). The type locality has suffered strong human impact in the last years destroying nearly all natural habitat of this species. Small habitat size, very strong fragmentation and the rarity are the main reasons for the high category of this species. *Liolaemus cranwelli* was described from the locality Nueva Moka in Santa Cruz Department, being near the city of Santa Cruz. Since its discovery in 1973, 33 years ago, the natural habitat has been destroyed nearly completely and the species has never been found again. Restricted habitat size, very strong fragmentation and rarity are the main reasons for the high category given to this species. *Liolaemus fittkaui* was described from the valleys near Cochabamba in 1986, 21 years ago. The already extremely restricted original habitat additionally had suffered strong human impacts, resulting in a high fragmentation. Additionally not being represented in protected areas and being a rare species resulted in the high category given.

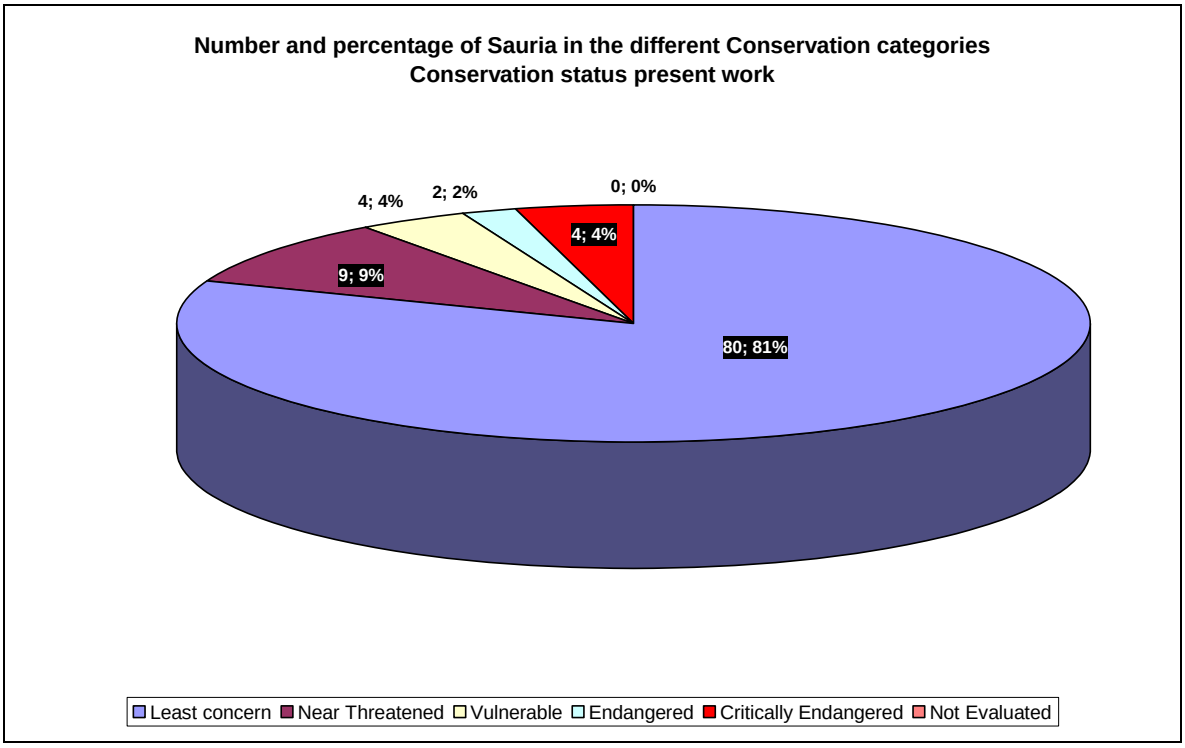

Figure 583: Number and percentage of Sauria in the different Conservation categories. Conservation status present work

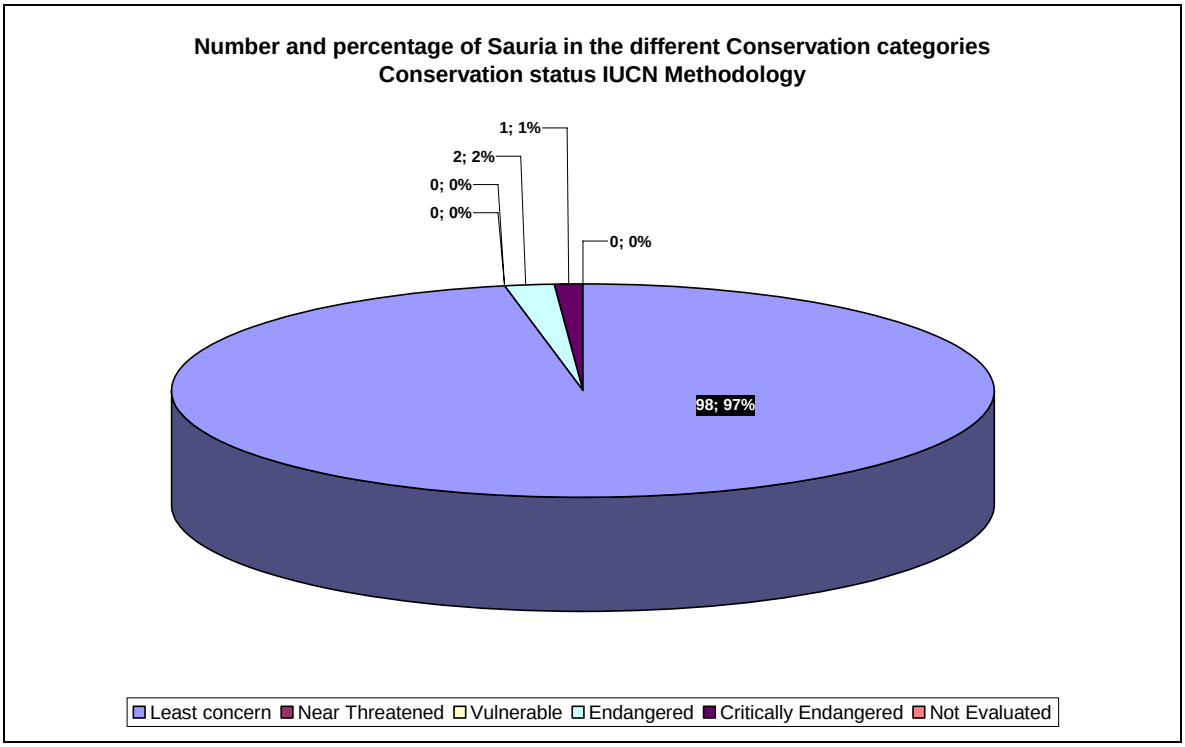

Figure 584: Number and percentage of Sauria in the different Conservation categories. Conservation status IUCN Methodology

3.5.3 Turtles

Family	Conservation status	Conser-vation status IUCN	Oficial Conser-vation status IUCN
Turtles (14)	**12 LC, 2 NT**	**14 LC**	**8 NE, 2 LR, 4 VU**
Chelidae (8)	6 LC, 2 NT	8 LC	6 NE, 1 LR, 1 VU
Kinosternidae (1)	1 LC	1 LC	1 NE
Podocnemidae (2)	2 LC	2 LC	1 LR, 1 VU
Testudinidae (3)	3 LC	3 LC	1 NE, 2 VU

Table 8: Results of the evaluation of the Conservation status for Turtles

The Bolivian turtles showed surprisingly good results with only two species in a category worse than "Least Concern". *Phrynops gibbus* and *Phrynops raniceps* have been evaluated as "Near Threatened" caused mainly by a combination of rarity, use and fragmentation of habitat. Fragmentation is not very strong and overall use was not considered as threatening to the species as a whole in the country, leading to this low category. Possible underestimation of conservation status and threats to turtles are discussed in the discussion chapter.

3.5.4 Caimans

Family	Conservation status	Conser-vation status IUCN	Oficial Conser-vation status IUCN
Caimanes (5)	**2 LC, 3 VU**	**5 LC**	**5 LR**
Alligatoridae (5)	2 LC, 3 VU	5 LC	5 LR

Table 9: Results of the evaluation of the Conservation status for Caimans

As expected the caimans resulted partially as "Vulnerable" (*Caiman yacare* [populations], *Melanosuchus niger, Caiman latirostris*). There was no distribution data for *Caiman latirostris* available, reason why there was no distribution extrapolated and the calculation for the conservation status is basic and has to be seen as a minimum value. The main reason for the given category is the historically very strong use of the species. *Caiman yacare*, shows a wide distribution, high tolerances for habitat alteration and high densities. Nevertheless several populations have been totally overused, reason why these populations are considered as "Vulnerable". *Melanosuchus niger* suffers a strong historical and partially illegal actual use because of its skin, the main reason for being considered a "Vulnerable" species.

3.6 Coarse Filter evaluations

3.6.1 Species richness Ophidians

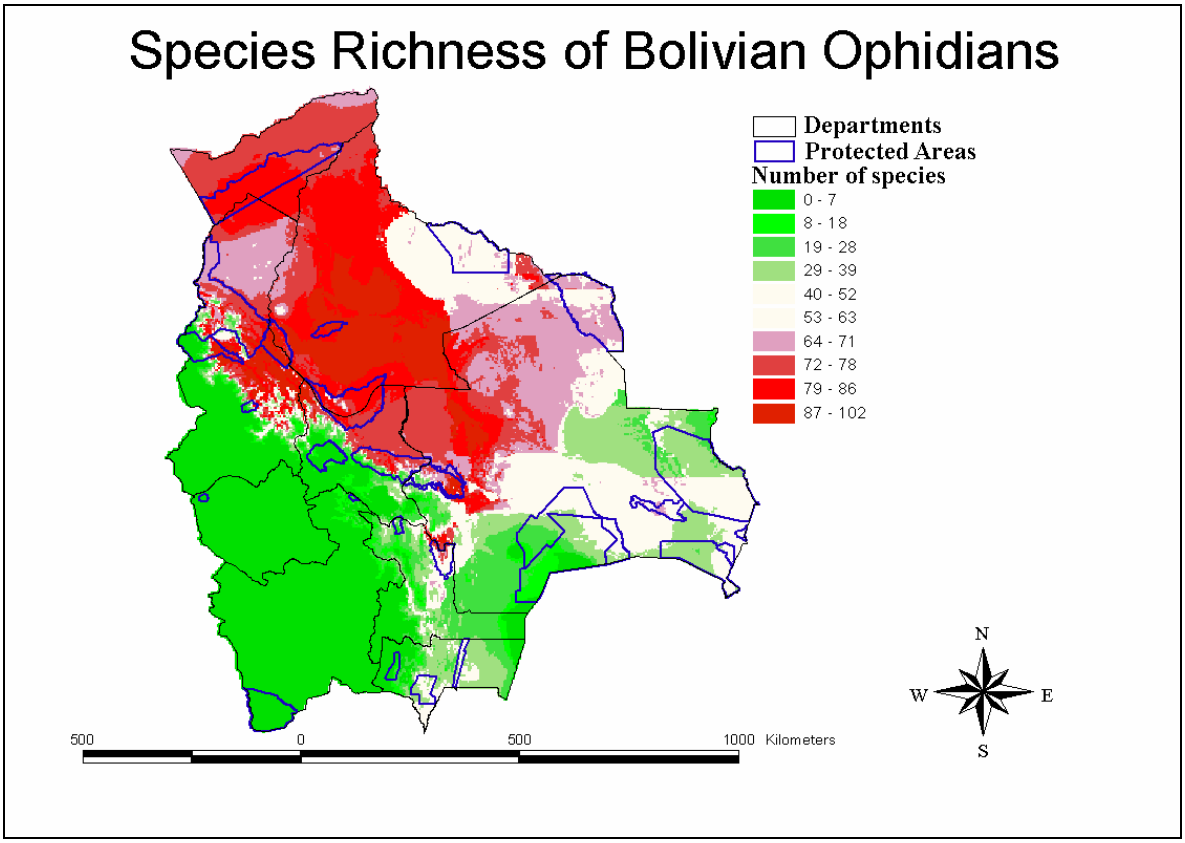

Figure 585: Species Richness of Bolivian Ophidians

Bolivian snakes show a quite typical species richness pattern for Bolivia. Especially areas with lower temperatures (Bolivian Highlands) and with extend frost periods like the Chaco Ecoregion and the Highlands show very low species richness. Surely in some areas of the Chaco this is also a result of missing collection efforts (see discussion). The highest values for species richness can be found at the Andean foothills in the La Paz Department, in great parts of the Beni Savannas, in parts of the Amazonian lowland forest in Pando Department and partially reaching down to the City of Santa Cruz. Comparing this with the Ecoregion map elaborated by FAN, preferences for humid lowland forest habitats, eventually mixed with not flooded savannah, become clear. The biggest share of the high species rich area is in the Beni Department in an area which shows a mixture of different types of habitats as savannas, forest spots, riverside forests and palm savannas.

3.6.2 Species richness Sauria

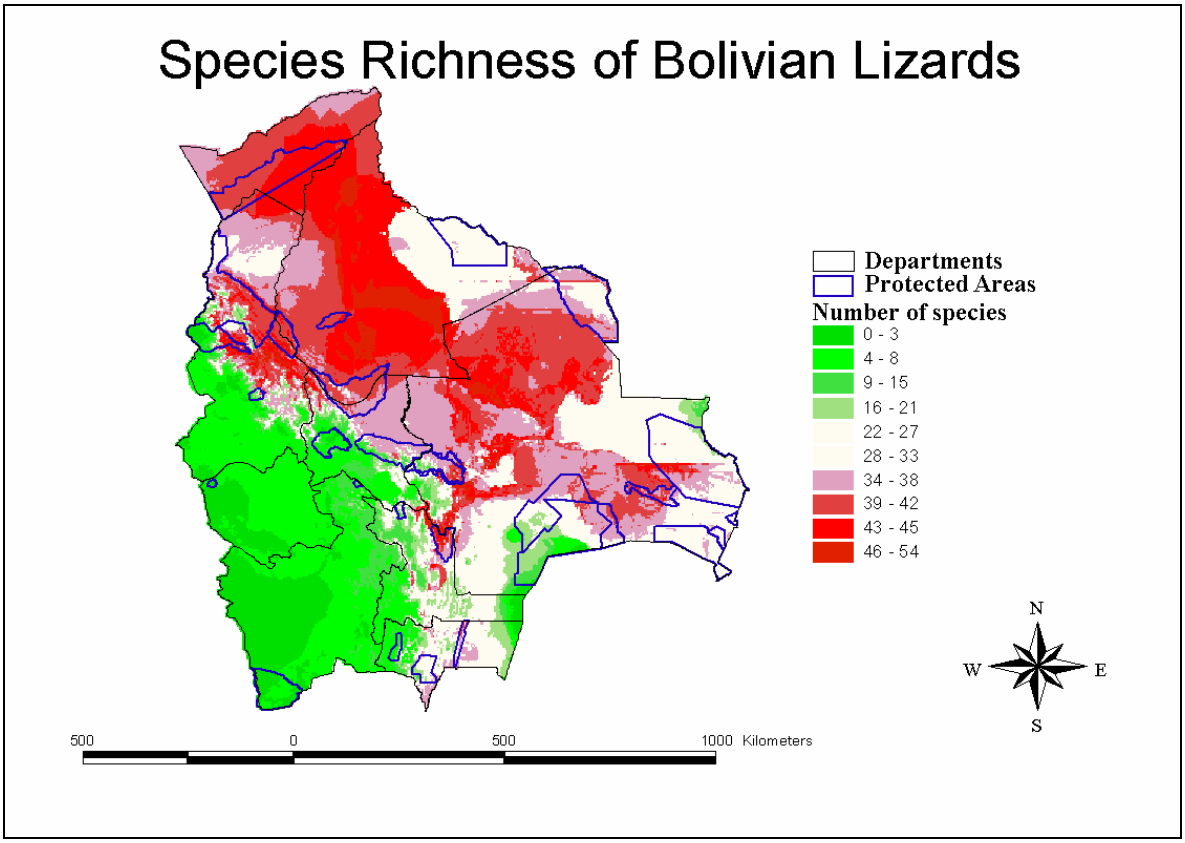

Figure 586: Species Richness of Bolivian Saurians

Being represented in Bolivian Highlands by a whole family, Liolaemidae, the lizards do not show that harsh pattern of low species richness in the Highlands. Nevertheless, the general pattern is quite similar to that of the snakes. Highest species richness (between 46 and 54 species) can be found in the Beni Savannas because of the same reasons explained for the snakes. The Andean foothills show relatively lower species richness but parts of the Chiquitania Ecoregion show relative higher richness compared to the snakes. The very low species rich area in the Chaco Ecoregion, at the Paraguayan border is surely a result of missing collections (see discussion).

3.6.3 Species richness Turtles

The turtles show their highest species richness (ten to twelve species) in three different areas. One area is the upper Madidi area, a humid Amazonian rainforest habitat which reaches into the Andean foothills and partially reaching into humid valleys. The second area is in the Pando region, also a humid rainforest habitat. The third and biggest area is in north-eastern Bolivia, on the border with Brazil. This area is a combination of savannas, flooded savannas and Amazonian rainforest. In the Bolivian highlands are no species present. The species richness for the Chaco on the Paraguayan border may be underestimated.

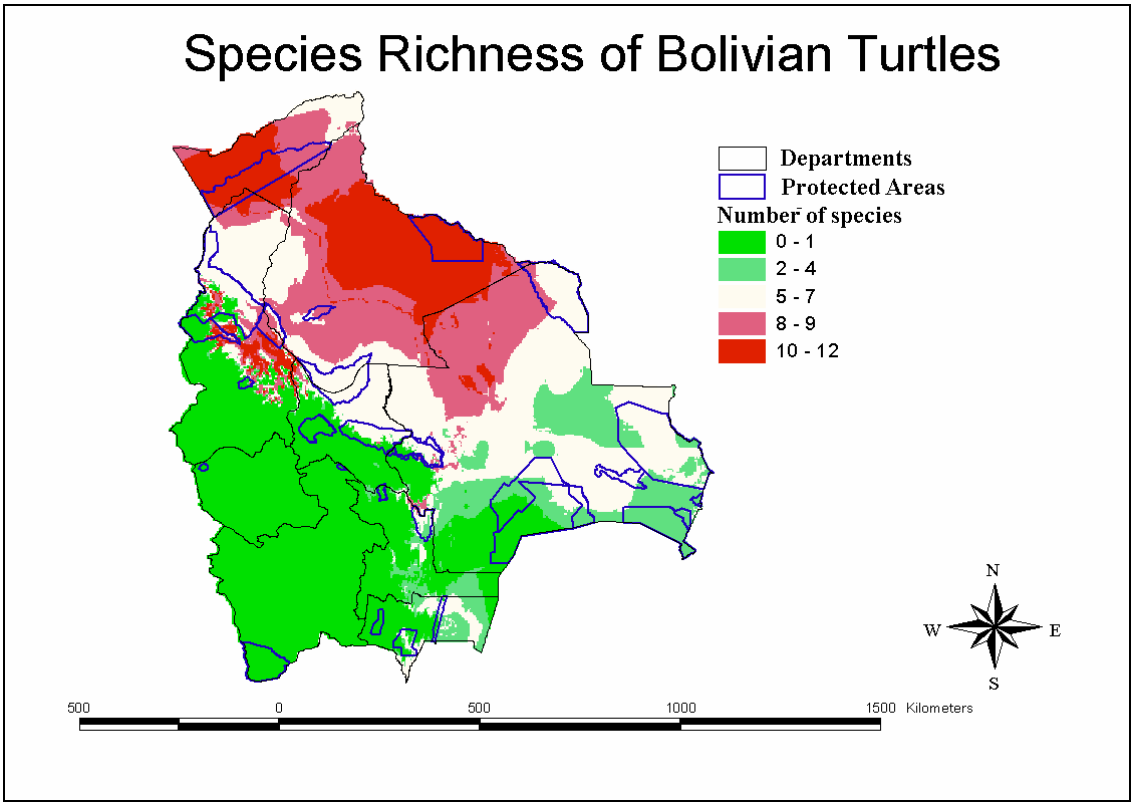

Figure 587: Species Richness of Bolivian Turtles

3.6.4 Species richness Caimans

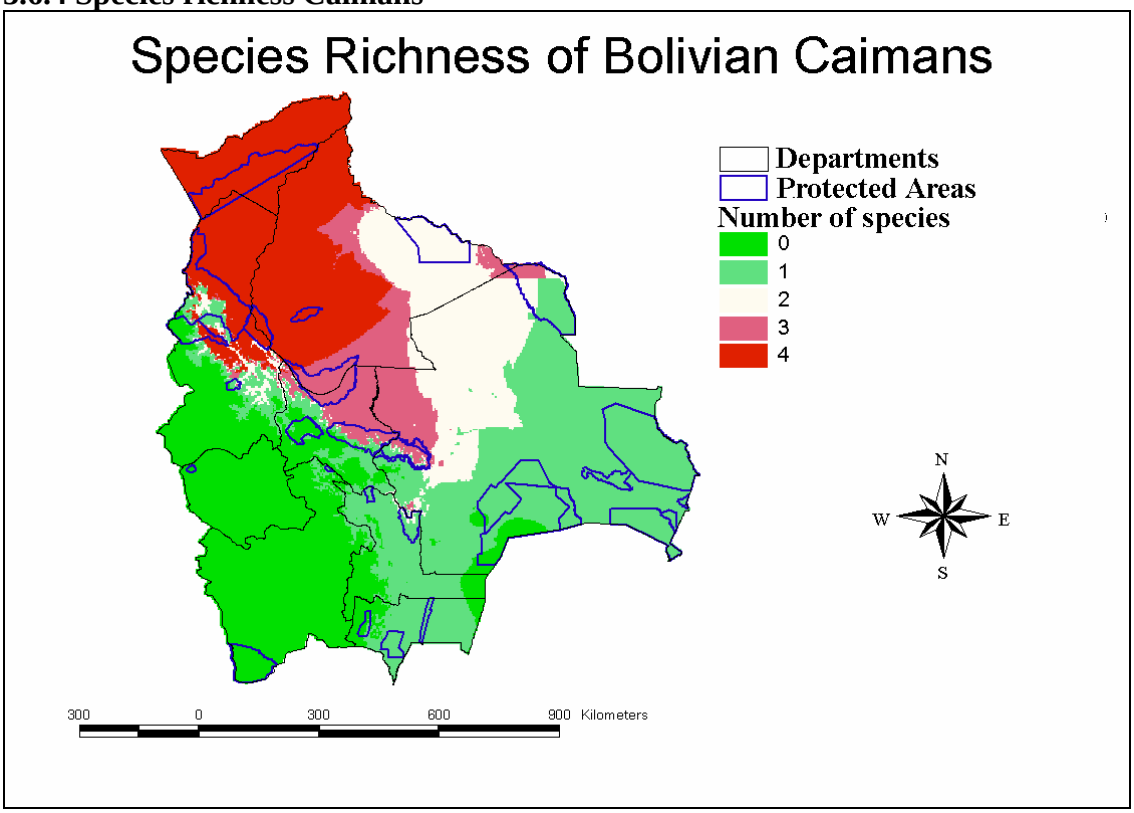

Figure 588: Species Richness of Bolivian Caimans

The species richness of Bolivian caimans is well defined by the presence or absence of the just in Amazonian humid forest present species of *Paleosuchus*. This causes highest diversity in northern Bolivia, mostly Amazonian rainforest habitat but also some savannah habitat. The Chaco hosts one species which has not been extrapolated because there were no data available. Including this species would rise the diversity in southern Bolivia from one (only *Caiman yacare*) to two species (with *Caiman latirostris*). Bolivian highlands, humid mountain forests and Interandean Dry Valleys do not host any Caiman species.

3.6.5 Species richness in Protected Areas, Ophidia

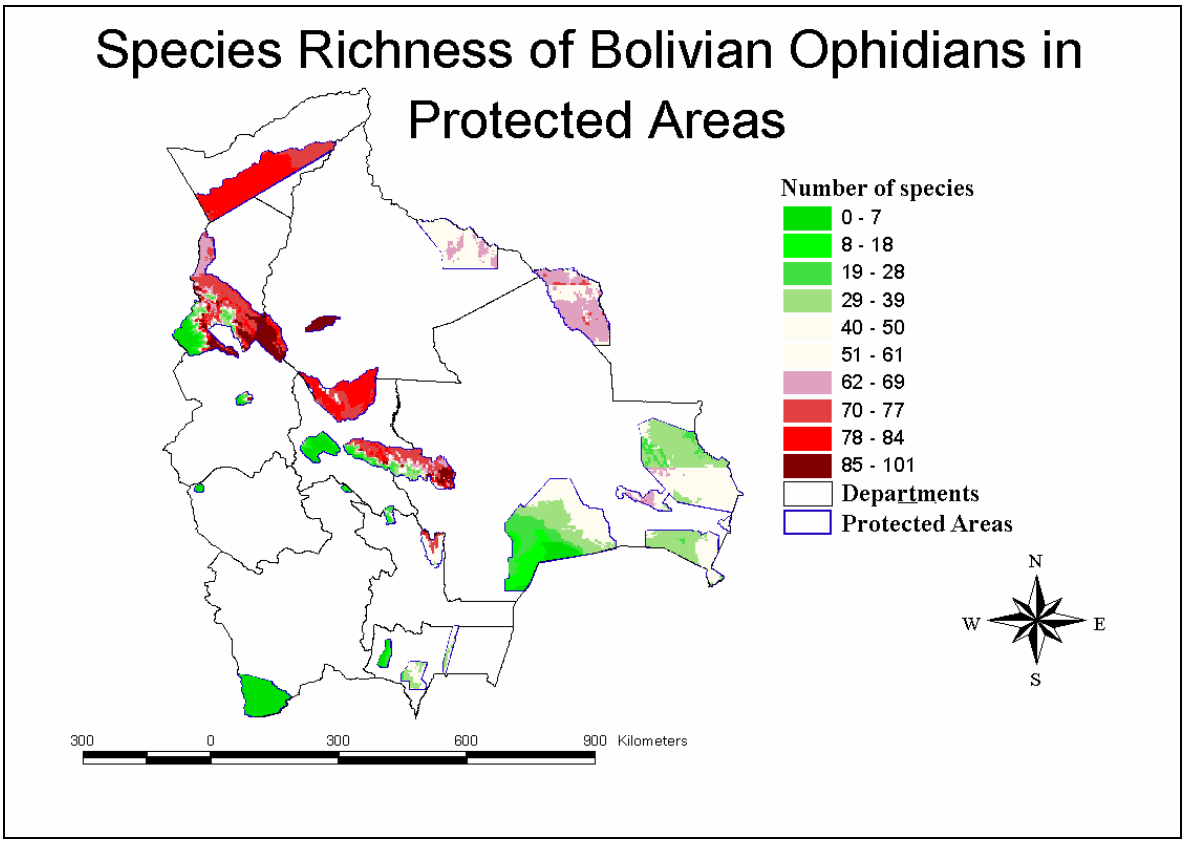

Figure 589: Species Richness of Bolivian Ophidians in Protected Areas

The ophidian species richest National parks in Bolivia are the Manuripi, Madidi, Isiboro Secure and the EBB. Also parts of the Amboró and Carrasco show high values. A still very good value shows the Noel Kempff National Park, the Itènez Reserve and a smaller reserve in the Chiquitania Ecoregion, called Tucavaca. Protected Areas in the Highlands naturally do not show high species richness for reptiles. The Corridor Amboró-Madidi shows here its great value for the protection of the Biodiversity.

3.6.6 Species richness Protected Areas, Sauria

The species richest areas within Protected Areas are much more disperse in lizards than in snakes. This is because several species prefer habitats as the slopes of hills which can be found as “serranias” in different places in the country. There are places with 40-53 species in the Protected Areas Iñao, Tucavaca, San Mathias, Amboró, Noel Kempff Mercado, Isiboro Sécure, Madidi, Apolobamba, EBB and Manuripi. Also in the lizards the lowest species richness are found in the protected areas placed in the Highlands.

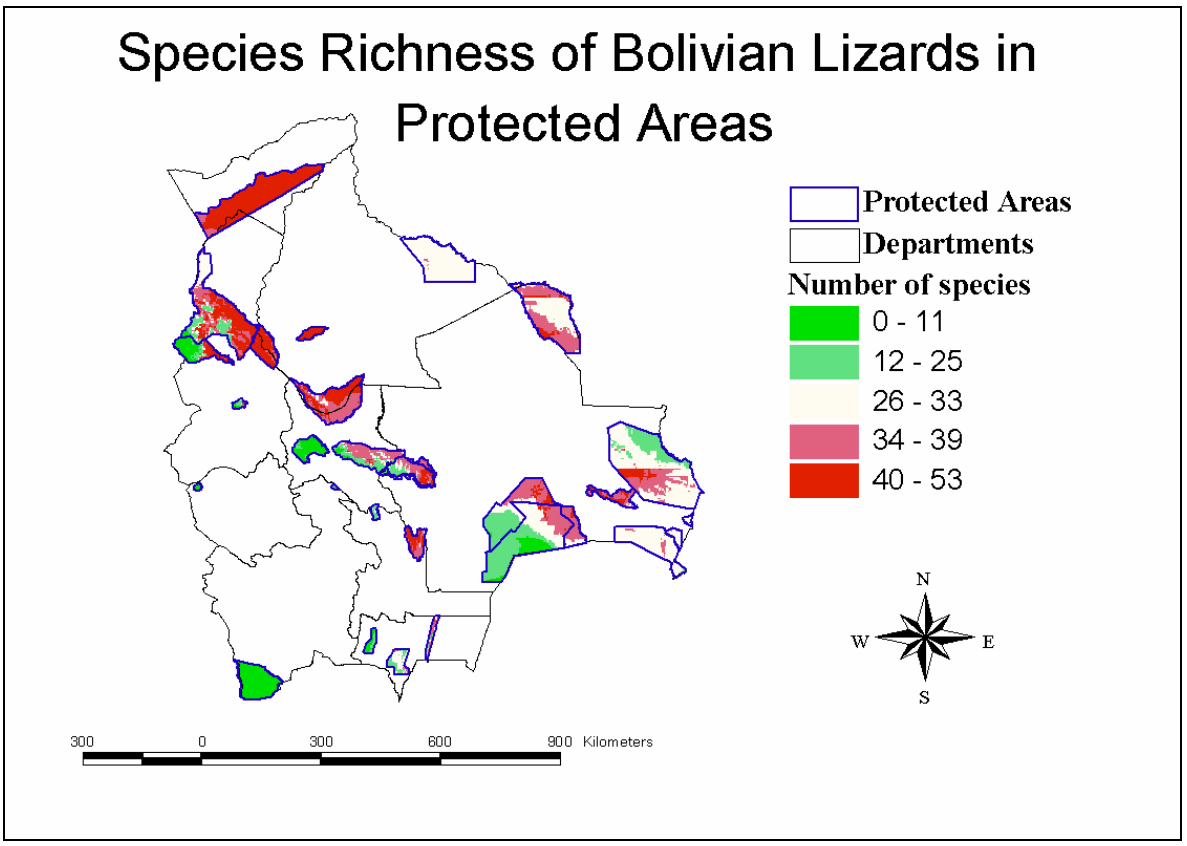

Figure 590: Species Richness of Bolivian Sauria in Protected Areas

3.6.7 Species richness Protected Areas, Turtles

Isiboro Sécure and Manuripi show highest turtle diversities with 9 to 11 species present. The protected Areas of the Andean Cordillera still show high values, especially parts of the Madidi. Also the “Estación Biologica del Beni” shows with 7 to 8 species still high species richness. The protected areas covering mainly Chaco, Chiquitania and Pantanal habitat show up to 6 species present. One area, the Tucavaca Reserve shows parts with higher species richness, underlining its great importance for this area. Protected areas in Highlands do not host turtle species.

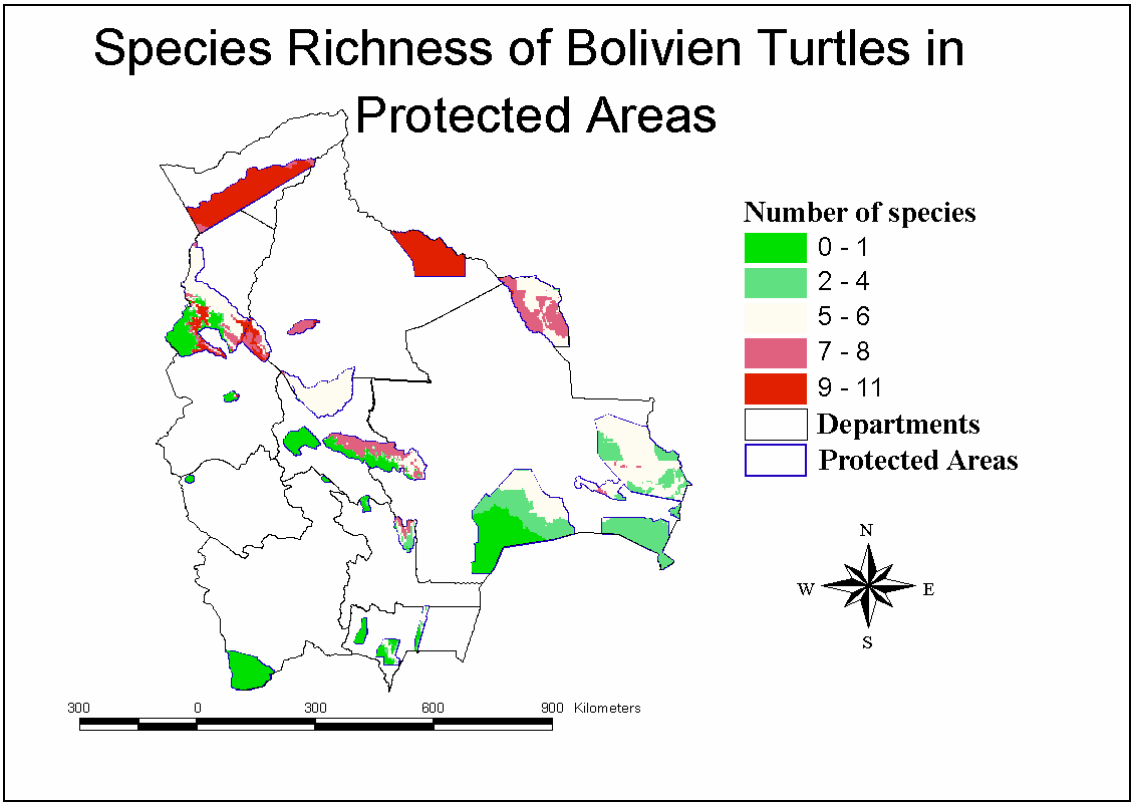

Figure 591: Species Richness of Bolivian Turtles in Protected Areas

3.6.8 Species richness Protected Areas, Caimans

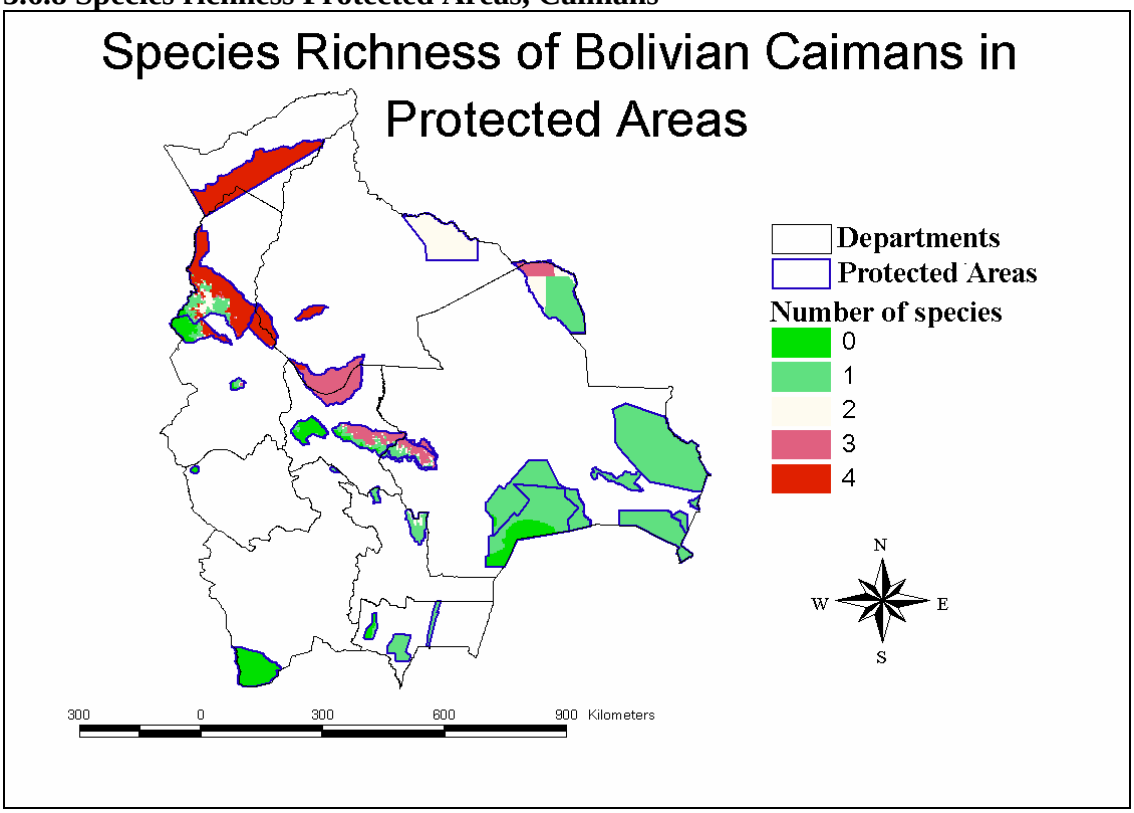

Figure 592: Species Richness of Bolivian Caimans in Protected Areas

Madidi, Apolobamba, EBB and Manuripi show highest Caiman diversities with 4 species present. The protected Areas of the Andean Cordillera, Carrasco and Amboró still show high values on their northern parts. Also the Noel Kempff Mercado still shows good values. As already explained above, the diversity in southern Bolivia, and herewith also in the protected areas located here, will rise once extrapolation of the range of *Caiman latirostris* will be included.

3.6.9 Endemism richness Ophidia

Figure 593 shows the "Endemism richness" in Bolivia. Endemism richness is a value that combines diversity with the degree of endemism, and illustrates the contribution of a specific location to the general diversity of the area studied. The highest results are given in red or brown and are located mostly along the Interandean Dry Valleys. South of the Amboró National park and west of the Carrasco National park may be the two most important endemism richness areas in Bolivia for snakes. Here are to be found several endemic species (*Clelia langeri*, *Echinanthera* sp nov., *Oxyrhopus* sp nov.) and some species which taxonomic status is still unclear (*Waglerophis* cf. *merremi*, *Tantilla* cf. *melanocephala*). The one resulting area near the Gran Chaco National park is result of one endemic colubrid snake (*Apostolepis breviceps*). Most of these "Endemism Centres" are placed outside of the protected area borders.

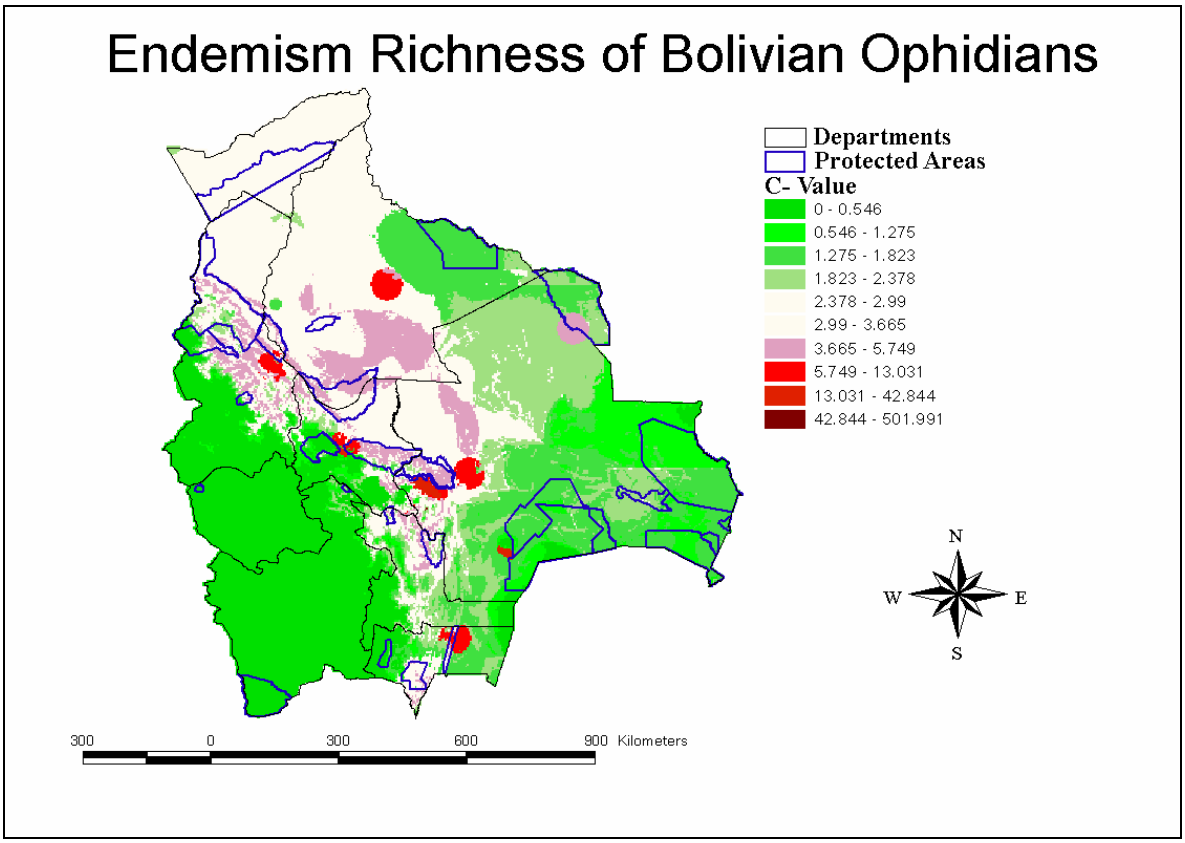

Figure 593: Endemism Richness of Bolivian Ophidians

3.6.10 Endemism richness Sauria

This map shows the “Endemism richness” for Sauria in Bolivia. The highest results can be found in very different habitats. The easternmost resulting area, in the Noel Kempff National park, is result of two endemic Tropidurus species (*Tropidurus callathelys* and *Tropidurus chromatops*). The one area north of Santa Cruz is caused by the restricted distribution of *Liolaemus cranwelli*, being an endemic species with unclear taxonomic status. The other areas are result of Liolamidae with very restricted habitat.

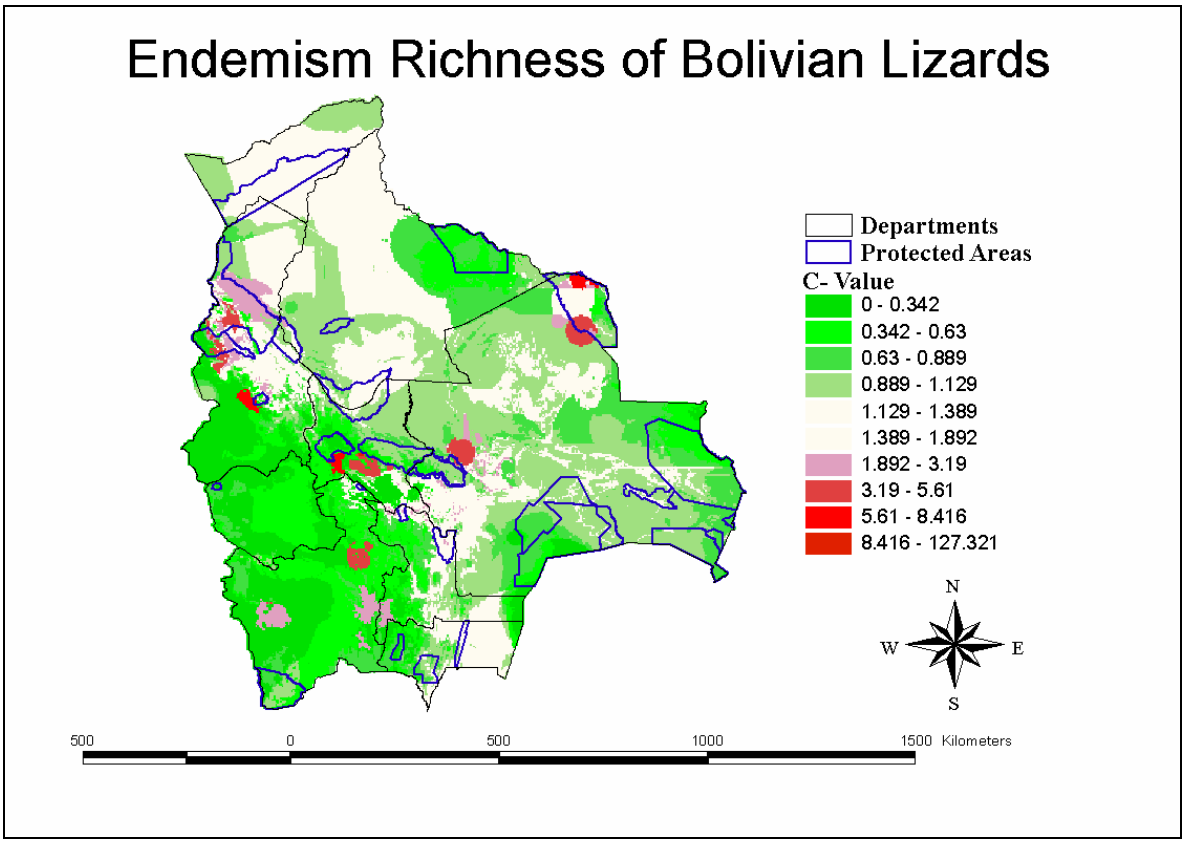

Figure 594: Endemism Richness of Bolivian Lizards

3.6.11 Endemism richness Turtles

Endemism richness does not a show a clear pattern although the presence of *Acanthochelys pallidipectoris* in the Chaco region raises the value in this area. Most bolivian turtles show wide distribution, reason for the results shown in **Figure 595.**

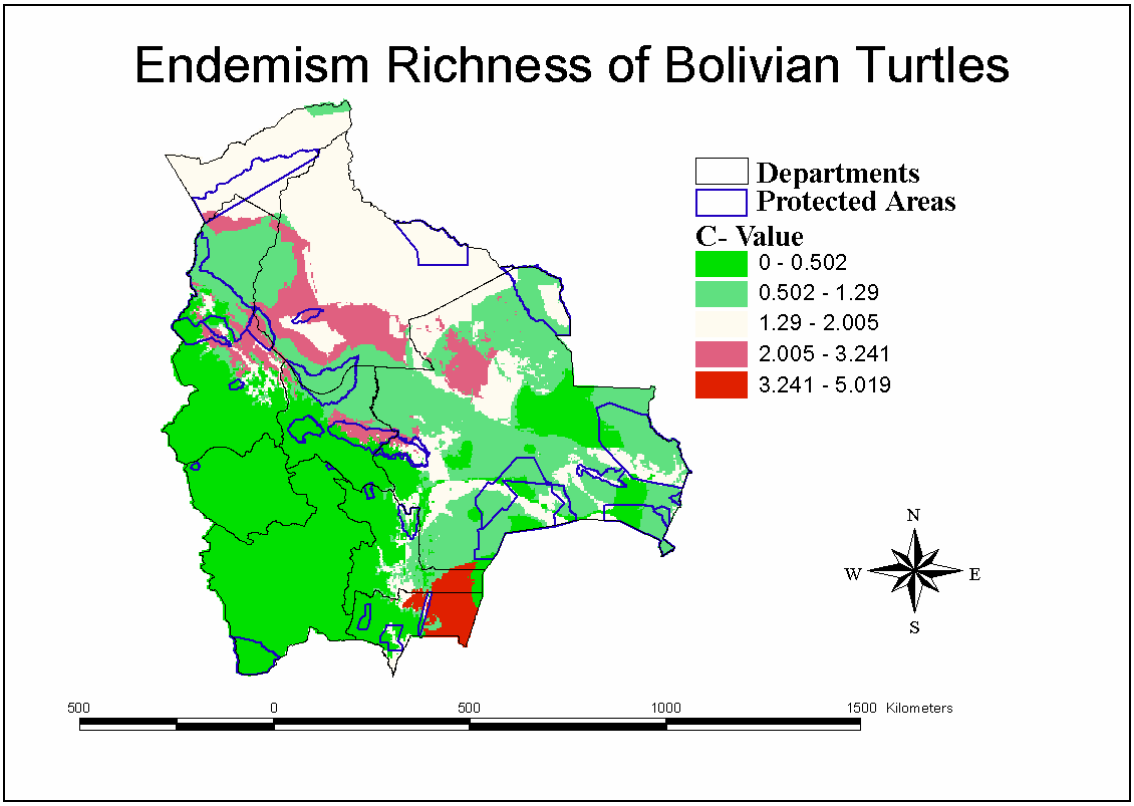

Figure 595: Endemism Richness of Bolivian Turtles

3.6.12 Endemism richness Ophidians in Protected Areas

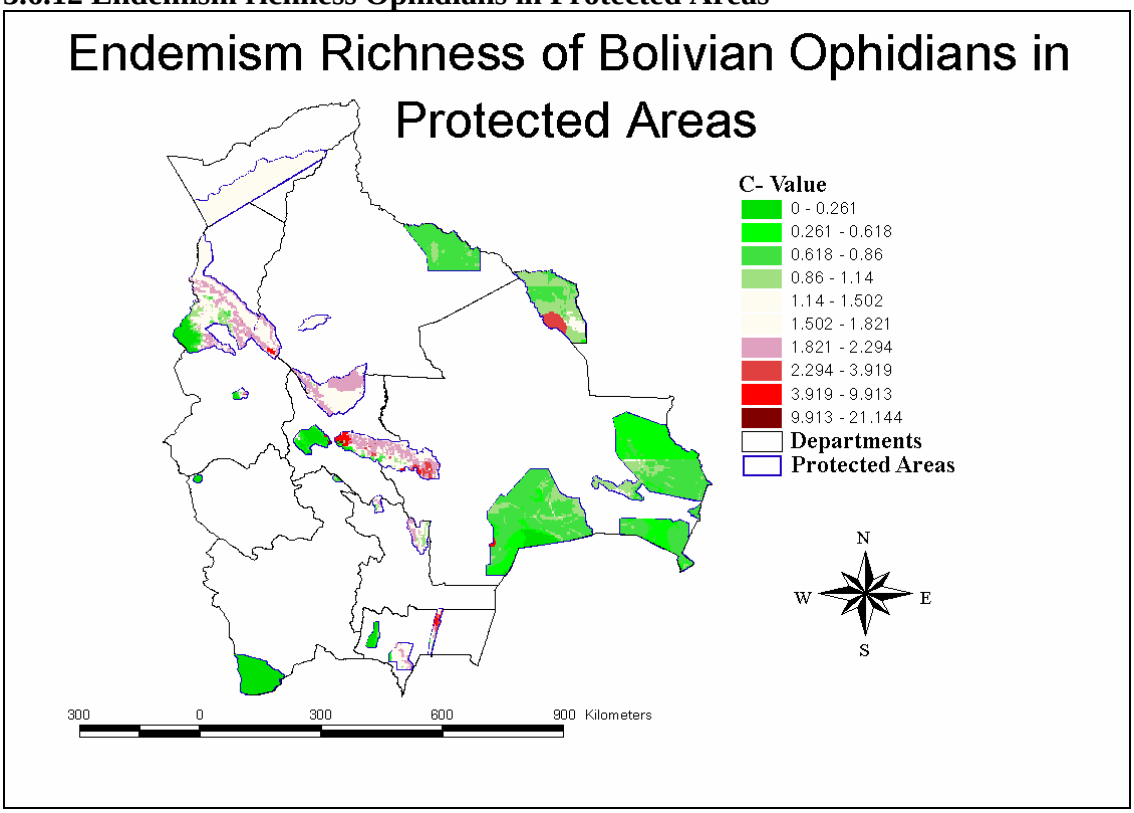

Figure 596: Endemism Richness of Bolivian Ophidians in Protected Areas

Endemism richness is highest in general in the protected Areas of the Andean Cordillera, reaching southwards including the Tucuman forests and protected areas situated within this Ecoregion. The Kaa-Iya National park shows a small spot with high endemism richness, based on the presence of one colubrid snake with very restricted distribution. The Noel Kempff National park shows also high endemism richness, here based on the presence of two lizard species with very restricted distributions.

3.6.13 Endemism richness Lizards in Protected Areas

Four protected Areas show elevated values in endemism richness. The highest values shows the Noel Kempff National Park and the Madidi- Pilon-Lajas- Apolobamba Park complex. As explained above, the high value for the Noel Kempff Mercado National Parks is a result of two endemic lizard species for this region. In the Madidi- Pilon-Lajas- Apolobamba Parks the situation is more complex as it is a combination of several species with limited distributions.

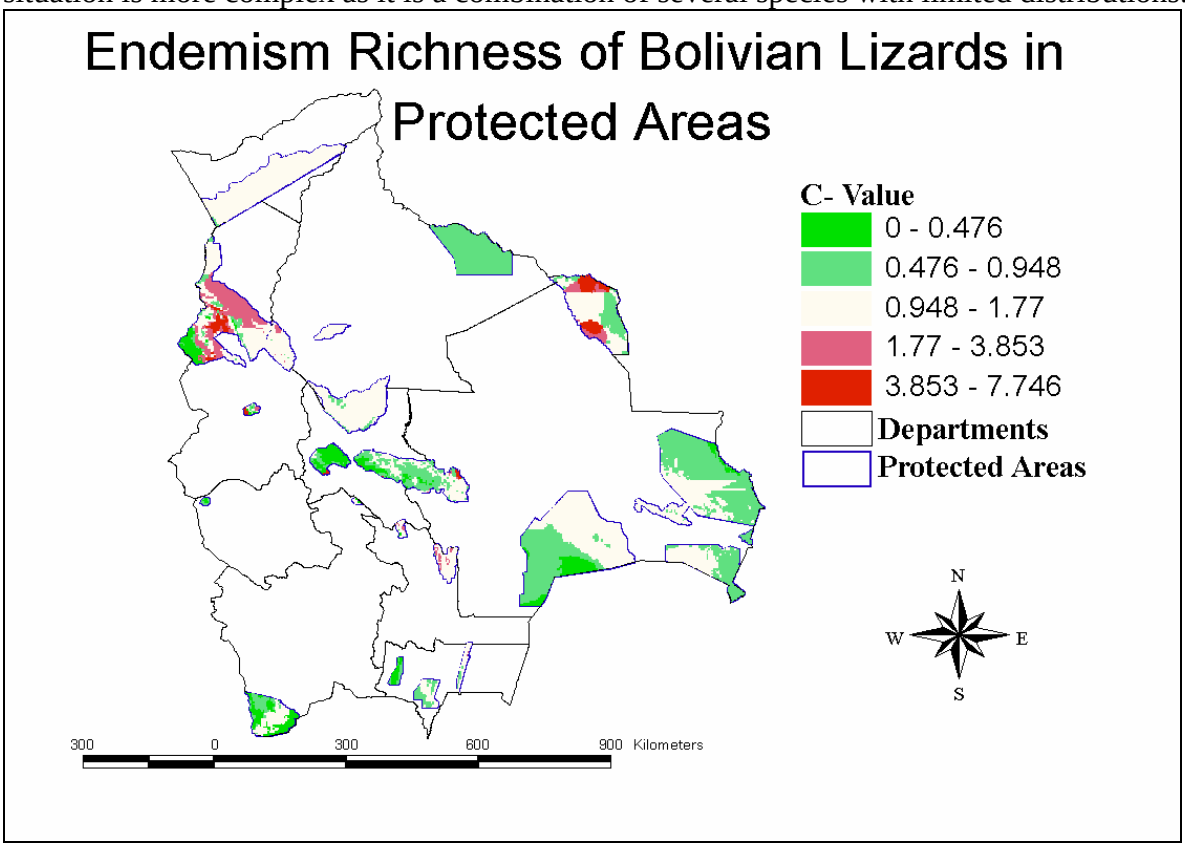

Figure 597: Endemism Richness of Bolivian Lizards in Protected Areas

3.6.14 Endemism richness Turtles in Protected Areas

The results shown in this map are relative results, as in all others shown. An high value does not represent a high endemism value in comparison to other taxa or other areas outside of protected areas. It shows that within protected areas, Pilón Lajas, Amboró, Carrasco, parts of Manuripi and Aguarague show the highest values for endemism richness**.**

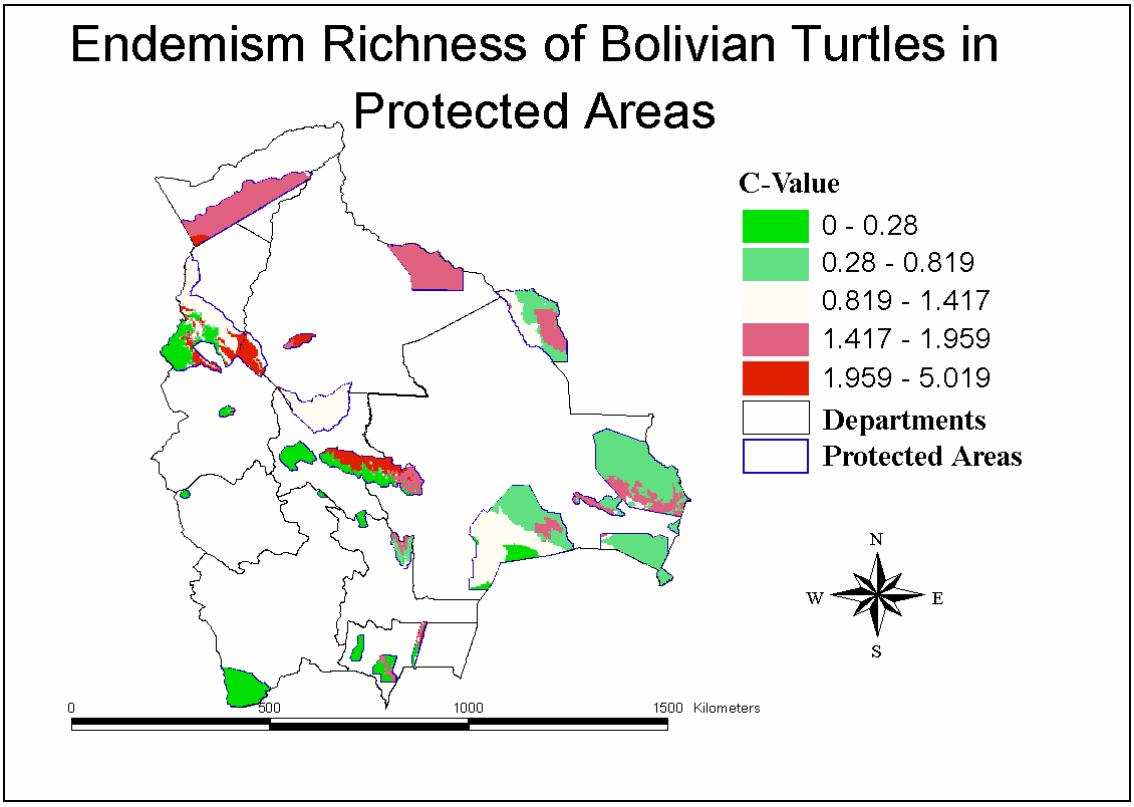

Figure 598: Endemism Richness of Bolivian Turtles in Protected Areas

3.6.15 Species richness of Bolivian Reptiles

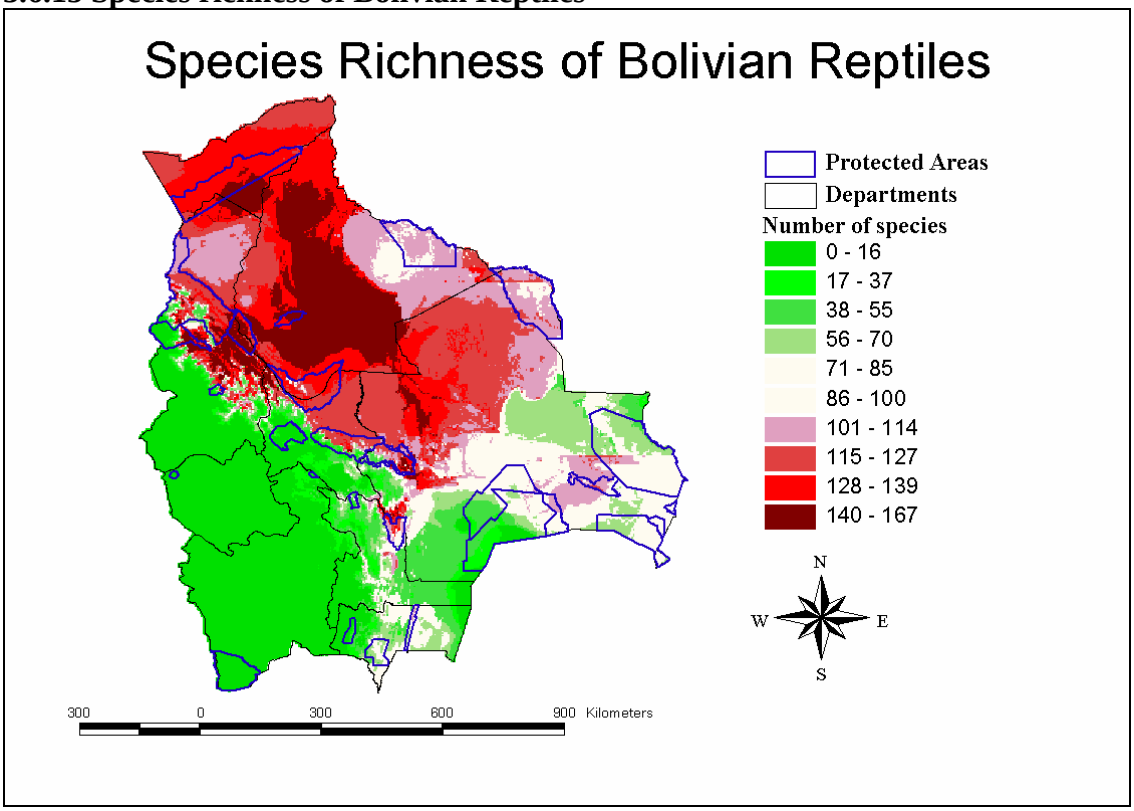

Figure 599: Species Richness of Bolivian Reptiles

Figure 599 shows the combined species richness of Bolivian reptiles. The Central Beni savannas resulted to be the potentially most species rich areas. Following Gonzalo Navarrow (pers. Comment) this is a typical pattern also for the richness of ecosistems in this area, where you can find very diverse systems in a very restricted area. As animal species distribution normally is directly related with such “plant ecosistems” the diversity in this area can be seen as a logical consequence. Many reptile species are forest, others are open vegetation specialistst. The Beni savannas show a pattern with open formation with forest spots, providing habitat for a variety of reptile species. Another highly species rich area is the Amazonian Rainforest in the Madidi Area north of the City of La Paz. This area is a lowland Amazonian rainforest. The species richest areas reach within the humid Interandean Valley, typical of this area. One highly diverse area can be found in the north of Bolivia at the triangle of the Departments of La Paz, Beni and Pando. This area is Amazonian Rainforest. Naturally the very cold and dry Andean Highlands do not host many reptile species. Although the Chaco Area shows a low diversity, and it is believed to be much lower than the northern parts, the species richness may be underestimated here (see discussion). The protected Area in the Chiquitania region, Tucavaca, shows still a quite high species richness, a result which has been obtained by several studies (fide Reichle 2007).

3.6.16 Species richness of Bolivian Reptiles in Protected Areas

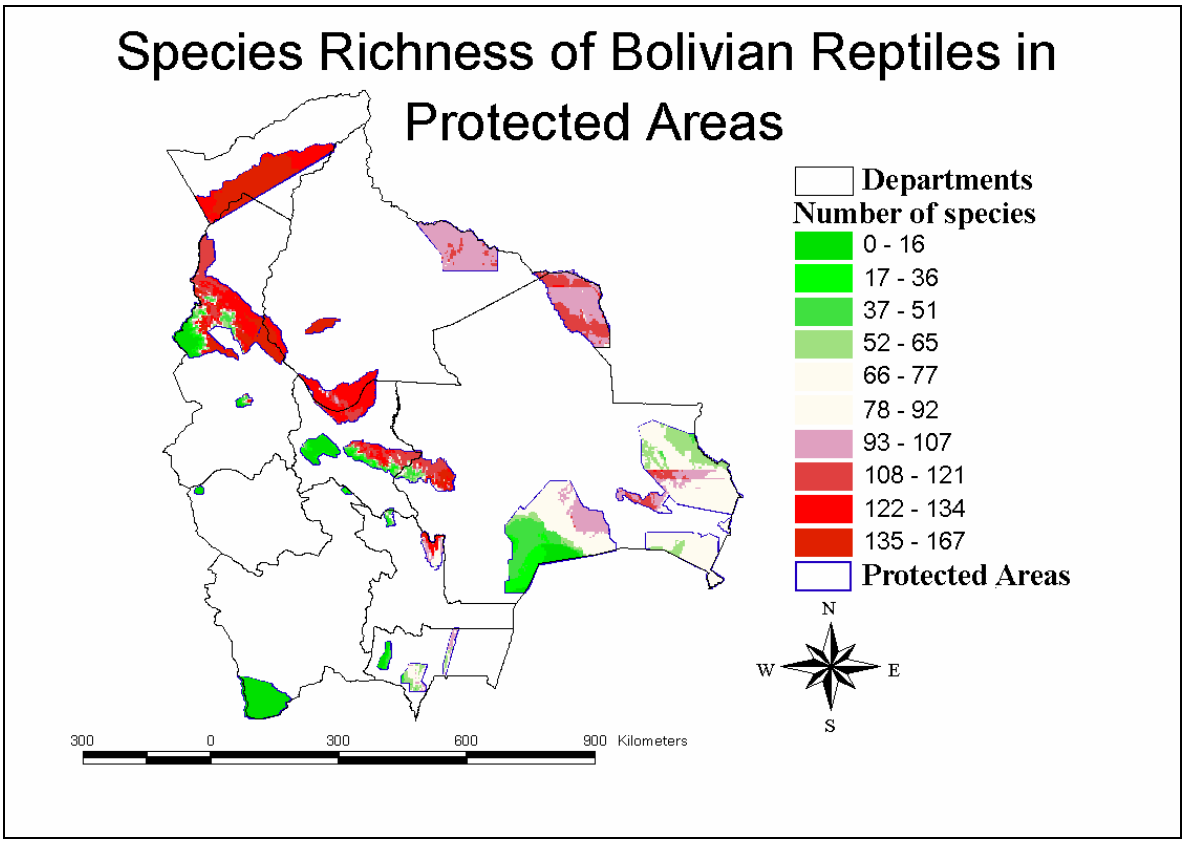

Figure 600: Species Richness of Bolivian Reptiles in Protected Areas

The map shows a typical pattern with the Protected Areas of the Andean cordillera, the Protected Area in the Beni Savannas and the Protected Area in Amazonian lowland forest being the species

richest. The Tucava Protected Area in the Chiquitania Ecoregion and the Noel Kempff Mercado National Park still show high values for its species richness.

3.6.17 Areas with highest reptile endemism richness

Figure 601 shows the combined endemism richness for turtles, caimans, ophidians and lizards. It shows mostly a very typical pattern with endemism "Hotspots" along the andean cordillere, including mainly Yungas and Interandean Dry Valley habitat. These habitats are known from several other groups as being strongly endemism rich (see Reichle (2007) for amphibians or Naraujo et al. (in press) for orchids). North of the city Santa Cruz high endemism values can be seen. This is based on taxonomic problems (see discussion). Interesting is that endemism "Hotspots" reach southwards along the Tucuman Forest downwards to the Aguarague Nationalpark, an area with strong frost periods. The area between the Carrasco and Tunari National parks host several endemism, most of them threatened.

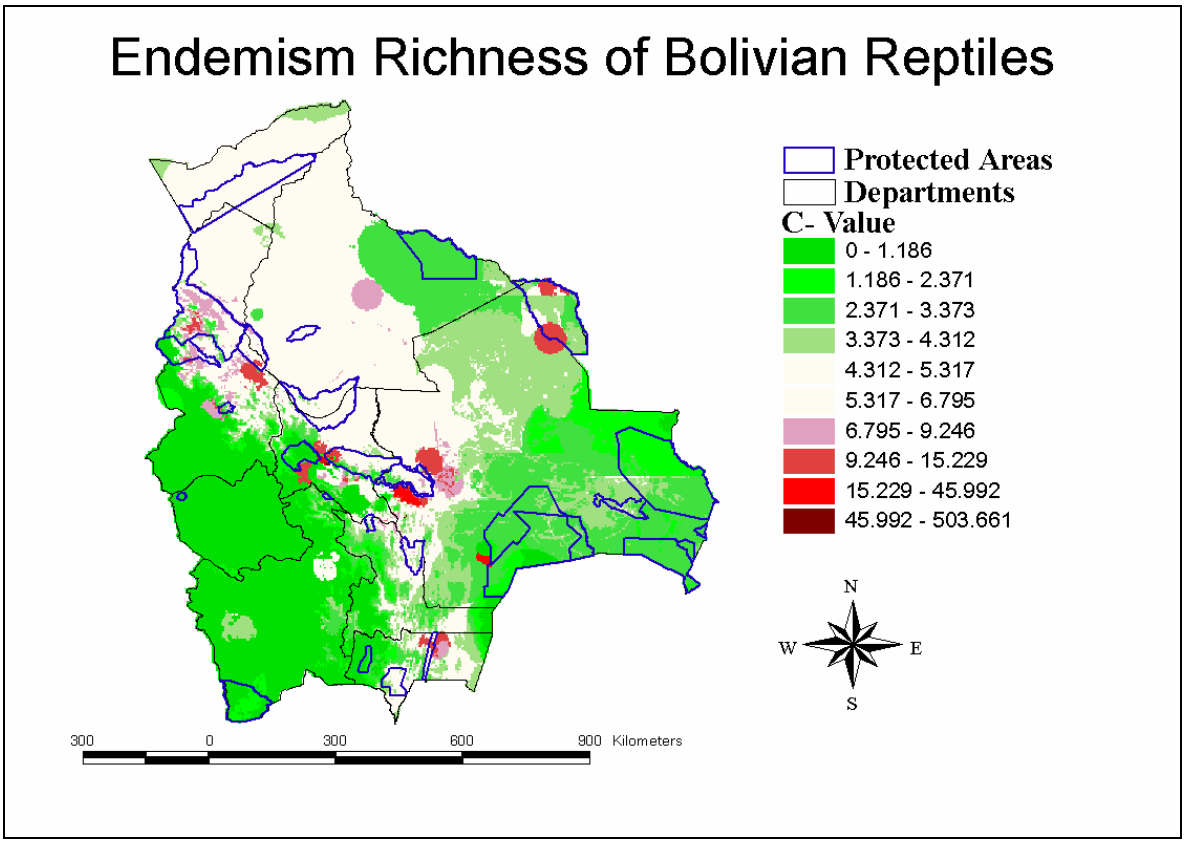

Figure 601: Endemism Richness of Bolivian Reptiles

3.6.18 Protected Areas with highest reptile endemism richness

Six National parks show quite high values in endemism richness. Highest values show the Madidi Nationalpark, Pilon Lajas, Apolobamba, Carrasco, Aguarague and Noel Kempff. Also the Amboró Nationalpark shows some endemism rich areas. There is a new, probably endemic, colubrid species known from this area.

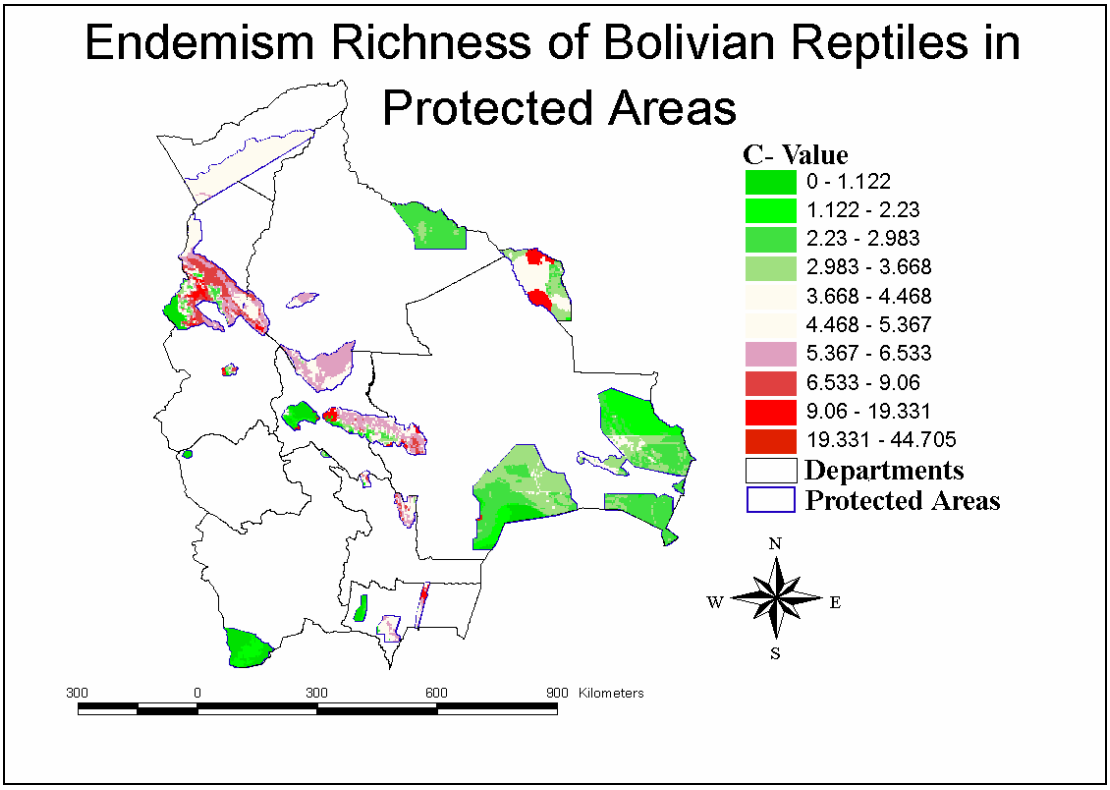

Figure 602: Endemism Richness of Bolivian Reptiles in Protected Areas

3.6.19 Distribution and Species Richness of Threatened species of Ophidia in Bolivia

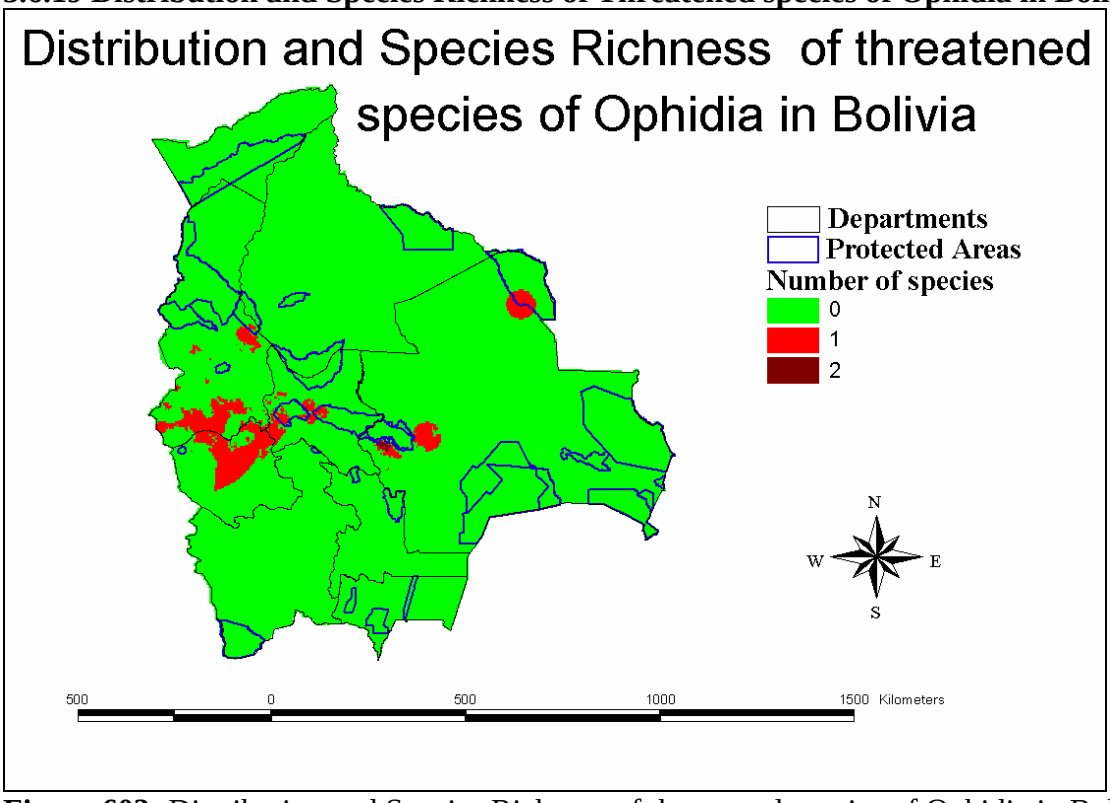

Figure 603: Distribution and Species Richness of threatened species of Ophidia in Bolivia

Figure 603 shows distribution and "species richness" of ophidian species which have been evaluated at least as "Vulnerable" in this study. There is just one spot with two threatened species occurring sympatric, south of the Amboro Nationalpark, in the Interandean Valleys. One species is a small colubrid snake, *Apostolepis multicincta*, the other is a probable new species of *Tantilla*, endemic for this area. The area around the city of Santa Cruz may be result of taxonomic problems (see discussion).

3.6.20 Distribution and Species Richness of Threatened species of Sauria in Bolivia

This map shows distribution and "species richness" of saurian species which have been evaluated at least as "Vulnerable" in this study. Two separated areas show 2 threatened species occurring sympatric, one area even shows the presence of three species. This area, south of the Carrasco National park is one of the areas within the Interandean Dry Valley system which underlies very strong anthropogenic impacts, resulting in a severe threat for species living there. The area north of Santa Cruz again may be caused by taxonomic problems.

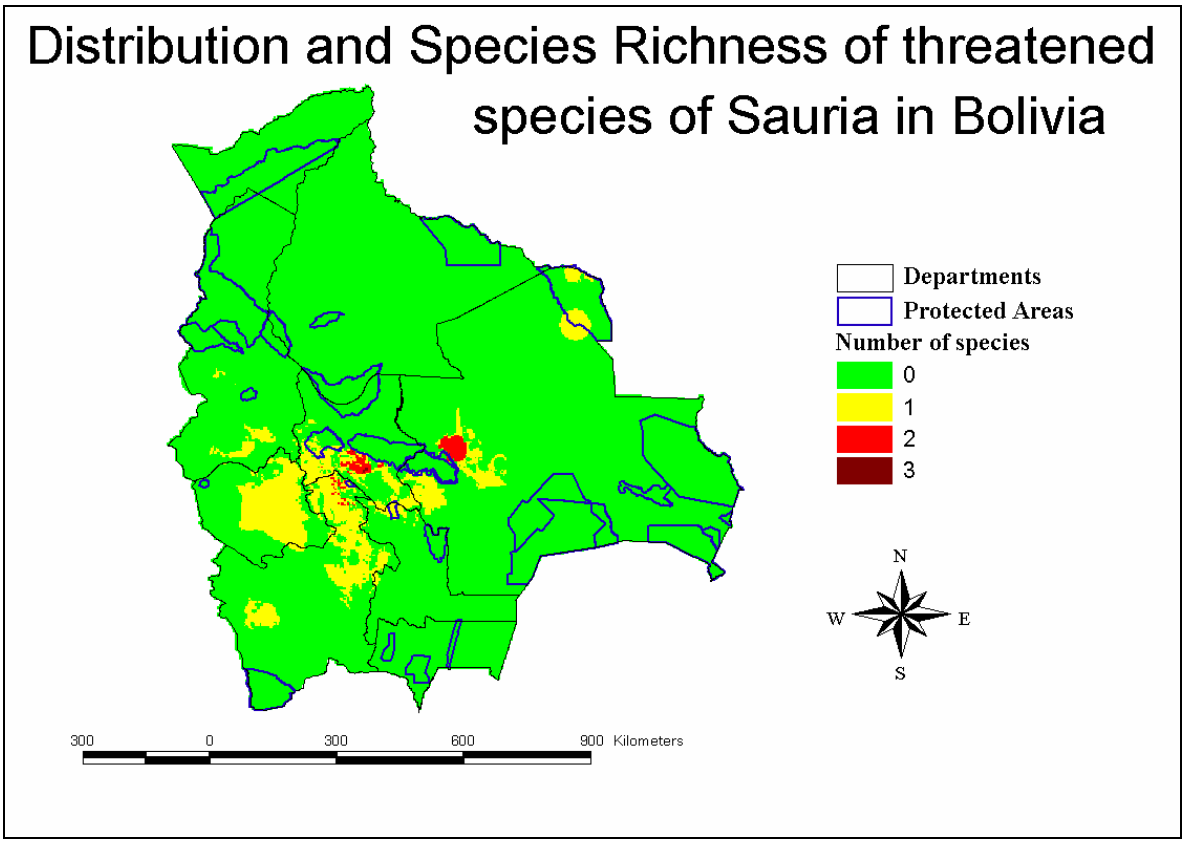

Figure 604: Distribution and Species Richness of threatened species of Sauria in Bolivia

3.6.21 Distribution and Species Richness of threatened species of Reptiles in Bolivia

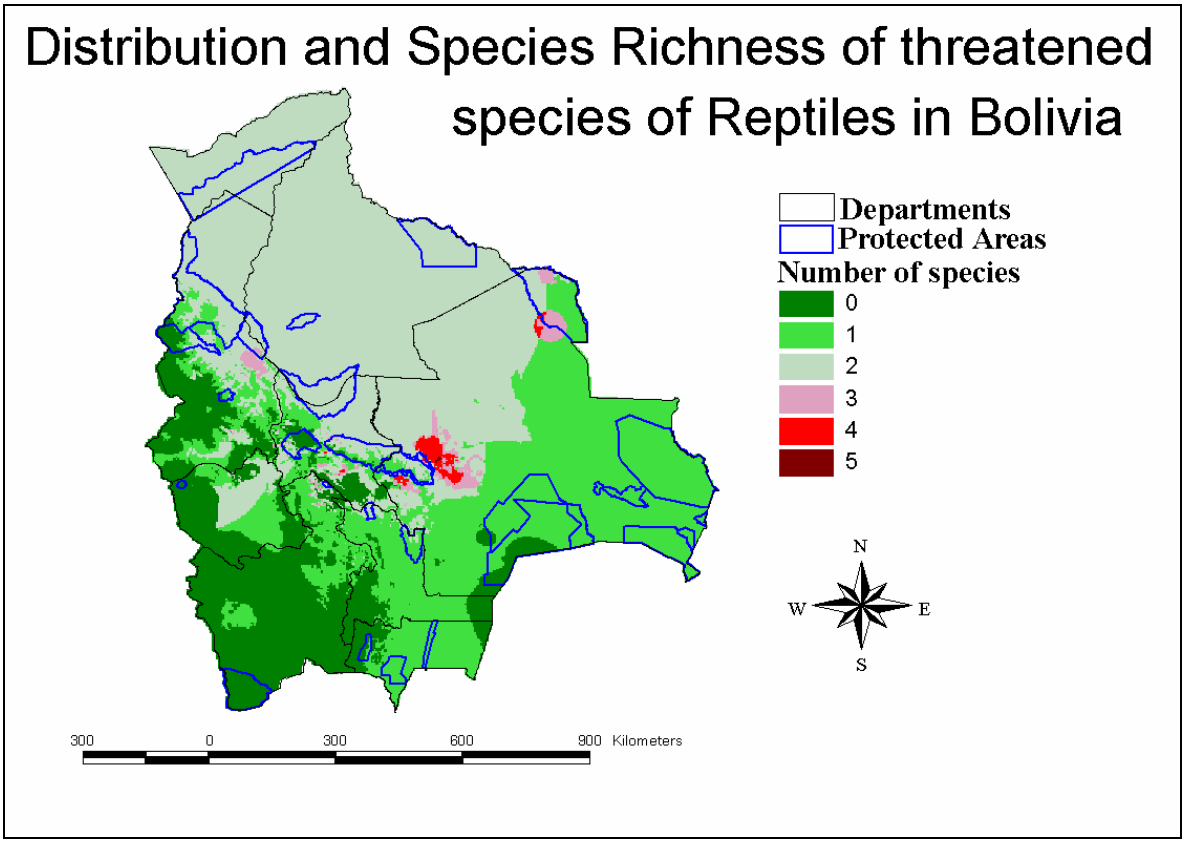

Figure 605: Distribution and Species Richness of threatened species of Reptiles in Bolivia

Combining the results of distribution of all reptiles evaluated in the present study as threatened, one major area becomes apparent. The biggest area with 4 or even 5 threatened species occurring sympatric is in and around the city of Santa Cruz. Many of these species have been described over 100 years ago and have never been found again. Since their first description most habitat in this area has been lost. Additionally some holotypes have been lost, causing taxonomic problems as the validity of theses species cannot be verified. A second area with up to 4 threatened species occurring sympatric can be found south of the Amboró National park, in the inter Andean Dry Valleys. This area underlies very strong habitat alteration and at the same time hosts a variety of endemic species. Northwest from here can be found the Interandean Dry Valleys around Cochabamba, also an area with strong human impacts and high endemism richness. Two areas, one with up to 4 threatened species, can be found in eastern Bolivia, partially being within the borders of the Noel Kempff Mercado National Park. A last area with a relative high value lies within and south of the Pilón Lajas Reserve.

3.6.22 Conservation Priority Areas

One of the area with highest species richness and endemism in ophidians and additionally lacking protected area coverage is the inter Andean dry valley south of the Amboró National Park. This area is known for endemism also in other groups of animals and plants. The conservation status of this area is very bad, especially of the dry forest habitat at the foothills. Population density is high and land change is very fast. Main threats are agriculture because of very fertile soils. This habitat does not count on protected areas. A actually undergoing study by FAN (PMOT Pampagrande) will propose some areas of this region to be protected. Another important area is northeast of La Paz. All this area combines high species richness with endemism richness. All area that combines the two values lies outside of the park borders. These species rich areas represent an inter Andean valley system, but more humid than the one mentioned south of Amboró National park.

Discussion

4. Discussión

4.1 Why use a new methodology in addition to the IUCN methodology?

The elaboration of a new methodology surely is time intensive. It is often based on trial and error and can be very subjective if elaborated by just one individual. Nevertheless, since the beginning of this work, it was clear that a new methodology will be elaborated, used, and the results compared with the results using the IUCN methodology. The Reasons for this have been information, which by the author were considered essential but are not included in the IUCN methodology. Some differences in the methodologies are certainly based on the fact that the IUCN methodology main goal is at a global level, evaluating the conservation status of a species worldwide. In contrast, the present methodology was created for a national level, in this case Bolivia. Bolivia shows some character in its taxonomic work history, which makes it necessary to extrapolate the distribution of many reptile species due to the lack of data. For this extrapolation a model (BIOM) was used that was specifically elaborated for the extrapolation of distribution ranges in Bolivia (Sommer et al. 2003). The extrapolation results may be similar to the EOO used by the IUCN, but in general should be more exact concerning suitable habitats. It can result in narrower or wider habitats than an EOO. This depends on the distribution of the collection points and demonstrating the limits of working with EOO. Another very important factor to the author's opinion is the occurrence in protected areas. As such only National Protected Areas were considered because many departmental, municipal, or private protected areas do not grant any protection due to lack of park rangers and other protective measures. 13% of Bolivian territory is under national park protection and this huge amount of protected land can be a very important factor for the protection of a species, especially by maintaining its natural habitat.
Conservation concerns have long focused not only on the availability of a habitat but also on the structural integrity of that habitat. One index of structural integrity is habitat contiguity, which can be measured in terms of the relative isolation of forest patches or the amount of interior forest cover (Wade et al. 2003). Linking theory and data for this approach is not easy. In addition, translating fragmentation effects into terms that can be understood and used in management has been most difficult (Villard 2002). The trouble is that the ecological complexity at all scales tends to obscure research results, with patterns that are more often than not equivocal, especially when results from several studies are compared (Debinski and Holt 2000, McGarigal and Cushman 2002). Nevertheless, as the inverse of landscape fragmentation, landscape connectivity is considered as a vital element of landscape structure (Taylor et al. 1993). For, it is so critical to the population survival (Fahrig and Merriam 1985, Fahrig and Paloheimo 1988) and meta-population dynamics (Levins 1970) that the fragmentation of habitats is considered as a factor, which cannot be ignored for the evaluation of the conservation status of reptiles. A fragmentation on global scale, fragmentation may not be of as important because "global populations" may be numerous enough to survive even when totally separated from the others. Yet on a national level, a strong habitat fragmentation can have a significant negative impact on the "national conservation status" of a species. Several species have been included in the present work that have been placed in a higher category because of its habitat being severely fragmented. Using the EOO the quality of habitat is not considered in any way for the result of the distribution. The new methodology uses

a habitat conservation status map elaborated by FAN (2006), which is overlapped by the extrapolated distribution map of each species. Considering the sensibility for habitat alteration for each species the resulting distribution is then reduced to the only suitable habitat (concerning its status of conservation of habitat) for this species. The last and also in the authors opinion, a very important factor is the taxonomic status of a species. If there are taxonomic problems existing, it often results in the separation of the species (if it is species complex). Consequently this leaves the separated fractions of the species with a smaller habitat size, which can influence dramatically the status of conservation of that species. In this case the outcome is automatically raised to the status of "Near Threatened", if the category is presently was not already higher due to other reasons. A positive side effect of the new methodology is surely the possibility to crosscheck both methodologies (the present one and the IUCN methodology), find possible errors, and get new ideas.

4.2 Discussion and Problems of the methodology

4.2.1 What are important factors to identify the Conservation status?

The factors, used to evaluate the conservation status of reptiles in this work, were chosen following some standards of the IUCN methodology and by experience working with this group. In addition, some additional factors were considered as important and others, used by the IUCN that were impossible to use (because of lack of data), were left out. The factors used are:

Taxonomic Status

The taxonomic status of a species was given as "OK" or as "Taxonomic Status uncertain". Taxonomic Status uncertain was given when there were reasonable doubts that the populations investigated belong as a whole to the same species; in other words, if it was a complex species. The other reason is that taxonomic data of Bolivian populations simply did not match with the original description or populations from other countries. Both cases would result normally in splitting the species, and logically, its distribution. This would have a direct effect on the evaluation of the status of conservation as this uses the distribution value as one important factor. This is why this factor was included in the evaluation and species not threatened, which showed taxonomic problems, have been raised to the category "Near Threatened".

Sensibility

The first factor I used is the sensibility of a species for habitat alterations. This is also the most difficult and subjective to evaluate. The guideline for this evaluation was in general the preferred habitat and its alimentation. An exclusive forest specialist was considered as very sensible, as habitat alterations normally destroys natural forest habitats (e.g. wood extraction or complete deforestation). In this case commonly the label "sensible" was used. In addition, this label was given to all species for who it was not possible to identify the sensibility. This seems to be quite vague but it was the better alternative instead of not evaluating the species. Tolerant species were considered the species, which can normally survive in an altered habitat or when they have slight advantages. Examples are *Crotalus durissus* hunting rodents in plantations, who are attracted by the corn, or the *Ameiva ameiva*, who hunts insects and small rodents that attracted by human activity near human settlements. Also, many lizards use paved roads for heating their body temperature. A few interesting examples of more sensible forest specialist species have been observed by the author. There the effect of exposure to the sun was deadly to two snakes. *Micrurus obscurus* died within just a few minutes exposed to the sun for photo taking and

Dendrophidion dendrophis has been observed dying of overheat crossing a paved road on a very hot and sunny day. The last category is "Advantage". Only *Hemidactylus mabouia* is entered in this category, as this species is only to be found in and near human settlements. All other species may be tolerant but surely would prefer natural habitats.

Distribution

As the distributions of the species were extrapolated, the results may cause a wide span of discussion. Is the extrapolation of distribution valid? The lack of distribution data additional to lack of data about typical habitats made the extrapolation an indispensable tool to be able to predict a species' distribution. Of course more elaborate collections and studies will provide better data, which surely will result in a better understanding about the distribution of species. With more data even the modeled distributions probably will become more exact. But in a time with very fast habitat and species loss, an evaluation had to be done now with the best data available. The results are the extrapolated maps of distribution. Some errors occurring in the elaboration of the maps were already mentioned in the methodology section and had no effect on the conservations status of the species. Reichle (2007) compared the model BIOM with other distribution models and found that "(…) the results obtained by BIOM seem to reflect the possible distributions of most species very well."

Map Problems:

Inaccurate climate data

Climate data (especially precipitation) is not accurate enough or is unavailable for some regions. This is especially true in the drier parts of eastern Bolivia, such as areas south of the Noel Kempff National Park, and in the area around Puerto Almacen. This results in effects described later.

Broad ecological niche

If a species presents a broad ecological range it becomes difficult to model. Yet, it should be taken into account that many of these species may represent species complexes or comprising taxa with ecological needs narrower than those of a species complex.

Disjunctive area of distribution

Disjunctive distribution is result of similar habitats separated by a habitat not inhabited by this species. Shown disjunctive areas in border areas are not necessarily disjunctive as they can be connected throughout neighboring countries. Results of extrapolation, showing disjunctive distribution, can show the real distribution or can be an extrapolation artifact. Some maps showed extremely disjunctive habitats, which are considered by the author as an extrapolation error. This is explained directly in the species account section. In none of the cases it had influence on the conservation status.

Unnatural appearing curved distribution limits

Unnatural appearing curved distribution limits are a result of little data and the distribution of the species limited by a range factor (historical range), which cuts the distribution in a defined distance from the next point of collection. This method, independent from its distribution logic, avoided the extrapolation of a species in all suitable habitats within the country. Without this factor a species could have been collected in Amborò National park and the model would extrapolate it into all suitable habitats in the Andean corridor, up to Colombia.

Straight line in the Chiquitania region
In some maps a straight horizontal line appears in the Chiquitania region. This is an error based on scarce climate data in this area. Two weather stations, south and north of this line, showed very different climate data. As this data is part of the calculation of the distribution it takes influence on the shown results; although it did not influence the conservation status in the observed cases.

Hole in the distribution Area
In some cases a round hole can be noticed in the extrapolated distribution area. This is a problem of wrong or missing climate data, which inhibits extrapolating the species in this area. Also this factor did not influence the conservation status in any cases.

Geo reference errors
Even if the geo referenced collection data was checked for accuracy, errors in the location of the collection points may have occurred. Obviously, this type of mistake will result in incorrect extrapolation by the model and incorrect predicted distributions.

The danger of scale dependency in extinction risk, rarity and Conservation Priority:
Hartley & Kunin (2003) discussed this matter. Rare species are the species most at risk for extinction. This is an old and general view. The IUCN has developed a methodology to identify the relative extinction risk of a species. In absence of detailed information about population size and viability indicators used are: rarity, rates of decline, and degree of population fragmentation. Hartley and Kunin (2003) demonstrated that these indicators are very sensitive to the scale at which they are measured. Extent of Occurrence (EOO) is defined by a minimum convex polygon (MCP) that includes all known records of a species. One single point can influence the EOO dramatically. AOO (Area of Occurrence) uses defined contiguous sample units (normally grid cells or in larger scale, countries etc.) to number and outline the units that are occupied. Large sized sample units may approximate or even exceed the EOO-defined range. Small units will underestimate the range but normally correlates well with population counts (Hartley & Kunin 2003). Extrapolation of species avoids the mentioned problems by including the possible niche a species can occupy. Limiting the range somewhat more on the occupied niche, the range from the nearest point of collection will be restricted (historical range) but distribution in neighboring countries may increase its range towards that country.

Fragmentation
The potential consequences of anthropogenic habitat fragmentation on species diversity and extinction have drawn considerable attention in recent decades. Humans have dramatically altered the amount, pattern, and composition of global vegetation (Tucker and Richards 1983, Turner et al. 1990, Houghton 1994, Meyer and Turner 1994). Loss of forest and fragmentation pose direct threats to biodiversity (e.g., Harris 1984, Lovejoy et al. 1986, Bierregaard et al. 1992, Laurance et al. 1997). Alteration of forest spatial patterns affects wildlife habitat quality and biodiversity in both tropical forests (Gascon and Lovejoy 1998, Carvalho and Vasconcelos 1999, Scariot 1999, Laurance et al. 2000) and extra-tropical forests (Jules et al. 1999, Hargis et al. 1999, Kurki et al. 2000, Virgos 2001). Pahari and Murai (1999) demonstrated the high correlation between human population density and cumulative forest loss for regions. Matthews et al. (2000) recognized fragmentation as an issue separate from forest loss, and discussed deforestation and

fragmentation caused by humans on a global scale. Riitters et al. (2000) quantified total forest fragmentation across multiple evaluation scales but did not identify human-caused fragmentation. Jones et al. (1999) assessed forest patch vulnerability based on edges shared with anthropogenic and natural land uses, but only examined three tropical areas. Forests may be fragmented by a number of activities or events, such as road construction, logging, conversion to agriculture, or wildfire; but ultimately, the fragmenting cause is either anthropogenic or natural in origin. Therefore, a direct measure of landscape connectivity must incorporate a measure of some aspect of organism movement through the landscape. Fahrig and Paloheimo (1988) and Henein and Merriam (1990) measured connectivity as the probability of movement between two resource patches, using mathematical models of animal movements. Fragmentation can have some side effects, which are not directly, but could be, connected to the conservation status of a species. Schmidt & Jensen (2004) report habitat fragmentation as a selective force that can be traced in mammalian body length changes. By exploring historical sources, they were able to show that the body-length of Danish mammals has altered over a period of 175 years. This is possibly a response to increasing habitat fragmentation. The rate of body-length change was generally lowest in medium-sized mammals, and increased with both smaller and larger body mass. Small mammals have generally increased, whereas large mammals have decreased in length. Previously continuous populations may be fragmented if animals avoid road surfaces or are unable to follow nonspecific trails across such surfaces, as mentioned by Shine et al. (2004). They gathered data on the effects of small (4-m wide) gravel roads on the behavior and trail-following abilities of garter snakes (*Thamnophis sirtalis parietalis*) in Manitoba, central Canada. As expected, the road surface had less vegetation cover, a more open canopy, and thus higher incident radiation than did the surrounding grassland. Focal sampling showed that snakes avoided the gravel road, typically changing direction when they encountered it. If they crossed the road, they did so by the shortest possible route (straight across). Mate-searching male snakes were less able to follow substrate-deposited pheromonal trails left by females if those trails crossed a road than if the trails were entirely within the surrounding grassland. Thus, roads may significantly modify snake movement patterns, as well as the ability of males to locate reproductive females. Nevertheless this behaviour is strongly influenced by the tolerance of a species for habitat alteration or the disparity from its original type of habitat. A tolerant species as *Crotalus durissus* crosses without problems a huge plantation or deforested areas. As open areas are part of its habitat it may even prefer these areas. A forest specialist may, as described above, already have problems crossing a paved road. A gap of at least 7,2 km (2 grid cells) was considered as only “some fragmentation”, bigger gaps were considered as strong or very strong fragmentation depending on how big the gap was, how many fragments were left or produced by the gaps, and how big these were. The fragmentation of a species´ habitat has direct influence on its Conservation status. With the Fragmentation maps, it can be shown how the sensibility for habitat alteration of a species and the EDC of the habitat can have an influence on the distribution. Reduction of the distribution area is not regarded at this time as this is part of the calculation of the Distribution value, an argument supported by Matthews et al. (2000) who recognized fragmentation as an issue separate from forest loss. Only if the occupied habitat is separated by habitat alteration it is considered as fragmentation. If the populations have a naturally disjunctive distribution only in the case the gap is widening by much was it regarded as fragmentation. The map elaboration (see also chapter 2.6) was based on the distribution of the species and its sensibility for habitat alteration. For a sensible species all habitats worse than EDC 2 was filtered. This is the normal value and has also been given to all species for who the sensibility could not be identified. Some species received the value very sensible. These are species, which are only known to come about in primary forests.

For these species all habitats worse than 1 were eliminated, since just the slightest alteration disturbs the species. Normally forest specialists have additional problems crossing gaps not covered with forest. Some forest specialist species have been observed to die within few minutes of being exposed to the sun (for example *Dendrophidion dendrophis* or *Micrurus annelatus*). Some species are tolerant for habitat alteration; and therefore, will also be found in strongly altered habitats, for example plantations, deforested areas used for cattle, etc. These species are also found sometimes within urban areas, mainly searching for prey as *Crotalus durissus* (eating mice and rats) or *Ameiva ameiva* (eating all kind of insects attracted by human presence and newly born mice). Nevertheless, strongly altered habitats will have an influence on the connectivity of populations. All habitats worse than EDC 4 were eliminated. Some species have an advantage from the habitat alteration. This is known mainly for exotic species. In Bolivia, for example the *Hemidactylus mabouia* is only found in anthropogenic areas. Even in the most isolated villages this species is found. EDC one to five were included and the fragmentation map for these species is not shown.

Distribution in good National parks

One potential objective in designating a protected area is to conserve elements of biodiversity that are unable to survive elsewhere (Kramer et al. 1997, Bruner et al. 2001) or to help maintaining at least parts of a species´ habitat intact. Successful conservation management requires an understanding of species' distribution (Roy 2003), including which species are restricted to protected areas, which are partially distributed within the borders of protected areas, and which are adequately protected outside these areas. There are very few empirical studies that neither made such comparisons (but see Fabricius et al. 2003, Velazquez et al. 2003), nor compared the effectiveness of protected areas with the surrounding landscape matrix (but see Fabricius and Burger 1997, Khan et al. 1997). Nevertheless, the importance for conservation of habitats and species of the 22 National Parks in Bolivia is not questionable. 13% of the Bolivian territory is under National park protection. This is a valuable factor for the conservation of the biodiversity. Several of these protected areas are in very good protective conditions with park rangers and the necessary protective measures. Sufficient distribution in protected areas (sufficient was defined as the minimum habitat size defined by the IUCN) should have a positive effect on the conservation status for a species. At least the population/s distributed within the limits are supposed to be protected from most threats. Based on a study in Western Ghats, India, Bhagwat et al. (2005) proposed not only the strengthening of formal protected areas, which are here considered to be the areas included in the National Park System, but also informal ones, which could be protected areas down to private levels, also Forest Concessions (which at the least maintain the forest matrix), or Indigenous Lands (TCO´s).

Use of the species

Wildlife resource use that is not sustainable will lead to depletion of populations, degradation of habitats or ecosystems, loss of ecosystem services, and potentially extinction. Currently, some use of reptile and amphibian resources is sustainable; however, some use is not (PARC 2000). Committee on Policy, Regulation, and Trade states in a document, which was adapted from the position paper on sustainability of fish and wildlife resources, (2000) that "In an ideal world the use of reptiles and amphibians would be balanced by natural recruitment in adequate natural habitats, and as such wouldn't have a detrimental effect. The issue of use cannot be separated from issues of habitat protection, the economy, market forces, research, regulations, and law enforcement capability. Policies regarding reptile and amphibian use must consider all these

issues and be based on sound science to ensure that wild populations are not negatively impacted". The use of species as pets, for alimentation or other purposes, is one of the best-known threats, also used by the IUCN. Additionally to the use of a species the "notoriety" of the species was considered. If a species is killed occasionally because it is considered as venomous (false and real coral snakes and vipers) it is considered to underlie "some" use. Finally, the simple killing of the individuals has the same effect on the population as the use of the individuals or parts of it.

Rarity of the species

Why are some species common and others rare? This question is at the heart of much ecological research and has reached special prominence with current concerns over species conservation and global change (Kunin and Gaston 1997). A touchstone for current discussions of commonness and rarity is the scheme by Rabinowitz (1981). She classified species are based on three criteria: geographic range, habitat specificity, and local abundance. Only one of the eight possible combinations (wide range, broad habitat specificity, and somewhere large local abundance) is classified as common. The other seven each include some form of rarity, and some of them are even questioned to exist. Benayas et al (1999) suggest a fourth form of rarity or as they call it "criterion for defining commonness vs. rarity": the ability of that species to occupy a larger or smaller fraction of its potential suitable habitats, i.e., habitat occupancy. The extrapolation of potential distribution regarded this criterion in some way is using a factor called "Historical range". Not all suitable habitats were included for the distribution of the species, but historic range factor was used. For evaluation of the rarity in the current work only the local abundance was considered. Generally, experience has shown that rare species are found rarely, nearly independent of their size and type of habitat. Best example is the common subterranean *Leptotyphlops melanotermus*, known in Bolivia from over 100 collected specimens. Comparing this to the day active huge *Dracaena paraguayensis*, known from only one specimen in Bolivia, it can be seen that size and form of life are just one factor for the rarity of a species. A previous revision of the frequency of species found in Bolivia showed that species considered being rare, had been found rarely, and not vice versa. Another problem occurred when a species has been described recently on base of just one specimen. These were only considered to be very rare if the species had been described at least 5 years ago and no other specimen was found since that time. Some interesting theories are existing about rarity and abundance of species, some of which will be mentioned in the following; Brown (1984) and Brown et al. (1995), a theory which was titled "the superior organism theory" by (Benayas et al. 1999), states that species vary in their abilities to exploit nature and that some species have large fundamental niches, whereas others have narrow ones. He proposes that the center of a species' range is the region where it can exploit the widest range of resource combinations and habitats; and therefore, , the species will be of high abundance. As the distance from this center increases the conditions favoring the species normally become more rare and its abundance decreases. Species that begin with a broad niche will have large geographic ranges; species with narrow niches will have small geographic ranges. Another theory (e.g., Fox and Morrow 1981, Futuyuma and Moreno 1988) is also based on the theory that species vary from having broad to narrow niches. Yet, they state that habitat specificity exists throughout the geographic range of a species and not as mentioned in the first theory, narrowing toward the edge of the range. Habitat specificity trades off with local abundance, which means the location they are found. Specialists have high abundances and generalists have lower abundances.

4.3 Discussion of results

4.3.1 Ophidians

21 species have been evaluated as "Near Threatened". 10 of them have been raised into this category because of taxonomic problems. The taxonomic problems mostly were associated with probable species complexes which could result in splitting the species in two or more species, resulting in a reduction of habitat and other possible negative effects on its conservation status (see above).

Two species (*Apostolepis phillipsi, Liophis andinus*) were evaluated as "Vulnerable".

Apostolepis phillipsi

The limited habitat size for *Apostolepis phillipsi* may be an extrapolation error as the habitat in this area is quite homogeneous; nevertheless, the species has just been found in this one locality, despite collection efforts on other nearby localities. *Apostolepis phillipsi* is a typical example of a species described several years ago (7 years) and since then was never found again. Therefore, the species was considered to be rare, and additionally due to the restricted habitat size, was labeled having a "vulnerable" conservation status.
Conservation: As the species is distributed within protected area limits and no anthropogenic threats were identified, the only actions proposed are surveys to rediscover the species and keep its potential habitat protected.

Liophis andinus

The species has been described in 1983 and is known only from one locality and one specimen in Cochabamba. The locality Incachaca shows strong human impact as most of the valley habitats in this area. On the positive side, the fact can be considered that over 50% of its small distribution area lies within the limits of the Carrasco National park, which should provide a basic protection.
Conservation: Surveys to rediscover the species and keep the remains of its natural habitat protected.

Four species have been evaluated as being "Endangered".

Atractus balzani

Atractus balzani is extremely rare, not being rediscovered in the last 107 years and shows a small strongly fragmented habitat size. The probable type locality is Covendo, an area where quite a lot of fieldwork has been done without rediscovering this species. The species may have to be considered as extinct but additional efforts to rediscover the species should be undertaken.
Conservation: Surveys to rediscover the species and efforts to maintain the remains of its natural habitat.

Liophis taeniurus

The species has been found in four localities of Bolivia. All of them are in very bad condition of conservation. The category resulted from severely fragmented and restricted habitats. This is a typical result for a species, which is only known in Bolivia at very disturbed Interandean Dry Valleys. There is little known about this species. Possibly the species is more tolerant to habitat

alteration than proposed (which could have reduced the conservation status to vulnerable) but there is no data available.
Conservation: Efforts to maintain the remains of its natural habitat in the Interandean Dry Valleys.

***Tantilla* sp. nov.**
Specimens from the interandean dry valleys have been found to be significantly different from specimens of the lowlands, leading to the belief of them belonging to a new species, which would be endemic to a small area in the Interandean Dry Valleys. This area underlies a high anthropogenic pressure by fast habitat destruction due to agriculture. Habitat destruction and reduction of habitat quality are the main reasons for this result. Although considered as tolerant for habitat alteration (it was collected and observed several times near human settlements) the suitable habitat is enormously reduced even though it is not very strongly fragmented. Additionally it is not known to inhabit any protected area. The combination of theses factors lead to the high conservation status.
Conservation: Efforts to maintain the remains of its natural habitat in the Interandean Dry Valleys.

Tomodon orestes
Based on one specimen this species was only recently described from a strongly disturbed habitat. Habitat size, quality, and its rarity are the main reasons for the result as "Endangered". Although only known from one specimen it was not considered as very rare as it only was described recently (2004). Very little is known about habitat and distribution of this species.
Conservation: Efforts to maintain the remains of its natural habitat and further studies about its distribution pattern.

Five species resulted as being "Critically Endangered".

Leptotyphlops undecimstriatus
Leptotyphlops undecimstriatus was described in 1980 for Santa Cruz de la Sierra. Just one specimen is known (the Holotype, now lost), its extrapolated habitat size is based on the one specimen; and therefore, very limited as the city of Santa Cruz is its supposed habitat. The quality of the habitat is very low resulting in very strong fragmentation. Additionally the species is not known to inhabit protected areas and considered a rare species. Due to the loss of the species, the taxonomic status can't be proven. The genus is under a present revision by Carmen Boerschig, which certainly will improve taxonomic knowledge about this group, especially in Bolivia.
Conservation: Revision of the taxonomic status and if possible discover relict population and protect its habitat (e.g. Lomas de Arenas protected area).

Apostolepis multicincta
Apostolepis multicincta is endemic to the interandean dry valleys, resulting in a very strongly fragmented and restricted habitat size. The species is considered to be sensible but may be considered, after further studies, more tolerant. If this is the case, the conservation status for this species will be reduced at least to the category "Endangered" or even to "Vulnerable". Additionally the species distribution only was calculated with records from the Interandean Dry Valleys. Just recently it was reported at the Chaco Ecoregion. This was surprising but a typical pattern for many species of this area. It was not possible to run the calculations again with this

additional specimen. This record could widen the distribution area significantly and reduce the conservation category. This non-venomous species is considered by local people as extremely poisonous because of its color and lifting of the tail when disturbed. This leads to the belief that the tail ends in a deadly venomous spine.
Conservation: Efforts to maintain the remains of its natural habitat in the Interandean Dry Valleys and studies about its distribution. Educational work with local people.

Atractus bocki
Atractus bocki has been described from the city of Cochabamba 108 years ago. Cochabamba by then was a small town still surrounded by a lot of good habitats. Now, not only the city has grown but also almost all surrounding natural habitats have been destroyed and altered, resulting in a very restricted and strongly fragmented potential habitat size. The type was originally deposited in Hamburg (ZMH) but has been destroyed in World War II. This makes it difficult to verify its taxonomic validity. *Atractus bocki* represents another example of a species described long ago from a locality, whose then natural habitat was in quite a good condition. Now it is almost completely destroyed. As the species has not been rediscovered in over 100 years it may have been extinct, but following IUCN suggestions, intensive fieldwork at its locality has to be done to prove this.
Conservation: Surveys to rediscover the species and efforts to maintain the remains of its natural habitat.

Atractus taeniatus has been described from Santa Cruz de la Sierra 90 years ago, resulting in the same effects as described for *Atractus bocki*. Although listed for Brazil and Argentina, Paulo Passo doubts its existence in these countries (pers. communication). As this species has not been rediscovered for 90 years. This species may have been extinct but also intensive fieldwork, at least at its type locality, is needed to prove this.
Conservation: Surveys to rediscover the species and efforts to maintain the remains of its natural habitat.

Tachymenis elongata suffers from a small habitat size being severely fragmented by human activities, such as agriculture. Additionally, it is a rare species with only a small population in protected areas.
Conservation: Efforts to maintain the remains of its natural habitat.

4.3.2 Sauria
83 of 101 species did not are not threatened. 8 species were evaluated as “Near Threatened”. 3 of them have been moved to this category because of taxonomic problems. The taxonomic problems mostly were apparent species complexes, which could result in splitting the species in two or more species resulting in a reduction of habitat and other possible negative effects on its conservation status (see discussion above, chapter 4.2.1.). The other five species are all members of the genus *Liolaemus* and are suffering mainly from fragmentation of their habitat due to very intensive actual and historic human activity in these areas.

4 species were evaluated as "Vulnerable".

Amphisbaena cegei
Amphisbaena cegei showed very restricted and fragmented habitat sizes being a typical element of the Interandean Dry Valleys. Although it has been considered to be tolerant for habitat alteration the evaluation resulted in this high category. As it is a subterranean species little is known about its natural history and further studies need to be done. Surprisingly, it is frequently found and seems to be quite common in that area. A taxonomic revision of the Bolivian members of this family is under process by Carmen Boerschig (ZFMK).
Conservation: Efforts to maintain the remains of its natural habitat

Liolaemus schmidti
Liolaemus schmidti results showed to have a restricted habitat size, not being present in any protected area, and being quite "rare". This is an unusual combination of results, as normally fragmentation led to the higher categories. There are no signs of fragmentation of habitat. Surely, it's up for discussion that a species should be considered only because of the mentioned factors as vulnerable, as well as, possibly having a small population size in a restricted area without being sheltered in protected areas can cause an evident vulnerability to the species. The locality is in Chile. That means it is probable for the distribution to include this country's border area, which would result in a wider distribution within Bolivia and could reduce the conservation status.
Conservation: Efforts to study its distribution and maintain its still healthy habitat.

Tropidurus callathelys
Tropidurus callathelys is endemic to a very restricted area in the Noel Kempff Mercado National Park and is considered to be rare. Surely, it is also distributed on the Brazilian side of the border but so far it has not been recorded.
Conservation: Efforts to study its distribution and maintain its still healthy habitat

Tropidurus xanthochylus
Tropidurus xanthochylus is endemic to a very restricted area in the Noel Kempff Mercado National Park and is considered as rare.
Conservation: Efforts to study its distribution and maintain its still healthy habitat

2 species have been evaluated as "Endangered".

Liolaemus pantherinus
Liolaemus pantherinus. It has a big habitat size, is very strongly fragmented, is absent in all protected areas, and is rare to find are the main characteristics for the evaluation of this species. Although it is considered to be tolerant, the habitat is strongly fragmented. Even the remaining habitat is under strong anthropogenic pressure.
Conservation: Efforts to maintain still relatively healthy habitat.

Liolaemus variegatus
Liolaemus variegatus. This species is characterized by a very reduced habitat size, being even more reduced by a bad habitat conservation status. It is absent in all protected areas and is hard to find. Although it is considered to be tolerant, the habitat lead strongly reduced results.

Conservation: Efforts to maintain the still remaining habitat. Already, the habitat is strongly altered and reduced for this species. Faster actions need to be considered to preserve it.

4 species have been evaluated as "Critically Endangered".

Amphisbaena silvestrii

Amphisbaena silvestrii was reported by Carl Gans in 1964 in Santa Cruz based on two specimens. He himself mentions some taxonomic differences to specimens from Brazil, leaving some doubts to them belonging to the same species. Due to a very restricted habitat size, strongly fragmented by the growth of the City Santa Cruz, and being a very rare species, not having been found for the last 43 years, it was placed in this high-level category. The species itself is critically endangered or even may have gone extinct if it is a distinct new species..
Conservation: Efforts to rediscover the species and to maintain still remaining habitat (e.g. Lomas de Arenas).

Ameiva vittata

Ameiva vittata was described from the village Parotani in Bolivia on base of one specimen. The species has not been found in a 100 years despite recent efforts by Robert Langstroth (pers. comunication). In recent years, the locality has suffered strong human impact destroying nearly the entire natural habitat of this species. Small habitat size, very strong fragmentation, and its rarity are the main reasons for the high category of this species.
Conservation: Efforts to rediscover the species and to maintain still remaining habitat.

Liolaemus cranwelli

Liolaemus cranwelli was described from the locality Nueva Moka in Santa Cruz Department, near the city of Santa Cruz. Since its discovery, in 1973 34 years ago, the natural habitat has been almost completely destroyed and the species was never found again. Restricted habitat size, very strong fragmentation, and rarity are the main reasons for the high category given to this species.
Conservation: Efforts to rediscover the species and to maintain still remaining habitat.

Liolaemus fittkaui

Liolaemus fittkaui was described from the valleys near Cochabamba in 1986, 20 years ago. The already extremely restricted original habitat had additionally suffered strong human impacts, resulting in a high fragmentation. Additionally, not being represented in protected areas and being a rare species resulted in the high-level category.
Conservation: Efforts to rediscover the species. Following the fragmentation map all suitable habitat has been destroyed although the species is considered to be tolerant for habitat change. This species may be considered as one of the most threatened.

4.3.3 Turtles

The Bolivian turtles showed surprisingly good results with only 2 species in a category worse than "Least Concern". *Phrynops gibbus* and *Phrynops raniceps* have been evaluated as "Near Threatened" caused mainly by a combination of rarity, use, and fragmentation of habitat. The fragmentation is not very strong and overall use was not considered as threatening to the species. This is leading to this low category. Unquestionably, some populations of several species suffer

stronger use, but this is not considered to be the case for the whole species. Yet, all in all the results for the turtles are considered the least reliable.

4.3.4 Caimans

The caimans resulted partially as "Endangered" (*Caiman latirostris*) or "Vulnerable" (*Caiman yacare* [populations], *Melanosuchus niger*).

Two species resulted as "Vulnerable"

Caiman yacare

Caiman yacare, shows a wide distribution, high tolerance for habitat alteration, and high densities. Nevertheless, several populations have been completely overused, which is grounds for these populations to be considered as "Vulnerable".

Conservation: Conservation actions are already installed; management plans for the sustainable use of the species seem to be the most effective measures, but should be planned and measured with care and preferably by NGO´s with scientific staff. One of the best examples in Bolivia is the National Sustainable Biocomerce program managed by FAN.

Melanosuchus niger

Melanosuchus niger suffers a strong use because of its skin, being the main reason for considering it as a "Vulnerable" species.

Conservation: Conservation actions are already installed; management plans for the sustainable use are forbidden as the species is included in CITES I. Control of its use and protection of its habitat should be the most effective conservation action.

One species resulted as "Endangered"

Caiman latirostris

There was no distribution data for *Caiman latirostris* available. The reason for no extrapolated distribution and the calculation for the conservation status are basic. They have to be seen as a minimum value. The main reason for the category (Endangered) is the very strong use of the species.

Conservation: Conservation actions should be the control of unsustainable use and conservation of its habitat.

4.4 Summary of conservation actions

In most cases conservation of the habitat is the best conservation action. Several species need surveys to be rediscovered. Some species need taxonomic work. Conservation of some species needs to include the education of locals.

4.5 Coarse filter

Habitat loss (a good definition of what is habitat is given in Reichle (2007)) has been identified as the primary threat to the majority of vertebrate species currently facing extinction (Reid & Miller 1989). These changes can result in fragmentation of landscapes, as well as the destruction of specific resources for species, such as shelter, food, or areas used for reproduction. This shows

the importance of studies about land use patterns in given areas as there are the PLUS (Land Use Planification) in Bolivia. It could be a guide to identifying vulnerable areas and serve as a filter for the method to identify priority areas for conservation. “Cruel twist of fate” as they call it Pimm & Lawton (1998) is the fact that the highest current rates of deforestation appear to be in areas with the greatest biodiversity (Balmford & Long 1995). In Bolivia, this is especially the case for amphibians, birds, and orchids that have their highest diversity and endemism richness in the humid mountain forests, which are the most threatened eco-regions in Bolivia. A method for identifying conservation-priority areas based on a predictive land-use change modeling approach is proposed by Menon et al. (2001). This approach proposes unprotected natural areas, most susceptible to land-use, change by virtue of their geophysical and socioeconomic characteristics. Nevertheless, this approach is only true if protected areas are not only “paper parks”. In Bolivia, prediction in this form is difficult as the conservation policy changes with every government. With it the consequent protection of National park borders changes dramatically.

The task of identifying present priority areas for conservation work needs information about hot spots of diversity, endemism, hot spots of vulnerability, etc. Biodiversity hotspots tend to be located preferentially in areas of ecological transition (Araújo & Williams 2001; Gaston et al. 2001). This is a result from areas with elevated species richness, where species overlap in their range margins between neighboring assemblages (Araújo 2002). These “edge effects” may influence the results significantly. In the present study, such “edge effects” may influence the high abundance of the species in the Beni Department. As limits of the distribution of several species have their core populations in the many neighboring Ecoregions reach into the Beni Department and overlap it leads to high abundance of the species. Yet, the “edge effect” is just one possible explanation for the high abundance of the species in this area. The diversity of habitats is another and is explained in chapter 3.6.15. Smith et al. (2001) state that the hotspot approach is a risk for species preservation, especially at a local scale, but as the present work is a national approach the more delicate local effects become marginal. The need for hotspots arises from the recognition that resources for conservation are scarce and that priorities need to be set according to the requirements for persistence of as much biodiversity as possible (Araújo 2002). In terms of conservation of biodiversity transition zones are of great importance. There are also good arguments for conservation of nontransition zones as those usually host core populations of species, which may play a fundamental role in the maintenance of viable populations (Lawton 1993). Short-term population analyses have shown that core populations are less variable than marginal ones (Lawrence 1993). This means a safer choice and a higher value for conservation. Analysis of long-term patterns of range contraction provides evidence that many species have persisted only at the edges of their historical ranges (Channel & Lomolino 2000). So, ideally both, core and marginal populations would be represented within hotspots, which in cases of wide distributed species is nearly impossible.

Endemism

Patterns in the spatial distribution of endemic species are central to our understanding and conservation of biological diversity (Green & Ostling 2003). Species with small geographical ranges are potentially at a greater risk of extinction than those with larger ranges (Bibby et al. 1992, Mittermeier et al. 1998, Myers et al. 2000). In order to identify and compare patterns of endemism across different spatial scales setting regional or national conservation priorities is a very useful method to correctly apply conservation efforts for endemic species. The C-Value used in the present work shows areas with highest concentration of species with most limited distribution. These endemism concentrations are considered priority areas for conservation, as are

areas with highest abundance of species and areas with highest concentration of threatened species.

Climate change

Slight changes of climate can have dramatic effects on composition and structure of ecosystems. Especially, the biota, which host many species with very restricted ranges, will be probably the most effected (Thomas et al. 2004, Malcolm et al. 2006). Endemic species are normally adapted only to a small niche in an ecosystem. If this small niche is changed the species looses normally its habitat, which often results in extinction. Climate change resulting from global warming will very likely affect all biota, but to different extents.

Reichle (2007) describes a different cause for climate change: “Regional and local land-use changes may exacerbate the effects of global warming, particularly at smaller spatial scales. For example, in the Inter Andean Dry Valleys of Bolivia, temperatures apparently have risen far above the average for global temperatures (Villarpando pers. com.). These steep temperature increases might be a result of quick growing urban spaces, less forest cover and the desiccation of natural wetlands, in addition to changes in climate at the global scale.”

The effect of climate change for reptiles surely will not be the same for every species. The more specialized a species is the more threatened it may become by climate change. The same is true for species with restricted ranges. Climate change, will not only threaten species, but also may cause a shift in its distribution. It is very probable that the Dry Chaco habitat will expand northwards, as will the Chiquitania Ecoregion. This will cause a shift in the distribution of the species northwards. Some species will manage to follow this habitat shift, some will not.

Human use of Reptiles

Very few reptile species suffer in reality from human use. The two species, which have suffered most are *Melanosuchus niger* and *Caiman latirostris*. Both species are now under protection and as populations have diminished dramatically the commercial use of these species become ineffective. Both species were mainly used for their skin. Actually, *Caiman yacare* is used for the use of its skin and meat. This is included in the National Sustainable Biocomerce Program and follows strict Management plans. The boid snakes are used infrequently and their use can be regarded as non-threatening. Typically, species are killed when entering into human settlements attracted by domestic animals on which they prey. Some turtle species underlie more severe threats as *Podocnemis expansa* or the two bigger *Chelonoidis* species (*Chelonoidis denticulate* and *Chelonoidis carbonaria*). The first one suffers by extraction of the eggs from the nests and the latter two through the killing of adult individuals for their meat. All in all, in Bolivia, generally populations are threatened but not the whole species. This is why the factor of human use is considered only as a secondary threat.

4.6 Comparison of the results with 2 different studies (Araujo, Mueller, Nowicky & Ibsich (eds) 2007, Reichle 2007)

In the following the results of the present study will be compared to results of 2 other recent works on conservation, distribution, abundance of species, abundance of endemism, and others. Both works concentrated on Bolivia as study area. Just one work includes reptiles in its evaluation (and here just the ophidians).

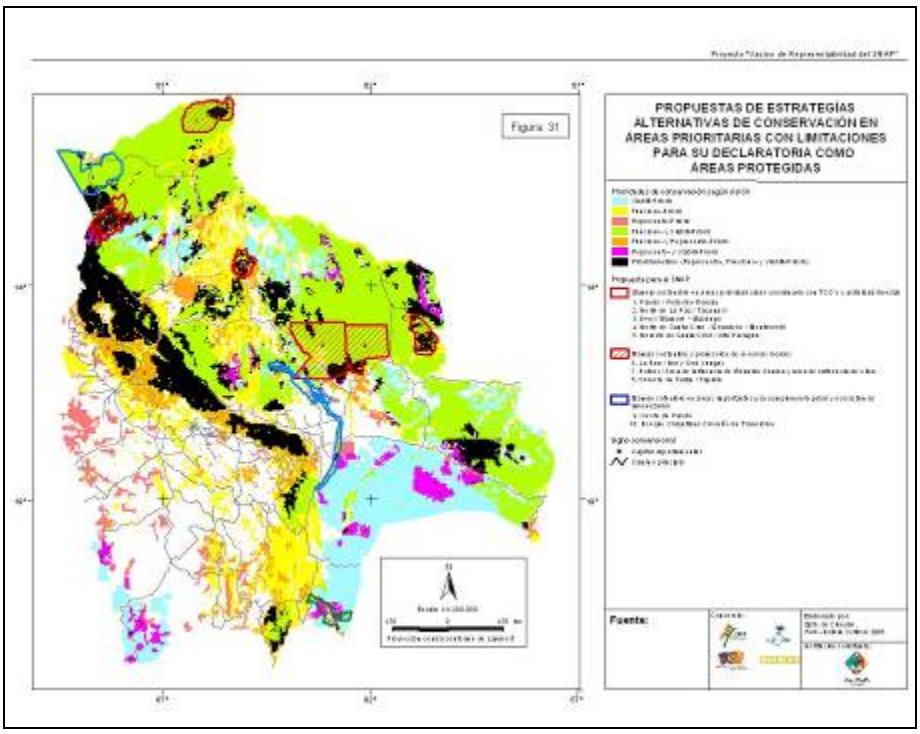

Figure 606: Alternative Conservation Strategy Proposals in priority areas with limits for its declarations as protected areas.

The map of the priority areas coincides very well with the endemism pattern for reptiles but not with the pattern of the abundance of species. Comparing it with the results for amphibians (Reichle, 2007) one can show a great correlation for abundance of species and endemism.

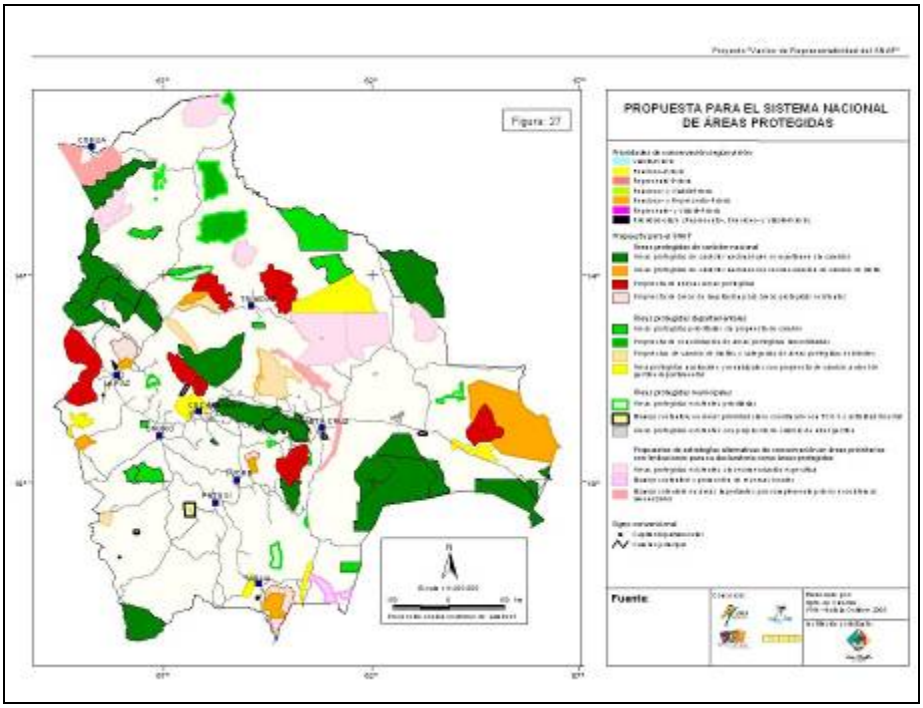

Figure 607 Proposal for the National Protected Area System

Two proposed areas for the National Park System would cover thoroughly the most abundant areas of species in central Beni. Also, some of the proposed departmental protected areas would cover these areas. Interesting is the situation for the endemism. Most of the endemism hot spots are outside of existing and proposed areas.

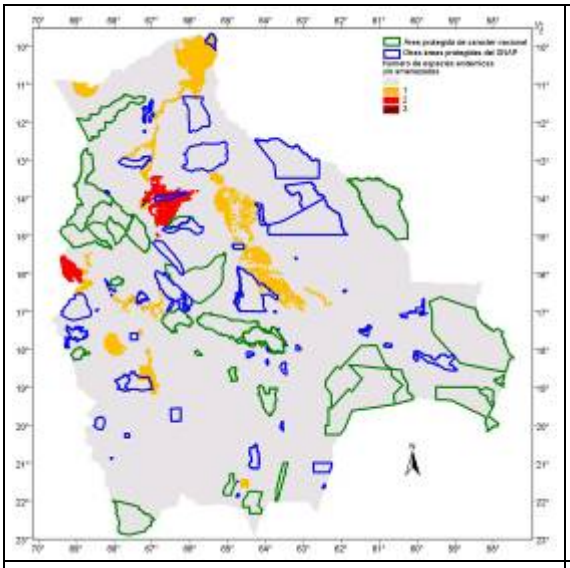

Figure 608 Principal gaps of representativity of threatened and endemic fauna in Bolivia

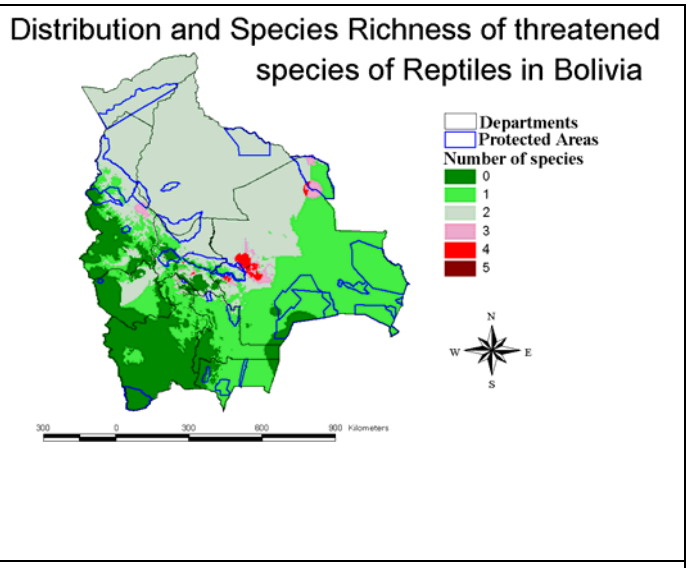

Figure 609 Distribution and Species Richness of threatened species of Reptiles in Bolivia

This map shows the principal results of the GAP Analysis by FAN. It demonstrates the “gaps of representativity”, threatened and endemic species outside the borders of the National Protected Areas System. The worst gap can be found in the border of La Paz and Beni Departments. Although this study included Bolivian ophidians it does not show coincidence with the results of the present study. Interesting is, that the biggest gap falls within the species richest reptile area of the present study, underlining the importance to get some of this area under protection.

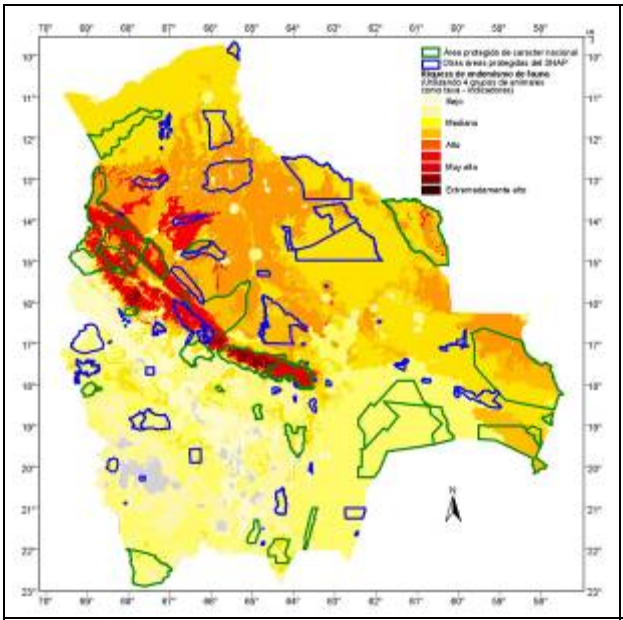

Figure 610: Species richness of threatened fauna

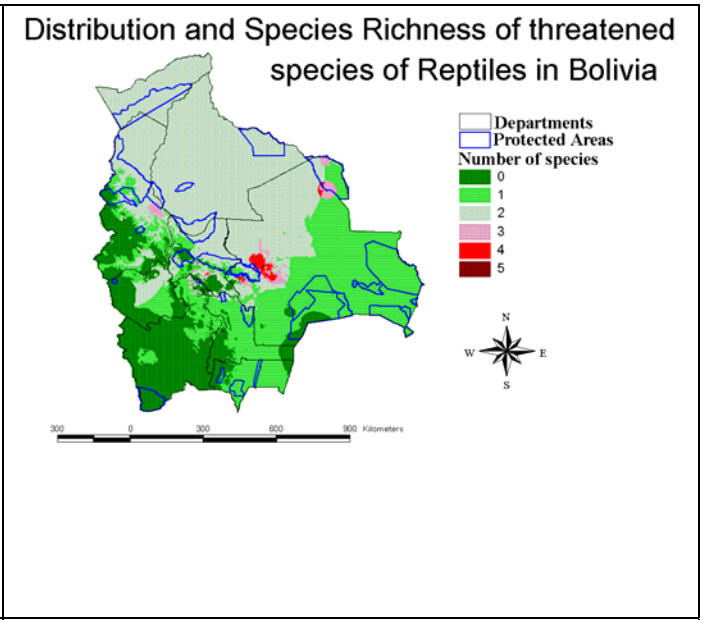

Figure 611: Distribution and Species Richness of threatened species of Reptiles in Bolivia

The “lucky” fact that huge parts of the species richness of the threatened species are located within protected areas (GAP) is not reflected in the present study for the reptiles. Critically endangered and endangered species are mostly distributed outside of the protected areas limits. This has to be seen with caution, as being presented within a protected area or not was one factor for the evaluation resulting in species not being represented as being more threatened! This factor was not included in the GAP Analysis by FAN.

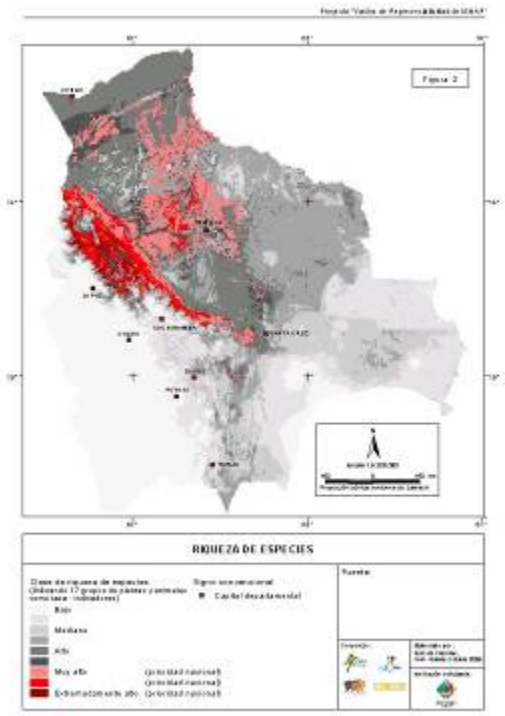

Figure 612: Combined species richness of 17 groups of animals and plants (GAP Analysis FAN, 2007)

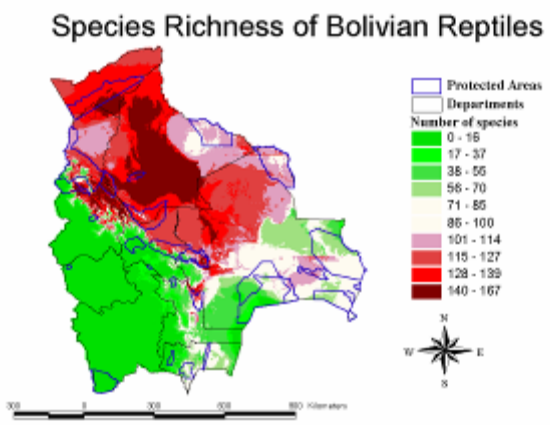

Figure 613: Species Richness of Bolivian Reptiles

The overall pattern of this outcome is very similar. This is a very important result as it shows that abundance of the species of the reptiles seems to be representative for many groups of animals and plants; and therefore, possible actions taken to conserve the reptile diversity may have a positive effect not only on the actual group but on significant parts of the flora and fauna as a whole and vice versa. The upper Madidi area represents the area with the best correlation and hence maybe one of the most important areas for its abundance of the species. In the present study especially ophidians demonstrated one of the highest values in this area. Still, the central and southern Cochabamba Department is completely underrepresented in abundance of reptile species, but it shows a high abundance of species in the GAP Analysis. These mainly Humid Mountain Forest areas are not preferred by reptiles due to the lack of radiation caused by horizontal rain (fog), but are a preferred habitat (and endemism centers) for Amphibians, Orchids, and Birds. These three groups surely have a huge influence on the abundance of species in this area. The Central Beni shows some hot spots of species abundance in the GAP Analysis, which coincides with the highest values evaluated in the present study.

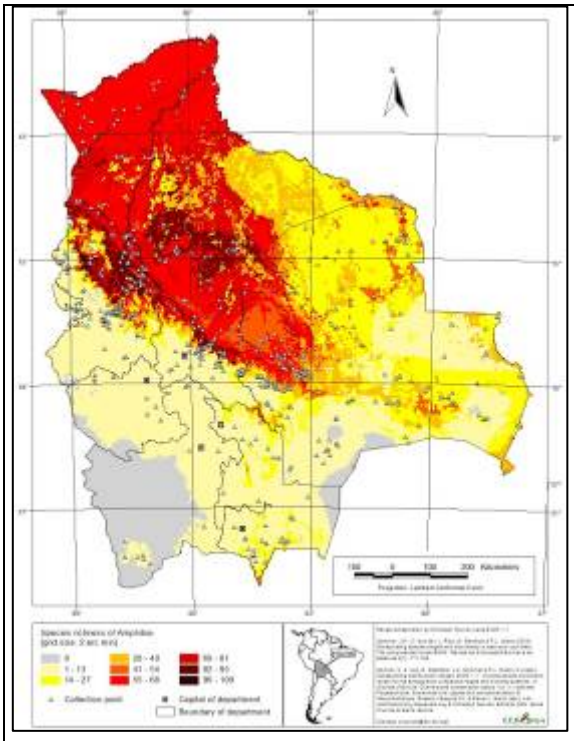

Figure 614: Species richness pattern of Amphibians in Bolivia

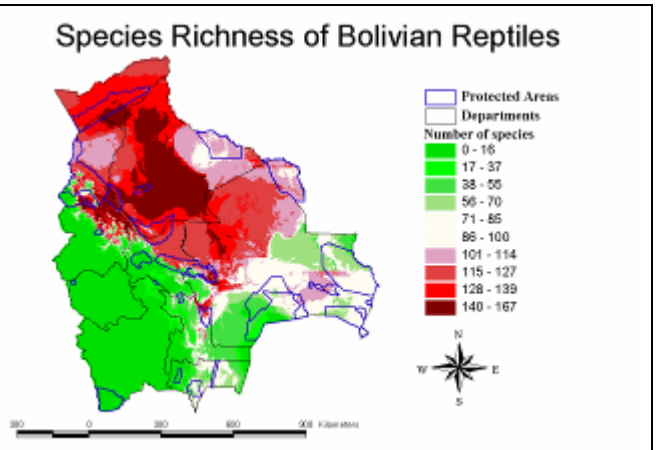

Figure 615: Species richness pattern of Bolivian Reptiles

On the left, species richness of Bolivian Amphibian is shown (Reichle, 2007). Reichle concludes that "The diversest areas are predicted to be at the Andean foothills of the La Paz department and within the Madidi National Park. Also very diverse are actually most all areas at the Andean foothills and transitional areas between the Beni Savannas and Amazonian forests. Generally the predicted Amphibian diversity has a decreasing gradient from North to South and West to East". Comparing this to the results for reptiles in the present study shows a very similar pattern. Bolivian Reptiles show the highest species richness in the center of the Beni Department, nearly identical to the amphibians. Also the area of the Andean foothills shows the same high species richness as Amphibians. Comparing the number of potential sympatric species the amphibians show same high numbers as the ophidians, with over 100 species living potentially sympatric (see **Figure 585**). Lizards show with a maximum of 54 species (see **Figure 586**) nearly half the number of species potentially living sympatric. This is an interesting result as the overall number of ophidian and lizard species are very similar. One fact is the distribution of nearly the whole lizard genus *Liolaemus* in the highlands whereas ophidians are represented with less than 5 potential species. The total number of reptile species living potentially sympatric reaches up to a maximum of 167 species.

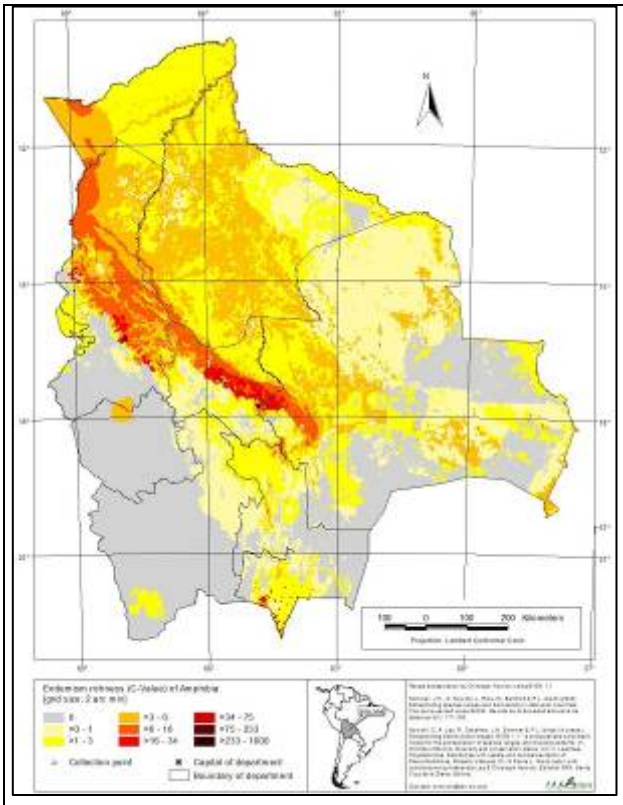

Figure 616: Endemism richness pattern of Bolivian Amphibians (C-Value)

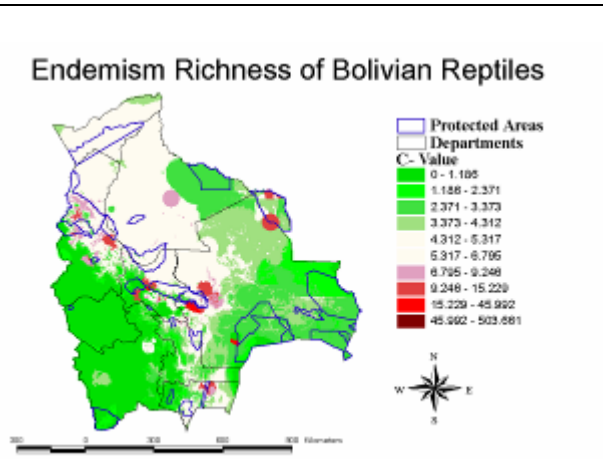

Figure 617: Endemism Richness of Bolivian Reptiles (C-Value)

The left map shows the result for the endemism richness pattern of Bolivian Amphibians (Reichle, 2007). Reichle states “It is very obvious that the Yungas region shows by far the highest c-value of the country. Some other high values are predicted for the southern part of the Tarija department, within the Tucuman – Bolivian Forest. The high values of the area around Cobija are an artifact (……)”. Interesting is the fact that reptilian endemism richness “Hotspots” seem to bee much more disperse and, as above mentioned for amphibians, not restricted to the humid mountain forest. Most endemism of reptiles can be found in the Inter Andean Dry Valleys. Also this study shows some artifacts, or probable artifacts, as the endemism hot spot north of Santa Cruz, caused by a supposed invalid species or the endemism hot spot in the Chaco caused by one colubrid snake which has probably a much wider distribution.

4.7 Outlook and suggestions for Reptile conservation in Bolivia

As discussed and described, several reptile species are threatened. Considering the reasons, one can see two main patterns. In the lowlands we find many species with possible taxonomic problems, species, which have been described a long time ago, probably in a City area or near the big cities and whose probable habitat has been completely destroyed since then. This is often combined with the fact that the types (or the only specimens existing) have been destroyed or lost. The second pattern is habitat destruction (actual and historic) in the Bolivian Highlands, threatening many *Liolaemus* species. So, the main threatening factor has been habitat fragmentation. Bolivia still has huge amounts of healthy forests; one the Chiquitania Dry Forest only recently has been named one of the worlds “Model Forests”. When looking at the size of this forest in comparison to the second biggest “Model Forests”, the dimensions of the still healthy habitat become clear. The Bolivian part of the Chiquitania Dry Forest are 20 Million hectares, the second biggest “Model Forests” has only 7 Million hectares!

Human use is not considered a threat for most species, although for populations of Podocnemis expansa the intense collection of eggs can cause dramatic reduction of population sizes.

Climate change is a probable threat and should be studied more intensively within Bolivia as it has several sensible Ecoregions with endemic species, which can be threatened seriously by climate change.

Conservation of existing habitat and avoiding fragmentation may be the most general and only realistic suggestion for the conservation of reptile diversity. As explained above, fragmentation can severely influence the survival of a species and has huge effects on the functionality of ecosystems. In addition, tremendous forest blocks have a positive effect on controlling and diminishing the effects of climate change. There are several possibilities for the conservation of the forest matrix, and especially Forest Concessions can have a very positive effect as long as their management is self-sustaining. Interesting is the fact that those concessions provide protection for the forest matrix for economic sustainable reasons and because of the same reasons they are best protected against illegal deforestation. Comparing numbers of land use change for agriculture and forest concessions, at least until 2005 (the newest data available by INE), the use of agricultural land was doubled. Nevertheless, it barely passes, with 2,3 million hectares, the forest concessions, with a total of 2 million hectares. Sadly, many protected areas do not have the necessary funding to protect their borders and suffer from illegal deforestations, hunting, and other illegal activities. TCO´s (Land of original communities) may be another possibility, as are private protected areas. Moreover, the future Land use plans will evaluate not only economic and health aspects, but also concentrate increasingly on diversity and conservation aspects. This can be seen at the moment at the one in Pampagrande (Province Santa Cruz). All in all, there is enough potential to protect Bolivians diversity.

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