Mammals of the Smithsonian Venezuelan Project

Charles O. Handley Jr.

Smithsonian Institution, Washington D.C. 20560

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MAMMALS OF THE
SMITHSONIAN
VENEZUELAN PROJECT

by

Charles O. Handley, Jr.
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by

Charles O. Handley, Jr.
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MAMMALS OF THE SMITHSONIAN VENEZUELAN PROJECT

by

Charles O. Handley, Jr.¹

ABSTRACT

Mammals and their ectoparasites were collected in all parts of Venezuela between 1965 and 1968 by the Smithsonian Venezuelan Project. Ecological and geographical data are summarized here for 38,213 specimens of 270 species of mammals obtained by the project.

INTRODUCTION

Background

The Smithsonian Venezuelan Project had its roots in the collections of mammals and ectoparasites accumulated in Panamá in the late 1950s and early 1960s by many investigators associated with the Gorgas Memorial Laboratory, Middle America Research Unit, U.S. Army Malaria Control Unit, and Smithsonian Institution. These diverse collections and data were brought together belatedly through the cooperative effort of many scientists in The Ectoparasites of Panama, edited by Wenzel and Tipton (1966). The logical follow-up of the Panamanian work was a similar cooperative effort with preplanned objectives and uniform data collection techniques.

Venezuela was selected as the site of the new project because it had 1) a large and diverse fauna, part of which was related to the now familiar Panamanian fauna; 2) an exceptionally good and extensive system of roads and airstrips; 3) a wide spectrum of well-documented endemic arthropod-borne viral diseases; 4) a friendly and interested scientific community; and 5) a stable political environment.

Objectives

The project was titled at the outset, "Distribution and ecology of mammalian ectoparasites, arboviruses, and their hosts in Venezuela." Its objectives were to 1) collect as large and representative a sample of mammals as possible in all parts of Venezuela; 2) collect whole populations of ectoparasites from as many mammals as possible; 3) collect a standard set of biological, geographical, and ecological data with every specimen; 4) develop standard procedures for conduct of extensive epidemiological surveys; 5) convert all data to machine-readable form; 6) publish monographs or summary papers on the mammals and on each group of parasites; 7) study mammal-parasite-habitat relationships.

The first group of summary papers on the parasites was published as volume 17, Brigham Young University Science Bulletin, 1972. The second group of papers constitutes volume 20, Brigham Young University Science Bulletin, 1975-76. Work is underway on a larger "Mammals of Venezuela" and on the mammal-parasite-habitat correlations. To date the project collections have been the basis of about fifty papers.

Personnel

A consortium of scientists who agreed to study and report on parts of the collection was gathered in the planning stage of the project, and about thirty scientists—entomologists, mammalogists, virologists, and ecologists—in seven countries have participated.

Charles O. Handley, Jr., and V. J. Tipton, who coordinated the project, visited Caracas in May 1965 to discuss the proposed project with the Venezuelan scientists. The first field group reached Venezuela the following July, and thereafter project personnel were in Venezuela almost continuously until September 1968, on a 1 September to 31 August rotation schedule.

The field groups were constituted as follows:

1965-1966

Group I—Norman E. Peterson, leader
Jim Flanigan
Chris Parrish

¹Smithsonian Institution, Washington, D.C. 20560
Martin L. Taylor
David G. Young
Group II—Merlin D. Tuttle, leader
Arden L. Tuttle
Claudette H. Tuttle

1966-1967
Group I—Norman E. Peterson, leader
Daniel R. Peacock
Richard B. Peacock
Group II—Merlin D. Tuttle, leader
Fred L. Harder
Virginia E. Harder
Claudette H. Tuttle

1967-1968
Group I—Norman E. Peterson, leader
Fred P. Brown, Jr.
John O. Matson
Group II—Arden L. Tuttle, leader
Benjamin Inquilla
Ernest L. Stromeyer
Charlotte A. Tuttle

The following also participated briefly in
the field work: D. P. Furman, C. O. Handley,
Jr., C. L. Hayward, Carlos Machado, Carlos Na-
nanjo, Juhani Ojasti, R. H. Pine, V. J. Tipton,
and C. E. Yunker.

Collections

Major collections were made in nineteen of
the twenty-four states, territories, districts, and
dependencies in Venezuela in an attempt to gain
adequate samples of all of the faunas. Unfor-
atunately there are several important gaps in the
collections because significant regions were not
sampled. Another year of field work would
have been required to complete the sampling to
perfection. The areas missed were: BOLIVAR,
Serrania de Imataca, the tepuis, and upper Río
Caura; DEPENDENCIAS FEDERAL, the Car-
ibbean islands; GUARICO, the central Llanos;
SUCRE, Cerro Turimiquire; TACHIRA, Páramo
Batallón and trans-Andean passes near Independ-
encia; T. F. AMAZONAS, Río Negro, Cerro de
La Nebliña, and other peaks along the Brazilian
frontier; T. F. DELTA AMACURO, Río Orin-
oco delta and Guyana border region; and ZULIA,
higher elevations in the Sierra de Perijá.

As far as possible the field personnel used
a variety of collecting techniques, including
trapping, netting, hunting, and purchase at each
major sampling point. Mammals were taken at
100 localities, 25 of which were represented by
more than 500 specimens (11 above 1,000; max-
imum 5,642 at San Juan Río Manapiare). Alto-
tgether there are records for 38,213 mammals,
representing at least 270 species. Among these
are 12 species which had not been described at
the time of their collection, as well as numerous
others which had not been taken previously in
Venezuela.

The 270 species represented in the collec-
tions include nearly 90 percent of the land and fresh
water mammalian fauna of Venezuela. Those
missing from the collections, which ought to oc-
cur or which are known by previous collections
to occur in Venezuela, are as follows (with an
indication of where they should be sought):

*Marmosa tyleriata* Tate, tepuis of Bolívar
and T. F. Amazonas
*Saccopteryx gymnura* Thomas, southern Ve-
nezuela
*Peromyscus leucopus* Peters, southern Ve-
nezuela
*Centronycteris maximiliani* Fischer, any place
in Venezuela
*Cyttarops alcistatus* Thomas, southern and west-
ern Venezuela
*Micronycteris pusilla* Sanborn, southern
Venezuela
*Gephyonycteris daviesi* Hill, anywhere in
Venezuela
*Mimom bennettii* Gray, anywhere in Venezue-
la
*Phyllostomus latifolius* Thomas, Bolívar
*Rhinophylla fischeriae* Carter, southern Vene-
zuela
*Vampyressa brocki* Peterson, southern Vene-
zuela
*Thyroptera discifera* Lichtenstein and Peters,
northern Venezuela
*Lasiurus egregius* Peters, anywhere in Vene-
zuela
*Tadarida aurispinosa* Peale, anywhere in
Venezuela
*Tadarida macrotis* Gray, mountains of Vene-
zuela
*Eumops maurus* Thomas, Bolívar
*Eumops perotis* Schinz, northern Venezuela
*Eumops trunculli* Thomas, southern Vene-
zuela
*Cabassous unicinctus* Limacés, anywhere in
Venezuela
*Sciurus flavifrons* Thomas, Bolívar
*Neacomys guianae* Thomas, Bolívar
*Rhipidomyos slateri* Thomas, Bolívar
*Podoxymyos toraimae* Anthony, tepuis of Bo-
ilvar
*Icthyomys hydrobates* Winge, Andes
*Icthyomys pittiarii* Handley and Mondolfi,
Sierra de la Costa
Coendou melanurus Wagner, southern Venezuela
Hydrochaeris isthminis Goldman, Zulia
Dasyprocta guanara Ojasti, T. F. Delta Amacuro
Thrinacodus edax Thomas, Andes
Sotalia guianensis Van Beneden, Maracaibo and Orinoco basins
Speothos venaticus Lund, anywhere in Venezuela
Trichechus inunguis Natterer, southern T. F. Amazonas
Trichechus manatus Linnaeus, Rio Orinoco drainage
Mazama rufina Bourcier and Puecheran, Andes

Most individuals of the uncommon kinds of mammals and a sample of each of the common kinds were searched for arthropod ectoparasites. Whenever a mammal was examined for parasites, an attempt was made to recover every parasite on it. In all, nearly 25,000 mammals were searched for parasites. All of the collections came originally to the Smithsonian, where the mammals were retained to be studied. The arthropods were distributed widely to specialists for study. Upon completion of studies the collection of mammals is being divided between the Smithsonian Institution and the government of Venezuela. The collections of parasites are being divided among the Smithsonian, the entomologists, and Venezuela.

Data

A data sheet with eighty-column format was filled out in the field for each mammal. Data categories included geographical information (locality code, latitude, longitude, and elevation), ecological information (vegetative life zone, capture site, cover, forest succession, site moisture, and topography), capture information (date, time, precipitation, light, wind, collecting device, bait, and amount of collecting effort), parasite information (kinds of parasites and location on host), and host information (sex, age, reproductive condition, number and size of embryos, stomach contents, external measurements, parts saved, and field number). A single set of field numbers was used throughout the project, and the same number was used for all parts of an individual collection (i.e., data, parasites, skin, skull, blood, viscera, etc.).

At the Smithsonian the data sheets were edited for consistency and accuracy and were marked for keypunching. Then the carded data were transferred to magnetic tape. A verified host list, arranged by SVP* number, was one of the early products of the machine-readable data base. This was used by the entomologists to associate host names with SVP numbers in vials of parasites.

Later, after much geographical research, a precise gazetteer was completed. Standardized locality data were taped and used to override the less exact geographical data of the field sheets. Next, a master printout of the 38,213 mammal records, arranged by species and amounting to 229,296 lines, was run off. Other programs sorted and summarized the data base for each species by locality and by various ecological parameters. For example, altitudinal distribution was sorted for each species in blocks of 500 meters and the exact minimum and maximum were listed. Volunteers collected data for individual species from each of the printouts. These data were then converted to a narrative form for the accounts of species.

Format of Accounts of Species

Nomenclature

Arrangement of families and genera, with minor exceptions, follows Simpson (1945). Species are arranged alphabetically. The original citation for each species is included in the LITERATURE CITED section. Except in a few instances, identified by footnotes, each reference was actually examined. Ignored here, for the sake of brevity, subspecies and synonymms of Venezuelan mammals will be the subjects of future papers. Another paper (Handley, in press) describes and names the new species, here given alphabetical designations, and discusses departures from conventional nomenclature (as found, for example, in Cabrera, 1958 and 1961).

General Distribution Statement

Each species account begins with a general statement of geographical distribution of the species in Venezuela, referring only to the Smithsonian Venezuelan Project collections. Usually, but not always, this closely approximates the known range of the species computed from all sources.

Ecological Parameters

Following the general statement of geographical distribution, frequency of distribution within several ecological parameters is indicated. The parameters are capture site, site moisture, cover,
elevation, and vegetative life zone. In the species accounts these are telescoped into a single sentence, each parameter set off by semicolons. Except where sample size was very small, frequency of collection in various categories is expressed as percentages of the total for each parameter. The percentages do not transcend semicolons.

Capture site categories on the field data sheet included mist net; on ground; beside log; on log; on, in, or beside rock; at base of tree; in tree; in cavern; in house. On ground, beside log, beside rock, and at base of tree are usually combined as “on ground” in the species accounts. “On ground” also includes in underbrush and in brush pile. “In tree” includes in tree, in vines, on tree limb, and on tree trunk.

Site moisture categories on the field data sheet included dry, moist, near stream, beside stream, in stream (or over stream). “In moist areas” should be interpreted usually as “mesic,” but “dry” doesn’t always mean “xeric.” A dry yard or forest may simply mean “not damp or not wet.”

Cover categories on the field data sheet included thorn forest, deciduous forest, evergreen forest, cloud forest, swamp or marsh, savanna or pasture, cropland, orchard, yard. Pasture, cropland, orchard, and yard are often combined in the species accounts as “openings” or “clearings” in one or the other of the forest types. “Orchards” include such diverse plantings as coconut groves, orange groves, scattered mangos, coffee plantations, and banana plantations. “savanna or pasture” includes páramo.

Elevation was recorded to the nearest meter in the field. The computer sorted elevations to minimum and maximum and into 500 meter increments. The species accounts comment on skewness of frequency toward upper or lower limits. No comment signifies uniform distribution.

Vegetative life zone for each collection was inferred from the map and descriptive text of Ewel and Madriz (1968), in conjunction with the elevation and gazetteer description of the collecting locality. The species accounts list actual numbers of mammals rather than percentages for each life zone since it often happened that a few specimens were scattered through many life zones in a species sample. The life zones of Ewel and Madriz (1968) are abbreviated in the species accounts. See Table 1 for translation of the abbreviations and for the equivalent terms from Holdridge (1947).

Specimens Collected

The specimens of each species are listed by locality. The localities are listed alphabetically by state. Localities on the boundary between two or more states are listed at the end of the alphabetical sequence.

The lists of “specimens collected” include all of the specimens for which records were kept. They therefore are not lists of specimens preserved, since some specimens were lost or discarded in the field. Some of the mammals for which records were kept but for which no specimen was preserved could not be identified with certainty to species. These are mentioned without ecological comment in the species accounts as “Carollia sp.” etc.

ACKNOWLEDGMENTS

So many persons have contributed to the collection, preparation, identification, and documentation of the mammals that it is difficult to select some whose help was especially noteworthy, for to all are due many thanks. Among the many Venezuelans who in one way or another made the mammal collections possible mention certainly must be made of Edgardo Mondolfi, Carlos Machado, Gonzalo Medina, Juhani Ojasti, Betty Gonzales, A. R. Lanceini, and Carlos Naranjo. On the North American side there likewise are many to be mentioned. Obvious are the collectors, particularly the group leaders, Norman Peterson and Arden and Merlin Tuttle. Bill and Ginny Cowles provided an aerial ecological reconnaissance of Venezuela. Sally DeMott, Cynthia Jones, and Ralph Wetzel assisted with verification of identifications and, together with Kay Ferris, Priscilla Penn, and Gwil Jones, edited most of the specimen data. Luis de la Torre verified the identifications of Sturnira and Richard LaVal those of Myotis. Data storage and retrieval, coordinated by Kim Mortensen, were programmed by Jim Crockett and Klaus Waibel, while Tom McIntyre and David Bridge were instrumental in machine processing the data. Finally, I am especially grateful to Nancy Moran, Peggy Ma-
Mammals
Holdridge near in in

Table 1. Vegetative life zones of Venezuela.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Ewel and Madrizz (1968)</th>
<th>Holdridge (1947)</th>
</tr>
</thead>
<tbody>
<tr>
<td>md-T</td>
<td>Tropical scrub desert</td>
<td>TROPICAL desert bush</td>
</tr>
<tr>
<td>me-T</td>
<td>Tropical thorny forest</td>
<td>TROPICAL thorn forest</td>
</tr>
<tr>
<td>bms-T</td>
<td>Tropical very dry forest</td>
<td>TROPICAL very dry forest</td>
</tr>
<tr>
<td>bs-T</td>
<td>Tropical dry forest</td>
<td>TROPICAL dry forest</td>
</tr>
<tr>
<td>bh-T</td>
<td>Tropical humid forest</td>
<td>TROPICAL humid forest</td>
</tr>
<tr>
<td>bmh-T</td>
<td>Tropical very humid forest</td>
<td>TROPICAL very humid forest</td>
</tr>
<tr>
<td>me-P</td>
<td>Premontane thorny forest</td>
<td>SUBTROPICAL thorn forest</td>
</tr>
<tr>
<td>bs-P</td>
<td>Premontane dry forest</td>
<td>SUBTROPICAL dry forest</td>
</tr>
<tr>
<td>bh-P</td>
<td>Premontane humid forest</td>
<td>SUBTROPICAL moist forest</td>
</tr>
<tr>
<td>bmh-P</td>
<td>Premontane very humid forest</td>
<td>SUBTROPICAL wet forest</td>
</tr>
<tr>
<td>bp-P</td>
<td>Premontane rain forest</td>
<td>SUBTROPICAL rain forest</td>
</tr>
<tr>
<td>bs-MB</td>
<td>Lower Montane dry forest</td>
<td>LOWER Montane dry forest</td>
</tr>
<tr>
<td>bh-MB</td>
<td>Lower Montane humid forest</td>
<td>LOWER Montane humid forest</td>
</tr>
<tr>
<td>bmh-MB</td>
<td>Lower Montane very humid forest</td>
<td>LOWER Montane very humid forest</td>
</tr>
<tr>
<td>bp-MB</td>
<td>Lower Montane rain forest</td>
<td>LOWER Montane rain forest</td>
</tr>
<tr>
<td>bh-M</td>
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<td>Montane very humid forest</td>
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</tr>
<tr>
<td>bp-M</td>
<td>Montane rain forest</td>
<td>Montane rain forest</td>
</tr>
<tr>
<td>p-SA</td>
<td>Subalpine páramo</td>
<td>Subalpine wet páramo</td>
</tr>
<tr>
<td>pp-SA</td>
<td>Subalpine rainy páramo</td>
<td>Subalpine rain formation</td>
</tr>
</tbody>
</table>

of the manuscript and verification of the data for "Mammals of the Smithsonian Venezuelan Project.”

ACCOUNTS OF SPECIES

Order MARSUPIALIA
Family DIDERPHIDAE

Caluromys lanatus Olfers, 1818:206.

Maracaibo lowlands, Andean foothills, and T. F. Amazonas. In trees (100 percent); usually near streams or other moist areas (90 percent) but sometimes in dry places (10 percent); in evergreen forest (100 percent); 24-155 m; bs-T (2), bh-T (10), and bmh-T (9).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (3). T. F. AMAZONAS, Acamaia, Río Cunucunuma, 48 km NW Esmeralda, 145 m, (1); Belén, Río Cununcunuma, 56 km NW Esmeralda, 150 m, (5); Boca Maya, 54 km SSE Esmeralda, 128 m, (5); 30 km S Pto. Ayacucho, 126 m, (1); San Juan, Río Manapiare, 163 km WSE Pto. Ayaconcho, 155 m, (3). TRUJILLO, 25 km NNW Valera, 90 m, (2). ZULIA, El Rosario, 51 km WNW Encontrados, 37 m, (1). Total 21.

Caluromys philander Linnaeus, 1758:54.

Forest areas east of the Andes. Usually taken in trees (94 percent) or rarely on logs and on the ground (6 percent); near streams and in other moist areas (90 percent) or in dry places (10 percent); in evergreen forest (52 percent), orchards (31 percent), other openings such as yards, croplands, and pastures (11 percent), and thorn forest (3 percent); 25-1,600 m (96 percent below 1,200 m); bms-T (2), bh-T (9), bmh-T (13), bs-P (7), bh-P (36), bp-P (1), bh-MB (2), and bmh-MB (1).

Specimens collected: BOLIVAR, Los Patos, 28 km SE El Manteco, 150 m, (1). CARABOBO, nr. Montalbán, 598 m, (7). DTO. FEDERAL, I.V.I.C., 15 km SW Caracas, 1,600 m, (1); Los Venados, 4 km NNW Caracas, 1,500 m, (2).
Monodelphis brevicaudata Erxleben, 1777:80.

Apparentely discrete populations in northern Venezuela (Sucre to Zulia), the Llanos, and southern Venezuela. On the ground (96 percent) or rarely on logs and in trees (4 percent); near streams and in other moist areas (88 percent) or in dry sites (12 percent); in evergreen forest (49 percent), in openings such as pasture, croplands, yards, and orchards (44 percent), and less often (7 percent) in other types of forest (swamp, thorn, deciduous, and cloud); 1-1100 m; ibs-T (32), ib-T (38), bhm-T (1), bs-P (13), bh-P (22), and bhm-P (21).

Specimens collected: ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1050-1100 m, (10); BARINAS, Altamira, 697-794 m, (7); BOLIVAR, El Manaco, 68 km SE El Dorado, 150 m, (1); 18 to 45 km NE Icabarú, 741-851 m, (5); Río Supano, 50 km SE El Manteco, 150 m, (1); CARABOBO, Montalbán to 6 km E and S Montalbán, 562-598 m, (13); DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 398 m, (1); FALCÓN, Boc. de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (1); nr. Mirimire and up to 14 km ENE Mirimire, 55-250 m, (11); GUÁRICO, Est. Biol. de los Llanos, 9 km SE Calabozo, 100 m, (10); Parque Nec. Guatopo, 15 km NW Altagracia, 680 m, (1); MIRANDA, Birongo, 60 m, (1); Curupao, 5 km NNW Guarenas, 1,160 m, (2); 6 km SSE Rio Chico, 1 m, (5); SUCRE, Manacal, 26 km ESE Carupano, 415-417 m, (2); T. F. AMAZONAS, Acanfía, Río Cununuma, 48 km NW Esmeralda, 145 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 150 m, (3); Esmeralda, Río Orinoco, 135 m, (1); 30 to 32 km S Pto. Ayacucho, 114-135 m, (5); Tamatama, Río Orinoco, 130-135 m, (11); TRUJILLO, La Ceiba, 52 km WNW Valera, 29 m, (3); to 30 km N, NW, and WNW Valera, 61-930 m, (17); YARACUY, Minas de Aroa, 20 km NW San Felipe, 400-430 m, (6); Zulia, Kasmara, 21 km SW Machiques, 272-273 m, (2); CARA-BOBO, FALCÓN, and YARACUY, 10 to 19 km NW Urama, 25 m, (6). Total 127.

Marmosa cinerea Temminck, 1824:46.

Bolivar, T. F. Amazonas, and Sierra de la Costa of northern Venezuela. Captured in trees, vines, and on logs (53 percent) or on the ground (47 percent); near streams or in other moist situations (96 percent) and rarely in dry places (4 percent); in evergreen forest (71 percent) or in openings such as yards, orchards, and marshes (29 percent); 25-1,160 m (77 percent below 325 m); bs-T (8), bh-T (13), bhm-T (2), bh-P (2), bhm-P (5), and bp-P (1).

Specimens collected: ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,050 m, (3); BOLIVAR, Hato La Florida, 44 to 47 km ESE Caicara, 43-50 m, (6); Hato San José, 20 km W La Paragua, 306 m, (2); Km 125, 85 km SSE El Dorado, 321-1032 m, (2); FALCÓN, 19 km NW Urama, 25 m, (4); MIRANDA, Curupao, 5 km NNW Guarenas, 1,150-1,160 m, (2); T. F. AMAZONAS, Belén, Río Cununuma, 56 km NW Esmeralda, 150 m, (2); Caño Culebra, Cerro Duida, 50 km NW Esmeralda, 750 m, (1); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 150 m, (5); 30 to 32 km S Pto. Ayacucho, 126-135 m, (2); San Juan, Río Manaipi, 163 km ESE Pto. Ayacucho, 155 m, (2). Total 31.

Marmosa dryas Thomas, 1898:456.

Mérida and Táchira Andes. On the ground (50 percent) or in trees (50 percent); usually in moist sites (90 percent) but occasionally in dry places (10 percent); in cloud forest (100 percent); 2,210-2,632 m; bhm-MB (8) and bp-M (2).

Specimens collected: MÉRIDA, 6 km ESE Tabay, 2,630-2,632 m, (2); TACHIRA, Buena Vista, nr. Páramo de Tama, 41 km SW San Cristóbal, 2,405-2,410 m, (2); TRUJILLO, Hda. Misísi, 14 to 15 km E Trujillo, 2,210-2,360 m, (6). Total 10.

Marmosa fuscata Thomas, 1896:313.

Mountains of northern Venezuela. In trees and vines (71 percent) or on the ground (29 percent); near streams or in other moist areas (100 percent); in evergreen (56 percent) and cloud forest (41 percent); and in forest openings used for crops (3 percent); 1,050-2,350 m; bh-P (11), bhm-P (17), bhm-MB (10), and bhm-MB (26).

Specimens collected: ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,050 m,
Mammals

Tamatama, or in km ban, Biological Los rarelv Trujillo, NNE percent) vines (2).

Venados, Uraina, 59 bmh-T (10). Specimens collected: DTO. FEDERAL, Los Venados, 4 km NWW Caracas, 1,500 m, (1); Pico Ávila, 5 km NNE Caracas, 1,281-2,323 m, (19). MONAGAS, San Agustín, 5 km NW Caripe, 1,150-1,339 m, (10). TRUJILLO, Hda. Misisi, 14 to 15 km E Trujillo, 2,210-2,350 m, (2). Total 64.

Marmosa impacida Tschudi, 1845:149.

Táchira Andes. In trees, shrubs, or vines (63 percent) or on leaf litter at the base of trees and vines (37 percent); in moist (98 percent) or rarely in dry situations (12 percent); in cloud (88 percent) or evergreen forest (12 percent); 2,380-2,415 m; bmh-MB (5).

Specimens collected: TACHIRA, Buena Vista, nr. Páramo de Támá, 41 km SW San Cristóbal, 2,380-2,415 m, (8). Total 8.

Marmosa marica Thomas, 1898:455.

Northern Venezuela. In trees (83 percent) and in a fence post (17 percent); in moist sites (100 percent); in evergreen (43 percent) or deciduous forest (14 percent), and in savanna (43 percent); 18-2,135 m; bs-T (3), bh-T (1), bh-MB (1), and bmh-MB (2).

Specimens collected: DTO. FEDERAL, Los Venados, 4 km NWW Caracas, 1,500 m, (1); Pico Ávila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,121-2,135 m, (2). FALCÓN, 19 km NW Urama, 25 m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (3). Total 7.

Marmosa murina Linnaeus, 1758:55.

Bolívar, T. F. Amazonas, and scattered localities in northern Venezuela. On the ground (48 percent) or on logs, in trees, and in houses (52 percent); usually near streams or other moist areas (90 percent) but occasionally in dry sites (10 percent); in evergreen forest (88 percent) or openings such as pastures, orchards, and yards (12 percent); 25-1,365 m; bs-T (4), bh-T (28), bmh-T (1), bh-P (15), and bmh-P (25).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (4); Hato San José, 20 km W La Paragua, 306 m, (1); 45 km NE Icabarú, 851 m, (4); Km 125, 85 km SSE El Dorado, 1,032 m, (21); Los Patos, 28 km SE El Manteeco, 350 m, (1); Rio Supanu, 50 km SE El Mantecco, 350 m, (1). MONAGAS, San Agustín, 5 km NW Caripe, 1,260-1,365 m, (11). T. F. AMAZONAS, Belén, Rio Cumucumua, 56 km NWW Esmeralda, 150 m, (1); Boca MAVACA, 84 km SSE Esmeralda, 138 m, (2); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (4); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1); Tamatama, Río Orinoque, 135 m, (14). YARACUY, 10 km NW Urama, 25 m, (3). ZULIA, El Rosario, 48 to 63 km WNW Encontrados, 54-125 m, (3). Total 71.

Marmosa parvidens Tate, 1931:13.

T. F. Amazonas, Bolívar, and Falcón. Captured on the ground (67 percent) and in a tree (33 percent); near streams or other moist areas (100 percent); in evergreen forest (100 percent); 25-1,032 m; bh-T (3) and bmh-P (2).

Specimens collected: BOLIVAR, Km 125, 85 km SSE El Dorado, 1,032 m, (2). FALCÓN, 19 km NW Urama, 25 m, (1). T. F. AMAZONAS, Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (2). Total 5.

Marmosa robinsoni Bangs, 1898:95.

Northern Venezuela. Usually captured on the ground (66 percent) or in trees (34 percent); near streams or in other moist areas (65 percent) and often in dry sites (35 percent); in evergreen or cloud forest (42 percent), openings (33 percent), or deciduous and thorn forest (25 percent): 1-1,260 m (62 percent below 500 m); bns-T (17), bs-T (118), bh-T (16), me-P (2), bs-P (12), bh-P (25), bmh-P (65), and bmh-MB (2).

Specimens collected: BARINAS, Altamira, 697 m, (1). CARABOBO, nr. Montalbán, 562-1,000 m, (9). FALCÓN, Cerro Santa Ana, Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo, 500-615 m, (62); Cerro Socopo, 84 km NW Carora, 1,258-1,260 m, (2); nr. Mirimire and nr. La Pastora, 14 km ENE Mirimire, 90-250 m, (2); Río Socopito, 80 km NW Carora, 470 m, (1). GUARICO, Est. Biol. de los Llanos, 9 km SE Calabozo, 100-115 m, (35); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (46). LARA, Caserío Boro, 10 to 14 km NE and N El Toeyno, 528-616 m, (3); La Concordia, 47 km NE El Toeyno, 592 m, (1). MIRANDA, Tucupao, 5 km NWW Guaranés, 1,160 m, (8); San Andrés, 16 km SSE Caracas, 1,144 m, (6). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (13); San Agustín, 5 km NW Caripe, 1,150 m, (1). NUEVA ESPARTA, Isla Margarita, 3 km NNE, and S La Asunción, 37-425 m, (15). SUCRE, 16 to 21 km E Cumán, 1-25 m, (10). TRUJILLO, La Ceiba, 52 km WNW Valera, 29 m, (1); 12 to 25 km N, NW, and WNW Valera, 90-930 m, (9). ZULIA, nr. Cerro Azul, 35 to 40 km NW La Paz, 80 m, (7); Novito, 19 km WSW Machiques, 1,132-1,150 m,
(2). CARABOBO, FALCÓN, and YARACUY, 10 to 19 km NW Urama, 25 m, (22). Total 256.

Marmosa sp. A.

Falcón. Captured at the bases of trees in moist evergreen forest; 125-170 m; bh-P (3).

Specimens collected: FALCÓN, nr. La Pastor, 14 km ENE Mirimire, 125-170 m, (3). Total 3.

Remarks: For notes on the systematics and nomenclature of this species, see Handley (in press).

Marmosa sp. B.

Desert areas around Golfo de Venezuela. Usually captured in trees and bushes (81 percent) or on the ground (18 percent) and rarely in houses (1 percent); almost always in dry situations (99 percent) but rarely in moist places (1 percent); in thorn forest (98 percent), forest openings (2 percent), and evergreen forest (less than 1 percent); 5-90 m; mc-T (205) and bms-T (41).

Specimens collected: FALCÓN, Capatárida and 16 to 18 km WSW and SSW Capatárida, 40-75 m, (135); Peninsula de Paraguaná, 15 to 25 km SSW and SW Pueblo Nuevo, 13-90 m, (73); GUAYRA and ZULIA, nr. Cojoró, 34 to 37 km NNE Paraguaípou, 5-15 m, (36). Total 246.

Remarks: For notes on the systematics and nomenclature of this species, see Handley (in press).

Marmosa sp. ?

Specimens collected: FALCÓN, Peninsula de Paraguaná, 15 to 25 km SSW and SW Pueblo Nuevo, 13-593 m, (5); GUAYRA. Est. Biol. de los Llanos, 9 km SE Calabozo, 100 m, (3); MONAGAS, nr. San Agustín, 5 km NW Carippe, 1,150-1,338 m, (2). Total 10.

Philander opossum Limaeus, 1758:55.

Lowlands of western and southern Venezuela. On the ground (98 percent) and on a log (2 percent); near streams and in other moist areas (100 percent); in evergreen forest (91 percent) and openings such as orchards, croplands, and yards (9 percent); 24-324 m; bs-T (2), bh-T (29), and bms-T (15).

Specimens collected: APURE, Nuhita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (3); BOLIVAR, Hato San José, 20 km W La Paragua, 306-324 m, (2). T. F. AMAZONAS, Acanaña, Rio Cumamacuma, 48 km NW Esmeralda, 145 m, (1); Belén, Rio Cumamacuma, 56 km NNW Esmeralda, 150 m, (11); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (3); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (10); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (3); TAMATAMA, Rio Orinoco, 135 m, (9). TRUJILLO, 19 to 30 km N and NW Valera, 90-164 m, (2). ZULIA, Boca del Rio de Oro, 60 km NWN Encontrados, 73 m, (2). Total 46.

Metachirus nudicaudatus E. Geoffroy, 1803:142.

Western and southern Venezuela. On the ground (100 percent); near streams and other moist areas (73 percent) or in dry situations (27 percent); in evergreen forest (73 percent) and in orchards and yards (27 percent); 130-1,150 m; bh-T (3), bh-P (2), and bms-P (3).

Specimens collected: BARINAS, Altamira, 697-794 m, (3); BOLIVAR, 28 km NE Icabarú, 775 m, (2). T. F. AMAZONAS, Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (2); TAMATAMA, Rio Orinoco, 135 m, (4). TRUJILLO, 19 km N Valera, 164 m, (3). ZULIA, Kasmera, 21 km SW Machiques, 270 m, (1); Novito, 19 km WSW Machiques, 1,135-1,150 m, (3). Total 18.

Lutreolina crassicaudata Desmarest, 1804:19.

Bolivar. On the ground, in grass 0.5-1.5 m high, near a stream and in dry upland pasture with scattered bushes and palms; 298 m; bs-T (4).

Specimens collected: BOLIVAR, Hato San José, 20 km W La Paragua, 298 m, (4). Total 4.

Didelphis albiventris Lund, 1841:236.

Mérida and Táchira Andes. On the ground (56 percent) or in trees (14 percent); in dry situations (54 percent) or near streams and other moist areas (46 percent); in evergreen (53 percent) or cloud forest (47 percent); 2,380-3,275 m; bms-MB (5), bh-M (6), bp-M (1), and p-SA (2).

Specimens collected: MERIDA, Paramito, 3 to 4 km W Timotes, 3,020-3,275 m, (8); 7 km SE Tayab, 3,155 m, (1). TACHIRA, Buena Vasta, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,380-2,390 m, (5). Total 14.

Didelphis marsupialis Linnaeus, 1758:54.

Throughout Venezuela, except at high elevations and in deserts. Usually captured on the ground (72 percent) or in trees, on logs, or in houses (28 percent); most often near streams or in other moist areas (88 percent) but sometimes in dry places (12 percent); in evergreen (52 percent) and cloud forest (6 percent), deciduous and thorn forest (5 percent), or in openings such as yards, orchards, pastures, and croplands (37 percent); 1-2,232 m (56 percent below 500 m, 98 percent below 1,500 m); bms-T (15),
Specimens collected: ANZOATEGUI, 14 km W Clarines, 100 m, (1). APURE, Hato Cariben, Río Cinarea, 46 km NE Pto. Páez, 76 m, (2); Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (2); Río Cinarea, 38 km NNW Pto. Páez, 76 m, (1). ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,100 m, (2). BARINAS, Altamira, 794 m, (7). BOLIVAR, Hato La Florida, 44 km ESE Cai- cara, 43-45 m, (15); Hato San José, 20 km W La Paragua, 324 m, (2); 23-45 km NE Icabarú, 851 m, (2); Km 125, 85 km SSE El Dorado, 1,032-1,165 m, (3); Río Supamó, 50 km SE El Man- teco, 150 m, (2). CARABOBO, nr. Montalbán, 562-1,000 m, (49). DTO. FEDERAL, Boca de Tigre Valley, 5 km NW Caracas, 1,394 m, (2); Hda. Carapiche, nr. El Limón, 48 km W Caracas, 398 m, (1); Los Venados, 4 km NNW Caracas, 1,475 m, (2). FALCON, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (2); Mirin- mire and H km ENE Mirimire, 130-250 m, (5); Río Socopito, 50 km NW Carora, 480 m, (1). GUARICO, Est. Biol. del Llanos, 14 km SE Calabozo, 100 m, (1). LARA, Caserio Boro, 10 to 47 km N and NE El Tocuyo, 518-900 m, (8). MÉRIDA, 4 km E Tabay, 2,100 m, (1). MIRAN- DA, Alto No León, 31 km WSW Caracas, 1,880 m, (1); 3 km NE Caracas, 1,110-1,170 m, (32); I.V.L.C., 15 km SW Caracas, 1,460-1,660 m, (16); Parque Nac. Guatopo, 15 to 21 km NW Atla- gracia, 630-680 m, (16); 1 to 6 km S and SSE Río Chico, 1 m, (5); San Andrés, 16 km SSE Caracas, 1,140-1,144 m, (2). MONAGAS, Hato Mata de Bejueco, 55 SSE Maturín, 18 m, (10); San Agustín, 5 km NW Caripí, 1,160-1,335 m, (18). SUCRE, 2 to 24 km E Cumaná, 1-30 m, (7); Ensenada Guaranta, 9 km NE Guírá, 1-4 m, (14); Manaical, 26 km ESE Caripíano, 185-470 m, (42). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (2); T. F. AMA- ZONAS, Belén, Río Cúccumunuma, 56 km NNW Esmeralda, 150-1,400 m, (7); Boca Mavaca, 54 km SSE Esmeralda, 138 m, (5); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (6); 30 to 32 km S Pto. Ayacucho, 126-135 m, (7); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (2); Tamatama, Río Orinoco, 135 m, (1). TRUJILLO, La Ceiba, 46 km WNW Valera, 29 m, (2); 12 to 30 km N to WNW Valera, 61-900 m, (22). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395-1,400 m, (6); ZULIA, nr. Cerro Azul, 33 to 39 km NW La Paz, 75-80 m, (15); El Rosario, 45 to 60 km WNW Encontrados, 37-73 m, (13); Kasnera, 21 km SW Machiques, 270 m, (2). CARABO- BO, FALCON, and YARACUY, 10 to 19 km NW Urarico, 25 m, (15). DTO. FEDERAL and MIRANDA, Pico Avila, 5 km NNE and 6 km NNW Caracas, 1,616-2,232 m, (3). Total 382.

Didelphis sp. A.

Bolivar and T. F. Amazonas. Captured in trees and on logs (53 percent) or on the ground (47 percent); near streams and other moist areas (100 percent); in evergreen forest (93 percent) and forest openings (7 percent); 126-1,400 m (77 percent above 700 m); bs-T (1), bh-T (3), bh-P (3), bmh-P (6), bp-P (2), and bp-MB (2).

Specimens collected: BOLIVAR, 26 km NE Icabarú, 924 m, (3); Km 125, 85 km SSE El Dorado, 1,032 m, (6). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400 m, (2); Caño Cule- bra, Cerro Duida, 50 km NNW Esmeralda, 750 m, (2); 20 to 30 km S Pto. Ayacucho, 126-135 m, (3). Total 17.

Remarks: For notes on the systematics and nomenclature of this species, see Handley (in press).

Chironectes minimus Zimmermann, 1780:317.

Mountains of northern and western Vene- zuela. In streams in evergreen forest and cultivated land; 395-1,560 m; bh-P (2) and bmh-MB (3).

Specimens collected: MÉRIDA, Santa Rosa, 1 km N Mérida, 1,860 m, (3). MONAGAS, San Agustín, 5 km NW Caripí, 1,150 m, (1). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395 m, (1). Total 5.

Family CAENOESTIDAE

Caenolestes obscurus Thomas, 1895b:367.

Táchira. On the ground, 1.5-2 m from a stream, near shrubs and a bamboo thicket, in cloud forest; 2,390-2,400 m; bmh-MB (2).

Specimens collected: TACHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristó- bal, 2,390-2,400 m, (2). Total 2.

Order INSECTIVORA

Family SORICIDAE

Cryptotis thomasi Merriam, 1897:227.

Mérida and Táchira Andes. Taken on the ground (100 percent); usually in moist situations (55 percent) but occasionally in dry sites (15 percent); in cloud forest (94 percent) or páramo (6 percent); 1,950-3,545 m; bh-MB (3), bmh-MB (9), bp-M (6), and p-SA (3).
Specimens collected: MÉRIDA. La Carbonera, 12 km SE La Azulita, 1,990 m. (1); Santa Rosa, 2 km N Mérida, 1,980 m. (3); 5 to 9 km SE and ESE Tabay, 2,630-3,545 m. (9). TACHIRA. Buena Vista. nr. Páramo de Tumá, 41 km SW San Cristóbal, 2,380-2,415 m. (8). Total 21.

Order CHILOPTERA
Family EMBALLOONURIDAE


Throughout the lowlands of Venezuela. Caught in mist nets (58 percent) or from roosts on logs (21 percent), trees (15 percent), and rocks (6 percent); near streams and in other moist situations (97 percent) or in dry places (3 percent); in evergreen forest (71 percent), pastures and yards (15 percent), swamps (6 percent), and thorn forest (5 percent); 1,350 m; bs-T (1), bh-T (75), bh-P (38), and bh-P (9).

Specimens collected: APURE, Hato Cariben. Río Cinarucu, 46 km NE Pto. Páez, 76 m. (2); Río Cinarucu, 38 km NNW Pto. Páez, 76 m. (5). BOLIVAR, El Manuco, 59 to 67 km SE El Dorado, 150 m. (7); Hato La Florida, 47 km SE Caicara, 50 m. (3); Hato San José, 20 km W La Paragua, 306 m. (1); Río Supano, 50 km SE El Manteco, 150-350 m. (9). FALCÓN, Boca de Yaracuy, 28 km NW Pto. Cabello, 2 m. (10); 20 km XNE andENE Mirimíre, 1 m. (1). GUÁRICO, Est. Biol. de los Llanos, 14 km SE Calabozo, 100 m. (3). MIRANDA, 7 km N Río Chico, 1 m. (7). MONAGAS, Hato Mata de Bejucu, 55 km SSE Maturín, 18 m. (2). T. F. AMAZONAS, Belén, Río Cumunumuna, 56 km NNW Esmeralda, 150 m. (38); Boca Maya, 54 km SSE Esmeralda, 138 m. (6); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m. (18); Río Mavaca, 108 km SSE Esmeralda, 140 m. (4); San Juan, Río Manapiare, 163 km ESE Pto. Ayacoche, 155 m. (19); Tamatama, Río Orinoco, 135 m. (15). YARACUY, 10 km NW Urarena, 25 m. (3). ZULIA, nr. Cerro Azul, 33 km NW La Paz, 75 m. (1); El Rosario, 42 to 57 km NWN Encontrados, 24-61 m. (6). Total 160.

*Saccopteryx caucensis* Thomas, 1901a:366.

Widely scattered Venezuelan lowland localities. Mist netted (100 percent); near streams and in other moist areas (75 percent) or in dry sites (25 percent); in openings such as pastures, yards, and orchards (60 percent), in evergreen forest (30 percent), and in thorn (5 percent) and swamp forest (5 percent); 1-155 m; bs-T (14) and bh-T (9).

Specimens collected: APURE, Hato Cariben, Río Cinarucu, 46 km NE Pto. Páez, 76 m. (3); Nulita, Selvas de San Camilo, 29 km SSW San to Domingo, 24 m. (3); Río Cinarucu, 38 km NNW Pto. Páez, 76 m. (1); San Rafael de Atamaica, 42 km SSE San Fernando de Apure, 100 m. (10). BARIÑAS, 2 km SW Altamira, 620 m. (1). BOLIVAR, Hato La Florida, 45 km ESE Caicara, 65 m. (1); Hato San José, 20 km W La Paragua, 306 m. (1); Río Supano, 50 km SE El Manteco, 350 m. (1). CARAIBOBO, 2 km SE Montalbán, 598 m. (1). FALCÓN, Boca de Yaracuy, 25 km NW Pto. Cabello, 2 m. (4); 12 to 14 km ENE Mirimíre, 60-260 m. (2). MIRANDA, Birono, 60 m. (2). Parque Nat. Guataparo, 21 km NW Altugrasa, 630 m. (1); 7 km E and SSE Río Chico, 1 m. (9). MONAGAS, Hato Mata de Bejucu, 55 km SSE Maturín, 18 m. (1). SUCRE, Ensenada Cauranta, 9 km NE Guímaría, 1 m. (1); Manacal, 26 km ESE Carrúpano, 200-575 m. (3). TACHIRA, Las Mesas, 17 km San Juan de Colón, 460 m. (2). T. F. AMAZONAS, Belén, Río Cumunumuna, 56 km NNW Esmeralda, 150 m. (22); Boca Mavaca, 54 km SSE Esmeralda, 138 m. (24); 14 to 30 km S and SSW Pto. Ayacoche, 126-135 m. (3); Río Mavaca, 108 km SSE Esmeralda, 140 m. (6); San Juan, Río Manapiare, 163 km ESE Pto. Ayacoche, 155 m. (246). TRUJILLO, 23 to 25 km NW Valera, 90-164 m. (2). ZULIA, nr. Cerro Azul, 33 to 39 km NW La Paz, 75-50 m. (50); El Rosario, 39 to 45 km NWN Encontrados, 37-54 m. (6). CARAIBOBO and FALCÓN, 5 to 19 km NW and ENE Urana, 25 m. (14). Total 420.
Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (1); 19 km NW Urana, 25 m, (2). MIRANDA, Birongo, 60 m, (2); 7 to 10 km E and ESE Rio Chico, 1 m, (2). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 18 m, (1). SUCRE, Ensenada Caruranta, 9 km NE Guiria, 2 m, (1). T. F. AMAZONAS, San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (4). ZULIA, El Rosario, 51 km WNW Encantados, 50 m, (1). Total 23.

Saccopteryx leptura Schreber, 1774: pl. 57 and p. 173.

Scattered lowland localities throughout Venezuela. Caught in mist nets (83 percent) and found roosting on logs (10 percent), in trees (5 percent), and on a house (2 percent); near streams and in other moist areas (82 percent) or in dry sites (18 percent); in evergreen forest (87 percent), yards, pastures, and orchards (13 percent), thorn forest (13 percent), and swamp (2 percent); 1-609 m (93 percent below 500 m); bmh-T (1), bs-T (9), bh-T (21), bmh-T (6), bh-P (2), and bmh-P (2).

Specimens collected: APURE, Hato Cariben, Rio Cinzarucu, 32 km NE Pto. Páez, 76 m, (1); Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (2); 1 km W Pto. Páez, 76 m, (1). BARINAS, 2 km SW Altamira, 609 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Hato La Florida, 45 km ESE Caicara, 65 m, (1); Hato San José, 20 km W La Paragua, 306 m, (1). FALCON, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (4). MIRANDA, Birongo, 60 m, (1); 1 km E Rio Chico, 1 m, (1). SUCRE, 21 km E Cumaná, 40 m, (1). Manacal, 26 km ESE Caripano, 575 m, (1). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (1). T. F. AMAZONAS, Acahita, Rio Cunununa, 45 km NW Esmeralda, 145 m, (1); Belén, Rio Cunununa, 56 km NNE Esmeralda, 150 m, (3); Boca Mavaca, 54 km SSE Esmeralda, 138 m, (3); Capibara, Brazo Cquistare, 106 km SW Esmeralda, 130 m, (1); 32 km S Pto. Ayacucho, 135 m, (2); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (2); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (10). YARACUY. Minas de Aroa, 20 km NW San Felipe, 400 m, (1). ZULIA, El Rosario, 45 km WNW Encantados, 54 m, (1). Total 41.

Saccopteryx sp. ?

Specimens collected: T. F. AMAZONAS, Boca Mavaca, 54 km SSE Esmeralda, 138 m, (2); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 3.

Cormura brevirostris Wagner, 1843a:367.

Northeastern and southern Venezuela. Netted (50 percent), shot in flight (17 percent), or captured from roosts in hollow trees (11 percent) or on branches (22 percent); near streams or other moist areas (100 percent); in evergreen forest (88 percent) and rarely in fields and yards (13 percent); 135-964 m (91 percent below 500 m); bs-T (1), bh-T (5), bmh-T (9), bh-P (1), and bmh-P (1).

Specimens collected: BOLIVAR, 40 km NE Icaban, 964 m, (1); Rio Supamo, 50 km SE El Manteco, 150 m, (1). SUCRE, Manacal, 26 km ESE Caripano, 175 m, (1). T. F. AMAZONAS, Belén, Rio Cunununa, 56 km NNE Esmeralda, 150 m, (9); Boca Mavaca, 81 km SSE Esmeralda, 138 m, (2); 32 and 65 km S and SSW Pto. Ayacucho, 135-161 m, (2); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (1); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 18.

Petopteryx kappleri Peters, 1867:473.

Sequentially scattered localities in northern Venezuela and Bolivar. Found roosting in caverns (74 percent) and among rocks (26 percent); in dry (62 percent) or moist situations (38 percent); in evergreen forest (76 percent) or in croplands (24 percent); 220-854 m, bs-T (1), bh-P (52), and bmh-P (1).

Specimens collected: BARINAS, Altamira, 794 m, (1). BOLIVAR, 13 km NE Icaban, 817 m, (1). CARABOBO, 13 km ENE Montebán, 701 m, (1). FALCON, 6 to 12 km ENE Mimirime, 220-260 m, (27); Reicito, 30 km S Mimirime, 300 m, (1). MONAGAS, 3 km SW Caripó, 854 m, (13). Total 54.

Petopteryx macrotis Wagner, 1843a:367.

Humid lowlands of southern, central, and western Venezuela. Found roosting in caves (38 percent), rocks (31 percent), and houses (6 percent) or caught in mist nets (25 percent); usually near streams and in other moist areas (58 percent) but occasionally in dry places (12 percent); in evergreen forest (70 percent), openings such as savanna, yards, and orchards (27 percent), and in deciduous forest (3 percent); 65-817 m; bs-T (58), bh-T (50), bmh-T (3), bh-P (108), and bmh-P (1).

Specimens collected: APURE, 1 km W Pto. Páez, 76 m, (1); San Rafael de Atamáica, 42 km SSE San Fernando de Apure, 100 m, (14). BARINAS, Altamira, 600 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Hato La Florida, 45 km ESE Caicara, 65 m, (1); 11 to 19 km NE Icaban, 700-817 m, (69); Piedra
Virgen, 70 km SSE El Dorado, 374 m, (9). CARABOBO, 14 km ENE Montalbán, 701 m, (11). FALCÓN, 13 km NNE and ENE Mirimire, 270 m, (12); Riccito, 30 km S Mirimire, 300 m, (29). GUARICO, Embalse de Guárico, 10 km NW Calabozo, 100 m, (1). MIRANDA, Cueva Ricardo Zuloaga, nr. El Encantado, 15 km SE Caracas, 548 m, (7). T. F. AMAZONAS. Belén, Río Cunucumuna, 56 km NW Esmeralda, 150 m, (3); Esmeralda, Río Orihueco, 135 m, (31); 20 to 35 km SSW Pto. Ayacucho, 119-195 m, (6); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (2). YARACUY, Minas de Aroa, 20 km NW San Felipe, 390-400 m, (16). ZULIA, El Rosario, 42 km NW Encontrados, 24 m, (1); Kasmera, 21 km SW Machiques, 270 m, (5). Total 220.

Peropteryx trinitatis Miller, 1899:175.

Lowlands of southern and central northern Venezuela. Found roosting in rocks (50 percent), caverns (22 percent), and houses (18 percent), or caught in nets (10 percent); in dry areas (75 percent) or in moist sites (25 percent); in savanna and pasture (62 percent). yards (21 percent), evergreen forest (15 percent), and swamps (2 percent); 76-400 m; bs-T (37), bh-T (6), and bh-P (18).

Specimens collected: APURE, Pto. Méjico, 76 m, (35). BOLIVAR, Piedra Virgen, 70 km SSE El Dorado, 374 m, (2). FALCÓN, 13 km NNE and ENE Mirimire, 270 m, (6). MIRANDA, 4 km SW Birongo, 195 m, (1). T. F. AMAZONAS, 14 to 32 km S and SSW Pto. Ayacucho, 119-174 m, (6); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). YARACUY, Minas de Aroa, 20 km NW San Felipe, 390-400 m, (12). Total 61.

Dichlidurus albus Wied, 1820a (1819):1630.

Bolivar, T. F. Amazonas, and Zulia. Shot in flight (100 percent); near stream banks and other moist areas (87 percent) or in dry sites (13 percent); over yards and streets in towns (87 percent) or in evergreen and forest (13 percent); 24-851 m; bs-T (2), bh-T (18), and bh-P (3).

Specimens collected: BOLIVAR, Icabarú to 21 km NE Icabarú, 473-851 m, (5). T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (7). ZULIA, El Rosario, 39 to 42 km WNW Encontrados, 24-37 m, (11). Total 23.


T. F. Amazonas. Shot in flight (100 percent); over stream banks and other moist areas (100 percent); in yards (75 percent) or in evergreen forest (25 percent); 99-155 m; bs-T (2) and bh-T (2).

Specimens collected: T. F. Amazonas, Pto. Ayacucho, 99 m, (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (2). Total 4.

Dichlidurus isabellus Thomas, 1920b:271.

T. F. Amazonas. Shot in flight (100 percent); over streams or other bank (100 percent); in evergreen forest (100 percent); 138-155 m; bh-T (28).

Specimens collected: T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (9); Río Mavaca, 108 km SSE Esmeralda, 140 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (18). Total 28.

Dichlidurus scutatus Peters, 1869:400.

Bolivar and T. F. Amazonas. Shot in flight (100 percent); near stream banks and other moist areas (100 percent); over yards and streets in towns (100 percent); 99-851 m; bs-T (12), bh-T (1), and bh-P (1).

Specimens collected: BOLIVAR, Icabarú to 21 km NE Icabarú, 473-851 m, (11). T. F. AMAZONAS, Pto. Ayacucho, 99 m, (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 14.

Family NOCTILIONIDAE

Noctilio albiventris Desmarest, 1818:15.

Lowlands of central and northern Venezuela. Netted (54 percent) or taken from roosts in hollow trees (45 percent) and rarely in rocks (1 percent); never far from streams (but 20 percent netted or found roosting in upland sites); in savanna or pasture (41 percent), swamp or marshes (20 percent), yards, croplands, and orchards (19 percent), evergreen forest (18 percent), and thorn forest (2 percent); 1-300 m; bs-T (306) and bh-T (229).

Specimens collected: APURE, Hato Cariben, Río Cinaruco, 32 to 46 km NE Pto. Páez, 76 m, (56); Pto. Páez to Río Cinarcu, 38 km NNW Pto. Páez, 76 m, (47); San Rafael de Atanáca, 42 km SSE San Fernando de Apure, 100 m, (3). BOLIVAR, Hato La Florida, 47 km ESE Caura, 50 m, (2). FALCÓN, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (12). GUARICO, Est. Biol. de los Llanos, 9 to 14 km SE Calabozo, 100 m, (8). MIRANDA, 4 to 7 km E Río Chico, 1 m, (8). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (2). SUCRE, San Fernando, 16 km SE Cumaná, 300 m, (1). T. F. AMAZONAS, 20 to 25 km S Pto. Ayacucho, 135 m, (9); San Juan, Río Manapi-
are, 163 km ESE Pto. Ayacucho, 155 m, (212). TRUJILLO, La Ceiba, 47 km WNW Valera, 29 m, (1); 25 km NW Valera, 90 m, (1). ZULIA, El Rosario, 42 km WNW Encontrados, 21 m, (15). CARABOBO and YARACUY, 10 to 19 km NW Urama, 25 m, (128). Total 535.

Noctilio leporinus Linnaeus, 1758:32.

Lowland localities throughout Venezuela. Netted (100 percent); over or near streams or in other moist areas (100 percent); in savannas, pastures, and marshes (53 percent); evergreen and deciduous forest (30 percent); in savannas and orchards (17 percent); 1-181 m: bms-T (4), bs-T (51), bh-T (23), bmb-T (4), and bh-P (5).

Specimens collected: APURE, between Pto. Páez and Río Cinaruco, 38 km NW Pto. Páez, 76 m, (1). BOLIVAR, Hato La Florida, 47 km ESE Caicara, 50 m, (1); Río Supamo, 50 km SE El Manteco, 150 m, (5). GUARICO. Hato Las Palmitas, 35 km SSW San Juan de los Moros, 181 m, (2). MIRANDA, 1 to 7 km E and S Río Chico, 1 m, (5). MONAGAS, Hato Mata de Bejucos, 55 km SSE Maturín, 18 m, (1). SUCRE, 21 km E Cumaná, 1 m, (4); Ensenada Cauranta, 9 km NE Guiria, 1 m, (3). T. F. AMAZONAS, Belén, Río Cunucumama, 56 km NNW Esmeralda, 150 m, (4); Boca Mavaca, 54 km SSW Esmeralda, 135 m, (10); Río Mavaca, 108 km SSE Esmeralda, 140 m, (1). ZULIA, nr. Cerro Azul, 33 km NW La Paz, 75 m, (1); El Rosario, 42 km WNW Encontrados, 24 m, (12). CARABOBO and YARACUY, 10 to 11 km NW Urama, 25 m, (37). Total 87.

Family MORMOOPIDAE

Pteronotus parnellii Gray, 1843:50.

Lowlands and low mountains throughout Venezuela except in most of the Llanos and in the extreme west. Caught in mist nets (90 percent) or found roosting in caverns (9 percent) and in tree holes (1 percent); over or near streams and in other moist areas (83 percent) or in dry places (17 percent); in evergreen forest (49 percent), deciduous and thorn forest (23 percent), openings such as yards, orchards, pastures, and croplands (19 percent), swamps (9 percent), and cloud forest (1 percent); 1-1,537 m (92 percent below 500 m): bms-T (28), bs-T (178), bh-T (138), bmb-T (24), bh-P (123), bmb-P (11), and bh-MB (1).

Specimens collected: APURE, Hato Cariben, Río Cinaruco, 32 km NE Pto. Páez, 76 m, (5); 1 km W Pto. Páez, 76 m, (6). ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,081-1,100 m, (6). BARINAS, 2 km SW Altamira, 619 m, (1). BOLIVAR, El Manaco, 56 to 59 km SE El Dorado, 150 m, (6); 5 km NW Guasipati, 190 m, (64); Hato La Florida, 47 km ESE Caicara, 50 m, (45); Hato San José, 20 km W La Paragua, 306 m, (4); 21 km NE Icabari, 750 m, (1); Km 125, 85 km SSE El Dorado, 882-1,032 m, (2); Los Patos, 28 km SE El Manteco, 150 m, (4); Río Supamo, 50 km SE El Manteco, 150 m, (3). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (2). DTO, FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 380-398 m, (3); Los Venados, 4 km NW Caracas, 1,513 m, (1) FALCON, 14 to 16 km ENE Mirimire, 60-70 m, (6); Península de Paraguaná, 7 km W Pueblo Nuevo, 120 m, (7); Riccito, 30 km S Mirimire, 300 m, (1). GUARICO, Hda. Elevira, 10 km NE Altagracia, 630 m, (6). LARA, Case- rio Boro, 10 to 13 km N and NW El Tocuyo, 518-900 m, (10). MIRANDA, Birongo to 4 km SW Birongo, 60-195 m, (13); Cueva Ricardo Zuloga, nr. El Encantado, 15 km SE Caracas, 548 m, (4); Curupao, 5 km NW Guarenas, 1,110-1,160 m, (4); 1 km E Río Chico, 1 m, (1); San Andrés, 16 km SSE Caracas, 950-1,144 m, (2). MONAGAS, San Agustín, 5 km NW Caripi- pe, 1,165 m, (1). NUEVA ESPARTA, Isla Margarita, 3 km S La Asunción, 53-305 m, (13). SUCRE, Ensenada Cauranta, 9 to 12 km NE Guiria, 1-90 m, (27). T. F. AMAZONAS, Acarana, Río Cunucumama, 48 km NNW Esmeralda, 145 m, (6); Belén, Río Cunucumama, 56 km NNW Esmeralda, 150 m, (18); Boca Mavaca, 54 km SSE Esmeralda, 135 m, (8); 14 to 32 km S and SSE Pto. Ayacucho, 119-135 m, (6); Río Mavaca, 108 km SSE Esmeralda, 140 m, (60); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (34); Tamatama, Río Orino-
co, 135 m. (3). TRUJILLO, 23 to 25 km N and NW Valera, 90-164 m. (3). YARACUY, Minas de Aroa, 20 km NW San Felipe, 380-400 m, (10). CARABOBO, FALCÓN, and YARACUY, 6 to 19 km NW and N Urana, 25-60 m, (15). Total 505.

Pteronotus personatus Wagner, 1833a:367.

Bolivar and base of Peninsula de Falcón. Netted over and near streams and in dry areas; in evergreen forest, pasture, and in a yard; 25-395 m; bs-T (1) and bh-P (3).

Specimens collected: BOLIVAR, Los Patos, 25 km SE El Manteco, 150 m, (1). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395 m, (2); 10 km NW Urana, 25 m, (1). Total 4.

Pteronotus suapurensis J. A. Allen, 1904:229.

Northwestern Venezuela. Caught in mist nets (100 percent); mostly in dry situations (94 percent) and only rarely in moist places (6 percent); in yards (90 percent), evergreen forest (8 percent), and deciduous forest (2 percent); 164-400 m; bh-T (2) and bh-P (49).

Specimens collected: TRUJILLO, 19 km N Valera, 164 m, (2). YARACUY, Minas de Aroa, 19 to 30 km NW San Felipe, 395-400 m, (49). Total 51.

Mormoops megalophylla Peters, 1864:381.

Widely scattered localities in Bolivar and in northern Venezuela. Found roosting in caverns (82 percent) or caught in mist nets (15 percent); in moist areas and over streams (68 percent) or in dry sites (32 percent); in deciduous and thorn forest (83 percent), orchards and yards (16 percent), and evergreen forest (1 percent); 1-395 m; bms-T (25), bs-T (59), and bh-P (4).

Specimens collected: BOLIVAR, Hato San José, 20 km W La Paraguá, 306 m, (1). FALCÓN, Peninsula de Paraguaná, 7 km W Pueblo Nuevo, 120 m, (25). SUCRE, Ensenada Cauranta, 9 to 11 km NE Guiria, 1-90 m, (59). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395 m, (3). Total SS.

Family PHYLLOSTOMIDAE

Subfamily PHYLLOSTOMINAE

Micronycteris brachyotis Dobson, 1879:580.

Widely scattered localities in northern and southern Venezuela. Netted (67 percent) and found roosting in a hollow tree (33 percent); in moist (67 percent) or dry situations (33 percent); in evergreen forest (67 percent) and in a settlement in evergreen forest (33 percent); 25-150 m; bh-T (2) and bh-P (1).

Specimens collected: BOLIVAR, Los Patos, 25 km SE El Manteco, 150 m, (1). FALCÓN, 19 km NW Urana, 25 m, (1), T. F. AMAZONAS, Tamatama, Rio Orinoco, 135 m, (1). Total 3.

Micronycteris hirsuta Peters, 1869:396.

Widely scattered lowland localities in southern and western Venezuela. Netted (100 percent); near streams and other moist areas (80 percent) or in dry situations (20 percent); in evergreen forest (60 percent) and in yards (40 percent); 21-155 m; bh-T (4) and bh-P (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 20 km SSW Santo Domingo, 24 m, (1). FALCÓN, 19 km NW Urana, 25 m, (1). T. F. AMAZONAS, Rio Mavaca, 105 km SSE Esmeralda, 140 m, (1); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1); Tamatama, Rio Orinoco, 135 m, (1). Total 5.

Micronycteris megalotis Gray, 1842:257.

At lower elevations throughout Venezuela. Mist netted (55 percent), or found roosting in hollow trees and logs (24 percent), caverns, crevices, culverts, and rocks (15 percent), or houses (6 percent); near streams and in other moist areas (70 percent) or in dry habitats (30 percent); in evergreen forest (54 percent), openings such as pastures, yards, and orchards (25 percent), thorn and deciduous forest (20 percent), and swamp (1 percent); 2-794 m; me-T (3), bms-T (8), bs-T (23), bh-T (44), bh-P (6), and bh-P (14).

Specimens collected: APURE, Hato Cariben, Rio Cinarucu, 32 to 46 km NE Pto. Páez, 76 m, (10). Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). Rio Cinarucu, 65 km NW Pto. Páez, 76 m, (1). BARINAS, Altamira, to 2 km S and SW Altamira, 609-794 m, (14). BOLIVAR, Hato San José, 20 km W La Paraguá, 306-324 m, (2). FALCÓN, Boca de Yaracuy, 28 km NWN Pto. Cabello, 2 m, (1). Capatárida, 40 m, (3); 6 to 11 km ENE Mirimire, 230-360 m, (5); Ricciito, 30 km S Mirimire, 300 m, (3). LARA, Caserio Boro, 10 km N El Toeyo, 518-537 m, (5). SUCRE, 21 km E Cu- maná, 15 m, (3); Manacal, 26 km ESE Caripano, 200 m, (1). T. F. AMAZONAS, Acuana, Rio Cunucumana, 48 km NW Esmeralda, 145 m, (1). Bolívar, Rio Cunucumana, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (10); 20 km S Pto. Ayacucho, 135 m, (1). Rio Mavaca, 108 km SSE Esmeralda, 140 m, (5); San Juan, Rio Ma- napiare, 163 km ESE Pto. Ayacucho, 155 m, (23). TRUJILLO, 19 to 26 km N Valera, 131-164 m,
Mammals

(6). YARACUY, 10 km NW Urama, 25 m. (2). ZULIA. El Rosario, 51 km WNW Encantados, 37 m. (3). Total 101.

Micronycteris microtis Miller, 1898:328.

Widespread in southern Venezuela and at scattered localities in northern Venezuela. Found in roosts in hollow trees and logs (40 percent) and under rocks (4 percent), or mist netted (56 percent); near streams and other moist areas (76 percent) or in dry sites (24 percent); in evergreen forest (74 percent), in pastures and yards (18 percent), and in deciduous and thorn forest (8 percent); 15-2092 m (52 percent below 500 m); mc-T (1), bms-T (1), bs-T (8), bh-T (18), bnh-T (6), bh-P (1), bnh-P (1), and bnh-MB (7).

Specimens collected: APURE, Hato Cariben. Rio Cinamuro, 32 to 46 km NE Pto. Páez, 76 m. (2); Pto. Páez, 75 m. (2). BOLIVAR, 21 km NE Icabarú, 551 m. (1). DTO. FEDERAL. Los Venados, 4 km NNW Caracas, 1,400-1,524 m. (6); Pico Ávila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,092 m. (1). FALCÓN, Capatarída, 40 m. (1). SUCRE, 21 km E Cumaná, 15 m. (1). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m. (1). T. F. AMAZONAS. Acanaña, Río Cumumuna, 48 km NW Esmeralda, 145 m. (2); Belén, Río Cumumuna, 56 km NNW Esmeralda, 150 m. (6); Boca Mavaca, 84 km SSE Esmeralda, 138 m. (13); 28 km S Pto. Ayacucho, 135 m. (1); Río Mavaca, 108 km SSE Esmeralda, 140 m. (3); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m. (1); Tamatama, Río Orinoco, 135 m. (1). ZULIA, nr. Cerro Azul, 33 to 35 km NW La Paz, 75-80 m. (24). Total 66.

Micronycteris minuta Gervais, 1856:30.

At lower elevations throughout Venezuela. Found in roosts in hollow trees (44 percent) or caught in mist nets (56 percent); near streams and in other moist areas (92 percent) or in dry places (8 percent); in openings such as orchards, pastures, croplands, and yards (49 percent; in order of decreasing frequency), in evergreen forest (24 percent), and in deciduous and thorn forest (17 percent), swamps (8 percent), and cloud forest (2 percent); 1-1,114 m (92 percent below 500 m); mc-T (4), bs-T (41), bh-T (16), bnh-T (1), bh-P (3), and bnh-P (1).

Specimens collected: APURE, Hato Cariben. Rio Cinamuro, 46 km NE Pto. Páez, 76 m. (1); Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m. (1); Rio Cinamuro, 35 km NNW Pto. Páez, 76 m. (1). BARINAS, 2 km SW Altamira, 620 m. (1). BOLIVAR, Los Patos, 28 km SE El Manteeco, 150 m. (2). GUÁRICO, Est. Biol. de los Llanos, 14 km SE Calabozo, 100 m. (1). LARA, Caserio Boro, 10 km N El Tocuyo, 518-528 m. (2). MIRANDA, nr. El Encantado, 13 km SE Caracas, 570 m. (1); 7 km E Río Chico, 1 m. (4); San Andrés, 16 km SSE Caracas, 1,441 m. (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 18 m. (2). SUCRE, 21 km E Cumaná, 1 m. (2). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m. (1); 65 km SSW Pto. Ayacucho, 161 m. (1); Río Mavaca, 108 km SSE Esmeralda, 140 m. (6); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m. (5). TRUJILLO, 19 to 26 km N and NW Valera, 90-164 m. (10). ZULIA, nr. Cerro Azul, 33 to 35 km NW La Paz, 75-80 m. (24). Total 192.


At widely scattered localities throughout the humid lowlands of Venezuela. Caught in roosts in hollow trees (93 percent) and in mist nets (7 percent); in dry uplands (94 percent) or near streams and other moist areas (6 percent); in evergreen forest (98 percent) and in yards and orchards (2 percent); 24-160 m; bh-T (11), bnh-T (1), bh-P (179), and bnh-P (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m. (1). BOLIVAR, Los Patos, 25 km SE El Manteeco, 150-350 m. (179). MIRANDA, Birongo, 60 m. (1). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m. (1). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m. (3); 25 km S Pto. Ayacucho, 114 m. (1); Río Mavaca, 108 km SSE Esmeralda, 140 m. (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m. (1); Tamatama, Río Orinoco, 135 m. (2). TRUJILLO, 19 km N Valera, 164 m. (1). Total 192.

Micronycteris schmidtorum Sanborn, 1935:81.

In the lowlands of northwestern Venezuela and T. F. Amazonas. Found roosting in tree holes (83 percent) and caught in mist nets (17 percent); near streams (72 percent) or in dry areas (28 percent); in evergreen forest (39 percent), thorn forest (28 percent), swamp or marsh (22 percent), or in pastures and orchards (11 percent); 50-155 m: mc-T (1), bms-T (4), bs-T (1), bh-T (10), and bnh-T (2).

Specimens collected: FALCÓN, Capatarída. to 16 km SSW Capatarida, 50-75 m. (5). T. F. AMAZONAS, Belén, Río Cumumuna, 56 km NNW Esmeralda, 150 m. (2); Río Mavaca, 108 km SSE Esmeralda, 140 m. (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m. (9). ZULIA, nr. Cerro Azul, 40 km NW La Paz, 75 m. (1). Total 18.
T. F. AMAZONAS. Caught in bat traps (67 percent) and found roosting in a hollow tree (33 percent); near streams in evergreen forest (100 percent); 130-155 m; bh-T (3).
Specimens collected: T. F. AMAZONAS. Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (1); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 3.

Lonchorhina aurita Tomes, 1863:83.
Northwestern Venezuela and Bolivar. Netted (90 percent) or found roosting in caves (9 percent) and in a culvert (1 percent); near streams and in other moist areas (95 percent) or rarely in dry sites (2 percent); in evergreen forest (67 percent), deciduous forest (23 percent), yards, orchards, croplands, and pastures (9 percent), and cloud forest (1 percent); 25-1.537 m (96 percent below 1.000 m); bs-T (59), bh-T (35), bs-P (1), bh-P (32), and bhm-P (4).
Specimens collected: BARINAS, 7 km NNE Altamira, 1.070 m, (1). BOLIVAR, Hato San José, 20 km W La Paragua, 300 m, (1). CARABOBO, La Copa, 4 km NW Montalbán, 1.537 m, (3); 3 to 6 km SE and W Montalbán, 562-900 m, (28); 10 km NW Urama, 25 m, (1). DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 380-398 m, (3). FALCON, Rincón, 30 km S Mirimire, 300 m, (35). MIRANDA, Birongo to 4 km SW Birongo, 60-195 m, (7). TRUJILLO, 19 to 26 km N and NNW Valera, 90-164 m, (37). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395-100 m, (2). ZULIA, El Rosario, 65 km WNW Encontrados, 95 m, (1); Kasmera, 21 km SW Machiques, 270 m, (12). Total 131.
Remarks: Specimens from the following localities are tentatively referred to Lonchorhina aurita: T. F. AMAZONAS. Belén, Río Cunucumana, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); Rio Mavaca, 108 km SSE Esmeralda. 140 m, (4); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (2). ZULIA, El Rosario, 51 to 61 km WNW Encontrados, 37-76 m, (19). Total 50.

Macrophyllum macrophyllum Schinz, 1821:163.
Widespread localities in Venezuelan lowlands. Caught in mist nets (62 percent) and found roosting in culverts (38 percent); near streams and in other moist areas (79 percent) or in dry situations (21 percent); in evergreen forest (84 percent), grasslands (14 percent), and deciduous forest (2 percent); 37-181 m; bs-T (18), bh-T (29), bhm-P (1), and bh-P (2).
Specimens collected: APURE, Hato Cariben, Río Cinaruco, 32 to 46 km NE Pto. Páez, 76 m, (5). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (2); Rio Supamo, 50 km SE El Manhattan, 150 m, (2). GUARICO, Embalse de Guarico, 10 km N Calabozo, 100 m, (12); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (1). T. F. AMAZONAS, Belén, Río Cunucumana, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (4); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (2). ZULIA, El Rosario, 51 to 61 km WNW Encontrados, 37-76 m, (19). Total 50.

Tonatia bidens Spix, 1823:65.
Throughout the humid lowlands of Venezuela. Caught in mist nets (100 percent); over and near streams (32 percent) and in other moist sites (52 percent), or occasionally in dry situations (16 percent); in evergreen forest (79 percent), and in swamps, pastures, orchards, and yards (21 percent); 24-155 m; bs-T (2), bh-T (16), and bhm-T (1).
Specimens collected: APURE, Hato Cariben, Río Cinaruco, 46 km NE Pto. Páez, 76 m, (1); Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Hato La Florida, 47 km SE Caicara, 50 m, (1). FALCON, 19 km NW Urama, 25 m, (8). MIRANDA, Birongo, 60 m, (1). T. F. AMAZONAS, Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (3); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). ZULIA, El Rosario, 48 km WNW Encontrados, 54 m, (1). Total 19.

Tonatia brasiliensis Peters, 1866c:674.
Widespread in humid lowlands. Caught in mist nets (95 percent) and by hand in a house (2 percent); over and near streams (34 percent) and in other moist areas (48 percent) or in dry situations (18 percent); in evergreen forest (56 percent) and in openings such as orchards, yards, pastures, and croplands (40 percent), and
rarely in swamps (2 percent) and deciduous forest (2 percent); 18-794 m (94 percent below 500 m); bs-T (6), bh-T (34), bmh-T (8), and bmh-P (3).

Specimens collected: APURE, Nulita. Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (8). BARINAS, Altamira to 2 km SW Altamira, 619-794 m, (3). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 18 m, (1). T. F. AMAZONAS, 25 to 65 km S and SSW Pto. Ayacucho, 114-161 m, (2); San Juan. Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (12). TRUJILLO, 19 km N Valera, 164 m, (1). ZULIA, El Rosario, 39 km WNW Encontrados, 37 m, (1). FALCÓN and YARACUY. 11 to 19 km NW Urama, 25 m, (22). Total 51.

**Tonatia carrickii** J. A. Allen, 1910:147.

T. F. AMAZONAS. Caught in mist nets set near streams in an evergreen forest and in an orchard; 140-155 m; bh-T (2).

Specimens collected: T. F. AMAZONAS, Rio Mavaca, 108 km SSE Esmeralda, 110 m, (1); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 2.

**Tonatia silvicola** d’Orbigny, 1836: pl. 6 (description, d’Orbigny and Gervais, 1847:11).

Humid lowlands of western and southern Venezuela. Mist netted (71 percent) or found roosting in termite nests in trees (29 percent); near streams (58 percent) and in other moist areas (36 percent), or in dry situations (6 percent); in evergreen forest (74 percent) and openings such as pastures, orchards, and yards (13 percent), and occasionally in deciduous forest (13 percent); 25-160 m; bs-T (9), bh-T (26), bmh-T (5), bh-P (1), and bmh-P (1).

Specimens collected: BOLIVAR, Los Patos, 28 km SE El Manteco, 150 m, (1). FALCÓN, 19 km NW Urama, 25 m, (5). TÁCHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (1). T. F. AMAZONAS, Belén, Río Cunucumana, 56 km NNW Esmeralda, 150 m, (5); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (14); 25 to 65 km S and SSW Pto. Ayacucho, 114-161 m, (3); Río Mavaca, 108 km SSE Esmeralda, 140 m, (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (3). TRUJILLO, 25 km NW Valera, 90 m, (7). ZULIA, Boca del Río de Oro, 60 km WNW Encontrados, 73 m, (1). Total 42.

**Mimon crenulatum** E. Geoffroy, 1810:183.

Scattered lowland localities throughout Venezuela. Caught in mist nets (94 percent) or found roosting in hollow trees (6 percent); in moist areas and near streams (82 percent) or in dry places (18 percent); in evergreen forest (73 percent), openings such as pastures, croplands, orchards, and yards (17 percent), and occasionally in thorn, swamp, and deciduous forest (10 percent); 1-550 m; bns-T (1), bs-T (11), bh-T (51), bmh-T (6), mr-P (2), and bh-P (1).

Specimens collected: APURE, Hato Cariben, Río Cinarco, 32 to 46 km NE Pto. Fáez, 76 m, (5); Nulita. Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (6). BOLIVAR, Los Patos, 28 km SE El Manteco, 150 m, (1). FALCÓN, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (1). LARA, Caserio Boro, 20 km NE El Tocuyo, 550 m, (2). MIRANDA, 7 km E Río Chico, 1 m, (2). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 18 m, (1). SUCRE, 21 km E Cumana, 1 m, (1). T. F. AMAZONAS, Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (3); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). TRUJILLO, 23 km N Valera, 164 m, (2). ZULIA, El Rosario, 39 km WNW Encontrados, 37 m, (2). CARABOBO and FALCÓN, 6 to 19 km NW and N Urama, 25-60 m, (45). Total 72.

**Phyllostomus discolor** Wagner, 1843a:366.

Forested lowlands throughout Venezuela. Caught in mist nets (99.7 percent) and found roosting in a cave (0.3 percent); near streams and other moist areas (58 percent) and in dry sites (42 percent); in orchards, yards, croplands, and pastures (43 percent), in evergreen (23 percent), thorn (23 percent), deciduous (10 percent), and cloud and swamp forest (2 percent); 1-1,165 m (93 percent below 500 m); me-T (61), bns-T (12), bs-T (115), bh-T (102), bs-P (21), bh-P (10), and bmh-P (6).

Specimens collected: BARINAS, 2 km SW Altamira, 611-620 m, (6). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (3); Hato San José, 20 km W La Paragua, 306 m, (2). CARABOBO, 2 km SE Montalbán, 598 m, (13). DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 380-389 m, (3). FALCÓN, Capitardía, 40-55 m, (61); 16 km ENE Mirimire, 70 m, (4); Río Socopito, 50 km NW Carora, 170-180 m, (13). GUARICO, Hda. Elvira, 10 km NE Altagracia, 630 m, (2); Hato Las Palmistas, 35 km SSW San Juan de los Morros, 181 m, (6). MIRANDA, Birongo, 60 m, (1); 1 to 7 km E and S Río Chico, 1 m, (8). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 18 m, (18); San Agustín, 5 km NW Carupe, 1,160-1,165 m, (3). NUEVA ESPARTA, Isla Margarita, 3 to 10 km S and WSW La Asunción,
47-53 m, (12). SUCRE, Ensenada Cuaranta, 9 km NE Guiria, 1-7 m, (22); Manacal, 26 km ESE Caripano, 175-380 m, (10). T. F. AMAZONAS, 25 to 33 km S Pto. Ayacucho, 114-195 m, (8); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (15); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (6). TRUJILLO, 23 to 25 km N and NW Valera, 90-164 m, (32). ZULIA, nr. Cerro Azul, 33 km NW La Paz, 75 m, (7); El Rosario, 39 to 63 km NWN Encontrados, 37-125 m, (54); Kasmera, 21 km SW Machiques, 270 m, (14). CARABOBO and FALCON, 6 to 19 km NW and N Urama, 25-60 m, (4). Total 327.

Phyllostomus elongatus E. Geoffroy, 1810:182.

Southern and central Venezuela. Caught in mist nets (74 percent) and found roosting in tree holes (25 percent) and in a culvert (1 percent); near streams and in other moist areas (85 percent) or occasionally in dry places (15 percent); in evergreen forest (72 percent), yards (20 percent), and pastures, croplands, orchards, and deciduous forest (5 percent); 18-350 m; bs-T (9), bh-T (94), bmh-T (1), and bh-P (13).

Specimens collected: APURE, Hato Cariben, Rio Cinaruco, 32 km NE Pto. Paez, 76 m, (1); Rio Cinaruco, 65 km NW Pto. Paez, 76 m, (1), San Rafael de Atamaica, 42 km SSE San Fernando de Apure, 100 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Hato San Jose, 20 km W La Paragua, 306 m, (1); Piedra Virgen, 70 km SSE El Dorado, 229 m, (1); Los Patos, 25 km SE El Manteco, 150-350 m, (10); Rio Supano, 50 km SE El Manteco, 150 m, (3). GUARICO, Est. Biol. de los Llanos, 9 to 14 km SE Calabozo, 100 m, (2). MONAGAS, Hato Mata de Bejucu, 55 km SSE Maturin, 18 m, (3). T.F. AMAZONAS, Belen, Rio Cumanuma, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, S4 km SSE Esmeralda, 138 m, (8); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (3); 35 to 33 km S Pto. Ayacucho, 114-195 m, (10); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (36); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (29); Tamatama, Rio Orinoco, 135 m, (6). Total 117.

Phyllostomus hastatus Pallais, 1767:7.

Throughout Venezuela. Caught in mist nets (72 percent) or found roosting in hollow trees (18 percent), caves (6 percent), and houses (4 percent); near streams and in other moist areas (50 percent) or in dry places (20 percent); in openings such as yards, orchards, croplands, and pastures (62 percent), and in evergreen (21 percent), swamp (11 percent), and deciduous forest (6 percent); 1-1,394 m (94 percent below 500 m); bs-T (1), bh-T (8), bh-T (333), bmh-T (15), bh-P (15), bh-P (45), bmh-P (9), and bh-MH (3).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (15); Pto. Paez, 76 m, (1). BARINAS, Altamira, 620-794 m, (6). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (9); Hato La Florida, 47 km ESE Caicara, 50 m, (1); Icabarí to 45 km NE Icabari, 473-851 m, (4); Los Patos, 25 km SE El Manteco, 150 m, (2). CARABOBO, Montalban, 598-618 m, (11). DTO. FEDERAL, Boca de Tigre Valley, 5 km NW Caracas, 1,394 m, (3). FALCON, 16 km ENE Mirimine, 70 m, (1); Rio Socopito, 50 km NW Carora, 450 m, (1). GUARICO, Est. Biol. de los Llanos, 14 km SE Calabozo, 100 m, (1). MIRANDA, Birongo, 60-160 m, (11); Carupaio, 5 km NNW Guarenas, 1,140 m, (1); San Andres, 16 km SSE Caracas, 950-1,144 m, (5). MONAGAS, Hato Mata de Bejucu, 55 km SSE Maturin, 18 m, (27); San Agustín, 3 to 5 km NW Caripe, 1,165-1,175 m, (2). SUCRE, 21 km E Cumaná, 1 m, (1); Ensenada Cuaranta, 10 km NE Guiria, 90 m, (22); Manacal, 26 km ESE Caripano, 175-380 m, (36); San Fernando, 16 km SE Cumaná, 300 m, (4). TACHIRA, Las Memas, 17 km NE San Juan de Colon, 460 m, (2). T. F. AMAZONAS, Boca Mavaca, 54 km SSE Esmeralda, 135 m, (5); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (5); 25 to 33 km S Pto. Ayacucho, 114-195 m, (25); Rio Mavaca, 108 km SSE Esmeralda, 104 m, (1); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (255); Tamatama, Rio Orinoco, 135 m, (4). TRUJILLO, 19 to 25 km N to NW Valera, 90-164 m, (10). ZULIA, nr. Cerro Azul, 33 km NW La Paz, 75 m, (1); El Rosario, 39 to 48 km NWN Encontrados, 37-54 m, (12). CARABOBO, FALCON, and YARACUY, 6 to 19 km NW and N Urama, 25-60 m, (16). GUARICO and MIRANDA, Parque Nac. Guatopo and Rio Orinuco, 10 to 21 km N and NW Altagracia, 470-630 m, (4). Total 504.

Phyllostomus stenops Peters, 1865b:513.

Numerous lowland localities in southern Venezuela and scattered localities near the northern coast. Netted (100 percent); over and near streams and in other moist places (100 percent); in evergreen forest (44 percent), yards (26 percent), pastures, orchards, croplands, and marshes (23 percent), and thorn forest (7 percent); 1-306 m; bs-T (1), bh-T (8), bh-T (17), and bmh-T (2).

Specimens collected: APURE, Hato Cariben,
Río Cinaruro, 46 km NE Pto. Páez, 76 m, (1); Río Cinaruro, 48 km NW Pto. Páez, 76 m, (1). BOLIVAR, Hato San José, 20 km W La Paragua, 300-306 m, (2). FALCON, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (3); 16 km ENE Mirimire, 70 m, (1); 19 km NW Urama, 25 m, (1). SUCRE, 21 km E Cumaná, 1 m, (1). T. F. AMAZONAS, Belén, Río Cumununuma, 56 km NNW Esmeralda, 150 m, (2); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); 33 km S Pto. Ayacucho, 195 m, (1); Río Mavaca, 108 km SSE Esmeralda, 140 m, (5); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (6); Tamatama, Río Orinoco, 135 m, (2). Total 28.

Trachlops cirrhosus Spix, 1823:64.

Humid lowlands of southern, central, and western Venezuela. Caught in mist nets (90 percent) and found roosting in hollow trees (9 percent) and culverts (1 percent); usually near streams and in other moist areas (87 percent) but occasionally in dry sites (13 percent); in evergreen forest (74 percent), open areas such as savannas, yards, orchards, and croplands (22 percent), deciduous forest (3 percent), and swamps (1 percent); 24-1,032 m (99 percent below 500 m); bs-T (204), bh-T (148), bmh-T (1), bh-P (2), and bmh-P (7).

Specimens collected: APURE, Hato Cariben. Río Cinaruro, 32 to 46 km NE Pto. Páez, 76 m, (19); Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (6); 5 km NNW Guasipati, 190 m, (1); Hato San José, 20 km W La Paragua, 300-306 m, (7); 45 km NE Icabarú, 851 m, (2); Km 125, 85 km SSE El Dorado, 761-1,032 m, (4); Río Supamo, 50 km SE El Manteuco, 350 m, (2). FALCON, Riecito, 30 km S Mirimire, 300 m, (5). GUARIÇO Calabozo, 100 m, (4); Embalse de Guárico, 10 km N Calabozo, 100 m, (142); Est. Biol. de los Llanos, 14 km SE Calabozo, 100 m, (6); San José de Tiznados, 52 km NNW Calabozo, 150 m, (12). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 300 m, (1). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (5); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (3); 14 to 33 km S and SSE Pto. Ayacucho, 114-195 m, (5); Río Mavaca, 108 km SSE Esmeralda, 140 m, (83); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (29). TRUJILLO, 25 to 25 km NW and NNW Valera, 90 m, (4). ZULIA, Boca del Río de Oro, 60 km WNW Encontrados, 73 m, (3). CARABOBO, FALCON, and YARACUY, 6 to 19 km NW and N Urama, 25-60 m, (18). Total 362.

Chiropterus auritus Peters, 1856:415.

Forest lowlands of southern and northwestern Venezuela. Caught in mist nets (89 percent) and found in a cavern (11 percent); usually near streams or other moist areas (89 percent) but occasionally in dry places (11 percent); in evergreen forest (84 percent), openings such as fields and yards (11 percent), and deciduous forest (5 percent); 25-851 m (97 percent below 500 m); bs-T (3), bh-T (26), bmh-T (2), bh-P (5), and bmh-P (1).

Specimens collected: BOLIVAR, El Manaco, 56 km SE El Dorado, 150 m, (1); 45 km NE Icabarú, 851 m, (1); Río Supamo, 50 km SE El Manteuco, 350 m, (1). FALCON, 12 km ENE Mirimire, 220 m, (4). T. F. AMAZONAS, Belén, Río Cumununuma, 56 km NNW Esmeralda, 150 m, (2); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); 20 km S Pto. Ayacucho, 135 m, (1); Río Mavaca, 108 km SSE Esmeralda, 140 m, (13); San Juan Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (3). TRUJILLO, 19 to 25 km N and NW Valera, 90-164 m, (2). ZULIA, Kasmera, 21 km SW Machiques, 270 m, (1). CARABOBO, FALCON, and YARACUY, 10 to 19 km NW Urama, 25 m, (7). Total 37.

Vampyrus spectrum Limnaeus, 1758:31.

Scattered lowland and foothill localities in northern and southern Venezuela. Caught in mist nets (100 percent); beside streams and in other moist areas (100 percent); in evergreen forest (40 percent), yards (40 percent), and swamps (20 percent); 1-1,032 m; bs-T (1), bh-T (3), and bmh-P (1).

Specimens collected: BOLIVAR, Km 125, 85 km SSE El Dorado, 1032 m, (1). MIRANDA, 7 km E Río Chico, 1 m, (1). T.F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (3). Total 5.

Subfamily GLOSSOPHAGINAE

Glossopha longirostris Miller, 1898:330.

Arid lowlands of northern Venezuela and Llanos of central Venezuela. Mist netted (84 percent) or found roosting in houses (10 percent), caverns, rocks, and crevices (4 percent), and in hollow trees (2 percent); mostly in dry situations (65 percent) but often near streams and other moist areas (35 percent); in thorn forest (49 percent), in openings such as savannas and pastures, yards, orchards, and croplands (43 percent, in descending order of frequency), and in swamps and marshes, decidu-
uous, evergreen, and cloud forest (8 percent, in descending order of frequency); 1-650 m (95 percent below 500 m); me-T (288), bms-T (142), bs-T (363), bh-T (27), me-P (4), bs-P (8), and bmh-P (5) (86 percent in dry zones).

Specimens collected: APURE, Hato Cariben, Río Cinaruco, 32 to 46 km NE Pto. Páez, 76 m, (116); Pto. Páez to Río Cinaruco, 38 km NNW Pto. Páez, 76 m, (32); Río Cinaruco, 45 km NW Pto. Páez, 76 m, (1); San Rafael de Atamaica, 42 km SSE San Fernando de Apure, 100 m, (6). BOLIVAR, Hato La Florida, 44 to 47 km ESE Caicara, 43-50 m, (10); Hato San José, 20 km W La Paragua, 300-306 m, (8). FALCÓN, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (15); Capaturiá, 40-75 m, (173); 20 km NNE Mirimire, 1-5 m, (20); Península de Paraguana, 15 to 25 km SW and SSW Pueblo Nuevo, 13-650 m, (36); Río Socopito, 50 km NW Carora, 480 m, (1). GUARICO, Calabozo, 100 m, (15); Embalse de Guárico, 10 km N Calabozo, 100 m, (20); Est. Biol. de los Llanos, 9 to 14 km SE Calabozo, 100 m, (2); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (2); San José de Tiznados, 52 km NNW Calabozo, 150 m, (69). LARA, Caserio Boro, 10 to 47 km N and NE El Tocuyo, 521-592 m, (15). MIRANDA, 1 to 7 km N, E, and S Río Chico, 1 m, (33). NUEVA ESPARTA, Isla Margarita, 1-305 m, (60). SUCRE, 16 to 21 km E Cumaná, 1-30 m, (33); Ensenada Cauranta, 9 km NE Guiria, 4-7 m, (4). T. F. AMAZONAS, 14 to 30 km SSE, S and SSW Pto. Ayacucho, 114-161 m, (18); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (16). TRUJILLO, 23 to 26 km NW Valera, 90-164 m, (22). GAJIRA and ZULIA, nr. Cojoro, 35 to 44 km NNE Paraguaipoa, 5-155 m, (90). Total 837.

Glossophaga soricina Pallas, 1766:48.

Lowlands throughout Venezuela. Caught in mist nets (95 percent) or found roosting in houses (3 percent), caverns (1 percent), and hollow trees and logs (1 percent); mostly in moist situations (83 percent) and only occasionally in dry areas (17 percent); in openings such as yards, orchards, savannas, pastures, and croplands (60 percent, in descending order of frequency), in evergreen forest (31 percent), and in thorn forest, swamp, and deciduous forest (9 percent, in descending order of frequency); 1-1,560 m (85 percent below 500 m, 97 percent below 1,000 m); me-T (5), bms-T (19), bs-T (328), bh-T (264), bmh-T (21), me-P (2), bs-P (5), bh-P (78), bmh-P (140), and bh-MB (4) (61 percent in humid zones).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (5); Pto. Páez, 76 m, (5). BARIÑAS, Altamira, 609-1,070 m, (63). BOLIVAR, El Manaco, 56 to 59 km SE El Dorado, 150 m, (56); 5 km NNW Guasipati, 190 m, (1); Hato La Florida, 47 km ESE Caicara, 50 m, (1); Hato San José, 20 km W La Paragua, 300-306 m, (21); Icabarú and 23 to 45 km NE Icabarú, 473-551 m, (11); Km 125, 85 km SSE El Dorado, 916-1,165 m, (15); Rio Supano, 50 km SE El Manuco, 150 m, (3). CARABOBO, Montalbán, 598-900 m, (13). DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Ca- racas, 398 m, (1); Los Venados, 4 km NNW Caracas, 1,498-1,560 m, (4). FALCÓN, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (2); Capaturiá, 40-55 m, (5); 13 to 20 km NNE and ENE Mirimire, 5-270 m, (36). Ricetito, 30 km S Mirimire, 300 m, (25); Río Socopito, 80 km NW Carora, 470-480 m, (2). GUARICO, Embalse de Guárico, 10 km N Calabozo, 100 m, (1); Est. Biol. de los Llanos, 9 to 14 km SE Calabozo, 100 m, (11); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (1). LARA, Caserio Boro, 10 km NE El Tocuyo, 550 m, (2). MIRANDA, Birongo, 60 m, (15); nr. El Encantado, 15 km SE Caracas, 548 m, (1); Parque Nac. Guatopo, 15 to 21 km NW Altagracia, 630-650 m, (12); 1 to 10 km N. E, and S Río Chico, 1 m, (90); San Andrés, 16 km SSE Caracas, 1144 m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (4); San Agustín, 3 to 5 km NW Carippe, 175-1,175 m, (4). NUEVA ESPARTA, Isla Margarita, 10 km WSW La Asunción, 47 m, (2). SUCRE, 16 to 21 km E Cumaná, 1-30 m, (15); Ensenada Cauranta, 9 to 12 km NE Guiria, 1-100 m, (59); Manacal, 26 km ESE Caripapo, 300-366 m, (2). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (50). T. F. AMA- ZONAS, Belén, Río Cunucumuna, 56 km NNW Esmeralda, 150 m, (13); 14 to 65 km SSE to SSW Pto. Ayacucho, 114-195 m, (47); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (126); Tamatama, Río Orinoco, 135 m, (10). TRUJILLO, 19 to 25 km N to NW Valera, 90-164 m, (15). YARACUY, Mina de Aroa, 20 km NW San Felipe, 395-400 m, (22). ZULIA, nr. Cerro Azul, 33 to 35 km NW La Paz, 75-80 m, (5); El Rosario, 39 to 51 km WNW Encontrados, 37-54 m, (13); Kasnnera, 21 km SW Machiques, 270 m, (12); Novito, 19 km WSW Machiques, 1,135 m, (3). CARA- BOBO, FALCÓN, and YARACUY, 2.5 to 19 km NW and ENE Urama, 25 m, (55). Total 566.
Glossophaga sp.


Lionycteris spurrelli Thomas, 1913:271.

Southern Venezuela. Caught in mist nets (63 percent) or found roosting in caves and crevices (37 percent); usually near streams and in other moist areas (99 percent) but also on a ridge-top far from water (1 percent); in evergreen forest (73 percent), yards (12 percent), orchards (12 percent), and savanna (3 percent); 135-1,400 m; bs-T (6), bh-T (76), bmh-T (2), bh-P (66), bmh-P (20), bp-P (1), and bp-MB (4).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (43); 13 to 23 km NE Icabarú, 658-851 m, (66); Km 125, 85 km SSE El Dorado, 602-1,165 m, (20). T. F. AMAZONAS, Belén, Río Cuneneuma, 56 km NNW Esmeralda, 150 m, (2); Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400 m, (4); Caño Culebra, Cerro Duida, 50 km NNW Esmeralda, 700 m, (1); 32 to 65 km S and SSW Pto. Ayacucho, 135-161 m, (7); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 135 m, (18); Tamatama, Río Orinoco, 135 m, (14). Total 175.

Lonchophylla robusta Miller, 1912:23.

Eastern slopes and foothills of the Andes and Sierra de Perijá. Caught in mist nets (100 percent); near streams and other moist areas (70 percent) or in dry sites (30 percent); in evergreen forest (59 percent) or orchards (11 percent); 75-1,135 m; bs-T (2), bh-T (3), and bmh-P (21).

Specimens collected: BARINAS, nr. Altamira, 609-1,070 m, (20). ZULIA, nr. Cerro Azul, 33 km NW La Paz, 75 m, (2); Kasmera, 21 km SW Machiques, 270 m, (3); Novito, 19 km WSW Machiques, 1,135 m, (1). Total 26.

Lonchophylla thomasi J. A. Allen, 1904:230.

Bolivar and T. F. Amazonas. Caught in mist nets (86 percent) and found roosting in hollow trees (14 percent); near streams and in other moist areas (86 percent) or in dry areas (14 percent); in evergreen forest (52 percent) and in forest openings such as yards and orchards (48 percent); 114-851 m; bh-T (17), bh-P (3), and bmh-P (1).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); 45 km NE Icabarú, 851 m, (1); Rio Supamo, 50 km SE El Manteco, 350 m, (3). T. F. AMAZONAS, Capibara, Braza Casiquiare, 106 km SW Esmeralda, 130 m, (2); 25 to 32 km S Pto. Ayacucho, 114-135 m, (6); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (6); Tamatama, Río Orinoco, 135 m, (2). Total 21.

Anoura caudifer E. Geoffroy, 1818:418.

Mountainous portions of Venezuela. Mist netted (95 percent) and found roosting in rocks (4 percent) and in a culvert (1 percent); usually near streams or in other moist areas (87 percent) but occasionally in dry sites (13 percent); in evergreen forest (86 percent) and openings such as orchards and yards (14 percent); 60-1,700 m (89 percent between 500 and 1,500 m); bh-T (2), bmh-T (2), bh-P (14), bmh-P (93), bp-P (2), bh-MB (2), and bp-MB (5).

Specimens collected: BARINAS, Altamira to 2 km SW and 7 km NNE Altamira, 600-1,070 m, (43). BOLIVAR, 45 km NE Icabarú, 851 m, (2); Km 125, 85 km SSE El Dorado, 761-1,165 m, (42). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (6); 9 km NE Montalbán, 752 m, (1). DTO, FEDERAL, Los Vena- dos, 4 km NNW Caracas, 1,498 m, (2). MIRANDA, Birongo, 60 m, (2); Currupao, 5 km NW Guarenas, 1,410-1,80 m, (8); San Andrés, 16 km SSE Caracas, 950 m, (3). T. F. AMAZONAS, Belén, Río Cuneneuma, 56 km NNW Esmeralda, 150 m, (2); Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,200-1,400 m, (4); Cabecera del Caño Negro, Cerro Duida, 32 km NW Esmeralda, 1,700 m, (1); Caño Culebra, Cerro Duida, 50 km NNW Esmeralda, 700-800 m, (2). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395-400 m, (2). Total 120.

Anoura cultrata Handley, 1960:463.

Andes and Sierra de la Costa. Taken in a cave in evergreen forest and in a mist net in cloud forest; 195-1,870 m; bh-T (6) and bmh-MB (1).

Specimens collected: MÉRIDA, La Carbonera, 6 km SE La Azulita, 1,870 m, (1). MIRANDA, Cueva Walter Dupouy, 4 km SW Birongo, 195 m, (6). Total 7.

Anoura geoffroyi Gray, 1838:490.

Forested portions of Venezuela. Mist netted (97 percent) and found roosting in caves (3 percent); usually near streams or other moist areas (87 percent) but occasionally in dry places (13 percent); in evergreen forest (64 percent). openings such as orchards, croplands,
and yards (32 percent), and cloud (3 percent) and deciduous forest (1 percent); 7-2,550 m (91 percent below 1,500 m); bs-T (46), bh-T (23), bs-P (3), bh-P (31), bmh-P (53), bh-MB (7), bmh-MB (1), hp-MB (22), and hp-M (4).

Specimens collected: BARINAS, Altamira to 2 km SW Altamira, 609-794 m, (4). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (17); Hato San José, 20 km W La Paragua, 300-356 m, (4); 21 km NE Icabari, 551 m, (5); Km 125, 85 km SSE El Dorado, 761-1,165 m, (46). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (3); Montalbán to 2 km S Montalbán. 598-1,091 m, (3). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,524-1,581 m, (5); Pico Ávila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,181-2,240 m, (2). FALCON, 14 to 16 km ENE Mirimire, 60-70 m, (24). GUARICO, Hda. Elvira, 10 km NE Altugraceda, 630 m, (2). MERIDA, La Carbonera, 12 km SE La Azulita, 2,190 m, (1); 6 km ESE Tabay, 2,550 m, (4). MIRANDA, Birongo, 60 m, (1); Curupao, 5 km NNW Guarenas, 1,160-1,150 m, (2). MONAGAS, San Agustín, 3 to 5 km NW Caripó, 1,160-1,345 m, (20). SUCRE, Ensenada Guardanta, 9 km NE Gúiria, 7 m, (15); Manacal, 26 km ESE Caripano, 366 m, (1). T. F. AMAZONAS, Cabecera del Caño Gulebra, Cerro Duida, 40 km NNW Esmeralda, 1,200-1,400 m, (18); Cabecera del Caño Negro, Cerro Duida, 32 km NW Esmeralda, 1,700 m, (4); 14 to 65 km S, SSE, and SSW Pto. Ayacucho, 119-161 m, (6); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (2). ZULIA, Kasmera, 21 km SW Machiques, 270 m, (1). Total 190.

Anoutra sp. A

Forested portions of Venezuela. Caught in mist nets (100 percent); near streams and in other moist areas (93 percent) or in dry places (7 percent); in evergreen forest (71 percent), openings such as yards and orchards (28 percent), and thorn forest (1 percent); 50-2,240 m (81 percent below 1,500 m); bs-T (3), bh-P (25), me-P (1), bh-P (2), bmh-P (44), and bh-MB (16).

Specimens collected: BARINAS, Altamira, 794 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (10); Hato La Florida, 47 km ESE Cacarag, 50 m, (3); Km 125, 85 km SSE El Dorado, 1,032-1,165 m, (38). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (3). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,465-1,524 m, (4); Pico Ávila, nr. Hotel Humboldt and Boca de Tigre, 5 km NNE and 6 km NNW Caracas, 2,092-2,240 m, (12). LARA, La Concordia, 47 km NE El Tocuyo, 592 m, (1). SUCRE, Manacal, 26 km ESE Caripano, 366-380 m, (2). T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (15). ZULIA, Novito, 19 km WSW Machiques, 1,135 m, (2). Total 91.

Remarks: For notes on the systematics and nomenclature of this species, see Handley (in press).

Choeronyiscus godmani Thomas, 1903:288.

Bolivar (13) and Falcón (1). Caught in mist nets (100 percent); near streams or other moist areas (100 percent); in evergreen forest (71 percent), orchards (21 percent), and marshes (7 percent); 2-350 m; bs-T (1), bh-T (10), and bh-P (3).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (10); Río Supano, 50 km SE El Manteco, 350 m, (3). FALCON, Boca de Yarae, 28 km WNW Pto. Cabello, 2 m, (1). Total 14.

Choeronyiscus minor Peters, 1868:366.

Bolivar. Netted near streams and other moist areas in evergreen forest and in an orchard in a forest opening: 150-1,032 m; bh-T (1), bh-P (1), and bmh-P (1).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Km 125, 85 km SSE El Dorado, 1,032 m, (1); Río Supano, 50 km SE El Manteco, 350 m, (1). Total 3.

Choeronyiscus sp.?

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1). Total 1.

Leptonycteris curasoe Miller, 1900a:126.

Arid portions of northern Venezuela. Found roosting in caverns (67 percent) and houses (1 percent) or caught in mist nets (32 percent); usually in dry situations (71 percent) but sometimes over or beside streams and ponds (29 percent); in thorn forest (99 percent) and openings such as yards and orchards (1 percent); 1-900 m; me-T (77), bms-T (248), me-P (2), and bs-P (438).

Specimens collected: FALCON, Capatárida, 40-55 m, (3); Peninsula de Paraguaná, 7 to 25 km SW and W Pueblo Nuevo, 13-120 m, (109). LARA, Caceró Boro, 10 to 14 km N and NW El Tocuyo, 528-900 m, (591); La Concordia, 47 km NE El Tocuyo, 592 m, (2). NUEVA ESPARTA, Isla Margarita, 3 km S and NE La Asunción, 53-305 m, (9). SUCRE, 16 km E Cumaná, 1 m, (3). GUAJIRA and ZU-
LIA, nr. Cojoro, 35 to 37 km NNE Paraguaípa, 5-15 m, (48). Total 765.

Lichonycteris degener Miller, 1931:411.

Bolivar. Netted in moist evergreen forest; 150 m; bh-T (1).

Specimen collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1). Total 1.

Seleronycteris ega Thomas, 1912:405.

T. F. Amazonas. Netted in a yard near a stream in evergreen forest; 135 m; bh-T (1).

Specimen collected: T.F. AMAZONAS, Tamatama, Río Orinoco, 135 m, (1). Total 1.

Subfamily CAROLLIINAE

Carollia breviceuda Schinz, 1821:164.

Mostly at moderate elevations throughout the humid portions of Venezuela. Caught in mist nets (88 percent) or found roosting in rocks (7 percent), culverts (2 percent), caverns (1 percent), hollow trees (1 percent), and in houses, banana leaves, tree roots, and under a bridge (1 percent); near streams and other moist areas (91 percent) or rarely in dry sites (9 percent); in evergreen forest (82 percent), openings such as pastures, croplands, orchards, and yards (15 percent), and cloud (2 percent) and deciduous forest (1 percent); 24-2,147 m (81 percent between 500 and 1,500 m); bs-T (8), bh-T (21), bmh-T (19), bs-P (8), bh-P (126), bmh-P (285), bp-P (3), bh-MB (57), bmh-MB (5) and bp-MB (1).

Specimens collected: APURE, Nullita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (7). ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracaay, 1,100 m, (50). BARINAS, 2 to 7 km SW and NNE Altamira, 600-1,070 m, (177). BOLIVAR, El Manaco, 56 km SE El Dorado, 150 m, (1): 23 to 45 km NE Icabarú, 824-851 m, (15); Km 125, 70 to 85 km SSE El Dorado, 761-1,615 m, (32). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (56); nr. Montalbán, 598-1,007 m, (31). DTO. FEDERAL, Alto No León, 31 km WSW Caracas, 1,750 m, (1); Boca de Tigre Valley, 5 km NW Caracas, 1,394 m, (13): Hda. Carapiche, nr. El Limón, 48 km W Caracas, 350-398 m, (11); Los Venados, 4 km NNW Caracas, 1,400-1,559 m, (64); Pico Ávila, 5 km NNE Caracas, 2,147 m, (1). FALCÓN, Cerro Socopo, 84 km NW Carora, 1,260 m, (3); Río Socopito, 80 km NW Carora, 470-450 m, (2). GUÁRICO, Est. Biol. de los Llanos, 9 to 14 km SE Calabojo, 100 m, (2); Hda. Elvira, 10 km NE Altagracia, 630 m, (2). MÉRIDA, 4 km E Tabay, 2,100-2,107 m, (10). MIRANDA, Curupao, 5 km NNW Guarenas, 1,130-1,180 m, (68); nr. El Encantado, 13 km SE Caracas, 570 m, (2); Parque Nac. Guatopo, 21 km NW Altagracia, 630 m, (1); San Andrés, 16 km SSE Caracas, 950-1,144 m, (7). MONAGAS, San Agustín, 3 to 5 km NW Caripé, 1,160-1,345 m, (11). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (1). T. F. AMAZONAS, Belén, Río Cunucumina, 56 km NNW Esmeralda, 150 m, (12); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (2); Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,200 m, (1); Caño Culebra, Cerro Duida, 50 km NNW Esmeralda, 800 m, (3); 32 km S Pto. Ayacucho, 135 m, (3); Río Mavaca, 108 km SSE Esmeralda, 110 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (5); Tamatama, Río Orinoco, 135 m, (5). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395 m, (2). ZULIA, Kasmura, 21 km SW Machiques, 270 m, (2); Novito, 19 km WSW Machiques, 1,135 m, (2). Total 563.

Carollia castanea H. Allen, 1890:19.

Humid lowlands west of Lago de Maracaibo and in T. F. Amazonas and low elevations in Andes. Netted near streams and other moist areas (100 percent); in evergreen forest (94 percent) and in a forest settlement (6 percent); 73-460 m; bh-T (12) and bmh-P (7).

Specimens collected: TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 300-460 m, (7). T. F. AMAZONAS, 32 km S Pto. Ayacucho, 135 m, (8). ZULIA, Boca del Río de Oro, 60 km WNW Encontrados, 73 m, (1); Kasmera, 21 km SW Machiques, 270 m, (3). Total 19.

Carollia perspicillata Linnaeus, 1758:31.

Throughout Venezuela, except at very high and at very dry localities. Caught in mist nets (90 percent) and found roosting in hollow trees (4 percent), culverts (3 percent), caves and crevices (2 percent), and houses (1 percent); near streams and in other moist areas (88 percent) or less often in dry places (12 percent); in evergreen forest (65 percent), openings such as marshes, pastures, croplands, orchards, and yards (30 percent), or in cloud, deciduous, and thorn forest (5 percent); 1,1260 m (87 percent below 500 m); bms-T (32), bs-T (817), bh-T (1,646), bmh-T (529), bs-P (43), bh-P (512), bmh-P (724), bp-P (1), and bmh-MB (1).

Specimens collected: APURE, Hato Cariben, Río Cinaruco, 32 km NE Pto. Páez, 76 m, (22); Nullita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (232); 1 km W Pto. Páez, 76 m, (5); Río Cinaruco, 38 km NNW Pto. Páez, 76 m, (1); Río Cinaruco, 48 km NW Pto. Páez,
Rio Cinaruco, 65 km NW Pto. Páez, 76 m. (5). BARNAS, Altamira, 600-1,070 m. (94). BOLÍVAR. El Manaco, 59 to 67 km SE El Dorado, 150 m., (97); 5 km NNW Guasipati, 190 m., (1); Hato La Florida, 47 km ESE Cai- cara, 50 m., (4); Hato San José, 20 to 30 km W and NW La Paragua, 300-324 m., (73); Icabarú to 56 km NE Icabarú, 473-581 m., (115); Km 125, 70 to 85 km SSE El Dorado, 602-1,165 m. (109); Los Patos, 25 to 28 km SE El Maneco, 150 m. (33); Piedra Virgen, 70 km SSE El Dorada- do, 193-272 m., (52); Río Supamo, 50 km SE El Maneco, 150-350 m., (88). CARABOBO. La Copa, 4 km NW Montalbán, 1,537 m., (46); 2 to 14 km ENE, NNE, and W Montalbán, 598-1,007 m., (68). DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 380-395 m., (8). FALCON. Boca de Yara, 28 km NW Pto. Cabello, 2 m., (14); Cero Socopo, 84 km NW Carora, 1,260 m., (1); 11 to 20 km NNE and ENE Mirimire, 5-270 m., (76); Rieciito, 30 km S Mirimire, 300-460 m., (159); Río Socopito, 80 km NW Carora, 470-480 m., (7). GUARICO. Est. Bíol. de los Llanos, 9 to 14 km SE Calabocho, 100 m., (13); Hda. Elvira, 10 km NE Altagracia, 630 m., (3); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m., (1); Río Oriuteo, 10 km N Altagracia, 170 m., (19); San José de Tiznados, 52 km NNW Calabocho, 60 m., (1). LARA. Caserio Boro, 10 km N El Tocoeyo, 518 m., (1). MIRANDA. Birongo, 60 m., (75); Cueva Ricardo Zuloaga, nr. El Encantado, 15 km SE Caracas, 548 m., (6); Cuchapao, 5 km NNW Guarenas, 1,130-1,180 m., (26); nr. El Encantado, 13 km SE Caracas, 570 m., (1); Parque Nac. Guatopo, 12 to 21 km NW Altagracia, 610-710 m., (48); Río Chico and 1 to 7 km N. E., and SSE Río Chico, 1 m., (91); San Andrés, 16 km SSE Caracas, 950-1,144 m., (13). MONAGAS, 3 km SW Caripito, 544 m., (13); Hato Mata de Bejuco, 55 km SSE Maturín, 18 m., (4); San Agustín, 3 to 5 km NW Caripe, 1,160- 1,345 m., (29). NUEVA ESPARTA. Isla Margarita, 3 km NNE La Asunción, 38-42 m., (3). SUCRE, 14 to 21 km E Cumana, 1-40 m., (26); Ensenada Caruata, 9 to 12 km NE Güiría, 1-90 m., (91); Manacal, 26 km ESE Carúpano, 176-350 m., (73). TACHIRA. Las Mesas, 17 km NE San Juan de Colón, 300-400 m., (428). T. F. AMAZONAS. Acamaya, Río Cunucumuna, 48 km NW Esmeralda, 145 m., (10); Belén, Río Cunucumuna, 56 km NNW Esmeralda, 150 m., (287); Boca Mavaca, 54 km SSE Esmeralda, 138 m., (59); Caño Culebra, Cerro Duida, 50 km NNW Esmeralda, 800 m., (1); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m., (43); 25 to 65 km SSE, S, and SSW Pto. Ayacucho, 114-195 m., (414); Río Mavaca, 108 km SSE Esmeralda, 140 m., (77); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 135 m., (359); Tamaratun, Río Orinoco, 135 m., (154). TRUJILLO. La Ceiba, 46 to 52 km WNW Valera, 23-29 m., (11); 19 to 26 km N, NW, and WNW Valera, 90-164 m., (214). YARACUY, Minas de Aroa, 20 km NW San Felipe, 350-400 m., (25). ZULIA. Boca del Río de Oro, 60 km WNW Encontrados, 73 m., (25); nr. Cerro Azul, 33 km NW La Paz, 75-50 m., (12); El Rosario, 39 to 65 km WNW Encontrados, 37-125 m., (130); Kasmera, 21 km SW Machiques, 270 m., (21); Novito, 19 km WSW Machiques, 1,135 m., (4). CARABOBO, FALCON, and YARACUY, 2.5 to 24 km NW, N, and NE Urama, 25-60 m., (180). Total 4,305.

**Carollia sp.**

Specimens collected: APURE, Vulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m., (116). BARNAS, Altamira to 2 km SW Altama- ira, 620-794 m., (45). BOLIVAR, El Manaco, 56 to 67 km SE El Dorado, 150 m., (159); 5 km NNW Guasipati, 190 m., (4); Icabarú, 473 m., (1); Km 125, 85 km SSE El Dorado, 1,032-1,165 m., (32); Los Patos, 25 km SE El Maneco, 350 m., (1); Río Supamo, 50 km SE El Maneco, 130-350 m., (4). CARABOBO. La Copa, 4 km NW Montalbán, 1,537 m., (40); Montalbán to 7 km SW Montalbán, 598 m., (52). DTO. FEDER- AL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 380-398 m., (9). GUARICO. Hda. Elvira, 10 km NE Altagracia, 630 m., (7). MI RANDA. Parque Nac. Guatopo, 21 km NW Altagracia, 630 m., (1). TÁCHIRA. Las Mesas, 17 km NE San Juan de Colón, 460 m., (1). T. F. AMAZONAS. Belén, Río Cunucumuna, 56 km NNW Esmeralda, 150 m., (224); Boca Mavaca, 84 km SSE Esmeralda, 138 m., (5); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m., (1); 25 to 30 km SSW Pto. Ayacucho, 114-135 m., (3); Río Mavaca, 108 km SSE Esmeralda, 140 m., (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 135 m., (855); Tamara- tún, Río Orinoco, 135 m., (23). ZULIA. Boca del Río de Oro, 60 km WNW Encontrados, 73 m., (15); El Rosario, 37 to 61 km WNW Encontrados, 26-76 m., (158); Kasmera, 21 km SW Machiques, 270 m., (14). FALCON and YARA- CUY, 11 to 19 km NW Urama, 25-60 m., (25). Total 1,797.

*Rhinophylla pumilio* Peters, 1865a:355. Southern Venezuela. Caught in mist nets (100 percent); near streams and in other moist areas (100 percent); usually in evergreen forest (72 percent) and forest openings such as pastures,
yards, and orchards (23 percent), and rarely in deciduous forest (5 percent); 76-1,100 m; bs-T (10), bh-T (20), bh-P (4), bhm-P (21), and bp-M (5).

Specimens collected: APURE, Río Cinaruco, 65 km NW Pto. Páez, 76 m, (3). BOLIVAR, El Manaco, 59 to 67 km SE El Dorado, 150 m, (6); 28 km NE Icabari, 775 m, (2); km 125, 85 km SSE El Dorado, 761-1,165 m, (21); Río Supano, 50 km SE El Monteeco, 150-350 m, (2). T. F. AMAZONAS, Acanaña, Río Cunucunuma, 48 km NW Esmeralda, 145 m, (1); Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400 m, (5); Capibara, Brazi Casiquiare, 106 km SW Esmeralda, 130 m, (7); to 65 km SSW Pto. Ayacucho, 114-161 m, (9); Tamatama, Río Orinoco, 135 m, (5). Total 61.

Subfamily STURNIRINAE

Sturnira bidens Thomas, 1915b:311.

High elevations in the Andes. Caught in mist nets (100 percent); near streams (50 percent) or in drier sites (50 percent); in cloud forest (100 percent); 2,550-2,640 m; bp-M (16).

Specimens collected: MÉRIDA, 4 to 6 km E and ESE Tabay, 2,550-2,640 m, (16). Total 16.

Sturnira bogotensis Shamal, 1927:129.

Mérida and Táchira Andes. Netted (100 percent); near streams and other moist areas (75 percent) or in dry sites (25 percent); in evergreen or cloud forest (75 percent) and in forest openings such as yards (25 percent); 2,107-2,640 m; bh-MB (1), bhm-MB (1), and bp-M (2).

Specimens collected: MÉRIDA, 4 to 6 km E and ESE Tabay, 2,107-2,640 m, (3). TACHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,380 m, (1). Total 4.

Sturnira erythromos Tschudi, 1844:64.

Mountains of northern and western Venezuela. Mist netted (100 percent); over and near streams (16 percent) and in other moist areas (79 percent) or in dry situations (5 percent); in evergreen (60 percent) and cloud forest (27 percent), openings such as yards and pastures (12 percent), and deciduous forest (1 percent); 1,135-2,550 m; bh-P (4), bhm-P (8), bh-MB (64), bhm-MB (31), and bp-M (1).

Specimens collected: CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (7). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,400-1,542 m, (53). MÉRIDA, La Carbonera, 6 to 12 km SE La Azulita, 1,870-2,190 m, (25); to 4 to 6 km E and ESE Tabay, 2,107-2,550 m, (2). MIRANDA, Curupao, 5 km NNW Guarenas, 1,160 m, (1). MONAGAS, nr. San Agustín, 3 km NW Caripe, 1,165-1,345 m, (3). ZULIA, Novito, 19 km WSW Machiques, 1,135 m, (1). DTO. FEDERAL and MIRANDA, Alto No León, 31 to 33 km WSW Caracas, 1,750-1,945 m, (4); Pico Avila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,092-2,240 m, (12). Total 108.

Sturnira lilium E. Geoffroy, 1810:181.

Throughout the forested parts of Venezuela, except for very high and very dry regions. Caught in mist nets (99 percent) or found roosting in houses and hollow trees (1 percent); near streams (54 percent) and other moist areas (36 percent), or sometimes in dry situations (10 percent); in evergreen forest (38 percent), yards, croplands, and pastures (29 percent), orchards (24 percent), deciduous and thorn forest (6 percent), cloud forest (2 percent), and swamps (1 percent); 1,198 m (91 percent below 1,000 m); bmh-T (51), bs-T (28), bh-T (130), bs-P (19), bh-P (236), bhm-P (202), bh-MB (70), and bmh-MB (7).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (93). ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,100 m, (2). BARINAS, Altamira to 7 km NNE and SW Altamira, 611-1,070 m, (104). BOLIVAR, El Manaco, 56 to 59 km SE El Dorado, 150 m, (190); Icabarú to 45 km NE Icabarú, 473-851 m, (57); km 125, 70 to 85 km SSE El Dorado, 569-1,165 m, (27); Los Patos, 25 km SE El Montecito, 150 m, (8); Río Supano, 50 km SE El Montecito, 150 m, (9). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (13); nr. Montalbán, 562-752 m, (22). DTO. FEDERAL, Alto No León, 33 km WSW Caracas, 1,665 m, (1); Boca de Tigre Valley, 5 km NW Caracas, 1,394 m, (14); Hda. Carapiche, nr. El Limón, 48 km W Caracas, 380-395 m, (32); Los Venados, 4 km NNW Caracas, 1,400-1,560 m, (55); Pico Avila, nr. Boca de Tigre, 6 km NW Caracas, 1,982 m, (1); FALCÓN, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (6); Cerro Socopo, 84 km NW Carora, 1,260 m, (6); 16 km ENE Mirimire, 70 m, (2); Río Socopito, 80 km NW Carora, 470-480 m, (16). GUARICO, Est. Biol. de los Llanos, 9 to 14 km SE Calabozo, 100 m, (27); Hda. Elviria, 10 km NE Altamaha, 630 m, (14); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (1); Río Oriuto, 10 km N Altamaha, 470 m, (11). LARA, Caceros Boro, 10 km N El Tocuyo, 518-528, (6). MIRANDA, Birongo, 60 m, (31); Curupao, 5 km NNW Guar- enas, 1,130-1,180 m, (30); Parque Nac. Gu-
Sturnina ludovici Anthony, 1924:S.

Mountains and foothills of northern and western Venezuela. Caught in mist nets (99.7 percent) and by hand in a house (0.3 percent); near streams (17 percent) and in other moist areas (70 percent) or occasionally in dry situations (13 percent); in evergreen (72 percent), deciduous (6 percent), and cloud forest (6 percent), orchards (5 percent), yards (6 percent), and gardens, pastures, and marshes (2 percent); 24-2,240 m (80 percent between 500 and 1,500 m); bs-T (23), bh-T (6), bhn-T (9), bs-P (1), bh-P (59), bhn-MB (33), and bh-MB (25).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (9). ARAGUA, Est. Biol. Ranche Grande, 13 km NW Maracay, 1,100 m, (1). BARINAS, Altamira to 2 km SW Altamira, 609-794 m, (156). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (15); 2 to 13.5 km NE and SE Montalbán, 598-1,007 m, (3). DTO, FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 309-398 m, (26). MIRANDA, Parque Nac. Guatopo, 21 km NW Altagracia, 630 m, (16). MONAGAS, nr. San Agustín, 3 to 5 km NW Caripé, 1,160-1,345 m, (8). ZULIA, Novito, 19 km WSW Machiques, 1,135 m, (2). DTO, FEDERAL and MIRANDA, Alto No León, 31 to 33 km WSW Caracas, 1,750-2,024 m, (4); Pico Avila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,092-2,240 m, (12). Total 363.

Sturnira tildae de la Torre, 1959:1.

Humid lowlands and low mountains of southern and eastern Venezuela. Caught in mist nets (100 percent); near streams (46 percent) and in other moist areas (53 percent) or rarely in dry places (1 percent); in evergreen forest (87 percent) and in forest openings such as orchards (12 percent) and yards (1 percent); 90-1,165 m; bh-T (32), bhn-T (111), bh-P (2), and bhn-P (73).

Specimens collected: BOLIVAR, El Manaeco, 56 to 59 km SE El Dorado, 150 m, (3); 45 km NE Icabarí, 851 m, (15); Km 125, 70 to 85 km SSE El Dorado, 852-1,165 m, (58). ZULIA, Ensenada Cauranta, 12 km NE Guíria, 90 m, (1); Manaeco, 26 km ESE Caripó, 300 m, (1). T. F. AMAZONAS, Acacuana, Río Cunucuna, 48 km NW Esmeralda, 145 m, (1). Belén, Río Cunucuna, 56 km NW Esmeralda, 150 m, (110); Boca Mavaca, 81 km SSE Esmeralda, 138 m, (8); Capibara, Bravo Casiquiare, 106 km SW Esmeralda, 130 m, (3). Río Mavaca, 108 km SSE Esmeralda, 140 m, (15); Tamatama, Río Orinoco, 135 m, (3). Total 218.

Sturnira sp ?

Specimens collected: DTO, FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 300-398 m, (26). MIRANDA, Parque Nac. Guatopo, 21 km NW Altagracia, 630 m, (1). T. F. AMAZONAS, Belén, Río Cunucuna, 56 km NNW Esmeralda, 150 m, (1); Parque Nac. Guatopo, 21 km NW Altagracia, 630 m, (16). San Andrés, 16 km SSE Caracas, 1,144 m, (1). MONAGAS, nr. San Agustín, 3 to 5 km NW Caripé, 1,160-1,345 m, (8). ZULIA, Novito, 19 km WSW Machiques, 1,135 m, (2). DTO, FEDERAL and MIRANDA, Alto No León, 31 to 33 km WSW Caracas, 1,750-2,024 m, (4); Pico Avila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,092-2,240 m, (12). Total 363.

Subfamily STENODERMATINAE

Uroderma bilobatum Peters, 1866b:394.

Throughout all except the driest lowlands of Venezuela. Mist netted (98 percent) or found in roosts (2 percent); over or near streams (46 percent) and in other moist areas (26 percent) or in dry situations (28 percent); in yards, orchards, croplands, and pastures (46 percent), evergreen forest (44 percent), deciduous and thorn forest (8 percent), and swamps (1 percent); 1-1,537 m (98 percent below 1,000 m); bms-T (9), bms-
Mammals

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (38). BARINAS, Altamira to 2 km SW Altamira, 609-794 m, (63). BOLIVAR, El Manaco, 59 to 67 km SE El Dorado, 150 m, (12); 23 to 45 km NE Icabarú, 824-851 m, (16). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (4); Montalbán to 2 km SE Montalbán, 598 m, (10). DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 398 m, (3). FALCON, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (13); 14 to 16 km ENE Múrimirí, 60-122 m, (36). Rio Socopito, 50 km NW Carora, 470-480 m, (20). GUÁRICO, Est. Biol. de los Llanos, 9 km SE Calaboza, 100 m, (1); Hda. Elvira, 10 km NE Altargua, 630 m, (1); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (1). LARA, Carapito Boro, 10 km N El Tocuyo, 518-537 m, (9). MIÑANDEZ, Birongo, 66 m, (10); Parque Nacional Guatopo, 21 km NW Altargua, 630 m, (1); 1 to 7 km E, SSE, and S Rio Chico, 1 m, (16); San Andrés, 16 km SSE Caracas, 1,144 m, (6). MONAGAS, nr. San Agustín, 3 to 5 km NW Caripé, 1,160-1,165 m, (3). SUCRE, Ensenada Cauranta, 9 to 11 km NE Guiarra, 7-40 m, (3); Manacal, 26 km ESE Caripano, 175-300 m, (2). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (5). T. F. AMAZONAS, Acaimaia, Rio Cumecumuna, 48 km NW Esmeralda, 145 m, (1); Belén, Rio Cumecumuna, 56 km NNW Esmeralda, 150 m, (93); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); 14 to 65 km SSE, S, and SSW Pto. Ayacucho, 119-161 m, (7); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (8); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (36); Tamatama, Rio Orinoco, 135 m, (9). TRUJILLO, La Ceiba, 46 to 48 km WNW Valera, 23-29 m, (59); 19 to 25 km N and NW Valera, 90-164 m, (25). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395-400 m, (15). Zulia, cerro Azul, 33 km NW La Paz, 75 m, (3); El Rosario, 39 to 63 km WNW Encuentros, 24-125 m, (94); Kasmera, 21 km SW Machiques, 270 m, (29); Novito, 19 km WSW Machiques, 1,135 m, (2); CARABOBO and YARACUY, 10 to 11 km NW Urama, 25 m, (20). Total 677.


Widespread in humid lowlands. Caught in mist nets (99.7 percent) and hand caught in a house (0.3 percent); over and near streams (89 percent) and in other moist areas (7 percent), or rarely in dry sites (4 percent); in yards (81 percent), pastures, orchards, and croplands (7 percent), evergreen forest (6 percent), swamps (4 percent), and thorn forest (2 percent); 1-1,140 m (99.5 percent below 500 m); bs-T (28), hh-T (318 = 57 percent), bmh-T (18), and hh-P (3).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (18); BOLIVAR, 23 km NE Icabarú, 824 m, (1). FALCON, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (8); 16 km ENE Múrimirí, 70 m, (2); Rio Socopito, 50 km NW Carora, 480 m, (1); 19 km NW Urama, 25 m, (3). GUARICO, Est. Biol. de los Llanos, 9 to 14 km SE Calaboza, 100 m, (12); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (1). MIÑANDA, Curupao, 5 km NNW Guarenas, 1,140 m, (1); 1 to 4 km E and S Rio Chico, 1 m, (3). SUCRE, Manacal, 26 km ESE Caripano, 380 m, (1). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); 14 to 25 km S and SSE Pto. Ayacucho, 114-119 m, (2); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (205); Tamatama, Rio Orinoco, 135 m, (90). TRUJILLO, La Ceiba, 46 km WNW Valera, 29 m, (9). ZULIA, El Rosario, 39 to 63 km WNW Encuentros, 24-125 m, (9); Kasmera, 21 km SW Machiques, 270 m, (4). Total 367.

Urodreama sp.?

Specimens collected: DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 398 m, (2). T. F. AMAZONAS, Belén, Rio Cumecumuna, 56 km NW Esmeralda, 150 m, (3); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (5). Total 10.


Mountains of southern Venezuela. Caught in mist nets (100 percent); near streams (10 percent) and in other moist areas (9 percent), or rarely in dry sites (1 percent); in evergreen forest (100 percent); 700-1,400 m (90 percent above 1,000 m); bmh-P (58), bp-P (3), and bp-MB (1).

Specimens collected: BOLIVAR, Km 125, 55 km SSE El Dorado, 852-1,65 m, (58). T. F. AMAZONAS, Cabecera del Caño Negro, Cerro Duida, 32 km NW Esmeralda, 1,400 m, (1); Caño Culebra, Cerro Duida, 50 km NNW Esmeralda, 700-800 m, (3). Total 62.

Vampyrurus brachycephalus Bouk and Carter, 1972: I.

Low mountains of northeastern Venezuela. Mist netted over streams in evergreen forest.
(100 percent); 175-375 m; bs-P (2) and bh-P (2).

Specimens collected: SUCRE, Manacal, 26 km ESE Curupano, 175-375 m. (4). Total 4.

**Vampyrops helleri** Peters, 1866b:392.

Throughout the humid lowlands and foothills of Venezuela. Caught in mist nets (100 percent); over and near streams (38 percent) and in other moist habitats (40 percent), or in dry situations (22 percent); in evergreen forest (52 percent) and openings such as yards (37 percent), orchards (6 percent), and croplands and pastures (2 percent), as well as occasionally in swamps (2 percent), thorn and deciduous forest (1 percent), and cloud forest (0.1 percent); 1,153 m (99 percent below 1,000 m); bs-T (38), bh-T (403 = 49 percent), bmh-T (42), bs-P (3), bh-P (221 = 27 percent), and bmh-P (114).

Specimens collected: APURE, Nuila, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m. (36). BARINAS, Altamira to 2 km SW Altamira, 609-794 m. (100). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m. (13); Hato La Florida, 47 km ESE Caicara, 50 m. (1); Hato San José, 20 km W La Paragua, 306-324 m. (2); 23 to 45 km NE Icabarú, 824-851 m. (5); Río Supano, 50 km SE El Manteceo, 150 m. (1). CARABOBO, La Copa, 4 km NW Montalbán, 1,157 m. (8); 2 to 3 km SE and SW Montalbán, 598-618 m. (2). DTO. FEDERAL, Hda. Carapichel, nr. El Limón, 48 km W Caracas, 350 m. (1); FALCÓN, 14 to 16 km ENE Mirimire, 60-122 m. (15); Río Socopito, 80 km NW Carora, 450 m. (1); GUARICO, Río Orituco, 10 km N Altagracia, 470 m. (1). MIRANDA, Birongo, 60 m. (9); Curupao, 5 km NW Guarenas, 1,160-1,180 m. (5). Parque Nacional Guatopo, 21 km NW Altagracia, 630 m. (4); 1 to 7 km E, SSE, and S Río Chico, 1 m. (16). SUCRE, Ensenada Cauremita, 9 km NE Guíra, 1 m. (1); Manacal, 26 km ESE Curupano, 175-380 m. (7). T. F. AMAZONAS, Belén, Río Cumancumuna, 56 km NWN Esmeralda, 150 m. (6); Capibara, Río Casiquiare, 406 km SW Esmeralda, 130 m. (3); 14 to 65 km SSE, S, and SSW Pto. Avacehuo, 114-195 m. (180); Río Mavaca, 108 km SSE Esmeralda, 140 m. (2); San Juan, Río Manapiare, 163 km ESE Pto. Avacehuo, 155 m. (154); Tamatamá, Río Oriente, 135 m. (9). TRUJILLO, La Ceiba, 46 km NWN Valera, 29 m. (1); 23 to 25 km N and NW Valera, 90-164 m. (5). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395-400 m. (197). Zulia, Boca del Río de Oro, 60 km NWN Encuentros, 73 m. (3); El Rosario, 37 to 65 km NWN Encuentros, 24-125 m. (18); Kasmira, 21 km SW Machiques, 270 m. (1); Novito, 19 km WSW Machiques, 1,135 m. (2). FALCÓN and YARACUY, 11 to 19 km NW Uratama, 25 m. (12). Total 821.

**Vampyrops unibratus** Lyon, 1902:151.

Mountains of northern and western Venezuela. Caught in mist nets (100 percent); over or near streams (61 percent) and in other moist areas (30 percent), or in dry situations (9 percent); in evergreen forest (67 percent) and openings such as yards, orchards, pastures, and croplands (23 percent), in cloud forest (9 percent), and rarely in deciduous forest (1 percent); 395-2,550 m (99.5 percent above 1,000 m); bh-P (38), bhn-P (18), bh-MB (136), bhn-MB (23), and bm-P (6).

Specimens collected: ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,100 m. (5). CARABOBO, La Copa, 4 km NW Montalbán, 1,157 m. (13). DTO. FEDERAL, Boca de Tigré Valley, 5 km NW Caracas, 1,394 m. (15); Los Venados, 4 km NWN Caracas, 1,400-1,559 m. (54). MERIDA, La Carbonera, 12 km SE La Azulita, 2,150-2,190 m. (5); 4 to 6 km ESE and E Tabay, 2,107-2,550 m. (10). MIRANDA, Curupao, 5 km NW Guarenas, 1,160-1,180 m. (34). MONagas, San Agustín, 3 km NW Caripé, 1,165-1,180 m. (3). TRUJILLO, Hda. Misisi, 13 km E Trujillo, 1,830 m. (3). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395 m. (1). DTO. FEDERAL and MIRANDA, Alto No León, 31 to 33 km WSW Caracas, 1,665-1,945 m. (8); Pico Ávila, 5 km NNE and 6 km NWN Caracas, 2,025-2,250 m. (70). Total 221.

**Vampyrops vittatus** Peters, 1859:225.

Mountains of northern and western Venezuela. Caught in mist nets (100 percent); mostly in moist (90 percent), but occasionally in dry sites (10 percent); in evergreen forest (89 percent) and in a yard in a forest opening (11 percent); 619-2,119 m; bhn-P (2) and bh-MB (8).

Specimens collected: BARINAS, Altamira and 2 km SW Altamira, 619-794 m. (2). DTO. FEDERAL, Los Venados, 4 km NWN Caracas, 1,400-1,507 m. (7); Pico Ávila (nr. Boca de Tigré), 6 km NWN Caracas, 2,119 m. (1). Total 10.

**Vampyrophes caraccioli** Thomas, 1889:167.

Scattered localities in T. F. Amazonas (3), Bolivar (2), and Miranda (1). Mist netted (100 percent); near streams (87 percent) and in other moist areas (13 percent); in evergreen forest (91 percent) and forest openings such as yards and orchards (9 percent); 60-1,032 m (96
Vampyressa bidens Dobson, 1878:535.

Humid lowlands of southern Venezuela. Caught in mist nets (100 percent); near streams and in other moist areas (67 percent); in evergreen forest (22 percent); usually in evergreen forest (92 percent), and rarely in yards (5 percent), orchards (1 percent), croplands (1 percent), and swamps (1 percent). 23-1,537 m (98 percent above 500 m); bs-T (1), bh-T (1), bh-P (14), bh-MB (1). Total 121.

Vampyressa pusilla Wagner, 1843a:366.

Southern and western Venezuela. Caught in mist nets (99 percent) and by hand in a house (1 percent); near streams (5 percent) and other moist areas (73 percent), as well as in dry sites (22 percent); usually in evergreen forest (92 percent), and rarely in yards (5 percent), orchards (1 percent), croplands (1 percent), and swamps (1 percent). 23-1,537 m (96 percent above 500 m); bs-T (1), bh-T (1), bh-P (14), bh-MB (1). Total 121.

Chirolaena salvini Dobson, 1878:532.

Mountains of northern and western Venezuela. Caught in mist nets (97 percent) and by hand in a house (3 percent); usually in moist (79 percent), or less often in dry situations (21 percent); in evergreen forest (56 percent), forest openings such as roadways, yards, orchards, and fields (35 percent), and rarely in cloud forest (9 percent); 611-2,240 m (93 percent above 1,000 m); bh-P (9), bh-MB (10), and bh-MB (10).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Km 125, 85 km SSE El Dorado, 1,032 m, (1). MIRANDA, Bironga, 60 m, (1). T. F. AMAZONAS, Belén, Río Cumunumia, 56 km NNW Esmeralda, 150 m, (18); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 23.


Southern Venezuela (Bolivar and T. F. Amazonas) and eastern foothills of Andes. Caught in mist nets (100 percent); usually over or near streams and in other moist areas (95 percent), but rarely in dry situations (5 percent); in evergreen forest (67 percent) or in forest openings such as yards (24 percent), orchards (6 percent), or fields (3 percent); 24-1,032 m (97 percent above 500 m); bs-T (2), bh-T (30), bh-MB (30), bh-P (3), and bh-MB (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (2). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (2); 45 km NE Icaború, 851 m, (1); Los Patos, 28 km SE El Mantecoo, 150 m, (1); Río Supamo, 50 km SE El Mantecoo, 150 m, (1). T. F. AMAZONAS, Belén, Río Cumunumia, 56 km NNW Esmeralda, 150 m, (64); 14 to 65 km SSE to SSW Pto. Ayacucho, 119-161 m, (24); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (22). Total 117.

Chirolaena villosa Peters, 1860:748.

Humid lowlands throughout Venezuela. Caught in mist nets (99.6 percent) or by hand in hollow trees and houses (0.4 percent); over or near streams and in other moist areas (98 percent), or in dry situations (2 percent); mostly in yards (63 percent) and other openings...
such as orchards, fields, and pastures (17 percent), but occasionally in evergreen forest (20 percent); 24-851 m (99 percent at elevations less than 500 m); bh-T (49), bh-T (642), bhm-T (16), bh-P (15), and bhm-P (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo. 24 m (8). BARINAS, 2 km SW Altamira, 619 m (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m (18); Hato La Florida, 47 km ESE Caicara, 50 m (1); Hato San José, 20 km W La Paragua, 306 m (2); 23 to 45 km NE Icubarú, 473-851 m (7); Rio Supano, 50 km SE El Manteco, 150 m (1). FALCÓN, Río Socopito, 80 km NW Carora, 450 m (2); 19 km NW Urana, 25 m (6). SUCRE, Manacal, 26 km ESE Carúpano, 300 m (1). T. F. AMAZONAS, Belén, Rio Cunucuuma, 56 km NNW Esmeralda, 150 m (8); Boca Mavaca, 84 km SSE Esmeralda, 138 m (1); Esmeralda, Rio Orinoco, 135 m (2); Pto. Ayacucho to 65 km SSW Pto. Ayacucho, 114-161 m (12); Rio Mavaca, 105 km SSE Esmeralda, 140 m (3); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m (494); Tamatama, Rio Orinoco, 135 m (36). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395 m (8). ZULIA, nr. Cerro Azul, 35 km NW La Paz, 50 m (1); El Rosario, 42 to 48 km WNW Encontrados, 24-54 m (2). Total 724.

**Chiroderma sp.**

Specimens collected: T. F. AMAZONAS, San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m (5). Total 5.

**Ectophylla macconnelli** Thomas, 1901b:145.

Bolívar, T. F. Amazonas, and eastern Andean foothills. Mist netted (99 percent) and found roosting in a tree (1 percent); mostly near streams and other moist areas (96 percent), but occasionally in dry places (4 percent); in evergreen forest (93 percent) and in forest settlements (7 percent); 24-1,032 m (97 percent below 500 m); bh-T (59), bhm-T (10), and bhm-P (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo. 24 m (2). BARINAS, 2 km SW Altamira, 619 m (1). BOLIVAR, Km 125, 55 km SSE El Dorado, 1,032 m (1). T. F. AMAZONAS, Belén, Rio Cunucuuma, 56 km NNW Esmeralda, 150 m (8); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m (51); 25 km S Pto. Ayacucho, 114 m (3); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m (1); Tamatama, Rio Orinoco, 135 m (4). Total 71.

**Artibeus cinereus** Gervais, 1856:36.

Throughout the humid portions of Venezuela, except at high elevations. Caught in mist nets (99 percent) and by hand in a house at night and roosting under a banana leaf (1 percent); near streams and in other moist areas (86 percent), or in dry sites (14 percent); in evergreen forest (82 percent), yards and orchards (12 percent), and in swamps, croplands, cloud forest, deciduous forest, thorn forest, and pastures (6 percent, in descending order of frequency); 1-2,119 m (57 percent between 1,000 and 2,000 m); bh-T (31), bh-T (16), bhm-T (32), bs-P (1), bh-P (70), bhm-P (254), bp-P (3), bh-MB (29), and bhm-MB (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo. 24 m (31). BARINAS, Altamira, 609-1,070 m (24). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m (3); Hato San José, 20 km W La Paragua, 300-524 m (5); 23 to 45 km NE Icabarú, 824-851 m (3); Km 125, 85 km SSE El Dorado, 826-1,165 m (120); Rio Supano, 50 km SE El Manteco, 150 m (2). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m (104); 3 to 13.5 km W and NE Montalbán, 657-1,007 m (10). DTO. FEDERAL, Alto No León, 33 km WSW Caracas, 1,665 m (1); Boca de Tigre Valley, 5 km NW Caracas, 1,594 m (5); Hda. Carápiache, nr. El Limón, 48 km W Caracas, 395 m (1); L.V.I.C., 15 km SW Caracas, 1,600 m (1); Los Venados, 4 km NNW Caracas, 1,410-1,542 m (13); Pico Ávila, nr. Boca de Tigre, 6 km NNW Caracas, 1,982-2,119 m (7). FALCÓN, 14 to 16 km ENE Miremire, 70-122 m (4); Río Socopito, 80 km NW Carora, 450 m (1); 19 km NW Urana, 25 m (2). GUARICO, 10 km N and NE Altacragía, 470-630 m (3); Est. Biol. de los Llanos, 9 to 14 km SE Calabozo, 100 m (3). MÉRIDA, 4 km E Tabay, 2,077-2,107 m (2). MIRANDA, Curupau, 5 km NNW Guarenas, 1,130-1,180 m (25); nr. El Encantado, 13 km SE Caracas, 570 m (1); Parque Nac. Guatopo, 21 km NW Altacragía, 630 m (2); 1 to 7 km E and S Río Chico, 1 m (11); San Andrés, 16 km SSE Caracas, 950-1,144 m (5). MONAGAS, San Agustín, 5 km NW Caripí, 1,165-1,180 m (5). SUCRE, Ensenada Cañuta, 9 to 11 km NE Guaria, 1-75 m (9); Manacal, 26 km ESE Carúpano, 175-575 m (11). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m (2). T. F. AMAZONAS, Belén, Rio Cunucuuma, 56 km NNW Esmeralda, 150 m (1); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m (1); Caño Cupeiba, Cerro Duida, 50 km NNW Esmeralda, 800 m (3); Tamatama, Rio Orinoco, 135 m (1). TRUJILLO,
Hda. Misísí, 13 km E Trujillo, 1,830 m, (2).

YARACUY, Minas de Aroa, 20 km NW San Felipe, 395-400 m, (3).

ZULIA, El Rosario, 45 to 65 km WNW Encuentros, 51-125 m, (9).
Novito, 19 km WSW Machiques, 1,135 m, (2). Total 438.

Artibeus concolor Peters, 1865a:357.

T. F. Amazonas and southern Bolivar. Caugh in mist nets (100 percent); in moist areas or near streams (100 percent); in evergreen forest (27 percent) or in yards (65 percent) and other openings such as pastures and orchards (5 percent); 114-1,032 m (84 percent below 500 m); bs-T (2), bh-T (95), bmh-T (3), bh-P (1), and bmh-P (19).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (7); 23 km NE Icabarú, 824 m, (1); Km 125, 85 km SSE El Dorado, 500-1,032 m, (19). T. F. AMAZONAS, Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (3); Capibara, Brazi Casiquaire, 106 km SW Esmeralda, 130 m, (1); 14 to 65 km SSW Pto. Ayacucho, 114-161 m, (4); Río Mava- ca, 108 km SSE Esmeralda, 140 m, (3); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (10); Tamatama, Río Orinoco, 135 m, (72). Total 120.

Artibeus fuliginosus Gray, 1838:487.

Bolivar and T. F. Amazonas. Caught in mist nets (95.7 percent) and by hand in a house at night (0.3 percent); near streams (91 percent) and in other moist areas (9 percent), or rarely in dry sites (0.3 percent); in evergreen forest (59 percent), yards (36 percent) and other openings such as orchards, pastures, and croplands (5 percent), and rarely cloud forest (0.3 percent); 114-1,032 m (97 percent below 500 m); bs-T (6), bh-T (235), bmh-T (60), bh-P (8), bmh-P (11), and bh-MB (1).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Hato San José, 20 km W La Paragua, 306 m, (2); Icabarú to 45 km NE Icabarú, 478-551 m, (8); Km 125, 85 km SSE El Dorado, 569-1,032 m, (4); Los Patos, 28 km SE El Mantecc, 150 m, (4); Río Supamo, 50 km SE El Mantecc, 150 m, (4). T. F. AMAZONAS, Acauán, Río Cunucunuma, 48 km NNW Esmeralda, 145 m, (14); Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (46); Río Mavaca, 84 km SSE Esmeralda, 135 m, (3); Capibara, Brazi Casiquaire, 106 km SW Esmeralda, 130 m, (28); 25 to 65 km SSW Pto. Ayacucho, 114-161 m, (7); Río Mavaca, 108 km SSE Esmeralda, 140 m, (70); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (48); Tamatama, Río Orinoco, 135 m, (82). Total 321.

Artibeus hartii Thomas, 1892:409.

Northern Venezuela and T. F. Amazonas. Netted (100 percent); mostly near streams and in other moist situations (89 percent), but occasionally in dry places (11 percent); in evergreen (41 percent), cloud (13 percent), and deciduous forest (4 percent), or in openings such as pastures (18 percent), yards (16 percent), and gardens, orchards, and marshes (8 percent); 2-2.250 m (91 percent between 1,000 and 2,250 m); bh-T (5), bh-P (1), bh-P (12), bmh-P (11), bh-MB (90), and bmh-MB (7).

Specimens collected: ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,100 m, (1). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (7). DTO. FEDERAL, Boca de Tigre Valley, 5 km NW Caracas, 1,394 m, (1). Hda. Carapipe, nr. El Limón, 48 km W Caracas, 380 m, (4); Los Venados, 4 km NNW Caracas, 1,400-1,599 m, (31); Pico Avila, nr. Hotel Humboldt and Boca de Tigre, 5 km NNE and 6 km NNW Caracas, 1,982-2,250 m, (63); FALCON, Boca de Yaracuy, 28 km WNW Pto. Caballo, 2 m, (1); Riceito, 30 km S Mirimire, 300 m, (1); Río Socopito, 50 km NW Carora, 470 m, (1). GUARICO, Hda. Elvira, 10 km NE Altagracia, 630 m, (3). MIRANDA, San Andrés, 16 km SSE Caracas, 1,144 m, (3). MONAGAS, San Agustín, 3 to 5 km NW Caripé, 1,160-1,180 m, (4). T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). ZULIA, Novito, 19 km WSW Machiques, 1,135 m, (2). Total 126.

Artibeus jamaicensis Leach, 1821:75.

Almost everywhere in Venezuela, except in the highest and driest places. Caught in mist nets (98 percent) or in roosts, mostly houses (2 percent); usually near streams and in other moist areas (54 percent), but sometimes in dry sites (16 percent); in openings such as yards, orchards, pastures, and croplands (48 percent, in order of decreasing frequency), evergreen forest (33 percent), deciduous forest (8 percent), thorn forest (5 percent), swamp (5 percent), and cloud forest (1 percent); 1-2,135 m (83 percent below 500 m, 99 percent below 1-500 m); bmh-T (141), bs-T (853), bh-T (694), bmh-T (149), bh-P (74), bh-P (232), bmh-P (76), bp-P (2), bh-MB (56), and bp-MB (22).

Specimens collected: APURE. Núlita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (106); Río Cinaruco, 38 km NNW Pto. Páez, 76 m, (2). ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,100 m, (3). BARINAS,
Altamira and 1 to 2 km S and SW Altamira, 600-794 m, (35). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); 5 km NNW Guasipati, 190 m, (4); Hato La Florida, 47 km ESE Caicara, 50 m, (1); Hato San José, 20 km W La Paragua, 300-324 m, (22); 21 to 45 km NE Ibirapuera, 775-851 m, (12); Km 125, 55 km SSE El Dorado, 569-1,165 m, (7). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (8); nr. Montalbán, 598-1,007 m, (75). DTO. FEDERAL, Boca de Tigre Valley, 5 km NW Caracas, 1,394 m, (12); Hata Carapiche, nr. El Limón, 48 km S Caracas, 350-398 m, (6); Los Venados, 4 km NNW Caracas, 1,400-1,557 m, (35); Pico Ávila (nr. Hotel Humboldt and Boca de Tigre), 5 km NNE and 6 km NNW Caracas, 1,982-2,135 m, (6). FALCON, Boca de Yaracuy, 28 km NW pto. Cabello, 2 m, (31); 13 to 16 km ENE Mirimire, 60-270 m, (72); Rieito, 30 km S Mirimire, 300 m, (4); Rio Socopito, 80 km NW Carora, 470-450 m, (53). GUARICO, Est. Biol. de los Llanos, 9 to 14 km SE Calabozo, 100 m, (40); Hata Elviria, 10 km NE Altagracia, 630 m, (16); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 151 m, (10); Rio Orítuco, 10 km N Altagracia, 470 m, (5). LARA, Caserio Boro, 10 km N El Tocuyo, 515-528 m, (8). MIRANDA, Biro, 60 m, (12); Curupao, 5 km WW Guarenes, 1,130-1,150 m, (55); nr. El Encantado, 13 km SE Caracas, 570 m, (2); Parque Nac. Guatopo, 21 km NW Altagracia, 630 m, (18); nr. Rio Chico, 1 m, (246); San Andrés, 16 km SSE Caracas, 950-1,144 m, (16). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 15 m, (5); nr. San Agustín, 3 to 5 km NW Caripé, 1,160-1,180 m, (30). NUEVA ESPARTA, Isla Margarita, nr. La Asunción, 37-305 m, (53). SUCRE, 14 to 21 km E Cumana, 1-15 m, (85); Ensenada Guaranta, 9 to 12 km NE Guiria, 1-90 m, (63); Manacal, 26 km ESE Carúpano, 175-380 m, (22); San Fernando, 16 km SE Cumana, 300 m, (1). T. F. AMAZONAS, Belén, Rio Cumacumuna, 56 km NW Esmeralda, 150 m, (43); Boca Mavaca, 54 km SSE Esmeralda, 138 m, (5); Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,140-1,200 m, (21); Cabecera del Caño Negro, Cerro Duida, 32 km NW Esmeralda, 1,650 m, (1); Caño Culebra, Cerro Duida, 50 km NNW Esmeralda, 500 m, (1); 14 to 30 km S and SSE Pto. Ayacucho, 119-161 m, (26); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (117); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (306); Tamatama, Rio Orinoco, 135 m, (33). TRUJILLO, La Colia, 46 to 53 km WWN Valera, 16-29 m, (5); 19 to 26 km N to WWN Valera, 90-164 m, (316). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395 m, (23). ZULIA, Boca del Río de Oro, 60 km WNW Encontrados, 73 m, (8); nr. Cerro Azul, 33 km NW La Paz, 75-50 m, (30); El Rosario, 42 to 63 km WWN Encontrados, 54-125 m, (70); Kasmera, 21 km SW Machiques, 270 m, (34); Novito, 19 km WSW Machiques, 1,135 m, (18). FALCON and YARACUY, 11 to 19 km NW Urama, 25 m, (54). Total 2,302.

Artibeus lituratus Oflers, 1818-224.

Throughout Venezuela, mostly at lower elevations. Caught in mist nets (95 percent) and in roosts, mostly houses (2 percent); near streams and in other moist areas (66 percent), or in dry uplands (34 percent); in evergreen (41 percent) and rarely in other types of forest such as deciduous, thorn, and cloud (2 percent), swamps and marshes (25 percent), yards (15 percent), and other openings such as orchards, croplands, and pastures (14 percent); 1-2,011 m (93 percent below 500 m); bms-T (10), bs-T (162), bh-T (459), bnh-T (828), bs-P (9), bnh-P (76), bnh-MB (15), and bnh-MB (1) (79 percent in bh-T and bh-MB).

Specimens collected: APURE, Nullita, Selvas de San Camilo, 29 km SSW Santo Domingo, 23-24 m, (827). BARINAS, Altamira, 609-1,070 m, (27). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (16); Hato San José, 20 km W La Paragua, 300-324 m, (4); Km 125, 85 km SSE El Dorado, 602-1,032 m, (13); Los Patos, 28 km SE El Monte, 150-350 m, (7). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (5); Montalbán, 598-1,007 m, (4). DTO. FEDERAL, Boca de Tigre Valley, 5 km NW Caracas, 1,394 m, (1); Hato Carapiche, nr. El Limón, 48 km W Caracas, 380 m, (2); Los Venados, 4 km NNW Caracas, 1,476-1,559 m, (16); Pico Ávila, 6 km NNW Caracas, 2,011 m, (1). FALCON, Boca de Yaracuy, 28 km NW Pto. Cabello, 2 m, (10); Cerro Socopito, 84 km NW Carora, 1,260 m, (1); nr. La Pastora, 14-16 km ENE Mirimire, 60-122 m, (11); Rio Socopito, 80 km NW Carora, 470-480 m, (59). MIRANDA, Biro, 60 m, (16); Curupao, 5 km NW Guarenes, 1,130-1,150 m, (18); 1 to 7 km E and S Rio Chico, 1 m, (29). NUEVA ESPARTA, Isla Margarita, 3 km NNE and 10 km WSW La Asunción, 38-47 m, (7). SUCRE, 16 to 21 km E Cumana, 1-5 m, (3); Ensenada Guaranta, 9 to 12 km NE Guiria, 1-90 m, (24); Manacal, 26 km ESE Carúpano, 175-380 m, (18). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (1). T. F. AMAZONAS, 14 to 65 km SSE to SSW Pto. Ayacucho, 114-161 m, (14); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (2); San
Ametrida centuria Gray, 1847:15.

Venezuela east of Lago de Maracaibo. Netted (100 percent); near streams and in other moist areas (97 percent), or rarely in dry situations (3 percent); in evergreen (75 percent), cloud (1 percent), and deciduous forest (1 percent), or in openings such as yards (21 percent) and orchards (2 percent); 90-2,150 m (93 percent below 1,500 m); bs-T (4), bh-T (25), bs-P (1), bh-P (5), bmh-P (1), and bmh-MB (1).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); 45 km NE Icaraí, 551 m, (1); Km 125, 85 km SSE El Dorado, 761-1,165 m, (100). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,400-1,559 m, (13); Pico Ávila (=Hotel Humboldt and Boca de Tigre), 5 km NNE and 6 km NNW Caracas, 2,013-2,150 m, (2). FALCON, Río Chico, 30 km S Mirimire, 300 m, (1). GUARICO, Est. Biol. de los Llanos, 9 km SE Calabozo, 100 m, (1); Parque Nac. Guatopo, 12 km NNW Altgracia, 470 m, (1). MIRANDA, San Andrés, 16 km SSE Caracas, 1,144 m, (2). SUCRE, Ensenada Cauranta, 12 km NE Guárico, 90 m, (1); Manacar, 26 km ESE Carúpano, 175-380 m, (3). T. F. AMAZONAS, Río Mavaca, 105 km SSE Esmeralda, 140 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (6); Tamatama, Río Orinoco, 135 m, (6). Total 54.

Remarks: For notes on the systematics and nomenclature of this species, see Handley (in press).

Artibeus sp. D.

Foothills and lower slopes of the Sierra de Perijá. Found roosting in a damp cave in evergreen forest and netted in a yard in a forest opening; 270-1,135 m; bh-T (3) and bmh-P (1).

Specimens collected: ZULIA, Kasmera, 21 km SW Machiques, 270 m, (3); Novito, 19 km SWW Machiques, 1,135 m, (1). Total 4.

Remarks: For notes on the systematics and nomenclature of this species, see Handley (in press).

Artibeus sp. ?

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (2); Km 125, 85 km SSE El Dorado, 1,032 m, (1). DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 398 m, (2). FALCON, Río Socopito, 50 km NW Carora, 470 m, (1). T. F. AMAZONAS, Belén, Río Cuneneumba, 56 km NNW Esmeralda, 150 m, (3); Tamatama, Río Orinoco, 135 m, (2). Total 12.

Sphaeronycteris toxophyllum Peters, 1882:989.

Scattered localities of many habitat types throughout Venezuela. Caught in mist nets (100 percent); over and near streams (77 percent) and in other moist areas (13 percent), or in dry situations (10 percent); in openings such as yards (45 percent) and pastures, orchards, croplands, and marshes (9 percent) as well as in evergreen (39 percent), thorn (5 percent), deciduous (1 percent), and cloud forest (1 percent); 2,230 m; bs-T (22), bh-T (48), ns-P (5), bh-P (4), bmh-P (2), and bmh-MB (76).

Specimens collected: ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,100 m, (1). BOLIVAR, Hato La Florida, 47 km SE Caicara, 50 m, (1); Hato San José, 20 km W La Paragua, 300-306 m, (8); 23 to 45 km NE Icaraí, 524-551 m, (2). DTO. FEDERAL, Boca de Tigre Valley, 5 km NW Caracas, 1,394
m, (1); Los Venados, 4 km NNW Caracas, 1,400-1,559 m, (68); Pico Avila (=Hotel Humboldt and Boca de Tigre), 5 km NNE and 6 km NNW Caracas, 2,013-2,240 m, (7). FALCÓN, Boca de Yaracyy, 25 km WNW Pto. Cabello, 2 m, (3); Riecito, 30 km S Mirimire, 500 m, (1); Rio Socopito, 80 km NW Carora, 480 m, (3). GUÁRICO, Est. Biol. de los Llanos, 9 km SE Calabozo, 100 m, (4); Hda. Elvira, 10 km NE Altagracia, 630 m, (1). LAÍRA, La Concordia, 47 km NE El Tucuyo, 592 m, (5). MIRANDA, San Andrés, 16 km SSE Caracas, 1,144 m, (1). SUCRE, Manacal, 26 km ESE Caripano, 380 m, (2). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); 65 km SSW Pto. Ayacucho, 161 m, (1); Río Mavaca, 108 km SSE Esmeralda, 140 m, (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (10); Tanatama, Río Orihoco, 135 m, (34). ZULIA, El Rosario, 63 km WNW Encontrados, 125 m, (1). Total 157.

Centurio senex Gray, 1842:259.

Lowlands of western Venezuela.

Netted (100 percent); near streams and in other moist sites (60 percent), or in dry situations (40 percent); in a variety of habitats (20 percent each), including evergreen, deciduous, and thorn forests and openings such as yards and marshes; 2-125 m; bs-T (1), bh-T (3), and bmh-T (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). FALCÓN, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (3); Capatárida, 40-55 m, (10); 14 km ENE Mirimire, 60-122 m, (4); Riecito, 30 km S Mirimire, 300 m, (13); Río Socopito, 50 km NW Carora, 470 m, (2). GUÁRICO, nr. Cojoro, 37 km SNE Paraguanápoa, 15 m, (1). GUÁRICO, 10 km NE Altagracia, 630 m, (24). Est. Biol. of the Llanos, 9 to 14 km SE Calabozo, 100 m, (20); Hato Las Palmitas, 35 km SSW San Juan de los Moros, 181 m, (3); Río Oriuco, 10 km N Altagracia, 470 m, (6). LARA, Caserio Boro, 10 km NE El Tucuyo, 550 m, (7). MIRANDA, Birongo, 60-160 m, (55); nr. El Encantado, 13 to 15 km SE Caracas, 570 m, (8); Río Chico and 1 to 10 km E and S Río Chico, 1 m, (45); San Andrés, 16 km SSE Caracas, 1,144 m, (3). MONAGAS, 3 km SW Caripu, 554 m, (17); Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (9); San Agustín, 3 to 5 km NW Caripu, 1,160-1,180 m, (10). NUEVA ESPARTA, Isla Margarita, 3 to 10 km SNE, S, and WSW La Asunción, 18-53 m, (57); Isla Margarita, 31 km W Porlamar, 10 m, (1). SUCRE, 16 to 21 km E Cumana, 1-40 m, (17); Ensenada Caranta, 9 to 12 km NE Guiria, 1-90 m, (6); Manacal, 26 km ESE Caripano, 175-350 m, (11). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 160 m, (4). T. F. AMAZONAS, Acuánita, Río Cunucunuma, 48 km NW Esmeralda, 145 m, (3); Belén, Río Cunucunuma, 56 km NW Esmeralda, 150 m, (13); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (4); Esmeralda, Río Orihoco, 135 m, (1); Pto. Ayacucho to 65 km SSE to SSW Pto. Ayacucho, 119-195 m, (38); Río Mavaca, 108 km SSE Esmeralda, 140 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (113); Tanatama, Río Orihoco, 135 m, (13). TRUJILLO, 19 to 26 km N, NW, and WNW Valera, 90-164 m, (115). ZULIA, nr. Cerro Azul, 33 km NW La Paz, 75 m, (9); El Rosario, 42 to 60 km WNW Encontrados, 24-73 m, (2);
Kasmera, 21 km SW Machiques, 270 m, (15). CARABOBO, FALCÓN, and YARACUY, 6 to 19 km NW and N Umáma, 25-60 m, (12). Total 964.

Desmodus youngii Jentink, 1893:282.

Scattered localities in the lowlands of Venezuela. Caught in mist nets (95 percent) and found in a house (5 percent); near streams and other moist areas (79 percent) or in dry sites (21 percent); in yards (42 percent), pasture (26 percent), evergreen forest (16 percent), orchards (11 percent), and thorn forest (5 percent); 1-450 m; me-T (1), bms-T (3), bs-T (5), and bh-T (7).

Specimens collected: BOLIVAR, Hato San José, 20 km W La Paragua, 306 m, (1). FALCÓN, 6 km SE Capatitlán, 50 m, (1); Río Socopito, 50 km NW Carora, 480 m, (1). SUCRE, 21 km E Cumaná, 1 m, (3); Ensenada Cauranta, 9 km NE Guiría, 4 m, (2). T. F. AMAZONAS, 14 km to 25 km S and SSE Pto. Ayacucho, 119-135 m, (5); San Juan, Rio Manapiare, 163 km SE Pto. Ayacucho, 155 m, (5). ZULIA, El Rosario, 42 km WNW Encontrados, 24 m, (1). Total 19.

Diphylla ecuadore Spix, 1823:68.

Northern Venezuela. Caught in mist nets (18 percent) and found roosting in caves (55 percent) and houses (27 percent); in moist (55 percent) or dry areas (45 percent); in evergreen forest (55 percent), orchards (27 percent), croplands (9 percent), and deciduous forest (9 percent); 1-1,537 m; bms-T (3), bs-T (1), bh-P (6), and bhm-P (1).

Specimens collected: CARABOBO, La Copa, 4 km NW Montalbán, 1,337 m, (1). MONAGAS, 3 km SW Caripé, 554 m, (5); nr. San Agustín, 3 km NW Caripé, 1,185 m, (1). SUCRE, 21 km E Cumaná, 1 m, (3). TRUJILLO, 23 km N Valera, 161 m, (1). Total 11.

Family NATALIDAE

Natalus timidirostris Miller, 1900b:160.

Scattered localities in northwestern and central Venezuela. Found mostly in caverns, both dry and wet (93 percent), but also netted over streams and ponds (7 percent); in dry sites (74 percent) or less often in moist sites (26 percent); in deciduous (77 percent) or thorn forest (15 percent) and occasionally in swamps (6 percent), evergreen forest (1 percent), and cropland (1 percent); 50-548 m; bms-T (28), bs-T (145), and bh-P (2).

Specimens collected: BOLIVAR, Hato La Florida, 47 km SE Caicara, 50 m, (11). FALCÓN, 11 km ENE Mirimire, 250 m, (2); Penín- sula de Paraguaná, 7 km W Pueblo Nuevo, 120 m, (27). LARA, Caserío Boro, 10 km N El Toqueño, 521 m, (1). MIRANDA, Cueva Ricardo Zulbaga, nr. El Encantado, 15 km SE Caracas, 548 m, (13). Total 175.

Family FURIPTERIDAE

Furipiterus horrens F. Cuvier, 1828:155.
T. F. AMAZONAS. Captured in mist nets (83 percent) and by hand in a house at dusk (17 percent); near streams and in other moist areas (100 percent); in evergreen forest (33 percent) and yards (67 percent); 130-150 m; bh-T (5) and bhm-T (1).

Specimens collected: T. F. AMAZONAS, Belén, Rio Cununuma, 56 km NWN Esmeralda, 150 m, (1); Capibara, Brazo Casique, 106 km SW Esmeralda, 130 m, (1); 32 km S Pto. Ayacucho, 135 m, (1); Tamatama, Rio Orinoco, 135 m, (3). Total 6.

Family THYOPTERIDAE

Thyoptera tricolor Spix, 1823:61.

Southern Venezuela. Found roosting in rolled Heliconia leaves (73 percent) or caught in mist nets (27 percent); near streams and in other moist areas (100 percent); in evergreen forest (82 percent) and openings such as orchards (18 percent); 130-551 m; bs-T (9), bh-T (1), and bhm-T (1).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); 45 km NE Icabarú, 551 m, (1). T. F. AMAZONAS, Belén, Rio Cununuma, 56 km NWN Esmeralda, 150 m, (1); Capibara, Brazo Casique, 106 km SW Esmeralda, 130 m, (8). Total 11.

Family VESPERTILIONIDAE

Myotis albescens E. Geoffroy, 1806b:204.

Scattered localities throughout Venezuela, particularly in southern and western sectors. Netted (59 percent) or trapped (19 percent), hand caught in roosts in rocks (16 percent) and in a hollow tree (1 percent), and shot in flight (5 percent); over or near streams and lagoons and in other moist areas (99 percent), or rarely in dry sites (1 percent); in evergreen forest (52 percent), openings such as yards, pastures, and croplands (37 percent), and swamps or marshes (11 percent); 1-155 m; bs-T (24), bh-T (49), bhm-T (12), and bh-P (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (5); Rio Cinaruco, 38 km NNW Pto. Páez, 76 m, (13). BOLIVAR, Rio Supamo, 50 km
above Myotis m., percent) m., NNW Ayacucho, Rio Mavaca, 84 km SSE Esmeralda, 138 m, (2); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (8); 25 km SSW Pto. Ayacucho, 114 m, (8); Rio Mavaca, 108 km SSE Esmeralda, 140 m, (2); San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (28). TRUJILLO, 23 km NNW Valera, 90 m, (1). ZULIA, El Rosario, 42 km WNW Encontrados, 24 m, (1). Total 86.


Sierra de la Costa, northern Venezuela. Caught in mist nets (100 percent); over streams and in other moist areas (100 percent); in evergreen forest (mostly in yards and orchards, 96 percent), or in deciduous (2 percent) and cloud forest (2 percent); 630-2,092 m (96 percent above 1,000 m); bs-T (1), bh-P (8), bmh-P (43), and bh-MB (3).

Specimens collected: ARAGUA. Est. Biol. Rancho Grande, 13 km NW Maracay, 1,081-1,100 m, (41); CARABOBO. La Copa, 4 km NW Montalbán, 1,537 m, (2). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,400-1,507 m, (2); Pico Avila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,092 m, (1). GUARICO, Hda. Elvira, 10 km NE Altagracia, 630 m, (1). MIRANDA, Curupao, 5 km NNW Guarenas, 1,160-1,180 m, (6); San Andrés, 16 km SSE Caracas, 950-1,144 m, (2). Total 55.

*Myotis laevis* LaVal, 1973:44.

Deserts around the Golfo de Venezuela. Found roosting in tree holes and in houses (65 percent) or caught in mist nets (35 percent); usually in dry sites (92 percent) but occasionally near streams (8 percent); in thorn forest (92 percent) or in clearings (8 percent); 5-55 m; ne-T (26).

Specimens collected: FALCON, Capatárida and 6 km SSW Capatárida, 40-55 m, (25). ZULIA, nr. Cojoro, 35 km NNE Paraguanapoa, 5 m, (1). Total 26.

*Myotis nigricans* Schinz, 1821:179.

Widespread in the more humid portions of Venezuela. Caught in mist nets (74 percent) or bat traps (1 percent), with insect nets from roosts in houses (21 percent), and by hand in houses and hollow trees (4 percent); near streams and in other moist areas (74 percent), or in dry sites (26 percent); mostly in houses or yards and orchards (84 percent), but also in evergreen forest (9 percent), pastures (5 percent), and in swamps (2 percent); 18-2,240 m (97 percent below 1,200 m); bs-T (102), bh-T (7), bmh-T (3), bh-P (37), bh-MB (3), and bmh-MB (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (2); Pto. Páez, 76 m, (2); Rio Cinaruco, 38 km NNW Pto. Páez, 76 m, (1); San Fernando de Apure, 25 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Rio Supambo, 50 km SE El Manteco, 150 m, (1). DTO. FEDERAL, Pico Avila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,092-2,240 m, (4). GUARICO, Est. Biol. de los Llanos, 14 km SE Calabozo, 100 m, (2). MIRANDA, Curupao, 5 km NNW Guarenas, 1,180 m, (1). MONAGAS, Hato Mata de Bejueo, 55 km SSE Maturin, 18 m, (1); nr. San Agustín, 3 km NW Caripe, 1,190 m, (34). T. F. AMAZONAS, Belén, Rio Cumununcuma, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (2); 25 to 32 km S Pto. Ayacucho, 114-135 m, (4). YARACUY, Minas de Aroa, 20 km NW San Felipe, 400 m, (1). ZULIA, nr. Cerro Azul, 33 km NW La Faz, 75 m, (1). CARABOBO and YARACUY, 6 to 11 km NW Urama, 25-60 m, (94). Total 153.

*Myotis oxytus* Peters, 1866a:19.

Andes. Sierra de la Costa, and mountains of the Guiana region. Mist netted (56 percent) and caught at roosts in a cave (22 percent), house (11 percent), and house roof (11 percent); near streams and in other moist areas (89 percent), or in dry habitats (11 percent); in evergreen forest (78 percent) and in openings such as yards and orchards (22 percent); 500-2,110 m; bh-P (2), bmh-P (2), bp-P (1), bh-MB (2), and bmh-MB (2).

Specimens collected: BOLIVAR, 21 km NE Laabarú, 851 m, (2); Km 125, 55 km SSE El Dorado, 826-1,032 m, (2). MERIDA, 4 km E Tabay, 2,107-2,110 m, (2). T. F. AMAZONAS, Caño Culebra, Cerro Duida, 50 km NNW Esmeralda, 800 m, (1). DTO. FEDERAL and MIRANDA, Alto No León, 33 km WSW Caracas, 1,665-1,950 m, (2). Total 9.


Central and southern Venezuela. Netted (89 percent) and trapped (11 percent); near streams and in other moist areas (58 percent), or in dry sites (42 percent); in croplands, orchards, and yards (58 percent), and in evergreen forest (42 percent); 24-1,070 m (90 percent below 200 m); bh-T (8), bmh-T (7), bh-P (2), and bmh-P (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24
mammals near Tamatama, Total and or Eptesicus numa, south to 54-1,260 sites Eptesicis Mtptis and 59 in Caught Carapiche, Casiquiarc, 1.35 (.53 19. Rio in, Dorado, 5IOLOGICAI. 1 2 1,260; (2). Carapiche, el Rio Mavaca, 84 km SSE Esmeralda, 138 m, (2); Capihara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); Río Mavaca, 105 km SSE Esmeralda, 140 m, (1); Tamatama, Río Orinoco, 135 m, (3). Total 19.


*Eptesicus andinus* J. A. Allen, 1914:382.

Humid low and middle elevations in mountains of northern Venezuela and in Bolívar. Caught in mist nets (100 percent); near streams and in other moist areas (75 percent), or in dry sites (25 percent); in evergreen forest (92 percent) and in openings such as yards (5 percent); 54-1,260 m; bh-T (2), bh-P (1), bmh-MB (9), and bmh-MB (1).

Specimens collected: BARINAS, Altamira to 2 km SW Altamira, 611-794 m, (5). BOLIVAR, Km 125, 85 km SSE EL Dorado, 582 m, (4). FALCÓN, Cerro Socopo, 84 km NW Carora, 1,260 m, (1). MONAGAS, nr. San Agustín, 3 km NW Caripe, 1,170 m, (1). ZULÍA, El Rosario, 48 to 63 km WNW Encontrados, 51-125 m, (2). Total 13.

*Eptesicus brasiliensis* Desmarest, 1819b:478.

Scattered localities east of the Andes, mostly south of the Río Orinoco. Caught in mist nets (53 percent), and by hand from holes in snags standing in lagoons (41 percent), and by hand in houses (6 percent); near streams and in other moist sites (94 percent), or in drier situations (6 percent); in yards (47 percent), evergreen forest (38 percent), and swamps, savanna, and orchards (15 percent); 18-380 m; bs-T (2), bh-T (60), bmh-T (1), and bh-P (1).

Specimens collected: BOLIVAR, El Manaco, 59 to 67 km SE EL Dorado, 150 m, (3). DTO, FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 380 m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (2). T. F. AMAZONAS, Belén, Río Cumucuma, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (5); 25 to 33 km SSW Pto. Ayacucho, 144-195 m, (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (28); Tamatama, Río Orinoco, 135 m, (22). Total 64.

*Eptesicus dimidiatus* Osgood, 1915:197.

Llanos of central Venezuela. Mist netted in a yard in dry, mixed grassland and deciduous scrub; 100 m; bs-T (2).

Specimens collected: GUÁRICO, Est. Biol. de los Llanos, 9 km SE Calabozo, 100 m, (2). Total 2.

*Eptesicus furinalis* d’Orbigny and Gervais, 1847: 13.

Widely scattered localities east of the Andes. Caught in mist nets (81 percent) and by hand in holes in trees (13 percent) and logs (6 percent); over or near streams and in other moist sites (80 percent), or in dry places (20 percent); in yards (38 percent), evergreen forest (25 percent), and savanna, swamps, and orchards (37 percent, in descending order of frequency); 1-1,160 m; bs-T (6), bh-T (7), bmh-T (1), and bh-P (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). BOLIVAR, Hato San José, 20 km W La Paragua, 300 m, (1). MIRANDA, Curupao, 5 km NNW Guarenas, 1,160 m, (1); nr. El Encantado, 13 km SE Caracas, 570 m, (2); 7 km E Rio Chico, 1 m, (1); San Andrés, 16 km SSE Caracas, 950 m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (1). T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (4); Tamatama, Río Orinoco, 135 m, (1). FALCÓN and YARACUY, 10 to 19 km NW Urama, 25 m, (3). Total 16.

*Eptesicus fuscus* Palisot de Beauvois, 1796:18.

Mountains of northern Venezuela. Mist netted (100 percent); beside streams and in other moist areas (100 percent); in evergreen (75 percent) and cloud forest (25 percent); 1,260-1,524 m; bh-MB (3) and bmh-MB (1).

Specimens collected: DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,498-1,524 m, (3). FALCÓN, Cerro Socopo, 84 km NW Carora, 1,260 m, (1). Total 4.

*Eptesicus montosus* Thomas, 1920a:363.

Mountains of Bolivar and northern Venezuela. Netted (100 percent); over and near streams and in other moist areas (100 percent); in evergreen forest (74 percent), yards in forest openings (23 percent), and cloud forest (3 percent); 1,165-1,581 m; bmh-P (6), bh-MB (29), and bmh-MB (1).

Specimens collected: BOLIVAR, Km 125, 85 km SSE El Dorado, 1,165 m, (1). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (5). DTO. FEDERAL, Los Venados, 4 km
NNW Caracas, 1,400-1,581 m, (29). FALCÓN. Cerro Soecho, S1 km NW Carora, 1,260 m, (1). Total 36.

_Eptesicus_ sp. ?

Specimen collected: MIRANDA, San Andrés, 16 km SSE Caracas, 1,141 m, (1). Total 1.

_Histiotus_ sp. A.

Sierra de la Costa. Netted (100 percent); in moist evergreen forest (within the forest, 50 percent, and in a livestock pen where the underbrush had been cleared, 50 percent); 1,498-2,101 m; bh-MB (4).

Specimens collected: DTO, FEDERAL, Los Venados, 4 km NNW Caracas, 1,498 m, (2); Pico Ávila, 5 km NNE Caracas. 2,092-2,101 m, (2). Total 4.

Remarks: For notes on the systematics and nomenclature of this species, see Handley (in press).

_Rhogeessa minutilla_ Miller, 1897:139.

Arid lowlands of northern Venezuela. Found roosting in hollow trees (84 percent), in houses (3 percent), and in a crevice in the ground (less than 1 percent), moist netted (12 percent), and shot in flight (1 percent); in dry (96 percent) or moist sites (4 percent); in thorn forest (96 percent) and in a yard in a forest opening (4 percent); 10-592 m; me-T (123), bns-T (99), and me-P (3).

Specimens collected: FALCÓN, Capatárida to 6 km SSW Capatárida, 40-55 m, (108). LARA, Caserio Boró, 15 km NE N, and NW El Tocuyo, 518-537 m, (99). La Concordia, 47 km NE El Tocuyo, 592 m, (3). NUEVA ESPARTA, Isla Margarita, 31 km W Porlamar, 10 m, (1). ZULIA, nr. Cojoro, 34 to 37 km NNE Paraguaipoa, 10-15 m, (14). Total 225.

_Rhogeessa tumida_ H. Allen, 1866:286.

Humid lowlands of northern Venezuela and middle reaches of the Río Orinoco. Caught in moist nets (88 percent) and with insect nets (12 percent); over and near streams and in other moist areas (63 percent), or in dry sites (37 percent); in pasture and prairie (39 percent); evergreen forest (26 percent), yards (22 percent), and in deciduous, thorn, and swamp forest (13 percent); 1-570 m; hs-T (14), bh-T (7), hs-P (1), and bh-P (4).

Specimens collected: APURE, Hato Cariben, Río Cinarmo, 32 km NE Pto. Páez, 76 m, (2); 1 km W Pto. Páez, 76 m, (1). FALCÓN, 19 km NW Urama, 25 m, (5). MIRANDA, nr. El Encantado, 13 km SE Caracas, 570 m, (1); Río Chico and 1 to 7 km E Río Chico, 1 m, (3). MONAGAS, Hato Mata de Bejnco, 55 km SSE Maturin, 18 m, (5). SUCRE, Manacul, 26 km ESE Caripano, 170 m, (1). T. F. AMAZONAS, 65 km SSW Pto. Ayacucho, 161 m, (1). TRUJILLO, 25 km NW Valera, 90 m, (1). YARACUY, Minas de Aroa, 20 km NW San Felicpe, 395-400 m, (3). ZULIA, El Rosario, 39 to 48 km WNW Encontrados, 37-54 m, (2). Total 25.

_Lasiurus borealis_ Muller, 1776:20.

Scattered humid lowland localities in T. F. Amazonas and western Venezuela. Netted (86 percent) and trapped (14 percent); near streams and in other moist areas (100 percent); in evergreen forest (71 percent) and forest openings such as pastures and yards (29 percent); 24-135 m; bs-T (1), bh-T (4), and bns-T (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (2). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); San Juan, rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). ZULIA, El Rosario, 57 km WNW Encontrados, 61 m, (1). CARABOBO and FALCÓN, 10 to 19 km NW Urama, 25 m, (2). Total 7.

_Lasiurus cinereus_ Palisot de Beauvois, 1796:18.

In a wide variety of habitats at scattered localities in northern Venezuela. Caught in mist nets (88 percent) and found hanging in foliage in a tree (12 percent); over or near streams and in other moist areas (88 percent), or in dry areas (12 percent); in evergreen forest (50 percent), thorn forest (25 percent), cloud forest (12.5 percent), and cropland (12.5 percent); 40-1,465 m; me-T (1), me-P (1), bh-P (2), and bh-MB (4).

Specimens collected: DTO, FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 380-398 m, (2); Los Venados, 4 km NNW Caracas, 1,400-1,465 m, (4). FALCÓN, Capatárida, 40 m, (1). LARA, La Concordia, 47 km NE El Tocuyo, 592 m, (1). Total 8.

_Lasiurus egua_ Gervais, 1856:73.

Scattered localities in northern and southern Venezuela. Caught in moist nets (53 percent) or shot in flight (47 percent); over or near streams and in other moist areas (100 percent); in yards and in savannah or pasture (68 percent) or in evergreen forest (32 percent); 1-851 m (90 percent below 500 m); bs-T (9), bh-T (8), and bh-P (2).

Specimens collected: BOLIVAR, Icabarú to 21 km NE Icabarú, 473-851 m, (3). MIRANDA, 1 km S Río Chico, 1 m, (1). T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (8). CARABOBO and YARACUY, 10 km NW Urama, 25 m, (7). Total 19.
Family MOLOSSIDAE

*Molossops abrusus* Temminck, 1826:232.

Bolivar. Caught in a mist net beside a pond in a clearing in mature evergreen forest; 150 m; bh-T (2).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (2). Total 2.


Bolivar. Netted over a pond in a clearing in evergreen forest; 150 m; bh-T (1).

Specimen collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1). Total 1.

*Molossops paranasus* Thomas, 1901c:190.

Bolivar and Yaracuy. Netted beside a pond in a clearing in evergreen forest and over a stream in a pasture; 25-150 m; bs-T (1) and bh-T (1).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1). YARACUY, 10 km NW Urama, 25 m, (1). Total 2.

*Molossops planirostris* Peters, 1865c:575.

Llanos and savannas of central Venezuela. Caught in roosts in rotting snags (98 percent) and in the attic of a house (2 percent), or mist netted (less than 1 percent); in seasonal lagoons, near streams, and in other moist places (100 percent); in swamps (94 percent), yards (5 percent), and evergreen forest (1 percent); 18-155 m; bs-T (13) and bh-T (228).

Specimens collected: APURE, San Fernando de Apure, 25 m, (4). BOLIVAR, Hato La Florida, 47 km ESE Caicara, 50 m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 18 m, (8). T. F. AMAZONAS, San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (228). Total 241.

*Molossops* sp. ?

Specimen collected: DTO. FEDERAL, Caracas, 857 m, (1). Total 1.

*Neoplatynops mottagrossensis* Vieira, 1942:430.

Central Venezuela. Hand caught from roosts in narrow crevices under rocks (67 percent) or mist netted (28 percent) or shot (5 percent) near such roosts; usually near streams and in other moist areas (83 percent), but sometimes in hot, dry sites (17 percent); in evergreen forest (78 percent) and in prairie (22 percent); 76-195 m; bs-T (16) and bh-P (2).

Specimens collected: APURE, Hato Cariben, Rio Cinaruco, 32 km NE Pto. Páez, 76 m, (3). BOLIVAR, Los Patos, 28 km SE El Manteeco, 150 m, (2). T. F. AMAZONAS, 20 to 33 km S Pto. Ayacucho, 135-195 m, (13). Total 18.

*Tadarida brasiliensis* Geoffroy, 1824:343.

Andes. Caught at roosts in houses (63 percent), or mist netted (37 percent); near streams (100 percent); in orchards (63 percent) and yards (37 percent); 2,107 m; bh-MB (8).

Specimens collected: MERIDA, 4 km E Taba, 2,107 m, (8). Total 8.

*Tadarida gracilis* Wagner, 1843a:368.

At low elevations in Yaracuy and southern Venezuela. Found roosting in rocks (97 percent) and houses (1 percent) or mist netted (2 percent); over or near streams (58 percent) and in other moist sites (19 percent), or in dry areas (23 percent); in savanna and pasture (52 percent), evergreen forest (47 percent), and in orchards and yards (1 percent); 25-350 m; bs-T (81), bh-T (67), bh-MB (69), and bh-P (3).

Specimens collected: APURE, 1 km W Pto. Páez, 76 m, (50); Rio Cinaruco, 38 km NW Pto. Páez, 76 m, (28). BOLIVAR, Rio Supamo, 50 km SE El Manteeco, 150-350 m, (3). T. F. AMAZONAS, Belén, Rio Cunecumuma, 56 km NNW Esmeralda, 150 m, (69); Boea Mavaca, 84 km SSE Esmeralda, 138 m, (67). YARACUY, 10 km NW Urama, 25 m, (3). Total 220.

*Tadarida laticaudata* E. Geoffroy, 1805:156.

Bolivar. Mist netted beside a pond in evergreen forest; 150 m; bh-T (2).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (2). Total 2.


Bolivar and T. F. AMAZONAS. Netted over a pond in a large clearing in evergreen forest and taken from a roost in a hole in a dead snag standing in a large lagoon; 150-155 m; bh-T (2).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1). T. F. AMAZONAS, San Juan, Rio Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 2.

*Eumops anripendulus* Shaw, 1800:137.

Llanos and Peninsula de Falcón. Netted over and adjacent to streams in a pasture and in a savanna; 25-100 m, bs-T (5).

Specimens collected: APURE, San Rafael de Atamaica, 42 km SSE San Fernando de Apure, 100 m, (1). YARACUY, 10 km NW Urama, 25 m, (4). Total 5.

*Eumops dabbenei* Thomas, 1914:480.

Peninsula de Falcón. Netted over a stream in a pasture; 25 m; bs-T (1).

Specimen collected: YARACUY, 10 km NW Urama, 25 m, (1). Total 1.
Eumops glaucinus Wagner, 1843a:368.

T. F. Amazonas and base of Peninsula de Falcón. Taken from roosts in trees (83 percent) and houses (7 percent) and netted (10 percent); over or near streams, swamps, and lagoons (89 percent), or in dry areas (11 percent); in swamp forest (51 percent), evergreen forest (32 percent), and in yards (17 percent): 155-598 m (93 percent below 500 m); bh-T (68), bs-P (6), and bh-P (7).

Specimens collected: CARABOBO, Montalbán, 598 m, (6). T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (68). YARACUY, Minas de Aroa, 20 km NW San Felipe, 395-400 m, (7). Total 81.

Eumops nanus Miller, 1900c:471.

Arid borders of Golfo de Venezuela. Netted over a small pond in thorn forest (47 percent) and taken from a roost in a tree hole in thorn forest (53 percent); 15-40 m; me-T (17).

Specimens collected: FALCON, Capatárida, 40 m, (9). GUAIJIRA, nr. Cojoro, 37 km NNE Paraguapiopa, 15 m, (8). Total 17.

Eumops sp. 2


Molossus ater E. Geoffroy, 1805:279 [=379].

North-central, northeastern, and southern Venezuela. Caught in nets (60 percent) or at roosts in hollow trees (38 percent), houses (2 percent), and in hollow logs and in rocks (less than 1 percent); usually near streams and in other moist places (65 percent), but often in dry sites (32 percent); in open places such as yards, pastures, and orchards (45 percent), swamps (32 percent), evergreen forest (22 percent), and thorn and cloud forest (1 percent); 1-1,180 m (85 percent below 500 m); bms-T (46), bs-T (177), bh-T (114), bnh-T (12), bs-P (2), and bh-P (59).

Specimens collected: APURE, Hato Cariben, Río Cinarco, 46 km NE Pto. Páez, 76 m, (30); Pto. Páez, 76 m, (25). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (10). CARABOBO, Montalbán, 155-598 m, (3). DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 398 m, (1). MIRANDA, Birongo, 60 m, (1). MONAGAS, San Agustín, 3 to 5 km NW Caripe, 1,160-1,180 m, (57). SUCRE, 14 to 21 km E Cumaná, 1-15 m, (46); Ensenada Cauranta, 9 km NE Guiria, 1 m, (2); San Fernando, 16 km SE Cumaná, 300 m, (118). T. F. AMAZONAS, Acauca, Río Cuumiunuma, 48 km NW Esmeralda, 145 m, (10); Belén, Río Cuumiunuma, 56 km NNW Esmeralda, 150 m, (2); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); 20 to 65 km S and SSW Pto. Ayacucho, 135-161 m, (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (102). Total 410.

Molossus aztecus Saussure, 1850:285.

Lowlands of central and southern Venezuela. Found roosting in tree holes and rotting tree trunks (89 percent) and in houses (5 percent), or caught in nets (3 percent); usually over or near lagoons and other moist areas (99 percent), but rarely in dry sites (1 percent); in swamps (52 percent), evergreen forest (38 percent), and yards and pastures (10 percent); 25-155 m; bs-T (16) and bh-T (137).

Specimens collected: APURE, San Fernando de Apure, 25 m, (9). BOLIVAR, Hato La Florida, 47 km ESE Caicara, 50 m, (3). GUARICO, Est. Biol. de los Llanos, 9 km SE Calabozo, 100 m, (2). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 36 m, (2). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (10); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (127). Total 153.

Molossus bonai J. A. Allen, 1904:228.

Northwestern Venezuela. Netted beside a stream in a pasture (90 percent) and found roosting in the thatched roof of a house in a dry upland area (10 percent); 25-578 m; bs-T (19) and bs-P (2).

Specimens collected: CARABOBO, Montalbán, 598 m, (2). CARABOBO and YARACUY, 10 km NW Urama, 25 m, (19). Total 21.

Molossus molossus Pallas, 1766:49.

At lower elevations throughout Venezuela, except in the basin of Lago de Maracaibo. Caught in mist nets (51 percent), hand caught from roosts in houses (16 percent), trees (1 percent), and rocks (less than 1 percent), and purchased (probably mostly from roosts in houses, 32 percent); usually near streams and in other moist areas (76 percent), but frequently in dry sites (24 percent); in openings such as yards, pastures, and croplands (61 percent), in evergreen (33 percent), cloud (3 percent), and thorn forest (2 percent), and in swamps (1 percent); 1-915 m; bms-T (52), bs-T (217), bh-T (23), bnh-T (4), bs-P (1), bh-P (52), and bh-P (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1); 1 km W Pto. Páez, 76 m, (1); San Rafael de Atamaiaca, 42 km SSE San Fernando de Apure, 100 m, (3). BARINAS, Altamira, 620-
Mammals

41

Order PRIMATES

Family CEBIDAE

Aotus trivirgatus Humboldt, 1812:306.

T. F. Amazonas and basin of Lago de Mara- 
caibo. In trees (100 percent); usually in ever-
green forest (96 percent) but occasionally in 
deciduous forest (4 percent); in moist (56 
percent) or dry areas (44 percent); 37.1,200 m 
(99 percent below 500 m); bs-T (2), bh-T (63), 
bnm-E-T (4), and bnm-P (11).

Specimens collected: TACHIRA, Las Mesas, 
17 km NE San Juan de Colón, 460 m, (10). T. 
F. AMAZONAS, Belén, Río Cunucunuma, 56 
km NNW Esmeralda, 150 m, (4); Boca Mavaca, 
54 km SSE Esmeralda, 138 m, (4); 14 km 
SSE Pto. Ayacucho, 135 m, (1). Río Mavaca, 
108 km SSE Esmeralda, 140 m, (1); San Juan, 
Río Manapiare, 163 km ESE Pto. Ayacucho, 155 
m, (19). TRUJILLO, 25 km NW Valera, 90 m, (2).
ZULIA, Boca del Río de Oro, 60 km WNW En-
contrados, 73 m, (1); El Rosario, 45 to 65 km 
WNNW Encontrados, 37-95 m, (37); Novito, 19 
km WSW Machiques, 1,200 m, (1). Total 80.

Callicebus torquatus Hoffmannsegg, 1807:86.

Southern T. F. Amazonas. In trees (100 
percent); near streams and other moist areas (100 
percent); in evergreen forest (100 percent); 130-
150 m; bh-T (27) and bnm-T (4).

Specimens collected: T. F. AMAZONAS, 
Belén, Río Cunucunuma, 56 km NNW Esme-
ralda, 150 m, (4); Boca Mavaca, 54 km SSE Esme-
ralda, 138 m, (4); 14 km SSE Pto. Ayacucho, 135 m, (1). Río Mavaca, 
108 km SSE Esmeralda, 140 m, (1); San Juan, 
Río Manapiare, 163 km ESE Pto. Ayacucho, 155 
m, (19). TRUJILLO, 25 km NW Valera, 90 m, (2).
ZULIA, Boca del Río de Oro, 60 km WNW En-
contrados, 73 m, (1); El Rosario, 45 to 65 km 
WNNW Encontrados, 37-95 m, (37); Novito, 19 
km WSW Machiques, 1,200 m, (1). Total 80.

Cacajao melanocephalus Humboldt, 1812:316.

Southern T. F. Amazonas. In trees (100 
percent); near streams (100 percent); in evergreen 
forest (100 percent); 130-140 m; bh-T (15).

Specimens collected: T. F. AMAZONAS, 
Capibara, Brazo Casiquiare, 106 km SW Esme-
ralda, 130 m, (6); 7 km SE Esmeralda, 135 m, (2); 
Río Mavaca, 108 km SSE Esmeralda, 140 m, (1); 
Tamatama, Río Oriñoco, 135 m, (7). Total 51.

Pithecia pithecia Linnaeus, 1766:40.

Southern Venezuela. Found in trees (100 
percent); in moist evergreen forest (93 percent) 
or in dry deciduous forest (7 percent); 150-350 
m; bh-T (23), bnm-T (2), and bh-P (3).

Specimens collected: BOLIVAR, El Manaco, 
59 km SE El Dorado, 150 m, (23); Los Patos, 
25 km SE El Manteco, 350 m, (2); Río Supamo, 
50 km SE El Manteco, 150 m, (1). T. F. AMA-
ZONAS, Belén, Río Cunucunuma, 56 km NNW 
Esmeralda, 150 m, (2). Total 28.

794 m, (2). BOLIVAR, El Manaco, 59 km SE 
El Dorado, 150 m, (12); Hato La Florida, 47 
km ESE Caicara, 50 m, (7); Hato San José, 20 
km W La Paragua, 300 m, (1); Icbarú, 473 m, 
(91). DTO, FEDERAL, Caracas, 915 m, (1). 
Hda. Carapiche, nr. El Limón, 48 km W Caras,
380-395 m, (13). FALCON, Península de 
Paraguana, 9 to 15 km SSW Pueblo Nuevo, 55- 
120 m, (37); Ricetio, 30 km S Mirimirc, 300 m, 
(58). LARA, Caserio Boro, 10 km N El Tocuyo, 
537 m, (14). MIRANDA, 7 km E and S Río Chico, 
m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (3). SUCRE, 
14 km E Cumaná, 1 m, (1). T. F. AMAZONAS, 
Belén, Río Cunucunuma, 56 km NNW Esme-
ralda, 150 m, (3); San Juan, Río Manapiare, 163 
km ESE Pto. Ayacucho, 155 m, (1); Tamatama, 
Río Oriñoco, 135 m, (10). YARACUY, Minas 
de Arón, 20 km NW San Felipe, 400 m, (25).
CARABOBO and YARACUY, 10 to 11 km NW 
Urama, 25 m, (22). Total 337.

Molossus sinaloae J. A. Allen, 1906:236.

Northern Venezuela. Found roosting in 
houses (50 percent) and caught over streams 
in mist nets (50 percent); in evergreen forest 
(17 percent), forest openings (50 percent), and 
pasture (33 percent); 1-1,160 m; bs-T (5) and 
bnm-P (1).

Specimens collected: MIRANDA, 1 km S Río 
Chico, 1 m, (3). MONAGAS, San Agustín, 5 
km NW Caribe, 1,160 m, (1). YARACUY, 10 
km NW Urama, 25 m, (2). Total 6.

Molossus sp. ?

Specimens collected: APURE, Hato Cariben, 
Río Cinarruco, 46 km NE Pto. Páez, 76 m, (3). 
DTO, FEDERAL, Hda. Carapiche, nr. El 
Limón, 48 km W Caracas, 380-395 m, (8). T. F. 
AMAZONAS, San Juan, Río Manapiare, 163 km 
ESE Pto. Ayacucho, 155 m, (37). Total 48.

Promops centralis Thomas, 1915a:62.

Bolivar. Caught in a mist net over a stream 
in evergreen forest; 50 m; bs-T (1).

Specimen collected: BOLIVAR, Hato La 
Florida, 47 km ESE Caicara, 50 m, (1). Total 1.

Promops nasutus Spix, 1823:60.

Bolivar and T. F. Amazonas. Roosting in a 
rotting tree in a swamp (75 percent) and netted 
at the edge of a clearing in evergreen forest (25 
percent); 155-1,032 m; bh-T (3) and bnm-P (1).

Specimens collected: BOLIVAR, Km 125, 
55 km SSE El Dorado, 1,032 m, (1). T. F. 
AMAZONAS, San Juan, Río Manapiare, 163 km 
ESE Pto. Ayacucho, 155 m, (3). Total 4.

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Chiropotes satanas Hoffmannsegg, 1807:93.

Lowlands of T. F. Amazonas. In trees (100 percent); near streams (100 percent); in evergreen (50 percent) or deciduous forest (20 percent); 135-161 m; bh-T (51) and bmh-T (13).

Specimens collected: T. F. AMAZONAS. Belén, Río Cumucumuma, 56 km NWW Esmeralda, 150 m, (13); Boca de Río Cumucumuma, 49 km W Esmeralda, 135 m, (2); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (20); 20 km SE Esmeralda, Río Orinoco, 135 m, (2); 70 km SSW Pto. Ayacucho, 161 m, (1); Río Mavaca, 105 km SSE Esmeralda, 140 m, (5); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (19); Tamatama, Río Orinoco, 135 m, (2). Total 64.

Alouatta seniculus Linnaeus, 1766:37.

Forest lowlands of Venezuela. Usually near streams or other moist areas (69 percent) but frequently in dry places (31 percent); in the canopy of evergreen (50 percent) or deciduous forest (5 percent) or in scattered trees in savanna and orchards (15 percent): 18-500 m (95 percent below 500 m); bs-T (56), bh-T (54), bmh-T (12), bh-P (10), and bmh-P (1).

Specimens collected: APURE, Hato Cariben, Río Cinaruco, 46 km NE Pto. Páez, 76 m, (5); Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (9); Río Cinaruco, 35 km NNW Pto. Páez, 76 m, (1); Río Cinaruco, 48 km NW Pto. Páez, 76 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (6); Hato La Florida, 35 km SE Caicara, 50 m, (2); Río San José, 20 km W La Paragua, 324 m, (5); 21 to 46 km NE Icabari, 658-500 m, (5). FALCON, nr. La Pastora, II km ENE Mirimire, 250 m, (3); Río Sucopito, 80 km NW Carora, 470 m, (3); 19 km NW Urama, 25 m, (2). GUARICO, Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 18 m, (5). T. F. AMAZONAS, Belén, Río Cumucumuma, 56 km NNW Esmeralda, 150 m, (3); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (21); Tamatama, Río Orinoco, 135 m, (4). TRUJILLO, La Ceiba, 52 km WNW Valera, 29 m, (8); 25 km NW Valera, 90 m, (1). ZULIA, Boca del Río de Oro, 60 km WNW Encontrados, 73 m, (6); nr. Cerro Azul, 33 to 39 km NW La Paz, 75-50 m, (2); El Rosario, 45 to 51 km WNW Encontrados, 37-50 m, (9). Total 103.

Cebus albifrons Humboldt, 1812:324.

Lowlands and foothills SW and S of Lago de Maracaibo, head of Río Apure, and southern T. F. Amazonas. In forest canopy (100 percent); usually in dry upland areas (81 percent) but occasionally near streams (19 percent); in evergreen forest (100 percent); 24-160 m; bh-T (29), bmh-T (11), and bmh-P (8).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (11). TÁCHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (8). T. F. AMAZONAS, Río Mavaca, 108 km SSE Esmeralda, 140 m, (5); Tamatama, Río Orinoco, 135 m, (1). ZULIA, Boca del Río de Oro, 60 km WNW Encontrados, 75 m, (6); El Rosario, 45 to 51 km WNW Encontrados, 37-50 m, (17). Total 48.

Cebus apella Linnaeus, 1758:28.

Isla Margarita and southern T. F. Amazonas. In trees (100 percent); near streams in evergreen forest (75 percent) and in dry mountain-side orchard (25 percent); 130-410 m; bh-T (8), bs-P (3), and bh-P (1).

Specimens collected: NUEVA ESPARTA, Isla Margarita, 3 km NE La Asunció, 305-410 m, (4). T. F. AMAZONAS, Capíbara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (2); Tamatama, Río Orinoco, 135 m, (6). Total 12.

Cebus nigrivittatus Wagner, 1848:430.

Widespread in T. F. Amazonas north and east of the Río Orinoco and in Bolivar; locally distributed in northern Venezuela. Found in trees (96 percent) and among rocks on cliff (4 percent); near streams and in other moist areas (78 percent) as well as in dry upland sites (22 percent); in evergreen (93 percent), cloud (1 percent), and deciduous forest (1 percent) and in savanna gallery forest (5 percent); 18-1,537 m (89 percent below 500 m); bs-T (19), bh-T (55), bmh-T (8), bh-P (18), bmh-P (3), bp-P (3), and bp-MB (3).

Specimens collected: APURE, Hato Cariben, Río Cinaruco, 46 km NE Pto. Páez, 76 m, (1). BOLIVAR, El Manaco, 56 to 59 km SE El Dorado, 150 m, (25); Hato La Florida, 45 km ESE Caicara, 58 m, (5); Hato San José, 20 to 32 km W and NW La Paragua, 300-324 m, (9); 19 to 46 km NE Icabari, 658-500 m, (5); Los Patos, 25 km SE El Manteco, 350 m, (5); Río Supano, 50 km SE El Manteco, 350 m, (10). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (1). FALCÓN, Riceito, 30 km S Mirimire, 300 m, (4); 10 km NW Urama, 25 m, (13). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 18 m, (4). T. F. AMAZONAS, Belén, Río Cumucumuma, 56 km NNW Esmeralda, 150 m, (8); Cabecera del Caño Culebrí, Cerro Duida, 40 km NNW Esmeralda, 1,400 m, (3);
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Caño Cuba, Cerro Duida, 50 km NNW Esmeralda, 825 m, (3); Esmeralda, Río Orinoco, 135 m, (2); 32 km S Pto. Ayacucho, 135 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (10). Total 109.

Cebus sp. ?

Specimens collected: T. F. AMAZONAS, Caño Cariche, Río Orinoco, 92 km W Esmeralda, 40 m, (1); Esmeralda, Río Orinoco, 135 m, (5). Total 6.

Saimiri sciureus Linnaeus, 1758:29.

Lowlands of T. F. Amazonas, In trees (100 percent); near streams (89 percent) and in other moist areas (11 percent); in evergreen forest (100 percent); 130-155 m; bs-T (50) and bmh-T (7).

Specimens collected: T. F. AMAZONAS, Belén, Río Cumucunuma, 56 km NNW Esmeralda, 150 m, (7); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (4); Río Mavaca, 108 km SSE Esmeralda, 140 m, (9); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (24); Tamatama, Río Orinoco, 135 m, (12). Total 57.

Ateles belzebulth E. Geoffroy, 1806a:272.

T. F. Amazonas, upper Apure, and Maracaibo lowlands. In trees (100 percent); in dry uplands (52 percent) or near streams and other moist areas (48 percent); in evergreen (78 percent) or deciduous forest (22 percent); 24-155 m; bs-T (2), bh-T (75), and bmh-T (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (18); Río Mavaca, 108 km SSE Esmeralda, 140 m, (14); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (11); Tamatama, Río Orinoco, 135 m, (1). TRUJILLO, La Ceiba, 48 km WNW Valera, 28 m, (2); ZULIA, Boca del Río de Oro, 60 km WNW Encontrados, 73 m, (17); El Rosario, 45 to 51 km WNW Encontrados, 37-54 m, (10). Total 78.

Order EDENTATA

Family MYRMECOPHAGIDAE

Myrmecophaga tridactyla Linnaeus, 1758:35.

Lowlands of southern Venezuela. On the ground (100 percent); in dry savanna (57 percent) and in moist evergreen forest (43 percent); 65-310 m; bs-T (6), bh-T (1), and bmh-T (3).

Specimens collected: APURE, Hato Cariben, Río Cinaruco, 46 km NE Pto. Páez, 76 m, (1); BOLIVAR, Hato La Florida, 52 km ESE Caicara, 65 m, (1); Hato San José, 20 km W La Paragua, 300-310 m, (3); Río Cuchivero, nr. Caicara, 200 m, (1); T. F. AMAZONAS, Belén, Río Cumucunuma, 56 km NNW Esmeralda, 150 m, (3); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 10.

Tamandua mexicana Saussure, 1860:9.

Lowlands south and west of Lago de Maracaibo. Found in trees (87 percent) or on the ground (13 percent); in dry habitats (65 percent) or near streams and other moist areas (35 percent); in evergreen forest (100 percent); 37-460 m; bh-T (16) and bmh-P (2).

Specimens collected: TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (2); ZULIA, El Rosario, 39 to 51 km WNW Encontrados 37-61 m, (16). Total 18.

Remarks: Reasons for separating Tamandua mexicana Saussure from Tamandua tetractyla Linnaeus are in Wetzel (1975).

Tamandua tetractyla Linnaeus, 1758:35.

Throughout the lowlands and foothills of Venezuela east of Lago de Maracaibo. Found in trees (64 percent), on the ground (24 percent), and dead on roads (12 percent); most often in dry areas (64 percent) but also near streams (23 percent) and in other moist areas (13 percent); in thorn (44 percent), evergreen (30 percent), and deciduous forest (5 percent), or in savannas and croplands (21 percent); 18-1,537 m (83 percent below 500 m); me-T (14), bs-T (14), bs-P (18), bh-T (9), bmh-T (3), bs-P (1), bh-P (4), and bmh-P (1).

Specimens collected: ANZOATEGUIL, 20 km E Pto. Piriri, 27 m, (1); APURE, Hato Cariben, Río Cinaruco, 46 km NE Pto. Páez, 76 m, (2); Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1); BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Hato La Florida, 45 km SE Caicara, 65 m, (1); Hato San José, 20 km W La Paragua, 297-324 m, (4); Icabari, 473 m, (1); Los Patos, 25 km SE El Mantepe, 350 m, (1); 25 km S Upata, 300 m, (1); 5 km SSW Upata, 300 m, (1); CARABOBO, La Copa, 4 km NW Montalbán, 1,337 m, (1); 2 to 9 km SE and NE Montalbán, 598-752 m, (2); 15 km SW Pto. Cabello, 50 m, (1); FALCON, Capatárida to 31 km WSW and SSE Capatárida, 40-100 m, (19); 15 to 18 km NE and ENE Mirimire, 75 m, (2); Riecoito, 30 km S Mirimire, 300 m, (1); GUÁRICO, La Encrucijada, 18 km S El Sombrero, 200 m, (1); LARA, Caserio Boro, 10 km N El Tocuyo, 537 m, (7).
km NW Altagracia, 630 m, (1). MONAGAS, Hato Mata de Hejueo, 55 km SSE Maturin, 18 m, (5). T. F. AMAZONAS, Belén, Río Cunucumuma, 56 km NNW Esmeralda, 150 m, (1); Boca de Río Cunucumuma, 19 km W Esmeralda, 135 m, (2); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Capilibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); 26 km S Pto. Ayacucho, 119 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (3). Total 64.

*Cylopes didactylus* Linnaeus, 1758:35.

T. F. AMAZONAS. In trees (100 percent); near streams (100 percent); in evergreen forest (100 percent); 138-145 m; bh-T (2) and bh-P (1).

Specimens collected: T. F. AMAZONAS. Acanária, Río Cunucumuma, 45 km NW Esmeralda, 145 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (2). Total 3.

**Family BRADYPODIDAE**

*Bradypus tridactylus* Linnaeus, 1758:34.

Bolivar. In trees (100 percent); in moist (67 percent) or dry sites (33 percent); in evergreen (67 percent) or deciduous forest (33 percent); 150-350 m; bh-T (2) and bh-P (4).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (2); Los Patos, 25 km SE El Manteco, 350 m, (2); Río Supamó, 50 km SE El Ayacucho, 150 m, (2). Total 6.

*Bradypus variegatus* Schinz, 1825:510.

Northern and western Venezuela and T. F. AMAZONAS. In trees (100 percent); in dry sites (63 percent) or near streams (37 percent); in evergreen forest (50 percent) or in scattered trees in pasture (20 percent); 24-1,144 m; bs-T (1), bh-T (4), and bh-P (3).

Specimens collected: MIRANDA, San Andrés, 16 km SSE Caracas, 1,144 m, (3). T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1); Tamatama, Río Orinoco, 135 m, (1). ZULIA, El Rosario, 42 to 51 km WNW Encontrados, 24-37 m, (2). CARA-BOBO and YARACUY, 10 km NW Urama, 25 m, (1). Total 8.

Remarks: For use of the name *Bradypus variegatus* Schinz, in place of the more familiar *Bradypus infuscatus* Wagler (1831:611), see Wetzel and Kock (1973:25).

*Choloepus didactylus* Linnaeus, 1758:35.

Southern Venezuela. In trees (100 percent); in moist (50 percent) or dry situations (50 percent); in evergreen (50 percent) or deciduous forest (50 percent); 150-350 m; bh-T (3) and bh-P (1).

Specimens collected: BOLIVAR, Los Patos, 25 km SE El Manteco, 350 m, (1). T. F. AMAZONAS, Belén, Río Cunucumuma, 56 km NNW Esmeralda, 150 m, (3). Total 4.

*Choloepus hoffmanni* Peters, 1858:128.

Lowlands and foothills west and south of Lago de Maracaibo. In trees (100 percent); in moist (75 percent) or dry situations (25 percent); in evergreen forest (75 percent) or orchard (25 percent); 24-460 m; bs-T (2), bh-T (2), and bh-P (4).

Specimens collected: TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (4). ZULIA, nr. Cerro Azul, 33 km NW La Paz, 75 m, (2); El Rosario, 42 to 60 km WNW Encontrados, 24-73 m, (2). Total 8.

**Family DASYPODIDAE**

*Priodontes maximus* Kerr, 1792:112.

Central and southern Venezuela. On the ground (100 percent); in a dry area and near a stream; in evergreen forest and in cropland; 24-155 m; bh-T (1) and bh-P (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 2.


Bolivar and T. F. AMAZONAS. On the ground (100 percent); in moist areas (100 percent); in evergreen forest (100 percent); 150-658 m; bh-T (1), bh-P (2) and bh-P (4).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); 19 km NE Icabarú, 658 m, (1); Río Supamó, 50 km SE El Manteco, 350 m, (1). T. F. AMAZONAS, Belén, Río Cunucumuma, 56 km NNW Esmeralda, 150 m, (2). Total 5.

*Dasyus novemcinctus* Linnaeus, 1758:51.

At lower elevations throughout Venezuela, except in the driest areas. On the ground (100 percent); in moist (72 percent) or dry areas (28 percent); in savanna, pasture, croplands, and orchards (44 percent), in evergreen (44 percent) and cloud forest (4 percent), and in deciduous and thorn forest (8 percent); 18-1,537 m; bs-T (4), bh-T (18), bh-T (14), bh-P (5), bs-P (2), bh-P (7), and bh-P (4).

Specimens collected: ANZOATEGUI, 14 km W Clarines, 100 m, (2). APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo,
24 m; (2). BOLIVAR, Hato La Florida, 52 km ESE Caicaara, 65 m; (1): Hato San Jose, 20 km W La Paragua, 324 m; (1). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m; (2); La Trinidad, 9 km NW Montalbán, 900 m; (3); Montalbán, 598 m; (2). FALCÓN, nr. Mirimire, 250 m; (1). LARA, Caserio Boro, 10 km N El Tocuyo, 537 m; (2). MIRANDA, Carupao, 5 km NNW Guarenas, 1,160 m; (1); Táchira, 35 km SW Caracas, 366 m; (1). MONAGAS, Hato Mata de Bejuego, 55 km SSE Maturín, 18 m; (14). SUCRE, Ensenada Cuaranta, 12 km NE Guía, 90 m; (2). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m; (2). T. F. AMAZONAS, Belén, Río Cumumumana, 56 km NNW Esmeralda, 150 m; (3); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m; (1); 32 km S Pto. Ayacucho, 135 m; (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m; (6). TRUJILLO, La Ceiba, 48 km WNW Valera, 28 m; (1); 30 km NW Valera, 90 m; (1). ZULIA, El Rosario, 45 to 51 km WNW Encuentros, 37 m; (3); Kasmira, 21 km SW Machiques, 270 m; (1); Río Negro, 8 km W Machiques, 250 m; (1). Total 54.

Dasypus sabanicola Mondolfi, 1968:151.

Llanos of Apure. Taken on the ground in dry prairie; 76 m; bs-T (2).

Specimens collected: APURE, 1 km W Pto. Páez, 76 m; (2). Total 2.

Order LAGOMORPHA
Family LEPORIDAE

Sylvilagus brasiliensis Linnaeus, 1758:58.

Scattered localities in central and northern Venezuela. On the ground (100 percent): usually near streams and in other moist areas (50 percent) or occasionally in dry areas (20 percent); in evergreen forest (75 percent) and in yards or pastures (25 percent); 24-1,524 m; bs-T (2), bms-T (2), and bh-MB (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m; (2). BOLIVAR, Hato San José, 20 km W La Paragua, 300 m; (2). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,624 m; (1). Total 5.

Sylvilagus floridanus J. A. Allen, 1890:160.

Lowlands north of the Río Orinoco. On the ground (100 percent): in dry upland sites (97 percent) or rarely in moist places (3 percent); in thorn forest (76 percent), savannas and pastures (20 percent), and orchards and deciduous forest (4 percent); 10-598 m; me-T (22), bms-T (59), bs-T (30), and bs-P (1).

Specimens collected: ANZOATEGUI, 14 km W Clarines, 100 m; (35). APURE, Hato Cariben, Río Cinacuro, 32 to 46 km NE Pto. Páez, 76 m; (11); Pto. Páez to 38 km NNW Pto. Páez, 76 m; (1); Río Cinacuro, 65 km NW Pto. Páez, 76 m; (1). CARABOBO, Montalbán, 598 m; (1). FALCÓN, Capatárida to 18 km SSW and WSW Capatárida, 30-75 m; (23); Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo, 45-55 m; (34). GUARICO, Hda. Los Mamones, 16 km NW Barbacoas, 225 m; (3). LARA, Caserio Boro, 10 km N El Tocuyo, 537 m; (10). MONAGAS, Hato Mata de Bejuego, 55 km SSE Maturín, 18 m; (14). NUEVA ESPARTA, Isla Margarita, 3 km NNE. La Asunción, 38-60 m; (7); 36 km W Porlamar, 10 m; (1). ZULIA, nr. Cojoro, 34 km NNNE Paraguaná, 10 m; (1). Total 142.

Order RODENTIA

Suborder SCIUROMORPHA
Family SCIURIDAE

Sciurus aestuans Linnaeus, 1766:88.

Bolívar and mountains of T. F. Amazonas. Found in trees (100 percent); near streams and in other moist areas (100 percent); in evergreen forest (100 percent): 150-1,400 m; bh-T (2), bh-P (2), and bp-MB (2).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m; (2); 28 km NE Icabarú, 775 m; (2). T. F. AMAZONAS, Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400 m; (2). Total 6.

Sciurus gilvus Wagner, 1843b:43.

Lowlands of T. F. Amazonas. Found in trees (100 percent); near streams and other moist areas (100 percent); in evergreen forest (100 percent): 135-155 m; bh-T (10).

Specimens collected: T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m; (5); 32 km S Pto. Ayacucho, 135 m; (2); Río Mavaca, 108 km SSE Esmeralda, 140 m; (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m; (2). Total 10.

Sciurus granatensis Humboldt, 1805:8 and 13.

Forest areas of northern and western Venezuela. Collected in trees (99 percent) or rarely on the ground (1 percent); near streams and other moist areas (73 percent) or in dry habitats (27 percent); in evergreen forest (62 percent), cloud (7 percent), deciduous (1 percent), and thorn forest (1 percent), and in forest openings such as yards (15 percent), orchards (10 percent), and croplands and pastures (4 per-
percent); 1-2,400 m (93 percent below 1,500 m); bms-T (1), bs-T (9), bh-T (23), bnh-T (9), bs-P (22), bh-P (31), bnh-P (71), bh-MB (1), bnh-MB (10), and p-SA (1).

Specimens collected: ANZOATEGUI, 14 km W Clarines, 100 m, (1). APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (9). BARINAS, Altamira to 1 km E Altamira, 600-794 m, (44). CARABOBO, La Copa, 4 km NW Montalbán, 1,500-1,513 m, (3). Montalbán to 9 km NW, NNW, and SE Montalbán, 598-1,000 m, (24). DTO, FEDERAL, Alto No León, 33 km WSW Caracas, 1,740 m, (1). Los Venados, 4 km NNW Caracas, 1,465 m, (1). FALCON, Cerro Socopo, 84 km NW Carora, 1,260 m, (1); 14 km ENE Mirimire, 150 m, (1); Riecito, 30 km S Mirimire, 300 m, (1); 19 km NW Urampa, 25 m, (1). GUARICO, Hda. Elvisa, 10 km NE Altagracia, 630 m, (1). Hda. Los Mamones, 16 km NW Barbaocas, 225 m, (1); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (1). MÉRIDA, La Carbonera, 12 km SE La Azulita, 2,170-2,180 m, (4); Paramito, 3 km W Timotes, 2,290 m, (1). MIRANDA, Curupao, 5 km NNW Guarenas, 1,140-1,160 m, (5); 6 km SSE Río Chico, 1 m, (1); San Andrés, 16 km SSE Caracas, 1,144 m, (2). MONAGAS, nr. San Agustín, 2 to 5 km NW Caribe, 1,120-1,180 m, (18). NUEVA ESPARTA, Isla Margarita, 3 km NE La Asunción, 350 m, (1). SUCRE, Manacal, 26 km ESE Caripano, 200-575 m, (4). Táchira, Buena Vista, nr. Parámo de Tama, 41 km SW San Cristóbal, 2,350-2,400 m, (4); Las Mesas, 17 km NE San Juan de Colón, 300-460 m, (22). Zulia, Boca del Río de Oro, 60 km WNW Encontrados, 75 m, (3); nr. Cerro Azul, 33 km La Paz, 75 m, (2); El Rosario, 45 to 51 km WNW Encontrados, 37-50 m, (19); Novito, 19 km WSW Machiques, 1,135-1,165 m, (2). Total 178.

Sciurus ignicentris Wagner, 1842:360.

Lowland forests of southern Venezuela. Found in trees (100 percent); near streams and other moist areas (100 percent); in evergreen forest (100 percent); 130-658 m; bh-T (22), bnh-T (7), and bh-P (3).

Specimens collected: BOLIVAR, 19 km NE Icaraí, 658 m, (3). T. F. AMAZONAS, Acaína, Río Cunucumuna, 48 km NW Esmeralda, 145 m, (2); Belén, Río Cunucumuna, 56 km NNW Esmeralda, 150 m, (5); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (9). Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); Pto. Ayacucho to 70 km SSW Pto. Ayacucho, 135 m, (1); Río Mavaca, 108 km SSE Esmeralda, 140 m, (4); San Juan. Rio Mana-
Ana, Península de Paraguaná, 15 km SSW Pueblo Nuevo, 550-615 m, (5); nr. Moruy, Península de Paraguaná, 15 km SSW Pueblo Nuevo, 90 m, (1). Total 6.

Remarks: A single juvenile specimen from Guárico, Hato Los Leones, Caño Agua Fria, 23 km NE Calabocho, 59 m, has tiny feet and the dusky color of forearm and flanks discontinuous, as in *Heteromys* sp. A, and it is tentatively assigned to that species. This is the only specimen of *Heteromys* that we have from the Llanos. If it is correctly associated with *Heteromys* sp. A, it indicates for that species a discontinuous geographic distribution similar to that of *Calomys hummelincki*. For notes on the systematics and nomenclature of *Heteromys* sp. A, see Handley (in press).

Suborder MYOMORPHA
Family MURIDAE
Subfamily CRICETINAE

*Oryzomys albigularis* Tomes, 1860h:264.

Andes and Sierra de la Costa. Caught on the ground, often at the base of trees, logs, and rocks (95 percent), or rarely on logs (2 percent); in moist areas (97 percent) or rarely in dry areas (3 percent); in cloud forest (63 percent), evergreen forest (27 percent), yards and croplands (8 percent), and deciduous forest (2 percent); 1,050-3,080 m (95 percent between 1,000 and 2,500 m); bs-P (7), bh-P (3), bmh-P (21), bh-MB (57), bmh-MB (121), and bp-M (3).

Specimens collected: ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,050-1,100 m, (21). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,418-1,661 m, (24). MÉRIDA, La Carbonera, 12 km SE La Azulita, 2,190 m, (1). Santa Rosa, 2 km N Mérida, 1,965-2,025 m, (23). 6 to 7 km ESE and SE Tabay, 2,550-3,080 m, (3). MIRANDA, 3 km NE Caracas, 1,110-1,175 m, (7). Curupao, 5 km NNW Guarenas, 1,160 m, (3). TACHIIRA, Buena Vista, nr. Páramo de Taná, 41 km SW San Cristóbal, 2,370-2,420 m, (17). TRUJILLO, Hda. Misísi, 14 to 15 km E Trujillo, 2,210-2,365 m, (14). DTO. FEDERAL and MIRANDA, Alto Ñe León, 31 to 36 km WSW Caracas, 1,750-2,000 m, (10). Pico Avila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,050-2,280 m, (89). Total 212.

*Oryzomys bicolor* Tomes, 1860a:217.

Scattered localities at lower elevations throughout Venezuela. Usually trapped in trees (53 percent), but often on the ground (47 percent); in moist areas (61 percent) or in dry sites (39 percent); in savanna and pasture (41 percent), evergreen forest (31 percent), deciduous and thorn forest (23 percent), cloud forest (3 percent), and yard (2 percent); 1-1,537 m (93 percent below 500 m); bsns-T (2), bs-T (26), bh-T (6), bmh-T (2), bh-P (3), and bmh-P (3).

Specimens collected: BOLIVAR, Hato Cariben, Río Cinaruco, 46 km NE Pto. Páez, 76 m, (3). BOLIVAR, 45 km NE Icabarú, 851 m, (2). Río Supano, 50 km SE El Manteaco, 350 m, (3). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (1). FALCÓN, 19 km NW Urama, 25 m, (3). GUARICO, Est. Biol. de los Llanos, 9 km SE Calabocho, 100 m, (1). MIRANDA, 1 km S Río Chico, 1 m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (12). SUCRE, 16 to 21 km E Cumaná, 1-15 m, (2). Ensenada Cauranta, 9 km NE Guiria, 4 m, (5). T. F. AMAZONAS, Acanaña, Río Cunucunuma, 48 km NW Esmeralda, 145 m, (2). San Juan, Río Manapitare, 103 km ESE Pto. Ayacucho, 155 m, (2). Tamaatama, Río Orinoco, 130 m, (1). TRUJILLO, 25 km NW Valera, 90 m, (4). Total 42.

*Oryzomys capito* Oflers, 1818:209.

Humid lowlands of northern and southern Venezuela. Found in houses (57 percent), on the ground, often near rocks or logs (38 percent), or rarely on logs (5 percent); near streams and in other moist areas (92 percent) or in dry places (8 percent); in evergreen (69 percent) and cloud forest (3 percent) or in forest openings such as yards and orchards (28 percent); 25-1,400 m (85 percent below 500 m); bs-T (2), bh-T (24), bh-P (9), bmh-P (4), and bp-M (1).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); 46 km NE Icabarú, 800 m, (1); Km 125, 85 km SSE El Dorado, 1,032 m, (1). DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 398 m, (1). FALCÓN, 19 km NW Urama, 25 m, (1). MONAGAS, nr. San Agustín, 3 km NW Caribe, 1,320 m, (1). T. F. AMAZONAS, Cabeza del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400 m, (1). Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1). TAMATAMA, Río Orinoco, 135 m, (21). YARA-CUY, Minas de Aroa, 20 km NW San Felipe, 400-405 m, (7). ZULIA, nr. Cerro Azul, 39 km NW La Paz, 80 m, (2). Novito, 19 km WSW Machiques, 1,131-1,132 m, (2). Total 40.

*Oryzomys concolor* Wagner, 1845:147.

Widespread in Venezuela at low and medium elevations and in both dry and humid regions.
Trapped in houses, trees, and on logs (53 percent) or on the ground (47 percent); near streams and in other moist places (74 percent) or in dry sites (26 percent); in evergreen forest (38 percent), yards, orchards, and croplands (25 percent), prairie and pasture (23 percent), and in thorn, deciduous, swamp, or cloud forest (14 percent); 1-2,230 m (88 percent below 1,500 m); me-T (8), bs-T (32), bh-T (28), bmh-T (3), bh-P (12), bmh-P (8), bh-MB (7), and bmh-MB (7).

Specimens collected: APURE, Hato Cariben, Río Cinaruco, 46 km NE Pto. Páez, 76 m, (3); Río Cinaruco, 65 km NW Pto. Páez, 76 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (3); Hato La Florida, 44 km ESE Caicara, 43 m, (2); Hato San José, 20 km W La Paragua, 306-324 m, (8); 45 to 46 km NE Icabarrú, 500-815 m, (4); Km 125, 70 to 85 km SSE El Dorado, 1,000-1,032 m, (3); Río Supamo, 50 km SE El Monteeco, 350 m, (1). CARABOBO, 3 km SW Montalbán, 618 m, (1). DTO. FEDERAL, 15 km SW Caracas, 1,660 m, (2); Los Venados, 4 km NNW Caracas, 1,473-1,662 m, (5). FALCÓN, Capatárida, 40 m, (8); 19 km NW Uráma, 25 m, (1). MIRANDA, Alto +León, 31 km WSW Caracas, 1,980 m, (1); Birongo, 60 m, (1); Curupao, 5 km NNW Guarénas, 1,100-1,164 m, (4); 6 km SSE Río Chico, 1 m, (1). MONAGAS, Hato Mata de Bejico, 55 km SSE Maturín, 18 m, (1); nr. San Agustín, 3 to 5 km NW Caribe, 1,150-1,200 m, (7). T. F. AMAZONAS, Acaaná, Río Cumencuma, 48 km NW Esmeralda, 145 m, (2); Belén, Río Cumencuma, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (10); Río Mavaca, 108 km SSE Esmeralda, 140 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (2); Tamatama, Río Orinoco, 135 m, (6). TRUJILLO, La Ceiba, 52 km WNW Valera, 29 m, (1); 12 to 19 km N and WNW Valera, 164-930 m, (2); ZULIA, Novito, 19 km WSW Machiques, 1,155 m, (1). DTO. FEDERAL and MIRANDA, Pico Ávila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,095-2,250 m, (6). Total 105.

Oryzomys macconnelli Thomas, 1910:186.

Widespread in northern, central, and southwestern Venezuela. Found on the ground, usually in the open (86 percent), but occasionally at the bases of trees (5 percent), around logs (4 percent), or in houses (5 percent); usually in moist areas (80 percent), but also in dry areas (20 percent); in a wide variety of habitats—evergreen forest (41 percent), prairie and pasture (25 percent), croplands, orchards, and yards (23 percent), cloud forest (7 percent), and swamp, thorn, and deciduous forest (4 percent); 1-2,405 m (81 percent below 1,500 m); bmh-T (3), bs-T (55), bh-T (2), bs-P (6), bh-P (101), bmh-P (11), bh-MB (4), and bmh-MB (35).

Specimens collected: APURE, Río Cinaruco, 38 km NNW Pto. Páez, 76 m, (1). BOLIVAR, Hato San José, 20 km W La Paragua, 297-300 m, (20); 23 to 55 km NE Icabarrú, 500-905 m, (5); Km 125, 85 km SSE El Dorado, 1,032 m, (6). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (2); 1 to 2 km E and SE Montalbán, 598 m, (6). DTO. FEDERAL, Alto +León, 31 to 36 km WSW Caracas, 1,770 m, (4); Los Venados, 4 km NNW Caracas, 1,445-1,500 m, (2). FALCÓN, Cerro Socopo, 84 km NW Carora, 1,260-1,265 m, (17); Río Socopo, 50 km NW Carora, 450 m, (1). GUÁRICO, Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (2). LARA, Caserio Boró, 10 km N El Tocuyo, 900 m, (2). MÉRIDA, Santa Rosa, 1 km N Mérida, 1,160-1,890 m, (2). MIRANDA, 15 km SW Caracas, 1,460 m, (2); 6 km S and SSE Río Chico, 1 m, (5). MONAGAS, Hato Mata de Bejico, 55 km SSE Maturín, 18 m, (23); San Agustín, 3 to 5 km NW Caripe, 1,150-1,445 m, (77). SUCRE, Cerro Negro, 10 km NW Caripe, 1,525-1,685 m, (20); 2 km E Cumaná, 1 m, (1); Manacaí, 26 km ESE Carúpano, 250-425 m, (2). TACHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,370-2,405 m, (12). YARACUY, 10 km NW Uráma, 25 m, (2). ZULIA, nr. Cerro Azul, 35 to 40 km NW La Paz, 50 m, (3). Total 217.

Oryzomys fulvescens Saussure, 1860:102.

High mountains of northern Venezuela. Occasionally captured in trees (6 percent) but more often on the ground in association with rocks (65 percent), tree bases (5 percent), or logs (3 percent), or in the open (21 percent); in relatively dry sites (58 percent) or in moist places (42 percent); in cloud forest (94 percent), páramo and cropland (4 percent), and in evergreen forest, deciduous forest, and or-
Mammals
MONAGAS, Boca to Caripe, 2,055 m, Buenavista, 1,650-1,690 m, (6). TACHIIRA, Buena Vista, nr. Parano de Tamá, 41 km SW San Cristóbal, 2,350-2,420 m, (48). TRUJILLO, Hda. Misís, 15 km E Trujillo, 2,360 m, (10). DTO. FEDERAL and MIRANDA, Alto NO León, 31 to 33 km WSW Caracas, 1,750-1,996 m, (2); Pico Ávila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,080-2,241 m, (13). Total 342.

Oryzonmys sp. A.
Eastern Llanos. Trapped on the ground (75 percent) and in a house (25 percent); in moist (75 percent) or dry sites (25 percent); in prairie (100 percent); 18 m; bs-T (4).

Specimens collected: MONAGAS, Hato Mata de Bejucu, 55 km SSE Maturin, 18 m, (4). Total 4.

Remarks: For notes on the systematics and nomenclature of this species, see Handley (in press).

Oryzonmys sp. ?

Specimens collected: BOLIVAR, Hato San José, 20 km W La Paragua, 306 m, (1). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,470 m, (1). MÉRIDA, 5 to 8 km ESE and SE Tabay, 2,570-3,430 m, (7). MIRANDA, 1 km S Río Chico, 1 m, (1); San Andrés, 16 km SSE Caracas, 1,144 m, (1). MONAGAS, nr. San Agustín, 3 to 5 km NW Carapi, 1,150-1,320 m, (3). NUEVA ESPARTA, Isla Margarita, 3 km NE La Asunción, 405 m, (1). SUCRE, Ensenada Cauranta, 9 km NE Guíra, 4 m, (1). Total 16.

Neacomys tenuipes Thomas, 1900:153.

Mountains of northern Venezuela and Bolivar. Usually found on the ground, associated with rocks (39 percent), or under dense cover of ferns, herbs, shrubs, or vines (50 percent), rarely on logs (11 percent); near streams and in other moist areas (100 percent); in evergreen (41 percent) or cloud forest (37 percent), and occasionally in openings such as yards, orchards, and croplands (22 percent); 404-1,655 m; bs-P (1), bh-P (1), bmh-P (3), bh-MB (11), and bmh-MB (12).

Specimens collected: ARAGUA, Est. Biol. Rancho Grande, 13 km NW Maracay, 1,050 m, (2). BOLIVAR, 45 km NE Icabarú, 551 m, (1). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,443-1,655 m, (11). FALCON, Cerro Socopo, 84 km NW Carora, 1,260-1,265 m, (6). MIRANDA, 3 km NE Caracas, 1,170 m, (1); I.V.I.C., 15 km SW Caracas, 1,460 m, (6). YARACUY, Minas de Aroa, 20 km NW San Felipe, 404 m, (1). Total 28.

Nectomys alfar J. A. Allen, 1897:39.

Foothills of the Sierra de Perijá. Trapped on the ground (100 percent); near a stream (65 percent) and in a relatively dry site (32 percent); under low bushes in a banana patch (100 percent); 1,134-1,155 m; bmh-P (3).

Specimens collected: ZULIA, Novito, 19 km WSW Machiques, 1,134-1,155 m, (3). Total 3.


Humid lowlands and foothills of southern, western, and eastern Venezuela. Caught on the ground (100 percent); usually in or near grass (80 percent), but also among palms, banana plants, shrubs, and herbs (7 percent), among boulders and logs beside streams (7 percent), under a garbage pile (3 percent), and in or near streams (65 percent) or in other damp places (19 percent), but occasionally in dry situations (16 percent); in evergreen forest (69 percent) and in forest openings, such as yards (13 percent), marsh edges (11 percent), and pastures, orchards, and gardens (7 percent); 24-1,150 m (94 percent below 500 m); bs-T (18), bh-T (49), bmh-T (21), bh-P (5), and bmh-P (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (5); Río Cinarecu, 38 km NNW Pto. Páez, 76 m, (2). BARINAS, Altamira, 697 m, (1). BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Hato La Florida, 44 to 53 km ESE Caicara, 40-56 m, (11); Hato San José, 20 km W La Paragua, 297-306 m, (5); 19 km NE Icabarú, 658 m, (1). MONAGAS, San Agustín, 5 km NW Carapi, 1,150-1,180 m, (4). T. F. AMAZONAS, Acanaría, Río Cunucunuama, 48 km NW Esmeralda, 145 m, (12); Belén, Río Cunucunuama, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (24); 25 to 35 km S Pto. Alacuacho, 114-135 m, (4); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1); Tumatama, Río Orinoco, 135 m, (5). ZULIA, El Rosario, 37 to 60 km WNW Encontrados, 37-73 m, (11); Kasmera, 21 km SW Machiques, 270-275 m, (3). Total 94.
Rhipidomys conlesi J. A. Allen and Chapman, 1893:211.

Extreme northeastern Venezuela, Anedes, and southern Venezuela. Caught in coconut and stilt palms and on a log (50 percent), on the ground and at the base of a coconut palm (33 percent), and in a house (17 percent); in dry (57 percent) or moist situations (43 percent); in evergreen forest (43 percent), orchards (43 percent), and cloud forest (14 percent); 1-1,400 m; bms-T (1), bs-T (2), bh-P (2), bmh-P (1), and bp-MB (1).

Specimens collected: BARINAS, Altamira, 600 m, (1). NUEVA ESPARTA, Isla Margarita, 3 km NE La Asunci6n, 410-415 m, (2). SU~RE, 24 km E Cumana, I m, (1); Ensenada Cauranta, 9 km NE Gui~ra, 4 m, (2). T. F. AMAZONAS, Cabecera del Ca6n Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400 m, (1). Total 7.

Rhipidomys fulciventer Thomas, 1896:304.

Tachira Andes and mountains of Bolivar and T. F. Amazonas. Trapped on the ground, beside and beneath logs, rocks, and trees and in thickets (45 percent), on logs (33 percent), and in trees and vines (24 percent); usually near streams and in other moist areas (97 percent) and only rarely in dry situations (3 percent); in cloud forest (54 percent), evergreen forest (33 percent), and clearings such as pastures and croplands (13 percent); 1,032-2,422 m; bmh-P (12), bmh-MB (26), and bp-MB (1).

Specimens collected: BOLIVAR, Km 125, 85 km SSE El Dorado, 1,032 m, (12). TACHIRA, Buena Vista, nr. P~ramo de Tam~a, 41 km SW San Cristobal, 2,370-2,422 m, (26). T. F. AMAZONAS, Cabecera del Ca6n Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400 m, (1). Total 39.

Rhipidomys leucodactylus Tschudi, 1845:183.

Orinoco lowlands of southern T. F. Amazonas. Shot in houses, mostly in the thatch (80 percent), and trapped on the ground (20 percent); near streams and other moist areas (50 percent) and occasionally in dry places (20 percent); in evergreen forest (53 percent) and clearings (17 percent); 135-145 m; bh-T (6) and bmh-T (2).

Specimens collected: T. F. AMAZONAS. Acamaita, R~io Cucunumuna, 48 km NW Esmeralda, 145 m, (2); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (5); Tamatama, R~io Orinoco, 135 m, (1). Total 8.

Rhipidomys macconnelli de Winton, 1900:52.

Mountains of Bolivar and T. F. Amazonas. Trapped on the ground and on cliffs (81 percent) or on logs and in trees (19 percent); near streams and in other moist areas (100 percent); in evergreen forest (100 percent); 750-1,450 m; bmh-P (26), bp-P (9), and bp-MB (42).

Specimens collected: BOLIVAR, Km 125, 85 km SSE El Dorado, 1,032-1,165 m, (26). T. F. AMAZONAS, Cabecera del Ca6n Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400-1,480 m, (35); Cabecera del Ca6n Negro, Cerro Duida, 32 km NW Esmeralda, 1,400 m, (4); Ca6n Culebra, Cerro Duida, 50 km NNW Esmeralda, 750-825 m, (9). Total 77.

Rhipidomys mastacalis Lund, 1841:240.

Southern Venezuela. Trapped most often in houses (75 percent), but also in trees and on logs (15 percent), or on the ground (10 percent); in moist situations (100 percent) in homesteads and orchards (52 percent) and in evergreen forest (15 percent); 130-1,450 m; bh-T (5), bh-P (5), bmh-P (37), bp-P (2), and bp-MB (1).

Specimens collected: BOLIVAR, El Manaco, 56 to 70 km SE El Dorado, 150 m, (4); 45 to 53 km NE Isabaru, 800-923 m, (42). T. F. AMAZONAS, Cabecera del Ca6n Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,480 m, (1). Ca6n Culebra, Cerro Duida, 50 km NNW Esmeralda, 750 m, (2). Capibara, Brazo Casiquire, 106 km SW Esmeralda, 130 m, (1). Total 50.

Rhipidomys venezuelae Thomas, 1896:303.

Northwestern Venezuela. Trapped on the ground (53 percent), in trees (28 percent) and on logs (6 percent), and in houses and caverns (13 percent); mostly in moist situations (80 percent) but also in dry places (20 percent); in cloud (52 percent), evergreen (24 percent), and thorn forest (10 percent), and in yards (14 percent); 13-1,500 m; m-e-T (3), bms-T (1), bh-T (1), bs-P (1), bh-P (5), bmh-P (15), and bmb-MB (4).

Specimens collected: CARABOBO, 4 km NNW Montalban, 1,000 m, (2). DTO. FEDERAL, Los Veneros, 4 km NNW Caracas, 1,470-1,500 m, (4). FALCON, Capatardia, 40 m, (1); 14 km ENE Mirimire, 190 m, (1). Peninsula de Paraguan~a, 15 to 25 km SSW and SW Pueblo Nudo, 13-595 m, (17); R~o Socopito, 80 km NW Carora, 470 m, (2). LARA, Caserio Boro, 10 to 13 km N and NW El Tocuyo, 537-900 m, (2). TUREDILLO, 12 km NWN Valera, 930 m, (1). Total 30.

Rhipidomys venustus Thomas, 1900:152.

Andes and mountains of northern Venezuela. Usually caught in trees and vines (68 percent),
but also found at the bases of shrubs in banana and coffee plantations (14 percent), on rock ledges (11 percent), in houses (5 percent), and in a hollow log (2 percent); in moist areas (78 percent) or in dry sites (22 percent); in cloud (55 percent) and evergreen forests (40 percent) or in orchards (5 percent); 1,160-1,340 m; bh-P (17), bh-MB (1), bh-MB (28), and bp-M (6).

Specimens collected: MERIDA, 6 to 7 km ESE and SE Tabay, 2,250-3,160 m, (6). MONAGAS, nr. San Agustín, 3 to 5 km NW Caripe, 1,160-1,340 m, (17). TRUJILLO, Hda. Misisi, 14 km E Trujillo, 2,210 m, (15). DTO. FEDERAL and MIRANDA, Pico Avila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,095-2,223 m, (14). Total 52.

Rhipidomys sp. ?

Specimens collected: BOLIVAR, 45 to 46 km NE Icabarú, 500-815 m, (2); Km 125, 85 km SSE El Dorado, 1,032 m, (1). T. F. AMONAS, Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400 m, (1). Total 4.

Thomasomys aureus Tomes, 1860a:219.

Táchira Andes. Caught in a tree near a stream in cloud forest; 2,400 m; bmh-MB (1).

Specimen collected: TACHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,400 m, (1). Total 1.

Thomasomys hylophilus Osgood, 1912:50.

Táchira Andes. Trapped at the bases of trees and among tree roots, often in bamboo thickets (43 percent), beside and under mossy rotting logs (17 percent), in thick growths of shrubs and tree ferns (15 percent), on mossy tree limbs (10 percent), in litter on stream banks (10 percent), and under tangled vines (5 percent); near streams and in other damp places (100 percent); most often in cloud forest (50 percent), but also in clearings used for pasture and crops (15 percent) and in evergreen forest (5 percent); 2,350-2,425 m; bmh-MB (40).

Specimens collected: TACHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,350-2,425 m, (40). Total 40.

Thomasomys laniger Thomas, 1895a:59.

Mérida Andes. Caught among lichen- and moss-covered boulders and in rock slides (59 percent), in thick, low shrubs on the ground (30 percent), at the base of trees and logs (6 percent), in trees (3 percent), and in a house (2 percent); most often in relatively dry habitats (76 percent), but frequently in damp places (24 percent); in cloud forest and páramo (100 percent); 2,210-3,560 m; bmh-MB (10), bmh-M (4), bp-M (50), and p-SA (5).

Specimens collected: MERIDA, Paramito, 3 to 4 km W Timotes, 3,147-3,266 m, (5); 5 to 9 km ESE and SE Tabay, 2,570-3,560 m, (54). TRUJILLO, Hda. Misisi, 14 to 15 km E Trujillo, 2,210-2,360 m, (10). Total 69.

Thomasomys lugens Thomas, 1896:306.

Mérida Andes. Trapped beside logs and at the base of trees and tree ferns (45 percent), among moss- and lichen-covered boulders (22 percent), in thick cover of herbs and ferns on the ground (22 percent), and on logs (11 percent); usually in damp habitats (94 percent) but rarely in relatively dry places (6 percent); in cloud forest (100 percent); 1,990-3,172 m; bh-MB (4), bmh-MB (7), bmh-M (1), and bp-M (6).

Specimens collected: MERIDA, Paramito, 3 km W Timotes, 3,172 m, (1); Santa Rosa, 2 km N Mérida, 1,990-2,040 m, (4); 5 to 6 km ESE Tabay, 2,590-2,710 m, (6). TRUJILLO, Hda. Misisi, 14 to 15 km E Trujillo, 2,210-2,360 m, (7). Total 18.

Thomasomys vestitus Thomas, 1898:454.

Mérida Andes. Trapped under a mossy log on damp ground and on a log over a small stream, both in cloud forest; 2,350 m; bmh-MB (2).

Specimens collected: TRUJILLO, Hda. Misisi, 15 km E Trujillo, 2,350 m, (2). Total 2.

Thomasomys sp. ?

Specimens collected: MERIDA, 5 to 6 km ESE Tabay, 2,550-2,670 m, (3). Total 3.

Chilomys instans Thomas, 1895b:368.

Táchira and Mérida Andes. Taken at the base of rotting moss-covered trees (40 percent), under moss-covered logs and fallen limbs (40 percent), and under lichen- and moss-covered tree roots (20 percent); in openings and in dense tangles of vines and bamboo in moist fern, moss, and lichen-laden cloud forest (100 percent); 2,405-2,700 m; bmh-MB (3) and bp-M (2).

Specimens collected: MERIDA, 5 to 6 km ESE Tabay, 2,630-2,700 m, (2). TACHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,405-2,430 m, (3). Total 5.

Aekodon urichi J. A. Allen and Chapman, 1897:19.

Mountainous areas east of Lago de Maracaibo. Normally trapped on the ground (99 percent) but once caught on a log (1 percent); usually near streams and in other moist areas (57 percent) but occasionally in dry sites (13 percent); usually in old fields, clearings and
other grassy areas, with the grass often tall and thick, often mixed with ferns and herbs, sometimes associated with rocks and logs (54 percent), or in second growth shrubs mixed with vines, herbs, and ferns (35 percent), or rarely in thick forest (11 percent); usually in evergreen (50 percent), cloud (7 percent), or deciduous forest (1 percent), or in forest openings such as croplands (21 percent), yards and gardens (11 percent), pastures (7 percent), and orchards (3 percent): 24-2,232 m (50 percent above 1,000 m); bs-T (1), bmh-T (1), bs-P (13), bh-P (20), bmh-P (18), bh-MB (26), bmh-MB (27), and bp-MB (10)—(98 percent above the Tropical zone).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m. (1). ARAGUA, Est. Biol. Rancho Grande, 13 km NW Matacay, 1,050-1,059 m, (9). BOLIVAR, 45 km NE Icabaú, 851 m. (2); Km 125, 70 to 85 km SSE El Dorado, 1,032 m, (3). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (4); 2 to 4.5 km SE Montalbán, 598 m, (11). DTO. FEDERAL, Hda. Carapiche, nr. El Limón, 48 km W Caracas, 395 m, (3); I.V.I.C., 15 km SW Caracas, 1,550 m, (1); Los Venados, 4 km NNW Caracas, 1,443-1,635 m, (13); Pico Ávila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,185-2,232 m, (22). FALCÓN, Cerro Soecopo, 84 km NW Carora, 1,260-1,280 m, (10). GUÁRICO, Parque Nac. Guatopo, 15 km NW Altagracia, 710-720 m, (2). MIRANDA, Curupao, 5 km NW Guarenas, 1,160 m, (2). MONAGAS, San Agustín, 5 km NW Caripito, 1,180 m, (6). SUCRE, Cerro Negro, 10 km NW Caripito, 1,560-1,650 m, (5); Manacal, 26 km ESE Caripito, 190-425 m, (4). T. F. AMAZONAS, Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, 1,400 m, (10). DTO. FEDERAL and MIRANDA, Alto No León, 31 to 33 km WSW Caracas, 1,770-2,025 m, (8). Total 116.

Remarks: A single specimen collected in the páramo at 3,020 m near Paramito, 3 km W Timoteo, MERIDA, is tentatively referred to Akodon urichi.

Microtus bogotensis Thomas, 1895b:369.

 Mérida and Táchira Andes. Caught on the ground (92 percent) or on moss-covered logs (8 percent); either in dry sites (52 percent) or near streams and in other moist areas (48 percent); usually in rocks (50 percent), but also under mossy rotting logs, roots, and brush piles (33 percent), and in grass, shrubs, and bamboo thickets (17 percent); and in grass forest (96 percent) and openings such as cropland (4 percent); 2,360-3,815 m; bmh-MB (10), bp-M (10), and p-SA (6).

Specimens collected: MERIDA, 7 to 9 km SE Tabay, 3,170-3,815 m, (16). TACHIRA, Buena Vista, nr. Páramo de Tamán, 41 km SW San Cristóbal, 2,370-2,420 m, (9). TRUJILLO, Hda. Misisi, 15 km E Trujillo, 2,360 m, (1). Total 26.


Low elevation grasslands throughout Venezuela. Captured on the ground (100 percent); usually near streams and in other damp areas (81 percent) but occasionally in dry habitats (19 percent); in and under boxes and junk in and around houses (33 percent), in grass (26 percent), at the base of trees and logs (15 percent), among ferns, herbs, weeds, or vegetables (10 percent), under shrubs and vines (8 percent), around boulders and termite mounds (6 percent), and in brush piles (2 percent); in prairie and pasture (30 percent), croplands (17 percent), yards and orchards (9 percent), grassy openings and borders in evergreen (38 percent), deciduous (2 percent), and thorn forest (2 percent), and marsh and cloud forest edges (2 percent); 1,180 m (93 percent below 500 m); bmh-T (42), bs-T (425), bh-T (207), bmh-T (89), bs-P (8), bh-P (76), bmh-P (2), and bp-MB (1).

Specimens collected: APURE, Hato Cariben, Río Cinaruco, 46 km NE Pto. Páez, 76 m, (2); Río Cinaruco, 36 km NNW Pto. Páez, 76 m, (10); Río Cinaruco, 65 km NW Pto. Páez, 76 m, (6). BOLIVAR, 5 km NNW Guasipati, 190 m, (1); Hato La Florida, 44 to 53 km SE Caicara, 43-100 m, (30); Hato San José, 20 km W La Paraguá, 297-306 m, (6); 46 to 56 km NE Icabaú, 900-923 m, (9). CARABOBO, nr. Montalbán, 579-598 m, (7). FALCÓN, Cerro Soecopo, 84 km NW Carora, 1,260 m, (1); 14 km ENE Mirimire, 90 m, (3); Río Socopito, 80 km NW Carora, 470-450 m, (56). GUÁRICO, Est. Biol. de los Llanos, 9 km SE Calabozo, 100 m, (2); Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (17); Hato Los Leones, Caño Agua Fría, 23 km NE Calabozo, 89 m, (2); LARA, Caserío Boro, 10 km N El Tecuyo, 557 m, (32). MIRANDA, Río Chico and 1 to 6 km SSE and S Río Chico, 1 m, (108). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (59); San Agustín, 5 km NW Caripito, 1,150-1,180 m, (8). NUEVA ESPARTA, Isla Margarita, 3 km NE La Asunción, 395-420 m, (6). SUCRE, 21 to 24 km E Cumaná, 1-20 m, (10); Ensenada Cauranta, 9 km NE Guiria, 1-4.
m, (20); Manacal, 26 km ESE Carúpano, 175-425 m, (16). T. F. AMAZONAS, Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (69); Esmeralda, Río Oriocó, 135 m, (47): to BOBO, 38 to Nuevo, 38 to BOBO, 38 to New
stream in mature cloud forest; 2,400 m; bh-MB (1).

Specimen collected: TÁCHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,400 m. (1). Total 1.

Daptomys venezuelae Anthony, 1929:2.

Cerro Duida, Trapped on the ground beside a stream in evergreen forest; 1,400 m; bp-MB (1).

Specimen collected: T. F. AMAZONAS, Cabeciera del Caño Negro, Cerro Duida, 32 km NW Esmeralda, 1,400 m. (1). Total 1.

Subfamily MURINAE

Rattus norvegicus Berkenhout, 1769:5.

Northern Venezuela. Caught on the ground (100 percent); in moist areas (100 percent); in piles of brush and logs (40 percent), in buildings (40 percent), and in grass (20 percent); in evergreen forest (60 percent), cloud forest (20 percent), and prairie (20 percent); 18-2,150 m; bs-T (1), bh-MB (3), and bmh-MB (1).

Specimens collected: DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,460-1,498 m. (2); Pico Avila, nr. Hotel Humboldt, 5 km NNE Caracas, 2,150 m. (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturin, 18 m. (1). Total 5.

Rattus rattus Linnaeus, 1758:61.

Throughout northern Venezuela and at scattered localities in southern Venezuela. Usually found on the ground (95 percent) but also rarely in trees, vines, and shrubs (5 percent); near streams and in other moist areas (67 percent) or in dry sites (33 percent); in houses (65 percent), in grass and weeds (25 percent), around rocks and boulders (6 percent), and in trees, vines, and shrubs (4 percent); in openings such as homesteads, croplands, pastures, and orchards (61 percent), and in evergreen (26 percent), cloud (7 percent), and thorn forest (6 percent); 1-3,020 m (79 percent below 500 m); me-T (3), bns-T (24), bs-T (64), bh-T (70), bmh-T (3), bs-P (20), bh-P (47), bmh-P (10), bh-MB (13), bmh-MB (5), and p-SA (1).

Specimens collected: APURE, Hato Cariben, Río Cinaruro, 46 km NE Pto. Páez, 76 m. (1); Nullita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m. (3). BOLIVAR, Hato San José, 20 km W La Paragua, 300-312 m. (6). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m. (10); Montalbán to 1.2 km SE Montalbán, 598 m. (20). DTO. FEDERAL, Alto No León, 31 km WSW Caracas, 1,770 m. (2); Hda. Carapiche, nr. El Limón, 48 km W Caracas, 398 m. (29). FALCÓN, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m. (4); Capatárida, 40 m. (1); 14 km ENE Mirimiri, 200 m. (3); Peninsula de Paraguaná, 15 to 25 km SSW and SW Pueblo Nuevo, 13-55 m. (12). MERIDA, Paramito, 3 km W Timotes, 3,020 m. (1); Santa Rosa, 1 km N Mérida, 1,850-1,860 m. (8). MIRANDA, Cura- pao, 5 km NNW Guaracara, 1,160 m. (1); I.V.I.C., 15 km SW Caracas, 1,460 m. (5); 1 to 6 km SSE and S Río Chico, 1 m. (8). MONAGAS, Cueva del Guácharo, 5 km W Caripe, 1,010-1,180 m. (6); Hato Mata de Bejuco, 55 km SSE Maturin, 18 m. (6). NUEVA ESPARTA, Isla Margarita, 3 km NNE La Asunción, 37-50 m. (10). SUCRE, 16 km E Cumana, 1 m. (3); Ensenada Cauranta, 9 km NE Güiria, 4-7 m. (7); Manacal, 26 km ESE Caripano, 300 m. (6). T. F. AMAZONAS, 25 to 32 km SSW Pto. Ayacucho, 114-135 m. (5); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m. (65). TRUJILLO, Hda. Misisí, 13 km E Trujillo, 1,830 m. (5); La Ceiba, 47 km WNW Valera, 29 m. (1); 25 to 30 km NW and NNW Valera, 90-130 m. (33). YARACUY, Minas de Aroa, 20 km NW San Felipe, 400 m. (2). ZULIA, nr. Cojoro, 35 km NNE Paraguanáp, 5 m. (1). Total 260.

Mus musculus Linnaeus, 1758:62.

Northern Venezuela. Trapped on the ground (100 percent); in dry sites (95 percent) or rarely in moist places (5 percent); in houses (60 percent), in grass and herbs (21 percent), and in stone walls and rock piles (19 percent); in yards, croplands, orchards, and pasture (52 percent), in páramo (29 percent), or in openings in thorn (16 percent) or cloud forest (3 percent); 2-3,259 m; me-T (12), bns-T (28), bs-T (1), bs-P (2), bh-P (3), bmh-P (1), bh-MB (9), bmh-MB (5), and p-SA (21).

Specimens collected: CARINAS, Altamira, 794 m. (1). CARABOBO, Montalbán, 598 m. (2). DTO. FEDERAL, Alto No León, 31 km WSW Caracas, 1,770 m. (1); Los Venados, 4 km NNW Caracas, 1,546 m. (1). FALCÓN, Capatárida, 40 m. (1); Península de Paraguaná, 15 km SSW Pueblo Nuevo, 55 m. (5). LARA, Caserio Boro, 10 km NW El Tocuyo, 537 m. (1). MERIDA, Paramito, 3 to 4 km W Timotes, 3,004-3,259 m. (26). MONAGAS, San Agustín, 5 km NW Caripe, 1,180 m. (3). NUEVA ESPARTA, Isla Margarita, 7 km SW Porlamar, 2 m. (11); 3 km NNE La Asunción, 37-38 m. (20). SUCRE, 16 km E Cumana, 5 m. (2).
TRUJILLO, Hda. Misisi, 13 km E Trujillo, 1,700-1,800 m, (8). CARABOBO and YARACUY, 10 km NW Urama, 25 m, (1). Total 83.

Suborder CAVIOMORPHIA

Family ERETHIZONTIDAE

Coendou prehensilis Linnaeus, 1758:57.

Forested lowlands of T. F. Amazonas and northern and western Venezuela. Usually taken in trees (91 percent) or rarely on the ground (9 percent); near streams and in other moist areas (77 percent) or in dry sites (23 percent); in evergreen (80 percent) or deciduous forest (7 percent) or in yards and croplands (13 percent); 24-1,524 m (77 percent below 500 m); bs-T (1), bh-T (4), bhm-T (2), bh-P (6), bhm-P (3), and bh-MB (1).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). DTO. FEDERAL, Los Venados, 4 km NNW Caracas, 1,524 m, (1). FALCÓN, nr. Mirimire, 250 m, (1). MIRANDA, Curupaio, 5 km NNW Guarenas, 1,160 m, (1). MONAGAS, San Agustín, 5 km NW Carípe, 1,180-1,200 m, (2). SUCRE, Manacal, 26 km ESE Carúpano, 300 m, (2). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (3). T. F. AMAZONAS, Belén, Río Cumunuma, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 54 km SSE Esmeralda, 138 m, (1); San Juan, Río Manaipia, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 17.

Coendou pruinatus Thomas, 1903:310.

Southwest of Lago de Maracaibo. Found in a tree in an upland area in mature evergreen forest; 54 m; bh-T (1).

Specimen collected: ZULIA, El Rosario, 48 km WNW Encontrados, 54 m, (1). Total 1.

Family CAVIIDAE

Cavia porcellus Linnaeus, 1758:59.

Mountains of northern Venezuela. Captured on the ground (100 percent); in dry upland sites (71 percent) or occasionally in moist situations (29 percent); usually in tall grass and weeds and low shrubs; in grasslands (68 percent), orange groves (18 percent), croplands and gardens (11 percent), and scrubby evergreen forest (3 percent); 598-1,200 m; bs-P (3) and bh-P (25).

Specimens collected: CARABOBO, nr. Montalbán, 598 m, (3). MONAGAS, San Agustín, 3 to 5 km NW Carípe, 1,180-1,200 m, (25). Total 28.

Family HYDROCHAERIDAE

Hydrochaeris hydrochaeris Linnaeus, 1766:103.

Bolivar, T. F. Amazonas, and the Llanos. Found on the ground (100 percent); in streams or on streambanks (88 percent) or in uplands away from water (12 percent); in grasslands (35 percent), and in evergreen (30 percent), deciduous (30 percent), or thorn forest (5 percent); 18-350 m; bs-T (24), bh-T (2), and bh-P (1).

Specimens collected: APURE, Río Cinaruco, 38 km NNW Pto. Páez, 76 m, (3); Río Cinaruco, 48 km NW Pto. Páez, 76 m, (3); Río Cinaruco, 65 km NW Pto. Páez, 76 m, (5). BOLIVAR, Hato La Florida, 44 to 45 km ESE Cacarica, 43-65 m, (7); Hato San José, 20 km W La Paragua, 297 m, (2); Río Supamo, 50 km SE El Manteco, 350 m, (1). MONAGAS, Hato Mata de Béjico, 55 km SSE Maturín, 18 m, (4). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); San Juan, Río Manaipia, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 27.

Family DASYPROCTIDAE

Agouti pacu Linnaeus, 1766:81.

Moist lowlands of Venezuela. Found on the ground (100 percent); usually near streams and in other moist areas (83 percent) or less often in dry places (17 percent); in evergreen forest (87 percent), savanna or pasture (5 percent), cloud forest (3 percent), deciduous and thorn forest (3 percent), and orchard (2 percent); 1-1,537 m (94 percent below 500 m); bs-T (11), bh-T (59), bhm-T (16), bh-P (21), and bhm-P (4).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (2); Pto. Páez to Río Cinaruco, 38 km NNW Pto. Páez, 76 m, (1). BOLIVAR, El Manaco, 56 to 59 km SE El Dorado, 150 m, (12); Hato La Florida, 44 to 63 km SE and ESE Cacarica, 40-65 m, (4); 19 km NE Icabarú, 658 m, (3); Los Patos, 25 to 28 km SE El Manteco, 150-350 m, (4); Río Supamo, 50 km SE El Manteco, 350 m, (7). CARABOBO, La Copa, 4 km NW Montalbán, 1,537 m, (3). FALCÓN, nr. Mirimire and up to 14 km ENE Mirimire, 125-250 m, (6). MIRANDA, 1 km S Río Chico, 1 m, (1). MONAGAS, Hato Mata de Béjico, 55 km SSE Maturín, 18 m, (1). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (1). T. F. AMAZONAS, Belén, Río Cumunuma, 56 km NNW Esmeralda, 150 m, (14);
Brioham in 100 in 24-50 in CUY, Boca 3 m; Agouti Dasyprocfa to 56 cent); occasionally the Manapiare, 60-250 Avacucho, BOBO, Dasyprocta (1); 45 km Specimens Merida Lowlands Specimens Southern without SSE m; (1); Zulia, El Rosario, 45 to 60 km WNW Encontrados, 37-73 m, (23); Kasmera, 21 km SW Machiques, 270 m, (2). Total 111.

Agouti taczaiwwskii Stolzmann, 1885:161.

Merida and Táchira Andes. Most specimens are without ecological data; two were taken on the ground near a stream in cloud forest; 2,000-3,000 m (69 percent between 2,500 and 3,000 m); bh-MB (2) and bh-M (27).

Specimens collected: MÉRIDA, Paramito, 3 to 4 km W Timotes, 2,000-3,000 m, (27). TACHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,390 m, (2). Total 29.

Dasyprocta aguti Linnaeus, 1766:80.

Lowlands of Bolivar, northern T. F. Amazonas, and northeastern Venezuela. Found on the ground (100 percent); usually near streams and in other moist areas (57 percent) but occasionally in dry areas (13 percent); in evergreen forest (77 percent), in openings such as pasture, cropland, orchards, or yards (15 percent) and in deciduous and thorn forest (8 percent); 2-854 m (89 percent below 500 m); bh-M-T (1), bh-P (4), bh-T (40-71 percent), bh-T (5), and bh-M-P (3).

Specimens collected: BOLIVAR, El Manaco, 56 to 59 km SE El Dorado, 150 m, (20); 43 to 45 km NE Icacharu, 851-854 m, (3); Km 33, 28 km SE El Dorado, 100 m, (2); Los Patos, 25 km SE El Manteco, 350 m, (1); Río Supano, 50 km SE El Manteco, 350 m, (2); CARA-BOBO, Montalbán, 598 m, (3). FALCON, Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (1); nr. Mirimire and 16 to 18 km NE Mirimire, 60-250 m, (4). MONAGAS, Hato Mata de Bejucos, 55 km SSE Maturin, 18 m, (2). T. F. AMAZONAS, 32 km S Pto. Ayacucho, 155 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (17). Total 56.

Dasyprocta fuliginosa Wagler, 1832:1220.

Southern T. F. Amazonas. Captured on the ground (100 percent); near streams and other moist areas (100 percent); in evergreen (88 percent) or deciduous forest (12 percent); 135-150 m; bh-T (6) and bh-M-T (2).

Specimens collected: T. F. AMAZONAS, Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (2); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Esmeralda, Rio Orinoco, 135 m, (2); Tamatama, Rio Orinoco, 135 m, (3). Total 8.

Dasyprocta variegata Tschochi, 1845:190.

Zulia and western Apure. Captured on the ground (100 percent); in dry areas (65 percent) or near streams and other moist areas (35 percent); in evergreen forest (100 percent); 24-50 m; bh-T (23) and bh-M-T (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (2). Zulia, El Rosario, 45 to 51 km WNW Encontrados, 37-50 m, (23). Total 25.

Myoprocta pratti Pocock, 1913:110.

T. F. Amazonas. Found on the ground (100 percent); near streams and in other moist areas (100 percent); in evergreen forest (100 percent); 135-150 m; bh-M (9) and bh-M-T (1).

Specimens collected: T. F. AMAZONAS, Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (4); Río Mavaca, 108 km SSE Esmeralda, 140 m, (1); Tamatama, Rio Orinoco, 135 m, (4). Total 10.

Family ECHIMYIDAE

Proechimys canicollis J. A. Allen, 1899:200.

Foothills of Sierra de Perijá in northwestern Venezuela. Trapped on the ground (100 percent); in moist (50 percent) or dry sites (50 percent); in evergreen and deciduous forest, cropland, and orchard (25 percent each); 75-80 m; bh-T (4).

Specimens collected: Zulia, nr. Cerro Azul, 33 to 40 km NW La Paz, 75-80 m, (4). Total 4.

Proechimys guyannensis E. Geoffroy, 1803:194.

Lowlands of Bolivar and T. F. Amazonas. Found on the ground (100 percent); usually near streams and other moist areas (95 percent) or rarely in dry situations (5 percent); in shrubs, herbs, and grass (74 percent), in houses (15 percent), at the base of trees and boulders and beside and under logs (8 percent), on logs (2 percent), and in a hollow tree (1 percent); in evergreen forest (87 percent), and in a hollow tree (1 percent); in evergreen forest (87 percent) and brushy openings such as yards (7 percent), orchards (2 percent), and pastures (2 percent), or in swamps (2 percent); 43-851 m (96 percent below 500 m); bh-M-T (31), bh-T (51), bh-P (12), and bh-M-P (5).

Specimens collected: BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (1); Hato La
Florida, 44 to 47 km ESE Caicara, 43-130 m, (24): Hato San José, 20 to 32 km W and NW La Paragua, 297-324 m, (9); 28 to 45 km NE Icabarú, 775-551 m, (14); Río Supamno, 50 km SE El Manteco, 150-350 m, (3). T. F. AMAZONAS, Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (31); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (11); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (14); Pto. Ayacucho to 33 km S and SSE Pto. Ayacucho, 90-135 m, (59); Río Mavaca, 108 km SSE Esmeralda, 140 m, (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (179); Tatamata, Río Orinoco, 135 m, (14). Total 361.

Proechimys hoplomyoides Tate, 1939:179.

Bolivar and T. F. Amazonas. Captured on the ground (100 percent); near streams and in other moist areas (100 percent); in evergreen forest (75 percent) and in an orchard (25 percent); 135-1,032 m; bh-T (1) and bhm-P (3).

Specimens collected: BOLIVAR, Km 125, 85 km SSE El Dorado, 1,032 m, (3). T. F. AMAZONAS, Tatamata, Río Orinoco, 135 m, (1). Total 4.

Proechimys semispinosus Tomes, 1860b:265.

Lowlands and foothills of northern and western Venezuela and southern T. F. Amazonas. Usually found on the ground (95 percent), occasionally in houses (4 percent), and rarely on logs and in caverns (1 percent); commonly in moist sites (92 percent) or infrequently in dry places (8 percent); in evergreen forest (75 percent); brushy openings such as yards, pastures, orchards, and croplands (18 percent); deciduous and thorn forest (6 percent), and cloud forest (1 percent); 1-1,340 m (75 percent below 500 m; 96 percent below 1,000 m); bns-T (16), bs-T (31), bh-T (177), bhm-P (76), bs-P (21), bh-P (95), bhm-P (38), and bhm-MB (5).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (78). BARINAS, Altamira, 697-900 m, (33). CARABOBO, nr. Montalbán, 562-1,000 m, (42). FALCON, Cerro Socopo, 84 km NW Carora, 1,260-1,265 m, (5); nr. Mirimire and up to 14 km ENE Mirimire, 122-250 m, (31); Península de Paraguaná, 15 km SSW Pueblo Nuevo, Cerro Santa Ana, 530-615 m, (5); Río Socopo, 50 km NW Carora, 470-450 m, (15). GUARICO, Hato Las Palmitas, 35 km SSW San Juan de los Morros, 181 m, (4). LARA, Caserío Boro, 10 km N El Tocuyo, 518 m, (14). MIRANDA, Curupao, 5 km NNW Guarenas, 1,160 m, (1); Parque Nac. Guatopo, 15 km NW Altagracia, 680 m, (1); 6 km NW Río Chico, 1 m, (1). MONAGAS, Cueva del Guácharo, 5 km W Caripe, 1,010 m, (3); San Agustín, 5 km NW Caripe, 1,265-1,340 m, (3). SUCRE, 21 km E Cumaná, 15 m, (2); Manacal, 26 km ESE Carupano, 180-575 m, (21). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (9); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (26); Río Mavaca, 108 km SSE Esmeralda, 140 m, (1); Tatamata, Río Orinoco, 135 m, (54). TRUJILLO, La Ceiba, 48 to 52 km NWN Valera, 28-29 m, (5); 12 to 30 km NW and NWN Valera, 90-900 m, (16). YARACUY, Minas de Aroa, 20 km NW San Felipe, 390-395 m, (2). ZULIA, nr. Cerro Azul, 33 km NW La Paz, 75 m, (1); El Rosario, 45 to 65 km NWN Encontrados, 37-95 m, (21); Kasmara, 21 km SW Machiques, 265-273 m, (33). CARAROBO, FALCON, and YARACUY, 10 to 19 km NW Urana, 25 m, (32). Total 459.

Proechimys sp. ?

Specimens collected: T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (3); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (9); Tatamata, Río Orinoco, 135 m, (3). Total 16.

Mesomys hispidus Desmarest, 1817:58.

Lowland forests of T. F. Amazonas. Found in trees or houses (94 percent) or rarely on the ground (6 percent); near streams and in other moist places (90 percent) or in dry sites (10 percent); in evergreen forest (89 percent) and in forest openings such as yards (11 percent); 130-155 m; bh-T (19) and bhm-T (2).

Specimens collected: T. F. AMAZONAS, Acaima, Río Cunucunuma, 48 km NW Esmeralda, 145 m, (1); Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (1); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (10); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (8); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 21.

Isotherix bistriata Wagner, 1845:146.

Southern T. F. Amazonas. Captured in trees (38 percent) or rarely on the ground (12 percent); near streams (100 percent); in evergreen forest (100 percent); 130-138 m; bh-T (9).

Specimens collected: T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (6); Capibara, Brazo Casiquiare, 106 km SW Esmeralda, 130 m, (2); Tatamata, Río Orinoco, 135 m, (1). Total 9.

Echimys armatus I. Geoffroy, 1838:887.

Bolivar, T. F. Amazonas, and the eastern and western Llanos. Found in trees (87 per-
percent) or on the ground (13 percent); near streams and in other moist areas (98 percent) or rarely in dry places (2 percent); in evergreen forest (91 percent) or in scattered trees in savanna (9 percent); 18-350 m; bs-T (4), bh-T (39), bmh-T (1), and bh-P (1) (91 percent in humid zones).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). BOLIVAR, Río Supamo, 50 km SE El Manteco, 350 m, (1). MONAGAS, Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (4). T. F. AMAZONAS, Boca Mayaca, 84 km SSE Esmeralda, 138 m, (33); San Juan Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (5); Tama-tama, Río Orinoco, 135 m, (1). Total 45.

_Echinys semivillosus_ Geoffroy, 1838:887.

Central Llanos and base of the Peninsula of Falcón. Captured in trees (98 percent) or on the ground (2 percent); near streams and in other moist areas (85 percent) or in dry places (12 percent); usually in thorn forest (90 percent), occasionally in scattered trees in savanna (8 percent), and rarely in evergreen forest (2 percent); 25-579 m; hms-T (45), bs-T (4), bh-T (4), and bs-P (2) (98 percent in dry zones).

Specimens collected: APURE, Río Cinaruco, 38 km NNW Pto. Páez, 76 m, (3). BOLIVAR, Hato La Florida, 45 km SE Caicara, 65 m, (1). CARABOBO, 1 km SE Montalbán, 579 m, (2). FALCON, 19 km NW Urama, 25 m, (1). LARA, Caserio Bolo, 10 km N El Tocuyo, 158-537 m, (45). Total 52.

**Order CETACEA**

**Family PLATANISTIDAE**

_Inia geoffrensis_ Blainville, 1817:151.

T. F. Amazonas. Captured in rivers flowing through evergreen forest; 135-155 m; bh-T (2).

Specimens collected: T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1); Tama-tama, Río Orinoco, 135 m, (1). Total 2.

**Order CARNIVORA**

**Family CANIDAE**

_Urocyon cinereoargentus_ Schreber, 1775: pl. 92.

Northwestern Venezuela. Captured in dry thorn forest; 537 m; hms-T (2).

Specimens collected: LARA, Caserio Boro, 10 km N El Tocuyo, 537 m, (2). Total 2.

_Cerdocyon thous_ Linnaeus. 1766:60.

Scattered localities throughout Venezuela except in southern T. F. Amazonas. Found on the ground (100 percent); near streams and other moist areas (64 percent) or in dry sites (36 percent); in prairie or pasture (49 percent), marshes, croplands, yards, and orchards (15 percent), deciduous and thorn forests (19 percent), and evergreen and cloud forests (17 percent); 1-2,000 m (97 percent below 620 m); nm-T (2); bs-T (7), bh-T (50), bmh-T (7), bh-P (3), bh-P (2), and bh-MB (1).

Specimens collected: ANZOAPEGUI, 14 km W Clarines, 100 m, (1). APURE, Hato Cariben, Río Cinaruco, 46 km NE Pto. Páez, 76 m, (3); Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (7); Pto. Páez to 38 km NNW Pto. Páez, 76 m, (8). BOLIVAR, Hato San José, 20 to 23 km W and NW La Paragua, 297-309 m, (6); 56 km NE Icabarú, 905 m, (1). CARABOBO, Montalbán to 3 km SE and SW Montalbán, 598-618 m, (7). DTO. FEDERAL, Alto Xo León, 36 km WSW Caracas, 2,000 m, (1). FALCÓN, nr. Boca de Tocuyo, 13 km SE San Juan de los Cayos, 1 m, (1); Boca de Yaracuy, 28 km WNW Pto. Cabello, 2 m, (5); 18 km WNW Captárida, 40 m, (1); nr. Mimririm and up to 15 km NE Mimririm, 20-250 m, (6). LARA, Caserio Boro, 10 km N El Tocuyo, 518-537 m, (3). MIRANDA, 1 to 5 km E and S Río Chico, 1 m, (4). MONAGAS, San Agustín, 5 km NW Caripe, 1,200 m, (1); Hato Mata de Bejuco, 55 km SSE Maturín, 18 m, (4). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (2). T. F. AMAZONAS, 14 to 55 km SSE to SSW Pto. Ayacucho, 114-135 m, (14); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). TRUJILLO, 19 to 25 km N to NW Valera, 90-164 m, (7). ZULIA, El Rosario, 51 km WNW Encontrados, 37 m, (1); Río Negro, 8 km W Machiques, 250 m, (1). FALCÓN and YARACUY, 10 to 19 km NW Urama, 25 m, (3). Total 88.

**Family URSIDAE**

_Tremarctos ornatus_ F. Cuvier, 1825: fasc. 50.

Táchira Andes. Killed by native hunters in moist cloud forest; 2,380 m; bmh-MB (2).

Specimens collected: TACHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,380 m, (2). Total 2.

**Family PROCYONIDAE**


Scattered localities in northern and central Venezuela. Found on the ground (100 percent); near streams (100 percent); in evergreen forest (50 percent), swamp (33 percent), and decidu-
Mammals or in 59 m; dry
Esmeralda, m, 25 Jose, (100 m, (1), 25 km E El Guapo, 12 m, (1); 5 km E Rio Chico, 1 m, (1). ZULIA, El Rosario, 51 km NW Encontrados, 37 m, (1); nr. Rio Limón, 7 km NW San Rafael de Mara, 1 m, (1). Total 6.

Nasua nasua Linnaeus, 1766:64.

Lowlands of Bolivar and T. F. Amazonas. Shot on the ground (67 percent) or in trees (33 percent); in moist areas (57 percent) or in dry sites (43 percent); in evergreen (71 percent) or deciduous forest (29 percent); bs-T (4), bh-T (1), and bh-P (2).

Specimens collected: BOLIVAR, Hato San José, 20 km W La Paragua, 320 m, (1), GUA-RICO, Embalse de Gua-rico, 10 km N Calabozo, 100 m, (1). MIRANDA, 13 km E El Guapo, 12 m, (1); 5 km E Rio Chico, 1 m, (1). ZULIA, El Rosario, 51 km NW Encontrados, 37 m, (1); nr. Rio Limón, 7 km NW San Rafael de Mara, 1 m, (1). Total 6.

Nasua olivacea Gray, 1865:703.

Mérida and Táchira Andes. Captured on the ground (100 percent); in dry (60 percent) or moist sites (40 percent); in cloud forest (57 percent) and páramo (43 percent); 2,000-3,020 m; bmh-MB (2), bmh-M (2), and p-SA (3).

Specimens collected: MÉRIDA, Paramito, 3 km W Timotes, 2,000-3,020 m, (2). TACHIRA, Buena Vista, nr. Páramo de Tama, 41 km SW San Cristóbal, 2,380 m, (2). Total 7.

Potos flavus Schreber, 1774:187.

Lowland (occasionally montane) humid forests throughout Venezuela. Captured in trees (100 percent); in moist (53 percent) or dry areas (47 percent); in evergreen forest (95 percent) and openings such as yards, orchards, and croplands (3 percent), or rarely in cloud (1 percent) and thorn forest (1 percent): 24-1,750 m (97 percent below 500 m); bs-T (4), bh-T (85), bmh-T (16), bs-P (2), bh-P (9), bmh-P (42), and bmh-MB (4).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (13). BOLÍVAR, El Manaco, 59 km SE El Dorado, 150 m, (4); 15 km NE Icabauro, 800 m, (1); Rio Supamo, 50 km SE El Manteco, 150 m, (1). CARABOBO, 9 km NW Montalbán, 900 m, (1). DTO. FEDERAL, Alto No León, 31 km WSW Caracas, 1,750 m, (3). FALCÓN, Cerro Socopo, 84 km NW Carora, 1,260 m, (1); nr. Mirimire to 14 km ENE Mirimire, 125-250 m, (4). SUCRE, Manacal, 26 km ESE Caripano, 150-200 m, (4). TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 400 m, (42). T. F. AMAZONAS, Acana, Río Cunucumuna, 48 km NW Esmeralda, 145 m, (1); Belén, Río Cunucumuna, 56 km NNW Esmeralda, 150 m, (2); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (2); 30 to 32 km S Pto. Ayacucho, 135 m, (3); Río Mavaca, 108 km SSE Esmeralda, 140 m, (2). ZULIA, nr. Cerro Azul, 33 km NW La Paz, 50 m, (3); El Rosario, 39 to 63 km NW Encontrados, 37-125 m, (65). CARA-BOBO and FALCON, 6 to 19 km NW and N Urama, 25 m, (7). Total 162.

Bassaricyon gabbii J. A. Allen, 1876:21.

Lowlands of Zulia and T. F. Amazonas. Found in trees (100 percent); in moist evergreen forest (100 percent); 135-460 m; bs-T (1), bh-T (3), and bmh-P (1).

Specimens collected: TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (1). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); 30 km S Pto. Ayacucho, 135 m, (2); Río Mavaca, 108 km SSE Esmeralda, 140 m, (1). Total 5.

Family MUSTELIDAE

Mustela frenata Lichtenstein, 1831: pl. 42.

Monagas. Captured on the ground (83 percent) and in a tree (17 percent); in or near coffee in moist evergreen forest (83 percent) and in dry pasture (17 percent): 1,150-1,340 m; bh-P (6).

Specimens collected: MONAGAS, San Agustín, 5 km NW Caripe, 1,150-1,340 m, (6). Total 6.

Eira barbara Linnaeus, 1758:46.

Scattered localities in southern and western Venezuela. Found on the ground (100 percent); in moist (66 percent) or dry areas (33 percent); in evergreen (92 percent) or cloud forest (8 percent): 24-2,350 m; bh-T (7), bmh-T (2), bh-P (2), bmh-P (2), and bmh-MB (2).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). BARINAS, Altamira, 600 m, (1). BOLÍVAR, El Manaco, 56 to 59 km SE El Do-rado, 150 m, (3). FALCÓN, 7 to 12 km ENE Mirimire, 120-200 m, (2). TACHIRA, Buena Vista, nr. Páramo de Tama, 41 km SW San Cristóbal, 2,380 m, (2); Las Mesas, 17 km NE San Juan de Colón, 460 m, (1). T. F. AMA-ZONAS, Acana, Río Cunucumuna, 48 km NW Esmeralda, 145 m, (1); 35 km S Pto. Aya-
Bhicham in but

Taken 60 and 55 24

vas Las Galictis m, (33 and also 71 100 m;)

Total savanna; WNW percent;)

Ultra 15.

Rio Acanafia, Felis (71 (1).

(50 1). Specimens found:

3.5-6 Maturin, Specimens (1).

Total specimens;

3.5-6 Maturin, Specimens (1).

Total 3.

Conopatus semistriatus Boddaert, 1785:84.

Northern Venezuela. Captured on the ground (100 percent); usually in dry (71 percent) but also in moist areas (29 percent); in thorn forest (71 percent), pasture (19 percent), and evergreen forest (10 percent); 18-55 m; me-T (14), bmh-T (1), bs-T (4), and bh-T (2).

Specimens collected: FALCON, Capturida and 3.5-6 km NE Capturida, 40-50 m, (14); Peninsula de Paraguana, 15 km SSW Pueblo Nuevo, 55 m, (1); 19 km NW Urana, 25 m, (1); MONAGAS, Hato Mata de Becueco, 55 km SSE Maturin, 18 m, (1); TACHIRA, Las Mesas, 17 km NE San Juan de Colón, 460 m, (1). Total 3.

Lutra longicaudis Olfers, 1818:233.

Lowland rivers in southern and western Venezuela. Found in streams and on streambanks (100 percent); in evergreen forest (100 percent); 37-145 m; bh-T (3) and bmh-T (1).

Specimens collected: T. F. AMAZONAS, Acanaia, Rio Cunucumuma, 48 km NW Esmerald, 145 m, (1). ZULIA, El Rosario, 51 km WNW Encuentados, 37 m, (1). Total 1.

Pteronura brasiliensis Gmelin, 1788:93.

Llanos. Caught in a stream in tree-bordered savanna; 76 m; bs-T (1).

Specimen collected: APURE, Hato Cariben, Rio Cimarucu, 46 km NE Pto. Páez, 76 m, (1). Total 1.

Family FELIDAE

Felis concor Linnaeus, 1771:522.

Scattered localities in central and western Venezuela. Taken on the ground (100 percent); in both dry (50 percent) and moist situations (50 percent); in evergreen (75 percent) and cloud forest (25 percent); 73-2,380 m; bs-T (1), bh-T (2), bh-MB (2), and bmh-MB (1).

Specimens collected: BOLIVAR, Rio Tiquire, 27 km ENE Maripa, 100 m, (1). MERIDA, 4 km E Tabay, 2,100 m, (2); TACHIRA, Buena Vista, nr. Páramo de Tamá, 41 km SW San Cristóbal, 2,350 m, (1). ZULIA, Boca del Rio de Oro, 60 WNW Encuentados, 73 m, (2). Total 6.

Felis onca Linnaeus, 1758:42.

Western and southern Venezuela. Captured in trees (67 percent) and on the ground (33 percent); in dry (50 percent) or moist sites (50 percent); in evergreen forest (100 percent); 37-350 m; bh-T (1), bmh-T (2), and bh-P (1).

Specimens collected: BOLIVAR, Rio Supamo, 50 km SE El Manteco, 350 m, (1); T. F. AMAZONAS, Belén, Rio Cunucumuma, 56 km NNW Esmerald, 150 m, (2). ZULIA, El Rosario, 51 km WNW Encuentados, 37 m, (1). Total 4.

Felis pardalis Linnaeus, 1758:42.

Lowlands throughout Venezuela. Usually taken on the ground (51 percent) but also in trees (19 percent); near streams or other moist areas (71 percent) or in dry situations (29 percent); in evergreen forest (72 percent), deciduous and thorn forest (14 percent), and in swamps, marshes, or pastures (14 percent); 2-350 m; me-T (1), bmh-T (1), bs-T (6), bh-T (13), bmh-T (4), and bh-P (6).

Specimens collected: ANZOATEGUI, 14 km W Clarines, 100 m, (1); APURE, Hato Cariben, Rio Cimarucu, 46 km NE Pto. Páez, 76 m, (1); BOLIVAR, El Manaco, 59 km SE El Dorado, 150 m, (4); nr. Caicara, 200 m, (1); Hato San José, 20 km W La Paragua, 324 m, (1); Los Patos, 25 to 28 km SE El Manteco, 350 m, (2); Rio Supamo, 50 km SE El Manteco, 150-350 m, (3); CARABOBO, 10 km NW Urana, 25 m, (2); FALCON, Boca de Yaraquy, 28 km WNW Pto. Cabello, 2 m, (2); 13 km ENE Mirimire, 150 m, (1); Peninsula de Paraguana, 6 km N Pueblo Nuevo, 25 m, (1); T. F. AMAZONAS, Acanaia, Rio Cunucumuma, 48 km NW Esmerald, 145 m, (1); Belén, Rio Cunucumuma, 56 km NW Esmerald, 150 m, (3); Capibara, Bravo Casiquiare, 106 km SW Esmerald, 130 m, (1); Esmerald, Rio Orinoco, 135 m, (1); 32 km S Pto. Ayacucho, 135 m, (1); Tamatama, Rio Orinoco, 135 m, (3); ZULIA, El Rosario, 45 km WNW Encuentados, 37 m, (2). Total 31.

Felis tigrina Schreber, 1775: pl. 106 (description 1777:396).

Sierra de la Costa and Bolivar. Caught on the ground (100 percent); in moist (75 percent)
and dry situations (25 percent); in evergreen (75 percent) and deciduous forest (25 percent); 40.2-1,811 m; bs-T (1), bh-P (1), and bh-MB (2).

Specimens collected: BOLIVAR, Hato La Florida, 63 km SE Caicara, 40 m, (1); Los Patos, 25 km SE El Manteco, 350 m, (1). DTO. FEDERAL, Pico Ávila, 5 km NNE and 6 km NNW Caracas, 2,013-1,811 m, (2). Total 4.

Felinus wiedii Schinz, 1821:235.
Scattered lowland localities in northern and southern Venezuela. Taken on the ground (100 percent); in moist (75 percent) or dry sites (25 percent); in evergreen forest (100 percent); 125-854 m; bhm-T (2), bh-P (2), and bhm-P (1).

Specimens collected: BOLIVAR, 43 km NE Icabaru, 854 m, (1). FALCON, 14 km ENE Mirimire, 125 m, (1). T. F. AMAZONAS, Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (2). YARACUY, Minas de Aroa, 30 km NW San Felipe, 500 m, (1). Total 5.

Felinus yaguaroundi E. Geoffroy, 1803:124.
Scattered lowland localities throughout Venezuela. Caught on the ground (60 percent) and in trees (40 percent); in dry pasture (75 percent) or thorn forest (25 percent); 18-600 m; me-T (1), bs-T (4), and bhm-P (1).

Specimens collected: APURE, Hato Cariben, Río Cinarucu, 46 km NE Pto. Páez, 76 m, (1). BARINAS, Altamira, 600 m, (1). FALCON, Capatárida, 40 m, (1). MONAGAS, Hato Mata de Bejucu, 55 km SSW Maturín, 18, (2). T. F. AMAZONAS, 55 km SSW Pto. Ayacucho, 119 m, (1). Total 6.

Order PERISSODACTYLA
Family TAPIRIDAE
Tapirus terrestris Linnaeus, 1758:74.
Forested lowlands of southern Venezuela. Taken on the ground (100 percent); most often in or near streams and in other moist areas (84 percent), and infrequently in dry situations (16 percent); in evergreen (91 percent) or deciduous forest (9 percent); 24-854 m; bs-T (2), bh-T (21), bhm-T (6), bh-P (3), and bhm-P (1).

Specimens collected: APURE, Nuita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). BOLIVAR, Hato San José, 20 km W La Paragua, 303-350 m, (2); 43 km NE Icabaru, 854 m, (1); Los Patos, 25 km SE El Manteco, 350 m, (3). T. F. AMAZONAS, Acacanã, Río Cunucunuma, 48 km NW Esmeralda, 145 m, (1); Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (4); Boca Mavaca, 84 km SSE Esmeralda, 138 m, (1); Capíbará, Brazo Casquiare, 106 km SW Esmeralda, 130 m, (1); Esmeralda, Rio Orinoco, 135 m, (18); 30 km S Pto. Ayacucho, 135 m, (1). Total 33.

Order ARTIODACTYLA
Family TAYASSUIDAE
Tayassu pecari Linck, 1795:104.
Forested localities in southern Venezuela. Shot on the ground (100 percent); most often near streams and in other moist sites (59 percent) but frequently in dry habitats (41 percent); in evergreen forest (89 percent) and savanna (11 percent); 24-854 m (94 percent below 500 m); bs-T (1), bh-T (4), bhm-T (6), bh-P (6), and bhm-P (1).

Specimens collected: APURE, Nuita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (3). BOLIVAR, Hato San José, 20 km W La Paragua, 324 m, (1); 43 km NE Icabaru, 854 m, (1); Km 33, 28 km SE El Dorado, 100 m, (3); Río Supano, 50 km SE El Manteco, 150-350 m, (6). T. F. AMAZONAS, Belén, Río Cunucunuma, 56 km NNW Esmeralda, 150 m, (3); 28 km S Pto. Ayacucho, 135 m, (1). Total 18.

Dicotyles tajacu Linnaeus, 1758:50.
Forested lowlands of southern and western Venezuela. Taken on the ground (100 percent), occasionally in caverns and recesses between tree buttresses; near streams and other moist places (64 percent) or in dry habitats (36 percent); in evergreen (70 percent), thorn (19 percent), and deciduous forest (3 percent), or in savanna (8 percent); 24-600 m; bns-T (1), bs-T (10), bh-T (23), bhm-T (5), bh-P (3), and bhm-P (2).

Specimens collected: APURE, Nuita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (5). BARINAS, Altamira, 600 m, (2). BOLIVAR, El Manaco, 56 to 70 km SE El Dorado, 150 m, (10); Hato San José, 20 km W La Paraguá, 330 m, (1); Km 33, 28 km SE El Dorado, 100 m, (2); Río Supano, 50 km SE El Manteco, 150-350 m, (2). FALCON, 13 to 17 km ENE Mirimire, 25-125 m, (11). T. F. AMAZONAS, Boca Mavaca, 84 km SSE Esmeralda, 138 m, (8); Esmeralda, Rio Orinoco, 135 m, (2); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (1). Total 44.

Family CERVIDAE
Odocoilus virginianus Zimmermann, 1780:24 and 129.
Central and northern Venezuela. Found on the ground (90 percent) or in water (10 per-
cent); in dry (53 percent) or moist sites (47 percent); in prairie (45 percent) or in thorn (25 percent), deciduous (15 percent), and evergreen forest (15 percent); 1-350 m: bs-T (15), bh-T (3), and bh-P (3).

Specimens collected: APURE, Hato Cariben, Rio Cinaruco, 46 km NE Pto. Páez, 76 m, (2); Pto. Páez, 76 m, (1); Río Cinaruco, 48 km NW Pto. Páez, 76 m, (2). BOLIVAR, Hato La Florida, 45 km ESE Cúcuta, 65 m, (2); Hato San José, 20 km W La Paragua, 300 m, (2); Los Patos, 25 km SE El Manteco, 350 m, (2). FALCÓN, nr. Mirimire and up to 15 km NE and ENE Mirimire, 50-200 m, (4). GUÁRICO, Hato Las Palmitas, 35 km SSW San Juan de los Morros, 151 m, (1). MIRANDA, Cupira, 30 km E El Guapo, 100 m, (1); 6 km SSE Río Chico, 1 m, (1). MONAGAS, Hato Mata de Bejucu, 55 km SSE Maturín, 18 m, (1). T. F. AMAZONAS, San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (2). Total 21.

Mazama americana Erxleben, 1777:324.

Forest ed lowland localities in northwestern and southern Venezuela. Taken on the ground (97 percent) or in water (3 percent); in or near streams and in other moist areas (67 percent) or in dry sites (33 percent); in deciduous forest (14 percent) and in crotalpads, pastures, and clearings around houses (8 percent); 24-500 m: bs-T (4), bh-T (41), bmih-T (3), and bh-P (20).

Specimens collected: APURE, Nulita, Selvas de San Camilo, 29 km SSW Santo Domingo, 24 m, (1). BOLIVAR, El Manaco, 56 to 59 km SE El Dorado, 150 m, (27); Hato San José, 20 km W La Paragua, 300-306 m, (2); Icabarú, 473 m, (2); Km 33, 28 km SE El Dorado, 100 m, (3); Los Patos, 25 km SE El Manteco, 350 m, (12). Río Supano, 50 km SE El Manteco, 150-350 m, (3). FALCÓN, 12 km ENE Mirimire, 240 m, (1). T. F. AMAZONAS, Belén, Río Cumucumuma, 56 km NNW Esmeralda, 150 m, (2); 32 km S Pto. Ayacucho, 126 m, (1); San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 155 m, (7). YARACUY, Minas de Aroa, 19 km WNW San Felipe, 500 m, (4). ZULIA, El Rosario, 45 km WNW Encontrados, 37 m, (3). Total 68.

Mazama gouazoubira G. Fischer, 1814:465.

Forests of Bolivar and Falcón. Found on the ground (100 percent); near streams and in other moist areas (67 percent) or in dry sites (33 percent); in evergreen forest (60 percent) or deciduous forest (20 percent), pastures and yards (13 percent), and deciduous forest (7 percent); 60-976 m (94 percent below 500 m): bs-T (5), bh-T (8), and bh-P (3).

Specimens collected: BOLIVAR, 15 km SE El Dorado, 75 m, (1); El Manaco, 59 km SE El Dorado, 150 m, (7); Hato San José, 20 km W La Paragua, 330 m, (1); Icabarú to 51 km NE Icabarú, 473-976 m, (2); Los Patos, 25 km SE El Manteco, 350 m, (1). FALCÓN, 13 to 15 km NE and ENE Mirimire, 60-125 m, (4). Total 16.

Mazama sp. ?

Specimen collected: BOLIVAR, Km 125, 85 km SSE El Dorado, 1,032 m, (1). Total 1.

GAZETTEER

The Smithsonian Venezuelan Project collected specimens at 102 localities. For each of these the gazetteer includes reference to a well-known map point, geographic coordinates, elevation, state, narrative description, Holdridge life zone, collectors, SVP numbers, kinds of specimens collected, dates of collections, and SVP locality code number.

All distances and geographic coordinates were determined from the following U.S. Air Force Operational Navigation Charts (scale 1:1,000,000): K-26, first edition, compiled 1965; K-27, first edition, compiled 1963; L-26, second edition, compiled 1966; and L-27, first edition, compiled 1965. All distances cited from Caracas were measured from the Plaza Venezuela, 10°30'N-66°53'W. Elevations were determined in the field with aircraft-type altimeters.

Most of the localities included several sub-localities at which collections were made. In all, 1,390 collecting sites were identified in specimen data, and names of 243 of these, in addition to the 102 primary locality names, appeared on specimen labels. In the gazetteer, these sub-localities are referenced to the primary localities in which they are included, without further description.

Acanaña (Río Cumucumuma), 48 km NW Esmeralda and 13 km SSW Belén, 3°32'N-65°48'W, 145 m (T. F. AMAZONAS). Indian village in valley of Río Cumucumuma.

Agua de Obispo, 2 km SSW Montalbán, 598 m (see Montalbán)

Agua Fria, 7 km NNE Altamira, 1,070 m (see Altamira)

Agua Santa (nr.), 23 to 25 km NW Valera, 90 m (see Valera)

Agua Viva (nr.), 19 to 23 km N Valera, 164 m (see Valera)

Agüile (nr.), 20 km NNE Mirimire, 1-5 m (see Mirimire)

Altamira (within 7 km of town center), 8°50'N-70°30'W, 600-1,070 m (BARINAS). Lower E slopes of Andes; very steep and rocky; almost no flat ground. Streams, largest 15-30 m wide, with v-shaped valleys, rocky beds, and fast-flowing clear, cold water. Agricultural land (mostly in coffee and bananas), second growth evergreen forest (trees up to 10-15 m high), small areas of grass (1-2 m high), and bamboo surround Altamira. Nearest undisturbed forest several hours away by foot or horseback. Holdridge classification: PRE-MONTANE very humid forest (bmh-P). Collectors: M. Tuttle, Inquilla, Stromeyer, and Peterson (1 specimen). SVP numbers: 4361, 33152-34357, 40863 (1,224 mammals, 10 birds, 3 reptiles, 1 amphibian). 30 Mar 1966, 13 Dec 1967-13 Jan 1968. SVP locality 37.

Alto Ño León, 31 to 36 km WSW Caracas, 10°26'N-67°10'W, 1,665-2,050 m (DTO. FEDERAL and MIRANDA). Upper reaches of Sierra de la Costa, with steep to moderately steep slopes, small streams, occasional rock outcrops, and rich, loamy, humus-laden soil, or clay-loam with limited humus. Dominant original vegetation either cloud forest, with trees 15-20 m high, abundant epiphytes, and very dense 3-4 high subcanopy of shrubs, vines, ferns, and forbs; or, on S slopes, drier, more open forest with fewer epiphytes. All now much altered by human intrusion: much clearing and burning, many roads and footpaths, and many small coffee and vegetable farms. Remnants of mature cloud forest with numerous rotting stumps and logs of large trees; scrubby second growth cloud forest with many tree ferns; openings cleared from cloud forest mostly covered with dense ferns and shrubs, 1-1.5 m high, and little grass. S slope second growth forest with scattered trees and cover of bamboo, forbs, and brambles. Holdridge classification: LOWER MONTANE humid forest (bl-MB) and LOWER MONTANE very humid forest (bmh-MB). Collectors: Peterson, Naranjo, Ojasti, D. Peacock, and B. Peacock. SVP numbers: 3708-3745, 12462, 13058-13098 (69 mammals, 10 birds, 1 amphibian). 19-23 Dec 1965, 5 Mar and 24-27 May 1967. SVP locality 54.

Araguila, 0.5 km SSE Montalbán, 598 m (see Montalbán)

Aroa (nr.), 30 km NW San Felipe, 500 m (see Minas de Aroa)

Begón, 1 km S Altamira, 794 m (see Altamira)

Belén (Río Cumucunuma), 56 km NNW Esmeralda, 3°39'N-65°46'W (to 3°37'N-65°53'W and 3°43'N-65°42'W), 150 m (T. F. AMAZONAS). Broad, undulating valley bordered by cliff-sided mountains—Cerro Duida, Cerro Huachamacari, and Cerro Marahuaca. Streams numerous, sandy or rocky, fast flowing, clear or red, mostly sheltered by forest canopy. Forest nearly continuous, evergreen, dense, 18-36 m high, and mostly undisturbed. Village of Belén, with about 100 people, 18 huts, chickens and dogs, and clearings for banana, papaya, guava, yuca, etc., located at edge of prairie 0.5 km in diameter (with bunch grass 0.25-1 m high). Holdridge classification: TROPICAL very humid forest (bmh-T). Collectors: M. Tuttle and Harder. SVP numbers: 13108-15780, 15947, 16090-16192, 16194-16548, 16550-16621, 16670-16676, 16836-16910, 16940-17175, 17177-17182, 17594 (1,506 mammals, 3 birds, 8 reptiles, 12 amphibians). 30 Dec 1966-21 Feb 1967, 5 Apr 1967. SVP locality 25.

Betijoque (nr.), 20 km WNW Valera, 134 m (see Valera)

Birongo (Birongo to 4 km SW Birongo), 10°29'N-66°16'W, 60-195 m (MIRANDA). Eastern foothills of Sierra de la Costa. Steep ridges, rocky soil, and swift, rocky streams. Primary forest evergreen, with canopy at 35-40 m, subcanopies at 25 and 15 m, and ground cover of ferns and low herbs. Much land cleared for cacao, oranges, and bananas, leaving scattered large shade trees, grassy openings, and patches of low shrubs. In addition to trapping and netting, bats were collected from Cueva Alfredo Jahn near Birongo and Cueva Walter Dupouy near Capaya. Holdridge classification: TROPICAL very humid forest (bmh-T). Collector: M. Tuttle. SVP numbers: 17296-17319, 17587, 17597, 17836, 17838, 17845 (1,250 mammals, 13 birds, 7 reptiles, 11 amphibians). 30 Jan-31 Dec 1967. SVP locality 7.
Boca de Apure, 0.5 km SSW Montalbán, 598 m (see Montalbán) 

Boca de Tigre, 5 km NW Caracas, 1,394 m (see Boca de Tigre Valley) 
Boca de Tigre, 6 km NNW Caracas, 1,982-2,119 m (see Pico Ávila) 

Boca de Tigre Valley, 5 km NW Caracas, 10°32'N-66°54'W, 1,394-1,616 m (DTO. FEDERAL). Very damp, densely forested stream valley, about half way up inland slope of Sierra de la Costa, near Clavelitos. Trees averaging 15 m high, with many vines; ferns and some grass along stream 2.5 m wide. Holdridge classification: LOWER MONTANE humid forest (bh-MB). Collectors: M. Tuttle and A. Tuttle. SVP numbers: 822-852, 858-869, 872-888, 901-905, 948-969, 1066, 1093-1094 (90 mammals). 27 and 30 Aug and 7 Sep 1965. SVP locality 3. 

Boca de Yaracuy, 28 km WNW Pto. Cabello, 10°35'N-65°15'W, 2 m (FALCON). Flat, sandy, very hot and humid lowland within 1 km of coast. Collecting in open coconut palm groves, thick scrubby thorny forest (trees 4-12 m high), vine-tangled swamp, and in large grassy and weedy openings with scattered shallow ponds and occasional palms and shrubs. Patches of bare, nearly white sand made even moonless nights rather light. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: M. Tuttle and A. Tuttle. SVP numbers: 1193-1563, 1565-1578 (228 mammals, 140 birds, 9 reptiles, 5 amphibians). 22 Sep-10 Oct 1965. SVP locality 4. 

Boca del Río, 36 km W Porlamar, 10 m (see Isla Margarita) 
Boca del Río de Oro, 60 km WNW Encontrados, 73 m (see El Rosario) 

Boca Mavaca, 54 km SSE Esmeralda, 2°30'N-65°13'W (to 2°33'N-65°02'W and 2°23'N-65°16'W), 138 m (T. F. AMAZONAS). Undulating forested plain within 20 km radius of Boca Mavaca, including banks of Orinoco, Mavaca, and Manaviche rivers, all white water streams. Numerous smaller streams and occasional lagoons and shallow swamps. Scattered low hills. River banks high and steep, overgrown with vines and tree limbs. Forest evergreen, mature, mostly undisturbed; canopy often open near streams, otherwise dense; 10-35 m high; undergrowth dense (including many patches of Heliconia and scattered palms) except in seasonally flooded lowlying areas. Clearings around Indian villages with grass 1-2.5 m high, banana patches, and various fruit and nut trees. Holdridge classification: TROPICAL humid forest (bh-T). Collectors: M. Tuttle, A. Tuttle, Harder, and Peterson (1 specimen). SVP numbers: 6512-6731, 11249, 16661-16669, 16677-16835, 17183-17380, 17396, 17402-17408, 17412, 35783 (529 mammals, 17 birds, 36 reptiles, 12 amphibians, 3 other). 9-21 Feb and 10 Nov 1966, 1-27 Mar 1967. SVP locality 10. 

Boquerón, 10 km WSW La Asunción, 47 m (see Isla Margarita) 
Boquerón, 5 km NW Caripe, 1,180 m (see San Agustín) 

Buena Vista (nr. Páramo de Tamá), 41 km SW San Cristóbal and 12 km SSE Las Delicias, 7°27'N-72°26'W, 2,350-2,430 m (TACHIra). Hilly terrain on north facing slope at head of large, wide Andean valley. Numerous small (2-6 m wide), swift, rocky streams; Río Táchira nearby; occasional swampy and marshy areas. Mature cloud forest with discontinuous canopy of scattered trees 25-30 m high; subcanopy at 10-15 m, open or closed; many tree ferns, stilt palms, and thick clusters of tree bamboo; vines few and thin, or hanging from trees in abundance; shrub stratum 1.5 m high; moss and other epiphytes very abundant on trees and ground; abundant litter of logs, fallen trees, dead bamboo, and leaves. Virtually impenetrable clumps of vine-like bamboo dominant (choking out other vegetation), scattered throughout the forest, around fields, and forming thick canopies over streams. Clearings (formed by cutting and burning forest) with thick grass and clover, patches of needlelike rushes, and clumps of ferns, herbs, low shrubs, and blackberries. Collecting at upper edge of agricultural clearing (pasture and cropland); cloud forest continuous on steep slopes from this point up to ridgetop páramo, 5 hours' walk distant. Holdridge classification: LOWER
Mammals


**Buena Vista**, 9 km SSW Pueblo Nuevo, 80-120 m (see Península de Paraguaná)

**Cabecera del Caño Culebra** (Cerro Duida), 40 km NW Esmeralda, 3°30'N-65°43'W, 1,140-1,480 m (T. F. AMAZONAS). Uninhabited, trailless, and undisturbed Cerro Duida Plateau; drained mostly by Caño Culebra and Caño Negro, flowing northward to Río Cunucunuma, through complex of valleys and ridges. Caño Culebra mostly subterranean at head, although some tributaries surface at 1,830 m. Stream open and 0.5-1.5 m wide at 1,400 m; drops steeply to bench at 500 m, then falls over N rim of plateau. Surface composed of roots, leaves, and humus of varying thickness, capping rocks and concealing depressions and crevices; quaking and treacherous underfoot. Low, dense, scrubby summit forest (as seen at loc. 26, Caño Culebra) replaced at loc. 27 by island of high (12-20 m, occasionally 35 m) evergreen forest with slender trunks and branches mostly near tops, superficially similar to lowland forest of Cunucunuma Valley. Holdridge classification: LOWER MONTANE rain forest (bp-MB). Collectors: M. Tuttle and Harder. SVP numbers: 15934-15946, 15948-15997, 15999-16089, 16622-16633, 16637-16647, 16911-16939 (177 mammals, 29 birds). 25 Jan-13 Feb 1967. SVP locality 27.

**Cabecera del Caño Negro** (Cerro Duida), 32 km NW Esmeralda, 3°26'N-65°43'W, 1,225-1,830 m (T. F. AMAZONAS). Topography much like that at Cabecera del Caño Culebra. Ground densely covered with large, heavy-leaved plants holding quantities of water in leaf bracts. Scattered trees up to 12 m high, with large leaves and branches all along trunks. Footing so treacherous that Indians refused to work and camp had to be abandoned. Holdridge classification: LOWER MONTANE rain forest (bp-MB). Collectors: M. Tuttle and Harder. SVP numbers: 16634-16636, 16648-16660 (16 mammals). 14-17 Feb 1967. SVP locality 28.


**Campo Grande**, 51 km NE Icabarú, 976 m (see Icabarú)

**Caño Agua Fría**, 23 km NE Calabo, 150 m (see Hato Los Leones)

**Caño Azul**, 65 km WNW Encontrados, 95 m (see El Rosario)


**Caño Caurima**, 20 km SE Esmeralda, 135 m (see Esmeralda)

**Caño Cuca**, 14 km W Esmeralda, 135 m (see Esmeralda)

**Caño Culebra** (mouth), 60 km NW Esmeralda, 150 m (see Belén)

**Caño Culebra** (Cerro Duida), 50 km NW Esmeralda and 7 km SE Belén, 3°37'N-65°41'W, 750-825 m; a few specimens at 700 m and 1,795 m (T. F. AMAZONAS). North rim of Cerro Duida Plateau, where foamy, red water Caño Culebra, 5-8 m wide, falls over 300 m cliff. Plateau dissected by deep, steep-sided valleys with frequent waterfalls. High, exposed points burned by lightning fires. Cliff face and ledges clothed with grass, scattered small, scrubby trees, and tough ferns. At plateau rim, high tropical evergreen forest of valley grades abruptly into lower, drier, denser, scrubby montane forest containing many low (6-9 m), leathery-leaved trees (very dense and branching along entire stem) and some taller trees, up to 12 m high (to 15 m in damp, protected valleys). Trees and rocks laden with epiphytes; open areas covered with dense growths of lichens; ground cover of grass, large-leaved succulents, and palms nearly everywhere abundant and often very dense. Holdridge classification: PREMONTANE rain forest (bp-P). Collectors: M. Tuttle and Harder. SVP numbers: 15781-15933, 15998, 16193 (155 mammals). 11 Jan-2 Feb 1967. SVP locality 26.

**Caño Essa**, 60 km NW Esmeralda, 150 m (see Belén)

**Caño Guaviarito**, 12 km WNW San Juan, Río Manapiare, 155 m (see San Juan, Río Manapiare)
Caño Iguaipo, 10 km SE Esmeralda, 135 m (see Esmeralda.)

Caño Macandi, 2 km ENE Capibara, 150 m (see Capibara)

Caño Majagua, ca. 25 km N San Juan, Río Manapiare, 155 m (see San Juan, Río Manapiare)

Caño Pararita, 9 km SSE San Juan, Río Manapiare, 155 m (see San Juan, Río Manapiare)

Caño Seta, 56 km NNW Esmeralda, 150 m (see Belén)

Caño Tamata, 135 m (see Tamata)

Capaticida (within 31 km of town center), 11°
10'N-70°37'W (to 11°06'N-70°46'W and 10°54'N-70°41'W), 30-100 m (FALCON). Flat coastal desert, crossed by many streams, none of them permanently flowing; mixed sand and clay soil. Dominant vegetation low (2-3 m) thorny trees (many hollow), shrubs, and cacti, often very dense, with many vines. Trees larger where streams overflow during rains. Holdridge classification: TROPICAL thorny forest (me-T) and TROPICAL very dry forest (bms-T).


Capibara (Brazo Casiquiare), 106 km SW Esmeralda, 2-37°N-66°19'W, 130 m (T. F. AMAZONAS). Low-flying, forested plain, mostly permanently or seasonally flooded to depths of 0.5-3 m. High ground at time of collections, a few centimeters to about 1 meter above water level. Occasional monoliths and low rocky hills (disintegrated monoliths). Evergreen forest mostly lower than on upper Orinoco, but with patches of high forest. Dense stands of Heliconia to 10 m high; patches of low palm forest, rather open beneath, forming fairly complete canopy at 7-9 m. Collecting centered at old farm site on slight rise, inhabited until about 1955 by 12-15 families. Four hectares previously cleared for pasture and crops, had mostly reverted to second growth scrub, but two thatched roof huts, numerous fruit trees (stilt bearing), and small clearings with grass to 1.8 m high remained. Holdridge classification: TROPICAL humid forest (bh-T). Collectors: M. Tuttle and Harder. SVM numbers: 19260-19433, 19436-19442, 19441-19478, 19480-19634, 19636-19641, 19645-19646, 29007 (321 mammals, 11 birds, 12 reptiles, 22 amphibians, 14 other). 25 May-15 Jun 1967. SVM locality 33.


Caserio Boro, 10 km N and 10 to 47 km NE El Toquyo, 9°53'N-69°47'W to 10°02'N-69°26'W, 518-900 m (LARA). Upper portion of Río Toquyo Basin near N base of Andes; mountainous to W of river, hilly and undulating to E; river 60 m wide; muddy. Most flat areas on valley floor planted to sugar cane (also some tomatoes and onions). Wild cane and scattered trees 18-24 m high in band 15-24 m wide on river bank. Uplands desertlike, with dry washes, dry, sandy soil, and low thorny forest dominated by acacias and cacti. Holdridge classification: TROPICAL very dry forest (bms-T), PREMONTANE thorny forest (me-P), and PREMONTANE dry forest (bs-P). Collectors: A. Tuttle, Inquilla, and Stromeyer. SVM numbers: 35000-35433, 44134-44990 (1,008 mammals, 25 birds, 11 reptiles). 14-24 Jul 1968. SVM locality 43.

Casiquire Canal, 106 km SW Esmeralda, 130 m (see Capibara)

Cerro Azul, 33 to 40 km NW La Paz, 10°51'N-72°16'W, 75-80 m (ZULIA). Wide, flat valley of Río Cachiri (shallow and rocky, 30-40 m wide) in rolling, hilly country at upper edge of Maracaibo Plain, near northern terminus of Sierra de Perijá. Extensive clearing in five years prior to collecting had reduced formerly continuous deciduous forest to small scattered patches of much disturbed forest. Human population high; many roads and houses; land used for dairy pasture, banana plantations, and corn fields. Collecting in banana patches; cornfields overgrown with
grass, weeds, and morning glories; and various kinds of deciduous forest, all with more or less discontinuous, open canopy, and all characterized by abundant rotting fallen trees; remnant high riverbank forest with trees 30-40 m high and many vines and epiphytes; scrub forest with scattered trees 20-25 m high, vines and epiphytes, open subcanopy at 10 m, scattered clusters of bamboo, dense shrubs 3 or 4 m high, patches of thorny, vinelike bamboo, and variable ground cover of low herbs and woody plants, interlaced with thorny vines; scrubby thorn forest 5 m high, with sparse low woody plants and herbs and grassy openings. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: Peterson, Brown, Matson, and Narango. SVP numbers: 23198-23418 (206 mammals, 11 birds, 14 amphibians). 7-16 Jun 1968. SVP locality 83.

**Cerro Carimal, 6 to 13 km ENE Mirimire, 120-260 m** (see **Mirimire**)

**Cerro de Murciélago, 1 km W Pto. Páez, 76 m** (see **Puerto Páez**)

**Cerro del Tigre, 20 km W La Paragua, 400 m** (see **Hato San José**)

**Cerro Duida** (see Cabecera del Caño Culebra, Cabecera del Caño Negro, and Caño Culebra)

**Cerro Matasiete, 3 to 4 km NE La Asunción, 100-425 m** (see **Isla Margarita**)

**Cerro Negro, 10 km NW Caripé, 1,520-1,690 m** (see **San Agustín**)

**Cerro Santa Ana, 15 km SSW Pueblo Nuevo, 500-650 m** (see **Pensibula de Paraguaná**)

**Cerro Socopo, 84 km NW Carora, 10°28'S-70°48'W, 1,257-1,280 m** (FALCON). Cerro Socopo, northern terminus of line of ridges separating arid interior basins from Maracaibo Plain. Extensive evergreen forest on in-accessible N slope; remainder of mountain cleared for agriculture. Other summits to S and SE nearly, if not entirely, denuded of forest. Cerro Cerrón, the highest, had little more than 25 percent of its cloud forest cap left in 1967 and that was being cut. Collecting in scrub cloud forest at head of sheltered valley, 1 km SE summit of Cerro Socopo. Scattered trees and palms up to 30 m high; small trees formed discontinuous subcanopy at 3-4 m; tree ferns numerous along streams; epiphytes and vines common; small shrubs and patches of grass provided dense ground cover; open areas with dense ferns 1.5 m high, scattered patches of grass, and widely scattered trees up to 20 m high. Holdridge classification: LOWER MON-TANE very humid forest (bmh-MB). Collectors: Peterson, Brown, Matson, and Pine. SVP numbers: 22511-22599 (62 mammals, 13 birds, 14 amphibians). 13-18 May 1968. SVP locality 82 (subloc. 10-17).

**Chaberá, 18 km NE Icabará, 741 m** (see **Icabará**)

**Chaparito, 14 km SSE Pto. Ayacucho, 119 m** (see **Puerto Ayacucho**)

**Chaparrito, 32 km SSE Pto. Ayacucho** (see **Puerto Ayacucho**)

**Cinco Rancho, 28 km NE Icabará, 775 m** (see **Icabará**)


**Cojoro, 30 to 44 km NNE Paraguaino, 11°38'N-71°50'W, 5-50 m** (ZULIA, Venezuela and GUAJIRA, Colombia). Flat to undulating coastal desert, with gravel and sandy-clay soil, and isolated low mountains, with large eroded rocks and ledges and very little soil. Many gullies and streams up to 15 m wide and 2-3 m deep, dry or with isolated pools, except after rare rains; wells brackish. Except in drier places, coastal plain covered with low, thin-stemmed, thorny bushes; eacti up to 5 m high (sometimes forming dense thickets); numerous small Opuntia; but usually no grass, weeds, or other ground cover except twigs and branches. Gullies and stream-beds lined with thorny trees up to 5 m high, faced with many vines, and with sparse grass in openings. Mountains and drier lowland areas nearly bare of vegetation, with only occasional clumps of grass and scattered individual shrubs and cacti at 20-50 m intervals. Palm and banana plantations and fruit trees around houses and wells and abundant goats, sheep, burros, dogs, and house cats. Holdridge classification: TROPICAL thorny forest (mc-T). Collectors: Peterson, Brown, Matson, and Narango. SVP numbers: 23419-23645, 24226 (203 mammals, 4 birds, 16 reptiles, 4 amphibians, 1 other). 19 Jun-1 Jul 1968. SVP locality 84.

**Colonia Tovar (nr.), 36 km WSW Caracas, 2,000 m** (see **Alto No León**)

**Corocoro, nr. Cerro Yutaje, 18 km NE San Juan, Río Manapiare, 155 m** (see **San Juan, Río Manapiare**)

**Euphrasia**
Coromoto, 30 km S Pto. Ayacucho, 126 m (see Puerto Ayacucho)
Cucurito, 15 km N San Juan, Río Manapiare, 155 m (see San Juan, Río Manapiare)
Cucuyal, 14 km ENE Montalbán, 701 m (see Montalbán)
Cueva Alfredo Jahn, 160 m (see Birongo)
Cueva del Guacharo, 5 km W Caripe, 1,010 m (see San Agustín)
Cueva del Guano, 7 km W Pueblo Nuevo, 120 m (see Península de Paraguaná)
Cueva del Tigre, nr. Sotillo, 21 km E Cumaná, 40 m (see Cumaná)
Cueva La Tapia, 3 km N La Asunción, 50 m (see Isla Margarita)
Cueva Ricardo Zuloaga, 15 km SE Caracas, 548 m (see El Encontrado)
Cueva Vieja, 10 km E El Tocuyo, 900 m (see Caserio Boro)
Cueva Walter Dupouy, 4 km SW Birongo, 195 m (see Birongo)

Cumaná (to 24 km E Cumaná), 10°26'N-64°02'W (to 10°28'N-64°08'W and 10°27'N-63°57'W), 1-50 m (SUCRE). Very dry, steep-sided coastal hills and narrow coastal plain; bare rock outcrops and boulders; numerous streams, reduced to isolated pools of water in dry season. Many roads and settlements; much of limited flat land planted to coconut palms, oranges, or bananas. Collecting in scrubby thorn forest of acacia, caesalpinia, and thorny trees 10-20 m high, with many vines, shrubs to 5-8 m, and patches of grass; in overgrown coconut and orange groves with herbaceous and woody growth 2-5 m high, and wild cane 3-4 m high; in yards and chicken coops; and in tidal marsh with sedge 1-2 m high, patches of cane in wetter parts of marsh, and scattered small clumps of fleshy-leaved scrubby trees, 4-10 m high, in drier parts of marsh. Holdridge classification: TROPICAL very dry forest (bs-T). Collectors: Peterson, D. Peacock, and R. Peacock. SVP numbers: 11250-11356, 11713-12000 (343 mammals, 6 birds, 8 reptiles, 1 amphibian, 7 other). 7 Dec 1966-7 Jan 1967. SVP locality 67.

Cumbe, 1 km SW Altamira, 650 m (see Altamira)
Cumbre Canoabo, 9 km NE Montalbán, 657-773 m (see Montalbán)

Cúpita, 30 km E El Guapo, 10°10'N-65°42'W, 100 m (MIRANDA). Dry, scrubby, second growth deciduous forest at upper edge of coastal plain. Holdridge classification: TROPICAL dry forest (bs-T). Collector: Peterson. SVP number: 24819 (1 mammal, found dead on road). Jun 1967. SVP locality 99-16.

Curupao, 5 km NNW Guarenas, 10°31'N-66°35'W, 1,130-1,190 m (MIRANDA). Lower S (interior) slope of Sierra de la Costa; steep-sided ridges with abundant moss and lianencovered boulders and ledges; many small, fast-flowing streams. Continuous, mature, relatively undisturbed, evergreen forest above collecting area; much-disturbed deciduous forest and fruit orchards below. Collecting sites: 1) Near small aqueducts and 50x100 m reservoir at lower edge of mature, moist, fairly open, evergreen forest with larger trees 0.5 in dbh and 10-20 m high, twisted, and laden with vines and moss; shrubs up to 4 m; numerous ferns and herbs 0.1-2 m high; grass only along trails. 2) Orchard overgrown with vines, shrubs, and herbs, but upper canopy still composed almost entirely of mango, orange, and avocado trees; lower subcanopy of coffee and bananas. 3) Fruit orchard and patches of deciduous trees. Holdridge classification: PREMONTANE humid forest (bh-P). Collectors: Peterson, D. Peacock, and R. Peacock. SVP numbers: 10259-10543, 10546-10657 (391 mammals, 2 birds, 4 reptiles). 4-14 Oct 1966. SVP locality 64.

Dabajauro, 18 km SSW Capatárida, 75 m (see Capatárida)
Descanso, 56 km NE Icabarú, 905 m (see Icabarú)
El Blanquero, 45 km SSE Maturín, 18 m (see Hato Mata de Bejuco)
El California, 4 km NNW Montalbán, ca. 1,000 m (see Montalbán)
El Calvario, 0.1 km NNW Montalbán, 598 m (see Montalbán)
El Castaño, 1.2 km SE Montalbán, 508 m (see Montalbán)
El Central, 10 km NW Urana, 25 m (see Urana)
El Cobalongo, 7 km NNE Altamira, 900 m (see Altamira)
El Cruz, 37 km NW La Paragua, 298 m (see Hato San José)
El Dictado, 22 to 30 km NW Valera, 90 m (see Valera)

El Dorado (15 km SE El Dorado), 6°38'N-61°33'W, 75 m (BOLIVAR). Low, undulating plain, sloping toward Río Cayuni, with dense mixed forest (zone of transition between evergreen and deciduous). Holdridge classification: TROPICAL humid forest (bh-T).
El Encantado, 13 to 15 km SE Caracas, 10°27'N-66°47'W, 500-570 m (MIRANDA). Valley of Río Guaire between El Encantado and Los Naranjos. Steep slopes, frequent cliffs and outcrops, and numerous caves. Most caves small, dry, and dusty, but Cueva Ricardo Zuloaga with entrances 20x15 m in diameter, large rooms, long passages, dry or damp, much guano, and nesting oilbirds. Area clothed with low, dry, deciduous forest with few openings. Nearby ridge-tops with roads and houses, but valley largely uninhabited and accessible only on foot. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: Peterson, Farrish, Naranjo, Ojasti, Brown, and Matson. SVP numbers: 3777-3811, 21099-21153, 21429-21508 (170 mammals). 9 Jan 1966, 13-14 Jan 1968. SVP locality 77 (including loc. 55-13).

El Filo, 1 km SE Altamira, 600 m (see Altamira)

El Cavillán, 14 km SSE Pto. Ayacucho, 135 m (see Puerto Ayacucho)


El Limón, 48 km W Caracas, 380-398 m (see Hacienda Carapiche)

El Manaco, 56 to 68 km SE El Dorado, 6°19'N-61°19'W to 6°09'N-61°22'W, 150 m (a few specimens at 374 m) (BOLIVAR). Low, undulating, densely forested plain with infrequent small permanent streams and ponds and occasional small swamps, bisected by all-weather highway; mountains rise abruptly at S edge of area. Evergreen forest, 20-40 m high, largely undisturbed except for small settlements, farms, and road construction clearings along highway. Collecting in clearings, at rainwater pools in bare gravel pits, in gardens and fruit groves, on stream and swamp margins, and to a limited extent in deep forest. Holdridge classification: TROPICAL humid forest (bh-T). Collectors: M. Tuttle and A. Tuttle. SVP numbers: 7863-7871, 8180, 8498, 8500, 8591, 5962-8577, 8979, 8963, 8997-8999, 9006-9026, 9031, 9033, 9035-9949 (940 mammals, 8 birds, 6 reptiles, 2 amphibians, 16 other). 13 May-8 Jul 1966. SVP locality 20 (including locality 21; overlaps locality 19 at higher elevations).

El Mango, 11 km NE Guiria, 30-90 m (see Ensenada Cauranta)

El Meray, 1 km SE Montalbán, 598 m (see Montalbán)

El Milagro, 4 km NW El Nula, 24 m (see Nula)

El Mundo Nuevo de Surukán, 43 km NE Icabarú, 854-964 m (see Icabarú)

El Nudo, 13 km NE Icabarú, 817-881 m (see Icabarú)

El Nula (= San Camilo), 3 km S Nula, 24 m (see Nula)

El Pauji, 21 km NE Icabarú, 851 m (see Icabarú)

El Pico, 1 km SSW Montalbán, 598 m (see Montalbán)

El Polo, 15 km NE Icabarú, 800 m (see Icabarú)

El Raudal, 33 km S Pto. Ayacucho, 195 m (see Puerto Ayacucho)

El Rodeo, 35 km NE El Tocuyo, 634 m (see Caserio Boro)

El Rosario, 39 to 65 km WNW Encontrados, 9°09'N-72°36'W (to 9°13'N-72°34'W, 9°11'N-72°48'W, and 9°07'N-72°46'W), 24-125 m (ZULIA). Basin of Lago de Maracaibo, within 10 km of N bank of Río Catatumbo (125-200 m wide), from edge of lakeshore swamps to Colombian frontier at Río de Oro. Terrain low and flat in E, to undulating, to hilly near Río de Oro; lower portions flood seasonally, leaving sloughs and damp areas in dry season. Mature evergreen forest 18-30 m high, with many palms and vines, relatively free of underbrush in areas prone to flooding; dense, scrubby, second growth forest averages 10-15 m high. Patches of Heliconia 2.5-3 m high and grass to 1 m high in sloughs and old streambeds. Whole region much disturbed by oil wells, pipe lines, and associated roads; logging operations; clearing and burning for agriculture; and road building (Maracaibo-San Cristóbal highway, under construction, bisected area). Holdridge classification: TROPICAL humid forest (bh-T). Collectors: A. Tuttle, Inquilla, and Stromeyer. SVP numbers: 40968-42199.
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42493-42715 (1,443 mammals, 5 birds, 7 reptiles). 24 Feb-3 Apr 1968. SVP locality 39.

El Rosario, 1.2 km SW Montalbán, 618 m (see Montalbán)

El Tocuyo (see Caserio Boro)

El Vigia (see Mesa Bolívar)


Ensenada Cauranta, 9 to 12 km NE Giúria, 10°38’N-62°15’W, 1-100 m (SUCRE). Coastal lowlands and low mountains on S side of Peninsula de Paria. Coastal area flat and dry, with numerous small intermittent streams. Mountain ridges steep sided and humid, with small, swiftly flowing rocky streams, and many large boulders. Entire area heavily populated, broken up into small farms, and converted to agriculture. Most of lowlands covered with coconut palm and banana groves (also mangos, oranges, and sugar cane); some farms, poorly tended, had grass up to 2 m high and patches of shrubs and vines. Unfarmed lowland areas mostly quite dry and grown up to dense, low, thorny shrubs. Isolated small patches of deciduous forest had trees 8-15 m high, interior free of underbrush, and edges with dense growths of herbs and small woody plants and trees completely blanketcd with tangles of vines. In mountains, evergreen forest remnant consisted of scattered epiphyte-laden trees 23-30 m high, mostly shading orchards of cacao and bananas (some overgrown with small shrubs and vines and dense ground cover of ferns and herbs). Second growth vegetation very thick and moist. Occasional small, moist, limestone caves. Holdridge classification: TROPICAL dry forest (bs-T) and PREMONTANE humid forest (bh-P). Collectors: Peterson, D. Peacock, and R. Peacock. SVP numbers: 13099-13643 (517 mammals, 12 birds, 6 reptiles, 6 amphibians, 4 other). 2-19 Jun 1967. SVP locality 71.

Esmeralda (Rio Orinoco, to 20 km SE and 14 km W Esmeralda), 3°11’N-65°33’W (to 3°03’N-65°28’W and 3°00’N-65°40’W), 135 m (T. F. AMAZONAS). Low-lying Orinoco Plain, with scattered low hills, and occasional rock mounds (up to 60 m) with numerous small caves and crevices formed by jumbled rock slabs. Evergreen forest 30-35 m high, with open understory of forbs and slender shrubs. Small patches of savanna with dense grass up to 1 m high and many slender termitc mounds up to 1.5 m high. A mission and airstrip at Esmeralda and numerous Indian villages nearby. Holdridge classification: TROPICAL humid forest (bh-P). Collectors: Peterson, M. Tuttle, and Harder. SVP numbers: 11203-11249, 11250-11279, 18969-18994, 18998-19002, 19142-19155 (122 mammals). 3-11 Nov 1966, 11-16 May 1967. SVP locality 32 (and 66).

España, 57 km WNW Encontrados, 61 m (see El Rosario)

Estación Biológica de los Llanos, 9 to 14 km SE Calabozo, 8°52’N-67°23’W, 100-115 m (GUARICO). Llanos. Tall grass (1 m), with scattered, low, scrubby trees (Curatella, Byronella, and Bondchidia), and islands of forest (nata) up to 500 m in diameter. Matas with closed canopy of small trees (5 m high) and thick-trunked trees (12 m high); substratum sparse in interior, dense and almost impenetrable on edges, with bunch grass, scattered herbs, and small woody plants to 50 cm high, and shrubs (some spiny, 2 m). Streams bordered by scrubby gallery forest with thin-stemmed trees 4-6 m high forming complete canopy; scattered large trees (to 25 m), spiny shrubs, and vines; grass in openings. Soil gravelly, sandy-clay, with little humus. Collecting in savanna and matas and on station lawn (with close-mowed grass and scattered shade trees about 12 m high). Holdridge classification: TROPICAL dry forest (bs-T). Collectors: Peterson, Naranjo, Brown, and Matson. SVP numbers: 4542, 24570-24800 (216 mammals, 1 bird, 12 reptiles, 3 amphibians). 28 Aug 1966, 16-23 Aug 1968. SVP locality 86.


Guasipati (5 km NNW Guasipati), 7°31’N-61°55’W, 190 m (BOLIVAR). Dry hilly terrain with patches of savanna and vine-laden deciduous forest. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: M. Tuttle and A. Tuttle. SVP numbers:
7872-7873, 7875-7949 (76 mammals, 1 reptile). 24-29 Apr 1966. SVP locality 16.

Guatopo (Parque Nacional Guatopo), 10 to 35 km NE, N, and NW Altagracia, 10°11'N-66°31'W and 10°03'N-66°27'W to 9°55'N-66°19'W, 300-740 m (GUARICO and MIRANDA). Crest and S slopes of Serrania del Interior, facing the Llanos. Low, steep-sided ridges; numerous small rocky streams; clay or clay-loam soil, very slippery in rainy season. Area largely forested, much of it relatively little disturbed, but collecting was mostly in abandoned agricultural land in various stages of reversion to forest (evergreen at higher elevations, deciduous at lower). Typically, grass high (to 1.5 m) and dense in openings and along trails; herbs and small woody plants (0.2-1.5 m); shrubs to 5 m; individual trees and thickets of Cecropia common; scattered larger (to 30 m); older trees; many trees and shrubs (coffee, bananas, oranges, etc.) still surviving from agricultural era. Along streams at lower elevations clumps and thickets (to 10 m high) of bamboo common. Holdridge classification: TROPICAL dry forest (bs-T), TROPICAL humid forest (bh-T), and PRE-MONTANE humid forest (bh-P). Collectors: Peterson, D. Peacock, R. Peacock, and Naranjo. SVP numbers: 191-192, 4901-4999, 10000-10084, 10086-10258 (338 mammals, 5 birds, 9 reptiles, 1 amphibian, 6 other). 24 Jul 1965, 16 Sep-2 Oct 1966. SVP locality 63.

Guayabal, 25 km S Pto. Ayacucho, 135 m (see Puerto Ayacucho)

Hacienda Bajo Seco, 3 km S Río Chico, 1 m (see Río Chico)

Hacienda Bejuquero, 1 km S Río Chico, 1 m (see Río Chico)

Hacienda Carapiche (nr. El Limón), 48 km W Caracas, 10°29'N-67°19'W, 380-398 m (DTO. FEDERAL). Steep-sided valley on lower seaward slope of Sierra de la Costa, near mesic-xeric ecotone. Soil sandy to loamy clay, with many boulders and smaller stones. Largely evergreen forest formed epiphyte-laden, semiclosed canopy at 20 m; shrub subcanopy at 3 m; ground cover of low herbs and scattered ferns. Forest much disturbed around roads and farms (corn, bananas, coffee, poultry), where there was dense second growth scrub. Clearings with dense grass up to 2.5 m high, together with many herbs and scattered trees. Holdridge classification: PRE-MONTANE humid forest (bh-P). Collectors: Peterson, D. Peacock, R. Peacock, and Naranjo. SVP numbers: 4651-4841 (186 mammals, 1 bird, 2 reptiles, 2 amphibians). 18-22 Aug 1966. SVP locality 61.

Hacienda El Rodeo, 35 to 40 km NW La Paz, 75-80 m (see Cerro Azul)

Hacienda El Tigre, 39 km NW La Paz, 80 m (see Cerro Azul)

Hacienda Eleita, 10 km NE Altagracia, 630 m (see Guatopo)

Hacienda Guarantía, 14 km E Cumaná, 1 m (see Cumaná)

Hacienda Guaracayal, 24 km E Cumaná, 1 m (see Cumaná)

Hacienda La Aurora, 794 m (see Altamira)

Hacienda La Cañada, 3 km SW Montalbán, 618 m (see Montalbán)

Hacienda La Concordia, 9 km NE Giiria, 7 m (see Ensenada Cauranta)

Hacienda La Guara, 6 km SSE Río Chico, 1 m (see Río Chico)

Hacienda La Rosa, 12 km NE Giiria, 90-100 m (see Ensenada Cauranta)

Hacienda Los Chucrúez, 3 km NNE La Asunción, 42-70 m (see Isla Margarita)

Hacienda Los Mamones, 16 km NW Barbacoas, 9°34'N-67°05'W, 228 m (GUARICO). Llanos. Undulating plain, with irrigation canals and small lagoons. Savanna fenced for pasture, subject to grazing and frequent burning. Scattered deciduous trees (to 15 m) and clumps of shrubs; many palmnotlike palms; and dry grass and forbs. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: Peterson, Parrish, and Naranjo. SVP numbers: 3997-4007 (4 mammals, 2 birds, 5 amphibians). 2 Mar 1966. SVP locality 92.

Hacienda Misiši, 13 to 15 km E Trujillo, 9°21'N-70°18'W, 1,769-2,360 m (TRUJILLO). Ridge-top and N facing slope of steep-sided, well-watered Andean valley. Soil rich loam, with thick humus layer. Low, scrubby cloud forest on ridge crest, higher forest on slopes; trees in exposed places distorted by persistent high winds. High forest with trees 15-20 m high and vines, moss, lichens, orchids, and other epiphytes; tree fern and shrub subcanopy 5-6 m high; ground stratum of grass, moss, ferns, and forbs to 1 m high; dense thickets of bamboo in openings. In dry season, dead leaves, grass, and bamboo generally concealed fallen trees and boulders; moss and lichens covered exposed rocks, logs, and trees. Occasional small farms within forest; entire valley floor and lower slopes cleared for pasture and crops such as corn, wheat,
onions, and potatoes. Hunting pressure heavy. Collecting in 27x2 km block of primary cloud forest, possibly the last remaining in Trujillo State; in recently cleared and second growth cloud forest; and on stream banks, along stone walls, and in patches of shrubs in cultivated areas. Holdridge classification: LOWER MONTANE humid forest (bh-MB) and LOWER MONTANE very humid forest (bhnh-MB). Collectors: Peterson and Parrish. SVP numbers: 3813-3909 (87 mammals, 9 birds, 1 reptile). 18-29 Jan 1966. SVP locality 56.

Hacienda Pedogal, 1 km S Río Chico, 1 m (see Río Chico)

Hacienda Platanal, 33 km NW La Paz, 75-80 m (see Cerro Azul)

Hacienda Quetepe, 16 km E Cumaná, 1-5 m (see Cumaná)

Hacienda San Antonio, 34 km NW La Paz, 80 m (see Cerro Azul)

Hacienda San Fernando, 3 km NW Catire, 1,165-1,460 m (see San Agustín)

Hacienda Socopito, 80 km NW Carora, 470-480 m (see Socopito)

Hacienda Tuccusto, 3 km SW Catire, 854 m (see San Agustín)

Hacienda Tunantal, 21 km E Cumaná, 1-20 m (see Cumaná)

Hacienda Valle Verde, 46 km WNW Valera, 29 m (see La Ceiba)

Hato Cariben (nr. Santa María), 32 to 46 km NE Pto. Páez, 6°33'N-67°13'W, 76 m (APURE). Relatively flat, sandy plain (mostly seasonally flooded), with patches of low, rolling hills of soft sand, and occasional isolated low rocky hills or rock domes; bounded on E by muddy Río Orinoco and on N by clear Río Cinaruco; frequent small, clear lagoons. Uplands covered with grass 15-60 cm high; stream courses, low damp areas, and lagoons bordered by dense forest 7.5-18 m high, with little ground cover; ecotone between forest and grassland usually rather sharp. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: D. Tuttle and A. Tuttle. SVP numbers: 5480-5637, 5639-6116 (607 mammals, 7 birds, 6 reptiles, 16 amphibians). 1 Dec 1965-11 Jan 1966. SVP locality 6.

Hato Destino, 30 to 33 km NW La Paragua, 300-306 m (see Hato San José)

Hato Juan Felipe, 53 km SSE Maturín, 18 m (see Hato Mata de Bejuco)

Hato La Costumbre, 45 km SSE Maturín, 18 m (see Hato Mata de Bejuco)

Hato La Florida, 38 to 63 km SE and SSE Cai- caru, 7°30'N-65°52'W to 7°25'N-65°39'W, 40-130 m (BOLIVAR). Flat to undulating plain and steep-sided low mountains at southern edge of Llanos; many small streams, some reduced to dry beds with isolated pools in dry season; clay or sandy soil, often with pebbles or rocks; mountain slopes littered with huge boulders. Entire area savanna, bounded southward by evergreen forest. Collecting in: 1) open, pastured prairie with grass 1-2 m high, herbs 1-3 m, and scattered low shrubs; 2) belts of swampy or marshy evergreen forest bordering streams; clay soil saturated with water and with much standing water; trees, mostly palms, 10-15 m high; shrubs 3-4 m, herbs 0.5-2 m, and dense grass in openings; 3) belts of dry evergreen forest bordering dry stream beds, similar to swamp forest but with more vines and spiny plants and trees up to 25 m high; 4) steep mountainside savanna with low grass (0.5 m), some soft and woody herbs, and widely scattered stunted trees with twisted trunks and branches; 5) plots of banana, pineapple, and yucca. Human population mostly occupied with cattle raising. Many roads and trails. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: Peterson, D. Peacock, R. Peacock, and Furman. SVP numbers: 12741-12888, 12890-13003 (221 mammals, 19 birds, 17 reptiles, 3 amphibians, 2 other). 14 Apr-6 May 1967. SVP locality 70.

Hato La Vergareña, 26 to 32 km W and SW La Paragua, 306-310 m (see Hato San José)

Hato Larao, 1 km S Montalbán, 598 m (see Montalbán)

Hato Las Palmitas, 35 km SSW San Juan de los Morros, 9°36'N-67°27'W, 181 m (GUARI- CO). Rolling, hilly terrain in high Llanos; sandy-clay soil with much gravel; numerous small streams (reduced to isolated pools in dry season). Grassland on hills and forest (mata) in sheltered valleys. Grass in savannas 0.5 m (where grazed) to 1.5 m, with scattered small trees (6-8 m) and shrubs. Brushlands composed of thin-stemmed woody plants 1-5 m high, cactus of several varieties, numerous thick-stemmed vines, and scattered trees to 10 m high. Forest deciduous, very thick and difficult to penetrate, 8-15 m high; shrubs, forbs, and occasional vines not forming a definite subcanopy; seasonally very dry. Occasional weedy abandoned corn fields. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: Peterson, D. Pea-


Hato Mata de Bejuco, 55 km SSE Maturín, 9°19'N-62°56'W, 18 m (MONAGAS). Llanos. Sandy plain, extensively flooded to depths of 0.5-1 m during rainy season. Grass (25-50 cm high), mostly in clumps, on higher ground; thorny, vine-faden forest (9-12 m high), mostly lacking ground cover, in bands 150-300 m wide along streams; scattered palms on damp ground. Land divided into large ranches (hastos); areas of better soil fenced and cultivated, or used for dry season pasture; numerous small settlements along roadways. Collecting on both sides of Río Tigre (60 m wide) near Highway 8 crossing. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: A. Tuttle and Pine. SVP numbers: 7874, 9963-9999, 15000-15073, 15075-15082, 15085-15106, 43445-43499, 43512-43593, 43595-43760 (417 mammals, 5 birds, 16 reptiles, 7 amphibians). 23 Apr and 1-11 Aug 1966, 2-11 Jun 1968. SVP locality 24 (and 41).

Hato San José, 20 to 37 km NW, W, and SW La Paragua, 6°49'N-63°29'W (to 6°58'N-63°36'W and 6°44'N-63°27'W), 297-400 m (BOLIVAR). Flat to undulating plain and isolated low mountains; sandy or clay soil; occasional lagoons and numerous small streams, mostly reduced to isolated pools in dry season. Two basic habitats: isolated savannas and continuous evergreen forest. Typical mature evergreen forest with tree canopy at 30-35 m and shrub subcanopy at 5-10 m; decaying logs on ground; little underbrush. Second growth forest with mixture of evergreen and deciduous plants; scattered taller trees up to 35 m; smaller trees 15-25 m; very dense undergrowth of bamboo (4-6 m) and saplings (4-8 m); vines, brambles, and grass 2-4 m high. Brushland with thick chumped grass 0.2-1.5 m high, scattered trees (3-4 m), shrubs (1.5-2.5 m), woody weeds and brambles (1-1.5 m). Savannas with scattered trees and shrubs, or open and treeless on uplands and with bands of forest up to 200 m wide along streams; trees mostly evergreen and including many palms; subcanopy at about 8-10 m and shrubs 2-3 m; numerous vines; rotting logs and leaves on ground; many vines and shrubs leafless in dry season. Cattle raising and lumbering the dominant human disturbances; many roads and trails. Holdridge classification: TROPICAL dry forest (bs-T) and TROPICAL humid forest (bh-T). Collectors: Peterson, D. Peacock, R. Peacock, and Yunker. SVP numbers: 12365-12460, 12463-12739 (308 mammals, 42 birds, 21 reptiles, 2 other). 26 Feb-11 Apr 1967. SVP locality 69.

Hato Santa Barbara, 58 km SSE Maturín, 18 m (see Hato Mata de Bejuco)

Hotel Humboldt, 5 km NNE Caracas, 2240 m (see Pico Ávila)

Icaború (Icaború to 56 km NE Icaború), 4°20'N-61°46'W to 4°35'N-61°19'W, 473-982 m (BOLIVAR). S edge of Gran Sabana near Brazilian boundary. Hilly to mountainous (sheer-sided, flat-topped mesas visible to N). Soil light, sandy, and rocky in savanna; red and rocky in forest; cavies abundant. Streams numerous, up to 20 m wide, clear or red. Some large tracts of evergreen forest, but most forest in isolated blocks or in strips along streams, with savanna intervening. Mature forest 10-30 m high; mostly lacking dense undergrowth; some with many vines; some quite damp, with ferns and moss covering trees, vines, and rocks. Savanna with bunch grass about 1 m high, scattered bushes 0.5-3 m high, and occasional dense patches of ferns. Collecting in forest and savanna along road between Icaború and Sta. Elena, and in caves, fruit groves, gardens, and thatched roofs of houses in Indian villages. Holdridge classification: TROPICAL dry forest (bs-T), PREMONTANE humid forest (bh-P), and PREMONTANE very humid forest (bhm-P). Collectors: A. Tuttle, Inquilla, Stromeyer, and Yunker. SVP numbers: 42716-43444, 43500-43511 (705 mammals, 16 birds, 17 reptiles, 3 amphibians). 24 Apr-19 May 1968. SVP locality 40.

Independencia, 23 km NE Icaború, 824 m (see Icaború)

Ippapure, 35 km NNE Paraguaiapoia, 15 m (see Cojoro)

Isla Cuyunacua, 7 km SE Esmeralda, 135 m (see Esmeralda)
Isla Margarita, 11°03'N-63°51'W (to 10°59'N-64°11'W and 10°55'N-63°53'W), 2-125 m (NUEVA ESPARTA). Island, about 65x25 km, on Continental Shelf in Caribbean, about 25 km N mainland; several low (less than 1,000 m), steep-sided mountains, and large flat to hilly coastal plain; many small streams, most reduced to dry washes during much of the year. Habitats include desert, with scattered, low (to 4 m), thorny shrubs and cacti without ground cover or underbrush; sand dunes with scattered thorny shrubs, cacti, and clumps of low grass and prostrate herbs and woody plants; low (6-10 m), scrubby, thorn forest, with many shrubs (2-4 m high) and cover of spiny vines; rocky, grassy (1-1.5 m high) mountain slopes; humid mountain-top cloud forest of stunted evergreen trees (4-7 m high), heavily laden with moss and other epiphytes, with herbs 1-2 m high in openings, and thick humus layer of rotting logs and leaves, but little soil. Most habitats disturbed by dense human population and much of island farmed: coconuts, bananas, mangos, oranges, lemons, pincapples, corn, sugar cane, etc. Holdridge classification: TROPICAL scrub desert (md-T), TROPICAL thorny forest (mc-T), TROPICAL very dry forest (bsm-T), PREMONTANE dry forest (bs-P), and PREMONTANE humid forest (bh-P). Collectors: Peterson, D. Peacock, and R. Peacock. SVP numbers: 11357-11399, 12001-12364 (376 mammals, 46 birds, 13 reptiles, 17 other). 5 Jan-13 Feb 1967. SVP locality 68.

Isonotí, 12 km WNW Valera. 900-930 m (see Valera)

IVIC (Instituto Venezolano de Investigaciones Científicas), 15 km SW Caracas, 10°24'N-66°53'SW, 1,460-1,665 m (DTO. FEDERAL and MIRANDA). Steep sides and moderately sloping top of interior ridge overlooking Caracas: sandy-clay soil with few stones; numerous small, swift, rocky streams; occasional small swampy areas. Originally probably covered with cloud forest; now much disturbed, converted to open grassland, with second growth evergreen scrub on slopes, and small, isolated tracts of remnant cloud forest on ridge-tops: numerous roads, trails, and buildings. Open areas with very dense, coarse grass to 1.5 m, mixed with ferns and scattered clumps of shrubs to 4 m. Most collecting in cloud forest, with trees 25-30 m, laden with vines, orchids, and bromeliads; subcanopy at 10 m; abundant ground cover of low herbs and ferns. Holdridge classification: PREMONTANE humid forest (bh-P) and LOWER MONTANE very humid forest (bmh-MB). Collectors: Peterson, Brown, and Matson. SVP numbers: 13004, 14753-14790, 21428 (39 mammals, 1 amphibian). 10 Oct 1966, 17-31 Oct 1967, 18 Jan 1968. SVP locality 74.

Junicalito, 18 km WSW Capatárida, 75 m (see Capatárida)

Kismera, 21 km SW Machiques, 9°59'N-72°43'W, 265-275 m (ZULIA). Eastern base of Sierra de Perijá. Collecting at biological station in wide, flat-bottomed valley of Río Yasa, a fast-flowing, rocky stream about 15 m wide, bordered by steep slopes and cliffs; occasional caves. Valley floor with second growth evergreen scrub about 4 m high; many stumps and logs, very dense growth of shrubs, vines, and Heliconia; scattered trees up to 30 m high. Station yard on riverbank with lawn, clumps of low shrubs, banana and papaya plants, and scattered grapefruit trees. Second growth evergreen forest on ridge-side with canopy at 25 m, subcanopy of scrubby trees at 10 m; vines, moss, and bromeliads abundant and often covering trunks and branches of trees. Holdridge classification: TROPICAL humid forest (bh-T). Collectors: Peterson, Brown, Matson, and Yunker. SVP numbers: 22021-22050, 22052, 22054-22199, 22600-22734 (285 mammals, 11 birds, 15 reptiles, 1 other). 8-24 Apr 1968. SVP locality 81 (subloc. 10-15).


Kilometer 40, 19 km NW Urama, 25 m (see Urama)

Kilometer 67, 56 km SE El Dorado, 150 m (see El Manaoco)

Kilometer 74, 59 km SE El Dorado, 150 m (see El Manaoco)

Kilometer 88, 68 km SSE El Dorado, 150 m (see El Manaoco)

Kilometer 125, 68 to 85 km SSE El Dorado, 5°59'N-61°26'W to 6°09'N-61°22'W, 193-1,165 m (mostly at 1,032 m) (BOLIVAR). Deep valleys and steep ridges (occasional cliffs), near head of Río Venamo (4-8 m wide), between lowland plain and Gran Sabana; bi-
sected by a single, new, all-weather highway. Dense, moist, luxuriant forest (12-24 m high), virtually undisturbed except on roadsides (ferns, grass, moss, and shrubs 1-2 m high there); all potential growing places festooned with orchids, ferns, mosses, and other epiphytes. Ground saturated, rocky, with little cover except for abundant moss-covered boulders and fallen trees. Collecting on roadside, in road construction clearings, along streams, and to a extent in dense forest. Holdridge classification: TROPICAL humid forest (bh-T) and PREMONTANE very humid forest (bmh-P). Collectors: M. Tuttle and A. Tuttle. SVP numbers: 7951-8179, 8181-8334, 8336-8497, 8499, 8501-8950, 8952-8961, 9027-9030, 9032, 9034 (937 mammals, 66 birds, 4 reptiles, 5 amphibians. 8 May-S Jun 1966. SVP locality 19 (overlaps locality 20 at lower elevations).

La Aguada, 2 km SSE La Asunción, 41-63 m (see Isla Margarita)

La Asunción, 3 km NE, 295-360 m (see Isla Margarita)

La Bellaca, 600 m (see Altamira)

La Blanquita, 4 km N El Nula, 24 m (see Nulita)

La Carbonera, 6 to 12 km SE La Azulita, 5°38'-N, 71°21'TW, 1,870-2,190 m (MERIDA). Disturbed cloud forest on N facing slope of large Andean valley. Most large trees had been recently removed; shrub stratum (up to 8 m) and scattered trees (to 20 m) remained; grass and ferns in openings. Holdridge classification: LOWER MONTANE very humid forest (bmh-MB). Collectors: Peterson and Parrish. SVP numbers: 4466-4544 (59 mammals, 19 birds, 1 other. 21-27 Apr 1966. SVP locality 59.

La Ceiba, 46 to 53 km WNW Valera, 5°28'N- 71°04'W, 16-29 m (TRUJILLO). Flat alluvial plain bordering Lago de Maracaibo near mouth of Río Motatán. Dikes keep river about 4 m higher than plain. Lake shore relatively dry, with short grass and scattered palm trees. Four km-wide band behind lake shore permanently flooded marsh and swamp forest with dense growth of Heliconia, talatillike plants, broad-leaved grass, and trees 15-20 m high. Areas bordering inland edge of swamp subject to extensive seasonal flooding; formerly covered with deciduous forest 20-30 m high, with subcanopy of spiny palms, and dense ground cover of spiny palms and succulents; mostly cleared for pasture and crops during 20 years prior to collections; primary forest remains only in small isolated tracts on swamp margins. Holdridge classification: TROPICAL dry forest (bh-T). Collectors: Peterson, Flanigan, Taylor, and Young. SVP numbers: 2547-2551, 3550, 3552-3633, 3635-3701, 3703, 3992-3995 (131 mammals, 4 birds, 17 reptiles, 6 amphibians, 2 other). 3 Sep and 26 Oct-7 Nov 1965, 19 Feb 1966. SVP locality 53.

La Chiricoa, 3 km NE El Nula, 24 m (see Nulita)

La Colonia, 55 km NE Isabaru, 905-923 m (see Isabaru)

La Concordia, 47 km NE El Tocuyo, 592 m (see Caserio Boro)

La Copa, 4 km NW Montalbán, 1,446-1,537 m (see Montalbán)

La Coromoto, 7 km SE Tabay, 3,070-3,410 m (see Tabay)

La Cristalina, 5 km N El Nula, 24 m (see Nulita)

La Cumbre (nr.), 7 to 10 km ENE Mirimire, 200 m (see Mirimire)

La Danta, 31 km SSE Capatárida, 100 m (see Capatárida)


La Guarida, 15 m (see Isla Margarita)

La Isla, 37 km NNE Paraguapió, 15 m (see Cojoro)

La Laguna, 5 km NW Caripe, 1,165-1,365 m (see San Agustín)

La Leonera, 3 km W Montalbán, 900 m (see Montalbán)

La Mucuy, 4 km E Tabay, 2,077-2,127 m (see Tabay)

La Pastora (nr.), 11 to 19 km ENE Mirimire, 20-400 m (see Mirimire)

La Pucra, 14 km ENE Montalbán, 767 m (see Montalbán)

La Quinta, 0.5 km SW Altamira, 697 m (see Altamira)

La Rinconada, 63 km NW Encontrados, 125 m (see El Rosario)

La Soledad, 5 km SW Altamira, 794 m (see Altamira)

La Trinidad, 9 km NW Montalbán, 900 m (see Montalbán)

La Vecindad, 10 km WNW La Asunción, 19 m (see Isla Margarita)

La Vega del Río Santo Domingo, 2 km SW Altamira, 620 m (see Altamira)
La Villa, 32 km NE Pto. Páez, 76 m (see Hato Cariben)
La Voluntad, 14 km NE Montalbán, 1,007 m (see Montalbán)
La Yaca, 2 km SE Altamira, 600 m (see Altamira)
Laguna Guara, 15 km SSW San Juan, Río Manapiare, 155 m (see San Juan, Río Manapiare)
Laguna Verde, 9 km SE Tabay, 3,430-3,830 m (see Tabay)
Lagunillas (1 km NE Lagunillas), 8°30'N-71°22'W, 915 m (MERIDA). Arid Andean valley; with steep slopes, dry streams, sandy-clay soil, numerous boulders and rock outcrops, scattered trees and shrubs to 20 m high, many cacti to 6 m high, and abundant forbs. Holdridge classification: PREMONTANE dry forest (bs-P). Collector: Peterson. SVP numbers: 4357-4358 (2 reptiles). 27 Mar 1966. SVP locality 91.
Las Matas, 5 km S Montalbán, 598 m (see Montalbán)
Las Queseras, 20 km S Pto. Ayacucho, 135 m (see Puerto Ayacucho)
Los Alpes, 35 km NW Altacraguia, 300 m (see Guataparo)
Los Hatos, 4 km NE Capatarida, 40 m (see Capatarida)
Los Jelos, 11 km SW Capatarida, 60 m (see Capatarida)
Los Naranjos (nr.), 15 km SE Caracas, 500 m (see El Encantado)
Los Papagos, 7 km SW Montalbán, 598 m (see Montalbán)
Los Venados, 4 km NNW Caracas, 10°32'N-66°54'W, 1,400-1,739 m (DTO. FEDERAL). Old coffee finca, now part of Parque Nacional El Avila; about halfway up inland slope of Sierra de la Costa, overlooking Caracas; mostly gentle slopes; numerous small, rocky, swift-flowing streams (Río Anauco and Quebrada Guayabal). Collecting mostly within 1,000 m of park headquarters: lawns, livestock pens, open weedy areas, fairly dry to rather moist second growth forest. Holdridge classification: LOWER MONTANE humid forest (bh-MB). Collectors: M. Tuttle, A. Tuttle, Peterson, Flanigan, Handley, Tipton, and Young. SVP numbers: 1-190, 193-618, 639-640, 1133-1146 (595 mammals, 37 birds). 21 Jul-15 Aug 1965. SVP locality 1.
Manacal, 26 km ESE Caripano, 10°37'N-63°01'W, 170-575 m (SUCRE). Crest of low mountains at base of Peninsula de Paria. Ridgetops fairly level, but slopes steep; small, swift, rocky or sandy streams numerous, mostly seasonal at lower elevations; soil mostly clay; some areas with boulders and cliffs. Human population high and virtually all land cultivated, predominantly with coffee and cacao, but also with bananas, corn, mangos, and avocados. Collecting in: 1) Evergreen forest, with trees 10-25 m high; open very dense shrub subcanopy 3-5 m; numerous vines and epiphytes; and grass and herbs 1.5 m (very dense to absent). 2) Remnant evergreen forest with original tree canopy but natural subcanopy replaced by coffee or cacao; well-tended and clean, or with ground cover of ferns, grass, herbs, and vines. 3) Overgrown meadow, with dense coarse grass, herbs, small woody plants, and vines to 2 m high; and scattered shrubs 2-4 m. 4) Yards in village, with houses, lawns, gardens, fruit trees, shrubs, weeds, chickens, ducks, pigs, and donkeys. Holdridge classification: PREMONTANE dry forest (bs-P) and PREMONTANE humid forest (bh-P). Collectors: Peterson, D. Peacock, R. Peacock, and Tipton. SVP numbers: 14299-14711 (403 mammals, 7 birds, 1 reptile, 2 other). 18 Jul-4 Aug 1967. SVP locality 73.
Maurú, 46 km NE Icabanur, 800 m (see Icabanur)
Mesa Bolivar (nr.), 22 km SSE El Vigia, 8°26'-N-71°34'W, 690 m (MERIDA). East facing

**Middle Refugio.** 6 km ESE Tabay. 2.550-2.710 m (see Tabay)

**Minas de Aroa.** 19 to 30 km NW San Felipe. 10°25'N-68°34'W, 380-500 m (YARACUY). Near head of Rio Aroa, on NW flank of Sierra de Aroa. Steep-sided canyons, often with sheer walls; rocky, sandy-clay soil with many boulders and outcrops; rocky, boulder-strewn, fast-flowing streams, up to 4 m wide. Lower edge of evergreen mountain forest, reduced to second growth scrub with thick underbrush and scattered large trees or to forest with discontinuous canopy of trees 25-35 m high; subcanopy of shrubby palms and scattered trees 4-15 m; scattered low herbs; many vines and bromeliads. Occasional small patches of bananas, coffee groves, and small fields; low herbs, particularly legumes, abundant in openings. Collecting mostly in and around buildings, caves, mine shafts, and slag piles of abandoned copper mine. Holdridge classification: PREMONTANE humid forest (bh-P). Collectors: Peterson, Brown, and Matson. SVP numbers: 20279, 20290-20297, 20809-21002 (707 mammals, 4 birds, 1 amphibian, 1 other). 30 Nov-23 Dec 1967. SVP locality 76.

**Mirimire (Mirimire to 20 km NNE to ESE Mirimire),** 11°12'N-68°37'W (to 11°05'N-68°35'W, 11°10'N-68°44'W, and 11°20'N-68°42'W), 1-400 m (FALCON). Undulating to level lowlands and isolated low, steep-sided limestone ridges with cliffs and many small dry or moist caves and crevices (1-12 m high, 20-100 m deep); sandy-clay soil; numerous small streams. Evergreen forest on ridges; low, dry, deciduous thorn forest in lowlands; thickly settled, but farms small and openings discontinuous; crops included lemons, oranges, mangos, bananas, and corn. Upper canopy of evergreen forest at 25-30 m, discontinuous; subcanopy continuous at 10 m; many thorny vines and epiphytes; ground cover of low herbs and woody plants; tough, coarse grass in openings. Evergreen forest continued along streams into lowlands, but trees only about 12 m high, with subcanopy at 8 m, and thick underbrush of vines, thorny plants, and herbs. Deciduous thorn forest thick, low (6-12 m), with many epiphytes and tall cacti, and understory of woody shrubs, thorny plants, and low grasses. Lagoons near coast bordered by mangroves. Holdridge classification: TROPICAL very dry forest (bms-T). TROPICAL dry forest (bs-T), and PRE-MONTANE humid forest (bh-P). Collectors: Peterson, Brown, and Matson. SVP numbers: 14791-14507, 14509-14999, 20000-20275, 20280-20259, 22053, 24111-24818 (488 mammals, 4 birds, 7 reptiles, 4 amphibians, 3 other). 9 Nov-4 Dec 1967 (additional sporadic collections, Aug 1967-Feb 1968). SVP locality 75.

**Montalbán (within 14 km of town center),** between 10°06'N-68°21'W, 10°14'N-68°12'W, and 10°17'N-68°21'W, 562-1.537 m (CARABOBO). Fertile basin, rimmed except S by mountains, highest to N and NW. Human population high and small settlements and roads numerous. Most of basin's floor pastured or cultivated; oranges dominant crop; also mangos, bananas, coffee, papayas, tobacco, and sugar cane; "gamarot" grass up to 1.8 m high. Mature (9-12 m high), wet cloud forest, with palms and ferns on higher mountain tops; vines, moss, ferns, bromeliads, and orchids plentiful, especially on NW slopes; ferns (up to 1.8 m) and grass abundant where trees had been cut. Lower mountain slopes with patches of mature evergreen forest, 9-15 m high; elsewhere second-growth forest and scrub dominant. Holdridge classification: PREMONTANE dry forest (bs-P), PREMONTANE humid forest (bh-P), and PREMONTANE very humid forest (bms-P). Collectors: A. Tuttle, Inquilla, and Stroeneyer. SVP numbers: 31801-33151, 35434-35475 (1.335 mammals, 15 birds, 36 reptiles, 10 amphibians). 31 Oct-6 Dec 1967, 31 Jul-8 Aug 1968. SVP locality 36 (and 44).

**Montevo.** 2 km ENE Montalbán, 595 m (see Montalbán)

**Moravey.** 16 km SSW San Juan, Río Manapiare; 155 m (see San Juan, Río Manapiare)

**Morganito.** 70 km SSW Pto. Ayacucho, 161 m (see Puerto Ayacucho)

**Morocoy.** 65 km SSW Pto. Ayacucho, 161 m (see Puerto Ayacucho)

**Moruy.** 15 km SSW Pueblo Nuevo, 45-90 m (see Peninsula de Paraguaná)

**Novito.** 19 km WSW Machiques, 10°02'N-72°43'W, 1.131-1.200 m (ZULIA). Lower E slopes of Sierra de Perijá, overlooking valley
of Río Negro. Steep slopes and numerous small streams. Evergreen forest remnants with canopy at 25-30 m and scattered larger trees to 40 m, serving as shade for coffee and bananas; sparse ground cover of grass and weeds; numerous decaying logs, leaves, and fallen trees; many vines in trees; openings with spiny, nettle-like plants, dense ferns, and large-leaved succulents. Collecting around small ridge-top village surrounded by coffee and banana plantations, lemon groves, and pastures. Holdridge classification: PRE-MONTANE very humid forest (bmb-P). Collectors: Matson and Yunker. SVP numbers: 22735-22810 (73 mammals, 3 birds). 27 Apr-7 May 1968. SVP locality S1 (subloc. 19-25).

Nulita (Selvas de San Camilo), 29 km SSW Sto. Domingo, 7°19'N-71°57'W, 24 m (APURE). Well-watered, rocky, undulating plain near head of Río Sarare (at western edge of Selvas de San Camilo). Streams small, rocky or sandy, mostly swift flowing; marshes and ponds infrequent. Collecting mostly in second-growth evergreen forest, 12-24 m high, with numerous palms, and in land recently cleared for pasture and crops (such as yuca, bananas, coffee, and cacao). Fruit trees fairly abundant. Fallow fields overgrown with grass and weeds, and burned forest grown up to very dense grass, weeds, and shrubs, 1-2 m high. In nearby undisturbed forest, trees 25-45 m high laden with moss and vines. Holdridge classification: TROPICAL very humid forest (bmb-T). Collectors: A. Tuttle, Inquilla, and Stromeyer. SVP numbers: 34385-34437, 34439-34999, 40000-40562, 40864-40967, 42200-42492 (1,502 mammals, 42 birds, 25 reptiles, 1 amphibian, 1 other). 17 Jan-20 Feb 1968. SVP locality 38.

Orocodones, 6 km NS Capatárida, 40 m (see Capatárida)

Paparo, 7 km N Río Chico, 1 m (see Río Chico)

Paramito, 3 to 4 km W Timotes, 8°59'N-70°46'W, 2,000-3,605 m (MERIDA). Mérida Andes. Steep upper SW slope of Motatán Valley near its head. Clear, rapid, boulder-filled streams; numerous rock outcrops; rocky clay-loam soil; many boulders. Frost common. Páramo at high level elevations and on exposed ridges, typified by low (to 0.5 m) grass, mat-forming plants, forbs, moss, and ferns, all more or less dominated by “frailejones” (Expeletia). Some páramo areas with low (2-3 m), bushy, small-leaved shrubs (solitary, in thickets, or forming nearly complete canopy), usually draped with lichens. Scrubby cloud forest in protected ravines and at lower elevations, with irregularly spaced shrubs and trees 6-10 m high; open to nearly closed canopy; ground cover of forbs, ferns, mosses, lichens, and brambles; and boulders, fallen trees, roots, trunks, and branches of standing trees festooned with epiphytes. Whole area much disturbed by human population: burned, overgrazed (cattle, sheep, goats, burros, horses), criss-crossed with foot paths and stone walls, cultivated (potatoes, wheat, corn), and overhunted. Holdridge classification: MONTANE very humid forest (bmb-M) and SUBALPINE páramo (p-SA). Collectors: Peterson and Parrish. SVP numbers: 3910-3968, 3971-3991, 35671-35688, 35730-35731. 35791-35799 (99 mammals, 8 birds, 1 reptile, 1 other). 3-16 Feb 1966. SVP locality 57.

Paria, 25 km S Pto. Ayacucho, 114 m (see Puerto Ayacucho)

Parque Nacional Guatopo, 15 to 21 km NW Altagracia, 610-740 m (see Guatopo)

Península de Paraguaná, 6 to 25 km S, SW, and N Pueblo Nuevo, 11°50'N-69°59'W (to 11°49'N-70°06'W, and 12°00'N-69°56'W), 13-650 m (FALCON). Isolated arid peninsula; mostly flat or gently undulating, but with range of low hills and steep-sided mountain, Cerro Santa Ana; connected to mainland by low, narrow, sparsely vegetated isthmus. Soil sand or sandy-clay, quite rocky in spots; occasional small limestone caverns. Many small windmill-fed artificial ponds and tanks; streams small, intermittent, dry or with stagnant algae-covered pools much of year. Lowland plain clothed with desert scrub, varying from sparse and scattered to very dense; dominated by low (8-10 m) thorn trees (Mimosa) commonly spaced 3-15 m apart, clusters (30-50 m in diameter) of Opuntia, and 1-2 m high shrubs; scattered tree cacti (Cereus), small trees, and terrestrial bromeliads; little ground cover except for cacti, logs, branches, and twigs. Forest slightly higher, but still scrubbby, in sheltered places in hills. Much of plain cleared for pasture or crops and overrun by goats, cattle, dogs, cats, and high human population. Montaintop cloud-shrouded and capped with cloud forest on N and W slopes; large-crowned, evergreen trees formed closed canopy at 20 m, and thin-stemmed trees an open subcanopy at 10 m; vines, mosses, lichens, and other epiphytes very abundant; ground nearly covered by thorny terrestrial
bromeliads and scattered ferns and small woody and herbaceous plants; soil dark brown, humus filled, sandy-clay; many moss-covered boulders. Transition from thorn forest to cloud forest abrupt. Holdridge classification: TROPICAL thorny forest (me-T), TROPICAL, very dry forest (bns-T), and PREMONTANE, very humid forest (bmn-P).

Collectors: Peterson, Brown, and Matson.

*Perai-Tepui*, 41 km NE Icabarú, 982 m (see Icabarú).

*Petaquire*, 31 km WSW Caracas, 1,750 m (see Alto No León).

*Petare*, 10 km E Caracas, 825 m (see Caracas).

*Pico Avila* (= Hotel Humboldt and vicinity), 5 km NNE to 6 km NNW Caracas, 10°33'N-66°52'W, 1,982-2,288 m (DTO. FEDERAL and MIRANDA). Crest of Sierra de la Costa above Caracas; steep slopes; very cool, damp, and windy. Trapping and netting near Hotel Humboldt on Pico Avila and westward along ridge-top, past Boca de Tigre, to vicinity of Pico Galipán: lawns and gardens with deep, heavy sod; damp, low, evergreen forest; pockets of cloud forest with stunted, moss-laden trees and many palms and bamboos. Holdridge classification: LOWER-MONTANE humid forest (bns-MB) and LOWER-MONTANE very humid forest (bmn-MB). Collectors: M. Tuttle, A. Tuttle, and Handley. SVP numbers: 619-638, 641-751, 753-821, 853-857, 870-871, 899-900, 906-947, 970-1065, 1067-1092, 1095-1132, 1147-1192, 1564 (411 mammals, 57 birds). 17 Aug-27 Sep 1965. SVP locality 2.

*Piedra Virgen*, ca. 70 km SSE El Dorado, 374 m (see Kilometer 125).

*Platanillal*, 30 km S Pto. Ayacucho, 119 m (see Puerto Ayacucho).

*Portochuelo*, 4 km NW La Asunción, 50 m (see Isla Margarita).

*Potrerrito*, 2 km SE Montalbán, 598 m (see Montalbán).

*Pueblo Nuevo* (6 km N Pueblo Nuevo), 25 m (see Península de Paraguaná).

*Puente Rincón*, 1 km SW Altamira, 650 m (see Altamira).

*Puente Tigre*, 50 km SSE Maturín, 18 m (see Hato Mata de Bejuco).

*Puerta Vieja*, 14 km NE El Tucuyo, 616 m (see Caserio Boro).

**Puerto Ayacucho** (Pto. Ayacucho to Morganito, 70 km SSW Pto. Ayacucho), between 5°06'N-67°45'W and 5°40'N-67°38'W, 99-195 m (T. F. AMAZONAS). River plain, E bank of Río Orinoco; rolling, with scattered black rocks up to 90 m high and 120 m in diameter, more or less surrounded by accumulations of boulders and other fragments; soil sandy, mixed with gravel; drained by numerous streams up to 15 m wide; few lagoons or swamps. Savanna (S edge of Llanos) extending inland from river up to 15 km, merging abruptly into evergreen forest, with trees mostly 10-25 m high (in some areas 20-30 m high). Forest mostly rather open, except along streams, with occasional logs and boulders on forest floor, and more or less draped with vines. Savanna with closely spaced clumps of grass 0.5-1.5 m high; scattered low shrubs ("chaparro"—Curatella americana) and palms; irregular bands of low trees (3-9 m tall) around rocks and along watercourses. Numerous roads and small settlements; some fresh clearing and second growth in forest; regular burning in savanna. Holdridge classification: TROPICAL dry forest (bs-T) and TROPICAL humid forest (bh-T). Collectors: A. Tuttle, Inquilla, Stromeyer, and Peterson (2 specimens). SVP numbers: 11201, 13012, 30354-31800, 34438 (1,402 mammals, 22 birds, 23 reptiles, 3 amphibians). 29 Sep 1966, 10 May and 6 Sep-17 Oct 1967. SVP locality 35.


**Puerto Nuevo**, 18 km SSW San Juan, Río Manapiare, 155 m (see San Juan, Río Manapiare).

**Puerto Páez** (from Pto. Páez to Río Cinaruco, 38 km NNW Pto. Páez), between 6°12'N-67°27'W and 6°33'N-67°31'W, 76 m (APURE). Town of Pto. Páez, nearby rock outcrop (Cerro de Mucríelas), and savanna to ferry crossing on Río Cinaruco, 38 km NNW Pto. Páez (on road to San Pablo and San Fernando). Seasonally flooded, low, gently rolling sandhills, covered with dense, 0.5-1 m high grass. High ground, probably never flooded, dry and sandy, with clumps of bunch grass 0.3-1.2 m apart. Sluggish streams, pools, and marshes in low ground
between hills bordered by very lush cover of herbs, ferns, and grass (0.6-1.2 m high), scattered palms, patches of low forest (9-15 m high) almost lacking ground vegetation. Few human habitations. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: M. Tuttle and A. Tuttle. SVP numbers: 6117-6398, 6414-6511, 13011, 35751 (336 mammals, 13 birds, 2 reptiles, 1 fish). 11 Jan-1 Feb 1966. SVP locality 7.4.


Puerto Tuy, 7 km E Río Chico, 1 m (see Río Chico)
Pure, 16 km SSW Capatárida, 73 m (see Capatárida)
Quebrada Ávila, 3 km NE Caracas, 1,050-1,100 m (see Caracas)
Quebrada Cantarana, 11 km NE Icabarú, 750 m (see Icabarú)
Quebrada Chacaito, 3 km Caracas, 1,110-1,180 m (see Caracas)
Quebrada Espinoza, 19 km NE Icabarú, 700 m (see Icabarú)
Quebrada Seca, 26 km N Valera, 131 m (see Valera)
Quetepe, 16 km E Cumaná, 1-5 m (see Cumaná)
Rancho Grande (Estación Biológica), 13 km NW Maracay, 10°21'N-67°40'W, 1,050-1,100 m (ARAGUA). Relatively dry, steep, inland slopes near crest of Sierra de la Costa, overlooking basin of Lago de Valencia. Few streams. Collecting in moderately disturbed cloud and evergreen forest, with dense shrub and ground strata; around fruit trees and shrubs on station lawn; and in high grass and overgrown banana patch on abandoned farm. Holdridge classification: PREMONTANE very humid forest (bmb-P). Collectors: Peterson, Flanagan, Handley, and Young. SVP numbers: 2001-2113, 13005-13007, 13009-13010 (118 mammals). 5-11 Aug 1965, 22 Apr 1967. SVP locality 50.
Rancho Grande (nr.). 44 km NNE Paraguaipoa, 15-50 m (see Cojoro)
Raya, 32 km S Pto. Ayacucho, 135 m (see Puerto Ayacucho)

Río Chico (to 10 km from town center), 10°19'N-65°35'W, 1 m (MIRANDA). Wide, nearly level coastal plain, with sandy ocean beach backed by 5 km wide belt of swampy pockets between former beach lines; backed further inland by 5-10 km wide zone of arid thorn forest, much disturbed by settlement, agriculture, and roads; merging further inland rather abruptly into extensive, humid evergreen forest. Collecting on ocean beach; in flooded pastures and thickets of coconut palms and scrubby trees on causeways across marshes, swamps, and lagoons between uplands and beach; in thorn forest, with scattered large, spreading trees, palms, and thick, low shrubs, blanketed by thorny vines; in citrus, guava, and banana orchards; in lawns and gardens with palm-lined drives, fruit trees, large, low, spreading, flowering trees, and chicken coops, surrounded by thorn forest; in extensive high (2 m) grass surrounded by pasture, forest, and bananas; and in disturbed evergreen forest with scattered trees 12-15 m high, continuous subcanopy of bananas, cacao, etc., 5-8 m high, numerous vines, and sparse ground cover of grass and ferns. Holdridge classification: TROPICAL, dry forest (bs-T) and TROPICAL humid forest (bh-T). Collectors: Peterson, D. Peacock, and R. Peacock. SVP numbers: 10658-11199, 11400-11712, 35750 (822 mammals, 5 birds, 17 reptiles, 5 amphibians, 7 other). 22 Oct-21 Nov 1966. SVP locality 65.

Río Cinaruco, 38 km NNW Pto. Páez, 76 m (see Puerto Páez)
Río Cinaruco, 46 km NE Pto. Páez, 76 m (see Hato Cariben)

Río Cinaruco, 48 km NW Pto. Páez, 6°31'N-67°46'W, 76 m (APURE). Llanos near Río Cinaruco. Upland savanna slightly rolling, covered with grass about 0.5 m high. Forest band (6-125 m wide) on banks of river and bordering lagoons, low (5-15 m) and dense, with many spiny palms and thorny vines; ground covered with dry leaves and twigs. Collecting in savannas and forest on both banks of river. Holdridge classification: TROPICAL, dry forest (bs-T). Collector: M. Tuttle. SVP numbers: 6399-6409 (9 man-
mals, 2 birds). 13-18 Jan 1966. SVP locality S.

Río Cinaruco, 65 km NW Pto. Páez, 6°33'N-67°55'W, 76 m (APURE). Llanos near Río Cinaruco. Savana with grass about 0.5 m high and scattered patches of dry forest to 1 km in diameter; small streams bordered by palms and other trees, with lush undergrowth (0.5-1 m high) of herbs, grass, ferns, and moss; evergreen forest on wet ground along river with Heliconia to 7.5 m high forming dense thickets and with palms to 30 m high, extending above broadleaf canopy. Collecting in gardens around Indian settlement and in savannas and forest in banks of river. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: M. Tuttle and A. Tuttle. SVP numbers: 6410-6443 (26 mammals, 6 birds, 2 reptiles). 19-21 Jan 1966. SVP locality 9.

Río Cuchivero, nr. Caicara to 38 km SE Caicara, 50-200 m (see Hato La Florida)

Río Cumanunuma, 150 m (see Acanaña and Belén)

Río Danta, 67 km SSE El Dorado, 150 m (see El Manaco)

Río Manaviche, 15 to 20 km E Boca Mavaca, 138 m (see Boca Mavaca)

Río Mavaca, 108 km SSE Esmeralda, 2°15'N-65°17'W (to 2°05'N-65°18'W and 2°20'N-65°15'W). 140 m (T. F. AMAZONAS). At edge of Orinoco Plain, where Río Mavaca passes of region of hills and low mountains (300-450 m). Río Mavaca, a white water stream, here has many black water tributaries, to 10 m wide. River plain flooded in rainy season, leaving numerous moist areas and occasional permanent lagoons in dry season. Flood plain forest evergreen, 25-35 m high, largely undisturbed except for Indian trails, and because of flooding, largely lacking ground vegetation (but some flat areas had dense stands of low palms). Hill forest 15-30 m high, with numerous palms and abundant undergrowth. Hollow trees unusually abundant. Holdridge classification: TROPICAL humid forest (bh-T). Collectors: M. Tuttle and Harder. SVP numbers: 17381-17395, 17397-17401, 17409-17410, 17413-17593, 17395-18136 (631 mammals, 41 birds, 9 reptiles, 64 amphibians). 21 Mar-16 Apr 1967. SVP locality 29.

Río Montalbán, 0.2 km W Montalbán, 598 m (see Montalbán)

Río Motatán, 23 km NNW Valera, 90 m (see Valera)


Río Orinoco (see Boca Mavaca, Esmeralda, Puerto Ayacucho, Puerto Páez, and Tama-tama)

Río Orinata, 14 km SE Calabozo, 100 m (see Estación Biológica de los Llanos)

Río Orinoco, 10 km N Altagracia, 470 m (see Guatopo)

Río Salado, 10 km NE Gùiria, 90 m (see Ensenada Cauranta)

Río Santo Domingo, 1 to 2 km SW and E Altamira, 600-619 m (see Altamira)

Río Socopito, 80 km NW Carora, 10°30'N-70°44'W, 470-480 m (FALCON). Valley of Río Socopito, 6 km NE Cerro Socopo summit. Remnant evergreen forest on valley floor had open or closed tree canopy at 30 m; subcanopy, occasionally closed, at 10 m; very dense ground cover of shrubs, grasses, and herbs; bromeliads and vines frequent. On hills above river, scrub thorn forest had continuous canopy at 10 m and scattered larger acacias and mimosas, and occasional cacit; irregular ground cover of grass and low herbs. Holdridge classification: TROPICAL dry forest (bs-T) and PREMONTANE humid forest (bh-P). Collectors: Brown and Matson. SVP numbers: 23900-23197 (294 mammals, 1 bird, 2 reptiles, 1 amphibian). 20-30 May 1968. SVP locality 82 (subloc. 18-24).


Río Tigré, 50 km SSE Matuirin, 18 m (see Hato Mata de Bejucu)
Río Tiquire, 27 km ENE. Maripi, 7°27'N-61°55'W, 100 m (BOLIVAR). Forest bordering stream in extensive savanna. Holdridge classification: TROPICAL dry forest (bs-T).


Río Tocuyo, 10 km N El Tocuyo, 518 m (see Caserio Boro)

Río Ventuari, 172 km ESE Pto. Ayacucho, 155 m (see San Juan, Río Manapiare)

Río Yanacuy, 10 km NW Urama, 25 m (see Urama)

Rueda, 18 km S Pto. Ayacucho, 145 m (see Puerto Ayacucho)

Sahana Aguirre, 5 km SE Montallán, 562 m (see Montallán)

Sahana de Mendoza, 20 to 30 km WNW and NW Valera, 90-134 m (see Valera)

Salamanca, 3 km NNE La Asunció, 37-38 m (see Isla Margarita)

Salvajeito, 15 km SSE Pto. Ayacucho, 174 m (see Puerto Ayacucho)

Samariapo, 55 km SSW Pto. Ayacucho, 119 m (see Puerto Ayacucho)

San Agustín, 2 to 10 km NW, W, and SW Caripe, 10°12'N-63°32'W, 854-1,690 m (MONAGAS and SUCRE). Upper reaches of Río Caripe Valley and gentle to moderate E and SE slopes and steep NE slopes of Cerro Negro. Summit with páramolike vegetation and stunted trees; lower elevations with moist evergreen forest and small areas of savanna. Moderate slopes and valleys almost entirely cultivated (coffee, oranges, lemons, bananas, cabbages, beans, etc.,) with remnant forest providing shade canopy. Collecting in: 1) Rock outcrops and ledges, with dense, coarse grass (1 m high); prostrate thorny vines, and scattered ferns and shrubs (to 2 m high) on high, steep, exposed slope. 2) Scrubby, cut-over evergreen forest remnant along small, swift-flowing stream through vegetable fields and orchards; scattered trees 20-30 m high; dense, vine-covered shrubs (4-6 m); and grass and herbs 1-2 m. 3) Moist evergreen forest with trees 20-25 m high, laden with orchids and bromeliads and festooned with lichen; understory of coffee and bananas; ground clear or with cover of vines, ferns, and herbs up to 1.5 m; tree-bases and boulders moss-covered; soil black and with heavy humus. 4) Montane savanna, with dense grass to 1 m; herbs and small woody plants; and shrubs (2 m). 5) Moist limestone caverns. Holdridge classification: PREMONTANE humid forest (bh-P). Collectors: Peterson, D. Peacock, R. Peacock, and Tipton. SVP numbers: 13644-14298 (632 mammals, 10 birds, 3 reptiles, 1 amphibian, 9 other). 22 Jun-16 Jul 1967. SVP locality 72.


San Eusebio, 12 km SE La Azulita, 1,990-2,190 m (see La Carbonera)


San José, 10 km NE El Tocuyo, 550 m (see Caserio Boro)


San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, 5°15'S-66°13'W (to 5°28'S-66°13'W and 5°02'N-66°13'W, within 30 km of San Juan), 155 m (T. F. AMAZONAS). Part of the Venturi Basin, an extensive plain, nearly surrounded by high, forested mountains. Basin with many streams and lagoons, and subject to extensive seasonal flooding (about 95 percent flooded near San Juan at time of collections). Basin with continuous evergreen forest and isolated savannas, and scattered palms and bands of forest along streams. Many dead (often rotten or hollow) snags standing in lagoons serving as bat roosts. Most of forest undisturbed, except where large Indian population had made small clearings for settlements and gardens. Holdridge classification: TROPICAL humid forest (bh-T). Collectors: M. Tuttle and Harder. SVP numbers: 19647-19999, 25001-26254, 26264-26931, 26933-27895, 27915-28383, 28397-29006, 29008-30353, 35764 (5,632 mammals, 21 birds, 8 reptiles, 2 other). 25 Jun-3 Aug 1967. SVP locality 34.

San Pablo (nr.), 13 km ESE Mirimire, 270 m (see Mirimire)
San Pedro, 2 km SE Altamira, 600 m (see Altamira)


San Rafael de Mara (7 km NW San Rafael de Mara, nr. ferry at Río Limón), 10°59'N-71°47'W, 1 m (ZULIA). Arid coastal plain. Holdridge classification: TROPICAL very dry forest (bsm-T). Collector: Peterson. SVP number: 24027 (1 mammal, found dead on road). 2 Jul 1968. SVP locality 88.

Sanjón, 1 km E Montalbán, 598 m (see Montalbán)
Santa Ana, 1.4 km E Montalbán, 598 m (see Montalbán)
Santa Apolonia (nr.), 48 to 52 km WNW Valera, 28-29 m (see La Ceiba)
Santa Clara, 18 km WNW Capatárida, 40 m (see Capatárida)
Santa Cruzita, 21 km NW Altagracia, 500 m (see Guatopo)
Santa Lucía de Surukún, 45 km NE Icabarú, 851 m (see Icabarú)
Santa Rosa (La Hechicera), 1 to 2 km N Mérida, 8°37'N-71°09'W, 1,860-2,050 m (MERIDA).

Agricultural experiment station on floor of Andean valley. Collecting in: 1) Remnant cloud forest, burned about four years previously; moist, with many boulders and thick humus; trees to 20 m high, forming closed canopy, but rather open beneath, with scattered shrubs, numerous ferns and herbs, and moss and lichens covering rocks, logs, and roots and trunks of trees. 2) Stream bank second-growth scrub in cultivated area; trees to 6 m, shrubs 3 m, many herbs, ferns, and vines. 3) Weeds up to 2 m high bordering small stream flowing among houses and through cane fields and banana patch. Holdridge classification: LOWER MONTANE humid forest (bh-MB). Collector: Peterson. SVP numbers: 4515-4597 (52 mammals, 1 bird). 14-31 May 1966. SVP locality 60.

Santa Rosa, 6 km SSW Capatárida, 50 m (see Capatárida)
Santa Rosa (nr.), 17 km ENE Mirimire, 75 m (see Mirimire)

Selvas de San Camilo (see Nulita)
Sividigua, 6 km SE Capatárida, 50 m (see Capatárida)
Sotillo, 21 km E Cumaná, 30-40 m (see Cumaná)

Tabayi (Parque Nacional de la Sierra Nevada, 4 to 9 km E and SE and 1 km SW Tabay), S°36'N-71°01'W, 1,530 and 2,077-3,830 m (MERIDA). Large Andean valleys, heading at Pico Humboldt. Valley floors flat in upper reaches and containing glacial lakes; walls steep and very high; remnant glaciers persisting at valley heads. Soil clay-loam, deep at lower elevations, in pockets between boulders at middle elevations, and often absent at higher elevations; boulders, talus, and exposed bedrock commonplace. Streams clear, rapid flowing, boulder-strewn. Flora varied from closed canopy cloud forest at lower elevations to open alpine páramo at higher elevations. Mature cloud forest, penetrable only with machete, with trees 18-24 m high; tree ferns and shrubs 3-15 m high formed a lower canopy; vines, lichens, and other epiphytes draped trees and shrubs; moss and scattered herbs; moss and lichens, usually covered ground, boulders, and logs; slender, vinelike bamboo was scattered throughout and formed dense thickets in openings. Forest-páramo ecotone dominated by moss and lichen covered boulders; low (4 m) twisted trees; low (0.5 m) spreading shrubs; grass and herbs (to 1 m). Páramo had bare rock outcrops, boulder fields, bunch grass (to 1.5 m),
scattered "frailejones," shrubs (to 3 m), and moss. Access by a single foot path; no hunting or agriculture; no clearing, but part of forest-paramo ecotone had burned two years before collections were made. Holdridge classification: LOWER MONTANE humid forest (bh-MB), MONTANE rain forest (bp-M), and SUBALPINE paramo (p-SA). Collectors: Peterson, Parrish, and Tipton. SVP numbers: 4008-4015, 4017-4356, 4339-4360, 4362-4465 (394 mammals, 53 birds, 2 amphibians, 5 other). 8-24 Mar and 4-17 Apr 1966. SVP locality 58.

Tacarigua de La Laguna, 10 km ESE Río Chico, 1 m (see Río Chico)


Tamanuco, 4 km NE San Juan, Río Manapiare, 155 m (see San Juan, Río Manapiare)


Teatas de María Guevara, 31 km W Porlamar, 10 m (see Isla Margarita)

Timotes (Mts. W Timotes), 2.000-2.500 m (see Paramito)

Tortuguíta, 7 km SW Porlamar, 2 m (see Isla Margarita)

Turgua (nr.), 16 km SSE Caracas, 1,144 m (see San Andrés)

Uaiaparí, 19 km NE Icabari, 658 m (see Icabarí)

Upata (5 km SSW Upata), 7°59'N-62°25'W, 300 m (BOLIVAR). Hills covered with low deciduous forest and grassland, on road from Upata to El Manteco. Holdridge classification: TROPICAL dry forest (bs-T). Collectors: M. Tuttle and A. Tuttle. SVP number: 7562 (1 mammal, found dead on road). 28 Apr 1966. SVP locality 17.


Urana (2.5 to 24 km NW, N, and NE Urana), 10°37'N-68°24'W, 10°32'N-68°23'W, 10°29'N-68°19'W, 25-60 m (CARABOBO, FALCON, and YARACUY). Cattle ranch on flat to hilly plain between Salado, Yaraeuy, and Arón rivers, inland about 15 km from coast. Numerous permanent and seasonal streams; some small ponds: and a few extensive, rather open swamps. Much clearing for pasture; grass varying from short on dry hills to 1.5-2.5 m high; dense patches of wild cane and Heliconia on streambanks and in other dump places; occasional banana plantations. Small patches of thorny deciduous forest between Salado and Yaraeuy rivers; extensive stands of mature evergreen forest N Río Yaraeuy. Holdridge classification: TROPICAL dry forest (bs-T) and TROPICAL humid forest (bh-T). Collectors: M. Tuttle and A. Tuttle. SVP numbers: 1579-1826, 1825-1899, 5000-5479, 6743-6753, 6755-7194, 7196-7325 (1,272 mammals, 39 birds, 56 reptiles, 112 amphibians). 12 Oct-16 Nov 1965, 4-25 Mar 1966. SVP locality 5.

Valera (12 to 30 km N to NW Valera), 9°32'N-70°40'W (to 9°31'N-70°35'W, 9°25'N-70°46'W, and 9°21'N-70°42'W), 90-930 m (TRUJILLO). Lower Río Motatán Basin. Alluvial plain with scattered low hills, bordered by low mountains; mostly sandy or sandy-clay soils; occasional clay escarpments up to 30 m high. Lower part of area dry (smaller stream courses seasonal), mostly cultivated and irrigated; higher part more humid, with continuous secondary forest and small isolated tracts of primary forest. Collecting in second-growth evergreen forest with trees 17-25 m high and thorny shrubs and vines; second-growth deciduous forest, mostly rather open, with trees to 25 m, vines, grass, and herbaceous plants, and often cactus and thorny shrubs; dense brush 5 m high, with clumps of high grass and scattered trees 10-15 m high; fallow fields overgrown with grass to 2.5 m high and scattered thorny shrubs 3-4
m high; high grass and forbs at edge of flooded rice fields; pasture, with clumps of grass 1 m high and scattered trees; swamp with damp ground and small streams, dense *Heliconia* 4-5 m high, scattered palms and trees to 25 m, vines, and thickets of bamboo.


*Vetania*, 46 km NE Ica barú, 800 m (see Ica barú)  *Yabuquiva*, 25 km SW Pueblo Nuevo, 13 m (see Península de Paraguaná)  *Zamurito*, 13 km SSE Capataría, 30-60 m (see Capataría)

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Mammals

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Fig. 1 Map of Venezuela showing major SVP collecting localities.

01 Los Venados, 4 km NNW Caracas, Dto. Federal
02 Pico Ávila (= Hotel Humboldt and Boca de Tígre), 5 km NNE to 6 km NNW Caracas, Dto. Federal and Miranda
03 Boca de Tígre Valley, 5 km NW Caracas, Dto. Federal
04 Boca de Yaracuy, 28 km WNW Pto. Caballo, Falcón
05 Urama (2.5 to 24 km NW, N, and NE), Carabobo, Falcón, and Yaracuy
06 Hato Cariben, nr. Santa María, 32 to 46 km NE Pto. Páez, Apure
07 Puerto Páez (to Río Cinaruco, 38 km NNW), Apure
08 Río Cinaruco, 48 km NW Pto. Páez, Apure
09 Río Cinaruco, 65 km NW Pto. Páez, Apure
10 Boca Mavaca, 84 km SSE Esmeralda, T. F. Amazonas
11 San Fernando, Apure
12 Río Supamo, 50 km SE El Manteco, Bolívar
13 Los Patos, 25 km SE El Manteco, Bolívar

Upata (25 km S), Bolívar
Guasipati (5 km NNW), Bolívar
Upata (5 km SSW), Bolívar
El Dorado (15 km SE), Bolívar
Km 125, 68 to 85 km SSE El Dorado, Bolívar
El Manaco, 56 to 68 km SE El Dorado, Bolívar
Km 33, 28 km SE El Dorado, Bolívar
Hato Los Leones (Caño Agua Fría), 23 km NE Calabozo, Guárico
Hato Mata de Bejuco, 55 km SSE Maturín, Monagas
Belén, Río Curumunuma, 56 km NNW Esmeralda, T. F. Amazonas
Caño Culebra, Cerro Duida, 50 km NNW Esmeralda, T. F. Amazonas
Cabecera del Caño Culebra, Cerro Duida, 40 km NNW Esmeralda, T. F. Amazonas
Cabecera del Caño Negro, Cerro Duida, 32 km NW Esmeralda, T. F. Amazonas
Río Mavaca, 108 km SSE Esmeralda, T. F. Amazonas
Tumarana, Río Orinoco, 2 km above Boca de Casiquiare, T. F. AMAZONAS 71
Acauán, Río Cumanacua, 48 km NW Esmeralda, T. F. AMAZONAS 97
Esmeralda (to 20 km SE and 14 km W), Río Orinoco, T. F. AMAZONAS 79
Capibara, Brazo Casiquiare, 106 km SW Esmeralda, T. F. AMAZONAS 81
San Juan, Río Manapiare, 163 km ESE Pto. Ayacucho, T. F. AMAZONAS 35
Puerto Ayacucho (to 70 km SSW), T. F. AMAZONAS 36
Montalbán (within 14 km of town center), CARABOBO 37
Altamira, Barinas 38
Nulita, Selvas do San Camilo, 29 km SSW Sto. Domingo, Apure 39
El Rosario, 39 to 65 km WNW Encontrados, Zulia 40
Icabadu (to 56 km NE), BOLÍVAR 42
Capatárida (within 31 km of town center), FALCÓN 43
Gacerio Boro, 10 to 47 km N and NE El Tocuyo, LARA 50
Rancho Grande (Est. Biol.), 13 km NW Maracay, ARAGUA 51
Valenca (12 to 30 km N to NW), Trujillo 52
La Ceiba, 46 to 53 km WNW Valena, Trujillo 53
Alto Xo Léon, 31 to 36 km WSW Caracas. DTO. FEDERAL and MIRANDA 54
San Andrés, 16 km SSE Caracas, MIRANDA 55
Hda. Misisi, 13 to 15 km E Trujillo, Trujillo 56
Paramito, 3 to 4 km W Timotes, MÉRIDA 57
Tabay (4 to 9 km ESE and 1 km SW), Parq. Nac. Sierra Nevada, MÉRIDA 58
La Carbonera, 6 to 12 km SE La Azulita, MÉRIDA 59
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Hda. Carapiche, nr. El Limón, 45 km W Caracas, DTO. FEDERAL 61
Hato Las Palmitas, 35 km SSW San Juan de los Morros, GUÁRICO 62
Guatopo (Parq. Nac.), 10 to 35 km NE, N, and NW Altgtagria. GUÁRICO and MIRANDA 63
Curupao, 5 km NNW Guarenas, MIRANDA 64
Río Chico (to 10 km from town center), MIRANDA 65
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