OCCASIONAL PAPERS
THE MUSEUM
TEXAS TECH UNIVERSITY

NUMBER 7 3 NOVEMBER 1972

A NEW SUBSPECIES OF URODERMA BILOBATUM (CHIROPTERA: PHYLLOSTOMATIDAE) FROM MIDDLE AMERICA

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Karyotypic studies of the tent-making bat, *Uroderma bilobatum* Peters, have revealed that populations from southern México to El Salvador in the Pacific versant of Middle America represent an undescribed subspecies, for which we propose the name:

Uroderma bilobatum davisi, new subspecies

Holotype.—Adult female, skin and skull, no. 12644, The Museum, Texas Tech University, from 3 mi. NW La Herradura, La Paz, El Salvador, elevation about 20 meters; taken on 11 July 1971 by R. J. Baker and party, original number 455 of William J. Bleier.

Description.—A small subspecies (see Table 1) of *Uroderma bilobatum*; fundamental number (number of arms of the autosomal complement) 48; diploid number, 44 or 43.

Comparisons.—The primary distinguishing characteristics of *U. b. davisi* are karyotypic, the fundamental and diploid numbers being 48 and 44 or 43 (Fig. 1) as opposed to 44 and 38 in *convexum* and *molaris* (karyotype illustrated by Baker and Lopez, 1970).

Morphologically, the karyotype of *U. b. davisi* is distinguished from those of *U. b. molaris* Davis, 1968, and *U. b. convexum* Lyon, 1902, by two large pairs of biarmed autosomes the size of the X chromosome (*molaris* and *convexum* have four such pairs) and a pair of biarmed autosomes smaller than the Y element (*molaris* and *convexum* have no small biarmed autosomes).

Uroderma bilobatum davisi averages smaller both externally and cranially than either *convexum* or *molaris* (Table 1), but the dif-

TABLE 1.—*Means and one standard deviation for five morphometric variables in three Middle American subspecies of* Uroderma bilobatum. *Sexes are listed separately. All measurements are in millimeters.*

Sex	N	Length of forearm	Length of third metacarpel	Condylo-basal length	Palatal length	Breadth across upper premolars
			U. b. davisi			
Males	16	41.3+0.95	40.0+1.20	20.1+0.33	9.8+0.24	8.9+0.15
Females	10	41.4+0.86	40.0+0.74	20.0+0.38	9.6+0.44	8.8+0.19
			U. b. molaris			
Males	25	43.8+1.15	42.7+1.23	20.9+0.33	10.1+0.24	9.3+0.25
Females	26	43.7+1.08	42.3+1.04	20.6+0.42	9.9+0.35	9.3+0.02
			U. b. convexum			
Males	33	42.8+1.25	41.5+1.15	20.4+0.44	9.8+0.37	8.9+0.26
Females	29	42.8+1.23	41.3+1.03	20.3+0.51	9.7+0.33	8.8+0.30

ferences in size are not as distinctive as are the chromosomal features. In color, *davisi* resembles *convexum* (see Davis, 1968, for a review of the genus *Uroderma*).

Measurements.—Selected measurements, in millimeters, of the holotype are: length of forearm, 41.0; length of third metacarple, 40.2; greatest length of skull, 22.4; condylobasal length, 20.1; zygomatic breadth 12.4; breadth of braincase, 9.4; mastoidal breadth, 10.8; post-orbital constriction, 5.4; palatal length, 10.5; length of maxillary toothrow, 7.7; maxillary toothrow from canine to posterior edge of M2, 7.4; breadth across fourth upper premolars, 8.4; breadth across upper canines, 5.3; mandibular length, 13.7.

Distribution.—Known from the Pacific versant of Middle America from Chiapas, México, south to El Salvador, possibly occuring also in adjacent Honduras.

Remarks.—The karyotypic differences that distinguish *U. b. davisi* from *U. b. convexum* and *U. b. molaris* are greater than those known for any other species of bat. The southernmost record for *davisi* (La Herradura, El Salvador) is 160 kilometers north of the nearest known locality (Chinandega, Nicaragua) for *convexum*. Further collecting in the zone between these localities may prove *davisi* to be specifically distinct, but even if total karyotypic intergradation should obtain, the subspecific status of *davisi* would be supported by its unique karyotypic divergence from *convexum* and *molaris*. The relationships among the described subspecies of *U. b. bilobatum* will be discussed in a subsequent publication.

Ecology.—Specimens of *davisi* were taken in coffee and banana plantations and in second-growth forest at elevations of 1000 meters

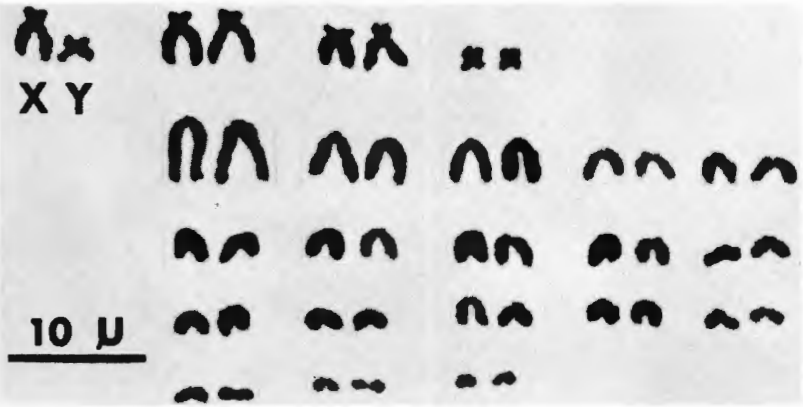

FIG. 1.—Representative karyotype of a male paratype of *Uroderma bilobatum davisi* from the type locality.

or less on the Pacific versant of Chiapas, México, and El Salvador. At La Herradura, individuals were netted in dry tropical forest in which the dominant trees reached a height of approximately 30 meters.

Other species of bats collected with *U. b. davisi* at La Herradura, El Salvador, were: *Glossophaga soricina*, *Carollia subrufa*, *Sturnira lilium*, *Uroderma magnirostrum*, *Chiroderma villosum*, *Vampyrops helleri*, *Artibeus jamaicensis*, *A. lituratus*, *A. phaeotis*, *Desmodus rotundus*, and *Rhogeessa tumida*. Species of bats netted in association with *U. b. davisi* at other localities in El Salvador, but not listed above, were *Saccopteryx bilineata*, *Pteronotus parnellii*, *P. saupurensis*, *Phyllostomus discolor*, *Artibeus toltecus*, and *Eptesicus furinalis*.

Four of the 13 specimens collected from La Herradura, El Salvador, had a small (about 3 millimeters in diameter), open, dry sore at the corner of the mouth near the eye. No similar sores were observed on other species of bats collected during this study.

Specimens examined.—Karyotypes are available for 122 of the 155 specimens listed below. Fifteen karyotyped specimens were not used to determine the morphometric values in Table 1 because they were juveniles; 32 specimens for which karyotypes are not available are included in Table 1. Catalogue numbers listed are those of The Museum, Texas Tech University. In addition to material listed for the subspecies *davisi*, *convexum*, and *molaris*, South American specimens of *U. b. bilobatum* and *U. b. trinitatum* also were examined. Localities are arranged in order from north to south.

Uroderma bilobatum davisi—MEXICO. Chiapas: 11.9 mi. SE Tres Picos, 2 (10700-01); 6.8 mi. N Tapachula, Rancho San Jorge, 2

(10708-09); 3.8 mi. SW Tapachula on Mexican Highway 18, 4 (10702-05). EL SALVADOR. Cuscatlan: 1.2 mi. W Suchitoto, 1 (12668). La Paz: 3 mi. NW La Herradura, 16 (12649-64). La Libertad: 8.4 mi. NW Colon, 1 (12667). San Salvador: 1 mi. W Ilopango Airport, 3 (12669-71).

U. b. convexum—NICARAGUA. Chinandega: 1.5 mi. S Chinandega, 8 (12712-15, 12749-52); 17 km. E, 2 km. S Chinandega, 22 (12716-37). Leon: 25 mi. by road WNW Managua on Nicaraguan Highway 28, 4 (12738-41). Rivas: 4 mi. N Rivas, 4 (12745-48). COSTA RICA. Guanacaste: 5 km. SW Finca Taboga, 5 (12707-11). Puntarenas: 41.2 mi. SE Cañas, 12 (12672-83). San José: 12.2 mi. SSE San Isidro del General, 13 (12684-96). COLOMBIA. Tolima: Melgar, 5 (9322, 9325-26, 9329-30).

U. b. molaris—MEXICO. Tabasco: 5.4 mi. N Teapa, 2 (10678-79); 13.6 mi. N Villahermosa, 1 (10822). Veracruz: 4.2 mi. N Santiago Tuxtla, 1 (10677). HONDURAS. Cortez: 23 mi. N San Pedro Sula, 1 (12648). Olancho: 12.1 mi. by road SSW Dulce Nombre de Culmi, 3 (12637-39); 10.3 mi. by road SSW Dulce Nombre de Culmi, 19 (12618-33, 12635-36, 13276); 31.3 mi. by road NNE Juticalpa, 5 (12640-44). Santa Barbara: 12 mi. N Santa Barbara, 2 (12646-47); 31.8 mi. N Santa Barbara, 1 (12645). NICARAGUA. Zelaya: vicinity of Rama, 8 (12613-17, 12742-44). COSTA RICA. Heredia: 7.3 mi. SE Puerto Viejo, 1 (12706); 8 mi. SE Puerto Viejo, 9 (12697-705).

ACKNOWLEDGMENTS

This subspecies, *Uroderma bilobatum davisi*, is named in honor of Professor William B. Davis in recognition of his contributions to the systematics of Neotropical bats.

We thank William R. Atchley for computing the statistics in Table 1. W. J. Bleier, Brent L. Davis, and C. Stanley Rouk assisted in the collection of specimens. Drs. Hugh H. Genoways, J. Knox Jones, Jr., and Dilford C. Carter critically read the manuscript. Dr. Bernardo Villa-R., Director General, Dirección General de la Fauna Silvestre, México, kindly granted the collecting permits for México. Field and laboratory studies were supported by grants (GB-29132X and GN-29132X) from the National Science Foundation.

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