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OBSERVATIONS ON BATS FROM TRINIDAD, WITH A CHECKLIST OF SPECIES OCCURRING ON THE ISLAND

CATHERINE H. CARTER, HUGH H. GENOWAYS,
ROBERT S. LOREGNARD, AND ROBERT J. BAKER

In their comprehensive treatment of the bats of Trinidad, Goodwin and Greenhall (1961) reported 58 species from the island. Subsequent authors (Goodwin and Greenhall, 1962, 1964; Genoways *et al.*, 1973a; LaVal, 1973a, 1973b) have added some species to the list and changed the status of others so that the known chiropteran fauna of Trinidad now comprises 64 species: five emballonurids, one noctilionid, four mormoopids, 36 phyllostomids (see Handley, 1980, for family-group names), one natalid, one furipterid, one thyropterid, seven vespertilionids, and eight molossids. Among the phyllostomids, the subfamilies Phyllostominae (15) and Stenodermatinae (14) are the best represented, whereas only a few species of the other three subfamilies—Glossophaginae (four), Carolliinae (one), and Desmodontinae (two)—are present.

In this paper, we report additional data on 55 species. These data add to the available information concerning distribution, reproduction, and molt. Where appropriate, we have included taxonomic comments on the status of Trinidadian populations. Material reported here is the result of three collecting trips to Trinidad led by R.J. Baker.

METHODS AND MATERIALS

Specimens reported herein all are deposited in The Museum, Texas Tech University, except those marked CM, which are

housed in the Section of Mammals, Carnegie Museum of Natural History. External measurements, except length of forearm, are those recorded by the collector on the specimen labels; length of forearm and cranial measurements were taken by means of dial calipers. Methods of taking these later measurements follow Genoways and Williams (1979). All measurements are given in millimeters.

Reproductive condition was determined by gross dissection of specimens in the field or by later dissection of fluid-preserved animals in the laboratory. Fetus length is given as crown-rump measurement; testicular size is denoted by total length. Presence of molt was determined by examination of those individuals prepared as standard museum study specimens.

ACCOUNTS OF SPECIES

Peropteryx macrotis trinitatus Miller

Specimen examined (1).—*St. George Co.*: Blanchisseuse, 1.

The specimen is an adult female that evinced no reproductive activity or molt when taken on 14 August.

Rhynchonycteris naso (Wied-Neuwied)

Specimens examined (10).—*St. George Co.*: Blanchisseuse, 10.

Pregnant females, each carrying a single fetus, were taken on the following dates: 13 July (21 crown-rump length); 6 August; 14 August (two individuals, crown-rump lengths 15 and 16). One female taken on 14 August was not pregnant. Testicular measurements of three males taken on 6 August were 3, 3, and 3. Molt was observed in individuals taken on 13 July (1) and 14 August (two of four specimens).

Husson (1962) has presented the reason for use of the generic name *Rhynchonycteris* instead of *Rhynchiscus*, as employed by Goodwin and Greenhall (1961).

Saccopteryx bilineata bilineata (Temminck)

Specimens examined (14).—*St. George Co.*: Blanchisseuse, 1; Caura Valley, 3; Las Cuevas, 2; San Rafael, 2 (1 CM); 2 mi. E San Rafael, 2. *Mayaro Co.*: Guayaquayare, 4.

All specimens examined were taken in August. None of the 11 females was pregnant and only one of 11 was lactating. Two males taken on 7 August had testes that were 2 and 3 in length.

Of nine specimens examined for molt, five were molting on the following dates: 8 August (2); 10 August; 14 August; 19 August.

Husson (1962) did not think that *S. b. perspicillifer*, used by Goodwin and Greenhall (1961), could be separated from *S. b. bilineata* at the subspecific level. Subsequently, Alvarez (1968) has recognized *S. b. centralis* as a valid taxon; therefore, the appropriate trinomial for the Trinidadian specimens would be *S. b. bilineata*.

Saccopteryx leptura (Schreber)

Specimens examined (5).—*St. George Co.*: Blanchisseuse, 3; Caura Valley, 2.

A female taken on 8 August was not pregnant. Two specimens collected on 14 August and one taken 15 August showed signs of molting.

Noctilio leporinus mastivus (Vahl)

Specimens examined (4).—*St. George Co.*: Blanchisseuse, 2; Las Cuevas, 2.

Nonpregnant females were taken on 12 July and 5 August. Molt was recorded from one specimen taken on 12 July, two taken on 5 August, and one taken on 14 August. We follow Davis (1973) in use of the subspecific name *mastivus* for populations on Trinidad.

Mormoops megalophylla tumidiceps Miller

Specimens examined (3).—*St. George Co.*: Las Cuevas, 2. *St. David Co.*: Zagaya Cave, 1 (CM).

Testes of two males taken on 2 and 8 August each measured 2. A specimen captured on 5 August revealed evidence of molt.

Pteronotus davyi davyi Gray

Specimens examined (4).—*St. George Co.*: Blanchisseuse, 1; Caura Valley, 1. *Mayaro Co.*: Guayaguayare, 2.

Our four specimens are nonpregnant females taken on 12 July, 8 August, 10 August, and 14 August. The first three specimens were undergoing molt when captured. These are the first specimens of this species to be recorded from Mayaro County.

Pteronotus parnellii rubiginosus (Wagner)

Specimens examined (33).—*St. George Co.*: Blanchisseuse, 14; Caura Valley, 1; Las Cuevas, 7; Maracas Valley, 2 mi. N (by road) St. Joseph, 3; San Rafael, 6 (2 CM). *St. Andrew Co.*: Tamana Cave, 1. *Mayaro Co.*: Guayaguayare, 1.

The females examined were collected between 3 to 7 August. None was pregnant, but four were lactating. The following testicular measurements were recorded for adult males (date of capture in parentheses): 4 (2 August); 3 (3 August); 3, 3, 3, 3, 3, 3, 3, 4, and 5 (6 August); 4 (7 August). Of 21 specimens obtained between 10 July and 21 August that were examined for molt, 17 were actively molting.

We follow Smith (1972) in use of the above name combination in place of *Chilonycteris rubiginosa fusca* used by Goodwin and Greenhall (1961).

***Pteronotus personatus personatus* (Wagner)**

Specimen examined (1).—St. George Co.: Blanchisseuse, 1.

A nonpregnant female was taken on 6 August. We follow Smith (1972) in the use of the current name combination.

***Lonchorhina aurita aurita* Tomes**

Specimens examined (14).—St. George Co.: island near Las Cuevas, 5; Saut d'Eau Cave, 9.

Nonpregnant females were taken on 13 July (two), 14 July (one), and 20 August (three). All of our specimens were taken in July and August and all were undergoing molt. External and cranial measurements of eight specimens are given in Table 1.

***Micronycteris brachyotis* (Dobson)**

Specimens examined (4).—St. George Co.: Blanchisseuse, 2; Maracas Valley, 1. Mayaro Co.: Guayaguayare, 1.

Nonpregnant females were taken on 5, 11, and 14 August. Three individuals evincing molt were collected on the latter two dates. Our specimen from Mayaro is the first recorded from that county. Measurements of three specimens are given in Table 1.

***Micronycteris hirsuta* (Peters)**

Specimens examined (4).—St. George Co.: Blanchisseuse, 1; Las Cuevas, 1. Mayaro Co.: Guayaguayare, 2.

A female obtained on 19 August was not pregnant. Molt was recorded on three specimens collected on 15 and 19 August. Our specimens from Mayaro are the first reported from that county. Measurements of these specimens are given in Table 1.

TABLE 1.—External and cranial measurements of 10 species of phyllostomines from Trinidad.

TTU Catalog no., sex, and locality	Total length	Length of tail	Length of hind foot	Length of ear	Length of forearm	Greatest length of skull	Condylbasal length	Zygomatic breadth	Postorbital breadth	Breadth of braincase	Length of maxillary toothrow	Breadth across upper molars
<i>Lonchorhina aurita</i>												
5329 ♀ Island near Las Cuevas	111.0	53.0	14.0	28.0	47.1	20.8	19.1	10.4	4.9	8.9	6.7	7.1
5322 ♀ Island near Las Cuevas	110.0	53.0	14.0	29.0	50.3	20.5	18.6	10.8	4.9	8.8	6.6	7.0
8984 ♀ Island near Las Cuevas	106.0	51.0	14.0	30.0	51.1	20.6	18.7	10.8	4.9	8.9	6.6	7.0
5321 ♂ Island near Las Cuevas	112.0	54.0	12.0	30.0	49.0	20.7	18.9	10.5	4.9	8.7	6.6	7.0
5323 ♂ Island near Las Cuevas	108.0	49.0	15.0	30.0	50.0	20.4	19.0	10.8	4.8	8.7	6.6	7.1
8983 ♂ Island near Las Cuevas	108.0	53.0	14.0	31.0	49.7	20.8	18.9	10.9	4.9	8.8	6.6	7.1
9827 ♂ Island near Las Cuevas	111.0	55.0	14.0	31.0	49.9	20.7	18.7	10.4	5.0	8.7	6.6	7.1
9829 ♂ Island near Las Cuevas	111.0	53.0	12.0	31.0	49.8	20.5	18.7	10.4	4.9	8.7	6.6	7.0
<i>Micronycteris brachyotis</i>												
5237 ♀ Maracas Valley	59.0	13.0	10.0	16.0	39.4	21.3	18.5	10.2	5.0	8.6	8.1	6.7
5315 ♀ Blanchisseuse	70.0	13.0	14.0	18.0	40.9	21.6	19.0	10.4	5.1	8.4	8.6	6.9
5314 ♂ Blanchisseuse	72.0	13.0	11.0	19.0	39.4	21.9	19.2	10.5	5.2	8.9	8.2	7.0
<i>Micronycteris hirsuta</i>												
5299 ♀ Guayaguayare			15.0	28.0	43.0	23.8	20.6	11.8	5.2	8.8	9.4	7.5
5410 ♂ Las Cuevas	66.0	16.0	12.0	26.0	42.1	24.0	20.2	11.6	5.0	8.9	9.2	7.4
5449 ♂ Blanchisseuse	64.0	11.0	10.0	23.0	42.3	23.7	20.3	11.3	4.9	8.7	8.9	7.2
10,116 ♂ Guayaguayare	73.0	15.0	12.0	22.0	42.7	24.3	20.7	11.5	5.0	8.5	9.2	7.3
<i>Micronycteris megalotis</i>												
5438 ♂ Las Cuevas	51.0	9.0	6.0	21.0	32.6	18.4	16.0	8.9	4.0	7.5	6.9	6.0
5446 ♂ Las Cuevas	53.0	10.0	8.0	21.0	35.5	19.1	16.3	8.7	3.9	7.5	7.0	5.9

TABLE 1.—Continued.

9788 ♂ Las Cuevas	55.0	12.0	7.0	21.0	33.3	18.8	16.1	8.8	4.1	7.5	7.1	5.9
5495 ♂ Blanchisseuse	51.0	10.0	9.0	21.0	32.2	18.7	16.2	8.6	3.8	7.4	6.9	6.0
10,116 ♂ Guayaguayare	65.0	17.0	8.0	18.0	33.4	18.5	15.9	8.7	3.7	7.6	7.0	6.1
<i>Micronycteris minula</i>												
5296 ♀ Guayaguayare	65.0	10.0	10.0	23.0	36.5	18.5	15.9	8.6	4.3	7.6	6.6	5.7
5437 ♀ Las Cuevas	52.0	10.0	10.0	22.0	35.6	18.6	15.8	8.6	4.0	7.5	6.5	5.7
5444 ♀ Las Cuevas	49.0	9.0	10.1	23.0	36.5	18.8	16.4	8.5	4.0	7.5	6.7	5.6
5443 ♀ Maracas Valley	54.0	11.0	9.0	20.0	34.6	18.4	16.0	8.4	4.0	7.6	6.5	5.5
5456 ♀ San Rafael	55.0	11.0	11.0	21.0	36.2	18.8	16.1	8.6	4.1	7.4	6.6	5.4
5225 ♂ Guayaguayare	65.0	10.0	13.0	20.0	35.3	18.8	16.5	8.6	4.2	7.4	6.8	5.6
5294 ♂ Guayaguayare	62.0	12.0	11.0	23.0	34.9	18.3	16.0	8.7	4.2	7.5	6.7	5.5
5295 ♂ Guayaguayare	63.0	11.0	13.0	23.0	35.5	19.0	16.2	8.3	4.0	7.4	6.7	5.5
5289 ♂ Maracas Valley	65.0	10.0	14.0	24.0	35.2	18.7	16.5	8.7	4.1	7.6	6.4	5.5
<i>Micronycteris nicefori</i>												
5257 ♀ Las Cuevas	65.0	11.0	12.0	18.0	40.2	22.0	19.6	9.8	4.5	8.3	7.8	6.3
5297 ♀ Guayaguayare	74.0	11.0	12.0	20.0	40.0	21.4	19.3	9.5	4.1	8.2	7.7	6.0
5298 ♀ Guayaguayare	64.0	9.0	15.0	19.0	38.8	21.2	19.9	9.4	4.2	7.6	7.6	6.3
8954 ♀ Sangre Grande	64.0	9.0	11.0	15.0	38.4	21.1	19.0	9.8	4.4	8.3	7.5	6.3
8955 ♀ Sangre Grande	66.0	11.0	12.0	15.0	39.3	21.5	19.1	9.4	4.2	8.1	7.6	5.8
5296 ♂ Guayaguayare	69.0	8.0	13.0	19.0	37.6	21.3	18.9	9.5	4.2	8.3	7.6	6.5
8963 ♂ Sangre Grande	62.0	6.0	13.0	16.0	36.8	21.1	18.9	9.5	4.0	8.0	7.6	6.2
8964 ♂ Sangre Grande	59.0	9.0	12.0	17.0	37.1	20.7	18.2	9.5	4.3	8.3	7.2	6.3
8965 ♂ Sangre Grande	59.0	11.0	14.0	18.0	36.3	20.8	18.7	9.6	4.2	8.2	7.6	6.1
8966 ♂ Sangre Grande	58.0	7.0	13.0	18.0	39.1	20.8	18.4	9.3	4.0	8.5	7.5	6.3
<i>Mitrom crenulatum</i>												
5340 ♀ Las Cuevas	79.0	25.0	11.0	25.0	45.9	22.0	19.2	12.5	4.0	8.4	7.9	9.0
5374 ♀ Blanchisseuse	74.0	21.0	13.0	25.0	48.7	22.6	19.5	12.0	4.3	8.6	7.7	8.4
5264 ♂ Las Cuevas	75.0	22.0	10.0	25.0	47.0	21.6	18.7	11.6	3.9	7.9	7.5	8.5
5375 ♂ Blanchisseuse	71.0	15.0	13.0	25.0	51.0	22.4	19.6	11.8	4.2	8.7	7.6	8.6
5379 ♂ Caura Valley	76.0	22.0	12.0	25.0	47.3	21.6	18.5	11.7	3.9	8.4	7.7	8.4
5460 ♂ San Rafael	82.0	26.0	11.0	24.0	48.2	21.9	19.0	11.7	4.1	8.3	7.7	8.5

TABLE 1.—Continued.

5318 ♀ Blanchisseuse	110.0	18.0	20.0	26.0	65.8	30.0	25.3	14.6	8.9	12.1	9.6	9.8
<i>Phyloderma stenops</i>												
5260 ♀ Las Cuevas	88.0	15.0	15.0	29.0	55.8	27.9	23.7	13.7	5.3	10.2	9.6	8.3
9774 ♀ Blanchisseuse	94.0	19.0	13.5	30.0	54.8	28.3	24.1	14.3	5.4	10.6	9.3	8.4
9778 ♀ Blanchisseuse	85.0	16.0	12.0	30.0	55.2	28.3	23.5	14.0	5.2	10.4	9.6	8.6
5261 ♂ Las Cuevas	84.0	12.0	14.0	31.0	55.1	28.6	24.2	14.5	5.6	10.6	9.6	8.5
5388 ♂ Caura Valley					54.9	27.6	23.1	13.9	5.1	10.7	9.4	8.4
5389 ♂ Blanchisseuse	75.0	16.0	16.0	28.0	51.5	27.3	23.1	13.8	5.6	10.6	9.5	8.6
<i>Tomatia brasiliense</i>												
5238 ♀ Maracas Valley	68.0	9.0	11.0	25.0	35.8	20.1	16.9	9.6	2.9	8.0	6.9	6.2
5222 ♂ Guayaguayare	76.0	9.0	11.0	23.0	36.3	20.2	16.8	9.6	3.2	8.4	7.0	6.1
5309 ♂ Guayaguayare	60.0		11.0	22.0	34.5	20.2	16.8	9.6	3.1	8.2	6.7	6.4
10,119 ♂ Guayaguayare	75.0	9.0	10.0	20.0	35.2	20.8	17.3	10.0	3.3	8.4	6.9	6.4
5422 ♂ Maracas Valley	60.0	8.0	10.0	22.0	35.5	20.6	17.6	10.0	3.4	8.5	7.0	6.7
5484 ♂ San Rafael	56.0	5.0	10.0	20.0	35.9	20.8	17.2	10.0	3.3	8.6	6.9	6.4
<i>Vampyrum spectrum</i>												
5357 ♀ Santa Maria	142.0		30.0	47.0	102.0	51.2	42.9	23.3	8.0	15.8	20.9	14.5
9837 ♀ Sangre Grande	146.0		30.5	47.0	108.3	51.6	44.0	23.4	7.7	15.7	21.1	15.4
9836 ♂ Sangre Grande	147.0		31.0	49.5	106.1	52.4	44.1	24.2	7.8	15.8	21.1	15.2
11,439 ♂ Sangre Grande	143.0		32.0	43.0	107.1	52.0	43.2	25.2	8.4	16.4	20.6	15.4

Micronycteris megalotis megalotis (Gray)

Specimens examined (13).—*St. George Co.*: Blanchisseuse, 3; Las Cuevas, 5; Maracas, 2. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1. *Nariva Co.*: 5 mi. mark Plum Mitan Road, 1. *Mayaro Co.*: Guayaguayare, 1.

Two females obtained on 2 and 8 August were not pregnant. Testicular measurements for adult males were as follows (dates of capture in parentheses): 1 (2 August); 2 (5 August); 2, 3 (6 August); 1 (8 August). Bats evincing molt were taken on 8 July, 5 August, 15 August, and 18 August. Our specimen from Nariva is the first recorded in that county. Measurements for five specimens are given in Table 1.

Micronycteris minuta (Gervais)

Specimens examined (14).—*St. George Co.*: Blanchisseuse, 3; Las Cuevas, 3; Maracas Valley, 2; San Rafael, 1. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1. *Mayaro Co.*: Guayaguayare, 4.

No fetuses were found in nine females collected between 3 to 10 August. Molt was observed on 10 specimens obtained between 5 to 19 August. Measurements of nine specimens are given in Table 1.

Micronycteris nicefori Sanborn

Specimens examined (26).—*St. George Co.*: Blanchisseuse, 2; Caura Valley, 2; Las Cuevas, 1. *St. Andrew Co.*: Sangre Grande, 12; 2 mi. N, 2 mi. E Valencia, 2. *Mayaro Co.*: Guayaguayare, 7.

No fetuses were found in six females taken on 13 July, three on 5 August, two on 8 August, or two on 19 August. Two males with testes measuring 2 and 2 were collected on 5 August. Twenty-one specimens obtained between 10 July and 19 August were undergoing molt. All specimens reported by Goodwin and Greenhall (1961) were from St. Patrick County. Measurements of 10 specimens are given in Table 1.

Mimon crenulatum crenulatum (É. Geoffroy St.-Hilaire)

Specimens examined (11).—*St. George Co.*: Blanchisseuse, 2; Caura Valley, 1; Las Cuevas, 3; Maracas, 2; San Rafael, 1; 2 mi. E San Rafael, 1. *Mayaro Co.*: Guayaguayare, 1.

All specimens examined were taken between 4 to 8 August. Four of these were nonpregnant females; one was lactating, however. Testicular measurements were 3 for one male (5 August) and 2 for another (7 August). No molt was recorded from three specimens collected on 5 August and one on 6 August, but molt was

observed on two specimens taken on 4 August and one on 8 August. Only four specimens of this species have been recorded from Trinidad previously (Goodwin and Greenhall, 1964). The specimen from Mayaro is the first to be recorded from that county. Measurements of six specimens are given in Table 1.

Phylloderma stenops stenops (Peters)

Specimens examined (3).—*St. George Co.*: Blanchisseuse, 1; Maracas, 1. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1.

Our three specimens are nonpregnant females taken on 5, 8, and 14 August. The specimen taken on the last date was molting. Only two specimens from Arima, St. George County, of this rare species have been recorded previously from Trinidad (Goodwin and Greenhall, 1964). Measurements of one specimen are given in Table 1.

Handley (1966) considered this to be a monotypic genus with all South American specimens assignable to this subspecies.

Phyllostomus discolor discolor Wagner

Specimens examined (25).—*St. George Co.*: Blanchisseuse, 2; Las Cuevas, 8; Maracas, 9; Maracas Valley, 2 mi. (by road) N St. Joseph, 1 (CM); San Rafael, 1. *Mayaro Co.*: Guayaguayare, 4 (1 CM).

Ten nonpregnant females were collected between 2 to 8 August. Testicular measurements for adult males were as follows (dates of capture in parentheses): 4, 5, 11 (2 August); 12 (4 August); 3 (5 August); 4, 4 (6 August); 4, 5, 5 (8 August). Seven of nine specimens taken in August were undergoing molt. Our specimens from Mayaro are the first reported from southeastern Trinidad. Although Power and Tamsitt (1973) suggested that *P. discolor* is monotypic, we have chosen to recognize subspecies until more data are available.

Phyllostomus hastatus hastatus (Pallas)

Specimens examined (15).—*St. George Co.*: Blanchisseuse, 4; Las Cuevas, 8 (2 CM); Maracas, 2. *Mayaro Co.*: Guayaguayare, 1.

No fetuses were found in 10 females collected between 7 July and 12 August. Testicular measurements for adult males were as follows (dates of capture in parentheses): 4, 4, 4, 4, 5, 6, 6, 7 (2 August); 4, 4 (6 August); 5 (8 August). An individual taken on 5 August was molting. No molt was observed on 20 other individuals taken between 2 to 18 August. Our specimen from Mayaro is the first recorded from that county.

Tonatia bidens bidens (Spix)

Specimens examined (12).—*St. George Co.*: Blanchisseuse, 3; Caura Valley, 1; Las Cuevas, 7. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1.

Nonpregnant females were taken on 12 July (one specimen), 2 August (three), and 5 August (two). The testes of a male taken on 2 August measured 3, and for one taken on 5 August they measured 2. Molt was recorded from individuals taken on 12 July, 5 August, and 10 August. Our specimens are the first recorded from *St. George* and *St. Andrew* counties. Measurements for six specimens are given in Table 1. Koopman (1976) first applied the trinomial *T. b. bidens* to Recent specimens of this species.

Tonatia brasiliense Peters

Specimens examined (7).—*St. George Co.*: Maracas Valley, 2; Santa Maria, 1. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1. *Mayaro Co.*: Guayaguayare, 3.

Single, nonpregnant females were taken on 5 and 11 August. Molt was observed between 10 July and 19 August. Our specimens from Mayaro are the first recorded from that county. Measurements of six specimens are given in Table 1. We follow Gardner (1976) and other recent authors (Handley, 1976; Koopman, 1978) in using the specific name *brasiliense* for all small South and Middle American members of the genus; we are uncertain as to whether or not subspecies should be recognized.

Trachops cirrhosus cirrhosus (Spix)

Specimens examined (3).—*St. George Co.*: Blanchisseuse, 3.

Two females collected on 12 July were not pregnant. These two specimens plus another taken on this date were undergoing molt. Our specimens are the first to be recorded from *St. George* County. We follow Jones and Carter (1976) in the use of the sub-specific name.

Vampyrum spectrum (Linnaeus)

Specimens examined (4).—*St. George Co.*: Santa Maria, 1. *St. Andrew Co.*: Sangre Grande, 3.

No reproductive data are available for our specimens. Three obtained on 14 and 15 July exhibited molt. The species has not been recorded previously from *St. Andrew* County. Measurements of four specimens are listed in Table 1. Husson (1962) and Handley (1966) have considered this species to be monotypic.

Anoura geoffroyi geoffroyi Gray

Specimens examined (41).—*St. George Co.*: Blanchisseuse, 3; Las Cuevas, 7; Maracas Valley, 1; San Rafael, 5. *St. Andrew Co.*: Mt. Tamana Cave, 19 (2 CM); Valencia, 5. *Mayaro Co.*: Guayaguayare, 1.

No fetuses were found in 13 females collected on 5 and 6 August. The mean testicular length of 18 males collected from 2 to 6 August was 5.9 (range, 2-7). Molt was observed on 31 specimens collected between 7 July and 15 August. The specimen from Mayaro is the first recorded from that county.

Choeroniscus intermedius (J. A. Allen and Chapman)

Specimens examined (44).—*St. George Co.*: Blanchisseuse, 5; Las Cuevas, 16; Maracas Valley, 1; San Rafael, 7; 2 mi. E San Rafael, 1. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1. *Mayaro Co.*: Guayaguayare, 13.

No fetuses were found in six females taken between 2 to 7 August. Molt was observed on 13 of 37 individuals taken between 7 July and 21 August. An extensive analysis of nongeographic variation in this sample was presented by Genoways *et al.* (1973b).

Glossophaga soricina soricina (Pallas)

Specimens examined (80).—*St. George Co.*: Blanchisseuse, 18; Las Cuevas, 10 (2 CM); Maracas Valley, 3; San Rafael, 10. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 7. *Nariva Co.*: 5 mi. mark Plum Mitan Road, 4. *Mayaro Co.*: Guayaguayare, 28.

No fetuses were found in 43 females caught between 2 to 18 August. One female taken on 2 August and another captured on 5 August were lactating. The mean testicular length of 18 males taken between 2 and 6 August was 3.7 (range, 2-5).

Carollia perspicillata perspicillata (Linnaeus)

Specimens examined (232).—*St. George Co.*: Blanchisseuse, 90 (2 CM); Caura Valley, 10; Las Cuevas, 63 (2 CM); Maracas Valley, 1; San Rafael, 20 (4 CM). *St. Andrew Co.*: Tamana Cave, 2; 2 mi. N, 2 mi. E Valencia, 20. *Nariva Co.*: 5 mi. mark Plum Mitan Road, 1. *Mayaro Co.*: Guayaguayare, 25.

Females all containing single fetuses were taken on the following dates (mean crown-rump length, range in parentheses, and sample size): 2 August, 18.0 (13-22) 5; 5 August, 20.0 (12-26) 4; 6 August, 24.4 (18-33) 10; 7 August, 20; 21 August, 21. A female carrying minute twin embryos was taken on 6 August. Four lactating females were taken on 6 August and three were taken on 7 August. Females exhibiting enlarged uteri were obtained on 2 August (two individuals), 4 August (one), 5 August (three), and 6

August (one). The mean length of testes for 88 adult males taken between 2 to 7 August was 4.1 (range, 2-7). Individuals exhibiting molt were taken on the following dates (number molting followed by total number examined in parentheses): 7 July, 2 (2); 2 August, 8 (8); 3 August, 1 (1); 4 August, 5 (5); 5 August, 21 (22); 6 August, 71 (88); 7 August, 15 (19); 18 August, 1 (1); 19 August, 3 (5); 21 August, 11 (15). Although Pine (1972) did not formally recognize subspecies in this species, we continue to use this trinomial.

Ametrida centurio Gray

Specimens examined (93).—*St. George Co.*: Blanchisseuse, 15 (1 CM); Caura Valley, 1; Las Cuevas, 70; Maracas Valley, 1; 2 mi. E San Rafael, 2. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 4.

Of 49 females taken on 7 July, 17 contained single fetuses that averaged 21.2 (12-29) in crown-rump length. Other pregnant females were taken on the following dates (crown-rump length in parentheses): 8 July (19, 29); 2 August (9); 6 August (6); 11 August (27). Testicular measurements were 2 for a male taken on 5 August and 3 for one taken on 6 August. Molt was observed on 67 specimens collected between 7 July and 18 August, whereas 16 taken on 7 July and one taken 8 July were not molting. Only four specimens have been reported from Trinidad previously (Goodwin and Greenhall, 1964) and our material from St. Andrew is the first to be recorded from that county. Our material will form the basis of a forthcoming report on variation in this species. Peterson (1965) has shown that *Ametrida* is a monotypic genus.

Artibeus cinereus cinereus (Gervais)

Specimens examined (113).—*St. George Co.*: Blanchisseuse, 13; Caura Valley, 2; Las Cuevas, 48 (4 CM); Maracas Valley, 3 (1 CM); San Rafael, 17 (1 CM). *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 8. *Nariva Co.*: 5 mi. mark Plum Mitán Road, 2. *Mayaro Co.*: Guayaguayare, 20.

Females carrying single fetuses were taken on the following dates (crown-rump lengths in parentheses): 7 July (21); 2 August (11, 13, 19, 23, 31); 6 August (27). Mean length of testes for 22 males taken between 2 to 7 August was 3.8 (range, 2-6). Molt was observed on 61 of 93 specimens examined from the period 7 July to 21 August. We follow Jones and Carter (1976) in the use of trinomials for this species.

Artibeus jamaicensis trinitis Andersen

Specimens examined (182).—*St. George Co.*: Blanchisseuse, 49; Caura Valley, 10; Las Cuevas, 27; Maracas Valley, 60 (6 CM); San Rafael, 13 (7 CM). *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 2 (1 CM). *Mayaro Co.*: Guayaguayare, 21.

Pregnant females were collected on the following dates (crown-rump length of fetuses in parentheses): 2 August (21, 50, 55); 3 August (24, 28); 5 August (35); 6 August (33, 55). Lactating females were obtained on 3 August (two individuals), 6 August (eight), 10 August (two). Mean length of testes for 63 males taken between 2 to 7 August was 6.3 (range, 2-12). Molt was observed on 111 specimens taken between 8 July and 21 August. Our specimens from St. Andrew and Mayaro are the first recorded from those counties.

Artibeus lituratus palmarum J. A. Allen and Chapman

Specimens examined (43).—*St. George Co.*: Blanchisseuse, 12; Las Cuevas, 8; Maracas Valley, 16. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 2. *Mayaro Co.*: Guayaguayare, 5.

Two females obtained on 2 August contained single fetuses measuring 47 and 52 in crown-rump length, whereas one taken on 21 August possessed an embryo measuring 12. Three females taken on 3 August were lactating as were single females netted on 6 and 8 August. Mean length of testes for 20 males taken between 2 to 8 August was 6.2 (range, 4-8). Molt was observed on one specimen taken on 8 July and 23 taken between 3 to 8 August. Our specimens from St. Andrew and Mayaro are the first to be recorded from those counties.

Centurio senex greenhalli Paradiso

Specimens examined (4).—*St. George Co.*: Blanchisseuse, 1. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 2. *Mayaro Co.*: Guayaguayare, 1.

Two females collected on 5 August were not pregnant. A specimen taken on 10 August exhibited molt. This subspecies was described by Paradiso (1967) based upon material from Trinidad.

Chiroderma trinitatum trinitatum Goodwin

Specimens examined (14).—*St. George Co.*: Blanchisseuse, 3; Las Cuevas, 3; 2 mi. E San Rafael, 3 (1 CM). *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1. *Mayaro Co.*: Guayaguayare, 4.

Single fetuses were found in females taken on 6 August (crown-rump length, 29) and 10 August (30). Nonpregnant females were

taken on 2 August (one individual), 7 August (three), 10 August (two), and 19 August (one). Testes measurements were 3 and 4 for males obtained on 5 and 6 August, respectively. Five specimens exhibiting molt were taken between 5 and 19 August. Only six specimens have been reported from Trinidad previously (Goodwin and Greenhall, 1964) and our specimens from Mayaro are the first recorded from that county. Currently, two subspecies (Barriga-Bonilla, 1965; Handley, 1966) are recognized within this species; however, an analysis of variation within species will form the basis of another report.

Chiroderma villosum villosum Peters

Specimens examined (28).—*St. George Co.*: Blanchisseuse, 4; Caura Valley, 1; Las Cuevas, 6; Maracas Valley, 1; San Rafael, 4. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 3 (1 CM). *Nariva Co.*: 5 mi. mark Plum Mitán Road, 1. *Mayaro Co.*: Guayaguayare, 8.

A female obtained on 6 August carried a single fetus, whereas none of 12 females collected between 4 to 21 August was pregnant. Mean length of testes for seven males taken between 2 to 10 August was 3.4 (range, 1-5). Only four specimens have been reported previously from Trinidad and all of ours, except those from St. George, represent new county records. Measurements of nine specimens are listed in Table 2.

Enchisthenes hartii (Thomas)

Specimens examined (2).—*St. George Co.*: Blanchisseuse, 1; Maracas Valley, 1.

A female taken on 15 August was not pregnant and was molting. A male taken on 11 August was not undergoing molt. Apparently, these are the first specimens of this species to be reported (Baker and Lopez, 1968) from Trinidad since it was originally described on the basis of a single specimen from the Royal Botanic Gardens, Port-of-Spain (Thomas, 1892). Measurements of our specimens are listed in Table 2.

Mesophylla macconnelli flavescens Goodwin and Greenhall

Specimens examined (52).—*St. George Co.*: Las Cuevas, 2; 2 mi. E San Rafael, 4. *Mayaro Co.*: Guayaguayare, 46 (2 CM).

Females carrying single fetuses were taken on the following dates (crown-rump lengths of embryos in parentheses): 4 August (13, 15); 18 August (19, 22, 23, 25); 19 August (17). Lactating females were obtained on 4 August (one specimen), 7 August

TABLE 2.—External and cranial measurements of six species of stenodermatines and two species of desmodonitines from Trinidad.

TTU Catalog no., sex, and locality	Total length	Length of hind foot	Length of ear	Length of forearm	Greatest length of skull	Condylobasal length	Zygomatic breadth	Postorbital constriction	Breadth of braincase	Length of maxillary toothrow	Breadth across upper molars	
<i>Chiroderma villosum</i>												
5289 ♀ Guayaguayare	83.0	16.0	23.0	46.5	26.0	23.4	16.4	5.7	10.8	9.1	11.6	
5353 ♀ Guayaguayare	73.0	16.0	19.0	47.9	26.6	23.6	16.5	5.8	11.0	9.1	12.0	
5384 ♀ Guayaguayare	75.0	12.0	18.0	47.2	26.2	23.4	17.0	6.2	10.4	9.0	12.0	
5361 ♀ Guayaguayare	64.0	11.0	17.0	46.8	24.9	22.7	15.3	5.5	10.0	8.8	11.6	
5421 ♀ San Rafael	70.0	12.0	17.0	45.3	25.0	22.4	16.0	5.6	11.0	8.7	11.5	
5262 ♂ Las Cuevas	75.0	12.0	17.0	45.9	26.4	23.3	16.4	6.2	11.3	9.1	11.5	
5668 ♂ Las Cuevas	62.0	11.0	17.0	44.3	26.0	22.9	15.7	6.1	10.8	9.0	11.6	
5276 ♂ 5 mi mark Plum Mitian Rd.	73.0	11.0	17.0	46.0	25.3	22.4	15.7	5.9	10.5	8.5	11.4	
9016 ♂ Guayaguayare	76.0	11.0	18.0	46.8	26.5	22.8	15.1	5.8	10.6	8.6	10.9	
<i>Enchisthenes hartii</i>												
5371 ♀ Blanchisseuse	57.0	12.0	15.0	38.6	20.5	18.3	12.0	5.7	9.4	6.8	8.7	
5243 ♂ Maracas Valley	62.0	8.0	14.0	38.5	20.4	18.7	13.3	5.6	9.9	6.8	9.0	
<i>Sturnira litium</i>												
5367 ♀ Maracas Valley	59.0	13.0	15.0	42.5	23.4	20.4	13.6	6.0	10.3	6.4	8.4	
5407 ♀ Maracas Valley	65.0	11.0	16.0	43.9	22.9	20.2	13.7	5.8	10.5	6.4	8.2	
5669 ♀ Las Cuevas	60.0	10.0	15.0	42.4	22.7	19.9	13.4	5.6	10.1	6.5	8.0	
5670 ♀ Las Cuevas	61.0	12.0	14.0	41.4	22.8	19.9	13.6	6.2	10.4	6.3	8.0	
5671 ♀ Las Cuevas	59.0	11.0	16.0	40.5	22.5	20.0	13.2	5.9	9.9	6.2	7.9	
5408 ♂ Maracas Valley	59.0	13.0	15.0	43.2	23.1	20.4	13.8	6.0	10.4	6.6	8.2	
5415 ♂ Las Cuevas	63.0	17.0	17.0	41.9	23.2	20.3	13.7	6.3	10.5	6.8	7.9	
5775 ♂ Caura Valley	63.0	12.0	16.0	41.3	22.9	20.4	13.6	6.4	10.5	6.8	8.5	
5776 ♂ Caura Valley	61.0	12.0	16.0	42.7	22.4	19.6	13.4	5.9	10.5	6.4	8.0	
5778 ♂ Caura Valley	64.0	13.0	14.0	42.8	23.9	20.4	13.9	5.9	10.6	6.8	8.3	

TABLE 2.—Continued.

	<i>Diaemus youngii</i>										
	53.0	15.0	17.0	51.0	24.1	20.4	13.6	6.2	13.0	3.2	6.0
5282 ♀ Maracas Valley											
5233 ♂ Maracas Valley	54.0	14.0	17.0	51.3	25.4	21.5	14.3	6.1	13.1	3.3	5.8
5428 ♂ Maracas Valley	77.0	17.0	17.0	50.1	25.1	21.2	14.4	6.0	13.5	3.3	6.0
5411 ♂ Las Cuevas	79.0	16.0	14.0	49.5	24.7	20.7	13.4	6.0	13.0	3.1	5.9

(one), 10 August (one), and 18 August (two). Testicular measurements for adult males were as follows (dates of capture in parentheses): 1 (10 July); 1, 4 (4 August); 1 (5 August); 3 (7 August); 1, 5, 6 (19 August). Molt was observed on 31 of 34 specimens obtained between 8 July and 19 August (nonmolting individuals captured on 8 July, 10 August, and 18 August). This subspecies originally was described by Goodwin and Greenhall (1962) based on a single specimen from Talparo. They (Goodwin and Greenhall, 1964) subsequently reported five additional specimens from the island. We recognize the genus *Mesophylla* as distinct from *Ectophylla* based on morphological and karyological considerations (Greenbaum *et al.*, 1975).

Sturnira lilium lilium (É. Geoffroy St.-Hilaire)

Specimens examined (40).—*St. George Co.*: Blanchisseuse, 10 (1 CM); Caura Valley, 5; Las Cuevas, 13 (1 CM); Maracas Valley, 4; San Rafael, 2. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 2. *Mayaro Co.*: Guayaguayare, 4.

Three females taken on 2 August possessed fetuses measuring 20 and 25 in crown-rump length, whereas embryos measuring 15 and 23 were found in two females taken on 6 August. Mean testicular length of 11 adult males obtained between 2 and 6 August was 3.7 (range, 1-6). Twenty-six specimens captured between 2 and 21 August exhibited molt. Measurements of 10 specimens are given in Table 2.

Sturnira tildae de la Torre

Specimens examined (17).—*St. George Co.*: Blanchisseuse, 9 (1 CM); Caura Valley, 2; Las Cuevas, 2; Maracas Valley, 1; San Rafael, 1. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1. *Mayaro Co.*: Guayaguayare, 1.

Pregnant females were taken on 2 August (crown-rump length, 7) and 6 August (crown-rump lengths 10, 11, 14, 41). A lactating female was captured on 15 August. Testicular lengths of 2 were recorded for males taken on 5 and 6 August. Molt was observed on 11 specimens taken between 3 and 15 August. Our specimen from St. Andrew is the first recorded from that county. Measurements of nine specimens are given in Table 2.

Uroderma bilobatum trinitatum Davis

Specimens examined (48).—*St. George Co.*: Blanchisseuse, 10; Caura Valley, 2; Las Cuevas, 16; Maracas Valley, 2 (1 CM); San Rafael, 6. *Mayaro Co.*: Guayaguayare, 12 (1 CM).

Females carrying single embryos were taken on the following dates (crown-rump length of embryos in parentheses): 2 August (25, 27); 3 August (27); 6 August (22). Mean testicular length for 17 adult males taken between 2 and 7 August was 3.5 (range, 2-6). Twenty-one specimens captured between 7 July and 9 August were in the process of molting. Measurements of eight specimens are listed in Table 2. Davis (1968) revised this species and described the subspecies *trinitatum*, which is restricted to Trinidad.

Vampyroides caraccioli caraccioli (Thomas)

Specimens examined (7).—*St. George Co.*: Blanchisseuse, 2; Las Cuevas, 1; Maracas Valley, 1; San Rafael, 1. *Mayaro Co.*: Guayaguayare, 1; Santa Maria, 1.

No embryos were found in three females captured between 6 and 19 August. Molt was observed on specimens taken on 3, 6, 15, and 21 August. Our specimen from Mayaro is the first to be reported from southeastern Trinidad. Measurements of six specimens are given in Table 2.

Vampyrops helleri Peters

Specimens examined (83).—*St. George Co.*: Blanchisseuse, 6; Caura Valley, 2; Las Cuevas, 19 (1 CM); Maracas Valley, 4; San Rafael, 24 (3 CM). *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 4. *Mayaro Co.*: Guayaguayare, 24.

Females containing single embryos were taken on the following dates (crown-rump length of embryos in parentheses): 10 July (no measurements taken); 2 August (20, 25); 3 August (20); 4 August (27, 30, 32); 5 August (25, 28, 30); 6 August (15, 20); 7 August (18, 23). A female captured on 21 August was lactating. Mean testicular length of 19 adult males taken between 2 and 7 August was 3.3 (range, 2-5). Of the 66 specimens examined for molt that were captured between 8 July and 21 August, 59 were molting. Our three specimens from Guayaguayare are the first to be reported from southeastern Trinidad.

Desmodus rotundus rotundus (É. Geoffroy St.-Hilaire)

Specimens examined (15).—*St. George Co.*: Blanchisseuse, 2; Las Cuevas, 3 (1 CM); Maracas Valley, 4 (1 CM); San Rafael, 2. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1. *Mayaro Co.*: Guayaguayare, 3.

Of the two females examined, one was lactating when captured on 3 August. Mean testicular length of 11 adult males captured between 2 and 8 August was 5.6 (range, 4-7). Molt was observed on five individuals collected between 2 and 10 August. Our spec-

imens from St. Andrew and Mayaro are the first reported from those counties. Measurements of two males are given in Table 2.

***Diaemus youngii* (Jentink)**

Specimens examined (6).—*St. George Co.*: Las Cuevas, 1; Maracas Valley, 3. *St. Patrick Co.*: La Brea, 2 (1 CM).

No embryos were found in single females taken on 3 and 8 August. The testes of a male taken on 8 August measured 7. Six specimens obtained between 3 and 19 August were all undergoing molt. Our specimens are the first recorded from St. George County. *D. youngii* currently is considered to be monotypic (Jones and Carter, 1976).

***Natalus tumidirostris haymani* Goodwin**

Specimens examined (76).—*St. George Co.*: Blanchisseuse, 1; Las Cuevas, 6; Saut d'Eau Cave, 3. *St. Andrew Co.*: Mt. Tamana Cave, 66 (8 CM).

Three females collected on 2 August and 39 taken on 6 August were not pregnant; however, three were lactating on 6 August. Mean testicular length of 19 adult males taken on 2 and 6 August was 2.0 (range, 1-3). Molt was recorded from three specimens taken on 14 July, two on 5 August, and 28 on 6 August.

***Thyroptera tricolor tricolor* Spix**

Specimens examined (3).—*St. George Co.*: Las Cuevas, 2; Maracas, 1.

A female captured on 5 August and one taken on 8 August were not pregnant. One specimen obtained on 5 August was undergoing molt. Measurements of a male and female are listed in Table 3.

***Eptesicus brasiliensis melanopterus* (Jentink)**

Specimens examined (3).—*St. George Co.*: Blanchisseuse, 1; 2 mi. E San Rafael, 1. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1.

A female obtained on 6 August was not pregnant. Testes of a male captured on 7 August measured 4. This species first was recorded from Trinidad by Genoways *et al.* (1973a) based on the specimen listed above from Blanchisseuse. We have followed Davis (1966) in assigning specimens to subspecies.

***Myotis keaysi pilosatiabilis* LaVal**

Specimen examined (1).—*St. George Co.*: Blanchisseuse, 1.

TABLE 3.—External and cranial measurements of one thyropterid and one molossid from Trinidad.

TTU Catalog no., sex, and locality	Total length	Length of tail	Length of hind foot	Length of ear	Length of forearm	Greatest length of skull	Condylbasal length	Zygomatic breadth	Postorbital constriction	Breadth of braincase	Length of maxillary toothrow	Breadth across upper molars
<i>Thyroptera tricolor</i>												
5440 ♀ Las Cuevas	58.0	23.0	5.0	10.0	34.0	14.4	13.0		2.5	7.0	5.6	4.9
5439 ♂ Las Cuevas	64.0	25.0	5.0	11.0	35.6	14.9	13.4	7.2	2.5	7.1	5.8	5.1
<i>Promops centralis</i>												
5248 ♀ Tacarigna	135.0	54.0	10.0	17.0	52.7	21.5	19.1	12.6	4.2	10.4	7.8	9.6
5249 ♀ Tacarigna	139.0	53.0	11.0	18.0	53.3	21.7	19.4	12.9	4.1	10.4	7.8	9.3
5250 ♀ Tacarigna	132.0	55.0	11.0	18.0	52.1	21.3	19.0	12.6	4.1	10.4	7.9	9.7
5251 ♀ Tacarigna	134.0	51.0	11.0	18.0	52.0	21.0	19.2	12.8	4.3	10.2	7.9	9.6
5252 Tacarigna	137.0	57.0	13.0	18.0	53.4	21.8	19.5	12.8	4.3	10.1	7.8	9.6
5253 ♂ Tacarigna	140.0	55.0	12.0	17.0	53.1	21.8	19.6	13.0	4.0	10.3	7.7	9.5

Our specimen is a nonpregnant female taken on 15 August that was molting. This specimen formed the basis of LaVal's (1973a) earlier report of this species from Trinidad.

***Myotis nigricans nigricans* (Schinz)**

Specimens examined (4).—*St. George Co.*: Blanchisseuse, 1. *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 3.

Three nonpregnant females were taken on 5-6 August. Testicular measurements of an adult captured on 5 August were 3.

***Myotis riparius* Handley**

Specimen examined (1).—*St. George Co.*: Blanchisseuse, 1.

Our one individual is a nonpregnant female taken on 14 August. It evinced no molt. This specimen formed the basis for the report of this species from Trinidad by LaVal (1973a).

***Rhogeessa tumida riparia* Goodwin**

Specimens examined (3).—*St. George Co.*: Maracas Valley, 2; San Rafael, 1.

All specimens are nonpregnant females captured between 3 and 11 August. All were molting. LaVal (1973b) has shown that only one species of *Rhogeessa* occurs on the island of Trinidad. Karyotypic data presented by Bickham and Baker (1977) support his contention that this is the species *tumida*.

***Eumops auripendulus auripendulus* Shaw**

Specimens examined (9).—*St. George Co.*: Maracas Valley, 8 (1 CM); Port-of-Spain, 1.

Seven females collected between 2 and 18 August were not pregnant. Testes measured 5 for a male taken on 2 August and 7 for one taken on 3 August. Molt was observed on five of the seven specimens collected between 3 to 18 August. The species was recorded first from Trinidad by Genoways *et al.* (1973a). Eger (1977) recently reviewed this species and used the above trinomial for specimens from Trinidad.

***Molossops greenhalli greenhalli* (Goodwin)**

Specimens examined (5).—*St. George Co.*: Blanchisseuse, 5.

One female taken on 12 July possessed a single embryo, whereas two females obtained on 6 August were not pregnant. All specimens previously recorded from Trinidad were from Port-of-Spain, which is the type locality of this taxon (Goodwin, 1958).

Molossus ater ater É. Geoffroy St.-Hilaire

Specimens examined (17).—*St. George Co.*: Blanchisseuse, 5; Las Cuevas, 1; Maracas Valley, 2; Port-of-Spain, 7; San Rafael, 2.

A female captured on 18 August carried a single embryo measuring 35. None of the specimens (taken between 12 July and 18 August) was molting.

Molossus molossus (Pallas)

Specimens examined (120).—*St. George Co.*: Blanchisseuse, 8; Las Cuevas, 5; Maracas Valley, 85 (5 CM); Port-of-Spain, 7; San Rafael, 13 (2 CM). *St. Andrew Co.*: 2 mi. N, 2 mi. E Valencia, 1. *Mayaro Co.*: Guayaguayare, 1.

Females carrying single embryos were taken on the following dates (crown-rump length of fetuses in parentheses): 15 July (19); 3 August (24, 24, 29); 6 August (3, minute embryos); 13 August (18). Lactating females were captured on 2 August (one individual), 3 August (14), and 13 August (two). Mean testicular length of 24 males taken on 2 and 3 August was 4.8 (range, 3-6). Molt was recorded as occurring on 80 specimens taken between 13 July and 18 August. Our specimens from *St. Andrew* and *Mayaro* are the first to be recorded from those counties. We follow Husson (1962) in use of this name, but await application of a subspecific name until geographic variation in the species is thoroughly studied.

Promops centralis centralis Thomas

Specimens examined (6).—*St. George Co.*: Tacarigna, 6.

None of four females captured on 11 August was pregnant but one was lactating. All specimens were molting. Measurement of these specimens are listed in Table 3.

CHECKLIST OF THE BATS OF TRINIDAD

Below is a checklist of the bat fauna of Trinidad as it is currently known. Citations indicate the bases for changes from Goodwin and Greenhall (1961).

EMBALLONURIDAE

Peropteryx macrotis trinitatus
Rhynchonycteris naso—Husson, 1962.
Saccopteryx bilineata bilineata—
 Husson, 1962; Alvarez, 1968.
Saccopteryx leptura
Diclidurus albus

NOCTILIONIDAE

Noctilio leporinus mastivus—Davis,
 1973.

MORMOOPIDAE

Mormoops megalophylla tumidiceps
Pteronotus davyi davyi

Pteronotus parnellii rubiginosus—
Smith, 1972.

Pteronotus personatus personatus—
Smith, 1972.

PHYLLOSTOMIDAE

PHYLLOSTOMINAE

Lonchorhina aurita aurita

Micronycteris brachyotis

Micronycteris hirsuta

Micronycteris megalotis megalotis

Micronycteris minuta

Micronycteris nicefori

Micronycteris minuta

Mimon crenulatum crenulatum

Phylloderma stenops stenops—
Goodwin and Greenhall, 1964;
Handley, 1966.

Phyllostomus discolor discolor

Phyllostomus hastatus hastatus

Tonatia bidens bidens—Koopman,
1976.

Tonatia brasiliense—Gardner, 1976;
Handley, 1976; Koopman, 1978.

Trachops cirrhosus cirrhosus—Jones
and Carter, 1976.

Vampyrus spectrum—Husson, 1962;
Handley, 1966.

GLOSSOPHAGINAE

Anoura geoffroyi geoffroyi

Choeroniscus intermedius

Glossophaga longirostris major

Glossophaga soricina soricina

CAROLLIINAE

Carollia perspicillata perspicillata

STENODERMATINAE

Ametrida centurio—Goodwin and
Greenhall, 1964; Peterson, 1965.

Artibeus cinereus cinereus

Artibeus jamaicensis trinitis

Artibeus lituratus palmarum

Centurio senex greenhalli—Paradiso,
1967.

Chiroderma trinitatum trinitatum—
Barriga-Bonilla, 1965; Handley, 1966.

Chiroderma villosum villosum

Enchisthenes hartii

Mesophylla macconnelli flavescens—
Goodwin and Greenhall, 1962;
Greenbaum *et al.*, 1975.

Sturnira lilium lilium

Sturnira tildae

Uroderma bilobatum trinitatum—
Davis, 1968.

Vampyrodes caraccioloii caraccioloii

Vampyrops helleri

DESMODONTINAE

Desmodus rotundus rotundus

Diaemus youngii

NATALIDAE

Natalus tumidirostris haymani

FURIPTERIDAE

Furipterus horrens

THYROPTERIDAE

Thyroptera tricolor tricolor

VESPERTILIONIDAE

Eptesicus brasiliensis melanopterus—
Genoways *et al.*, 1973a.

Lasiurus borealis frantzii

Lasiurus ega panamensis—Handley,
1960.

Myotis keaysi pilosatiabilis—LaVal,
1973a.

Myotis nigricans nigricans

Myotis riparius—LaVal, 1973a.

Rhogeessa tumida riparia—LaVal,
1973b.

MOLOSSIDAE

Eumops auripendulus auripendulus—
Genoways *et al.*, 1973a; Eger, 1977.

Molossops greenhalli greenhalli—Jones
and Genoways, 1967.

Molossus ater ater

Molossus molossus—Husson, 1962.

Molossus sinaloae trinitatus—Handley,
1966.

Promops centralis centralis—Ojasti and
Linares, 1971; Koopman, 1978.

Promops nasutus downsi—Goodwin
and Greenhall, 1962.

Tadarida europs

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LITERATURE CITED

- ALVAREZ, T. 1968. Notas sobre una coleccion de mamíferos de la region Costera del Rio Balsas entre Michoacan y Guerrero. *Rev. Soc. Mexicana Hist. Nat.*, 29:21-35.
- BAKER, R. J., AND G. LOPEZ. 1968. Notes on some bats of Tamaulipas. *Southwestern Nat.*, 13:353-372.
- BARRIGA-BONILLA, E. 1965. Estudios mastozoológicos Colombianas, 1. Chiroptera. *Caldasia*, 9:241-268.
- BICKHAM, J. W., AND R. J. BAKER. 1977. Implications of chromosomal variation in *Rhogeessa* (Chiroptera: Vespertilionidae). *J. Mamm.*, 58:448-453.
- DAVIS, W. B. 1966. Review of South American bats of the genus *Eptesicus*. *Southwestern Nat.*, 11:245-274.
- . 1968. Review of the genus *Uroderma* (Chiroptera). *J. Mamm.*, 49: 676-698.
- . 1973. Geographic variation in the fishing bat, *Noctilio leporinus*. *J. Mamm.*, 54:862-874.
- EGER, J. L. 1977. Systematics of the genus *Eumops* (Chiroptera: Molossidae). *Life Sci. Contrib., Royal Ontario Mus.*, 110:1-69.
- GARDNER, A. L. 1976. The distributional status of some Peruvian mammals. *Occas. Papers Mus. Zool., Louisiana State Univ.*, 48:1-18.
- GENOWAYS, H. H., R. J. BAKER, AND R. S. LOREGNARD. 1973a. Two species of bats new to the fauna of Trinidad. *Mammalia*, 37:362-363.
- GENOWAYS, H. H., R. J. BAKER, AND W. B. WYATT. 1973b. Non-geographic variation in the long-nosed bat *Choeroniscus intermedius*. *Bull. Southern California Acad. Sci.*, 72:106-107.
- GENOWAYS, H. H., AND S. L. WILLIAMS. 1979. Records of bats (Mammalia: Chiroptera) from Suriname. *Ann. Carnegie Mus.*, 18:323-335.
- GOODWIN, G. G. 1958. Three new bats from Trinidad. *Amer. Mus. Novit.*, 1877:1-6.
- GOODWIN, G. G., AND A. M. GREENHALL. 1961. A review of the bats of Trinidad and Tobago. *Bull. Amer. Mus. Nat. Hist.*, 122:187-301.
- . 1962. Two new bats from Trinidad with comments on the status of the genus *Mesophylla*. *Amer. Mus. Novit.*, 2080:1-18.

- . 1964. New records of bats from Trinidad and comments on the status of *Molossus trinitatus* Goodwin. Amer. Mus. Novit., 2195:1-23.
- GREENBAUM, I. F., R. J. BAKER, AND D. E. WILSON. 1975. Evolutionary implications of the karyotypes of the stenodermine genera *Ardops*, *Ariteus*, *Phyllops* and *Ectophylla*. Bull. Southern California Acad. Sci., 74:156-159.
- HANDLEY, C. O., JR. 1960. Descriptions of new bats from Panama. Proc. U.S. Nat. Mus., 112:459-479.
- . 1966. Checklist of the mammals of Panama. Pp. 753-795, in Ectoparasites of Panama (R. L. Wenzel and V. J. Tipton, eds.), Field Mus. Nat. Hist., Chicago, Illinois.
- . 1976. Mammals of the Smithsonian Venezuelan Project. Brigham Young Univ. Sci. Bull., Biol. Ser., 20:1-89.
- . 1980. Inconsistencies in formation of family-group and subfamily-group names in Chiroptera. Pp. 9-13, in Proc. Fifth Internat. Bat Res. Conf. (D. E. Wilson and A. L. Gardner, eds.), Texas Tech Press, Lubbock, 434 pp.
- HUSSON, A. M. 1962. The bats of Suriname. Zool. Verhandlungen, 58:1-282.
- JONES, J. K., JR., AND D. C. CARTER. 1976. Annotated checklist, with keys to subfamilies and genera. Pp. 7-38, in Biology of bats of the New World family Phyllostomatidae, Part I (R. J. Baker, J. K. Jones, Jr., and D. C. Carter, eds.), Spec. Publ. Mus., Texas Tech Univ., 10:1-218.
- JONES, J. K., JR., AND H. H. GENOWAYS. 1967. A new subspecies of the free-tailed bat, *Mollossops greenhalli*, from western Mexico (Mammalia: Chiroptera). Proc. Biol. Soc. Washington, 80:207-210.
- KOOPMAN, K. F. 1976. Zoogeography. Pp. 39-47, in Biology of bats of the New World family Phyllostomatidae, Part I (R. J. Baker, J. K. Jones, Jr., and D. C. Carter, eds.), Spec. Publ. Mus., Texas Tech Univ., 10:1-218.
- . 1978. Zoogeography of Peruvian bats with special emphasis on the role of the Andes. Amer. Mus. Novit., 2651:1-33.
- LAVAl, R. K. 1973a. A revision of the Neotropical bats of the genus *Myotis*. Nat. Hist. Mus. Los Angeles Co., Sci. Bull., 15:1-54.
- . 1973b. Systematics of the genus *Rhogeessa* (Chiroptera: Vespertilionidae). Occas. Papers Mus. Nat. Hist., Univ. Kansas, 19:1-47.
- OJASTI, J., AND O. J. LINARES. 1971. Adiciones a la fauna de murciélagos de Venezuela con notas sobre las especies del *Diclidurus* (Chiroptera). Acta Biol. Venezuela, 7:421-441.
- PARADISO, J. L. 1967. A review of the wrinkle-faced bats (*Centurio senex* Gray), with description of a new subspecies. Mammalia, 31:595-604.
- PETERSON, R. L. 1965. A review of the bats of the genus *Ametrida*, family Phyllostomatidae. Life Sci. Contrib., Royal Ontario Mus., 65:1-12.
- PINE, R. H. 1972. The bats of the genus *Carollia*. Texas A&M Agric. Exper. Sta., Tech. Monogr., 8:1-125.
- POWER, D. M., AND J. R. TAMSITT. 1973. Variation in *Phyllostomus discolor* (Chiroptera: Phyllostomatidae). Canadian J. Zool., 51:461-468.
- SMITH, J. D. 1972. Systematics of the Chiropteran family Mormoopidae. Misc. Publ. Mus. Nat. Hist., Univ. Kansas, 56:1-132.
- THOMAS, O. 1892. Description of a new bat of the genus *Artibeus* from Trinidad. Ann. Mag. Nat. Hist., ser. 6, 10:408-410.

Addresses of Authors: C. H. CARTER, *Mississippi Museum of Natural Sciences, 111 North Jefferson Street, Jackson, Mississippi 39202*; H. H. GENOWAYS, *Carnegie Museum of Natural History, 4400 Forbes Avenue, Pittsburgh, Pennsylvania 15213*; R. S. LOREGNARD, *Department of Biology, The University of West Indies, St. Augustine, Trinidad, West Indies*; R. J. BAKER, *The Museum, Texas Tech University, Lubbock, 79409*. Received 1 November 1979, accepted 5 May 1980.

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