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, Perropteryx macrotis, Micronycteris megalotis, M. minuta, Chrotopterus auritus, Lichonycteris degener, Anoura caudifer, A. cultrata, Sturnira tildae, Vampyromys caracollai, 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.

ACKNOWLEDGMENTS

Dr. Donald O. Straney of the Department of Biological Sciences, Michigan State University, kindly permitted us to include records of several species which he recently discovered in Bolivia. Drs. J. Van Remsen and Mark Hafner of Louisiana State University have generously made available specimens taken in connection with ornithological work by Remsen in recent years.

The encouragement and assistance provided in recent years by Prof. Gastón Bejarano B. have contributed significantly to this work. The curators at museums in Chicago, Pittsburgh, and Washington, D.C. have also been most helpful in our studies. We are grateful to Ms. Marie Lawrence for bibliographic assistance, to Mr. Ted Danforth, Jr. for work on the gazetteer and map and to Drs. Philip Myers, Lawrence R. Heaney, and Mark F. Hafner for reviewing earlier drafts of this paper.

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: Bení—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 Bení and five from Santa Cruz. All localities are at low elevations in or near wet tropical forests and near water. Specimens are from: Bení—22, 34, 42, 59, 89; Santa Cruz—8, 12.

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

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

FAMILY NOCTILIONIDAE

Noctilio albiventris Desmarest. There are 407 specimens from Bení 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 cabrerae 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 Ofers 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 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 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 hastatus** (Pallas). Sanborn (1932a) reported specimens of *P. h. 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
(1979) described *P. s. boliviensis* on the basis of two specimens from Santa Cruz—13.


**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 breviostrostrum* from the department of Cuzco, Peru, the nearest previous record to Bolivia for this species. We follow Nagorsen and Tamsitt (1981) in treating *A. breviostrostrum* 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.

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### Table 1

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

<table>
<thead>
<tr>
<th>Variable</th>
<th><em>U. b. bilobatum</em> (Beni)</th>
<th><em>U. b. thomasi</em> (Yungas)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Variance</td>
</tr>
<tr>
<td>Forearm length</td>
<td>41.64</td>
<td>2.83</td>
</tr>
<tr>
<td>Condylobasal length</td>
<td>20.93</td>
<td>.29</td>
</tr>
<tr>
<td>Greatest length of skull</td>
<td>23.33</td>
<td>.29</td>
</tr>
<tr>
<td>Breadth across upper molars (M)</td>
<td>9.04</td>
<td>.07</td>
</tr>
<tr>
<td>Length of maxillary toothrow</td>
<td>8.13</td>
<td>.07</td>
</tr>
</tbody>
</table>
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.

Choeronycterus minor (Peters). Webster and Jones (1980) reported a specimen from Tomonce (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” (=Alcoche, 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,

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

TABLE 2
Measurements in Millimeters of Forearm Length (Including the Wrist), for 23 Species of Bats from Bolivia
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. Species 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 sympathy 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
Vampyrops helleri Peters. Koopman (1976) cited “numerous specimens” from northeastern 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 southeastward 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 sympathy 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.

Vampyrodus caracchioloi Thomas. Eighteen specimens are known from: Beni—29; La Paz—3.

Chiroderma salvinii Dobson. Specimens from La Paz extend the known range of this species southward from Ecuador. The subspecies is C. s. salvinii. 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. flavaescens. 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 Condylorbasal 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

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Sex (male/female)</th>
<th>N</th>
<th>Mean</th>
<th>Variance</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anoura caudifera</td>
<td>/1</td>
<td>1</td>
<td>21.9</td>
<td></td>
<td>21.9</td>
</tr>
<tr>
<td>Anoura cultrata</td>
<td>/1</td>
<td>1</td>
<td>23.4</td>
<td></td>
<td>23.4</td>
</tr>
<tr>
<td>Anoura g. peruana</td>
<td>2/1</td>
<td>3</td>
<td>25.13</td>
<td>.50</td>
<td>24.6-25.6</td>
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<tr>
<td>Carollia castanea</td>
<td>7/2</td>
<td>9</td>
<td>17.30</td>
<td>.40</td>
<td>16.8-17.8</td>
</tr>
<tr>
<td>Carollia brevicauda</td>
<td>2/4</td>
<td>6</td>
<td>19.28</td>
<td>.51</td>
<td>18.4-19.8</td>
</tr>
<tr>
<td>Carollia perspicillata</td>
<td>12/18</td>
<td>30</td>
<td>20.16</td>
<td>.42</td>
<td>20.0-21.5</td>
</tr>
<tr>
<td>Sturnira erythromos</td>
<td>9/6</td>
<td>15</td>
<td>18.71</td>
<td>.25</td>
<td>18.4-19.3</td>
</tr>
<tr>
<td>Sturnira lilium</td>
<td>19/33</td>
<td>52</td>
<td>20.16</td>
<td>.44</td>
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</tr>
<tr>
<td>Sturnira oporaphilum</td>
<td>9/13</td>
<td>22</td>
<td>20.56</td>
<td>.57</td>
<td>19.3-21.4</td>
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<tr>
<td>Sturnira magna</td>
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<td>6</td>
<td>25.65</td>
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<tr>
<td>Vampyrops helleri</td>
<td>1/7</td>
<td>8</td>
<td>18.97</td>
<td>.37</td>
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<td>Vampyrops l. nigellus</td>
<td>3/3</td>
<td>6</td>
<td>21.98</td>
<td>.31</td>
<td>21.4-22.3</td>
</tr>
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<td>Vampyrops l. lineatus</td>
<td>3/1</td>
<td>4</td>
<td>22.25</td>
<td>.35</td>
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<td>Vampyrops dorsalis</td>
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<tr>
<td>Vampyrops infuscus</td>
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<td>Artibeus c. glaucus</td>
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<td>9</td>
<td>26.73</td>
<td>.43</td>
<td>25.9-27.3</td>
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<tr>
<td>Artibeus lituratus</td>
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<td>8</td>
<td>27.94</td>
<td>.64</td>
<td>27.4-29.0</td>
</tr>
</tbody>
</table>

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 specimens 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.


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. dinelli, which occurs in northwestern Argentina.

Myotis nigricans (Schinz). D'Orbigny and Gervais (1847) reported Vespertilio hypothryx 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. hypothryx 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 Dinnelli from “Bolivia” and the report of Neveu-Lemaire and Grandidier (1911) of Myotis Dinnelli. 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; Potosi—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** (Poeppig). We follow Cabrera ("1957"—1958) in referring Bolivian specimens to *Histiotus macrotus laephotos*. 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 laephotos* 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.

**Rhogoessa 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 a (*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. 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.


**Eumops auripendulus** (Shaw). Sanborn (1932b) reported a specimen from Ixiamas, 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 Guara-yos, and Schreber (1855) cited *Dysopes 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, Tarjia, 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 brachymelis* 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:


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 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.
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. Cochasbamba-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


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); Parabronycus 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); Lasiusus borealis (11/1); Eumops perotis truncibulli (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 Riberaltá: Glossophaga soricina (1/8); Carollia perspicillata (1/8); Chiroderma villosum (2/8).

8. 1056/6520. Siete Islas, 8 km. S of Santa Cruz: Glossophaga soricina (1/1); Sturnira lilium (1/1); Artibeus lituratus (1/1).


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 magnoirostrum (3/1); Vampyrops helleri (1/1); Artibeus planirostris (1/1).

13. 1136/6512*. Arroyo Mercedes, 6 km. S of Buena Hora: Rhyphonycteris 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 albescens (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 Aure: 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 albescens (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: Rhyphonycteris naso (7/1); Noctilio albiventris (10/1); Trachops cirrhosus (1/1); Chrotoperus 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 albescens (2/1); Nyctinomops laticaudata (1/1).

24. 1229/6417*. Rio Itenez, bank opposite Costa Marquez, Brazil: Rhyphonycteris 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
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(8/1); Chiromeda villosurn (32/1); Artibeus anderseni (1/1); A. jamaiicensis (4/1); A. lituratus (41/1); Sphaeronycteris toxophyllum (1/1); Desmodus rotundus (2/1); Myotis albescens (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 jamaiicensis (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); Urodema 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 macrorynchum (2/1); Mimon crenulatum (1/1); Trachops cirrhosus (1/1); Glossophaga soricina (3/1); Carollia perspicillata (6/1); Urodema b. bilobatum (4/1); U. magnirostrum (15/1); Chiroderma trinitatum (1/1); C. villosum (7/1); Artibeus jamaiicensis (2/1); A. lituratus (20/1); A. planirostris (16/1); Sphaeronycteris toxophyllum (1/1); Desmodus rotundus (2/1); Myotis albescens (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); Vampyrophes caracollae (1/1).


31. 1241/6432*. 15 km. above Horquilla, on Rio Machupo: Desmodus youngi (3/1); Myotis nigricans (1/1).

32. 1242/6308. Capivarra: 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); Peropyrs macrotris (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 Matuscaré near Puerto Siles: Urodema magnirostrum (1/1); Artibeus lituratus (3/1).

37. 1249/6505*. Mouth of Rio Matuscaré: Noctilio albiventris (2/1).

38. 1251/6436. Esperanza: Tonatia silvicola (1/5); Phyllostomus discolor (2/5); Glossophaga soricina (6/5); Carolia perspicillata (4/5); Sturania lilium (2/5); Urodema 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: Sturania lilium (1/5); Urodema magnirostrum (1/5); Artibeus planirostris (2/5); Rhogeessa tumida (1/5).

40. 1256/6457. Ajunta: Myotis nigricans (13/5); Eumops auripurulus (2/5).

41. 1259/6505. 22 km. S of Puerto Siles: Noctilio albiventris (10/1); Artibeus lituratus (2/1).

42. 1300/6449. Agudulce: Saccopteryx bilineata (1/5); Glossophaga soricina (2/5); Artibeus jamaiicensis (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); Sturania lilium (12/5); Urodema 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); Lasiusurus ega (6/5); Molossops planirostris (2/5); M. temmincki (5/5); Tadarida brasiliensis (5/5); Eumops auripurulus (4/5); E. bonariensis (186/5/not all examined); E. gliacinus (1/5); E. perotis tumbulli (21/5); Molossus ater (28/5/not all seen); M. molossus (413/5).

46. 1305/6514. Navidad: Urodema magnirostrum (1/1).

47. 1306/6348. Boa Vista, Bella Vista, or Buena Vista: Urodema b. bilobatum (1/5); Vampyrops helleri (6/5); Chiromeda villosurn (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 temmincki (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. Yuat'e, 25 km. SW of San Joaquin: Glossophaga soricina (1/5); Carolia perspicillata (8/5); Myotis nigricans (10/5); Molossus molossus (22/5).

52. 1315/6449*. Estancia Yutiole, 20 km. S of
San Joaquin, or Estancia El Totai: *Noctilio albibivens* (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 albescens* (5/1); *M. nigricans* (2/5); *Eptesicus furinalis chapmani* (1/1); *Molossops temmincki* (2/1); *Eumops bonariensis* (1/1); *E. perotis trumbulli* (19/5); *Molossus molossus* (19/1).

53. 1317/6443. San Ramón: *Noctilio albibivens* (10/5); *Myotis nigricans* (3/5); *Molossus molossus* (2/5).

54. 1317/6515. 2 km. S of Exaltación: *Artibes 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 albibivens* (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. 1324/6518. 4 km. SE of Palacios: *Uroderma magnirostrum* (3/1); *Artibes lituratus* (1/1).

58. 1334/6154. Remanso, also spelled Remanos: *Noctilio albibivens* (40/1); *Carollia perspicillata* (3/1); *Sturnira lilium* (3/1); *Vampyrops helleri* (1/1); *Chiroderma trinitatum* (2/1); *Artibes 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); *Artibes 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); *Artibes lituratus* (2/1); *A. planirostris* (3/1).

62. 1338/6526*. 4 km. from mouth of Rio Yacuma: *Myotis albescens* (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); *Artibes lituratus* (1/1); *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 villosum* (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 albibivens* (2/1); *Sturnira lilium* (2/1); *Uroderma magnirostrum* (3/1); *Vampyrops helleri* (2/1); *Artibes lituratus* (1/1).

68. 1411/6653. Santa Rosa: *Myotis nigricans* (1/5).

69. 1416/6453*. Puerto Leigue: *Uroderma magnirostrum* (1/1).


71. 1420/6455. 10 km. W of San Pedro: *Noctilio albibivens* (1/1); *Glossophaga soricina* (1/1); *Vampyrops l. lineatus* (1/1); *Artibes jamaicensis* (1/1).

72. 1428/6734. Rurrenabaque: *Phyllostomus hastatus* (3/9); *Glossophaga soricina* (98/1); *Carollia brevicauda* (2/1); *C. castanea* (61/1); *C. perspicillata* (14/1); *Sturnira lilium* (61/1); *Uroderma magnirostrum* (3/1); *Artibes 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 albibivens* (123/1); *Myotis simus* (45/1).

75. 1437/6457*. Mouth of Rio Ibare: *Noctilio albibivens* (3/1); *N. leporinus* (1/1); *Uroderma bilobatum thomasi* (3/1); *U. magnirostrum* (1/1); *Vampyrops helleri* (2/1); *Myotis nigricans* (5/1); *Lasius 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); *Artibes anderseni* (1/1).

78. 1447/6447. Trinidad: *Noctilio leporinus* (1/7); *Glossophaga soricina* (1/5, 1/7/not seen); *Uroderma bilobatum thomasi* (1/7); *Artibes planirostris* (2/7); *Myotis nigricans* (7/1, 7/5, 2/7); *Lasius 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*
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(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. Camiao: Uroderma bilobatum thomasi (1/1); Artibeus lituratus (1/1); A. planirostris (1/1); Eumops auripendulus (1/1).
86. 1528/6446*. 5 km. SE of Limoquique: Chiroderma villosum (1/1); Artibeus lituratus (1/1).
87. 1534/6446. 15 km. S of Limoquique: Noctilio leporinus (1/1); Artibeus planirostris (1/1); Myotis albescens (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); Peropteryx 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. jamaiicensis (1/1); A. lituratus (7/1); Desmodus rotundus (1/1).
90. —Altwa San Juan: Artibeus jamaiicensis (1/5).
91. —Arruda: Phyllostomus discolor (2/5); Artibeus jamaiicensis (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 Mojo: 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 trumulli (1/5); Molossus molossus (6/5).
97. ——Providencia: Desmodus rotundus (1/5); Myotis nigricans (110/5); Eumops bonariensis (34/5); E. perotis trumulli (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 albescens (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).
6. 1637/6547. Puerto Pataño, 50 km. NW of Villa Tunari: Micronycteris melagotis (1/9); Carollia brevicauda (6/9); Carollia castanea (21/9); C. perspicillata (15/9); Sturina erythromos (1/1); S. lilium (2/9); S. oporaphilm (6/9); Uroderma bilobatum thomasi (6/9); Vampyrops dorsalis (2/9); V. helleri (3/9); Artibeus cinereus glaucus (6/9); A. jamaiicensis (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).
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. jamaiicensis (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. 1725/6549. Yugas 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 megophylla peruanu (2/5, 1/9); Sturnira erythromos (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 rusbyi).

22. ——Chimosi, in the Yungas: Desmodus rotundus (2/8).

CHUQUISACA

1. 1902/6517. (area) Chuquisaca or Sucre, 2790 m.; Histiotus sp.? (1?/D’Orbigny and Gervais, 1847).

2. 1932/6407. 34 km. SE Padilla, in province of Tomina, 2380 m.; Anoura megophylla peruanu (6/5); Myotis nigricans (1/5).

3. 1938/6406. 16 km. N Monteguido, 1539 m.; Anoura caudifer (1/5).

4. 1946/6353. 70 km. SE Padilla, along Rio Azuero, 1100 m.: Glossophaga soricina (1/5); Sturnira liliun (1/5); Desmodus rotundus (1/5).

5. 2056/6321. 2 km. S and 10 km. E of Tiquipa, 640 m.: Sturnira liliun (2/1); Desmodus rotundus (1/1).

LA PAZ

1. 1345/6809. Ixiamas, 221 m.: Eumops auripendula (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); A. jamaicensis (24/6); C. perspicillata (76/6, 11/9); Rhinophylla pumilio (6/6); Sturnira liliun (3/6, 2/9); S. magna (1/6); S. orophilum (1/6); Uroderma bilobatum thomasi (8/6); Vampyrops helleri (26/6, 6/9); V. susculus (2/6); Vampyrophodes caraccioli (17/6); Chirotterina 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).


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); Choeronycteris minor (1/Webster and Jones, 1980); Carollia castanea (8/7); C. perspicillata (17/7); Rhinophylla pumilio (6/7, 6/Webster and Jones, 1980); Sturnira liliun (14/7); S. magna (1/Webster and Jones, 1980); S. orophilum (1/7, 2/Webster and Jones, 1980); Uroderma bilobatum thomasi (10/7); Vampyrops helleri (18/7); Chirotterina trinitatum (3/7, 5/Webster and Jones, 1980); C. villosus (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-
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 andersoni (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); Urodema bilobatum thomasi (34/7/seven not seen); Vampyrops helleri (3/7); Chiroderma trinitatum (1/7); Artibeus jamaicensis (1/7/Westover 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); Liasturus 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. oxytots (1/6).

20. 1621/6747*. 1 km. S of Chusipita, 3050 m.: Anoura geoffroyi peruana (10/6); Sturnira erythromos (1/6).

21. 1624/6731. Chulumani, 1810 m.: Desmodus rotundus (4/8); Myotis oxytots (1/3).


POTOSÍ

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

SANTA CRUZ

1. 1557/6441*. Rio Ichilo, 2 km. N of mouth of Rio Chapare: Vampyrops helleri (2/1); Artibeus andersoni (1/1); A. lituratus (2/1); A. planirostris (3/1).

2. 1600/6425. Rio Yapacaní: 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).


5. 1617/6442. Rio Ichilo, 34 km. S of mouth of Rio Chapare: Artibeus lituratus (1/1).

6. 1622/5824. San Matías: Lonchorhina aurita (1/4); Anoura g. geoffroyi (3/4, 1/5); Carollia perspicillata (1/4).

1628/6444*. Rio Ichilo, 52 km. S of mouth of Rio Chapare: *Saccapteryx bilineata* (3/1); *Uroderma bilobatum thomasi* (2/1); *Artibeus lituratus* (9/1).

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).

1630/6445*. Rio Ichilo, 56 km. S of mouth of Rio Chapare: *Uroderma bilobatum thomasi* (1/1).

1636/6448. Rio Ichilo, 70 km. S of mouth of Rio Chapare: *Carollia brevicauda* (2/1); *Artibeus lituratus* (2/1).

1640/6430. Rio Palometillas, in province of Sana: *Saccapteryx bilineata* (2/5); *Carollia brevicauda* (3/5); *Sturnira liliium* (2/5).

1703/6335. 7 km. N of Santa Rosa: *Phyllostomus stenops* (2/Ojeda and Barquez, 1979); *Glossophaga soricina* (19/1, 5/Ojeda and Barquez, 1978); *Carollia brevicauda* (11/1, 1/4); *C. perspicillata* (33/1, 2/4); *Sturnira liliium* (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 biliatum* (12/1); *Desmodus rotundus* (4/1); *Myotis albenscens* (1/1); *M. nigricans* (5/1); *Eumops bonariensis* (1/1); *Molossus ater* (1/1); *M. molossus* (19/1, 3/4).

1707/6335*. Santa Rosa or Province of Sana: *Tonatia silvicola* (1/4); *Phyllostomus hastatus* (5/4); *Carollia perspicillata* (8/4); *Sturnira liliium* (1/4); *Artibeus lituratus* (7/4); *Desmodus rotundus* (6/4); *Myotis nigricans* (1/4); *Molossus molossus* (2/4).

1722/6341. Rio Dolores: *Tonatia silvicola* (1/4, 1/5); *Molossus molossus* (1/4).

1724/6344*. 7 km. N and 17 km. W of Buena Vista: *Carollia brevicauda* (7/1); *C. perspicillata* (11/1); *Sturnira liliium* (4/1); *Uroderma bilobatum thomasi* (11/1).

1724/6346. 25 km. by road W of Buena Vista: *Phyllostomus hastatus* (1/5, 1/9); *Glossophaga soricina* (1/9); *Carollia perspicillata* (9/ 9); *Sturnira liliium* (1/9); *Uroderma bilobatum thomasi* (1/9); *Pygoderma biliatum* (1/9); *Molossos temmincki* (1/9).

1724/6351. Rio Surutu: *Tonatia silvicola* (1/ 4); *Myotis nigricans* (6/1); *Molossus molossus* (2/1).

1727/6340. Buena Vista, 500 m.: *Noctilio albiventris* (1/3, 8/5, 5/8); *Tonatia silvicola* (1/4); *Phyllostomus 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); *Sturnia liliium* (3/4, 1/5); *Uroderma bilobatum thomasi* (2/4/one reported by Sanborn, 1932a, as *Vampyrops lineatus*); *Vampyrops helleri* (3/4/report reported by Sanborn, 1932a, as *V. lineatus*); *Chiroderma villosus* (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); *Lasiusus ega* (3/4, 1/5); *Molossus molossus* (3/1, 17/4, 15/5).


1745/6315. Andrés Ibáñez, or Cerocado, 430 m.: *Vampyrops l. lineatus* (1/5).

1748/6310. Pampa de la Isla or Santa Cruz de la Sierra: *Noctilio leporinus* (1/4); *Phyllostomus hastatus* (1/4); *Glossophaga soricina* (2/4); *Carollia perspicillata* (4/4); *Sturnira liliium* (2/4); *Vampyrops l. lineatus* (3/4); *Artibeus planirostris* (3/1); *Myotis levis* (3/1); *M. nigricans* (11/4); *Eptesicus furinalis chapmani* (1/1); *Lasiusus ega* (2/7); *Molossus molossus* (5/1, 15/7).

1751/6047. San Jose de Chiquitos or forests along Rio San Miguel: *Noctilio leporinus* (1/ D’Orbigny and Gervais, 1847); *Phyllostomus hastatus*? (1/5); *Myotis nigricans* (1/4).

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).

1758/6425*. 13 km. by road SE of Comarapa: *Anoura Geoffroyi peruana* (1/1).

1808/6312. 7 km. E and 3 km. N of Ingeniero Morá: *Carollia perspicillata* (2/1); *Molossus molossus* (2/1).


1810/6308*. 15 km. E of Ingeniero Morá, 490–580 m.: *Carollia perspicillata* (1/1); *Sturnira lilium* (1/1); *Eptesicus furinalis chapmani* (3/1).

1810/6311*. 10 km. E of Ingeniero Morá: *Noctilio leporinus* (7/7); *Desmodus rotundus* (1/7/not seen); *Molossops planirostris* (17/7); *Eumops auripendulus* (8/7/6ve not seen); *Molossus molossus* (212/7/18 examined).

1810/6316. Ingeniero Morá: *Myotis nigricans* (1/7); *Eptesicus furinalis chapmani* (10/7); *Eumops bonariensis* (1/7/not seen); *E. granulinus* (4/7).

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).
28. 1925/6329. 10 km. E of Gutierrez at Laguna Cauca: Glossophaga soricina (2/1); Artibeus lituratus (1/1).
30. 1959/6318. 72 km. ESE of Monteaquido, 1220 m.: Anoura caudifer (1/5); Sturnira erythromos (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 temmincki (1/1); Nyctinomops laticaudatus (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).
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 (13/Thomas, 1898); L. cinereus (1/3/Thomas, 1898); L. ega (1/8, 5/3/Thomas, 1898); Molossus molossus (1/3/Thomas, 1898).
10. 2150/6333*. 30 km. NW Yacuiba, 831 m.: Sturnira lilium (8/5).
11. 2151/6305*. Aguairaenda 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

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