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Bats of Bolivia: An Annotated Checklist

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ABSTRACT

A list of 79 species of bats known by Bolivian specimens is annotated with references to the literature (for species previously reported) or with specimens forming the basis for listing (in the case of 18 species reported for the first time here). A

gazetteer of localities, lists of specimens and tables of measurements for a number of species that were previously unknown or poorly known from Bolivia are included.

INTRODUCTION

The status of the taxonomy of South American mammals was summarized by Cabrera in "1957"—1958 and 1961. He reported explicitly or implied the presence of 22 species of bats in Bolivia. Recently the use of mist nets for capturing bats and increased fieldwork in South America have contributed to a rapid increase in knowledge of the distribution and taxonomy of Neotropical bats. In this paper we report on more than 6600 specimens of bats from Bolivia. Our work since 1962 has yielded specimens of a number of species not reported earlier from Bolivia. These materials have been freely available for study and some of these new discoveries have been reported by revisors of various groups. In this annotated list we summarize existing knowledge of the chiropteran fauna of Bolivia and provide evidence for the presence of 18 species of bats not previously reported: *Saccopteryx leptura*, *Pe-*

ropteryx macrotis, *Micronycteris megalotis*, *M. minuta*, *Chrotopterus auritus*, *Lichonycteris degener*, *Anoura caudifer*, *A. cultrata*, *Sturnira tildae*, *Vampyroides caraccioloii*, *Chiroderma salvini*, *Myotis keaysi*, *M. levis*, *M. simus*, *Rhogeessa tumida*, *Molossops planirostris*, *M. temmincki*, *Nyctinomops laticaudata*.

We do not repeat citations of original descriptions that were given by Cabrera ("1957"—1958). References are provided for descriptions overlooked by Cabrera or published since 1957.

All measurements are in millimeters and weights are in grams unless noted otherwise.

When the names of departments and their capital cities are the same, we use the name to mean the department unless we specifically say city.

In each account the localities of known occurrence are noted by numbers grouped by

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departments. These numbers refer to the Appendix in which coordinates of latitude and longitude, designations of collecting sites, numbers of specimens and museum are given. Altitudes of collecting sites are given if above 500 m.

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ABBREVIATIONS

Choate and Genoways, 1975 for institutions and agencies, used the following (the numbers are used in the Appendix to indicate these collections):

1. AMNH, American Museum of Natural History, New York
2. ANSP, Philadelphia Academy of Natural Sciences, Philadelphia
3. BMNH, British Museum (Natural History), London
4. CM, Carnegie Museum of Natural History, Pittsburgh
5. FMNH, Field Museum of Natural History, Chicago
6. LSUMZ, Louisiana State University, Museum of Zoology, Baton Rouge
7. MSU, Michigan State University, East Lansing
8. USNM, United States National Museum of Natural History, Washington, D.C.
9. UMMZ, University of Michigan, Museum of Zoology, Ann Arbor

SPECIES ACCOUNTS

The following accounts provide a brief summary of the taxonomic status and the known geographic distribution of the species of bats of Bolivia. In these accounts we give the basis for listing, literature references (for previously reported species), comments on current taxonomic status and a list of coded locality records for each species. In the Appendix we provide a complete gazetteer of localities, their index numbers, and a list of the numbers of specimens and the collections where they are preserved.

FAMILY EMBALLONURIDAE

Rhynchonycteris naso (Weid). Webster and Jones (1980) reported a specimen from Tomonoco in La Paz. There are 39 specimens in the American Museum of Natural History taken in 1964 and 1965 from eight localities at low elevations in or near wet tropical forests and near rivers. Specimens are from: **Beni**—13, 23–27, 29; **La Paz**—6.

Saccopteryx bilineata (Temminck). Sanborn (1933) reported two specimens from Rio Palometillas in Santa Cruz. We report 52 specimens from Beni and five from Santa Cruz. All localities are at low elevations in or near wet tropical forests and near water. Specimens are from: **Beni**—22, 34, 42, 59, 89; **Santa Cruz**—8, 12.

Saccopteryx leptura (Schreber). Eleven specimens are known from two localities at low elevations: **Beni**—22, 24.

Peropteryx macrotis macrotis (Wagner). Seven specimens are known from three localities at low elevations: **Beni**—22, 34, 89.

FAMILY NOCTILIONIDAE

Noctilio albiventris Desmarest. There are 407 specimens from Beni and 14 from Santa Cruz. Davis (1976) studied some of this material and referred it to *Noctilio albiventris affinis* D'Orbigny (1847, description based on specimens from Concepción, Santa Cruz). The subspecies *Noctilio albiventris cabrerai* Davis was mapped by him in southeastern Bolivia although no Bolivian specimens have been taken as yet. Nearby records in Paraguay and Brazil suggest that this subspecies

may be expected along the Pilcomayo and Paraguay rivers and their tributaries. The highest known elevation for this species in Bolivia is 500 m. at Buena Vista. Specimens are from: **Beni**—4, 9, 16, 22–24, 26, 27, 37, 41, 45, 52, 53, 56, 58, 67, 71, 74, 75, 84; **Santa Cruz**—4, 19.

Noctilio leporinus (Linnaeus). Specimens of *N. l. rufescens* Olfers were reported by Davis (1973). Specimens known to us are from low elevations, the highest being Caranavi at 606 m. Specimens are from: **Beni**—27, 35, 64, 75, 78, 87; **La Paz**—3, 15; **Santa Cruz**—22, 23, 29.

FAMILY PHYLLOSTOMIDAE

Micronycteris megalotis (Gray). A single specimen (UMMZ #126843) was taken in undisturbed lowland wet forest at Puerto Patiño, **Cochabamba**—6. The nearest previous record is in the department of Cuzco, Peru (Sanborn, 1951; Koopman, 1978). Selected measurements are: length of maxillary tooth-row 6.0, postorbital constriction 3.4, and weight 5 g. *Micronycteris megalotis megalotis* in Bolivia is easily distinguished from *Micronycteris minuta* by an abruptly sloping forehead, a narrower and more “waisted” interorbital region and a braincase that is more expanded dorsally.

Micronycteris minuta (Gervais). A single specimen (UMMZ #126729) was taken at the edge of a clearing in second growth forest beside a stream at locality 13 in **La Paz**. This species has been reported from the department of Cuzco in Peru (Tuttle, 1970; Koopman, 1978). Selected measurements are: forearm 34.5, length of maxillary tooth row 6.4, postorbital constriction 3.9 and weight 7 g.

Lonchorhina aurita Tomes. This species was reported from eastern Santa Cruz (Hernandez-Camacho and Cadena, 1978) presumably on the basis of Sanborn's (1932a) earlier report of a specimen from San Matias (spelled Matais by Sanborn). Hernandez-Camacho and Cadena treated the name *occidentalis* of Anthony as a subspecies of *Lonchorhina aurita* (as had Sanborn) and therefore used the trinomial *Lonchorhina aurita aurita* for the Bolivian record from: **Santa Cruz**—6.

Macrophyllum macrophyllum (Schinz). Two specimens were reported by Harrison (1975) from: **Beni**—27.

Tonatia carrikeri (Allen). Koopman (1976) recorded one specimen (AMNH #209322) from: **Beni**—24.

Tonatia silvicola (D'Orbigny). Specimens from Bolivia cited by Goodwin (1942, p. 209) as *Tonatia amblyotis* (Wagner) are *T. silvicola*. The history of names and questions of spelling were summarized by Davis and Carter (1978), who also cited two specimens from Santa Cruz. The type locality of *T. s. silvicola* is the Yungas of Bolivia between the Securé and Isibara rivers (we list this as Beni although the boundary between departments Beni and Cochabamba is uncertain in this region as is the precise place of capture of the type). The highest locality in Bolivia is 1350 m., in Peru it is 2000 m. Specimens are from: **Beni**—38, 88; **La Paz**—8; **Santa Cruz**—14, 15, 18, 19.

Mimon crenulatum (Geoffroy). Koopman (1976) reported a specimen (AMNH #209323) of *M. c. longifolium* (Wagner) from **Beni**—27. See Handley (1960) for use of the name combination.

Phyllostomus discolor (Wagner). Valdez (1970) cited four of the seven specimens of *P. d. discolor* from Beni at AMNH. There are 14 specimens at FMNH; we have examined five of these. Specimens are from: **Beni**—38, 45, 79, 91.

Phyllostomus elongatus (Geoffroy). Valdez (1970) cited seven of nine specimens at AMNH from: **Beni**—19, 66, 83, 89.

Phyllostomus hastatus (Pallas). Sanborn (1932a) reported specimens of *P. hastatus* from two localities in Santa Cruz. We follow Valdez (1970) in referring Bolivian material to *P. h. hastatus*. The highest locality in Bolivia is 425 m., in Peru it is 1900 m. Specimens are from: **Beni**—33, 45, 48, 52, 72; **Cochabamba**—12; **La Paz**—12; **Santa Cruz**—14, 17, 19, 22, 23.

Phylloderma stenops Peters. Ojeda and Barquez (1978) reported *Phylloderma stenops* from Bolivia and Barquez and Ojeda

TABLE 1

Results of an Analysis of Variance of Five Measurements of Bolivian Series of *Uroderma bilobatum bilobatum* and *Uroderma bilobatum thomasi*

Variable	<i>U. b. bilobatum</i> (Beni)				<i>U. b. thomasi</i> (Yungas)				Signifi- cance
	Mean	Vari- ance	N	Range	Mean	Vari- ance	N	Range	
Forearm length	41.64	2.83	25	39.0–44.9	42.59	1.47	63	40.2–45.3	.004
Condylbasal length	20.93	.29	27	19.9–21.9	21.49	.23	64	20.2–22.8	.000
Greatest length of skull	23.33	.29	27	22.3–24.2	23.85	.28	64	22.1–25.1	.000
Breadth across upper molars (M ¹)	9.04	.07	27	8.9–9.6	9.33	.09	64	8.5–9.9	.000
Length of maxillary tooththrow	8.13	.07	27	7.5–8.6	8.33	.08	64	7.3–8.8	.014

(1979) described *P. s. boliviensis* on the basis of two specimens from **Santa Cruz**—13.

Trachops cirrhosus (Spix). Koopman (1976) cited 11 specimens of *T. c. cirrhosus* from Beni. Specimens are from: **Beni**—23, 25, 27, 34, 89, 93.

Chrotopterus auritus Peters. There is one specimen (AMNH #209353) of *C. a. australis* Thomas from locality 23 in **Beni**. Sanborn (1932a) recorded this species from three localities in Santa Cruz but the specimens have since been reidentified as *Tonatia silvicola*.

Glossophaga soricina (Pallas). Osgood (1916) reported *G. soricina* from Trinidad in Beni. The highest locality in Bolivia is 500 m., in Peru it is 1850 m. The subspecies name *G. s. soricina* is now applicable (Jones and Carter, 1976). Although we have not examined all the specimens, we are aware of catalog entries for specimens from: **Beni**—4, 5, 7–9, 19, 23, 25, 27, 28, 38, 42, 45, 48, 49, 51, 52, 56, 71, 72, 76–78, 80, 92, 94, 95; **Cochabamba**—11, 13; **Chuquisaca**—4; **La Paz**—3, 5, 6, 9, 12, 13, 15; **Santa Cruz**—13, 17, 19, 22, 24, 27, 31, 32.

Lichonycteris degener Miller. One specimen (AMNH #244621) was netted at locality 14 in **Cochabamba**. *Lichonycteris* is rare in collections and comparative material is sparse. However, AMNH #244621 agrees better with two specimens of *degener* from the state of Pará in Brazil than with a specimen of *L. obscura* from Costa Rica.

Lonchophylla thomasi Allen. Koopman (1976) cited two specimens from Beni. A

specimen from San Joaquin is probably this species. We could not trace the basis for the Bolivian record (Sanborn, 1943) of the related *L. mordax*. Specimens are from: **Beni**—14, 25, 45; **La Paz**—6.

Anoura caudifer (Geoffroy). This species is represented by specimens collected in 1979 and 1980. The altitudinal range in Bolivia is 360 to 1650 m., in Peru this species reaches 2845 m. Specimens are from: **Cochabamba**—8; **Chuquisaca**—3; **La Paz**—3, 8, 9, 11; **Santa Cruz**—34.

Anoura cultrata Handley, 1960. Two specimens (LSUMZ #22960, 22962) were taken at 1350 m. at **La Paz**—8. The species reaches 2260 m. in Peru. Koopman (1978) reported this species as *Anoura brevirostrum* from the department of Cuzco, Peru, the nearest previous record to Bolivia for this species. We follow Nagorsen and Tamsitt (1981) in treating *A. brevirostrum* Carter, 1968, as a synonym of *A. cultrata*.

Anoura geoffroyi Gray. Sanborn (1933) reported four specimens of *A. g. geoffroyi* from San Matias on the Brazilian frontier in Santa Cruz and gave a range of forearm lengths from 40 to 43 mm. Specimens are from: **Santa Cruz**—6.

We are aware of a number of specimens from montane regions in Cochabamba, La Paz, and Santa Cruz all from elevations of 1350 to 3300 m. Forearm lengths of these specimens (see table 2) range from 42.6 to 47.7 mm. and correspond closely with the range given by Sanborn (1933) for *A. g. peruana* to which we refer them. A specimen from Chuquisaca may be of this subspecies.

TABLE 2
Measurements in Millimeters of Forearm Length (Including the Wrist), for 23 Species of Bats from Bolivia

Taxon	Sex (male/female)	N	Mean	Variance	Range
<i>Anoura caudifer</i>	/4	4	37.38	1.20	35.9–38.8
<i>Anoura cultrata</i>	/2	2	41.15		40.7–41.6
<i>Anoura g. peruana</i>	8/8	16	44.64	1.72	42.6–47.7
<i>Carollia castanea</i>	13/7	20	36.03	.79	34.6–37.5
<i>Carollia brevicauda</i>	31/42	73	38.84	.85	37.4–41.8
<i>Carollia perspicillata</i>	52/42	94	43.17	1.15	41.3–46.2
<i>Rhinophylla pumilio</i>	/6	6	35.42	.57	34.7–36.1
<i>Sturnira erythromos</i>	63/65	128	40.76	1.10	38.8–43.8
<i>Sturnira lilium</i>	33/46	79	42.46	1.44	38.9–45.0
<i>Sturnira oporaphilum</i>	40/72	112	45.40	1.19	42.7–48.3
<i>Sturnira magna</i>	8/6	14	59.51	.97	58.4–61.6
<i>Vampyrops helleri</i>	1/8	9	37.78	1.22	36.0–38.6
<i>Vampyrops l. nigellus</i>	18/12	30	41.87	1.12	39.1–44.2
<i>Vampyrops l. lineatus</i>	3/1	4	46.15	1.00	44.9–47.1
<i>Vampyrops dorsalis</i>	19/26	45	46.47	1.02	44.5–49.1
<i>Vampyrops infuscus</i>	4/13	17	56.41	1.35	54.3–59.1
<i>Vampyroides caraccioloii</i>	6/1	7	52.87	1.06	51.3–54.8
<i>Chiroderma trinitatum</i>	4/8	12	42.01	.97	40.7–44.0
<i>Chiroderma salvini</i>	1/	1	52.70		52.7
<i>Artibeus anderseni</i>	/4	4	39.65	.64	39.0–40.2
<i>Artibeus c. glaucus</i>	21/32	53	40.16	1.09	37.3–42.1
<i>Artibeus j. fuliginosus</i>	10/5	15	59.53	2.24	55.4–63.3
<i>Artibeus p. fallax</i>	6/8	14	64.54	1.47	61.1–66.5
<i>Artibeus lituratus</i>	8/8	16	72.16	1.84	68.8–74.4

In Peru, the altitudinal range of this species is 300 to 3600 m. Specimens are from: **Cochabamba**—19; **Chuquisaca**—2; **La Paz**—8, 16, 18–20; **Santa Cruz**—24, 25.

Choeroniscus minor (Peters). Webster and Jones (1980) reported a specimen from Tomonoco (**La Paz**—6) and tentatively referred it to *C. minor*. This species as perceived by Koopman (1978) included *inca*, but was distinct from *C. intermedius*. Further systematic work on this group is certainly needed (see Williams and Genoways, 1980).

Carollia brevicauda (Weid). Pine (1972) revised the genus *Carollia* and applied the name *C. brevicauda* to two Bolivian specimens from Santa Cruz. The highest elevation record in Bolivia is 3300 m., in Peru it is 1100 m. Specimens are from: **Beni**—4, 72, 77, 79; **Cochabamba**—6, 8, 9, 13; **La Paz**—

3, 8, 9, 11, 12, 17, 18, 19; **Santa Cruz**—11, 12, 13, 16, 19.

Carollia castanea Allen. Pine (1972) reported one specimen from "Aleoche" (=Alecoche, La Paz). This species is now represented by numerous specimens from: **Beni**—72; **Cochabamba**—6, 12; **La Paz**—3, 6, 9, 14.

Carollia perspicillata (Linnaeus). Sanborn (1932a) reported specimens from two localities in Santa Cruz as *C. p. perspicillata*. Pine (1972) cited five Bolivian localities but did not use the subspecies name. Barquez (1977) and Ojeda and Barquez (1978) cited 56 specimens from Santa Cruz, also as *C. perspicillata* only; 44 of these are at the AMNH but 11 of them are *C. brevicauda*. The highest locality in Bolivia is at 1350 m., in Peru it is at 1550 m. Specimens are from: **Beni**—2–4, 6, 7, 11–13, 18, 20, 21, 23–28, 34, 38, 43,

45, 51, 52, 58, 61, 65, 72, 89, 93; **Cochabamba**—6, 11–15; **La Paz**—3, 5–9, 11–15; **Santa Cruz**—6, 13, 14, 16, 17, 19, 22, 26, 28, 31.

Rhinophylla pumilio Peters. Webster and Jones (1980) reported 12 specimens from locality 6 in **La Paz**. Six specimens at MSU from the same locality may be among those they reported. There are also six specimens at LSUMZ from **La Paz**—3.

Sturnira erythromos (Tschudi). Webster and Jones (1980) reported four specimens from Sacramento Alto in La Paz. Over 100 specimens are known from La Paz at elevations ranging from 1350 to 3300 m. Specimens are also known from two other departments at elevations ranging well below 1000 m. In Peru the altitudinal range for this species is from 1285 to 3600 m. (Koopman, 1978). Specimens are from: **Cochabamba**—6, 19; **La Paz**—8, 11, 16–20; **Santa Cruz**—34; **Tarija**—3, 4, 5, 12.

Sturnira lilium (Geoffroy). Sanborn (1932a) reported this species from three localities in Santa Cruz. Ojeda and Barquez (1978) reported 25 specimens from Santa Cruz as *S. l. lilium*. The altitudinal range of this species in Bolivia extends to 1650 m.; in Peru it extends to 1660 m. There are specimens (not all examined by us) known from: **Beni**—2, 6, 8, 12, 15, 18, 38, 39, 45, 52, 58, 61, 67, 72, 93; **Cochabamba**—6, 12, 14; **Chuquisaca**—4, 5; **La Paz**—3, 6, 8, 9, 11–15; **Santa Cruz**—12–14, 16, 17, 19, 22, 28, 31, 34; **Tarija**—2, 8, 10, 12, 13.

Sturnira magna de la Torre, 1966. Webster and Jones (1980) reported a specimen from Tomonoco in La Paz at 350 m. Specimens are from: **La Paz**—3, 6, 8, 11. The elevational range for this species in Bolivia is from 350 to 1650 m. In Peru this species ranges from the lowlands to 2200 m.

Sturnira oporaphilum (Tschudi). Specimens of this species were called *S. ludovici* by Koopman (1978). Study of large series of specimens from Bolivia and from the northern Andean area (Ecuador, Colombia, western Venezuela) including the types of *S. ludovici* Anthony, *S. bogotensis* Shamel, and *S. (Phyllostoma) oporaphilum* has permitted

us to resolve some of the confusion concerning the taxonomy of these bats in western South America. Bolivian specimens agree closely with the type of *S. oporaphilum* in forearm length, cranial proportions and in the features given by de la Torre (1959) in his redescription of that taxon. They differ from *S. ludovici* (from Ecuador) most noticeably in having a shorter skull and relatively shorter and broader (“squarer”) lower first molars.

In Bolivia, *S. oporaphilum* was taken in sympatry with *S. lilium* and *S. erythromos* at several localities in Cochabamba and La Paz. *Sturnira oporaphilum* is readily distinguished from *S. erythromos* by larger size and from *S. lilium* by the absence of a conspicuous “notch” in the lingual crest of the lower first and second molars. The altitudinal range of *S. oporaphilum* in Bolivia (200 to 2575 m.) agrees well with that reported in Peru (300 to 2700 m.) by Koopman (1978). Nine specimens from three localities in La Paz reported by Webster and Jones (1980) as *S. ludovici* are probably also *S. oporaphilum*. Specimens are from: **Cochabamba**—6, 11; **La Paz**—3, 6, 8, 9, 11, 17, 19.

Sturnira tildae de la Torre, 1959. Three specimens were collected in 1964 from Beni. Specimens are from: **Beni**—4, 6.

Uroderma bilobatum Peters. Davis (1968) revised the genus *Uroderma* and referred Bolivian material of *U. bilobatum* to two subspecies. *Uroderma b. bilobatum* is known from 51 specimens from 13 localities in Beni. The type locality of *U. b. thomasi* Andersen is Bella Vista in La Paz. Specimens of *U. b. bilobatum* are from: **Beni**—2, 4, 6, 19, 23, 24, 27, 38, 45, 47, 55, 60, 61. Specimens of *U. b. thomasi* are known from: **Beni**—63, 70, 73, 75, 78, 85, 89; **Cochabamba**—2, 3, 5, 6, 11, 12; **La Paz**—3, 4, 6, 15; **Santa Cruz**—8, 10, 13, 16, 17, 19.

According to Davis (1968), *U. b. thomasi* is larger than *U. b. bilobatum*. Davis saw only two specimens of *U. b. thomasi* from Bolivia, the holotype and paratype, and 19 specimens of *U. b. bilobatum* from the northern Beni. We have examined over 100 specimens of *Uroderma bilobatum* from Bolivia and simple statistical analysis of several cranial measurements and forearm lengths of samples

from four departments confirms the presence of two forms distinguished by size. The smaller *U. b. bilobatum* in Bolivia is confined to the lowland forests of northern Beni. The larger *U. b. thomasi* has a paramontane (*sensu* Koopman, in press) distribution pattern in Bolivia, as it does in Peru and Ecuador, and is known from intermediate (1350 m.) to low (200 m.) elevations in the departments of Cochabamba, La Paz, Santa Cruz, and southern Beni. In Peru it occurs up to 1850 m.

The results of an analysis of variance on measurements of forearm length and four cranial features are summarized in table 1. Previous analyses of variance revealed no significant sexual dimorphism and no significant differences among the samples from the departments of Cochabamba, La Paz, and Santa Cruz. Specimens from these departments were combined to form the "Yungas" sample. Specimens from the northern Beni were found to differ significantly from the other department samples in at least three of the five characters and in all characters when compared with the combined "Yungas" sample.

We laid out skulls by locality from north to south along the Rio Mamoré within Beni and examined them. The most abrupt change in size seems to occur at about latitude 13°40'S. Dividing the samples here instead of at the Beni-Cochabamba border would increase the significance of the difference between the samples of *U. b. bilobatum* and *U. b. thomasi* in table 1. Larger samples from central Beni would be required to measure the abruptness of the change.

Uroderma magnirostrum Davis, 1968. Davis reported specimens from five localities in Beni. Specimens are from: **Beni**—4, 6, 12, 13, 17a, 18, 23, 24, 26, 27, 36, 39, 46, 55, 57, 60, 61, 66, 67, 69, 72, 73, 75–77, 82.

Vampyrops dorsalis Thomas. This species was recently reported from the Yungas of Totoro (Cochabamba) by Barquez and Olrog (1980). In Peru, this species is known from as low as 860 to 3540 m. In Bolivia, the range is from 280 to 1650 m. Specimens are from: **Cochabamba**—6, 17; **La Paz**—8, 11; **Santa Cruz**—31.

Vampyrops helleri Peters. Koopman (1976) cited "numerous specimens" from north-eastern Bolivia. Ojeda and Barquez (1978) reported the species from Santa Cruz. Bolivian specimens of *V. helleri* exhibit considerable variation in the presence, position, and morphology of "accessory cusps" on the anterior margin of the second lower premolar. These are characters often used to distinguish *Vampyrops brachycephalus* which is currently unknown from Bolivia. In size, external characteristics, and other cranial features, the Bolivian specimens agree with *V. helleri incarum* Thomas to which we refer them. Specimens are from: **Beni**—2, 4, 6, 12, 13, 23, 24, 28, 38, 45, 47, 52, 58, 61, 65, 67, 75, 80, 89; **Cochabamba**—3, 5a, 6, 11–14; **La Paz**—3, 6, 8, 15; **Santa Cruz**—1, 9, 13, 19.

Vampyrops infuscus Peters. Barquez and Olrog (1980) reported this species from Cochabamba, extending the known range south from Peru. In Peru, the range of this species is from below 200 m. to 1600 m. In Bolivia the range is from 350 to 1650 m. Specimens are from **Cochabamba**—11; **La Paz**—3, 8, 9, 11.

Vampyrops lineatus (Geoffroy). Sanborn (1932a, 1955) referred to specimens of this species from Santa Cruz. We now judge that two subspecies are represented in Bolivia, *V. l. lineatus* from the lowlands of Beni south-eastward to Santa Cruz, and *V. l. nigellus* Gardner and Carter, 1972, from the Yungas of La Paz. In Bolivia, *V. l. nigellus* ranges up to 1650 m., in Peru to 2640 m. Specimens of *V. l. lineatus* are from: **Beni**—61, 63, 65, 71; **Santa Cruz**—21, 22, 31. Specimens of *V. l. nigellus* are known from: **La Paz**—8, 11. Gardner and Carter (1972) described *nigellus* as a separate species. Koopman (1978) considered it to be conspecific with *lineatus*. The most important external differences are the darker color and less prominent facial stripes of *nigellus*. Cranially, *nigellus* has a smaller, narrower skull and less flattened rostrum. There is no evidence of sympatry between these two forms in Bolivia.

Vampyrops vittatus (Peters). Five specimens were recently reported by Barquez and Olrog (1980) from the Yungas of Totoro,

Cochabamba—17, at an elevation of 1600 m. In Peru this species occurs up to 3300 m.

Vampyroides caracciolo Thomas. Eighteen specimens are known from: **Beni**—29; **La Paz**—3.

Chiroderma salvini Dobson. Specimens from La Paz extend the known range of this species southward from Ecuador. The subspecies is *C. s. salvini*. Specimens are from: **La Paz**—3, 8, 11.

Chiroderma trinitatum Goodwin, 1958. Koopman (1976) cited four specimens from three localities in Beni. Webster and Jones (1980) reported five specimens from Tomonoco as *C. t. trinitatum*. Specimens are from: **Beni**—27, 52, 58; **La Paz**—3, 6, 8, 9, 15.

Chiroderma villosum Peters. Koopman cited "numerous specimens" of *C. v. villosum* from Bolivia, the southernmost being from Buena Vista in Santa Cruz. Specimens are from: **Beni**—4, 7, 23, 24, 27, 34, 47, 65, 86; **La Paz**—6; **Santa Cruz**—19.

Ectophylla macconnelli (Thomas). Koopman (1976) cited six specimens from three localities in Beni. Webster and Jones (1980) reported eight specimens from La Paz as *Mesophylla m. macconnelli*. Koopman (1978) referred Peruvian lowland specimens (below 1000 m.) to *E. m. macconnelli*, but highland ones (1270 to 1570 m.) to *E. m. flavescens*. However, all Bolivian specimens, even those from higher elevations (1350 and 1650 m.) are *E. m. macconnelli*. Recognition of *Mesophylla* as a distinct genus seems to be based more on karyology than on gross morphology. Both treatments have been used in recent years and the question is still open. Specimens are from: **Beni**—6, 34, 52; **La Paz**—6, 8, 11.

Artibeus anderseni Osgood. Sanborn (1932a) reported a specimen from Buena Vista, Santa Cruz. Webster and Jones (1980) noted two from La Paz. Specimens are from: **Beni**—4, 6, 13, 14, 18, 23, 24, 30, 50, 65, 77, 80, 83, 89; **Cochabamba**—1, 12; **La Paz**—3, 6, 8; **Santa Cruz**—1, 19. This species has been confused with *A. cinereus* (e.g., Jones and Carter, 1976). See Koopman (1978) for the distinction of these two species.

Artibeus cinereus (Gervais). Webster and Jones (1980) reported four specimens of *A. c. pumilio* Thomas from La Paz. Two quite distinct subspecies (*pumilio* and *glaucus*) are represented in Bolivia. Though these have been treated as separate species (Thomas, 1924), Koopman (1978) gave evidence that they are conspecific. The specimens of *A. cinereus* seen by Koopman from Bolivia fall into two well-separated geographical and morphological groups. The four specimens from the lowlands of northern Beni are clearly the small *A. c. pumilio* (condylobasal length 17.0 for intact skull of AMNH #209595), whereas those from slightly higher elevations and ranging up to 1650 m. in Cochabamba and La Paz are the larger *A. c. glaucus* (see table 3). We are therefore somewhat skeptical of the allocation by Webster and Jones of specimens from La Paz (Tomonoco) to *A. c. pumilio*. Barquez and Olrog (1980) reported *Artibeus cinereus* from the Yungas of Totora in Cochabamba. Specimens of *A. c. glaucus* are from: **Cochabamba**—6, 12–14, 17; **La Paz**—3, 6–9, 11, 13. Specimens of *A. c. pumilio* are from: **Beni**—23, 34, 45, 95.

Artibeus hartii Thomas. Webster and Jones (1980) reported a specimen from La Paz (at 350 m.) as *Enchisthenes hartii*. An additional specimen (UMMZ #155846), from the Siberia Cloud Forest in Cochabamba, was captured at 2800 m. In Peru, this appears to be largely a highland species, known records ranging from 850 to 3540 m. Specimens are from: **Cochabamba**—19; **La Paz**—6.

Artibeus jamaicensis Leach. Ojeda and Barquez (1978) reported 39 specimens from Santa Cruz as *A. j. fuliginosus* Gray. Webster and Jones (1980) reported 19 specimens from La Paz as *A. fuliginosus*. The highest record in Bolivia is at 1350 m.; in Peru, it is 1330 m. As is the case for most other South American *Artibeus*, the taxonomy of this species is confused. In 1978, Koopman reluctantly called this species *Artibeus fuliginosus*. However, in our opinion, specific distinction from *A. jamaicensis* (particularly *A. j. trinitatis*) has not been demonstrated. Presence or absence of upper third molars varies from specimen to specimen. We are aware of speci-

TABLE 3

Measurements in Millimeters of Condylobasal Length (Taken from the Midpoint of a Line Connecting the Posterior Margins of the Occipital Condyles to the Anterior Margin of the Alveolus of the First Upper Incisor), for 18 Species of Bolivian Bats

Taxon	Sex (male/female)	N	Mean	Variance	Range
<i>Anoura caudifer</i>	/1	1	21.9		21.9
<i>Anoura cultrata</i>	/1	1	23.4		23.4
<i>Anoura g. peruana</i>	2/1	3	25.13	.50	24.6–25.6
<i>Carollia castanea</i>	7/2	9	17.30	.40	16.8–17.8
<i>Carollia brevicauda</i>	2/4	6	19.28	.51	18.4–19.8
<i>Carollia perspicillata</i>	12/18	30	20.16	.42	20.0–21.5
<i>Sturnira erythromos</i>	9/6	15	18.71	.25	18.4–19.3
<i>Sturnira lilium</i>	19/33	52	20.16	.44	19.5–21.3
<i>Sturnira oporaphilum</i>	9/13	22	20.56	.57	19.3–21.4
<i>Sturnira magna</i>	5/1	6	25.65	.58	24.9–26.0
<i>Vampyrops helleri</i>	1/7	8	18.97	.37	18.3–19.1
<i>Vampyrops l. nigellus</i>	3/3	6	21.98	.31	21.4–22.3
<i>Vampyrops l. lineatus</i>	3/1	4	22.25	.35	21.9–22.6
<i>Vampyrops dorsalis</i>	3/5	8	24.01	.47	23.2–24.6
<i>Vampyrops infuscus</i>	2/3	5	28.17	.56	27.5–28.9
<i>Artibeus c. glaucus</i>	9/10	19	17.98	.43	17.3–18.7
<i>Artibeus j. fuliginosus</i>	4/3	7	24.54	.36	24.0–25.2
<i>Artibeus p. fallax</i>	3/6	9	26.73	.43	25.9–27.3
<i>Artibeus lituratus</i>	5/3	8	27.94	.64	27.4–29.0

mens from: **Beni**—3, 4, 10, 13, 23–25, 27, 42, 58, 71, 89, 90, 91; **Cochabamba**—6, 12–14; **La Paz**—2, 3, 6, 9, 12–15; **Santa Cruz**—3, 9, 13, 19.

Artibeus lituratus (Olfers). D'Orbigny and Gervais (1847) reported *Stenoderma perspicillatum* from Guarayos and the province of Chiquitos in Santa Cruz. We have not examined their specimens and cannot indicate their identity with certainty, but this name was used formerly for specimens of large species of *Artibeus* and these may possibly be *A. lituratus*. Allen (1904) named *Artibeus rusbyi* from the Yungas of "Peru" (actually, from 6000 ft. and 18°S in southeastern Cochabamba, Bolivia, as indicated by notes on the specimen label). Cabrera ("1957"—1958) regarded *rusbyi* as a junior synonym of *lituratus*. Sanborn (1932a) reported specimens from Santa Cruz as *A. jamaicensis lituratus*. Ojeda and Barquez (1978) reported 38 specimens from Santa Cruz as *A. l. lituratus*. Webster and Jones (1980) reported speci-

mens from La Paz as *A. l. lituratus*. All specimens examined lack the third upper molar. The highest known locality in Bolivia is 606 m., in Peru it is 2000 m. We are aware of specimens (probably of this species although we have not examined all of them critically) from: **Beni**—3, 4, 6, 8, 10, 15, 18, 23, 24, 26, 27, 32, 35, 36, 38, 41, 45, 47, 50, 54, 57, 60, 61, 63, 67, 72, 82, 83, 85, 86, 89, 95; **Cochabamba**—2, 6, 11–14, 21; **La Paz**—3, 6, 7, 14; **Santa Cruz**—1–3, 5, 7–9, 11, 13, 14, 32.

Artibeus planirostris (Spix). Thomas (1898) reported one specimen from Tarija. Webster and Jones (1980) reported specimens from two localities in La Paz. We use the name *Artibeus planirostris fallax* Peters. All specimens examined possess M³ and lack distinct facial stripes. The highest locality in Bolivia is 1350 m., in Peru this species ranges to 2000 m. We are aware of material (not all of it critically examined) from **Beni**—4, 6, 10, 12, 16, 17, 23, 25–27, 38, 39, 60, 61, 63, 65, 72, 78, 79, 82, 85, 87, 93; **Cochabamba**—13; **La**

Paz—3, 6–9, 12, 13, 15; **Santa Cruz**—1, 9, 13, 22, 31, 34; **Tarija**—8.

Pygoderma bilabiatum (Wagner). Ojeda and Barquez (1978) cited 12 specimens from Santa Cruz. There are also specimens from two other localities in Santa Cruz. Specimens are from: **Santa Cruz**—13, 17, 34.

Sphaeronycteris toxophyllum Peters. Koopman (1976) reported three specimens from Beni. The localities are: **Beni**—24, 25, 27.

Desmodus rotundus (Geoffroy). D'Orbigny and Gervais (1847) reported this vampire from Santa Cruz as *Edostoma cinerea*. Thomas (1898) recorded this species as *Desmodus rufus* from Tarija. Thomas (1902a) and Neveu-Lemaire and Grandidier (1911) reported *Desmodus rotundus* from Parotani, Cochabamba. Sanborn (1932a) and Ojeda and Barquez (1978) noted *D. rotundus* from Santa Cruz. The highest locality in Bolivia is 3600 m., in Peru it is 3500 m. We are aware of specimens from: **Beni**—4, 18, 24, 27, 34, 38, 42, 45, 52, 63, 72, 83, 89, 91, 93, 97; **Cochabamba**—2, 7, 15, 18, 20, 22; **Chuquisaca**—4, 5; **La Paz**—3, 5, 15, 21, 22; **Santa Cruz**—13, 14, 19, 24, 29; **Tarija**—3, 8.

Desmodus youngi Jentink. Koopman (1976) noted six specimens from three localities in Beni as *Diaemus youngi*. Specimens are from: **Beni**—23, 31, 48, 52.

FAMILY VESPERTILIONIDAE

Myotis albescens (Geoffroy). La Val (1973) in his revision of Neotropical *Myotis* cited three localities in Beni for this species. Bolivian localities are all below 500 m. but in Peru the species occurs up to 1500 m. We are aware of specimens from: **Beni**—16, 21, 23, 24, 27, 52, 62, 87; **Cochabamba**—3, 14; **Santa Cruz**—13; **Tarija**—14.

Myotis keaysi Allen. Two specimens (LSUMZ #23161 and 23162) were collected in 1979 at Sacramento Alto, 2575 m.; **La Paz**—19. These specimens are referred to *Myotis keaysi keaysi*.

Myotis levis (Geoffroy). Three specimens were obtained in 1980 from Gene Harris, an animal dealer in Santa Cruz de la Sierra. The

specimens were probably from that city (**Santa Cruz**—22) or, if not, they were from that region of the department of Santa Cruz (he had also netted some bats near Valle Grande). The subspecies may be *M. l. dinellii*, which occurs in northwestern Argentina.

Myotis nigricans (Schinz). D'Orbigny and Gervais (1847) reported *Vespertilio hypothyryx* from the province of Moxos in Beni. The species is probably *Myotis nigricans*, although we have not examined any of their specimens and La Val (1973) did not allocate the name *V. hypothyryx* in his revision. Osgood (1916) reported *Myotis nigricans* from Cochabamba and Thomas (1925) reported this species from Tarija. Sanborn (1932a) reported *M. n. nigricans* from Cochabamba. The highest locality record in Bolivia is at 2600 m.; in Peru the species ranges up to 3370 m. We are aware of specimens (not all examined by us) from: **Beni**—16, 24, 31, 38, 40, 44, 45, 47, 51–53, 56, 68, 72, 75, 78, 81, 82, 95, 97; **Cochabamba**—3, 4, 7, 13, 16, 18; **Chuquisaca**—2; **La Paz**—3, 6; **Santa Cruz**—13, 14, 18–20, 22, 23, 30, 34; **Tarija**—1, 2, 8, 9.

Myotis oxyotus Peters. La Val (1973) cited one specimen from Chulumani, La Paz (ca. 1800 m.) as *M. o. oxyotus*. Perhaps this specimen was the basis for Thomas's (1902b) reporting of *Myotis Dinnellii* from "Bolivia" and the report of Neveu-Lemaire and Grandidier (1911) of *Myotis Dinelli*. The collector (Simons) and year (1901) agree with this hypothesis. The highest locality in Bolivia is 3110 m.; in Peru the species ranges from 800 to 3120 m. We are aware of specimens from: **La Paz**—19, 21; **Potosí**—1.

Myotis simus Thomas. Forty-five specimens were obtained in 1965 at locality 74 in **Beni**. This species had previously been known from Amazonian Brazil and Peru (La Val, 1973) and Paraguay (Myers, 1977).

Eptesicus furinalis (D'Orbigny). Thomas (1898) reported 15 specimens from four localities in Tarija as *Vesperugo (Eptesicus) fuscus*. Koopman examined two of these specimens in the BMNH and identified them as *E. furinalis*. Thomas (1902a) reported *Vespertilio* sp. from Choro in Cochabamba, and

Thomas (1920) named *Eptesicus montosus* based on the earlier reported specimen from Choro. Sanborn (1932a) cited *Eptesicus montosus* from Santa Cruz. Davis (1966) cited *Eptesicus furinalis chapmani* Allen from Santa Cruz, *E. furinalis furinalis* from Tarija, and *Eptesicus montosus montosus* from Cochabamba. Williams (1978) cited *E. f. chapmani* from Santa Cruz. Koopman (1978) treated *E. montosus* as a subspecies of *E. furinalis*. *Eptesicus furinalis furinalis* has been reported from: **Tarija**—1, 7, 8, 11. *Eptesicus f. chapmani* is known from: **Beni**—4, 45, 52; **Santa Cruz**—19, 22, 28, 30, 33. *E. f. montosus* is recorded from: **Cochabamba**—10, 16, 19.

Williams (1978) mapped most of eastern Bolivia in the probable range of *Eptesicus diminutus* but there are no known specimens from Bolivia.

Histiotus macrotus (Poepig). We follow Cabrera ("1957"—1958) in referring Bolivian specimens to *Histiotus macrotus laephotis*. D'Orbigny and Gervais (1847) cited *Plecotus velatus* from the city of Chuquisaca. Thomas (1898) reported *Vesperugo (Histiotus) velatus* from Tarija. Thomas (1916) named *Histiotus laephotis* from Caiza in Tarija. We have not examined these specimens and are not sure how many species or which species actually occur in Bolivia. Specimens are from: **Chuquisaca**—1; **Tarija**—1, 8.

Rhogeessa tumida Allen. A specimen from Caravana in Beni taken in 1963, documents this species in the Bolivian fauna. This species had previously been reported from northern Matto Grosso, Brazil (Pine, Bishop, Jackson, 1970). The specimen was taken at locality: **Beni**—39.

Lasiurus borealis (Muller). Thomas (1898) reported *Atalapha borealis frantzii* Peters from Tarija. A specimen at AMNH (#209773) from Beni is referred to *Lasiurus borealis frantzii*. Localities are: **Beni**—4; **Tarija**—8, 11.

Lasiurus cinereus (Beauvois). Dobson (1878) cited a specimen from Bolivia as "*Atalapha cinerea* Var α (*Atalapha grayi*).” Thomas (1898) cited two specimens from Tarija. Sanborn and Crespo (1957) cited

specimens from Tarija as *Lasiurus cinereus villosissimus* (Geoffroy). In Bolivia the known altitudinal range is 500 to 3300 m.; in Peru it is 1000 to 3300 m. Specimens are from: **La Paz**—18; **Tarija**—1, 8.

Lasiurus ega (Gervais). Thomas (1898) cited *Atalapha ega* from Tarija. Sanborn (1932a) cited *Dasypterus ega* subsp. from Santa Cruz. The name *Lasiurus ega* was used by Handley (1960). If subspecies are recognized, the name *L. e. ega* applies to Bolivian specimens. Specimens are from: **Beni**—45, 75, 78; **La Paz**—3; **Santa Cruz**—19, 22; **Tarija**—8.

FAMILY MOLOSSIDAE

Molossops planirostris (Peters). This species is known from Bolivia by 19 specimens. It was previously known from Brazil, Paraguay, and northern Argentina. The Bolivian specimens are apparently assignable to the nominate subspecies *M. p. planirostris*. Specimens are from: **Beni**—45; **Santa Cruz**—30.

Molossops temmincki (Burmeister). Ten specimens from the following localities provide the first Bolivian records for this species: **Beni**—45, 48, 52; **Santa Cruz**—17; **Tarija**—2. These are referable to the nominate subspecies *M. t. temmincki*.

Tadarida brasiliensis (Geoffroy). Sanborn (1932a) reported three specimens from the Yungas of Cochabamba. The subspecies is *T. b. brasiliensis*. We are aware of specimens from: **Beni**—44, 45; **Cochabamba**—4; **Tarija**—6.

Nyctinomops laticaudata (Geoffroy). Twenty-nine specimens document the occurrence of *N. laticaudata europs* (Allen) in Bolivia. See Silva-Taboada and Koopman (1964) for reasons for including *europs* in *laticaudata*. See Freeman (1980) for use of the genus *Nyctinomops*. Specimens are from: **Beni**—23, 56; **Tarija**—2.

Eumops auripendulus (Shaw). Sanborn (1932b) reported a specimen from Ixiama, La Paz, as *Eumops abrasus milleri* (Allen). Eger (1974) revised the genus and used *Eumops auripendulus auripendulus* for Bolivian

material from Ixiamas in La Paz and Camiaco in Beni. We are aware of material from: **Beni**—40, 45, 72, 85; **La Paz**—1; **Santa Cruz**—29.

Eumops bonariensis (Peters). Osgood (1916) reported 29 specimens of *E. bonariensis* from Trinidad, Beni. Sanborn (1932b) named *E. bonariensis beckeri* based on those specimens. Eger (1977) reported 15 specimens from two other localities in Beni. Including the above we are aware of 269 specimens from: **Beni**—42, 44, 45, 52, 56, 62, 78, 96, 97; **Santa Cruz**—13, 30.

Eumops glaucinus (Wagner). Dobson (1878) reported a specimen from Bolivia as *Molossus glaucinus*. Eger (1977) cited two from Magdalena in Beni as *Eumops g. glaucinus*. There are also specimens from near Mora in Santa Cruz (MSU #31047–31050). Specimens are from: **Beni**—45, 56; **Santa Cruz**—30.

Eumops perotis (Schinz). Dobson (1878) reported a specimen from Bolivia as *Molossus perotis*. Eger (1977) mapped the probable range of *E. perotis perotis* as including parts of southern Bolivia, although the only specimen from Bolivia is from an unknown locality. There are also specimens from nearby Paraguay and Argentina. Eger (1977) reported a specimen of *Eumops trumbulli* (Thomas) from Guayaramerin in the Beni. Koopman (1978) has treated *trumbulli* as a

subspecies of *E. perotis*. There are 35 specimens, all assignable to *E. p. trumbulli*, from: **Beni**—4, 45, 52, 96, 97.

Molossus ater (Geoffroy). Alston (1879) cited *Molossus rufus* Geoffroy from Bolivia. Use of the name *ater* for this species dates from Goodwin (1969). The Bolivian specimens, all assignable to *M. a. ater*, are from: **Beni**—45, 47, 72, 75, 78; **Santa Cruz**—13.

Molossus molossus (Schreber). D'Orbigny and Gervais (1847) reported *Molossus velox* (Temminck) from Moxos and from Guayaquitos, and Schreber (1855) cited *Dysops velox* from Bolivia. Dobson (1878) reported three specimens of *Molossus rufus* Var. α (*Molossus obscurus*) Geoffroy, from Bolivia. Thomas (1898) reported a specimen from Caiza, Tarija, and Osgood (1916) reported specimens from Todos Santos, Cochabamba, and Trinidad, Beni, as *Molossus obscurus*. Sanborn (1932a) reported a specimen from Villa Bella, Beni, as *Molossops brachymeles* and he reported *M. obscurus* from two localities in Santa Cruz. Use of the name *M. molossus* for this species dates from Husson (1962). We are aware of specimens (probably of this species and referable to the subspecies *M. molossus crassicaudatus* Geoffroy, although we have not examined all of them critically) from: **Beni**—1, 4, 16, 44, 45, 47, 51–53, 56, 58, 62, 72, 75, 78, 81, 94–97; **Cochabamba**—7; **La Paz**—2, 6, 10, 13, 15; **Santa Cruz**—13–15, 18, 19, 22, 26, 29; **Tarija**—8.

APPENDIX

This appendix provides a gazetteer of localities from which bats are known and a list of specimens recorded from each locality. Locality records are grouped first by department (in alphabetical order) and then ordered within each department by coordinates of latitude and longitude (to the nearest minute) in ascending numerical order. Localities for which precise coordinates are unknown are included at the end of the sequence for the appropriate department (when known) or at the end of the gazetteer.

Each entry is of the form illustrated below:

1. 1023/6524. Villa Bella: *Molossus molossus* (1/4).

The first number, followed by a period in the above example is the index number of the locality

as listed in the Species Accounts. The next series, of the form 0000/0000, gives the geographic coordinates (latitude/longitude) in degrees and minutes. Following, is the locality designation, more or less as on the original specimen labels and other records, and a list of species reported from that locality. The code following the species name indicates one specimen in collection number 4. The collections and their acronyms and code numbers are listed in Acknowledgments. Subspecific names are given here only if more than one subspecies is recorded from Bolivia. When we judged it would be useful, we have also appended literature references or other comments following the collection code. Localities indicated with an asterisk (*) following the coordinates do not appear on the map (fig. 1) because they are within six minutes

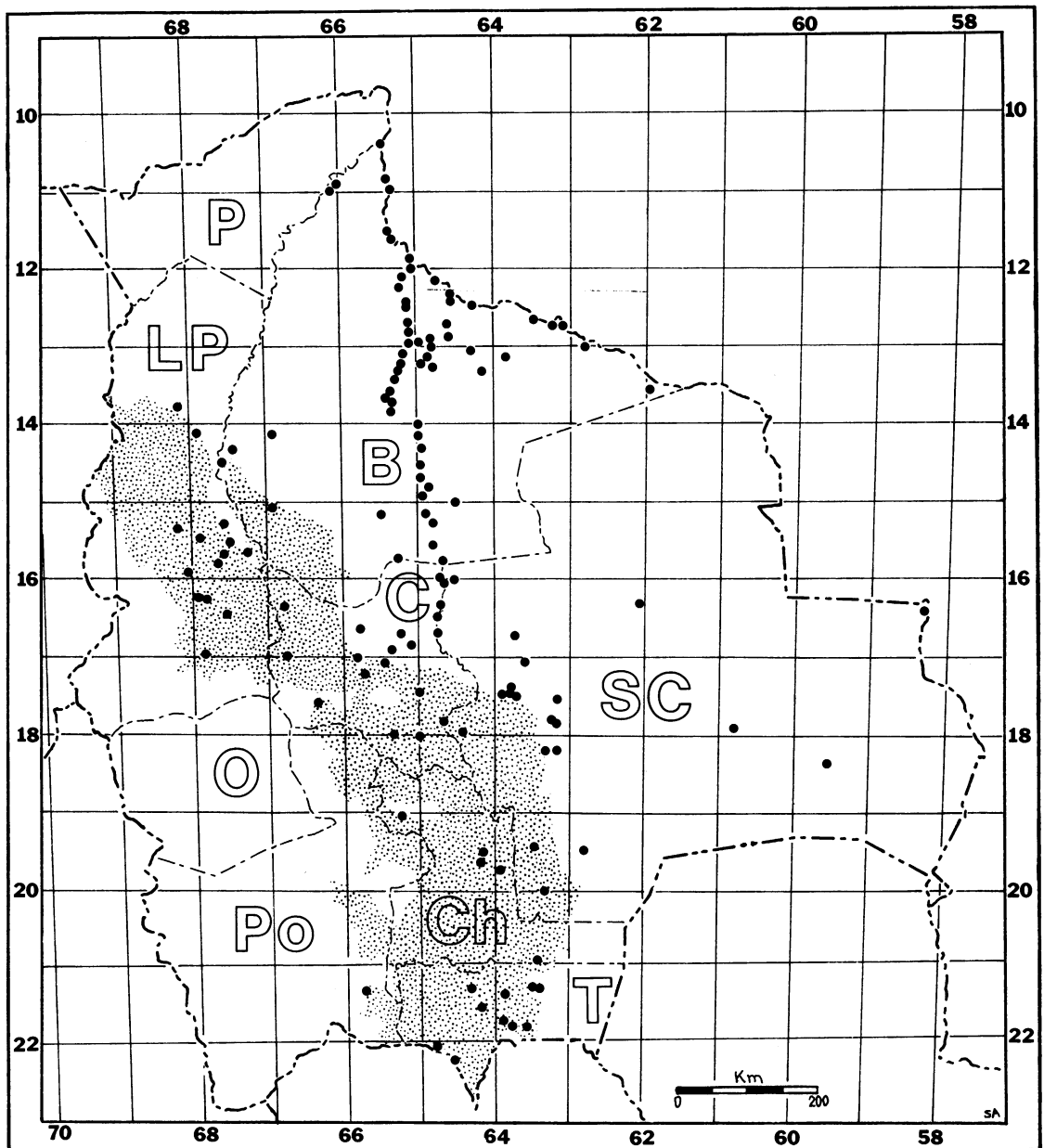


FIG. 1. Map of Bolivia showing all collecting localities for bats, as listed in the Appendix. The area between 500 and 3000 m. elevation is stippled. Above that area there are few bats, below that to the east, there is little topographic relief. The bat fauna is virtually unknown in extreme northwestern Bolivia and in a large area of eastern Santa Cruz. Open letters are initials for the names of the departments: B, Beni; C, Cochabamba; Ch, Chuquisaca; LP, La Paz; O, Oruro; P, Pando; Po, Potosí; SC, Santa Cruz; and T, Tarija.

of latitude and longitude of a locality that is mapped.

The coordinates given are our best estimates of

actual collecting sites (e.g., 7 km. N of Santa Rosa), *not* of the place (Santa Rosa) from which the collecting site was designated. Because of inaccuracies

and uncertainties in available maps and in measuring and recording positions in the field, these estimates may be somewhat in error. When a region was designated rather than a specific locality, this is noted (cf. Cochabamba-4). In these cases, coordinates were arbitrarily chosen from the central part of the region. Locality designations taken from specimen labels and other records are given in sufficient detail to eliminate most ambiguity when labels on specimens are compared with this list.

LIST OF LOCALITIES AND SPECIMENS (BY DEPARTMENT)

BENI

1. 1023/6524. Villa Bella: *Molossus molossus* (1/4).
2. 1048/6525. 2 km. or 1.5 km. N of Guayaramerin, on island: *Carollia perspicillata* (3/1); *Sturnira lilium* (1/1); *Uroderma b. bilobatum* (1/1); *Vampyrops helleri* (1/1).
3. 1048/6526*. 1.5 km. NW of Guayaramerin: *Carollia perspicillata* (1/1); *Artibeus jamaicensis* (1/1); *A. lituratus* (1/1).
4. 1049/6525*. Guayaramerin: *Noctilio albiventris* (1/1); *Glossophaga soricina* (3/1); *Carollia brevicauda* (1/1); *C. perspicillata* (11/1); *Sturnira tildae* (2/1); *Uroderma b. bilobatum* (6/1); *U. magnirostrum* (4/1); *Vampyrops helleri* (3/1); *Chiroderma villosum* (9/1); *Artibeus anderseni* (1/1); *A. jamaicensis* (7/1); *A. lituratus* (4/1); *A. planirostris* (1/1); *Desmodus rotundus* (7/1); *Eptesicus furinalis chapmani* (1/1); *Lasius borealis* (1/1); *Eumops perotis trumbulli* (4/1); *Molossus molossus* (1/1).
5. 1052/6525*. 5 km. S of Guayaramerin on Rio Mamoré: *Glossophaga soricina* (2/1).
6. 1052/6525*. 5 km. S of Guayaramerin: *Carollia perspicillata* (5/1); *Sturnira lilium* (11/1); *S. tildae* (1/1); *Uroderma b. bilobatum* (6/1); *U. magnirostrum* (2/1); *Vampyrops helleri* (5/1); *Ectophylla macconnelli* (4/1); *Artibeus anderseni* (4/1); *A. lituratus* (3/1); *A. planirostris* (1/1).
7. 1055/6602. 10 km. NNE of Riberalta: *Glossophaga soricina* (1/8); *Carollia perspicillata* (1/8); *Chiroderma villosum* (2/8).
8. 1056/6520. Siete Islas, 8 km. N of Santa Cruz: *Glossophaga soricina* (1/1); *Sturnira lilium* (1/1); *Artibeus lituratus* (1/1).
9. 1059/6606. Riberalta: *Noctilio albiventris* (1/8); *Glossophaga soricina* (3/8).
10. 1129/6518. 5 km. S of Coimbra, Brazil: *Artibeus jamaicensis* (1/1); *A. lituratus* (1/1); *A. planirostris* (1/1).
11. 1131/6517*. 5 km. SE of Coimbra, Brazil: *Carollia perspicillata* (1/1).
12. 1134/6513. 5 km. SW of Buena Hora, Brazil: *Carollia perspicillata* (1/1); *Sturnira lilium* (1/1); *Uroderma magnirostrum* (3/1); *Vampyrops helleri* (1/1); *Artibeus planirostris* (1/1).
13. 1136/6512*. Arroyo Mercedes, 6 km. S of Buena Hora: *Rhynchonycteris naso* (7/1); *Carollia perspicillata* (1/1); *Uroderma magnirostrum* (3/1); *Vampyrops helleri* (2/1); *Artibeus anderseni* (11/1); *A. jamaicensis* (1/1).
14. 1149/6506. 7 km. N of Lagoinha: *Lonchophylla thomasi* (1/1); *Artibeus anderseni* (4/1).
15. 1200/6502. Rio Itenez, about 20 km. above mouth: *Sturnira lilium* (1/1); *Artibeus lituratus* (1/1).
16. 1200/6506*. Puerto More: *Noctilio albiventris* (8/1); *Artibeus planirostris* (12/1); *Myotis albescentis* (11/1); *M. nigricans* (9/1); *Molossus molossus* (104/1).
17. 1205/6445. Bahia de Oncas: *Artibeus planirostris* (1/1).
- 17a. 1205/6509. Alejandria: *Uroderma magnirostrum* (1/1).
18. 1213/6513. Cascajal: *Carollia perspicillata* (1/1); *Sturnira lilium* (4/1); *Uroderma magnirostrum* (2/1); *Artibeus anderseni* (3/1); *A. lituratus* (2/1); *Desmodus rotundus* (2/1).
19. 1219/6428. Puerto Acre: *Phyllostomus elongatus* (1/1); *Glossophaga soricina* (1/1); *Uroderma b. bilobatum* (1/1).
20. 1222/6430*. 5 km. NW of Principe da Beira, Brazil: *Carollia perspicillata* (1/1).
21. 1225/6428. W bank of Rio Itenez opposite Principe da Beira, Brazil: *Carollia perspicillata* (1/1); *Myotis albescentis* (1/1).
22. 1226/6511. Rio Mamoré at 12°26'S latitude: *Saccopteryx bilineata* (13/1); *S. leptura* (9/1); *Peropteryx macrotis* (3/1); *Noctilio albiventris* (3/1).
23. 1229/6415. Rio Itenez, 4 km. above Costa Marquez, Brazil: *Rhynchonycteris naso* (7/1); *Noctilio albiventris* (10/1); *Trachops cirrhosus* (1/1); *Chrotopterus auritus* (1/1); *Glossophaga soricina* (4/1); *Carollia perspicillata* (4/1); *Uroderma b. bilobatum* (6/1); *U. magnirostrum* (2/1); *Vampyrops helleri* (1/1); *Chiroderma villosum* (4/1); *Artibeus anderseni* (1/1); *A. cinereus pumilio* (1/1); *A. jamaicensis* (5/1); *A. lituratus* (8/1); *A. planirostris* (9/1); *Desmodus youngi* (2/1); *Myotis albescentis* (2/1); *Nyctinomops laticaudata* (1/1).
24. 1229/6417*. Rio Itenez, bank opposite Costa Marquez, Brazil: *Rhynchonycteris naso* (2/1); *Saccopteryx leptura* (2/1); *Noctilio albiventris* (6/1); *Tonatia carrikeri* (1/1); *Carollia perspicillata* (3/1); *Uroderma b. bilobatum* (9/1); *U. magnirostrum* (20/1); *Vampyrops helleri*

- (8/1); *Chiroderma villosum* (32/1); *Artibeus anderseni* (1/1); *A. jamaicensis* (4/1); *A. lituratus* (41/1); *Sphaeronycteris toxophyllum* (1/1); *Desmodus rotundus* (2/1); *Myotis albes-cens* (1/1); *M. nigricans* (1/1).
25. 1229/6418*. Rio Itenez, 1.5 km. below Costa Marquez, Brazil: *Rhynchonycteris naso* (1/1); *Trachops cirrhosus* (2/1); *Glossophaga soricina* (1/1); *Lonchophylla thomasi* (1/1); *Carollia perspicillata* (1/1); *Artibeus jamaicensis* (3/1); *A. planirostris* (9/1); *Sphaeronycteris toxophyllum* (1/1).
 26. 1230/6415*. Pampa de Meio, on Rio Itenez about 6 km. above Costa Marquez, Brazil: *Rhynchonycteris naso* (4/1); *Noctilio albiventris* (1/1); *Carollia perspicillata* (1/1); *Uroderma magnirostrum* (1/1); *Artibeus lituratus* (7/1); *Artibeus planirostris* (1/1).
 27. 1230/6418*. Mouth of the Rio Baures: *Rhynchonycteris naso* (16/1); *Noctilio albiventris* (2/1); *N. leporinus* (1/1); *Macrophyllum macrophyllum* (2/1); *Mimon crenulatum* (1/1); *Trachops cirrhosus* (1/1); *Glossophaga soricina* (3/1); *Carollia perspicillata* (6/1); *Uroderma b. bilobatum* (4/1); *U. magnirostrum* (13/1); *Chiroderma trinitatum* (1/1); *C. villosum* (7/1); *Artibeus jamaicensis* (2/1); *A. lituratus* (20/1); *A. planirostris* (16/1); *Sphaeronycteris toxophyllum* (1/1); *Desmodus rotundus* (2/1); *Myotis albes-cens* (1/1).
 28. 1232/6509. 17 km. NNE of Nuevo Berlin: *Glossophaga soricina* (3/1); *Carollia perspicillata* (4/1); *Vampyrops helleri* (1/1).
 29. 1240/6330. Rio Curiche: *Rhynchonycteris naso* (1/1); *Vampyrops caraccioli* (1/1).
 30. 1241/6506. Nuevo Berlin: *Artibeus anderseni* (2/1).
 31. 1241/6432*. 15 km. above Horquilla, on Rio Machupo: *Desmodus youngi* (3/1); *Myotis nigricans* (1/1).
 32. 1242/6308. Capivara: *Artibeus lituratus* (1/1).
 33. 1243/6435. 20 km. above Horquilla, on Rio Machupo: *Phyllostomus hastatus* (2/1).
 34. 1244/6318. Versalles: *Saccopteryx bilineata* (7/1); *Peropteryx macrotis* (3/1); *Trachops cirrhosus* (1/1); *Carollia perspicillata* (2/1); *Chiroderma villosum* (1/1); *Ectophylla macconnelli* (1/1); *Artibeus cinereus pumilio* (1/1); *Desmodus rotundus* (6/1).
 35. 1248/6505. Puerto Siles: *Noctilio leporinus* (1/1); *Artibeus lituratus* (2/1).
 36. 1249/6504*. 2 km. E of Puerto Siles or Rio Matucaré near Puerto Siles: *Uroderma magnirostrum* (1/1); *Artibeus lituratus* (3/1).
 37. 1249/6505*. Mouth of Rio Matucaré: *Noctilio albiventris* (2/1).
 38. 1251/6436. Esperanza: *Tonatia silvicola* (1/5); *Phyllostomus discolor* (2/5); *Glossophaga soricina* (6/5); *Carollia perspicillata* (4/5); *Sturnira lilium* (2/5); *Uroderma b. bilobatum* (1/5); *Vampyrops helleri* (4/5); *A. lituratus* (1/5); *A. planirostris* (4/5); *Desmodus rotundus* (2/5); *Myotis nigricans* (1/5).
 39. 1255/6449. Caravani: *Sturnira lilium* (1/5); *Uroderma magnirostrum* (1/5); *Artibeus planirostris* (2/5); *Rhogeessa tumida* (1/5).
 40. 1256/6457. Ajunta: *Myotis nigricans* (13/5); *Eumops auripendulus* (2/5).
 41. 1259/6505. 22 km. S of Puerto Siles: *Noctilio albiventris* (10/1); *Artibeus lituratus* (2/1).
 42. 1300/6449. Aguadulce: *Saccopteryx bilineata* (1/5); *Glossophaga soricina* (2/5); *Artibeus jamaicensis* (1/5); *Desmodus rotundus* (1/5); *Eumops bonariensis* (1/5).
 43. 1301/6248. Mateguá: *Carollia perspicillata* (1/1).
 44. 1304/6416. Acapulco: *Myotis nigricans* (16/5); *Tadarida brasiliensis* (1/5); *Eumops bonariensis* (1/5); *Molossus molossus* (1/5).
 45. 1304/6449. San Joaquin, or Lago Saramuchyqui nearby: *Noctilio albiventris* (85/5); *Phyllostomus discolor* (10/5); *P. hastatus* (1/1); *Glossophaga soricina* (1/1); *Lonchophylla thomasi* (1/5/probably of this species); *Carollia perspicillata* (21/5); *Sturnira lilium* (12/5); *Uroderma b. bilobatum* (3/5); *Vampyrops helleri* (8/5); *Artibeus cinereus pumilio* (1/5); *A. lituratus* (8/5); *Desmodus rotundus* (5/5); *Myotis nigricans* (465/5); *Eptesicus furinalis chapmani* (1/5); *Lasiurus ega* (6/5); *Molossops planirostris* (2/5); *M. temminckii* (5/5); *Tadarida brasiliensis* (5/5); *Eumops auripendulus* (4/5); *E. bonariensis* (186/5/not all examined); *E. glaucinus* (1/5); *E. perotis trumbulli* (21/5); *Molossus ater* (28/5/not all seen); *M. molossus* (413/5).
 46. 1305/6514. Navidad: *Uroderma magnirostrum* (1/1).
 47. 1306/6348. Boa Vista, Bella Vista, or Buena Vista: *Uroderma b. bilobatum* (1/5); *Vampyrops helleri* (6/5); *Chiroderma villosum* (1/5); *Artibeus lituratus* (4/5); *Myotis nigricans* (1/5); *Molossus ater* (1/5); *M. molossus* (2/5).
 48. 1306/6449*. 4 km. S of San Joaquin, San Juan: *Phyllostomus hastatus* (26/5); *Glossophaga soricina* (41/5); *Desmodus youngi* (1/5); *Molossops temminckii* (1/5).
 49. 1310/6445*. Veinte y dos: *Glossophaga soricina* (1/1).
 50. 1312/6515. 8 km. N of Exaltación: *Artibeus anderseni* (4/1); *A. lituratus* (1/1).
 51. 1314/6459. Yuaté, 25 km. SW of San Joaquin: *Glossophaga soricina* (1/5); *Carollia perspicillata* (8/5); *Myotis nigricans* (10/5); *Molossus molossus* (22/5).
 52. 1315/6449*. Estancia Yutíole, 20 km. S of

- San Joaquin, or Estancia El Totai: *Noctilio albiventris* (15/5); *Phyllostomus hastatus* (5/1); *Glossophaga soricina* (8/1); *Carollia perspicillata* (10/1, 1/5); *Sturnira lilium* (3/1); *Vampyrops helleri* (3/1); *Chiroderma trinitatum* (1/1); *Ectophylla macconnelli* (1/1); *Desmodus rotundus* (2/1); *D. youngi* (1/1); *Myotis albescentis* (5/1); *M. nigricans* (2/5); *Eptesicus furinalis chapmani* (1/1); *Molossops temminckii* (2/1); *Eumops bonariensis* (1/1); *E. perotis trumbulli* (19/5); *Molossus molossus* (19/1).
53. 1317/6443. San Ramón: *Noctilio albiventris* (10/5); *Myotis nigricans* (3/5); *Molossus molossus* (2/5).
54. 1317/6515. 2 km. S of Exaltación: *Artibeus lituratus* (1/1).
55. 1319/6516*. 7 km. S of Exaltación: *Uroderma b. bilobatum* (1/1); *U. magnirostrum* (2/1).
56. 1320/6408. Magdalena: *Noctilio albiventris* (83/8); *Glossophaga soricina* (1/5); *Myotis nigricans* (1/8, 27/5); *Nyctinomops laticaudata* (14/1, 13/5); *Eumops bonariensis* (2/5, 8/8); *E. glaucinus* (2/8); *Molossus molossus* (7/1, 13/5, 61/8).
57. 1324/5618. 4 km. SE of Palacios: *Uroderma magnirostrum* (3/1); *Artibeus lituratus* (1/1).
58. 1334/6154. Remanso, also spelled Remansos: *Noctilio albiventris* (40/1); *Carollia perspicillata* (3/1); *Sturnira lilium* (3/1); *Vampyrops helleri* (1/1); *Chiroderma trinitatum* (2/1); *Artibeus jamaicensis* (1/1); *Molossus molossus* (3/1).
59. 1335/6520. Rio Mamoré at latitude 13°35'S: *Saccopteryx bilineata* (14/1).
60. 1338/6523*. Mouth of Rio Yacuma: *Uroderma b. bilobatum* (1/1); *U. magnirostrum* (2/1); *Artibeus lituratus* (8/1); *A. planirostris* (1/1).
61. 1338/6525. 2 km. from mouth of Rio Yacuma: *Carollia perspicillata* (2/1); *Sturnira lilium* (1/1); *Uroderma b. bilobatum* (11/1); *U. magnirostrum* (1/1); *Vampyrops helleri* (1/1); *V. l. lineatus* (1/1); *Artibeus lituratus* (2/1); *A. planirostris* (3/1).
62. 1338/6526*. 4 km. from mouth of Rio Yacuma: *Myotis albescentis* (176/1); *Eumops bonariensis* (21/1); *Molossus molossus* (72/1).
63. 1343/6521*. Puerto Caballo: *Uroderma bilobatum thomasi* (2/1); *Vampyrops l. lineatus* (1/1); *Artibeus lituratus* (2/1); *A. planirostris* (1/1); *Desmodus rotundus* (2/1).
64. 1345/6519. 4 km. above mouth of Rio Apere: *Noctilio leporinus* (1/1).
65. 1350/6520. Rio Mamoré at 13°50'S latitude: *Carollia perspicillata* (1/1); *Vampyrops helleri* (1/1); *V. l. lineatus* (2/1); *Chiroderma vilosum* (1/1); *Artibeus anderseni* (1/1); *A. planirostris* (1/1).
66. 1400/6458. Rio Mamoré at 14°00'S latitude: *Phyllostomus elongatus* (1/1); *Uroderma magnirostrum* (1/1).
67. 1410/6458. Rio Tijamuchi 4 km. from mouth: *Noctilio albiventris* (2/1); *Sturnira lilium* (2/1); *Uroderma magnirostrum* (3/1); *Vampyrops helleri* (2/1); *Artibeus lituratus* (1/1).
68. 1411/6653. Santa Rosa: *Myotis nigricans* (1/5).
69. 1416/6453*. Puerto Leigue: *Uroderma magnirostrum* (1/1).
70. 1419/6723. Reyes, 196 m.: *Uroderma bilobatum thomasi* (1/Davis, 1968).
71. 1420/6455. 10 km. W of San Pedro: *Noctilio albiventris* (1/1); *Glossophaga soricina* (1/1); *Vampyrops l. lineatus* (1/1); *Artibeus jamaicensis* (1/1).
72. 1428/6734. Rurrenabaque: *Phyllostomus hastatus* (3/9); *Glossophaga soricina* (98/1); *Carollia brevicauda* (2/1); *C. castanea* (6/1); *C. perspicillata* (14/1); *Sturnira lilium* (6/1); *Uroderma magnirostrum* (3/1); *Artibeus lituratus* (5/1); *A. planirostris* (23/1); *Desmodus rotundus* (14/1); *Myotis nigricans* (10/1); *Eumops auripendulus* (23/1); *Molossus ater* (1/8); *M. molossus* (19/1, 2/8).
73. 1431/6456. Rio Mamoré at 14°31'S latitude: *Uroderma bilobatum thomasi* (1/1); *U. magnirostrum* (1/1).
74. 1434/6455. 23 km. W of San Javier: *Noctilio albiventris* (123/1); *Myotis simus* (45/1).
75. 1437/6457*. Mouth of Rio Ibare: *Noctilio albiventris* (3/1); *N. leporinus* (1/1); *Uroderma bilobatum thomasi* (3/1); *U. magnirostrum* (1/1); *Vampyrops helleri* (2/1); *Myotis nigricans* (5/1); *Lasiurus ega* (1/1); *Molossus ater* (1/1); *M. molossus* (3/1).
76. 1438/6457*. 1 km. above mouth of Rio Ibare, or 25 km. NW of Trinidad: *Glossophaga soricina* (1/1); *Uroderma magnirostrum* (1/1).
77. 1446/6451*. 24 km. above mouth of Rio Ibare: *Glossophaga soricina* (1/1); *Carollia brevicauda* (1/1); *Uroderma magnirostrum* (4/1); *Artibeus anderseni* (1/1).
78. 1447/6447. Trinidad: *Noctilio leporinus* (1/7); *Glossophaga soricina* (1/5, 1/7/not seen); *Uroderma bilobatum thomasi* (1/7); *Artibeus planirostris* (2/7); *Myotis nigricans* (7/1, 7/5, 2/7); *Lasiurus ega* (1/7); *Eumops bonariensis* (16/1, 11/5, 3/8, 1/MCZ, Cambridge, MA); *Molossus ater* (3/7/not seen); *Molossus molossus* (4/1, 3/5).
79. 1447/6451*. 26 or 27 km. from mouth of Rio Ibare, Puerto Almacen: *Phyllostomus discolor*

- (1/1); *Carollia brevicauda* (1/1); *Artibeus planirostris* (1/1).
80. 1453/6453. 15 km. SE of Puerto Julio: *Glossophaga soricina* (2/1); *Vampyrops helleri* (1/1); *Artibeus anderseni* (1/1).
 81. 1500/6430. San Andres: *Myotis nigricans* (25/5); *Molossus molossus* (10/5).
 82. 1503/6658. 1 km. E of La Embocada: *Uroderma magnirostrum* (3/9); *Artibeus lituratus* (4/9); *A. planirostris* (2/9); *Myotis nigricans* (1/9).
 83. 1508/6451. 10 km. E of San Antonio: *Phyllostomus elongatus* (1/1); *Artibeus anderseni* (2/1); *A. lituratus* (1/1); *Desmodus rotundus* (2/1).
 84. 1510/6530. Province of Moxos: *Noctilio albiventris* (1/D'Orbigny, 1835).
 85. 1519/6444. Camiaco: *Uroderma bilobatum thomasi* (1/1); *Artibeus lituratus* (1/1); *A. planirostris* (1/1); *Eumops auripendulus* (1/1).
 86. 1528/6446*. 5 km. SE of Limoquije: *Chiroderma villosum* (1/1); *Artibeus lituratus* (1/1).
 87. 1534/6446. 15 km. S of Limoquije: *Noctilio leporinus* (1/1); *Artibeus planirostris* (1/1); *Myotis albescentis* (1/1).
 88. 1545/6515. Yungas, between Rio Securé and Rio Isibara, 1845 m.; *Tonatia silvicola* (?/D'Orbigny, 1836).
 89. 1550/6441. 5 km. NW of mouth of Rio Grande on Rio Mamoré: *Saccopteryx bilineata* (17/1); *Pteropteryx macrotis* (1/1); *Phyllostomus elongatus* (6/1); *Trachops cirrhosus* (6/1); *Carollia perspicillata* (2/1); *Uroderma bilobatum thomasi* (1/1); *Vampyrops helleri* (7/1); *Artibeus anderseni* (1/1); *A. jamaicensis* (1/1); *A. lituratus* (7/1); *Desmodus rotundus* (1/1).
 90. —Altwa San Juan: *Artibeus jamaicensis* (1/5).
 91. —Arruda: *Phyllostomus discolor* (2/5); *Artibeus jamaicensis* (1/5); *Desmodus rotundus* (1/5).
 92. —Barranquita: *Glossophaga soricina* (13/5).
 93. —Camino Vilches: *Trachops cirrhosus* (1/5); *Carollia perspicillata* (8/5); *Sturnira lilium* (3/5); *Artibeus planirostris* (1/5); *Desmodus rotundus* (3/5).
 94. —Centenela: *Glossophaga soricina* (2/5); *Molossus molossus* (52/5).
 95. —El Mojon: *Glossophaga soricina* (1/5); *Artibeus cinereus pumilio* (1/5); *A. lituratus* (2/5); *Myotis nigricans* (94/5); *Molossus molossus* (20/5).
 96. —Las Pavas: *Eumops bonariensis* (1/5); *E. perotis trumbulli* (1/5); *Molossus molossus* (6/5).
 97. —Providencia: *Desmodus rotundus* (1/5); *Myotis nigricans* (110/5); *Eumops bonariensis* (34/5); *E. perotis trumbulli* (5/5); *Molossus molossus* (85/5).

COCHABAMBA

1. 1555/6442*. Rio Ichilo, 5 km. N of mouth of Rio Chapare: *Artibeus anderseni* (1/1/taken from the Santa Cruz side of the river).
2. 1557/6442*. Rio Ichilo, 2 km. N of mouth of Rio Chapare: *Uroderma bilobatum thomasi* (1/1); *Artibeus lituratus* (1/1); *Desmodus rotundus* (1/1).
3. 1558/6442. Mouth of Rio Chapare: *Uroderma bilobatum thomasi* (1/1); *Vampyrops helleri* (1/1); *Myotis albescentis* (2/1); *M. nigricans* (36/1).
4. 1620/6645. (area) Yungas de Cochabamba: *Myotis nigricans* (7/1); *Tadarida brasiliensis* (3/4).
5. 1627/6445. West bank of Rio Ichilo, 51 km. S of mouth of Rio Chapare: *Uroderma bilobatum thomasi* (1/1).
- 5a. 1637/6514. Puerto San Francisco, 38 km. from Villa Tunari on Rio Matomajo: *Vampyrops helleri* (1/8).
6. 1637/6547. Puerto Patiño, 50 km. NW of Villa Tunari: *Micronycteris megalotis* (1/9); *Carollia brevicauda* (6/9); *Carollia castanea* (21/9); *C. perspicillata* (15/9); *Sturnira erythromos* (1/1); *S. lilium* (2/9); *S. oporaphilum* (6/9); *Uroderma bilobatum thomasi* (6/9); *Vampyrops dorsalis* (2/9); *V. helleri* (3/9); *Artibeus cinereus glaucus* (6/9); *A. jamaicensis* (1/9); *A. lituratus* (11/9).
7. 1648/6508. Todos Santos: *Desmodus rotundus* (1/1); *Myotis nigricans* (77/1, 5/Osgood, 1916); *Molossus molossus* (1/5).
8. 1656/6523. 2 km. NE of Villa Tunari: *Anoura caudifer* (1/1); *Carollia brevicauda* (4/9).
9. 1656/6524*. 2 km. N of Villa Tunari: *Carollia brevicauda* (2/9).
10. 1656/6642. El Choro: *Eptesicus furinalis montosus* (1/3/holotype).
11. 1657/6522*. 4 km. SE of Villa Tunari: *Glossophaga soricina* (1/9); *Carollia perspicillata* (4/9); *Sturnira oporaphilum* (1/9); *Uroderma bilobatum thomasi* (1/9); *Vampyrops helleri* (1/9); *V. infuscus* (1/9); *Artibeus lituratus* (2/9).
12. 1657/6523*. 2 km. E of Villa Tunari: *Phyllostomus hastatus* (1/1); *Carollia castanea* (12/1); *C. perspicillata* (30/1); *Sturnira lilium* (7/1); *Uroderma bilobatum thomasi* (3/1); *Vampyrops helleri* (2/1); *Artibeus anderseni* (1/1); *A. cinereus glaucus* (1/1); *A. jamaicensis* (8/1); *A. lituratus* (13/1).

13. 1657/6524*. San Antonio, later called Villa Tunari, or the confluence of the San Antonio and Espiritu Santo rivers, or 0.5 km. NE of Villa Tunari: *Glossophaga soricina* (2/9); *Carollia brevicauda* (2/9); *C. perspicillata* (12/9); *Vampyrops helleri* (1/9); *Artibeus cinereus glaucus* (2/9); *A. jamaicensis* (1/9); *A. lituratus* (1/9); *A. planirostris* (1/1); *Myotis nigricans* (17/1, 13/5).
 14. 1702/6529. "3" km. SW of Villa Tunari (=13 km. SW): *Lichonycteris degener* (1/1); *Carollia perspicillata* (4/1); *Sturnira lilium* (3/1); *Vampyrops helleri* (2/1); *Artibeus cinereus glaucus* (1/1); *A. jamaicensis* (2/1); *A. lituratus* (3/1); *Myotis albescens* (1/1).
 15. 1704/6531*. San Raphael, 19 km. SW of Villa Tunari: *Carollia perspicillata* (30/9); *Desmodus rotundus* (25/9).
 16. 1714/6541. Incachaca, 2600–3000 m.: *Myotis nigricans* (1/4); *Eptesicus furinalis montosus* (1/4).
 17. 1725/6459. Yungas de Totoro, 80 km. N of Monte Punco, 800 m. and 1600 m.: *Vampyrops dorsalis* (2/Barquez and Olrog, 1980); *V. vittatus* (5/Barquez and Olrog, 1980); *Artibeus cinereus glaucus* (5/Barquez and Olrog, 1980).
 18. 1734/6621. Parotani, 2600 m.: *Desmodus rotundus* (1/8, 8/Thomas, 1902a); *Myotis nigricans* (1/Thomas, 1902a).
 19. 1751/6440. 25 km. by road W of Comarapa in Siberia Cloud Forest, 2800 m. (originally judged to be in Santa Cruz), 30 km. W of Comarapa, in cloud forest at 2525 m., or 28 km. W of Comarapa, at 2580 m., across the departmental boundary in Santa Cruz: *Anoura geoffroyi peruana* (2/5, 1/9); *Sturnira erythromis* (3/5, 12/9); *Artibeus hartii* (1/9); *Eptesicus furinalis montosus* (1/9).
 20. 1759/6519. 5 km. S of Mizque: *Desmodus rotundus* (10/9).
 21. 1800/6500. lat. 18°S at 6000 ft. elevation: *Artibeus lituratus* (1/1/holotype of *Artibeus rushyi*).
 22. —Chimosi, in the Yungas: *Desmodus rotundus* (2/8).
- Azuerio, 1100 m.: *Glossophaga soricina* (1/5); *Sturnira lilium* (1/5); *Desmodus rotundus* (1/5).
5. 2056/6321. 2 km. S and 10 km. E of Tiquipa, 640 m.: *Sturnira lilium* (2/1); *Desmodus rotundus* (1/1).

LA PAZ

1. 1345/6809. Ixiamas, 221 m.: *Eumops auri- pendulus* (1/8).
2. 1409/6755. Tumupasa, 436 m.: *Artibeus jamaicensis* (1/8); *Molossus molossus* (2/8).
3. 1517/6737. Sararia and ca. 20 km. by river N Puerto Linares, 600 m.: *Noctilio leporinus* (1/9); *Glossophaga soricina* (19/6, 2/9); *Anoura caudifer* (1/6); *Carollia brevicauda* (5/6); *C. castanea* (24/6); *C. perspicillata* (76/6, 11/9); *Rhinophylla pumilio* (6/6); *Sturnira lilium* (3/6, 2/9); *S. magna* (1/6); *S. oporaphilum* (1/6); *Uroderma bilobatum thomasi* (8/6); *Vampyrops helleri* (26/6, 6/9); *V. infuscus* (2/6); *Vampyropes caracciolo* (17/6); *Chiroderma salvini* (1/6); *C. trinitatum* (12/6); *Artibeus anderseni* (5/6); *A. cinereus glaucus* (4/6); *A. jamaicensis* (23/6, 2/9); *A. lituratus* (23/6); *A. planirostris* (18/6, 3/9); *Desmodus rotundus* (9/6, 2/9); *Myotis nigricans* (6/9); *Lasiurus ega* (1/9).
4. 1520/6813. Bella Vista: *Uroderma bilobatum thomasi* (1/3/holotype).
5. 1528/6752. Guanay or Huanay, 380 m.: *Glossophaga soricina* (2/1); *Carollia perspicillata* (4/1); *Desmodus rotundus* (1/1).
6. 1529/6731. 1 mi. W of Puerto Linares, Tomonoco, 350 m.: *Rhynchonycteris naso* (1/ Webster and Jones, 1980); *Glossophaga soricina* (9/7); *Lonchophylla thomasi* (1/7); *Choeroniscus minor* (1/ Webster and Jones, 1980); *Carollia castanea* (8/7); *C. perspicillata* (17/7); *Rhinophylla pumilio* (6/7, 6/ Webster and Jones, 1980); *Sturnira lilium* (14/7); *S. magna* (1/ Webster and Jones, 1980); *S. oporaphilum* (1/7, 2/ Webster and Jones, 1980); *Uroderma bilobatum thomasi* (10/7); *Vampyrops helleri* (18/7); *Chiroderma trinitatum* (3/7, 5/ Webster and Jones, 1980); *C. villosum* (3/7); *Ectophylla macconnelli* (4/7, 8/ Webster and Jones, 1980); *Artibeus anderseni* (1/7/perhaps one of those reported by Webster and Jones, 1980; 2/ Webster and Jones, 1980); *A. cinereus glaucus* (4/ Webster and Jones, 1980); *A. hartii* (1/ Webster and Jones, 1980); *A. jamaicensis* (1–18/ Webster and Jones, 1980, reported 19 from here and 1546/6736 together, 9/7/possibly among those reported by Webster and Jones, 1980); *A. li-*

CHUQUISACA

1. 1902/6517. (area) Chuquisaca or Sucre, 2790 m.: *Histiotes* sp.?, (1/?/D'Orbigny and Gervais, 1847).
2. 1932/6407. 34 km. SE Padilla, in province of Tomina, 2380 m.: *Anoura geoffroyi peruana* (6/5); *Myotis nigricans* (1/5).
3. 1938/6406. 16 km. N Monteagudo, 1539 m.: *Anoura caudifer* (1/5).
4. 1946/6353. 70 km. SE Padilla, along Rio

- turatus (6/7); *A. planirostris* (12/7); *Myotis nigricans* (4/7); *Molossus molossus* (6/7).
7. 1530/6750*. 5 km. by road SE Guanay: *Carollia perspicillata* (1/9); *Artibeus cinereus glaucus* (1/9); *A. lituratus* (1/9); *A. planirostris* (1/9).
 8. 1538/6732. 47 km. by road N Caranavi at Serrania Bella Vista, 1350 m.: *Tonatia silvicola* (1/6); *Anoura caudifer* (3/6); *A. cultrata* (2/6); *A. geoffroyi peruana* (3/6); *Carollia brevicauda* (38/6); *C. perspicillata* (5/6); *Sturnira erythromos* (7/6); *S. lilium* (16/6); *S. magna* (7/6); *S. oporaphilum* (52/6); *Vampyrops dorsalis* (26/6); *V. helleri* (2/6); *V. infuscus* (13/6); *V. lineatus nigellus* (25/6); *Chiroderma salvini* (1/6); *C. trinitatum* (2/6); *Ectophylla macconnelli* (1/6); *Artibeus anderseni* (4/6); *A. cinereus glaucus* (25/6); *A. planirostris* (1/6).
 9. 1538/6739. 6.6 km. by road downstream from Caranavi, 653 m.: *Glossophaga soricina* (5/1); *Anoura caudifer* (1/1); *Carollia brevicauda* (1/1); *C. castanea* (3/1); *C. perspicillata* (19/1); *Sturnira lilium* (2/1); *S. oporaphilum* (1/1); *Vampyrops infuscus* (1/1); *Chiroderma trinitatum* (1/1); *Artibeus cinereus glaucus* (1/1); *A. jamaicensis* (4/1); *A. planirostris* (5/1).
 10. 1540/6715. Huachi: *Molossus molossus* (2/8).
 11. 1540/6735*. 35 to 38 km. by road N of Caranavi at Serrania Bella Vista, 1625–1675 m.: *Anoura caudifer* (4/1, 1/6); *Carollia brevicauda* (12/1, 19/6); *C. perspicillata* (16/1, 12/6); *Sturnira erythromos* (1/1, 6/6); *S. lilium* (6/1, 6/6, 1/7); *S. magna* (4/1, 4/6); *S. oporaphilum* (9/1, 7/6); *Vampyrops dorsalis* (6/1, 11/6); *V. infuscus* (3/1); *V. lineatus nigellus* (5/1); *Chiroderma salvini* (1/1); *Artibeus cinereus glaucus* (9/1, 12/6, 1/7).
 12. 1540/6742*. 4 km. by road NW of Alcoche, 425 m.: *Phyllostomus hastatus* (1/9); *Glossophaga soricina* (39/9); *Carollia brevicauda* (6/9); *C. perspicillata* (9/9); *Sturnira lilium* (3/9); *Artibeus jamaicensis* (1/9); *A. planirostris* (1/9).
 13. 1542/6735*. 20 km. by road NNE of Caranavi, 610 m.: *Micronycteris minuta* (1/9); *Glossophaga soricina* (2/9); *Carollia perspicillata* (7/9); *Sturnira lilium* (9/9); *Artibeus cinereus glaucus* (1/9); *A. jamaicensis* (2/9); *A. planirostris* (1/9); *Molossus molossus* (1/9).
 14. 1542/6740*. Alcoche: *Carollia castanea* (1/1); *C. perspicillata* (1/5); *Sturnira lilium* (4/5); *Artibeus jamaicensis* (6/5); *A. lituratus* (1/5).
 15. 1546/6736. Caranavi, 920 m.: *Noctilio leporinus* (1/7); *Glossophaga soricina* (18/7); *Carollia perspicillata* (4/7); *Sturnira lilium* (24/7); *Uroderma bilobatum thomasi* (34/7/seven not seen); *Vampyrops helleri* (3/7); *Chiroderma trinitatum* (1/7); *Artibeus jamaicensis* (1/7/Webster and Jones, 1980, see comment under 1529/6731); *A. planirostris* (14/7); *Desmodus rotundus* (3/7); *Molossus molossus* (1/7).
 16. 1553/6752. 30 km. by road N of Zongo, 2000 m.: *Anoura geoffroyi peruana* (4/9); *Sturnira erythromos* (1/9).
 17. 1555/6754. Rio Zongo Valley 1.9 km. by road, downstream from Saenani, 2236 m.: *Carollia brevicauda* (4/1); *Sturnira erythromos* (12/1); *S. oporaphilum* (2/1).
 18. 1613/6754. Cotapata, 3300 m.: *Anoura geoffroyi peruana* (5/6); *Carollia brevicauda* (2/6); *Sturnira erythromos* (36/6); *Lasiurus cinereus* (1/6).
 19. 1616/6747. Sacramento Alto, 2575 m.: *Anoura geoffroyi peruana* (4/6); *Carollia brevicauda* (13/6); *Sturnira erythromos* (57/6, 4/Webster and Jones, 1980); *S. oporaphilum* (30/6, 4/7, 16/Webster and Jones, 1980); *Myotis keaysi* (2/6); *M. oxyotus* (1/6).
 20. 1621/6747*. 1 km. S of Chuspipata, 3050 m.: *Anoura geoffroyi peruana* (10/6); *Sturnira erythromos* (1/6).
 21. 1624/6731. Chulumani, 1810 m.: *Desmodus rotundus* (4/8); *Myotis oxyotus* (1/3).
 22. 1659/6749. Caracato, 2900 m.: *Desmodus rotundus* (4/9).

POTOSÍ

1. 2119/6546. Finca Salo, 3110 m.: *Myotis oxyotus* (1/2).

SANTA CRUZ

1. 1557/6441*. Rio Ichilo, 2 km. N of mouth of Rio Chapare: *Vampyrops helleri* (2/1); *Artibeus anderseni* (1/1); *A. lituratus* (2/1); *A. planirostris* (3/1).
2. 1600/6425. Rio Yapacani: *Artibeus lituratus* (1/5).
3. 1603/6442. Rio Ichilo, 9 km. S of mouth of Rio Chapare: *Artibeus jamaicensis* (2/1); *A. lituratus* (3/1).
4. 1615/6204. Concepción: *Noctilio albiventris* (?/D'Orbigny, 1835).
5. 1617/6442. Rio Ichilo, 34 km. S of mouth of Rio Chapare: *Artibeus lituratus* (1/1).
6. 1622/5824. San Matias: *Lonchorhina aurita* (1/4); *Anoura g. geoffroyi* (3/4, 1/5); *Carollia perspicillata* (1/4).
7. 1627/6444*. East bank of Rio Ichilo, 51 km. S of mouth of Rio Chapare or 27 km. N of mouth of Rio Chimore: *Artibeus lituratus* (2/1).

8. 1628/6444*. Rio Ichilo, 52 km. S of mouth of Rio Chapare: *Saccopteryx bilineata* (3/1); *Uroderma bilobatum thomasi* (2/1); *Artibeus lituratus* (9/1).
9. 1629/6444*. Rio Ichilo, 54 km. S of mouth of Rio Chapare: *Vampyrops helleri* (2/1); *Artibeus jamaicensis* (3/1); *A. lituratus* (7/1); *A. planirostris* (5/1).
10. 1630/6445*. Rio Ichilo, 56 km. S of mouth of Rio Chapare: *Uroderma bilobatum thomasi* (1/1).
11. 1636/6448. Rio Ichilo, 70 km. S of mouth of Rio Chapare: *Carollia brevicauda* (2/1); *Artibeus lituratus* (2/1).
12. 1640/6340. Rio Palometillas, in province of Sara: *Saccopteryx bilineata* (2/5); *Carollia brevicauda* (3/5); *Sturnira lilium* (2/5).
13. 1703/6335. 7 km. N of Santa Rosa: *Phyllostoma stenops* (2/Barquez and Ojeda, 1979); *Glossophaga soricina* (19/1, 5/Ojeda and Barquez, 1978); *Carollia brevicauda* (11/1, 1/4); *C. perspicillata* (33/1, 2/4); *Sturnira lilium* (22/1, 3/Ojeda and Barquez, 1978); *Uroderma bilobatum thomasi* (3/1); *Vampyrops helleri* (4/1); *Artibeus jamaicensis* (5/1, 39/Ojeda and Barquez, 1978); *A. lituratus* (17/1, 5/4/included in Ojeda and Barquez, 1978, 38/Ojeda and Barquez, 1978); *A. planirostris* (20/1, 4/4); *Pygoderma bilabiatum* (12/1); *Desmodus rotundus* (4/1); *Myotis albescens* (1/1); *M. nigricans* (5/1); *Eumops bonariensis* (1/1); *Molossus ater* (1/1); *M. molossus* (19/1, 3/4).
14. 1707/6335*. Santa Rosa or Province of Sara: *Tonatia silvicola* (1/4); *Phyllostoma hastatus* (5/4); *Carollia perspicillata* (8/4); *Sturnira lilium* (1/4); *Artibeus lituratus* (7/4); *Desmodus rotundus* (6/4); *Myotis nigricans* (1/4); *Molossus molossus* (2/4).
15. 1722/6341. Rio Dolores: *Tonatia silvicola* (1/4, 1/5); *Molossus molossus* (1/4).
16. 1724/6344*. 7 km. N and 17 km. W of Buena Vista: *Carollia brevicauda* (7/1); *C. perspicillata* (11/1); *Sturnira lilium* (4/1); *Uroderma bilobatum thomasi* (11/1).
17. 1724/6346. 25 km. by road W of Buena Vista: *Phyllostoma hastatus* (1/5, 1/9); *Glossophaga soricina* (1/9); *Carollia perspicillata* (9/9); *Sturnira lilium* (1/9); *Uroderma bilobatum thomasi* (1/9); *Pygoderma bilabiatum* (1/9); *Molossops temmincki* (1/9).
18. 1724/6351. Rio Surutu: *Tonatia silvicola* (1/4); *Myotis nigricans* (6/1); *Molossus molossus* (2/1).
19. 1727/6340. Buena Vista, 500 m.: *Noctilio albiventris* (1/3, 8/5, 5/8); *Tonatia silvicola* (1/4); *Phyllostoma hastatus* (1/4, 2/5); *Glossophaga soricina* (4/1); *Carollia brevicauda* (1/1); *C. perspicillata* (9/1, 2/4, 8/5, 2/Los Angeles Co. Mus., Pine, 1972); *Sturnira lilium* (3/4, 1/5); *Uroderma bilobatum thomasi* (2/4/one reported by Sanborn, 1932a, as *Vampyrops lineatus*); *Vampyrops helleri* (3/4/ reported by Sanborn, 1932a, as *V. lineatus*); *Chiroderma villosum* (1/1); *Artibeus anderseni* (1/4, 1/5); *A. jamaicensis* (1/4/identity uncertain); *Desmodus rotundus* (1/1, 19/5); *Myotis nigricans* (12/1, 12/4, 8/5); *Eptesicus furinalis chapmani* (1/3, 1/4, 1/5); *Lasiurus ega* (3/4, 1/5); *Molossus molossus* (3/1, 17/4, 15/5).
20. 1730/6310. Area of Juan Latimo: *Myotis nigricans* (12/5).
21. 1745/6315. Andrés Ibáñez, or Cercado, 430 m.: *Vampyrops l. lineatus* (1/5).
22. 1748/6310. Pampa de la Isla or Santa Cruz de la Sierra: *Noctilio leporinus* (1/4); *Phyllostoma hastatus* (1/4); *Glossophaga soricina* (2/4); *Carollia perspicillata* (4/4); *Sturnira lilium* (2/4); *Vampyrops l. lineatus* (3/4); *Artibeus planirostris* (3/1); *Myotis levis* (3/1); *M. nigricans* (11/4); *Eptesicus furinalis chapmani* (1/1); *Lasiurus ega* (2/7); *Molossus molossus* (5/1, 15/7).
23. 1751/6047. San Jose de Chiquitos or forests along Rio San Miguel: *Noctilio leporinus* (1/D'Orbigny and Gervais, 1847); *Phyllostoma hastatus*? (1/5); *Myotis nigricans* (1/4).
24. 1757/6424. 6 km. S and 10 km. E of Comarapa, 1527 m.: *Glossophaga soricina* (2/1); *Anoura geoffroyi peruana* (2/1); *Desmodus rotundus* (1/1).
25. 1758/6425*. 13 km. by road SE of Comarapa: *Anoura geoffroyi peruana* (1/1).
26. 1808/6312. 7 km. E and 3 km. N of Ingeniero Morá: *Carollia perspicillata* (2/1); *Molossus molossus* (2/1).
27. 1809/6312*. Los Tabijos, 2 km. N and 7 km. E of Ingeniero Morá: *Glossophaga soricina* (5/7/not seen).
28. 1810/6308*. 15 km. E of Ingeniero Morá, 490–580 m.: *Carollia perspicillata* (1/1); *Sturnira lilium* (1/1); *Eptesicus furinalis chapmani* (3/1).
29. 1810/6311*. 10 km. E of Ingeniero Morá: *Noctilio leporinus* (7/7); *Desmodus rotundus* (1/7/not seen); *Molossops planirostris* (17/7); *Eumops auripendulus* (8/7/five not seen); *Molossus molossus* (212/7/18 examined).
30. 1810/6316. Ingeniero Morá: *Myotis nigricans* (1/7); *Eptesicus furinalis chapmani* (10/7); *Eumops bonariensis* (1/7/not seen); *E. glaucinus* (4/7).
31. 1819/5934. Santiago, 700 m.: *Glossophaga soricina* (3/5); *Carollia perspicillata* (24/5); *Sturnira lilium* (12/5); *Vampyrops dorsalis*

- (1/5); *V. l. lineatus* (33/5); *Artibeus planirostris* (7/5).
32. 1925/6329. 10 km. E of Gutierrez at Laguna Caucaya: *Glossophaga soricina* (2/1); *Artibeus lituratus* (1/1).
33. 1927/6232. Tamachindi, near Izozog: *Eptesicus furinalis chapmani* (1/3/Davis, 1966).
34. 1959/6318. 72 km. ESE of Monteagudo, 1220 m.: *Anoura caudifer* (1/5); *Sturnira erythromos* (1/5); *S. lilium* (5/5); *Artibeus planirostris* (5/5); *Pygoderma bilabiatum* (1/5); *Myotis nigricans* (1/5).

TARIJA

1. 2115/6330. San Francisco, later Villa Montes, 500 m.: *Myotis nigricans* (1/Thomas, 1898); *Eptesicus f. furinalis* (6/Thomas, 1898); *Histiotus* sp. (1/3/Thomas, 1898); *Lasiurus cinereus* (1/3/Thomas, 1898).
2. 2119/6325. 8 km. S and 10 km. E of Villa Montes: *Sturnira lilium* (5/1); *Myotis nigricans* (1/1); *Molossops temminckii* (1/1); *Nyctinomops laticaudata* (1/1).
3. 2123/6421. 25 km. NW of Entre Rios: *Sturnira erythromos* (10/5); *Desmodus rotundus* (2/5).
4. 2125/6353. 108 km. ENE Tarija, 1969 m.: *Sturnira erythromos* (10/5).
5. 2131/6408*. 67 km. E Tarija, 2277 m.: *Sturnira erythromos* (3/5); *Myotis nigricans* (1/5).
6. 2132/6412. Entre Rios, 1200–1300 m.: *Tadarida brasiliensis* (1/2).
7. 2142/6354. Itau, 1600 m.: *Eptesicus f. furinalis* (1/Thomas, 1925).
8. 2149/6334. Villa Ingavi, Caiza, 600 m.: *Sturnira lilium* (2/Thomas, 1898); *Artibeus planirostris* (1/Thomas, 1898); *Desmodus rotundus* (1/Thomas, 1898); *Myotis nigricans* (8/Thomas, 1898); *Eptesicus f. furinalis* (6/Thomas, 1898/Davis, 1966); *Histiotus* sp. (3/Thomas, 1898); *Lasiurus borealis* (1/3/Thomas, 1898); *L. ega* (1/8, 5/3/Thomas, 1898); *Molossus molossus* (1/3/Thomas, 1898).
9. 2149/6346. Caraparí, 1000 m.: *Myotis nigricans* (1/Thomas, 1925).
10. 2150/6333*. 30 km. NW Yacuiba, 831 m.: *Sturnira lilium* (8/5).
11. 2151/6350*. Aguiarenda Mission, 850 m.: *Eptesicus f. furinalis* (2/Thomas, 1898); *Lasiurus borealis* (1/3/Thomas, 1898).
12. 2213/6436. 4 km. by road N of Cuyambuyo, 980 m.: *Sturnira erythromos* (2/9); *S. lilium* (5/9).
13. 2210/6445. 118 km. S Tarija, 985 m.: *Sturnira lilium* (10/5).
10. —Rosario: *Myotis albescens* (1/8).

DEPARTMENT UNKNOWN

1. —“Bolivia”: *Eumops perotis perotis* (1/3/Eger, 1977).

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