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A NEW SPECIES OF VAMPYROPS (CHIROPTERA: PHYLLOSTOMATIDAE) FROM SOUTH AMERICA

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In the summer of 1964 an expedition headed by one of us (Carter) collected series of two small species of *Vampyrops* in the Amazon drainage of Peru. Four of these specimens are referable to *Vampyrops helleri* Peters. The remaining specimens represent an undescribed species, for which we propose the name:

Vampyrops brachycephalus, new species

Holotype.—Adult male, skin and skull, no. 12193, Texas Cooperative Wildlife Collection, Texas A&M University, from 3 mi. S Tingo Maria, 2400 ft., Huanuco, Peru; collected on 28 August 1964 by Dildford C. Carter, original number 5513.

Description.—A small species of *Vampyrops*; body coloration chocolate brown above in most specimens, paler in some, generally somewhat paler below than above; facial stripes present, the upper pair the more prominent and extending from the dorsolateral base of the noseleaf to a posterolateral position on the head medial to the ears, the lower pair faint to prominent and extending from angle of mouth to ventralmost portion of ear; median dorsal white stripe extending from posterior margin of head to base of interfemoral membrane; interfemoral membrane with fringe (usually sparse) of short to moderately long hairs; membranes brown. Skull with deep rostral indentation when viewed from the side; cranium inflated; zygoma well developed; rostrum wide and short; upper inner incisors bilobed or trilobed; upper outer incisors small, faintly bilobed; second lower premolars with two well-developed and conspicuous accessory

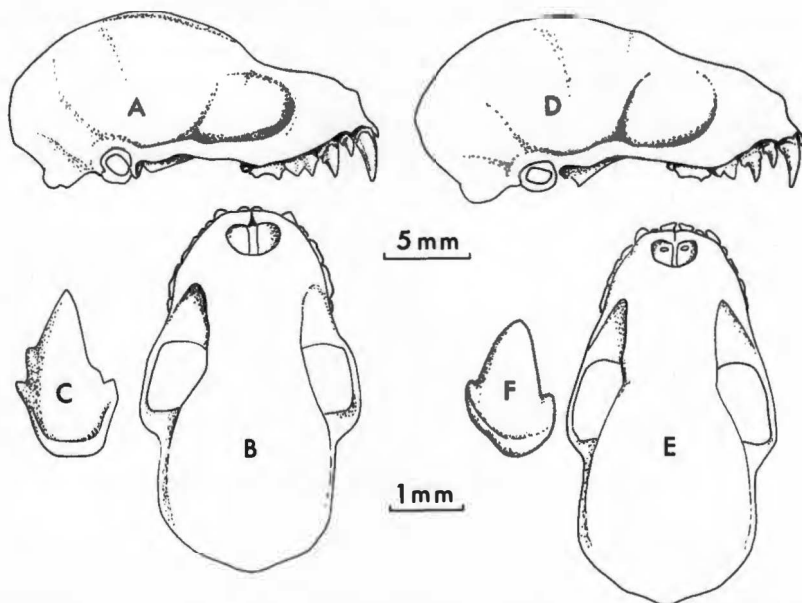


Fig. 1.—Holotype of *Vampyrops brachycephalus* (TCWC 12193): A, lateral aspect of skull, note deep depression in rostrum; B, dorsal aspect of skull, note the short, broad appearance; C, labial view of left lower second premolar, note accessory cusps. *Vampyrops helleri* (TCWC 16605): D, lateral aspect of skull, note relatively gentle slope of rostrum; E, dorsal aspect of skull, note relatively long and narrow appearance; F, labial view of left lower second premolar, note single accessory cusp on anterior margin. Upper scale for skulls (A, B, D, E); lower scale for premolars (C, F).

cusps on anterior margin and one or two (often weakly developed) accessory cusps on posterior margin.

Comparisons.—*Vampyrops brachycephalus* is much smaller than *V. dorsalis* Thomas, and smaller in nearly every respect than the smallest specimens of *V. lineatus* (Geoffroy). From specimens of *lineatus* (including those referred to *V. recifinus*) it differs in being much darker and having less distinct facial and dorsal stripes.

In some areas, *brachycephalus* is similar in size to *helleri*, but is easily distinguished from it by having two conspicuous accessory cusps on the anterior margin of the second lower premolar. In *helleri*, the anterior edge of the second lower premolar has at most only a single, usually weakly-developed accessory cusp (see Fig. 1 for comparisons). Where the two species occur together, *brachycephalus* is darker in color. It also has a shorter and broader rostrum, more inflated cranium, and wider zygoma.

In Peru, *brachycephalus* also differs from *helleri* in having less

conspicuous facial stripes (the lower pair being especially faint) and a sparse fringe of noticeably shorter hairs on the free edge of the inter-femoral membrane.

Venezuelan specimens of *brachycephalus* are substantially larger than are those of *helleri*. Although readily distinguished by their larger size, Venezuelan *brachycephalus* have four rather well-developed white or cream-colored facial stripes, and a fringe of hair on the free edge of the interfemoral membrane that often is about as dense and long as on Venezuelan specimens of *helleri*. This fringe is seemingly less dense than is normal for Peruvian and Central American specimens of *helleri* (this appearance could have been effected by the method of preparation). In other respects, Venezuelan specimens of *brachycephalus* resemble those from Peru.

The karyotypes of *V. helleri* and *V. brachycephalus* from Colombia are not significantly different (R. J. Baker, personal communication), and are essentially identical to that published for *V. helleri* from Mexico (see Baker, 1967).

Measurements.—Selected measurements, in millimeters, of the holotype are: head and body, 60; hind foot, 9; ear from notch, 16; forearm, 40.7; greatest length of skull including incisors, 21.8; condyloincisive length, 19.8; postorbital constriction, 5.8; length of maxillary toothrow, 8.2; zygomatic breadth, 13.3; greatest width across molars, 9.9; weight, 13.9 grams. See also Table 1.

Distribution.—Known from Colombia, Venezuela, and Peru, at altitudes from 100 to 740 meters.

Remarks.—Four names (*helleri*, *zarhinus*, *incaram*, and *recifinus*) have been applied to small *Vampyrops*, and deserve some comment. The holotype of *V. helleri*, probably an adult female, preserved as a mounted skin with skull not removed, was collected in Mexico by Heller in 1850. This specimen was obtained by the Berlin Museum in an exchange with the Naturhistorisches Museum Wien. The name *helleri* obviously applies to the small species of *Vampyrops* occurring in southern Mexico and Central America. There is some question in our minds as to whether this name also applies to all of our South American specimens here considered to be this species. Although our Ecuadoran and Peruvian specimens of *helleri* are decidedly nearer *helleri* in appearance than *brachycephalus*, they differ from Mexican and Central American specimens in several ways, most notable of which are their generally smaller size and moderately deep rostral indentation in the skull when viewed from the side. At present there are too few specimens available to us to interpret the significance of these

Locality	Forearm	Skull length	Zygomatic breadth	Maxillary tooththrow	M2-M2 width
<i>V. brachycephalus</i>					
Peru					
Loreto	37.8 (36.4-38.8)13	21.0 (20.6-21.3)12	12.3 (11.9-12.6)12	7.2 (6.8-7.4)12	8.7 (8.2-9.0)13
Huanuco	39.5 (38.3-40.7)6	22.3 (21.8-22.6)5	13.0 (12.8-13.3)6	8.0 (7.8-8.2)5	9.6 (9.4-9.9)5
Colombia	37.3 (36.6-38.6)3	20.8 (20.0-21.4)3	12.1 (11.4-13.6)3	7.1 (6.8-7.4)3	8.4 (7.6-9.0)3
Venezuela	40.3 (39.2-42.0)13	21.9 (20.7-22.5)13	13.0 (12.3-13.3)12	7.9 (7.7-8.2)13	9.4 (8.9-9.7)13
<i>V. helleri</i>					
Peru	36.6 (35.6-37.1)4	21.2 (20.4-21.7)4	12.2 (11.8-12.4)3	7.3 (7.2-7.3)2	8.3 (8.3-8.4)3
Ecuador	(37.6)1	(22.7)1	(12.9)1	(8.2)1	(9.1)1
Colombia	37.7 (35.5-39.8)9	21.4 (20.3-22.4)9	12.0 (11.2-12.7)9	7.5 (6.7-8.0)9	8.5 (7.9-9.0)9
Venezuela	36.8 (36.4-37.1)3	21.4 (21.2-21.7)3	11.9 (11.5-12.2)3	7.6 (7.5-7.8)3	8.7 (8.5-8.9)3
Panama	(37.9)1	(22.5)1	(12.5)1	(7.8)1	(8.9)1
Costa Rica	38.1 (37.3-38.9)2	(22.1)1	12.4 (12.0-12.8)2	(8.3)1	(9.2)1
Nicaragua	38.3 (36.2-40.2)20	22.2 (21.2-23.2)20	12.4 (11.8-13.0)20	7.9 (7.5-8.2)20	9.0 (8.4-9.3)20
Honduras	38.2 (37.3-39.0)12	22.2 (21.2-22.8)12	12.5 (12.1-13.1)12	8.1 (7.7-8.4)11	9.2 (8.2-9.5)11

TABLE 1.—Selected Measurements, in millimeters, of *Vampyrops brachycephalus* and *V. helleri* showing means, extremes, and sample size.

differences. Should they prove the result of genetic independence, the name *incarum* (Thomas, 1912:408) would apply.

V. zarhinus H. Allen was thought (H. Allen, 1891:402) to have been collected in Brazil by the Thayer expedition. G. M. Allen (1931:236-237) listed it as having been taken at Obispo, Panama, in 1872 by the Hassler expedition, as recorded in the Museum of Comparative Zoology catalogue. For this reason, Sanborn (1955) treated *zarhinus* as a synonym of *helleri*, but Cabrera (1958:82) regarded the Panamanian origin of *zarhinus* to be less than certain, and used the name in place of *helleri* for the small South American species of *Vampyrops*. The holotype of *zarhinus* is quite like specimens of *helleri* from Mexico and Central America, and it seems most unlikely that it could have come from Brazil.

The holotype of *V. zarhinus incarum* Thomas, an adult male preserved in fluid, with the skull removed, was collected at Pozuzo, Peru, by L. Egg. It agrees with our specimens of *helleri* from Ecuador and Peru.

Some Venezuelan specimens of *brachycephalus* are similar in size to the holotype of *V. recifinus* Thomas, but the latter is almost certainly allied to, and probably conspecific with, *V. lineatus* (Geoffroy). Although Sanborn (1955) recognized both *lineatus* and *recifinus* and reported broadly overlapping geographic distributions (Pernambuco to São Paulo) for the two, sympatry seems actually to be based on the fact that the type locality of *V. lineatus sacrillus* Thomas is in the state of Espiritu Santo, and both *recifinus* and *lineatus* have been reported from the state of São Paulo. More important, there appear to be no clear cut differences between *lineatus* and *recifinus*. The holotype of *lineatus* has a forearm of 46.9, substantially longer than that of *recifinus* (40.2), but cranially, the two appear similar in size (because the posterior portion of the cranium is missing, there is no way of knowing whether the type of *lineatus* had a longer skull). In some respects, the type of *sacrillus* is larger than that of *lineatus*, but in other respects it is smaller than the type of *recifinus*. Sanborn (1955:411) placed *sacrillus* in synonymy with *lineatus*, stating "there appears to be no geographic reason for subspeciation." It seems most likely to us that *V. lineatus* is largest in the south and decreases in size to the north. In any event, the name *recifinus* is not applicable to our small *Vampyrops* from Venezuela, Colombia, and Peru.

Natural history.—Our Peruvian specimens were netted in humid tropical forest habitats at elevations from 150 meters (500 feet) to 740 meters (2400 feet). Although the single specimen from 61 mi. SE Pucallpa was taken along a path in mature rain forest, the other specimens were netted over water (Rio Tamaya, 38 mi. SE Pucallpa—pools on a sand bar at edge of Rio Ucayali, 27 mi. SE Pucallpa) or in rather dense second growth vegetation (3 mi. S Tingo Maria). Both *V. brachycephalus* and *V. helleri* were taken together 61 mi. SE Pucallpa and 3 mi. S Tingo Maria.

Peruvian males (taken in August) had testes 3 to 5 millimeters in length. Two of the seven females (also collected in August) were pregnant, each with a single embryo, 5 and 8 millimeters in crown-rump length.

A female taken on 26 February at Santa Rosa, Venezuela, had an embryo 3 millimeters in crown-rump length, and a male taken at the same time had testes 7 millimeters long, whereas a nonpregnant female was taken on 26 July in Monagas, and a male taken at that time had testes 4 millimeters in length. Of 13 specimens taken 1.5 km NW Pilar, Venezuela, in October, four were juveniles, one adult female was lactating (none was pregnant), and the five adult males had testes 4 to 5 millimeters in length.

The single Colombian female, taken on 4 July in Meta, was not pregnant.

Specimens examined.—In all, a total of 39 specimens of the new species was examined. These, along with comparative material studied, are listed below.

Vampyrops brachycephalus. COLOMBIA: Leticia, 3 mi. W Isla Santa Sofia, Amazonas, 1 (TTU); Restrepo, Upin Salt Mine, Meta, 2 (TTU). VENEZUELA: 1.5 km NW Pilar, Sucre, 13 (KU); Santa Rosa, 20 km (by road) SE Casanay, Sucre, 2 (KU); 8 km (by road) NW Caripito, Minagas, 2 (KU). PERU: 27 mi. ESE Pucallpa, 500 ft., Loreto, 1 (TCWC); 38 mi. SE Pucallpa, 500 ft., Loreto, 11 (TCWC); 61 mi. SE Pucallpa, 500 ft., Loreto, 1 (TCWC); 3 mi. S Tingo Maria, 2400 ft., Huanuco, 6 (TCWC).

Vampyrops helleri. MEXICO: "Mexico," (holotype of *V. helleri*, ZMB 3276). HONDURAS: Lancetilla, 40 m, Atlantida, 12 (TCWC). NICARAGUA: 10 mi. W Rama, 40 m, Zelaya, 1 (TCWC); 6 km N Tuma, 550 m, Matagalpa, 5 (TCWC); Hacienda Bellavista, 720 m, Volcan Casita, Chinendega, 10 (KU); 1 km N, 2.5 km W Villa Somoza, 330 m, Chontales, 4 (KU). COSTA RICA: 9 mi. ENE Porto Golfito, 100 ft., Puntarenas, 2 (TCWC). PANAMA: 18 km WSW Chepo, 200 ft., Panama, 1 (TCWC); Obispo, 1 (holotype of *V. zarhinus*, MCZ 3211). COLOMBIA: Melgar, Tolima, 1 (TTU); Leticia, 3 mi. W Isla Santa Sofia, Amazonas, 3 (TTU); Restrepo, Upin Salt Mine, Meta, 9 (TTU). VENEZUELA: 1.5 km NW Pilar, Sucre, 3 (KU). ECUADOR: 9 mi. S Zaruma, 2000 ft., El Oro, 1 (TCWC). PERU: 61 mi. SE Pucallpa, 500 ft., Loreto, 2 (TCWC); 3 mi. S Tingo Maria, 2400 ft., Huanuco, 1 (TCWC); 19 mi. S Tingo Maria, 2800 ft., Huanuco, 1 (TCWC); Pozuzo, 1 (holotype of *V. zarhinus incarum*, BMNH 12.1.15.1).

Vampyrops recifinus. BRAZIL: Pernambuco [Recife] holotype (BMNH 81.2.16.4).

Vampyrops lineatus. PARAGUAY: "Paraguay," holotype (MNHN 953 and 320—the first number was applied prior to 1840 and the second subsequent to that year).

Vampyrops lineatus sacrillus. BRAZIL: Rio Doce, Espiritu Santo, holotype (BMNH 23.12.12.9).

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