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NOTEWORTHY RECORDS OF BATS FROM EL SALVADOR, HONDURAS, AND NICARAGUA

IRA F. GREENBAUM AND J. KNOX JONES, JR.

Over the past several years, field parties from The Museum and Department of Biological Sciences, Texas Tech University, have collected mammals, principally bats, at a number of localities in Central America. Some specimens thus obtained already have been recorded in the published literature, but many have not. Those reported here from the republics of El Salvador, Honduras, and Nicaragua help to clarify the distributional patterns of 10 kinds of bats in this region of Middle America. It is of note that the two taxa listed as new to the fauna of Nicaragua bring to a total of 79 the chiropteran species presently known from that country. Additionally, one species is reported as new to El Salvador and one as new to Honduras. Also, the karyotype of *Centronycteris maximiliani* is presented for the first time.

We are grateful to many colleagues who participated in the field studies (in the years 1971, 1972, 1975, and 1977) in which most of the material recorded here was collected, under the aegis of grants DEB 76-20580, GN 29132X, and GN 29132X1 from the National Science Foundation. All listed measurements are in millimeters.

Saccopteryx leptura (Schreber, 1774). — Although this small sac-winged species is known as far north in Middle America as Chiapas (Carter *et al.*, 1966), we are unaware of any published records from Honduras. A male (TTU 28526) was netted under large mango trees 10 mi. SSW Nacáome on 22 May 1975.

Centronycteris maximiliani centralis Thomas, 1912. — A female (TTU 30670) netted in virgin rain forest 9 1/2 mi. NW Rama, Zelaya, provides the second record of *C. m. centralis* from Nicaragua. Baker and Jones (1975) previously recorded an individual from 9 mi. E Rama. Our specimen, taken on 26 May 1977, was pregnant with a single fetus.

To our knowledge, the karyotype of *C. maximiliani* (Fig. 1), which has a diploid number of 28, has not been reported previously.

Tonatia bidens bidens (Spix, 1823). — A male and female of this species (TTU 13108-09), taken on 16 August 1971 at a place 6.9 mi. E San Juan del Sur, Rivas, provide the first records of this bat from Nicaragua. The two were netted over a stream bordered by narrow gallery forest. External measurements of the two specimens (those of the male listed first) are: total length, 97, 119; length of tail, 18, 20; length of hind foot, 15, 17; length of ear, 31, 32; length of forearm, 57.3, 60.1. Selected cranial measurements of the male are: greatest length of skull, 28.9; zygomatic breadth, 14.5; mastoid breadth, 13.2; postorbital constriction, 5.7; length of maxillary toothrow, 10.1. The karyotypes of these specimens are identical to those described for *T. bidens* by Baker and Hsu (1970).

Tonatia minuta Goodwin, 1942. — This small species of *Tonatia* has been recorded in Central America from Honduras (LaVal, 1969; Valdez and LaVal, 1971), Nicaragua (Goodwin, 1942*a*; Davis and Carter, 1962; Valdez and LaVal, *op. cit.*; Jones *et al.*, 1971), Costa Rica (Gardner *et al.*, 1970; LaVal and Fitch, 1977), and Panamá (Davis *et al.*, 1964; Handley, 1966). As noted by LaVal (1969), and Valdez and LaVal (1971), previously reported Honduranian specimens are measurably larger than those from the type locality of *minuta* (Boca Curaray, Perú) as reported by Goodwin (1942*a*). Adults from western and central Nicaragua that we have examined average as large as do individuals from Honduras; those from Costa Rica and Panamá (on the basis of published measurements) appear to be somewhat intermediate in size between populations to the north and specimens from the type locality in Perú.

We have at hand 15 unreported specimens from Honduras, four from 10.3 mi. (by road) SSW Dulce Nombre de Culmi, Olancho (TTU 13145-48), and 11 from a nearby locality 6 mi. SE Catacamas, also in Olancho (TTU 28001-11), as well as four from Nicaragua, two from 5 mi. N and 1 mi. W San Juan del Sur, Rivas (TTU 13149, 16830), and two from 6.9 mi. E San Juan del Sur (TTU 13150-51).

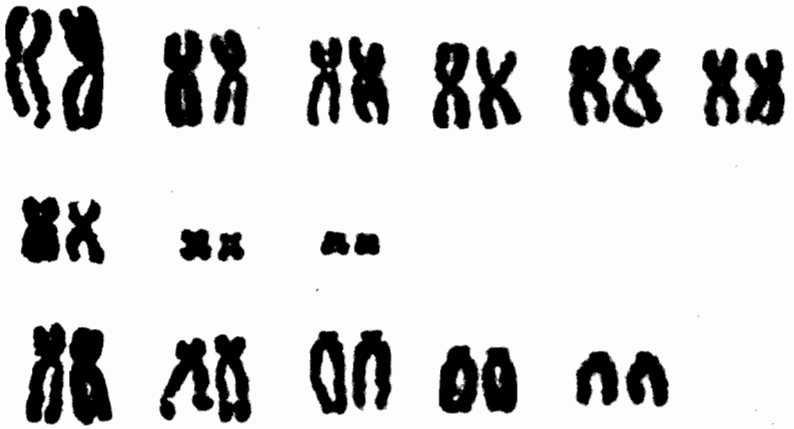

FIG. 1. — Karyotype of *Centronycteris maximiliani centralis* (TTU 30670, ♀).

This material confirms the relatively large size of *T. minuta* from the northern part of the known range in Central America. Averages of selected measurements (ranges in parentheses) of 13 adults (six males, seven females) from Honduras, followed by those for five (two males, three females) from Nicaragua, including the two specimens listed by Jones *et al.*, 1971, are as follows: length of forearm, 35.9 (34.6-36.6), 35.1 (34.5-35.7); greatest length of skull, 19.7 (18.9-20.6), 20.0 (19.5-20.5); zygomatic breadth, 9.3 (8.7-9.6), 9.5 (9.3-9.7); mastoid breadth, 9.0 (8.5-9.4), 9.1 (9.0-9.2, three specimens only); breadth of braincase, 8.0 (7.8-8.3), 8.2 (8.0-8.5); length of maxillary toothrow, 6.9 (6.6-7.1), 6.9 (6.7-7.1). Corresponding measurements (Goodwin, 1942*a*) for the male holotype and two females of *minuta* are: 34.0, —, —; 18.7, 18.6, 19.0; 9.0, 8.8, 9.0; 8.9, 8.7, 9.0; 7.7, 7.5, 8.2; 6.9, 6.7, 6.6.

We here employ the specific name *minuta*, in preference to *nicaraguae*, for this species following Koopman (1976). The latter name has page priority in Goodwin's (1942*a*) treatment of the genus *Tonatia*. Although it has been recognized for a decade or more that *minuta* and *nicaraguae* are conspecific (and *minuta* since has been employed for the species by most workers), Koopman, acting as a first revisor, is the only author who provided an explanation for selecting *minuta* as the name to be used. According to him, the holotype of *nicaraguae* "is immature, has a broken and somewhat decalcified skull, and is the only specimen from its locality." On the other hand,

the holotype of *minuta* "is adult, has a skull in good condition, and is one of a series of six from the same locality." Unfortunately, the cogent aspects of these data were not mentioned in Goodwin's original description nor in his (1953) list of type specimens in the American Museum of Natural History.

It is possible that additional material from throughout the range of *minuta* will suggest that populations from at least the northern part of the distribution of the species in Central America warrant subspecific designation owing to their large size as compared with measurements currently available for the holotype and two females from the type locality of *minuta* in Perú. Should this prove to be the case, the name *nicaraguae* is available for, and likely would be applicable to, such populations. There is, however, also to be reconciled the relationship of *minuta* to bats referred to by that name from Trinidad, which are larger even than those from Middle America, and the relationships of all to the earlier-named *Tonatia brasiliensis* (Peters, 1866) and *T. venezuelae* (Robinson and Lyon, 1901). Gardner (1976) and, following him, Koopman (1978) have suggested that the three species are conspecific, and both listed Peruvian specimens. Additionally, Gardner recorded measurements for two individuals from Perú that are as large as, or larger than, the specimens reported above from Middle America.

Mimon crenulatum keenani Handley, 1960. — Three specimens (TTU 30442-44) of this distinctive species from 3 km. NW Rama, Zelaya, establish the first record of occurrence for this bat from Nicaragua. All are females (nonpregnant but two with enlarged mammae) and were trapped in nets set along a logging road in rain forest on 25 May 1977. The chromosomal polymorphism described for this species (Baker *et al.*, 1972) was not evident in our specimens in that the subtelocentric and acrocentric morphs of the fifth pair of chromosomes were absent.

Chiroderma villosum jesupi J. A. Allen, 1900. — A female (TTU 30542) from 9 1/2 mi. NW Rama, Zelaya, represents the first specimen from the Caribbean versant of Nicaragua (see Jones *et al.*, 1971, for previous Nicaraguan records). This specimen, pregnant with a single fetus, was taken on 26 May 1977 along with the *Centronycteris maximiliani* mentioned above.

Ectophylla alba H. Allen, 1892. — This small, whitish bat is known to occur only in the Caribbean lowlands of Nicaragua, Costa Rica,

and western Panamá. A male (TTU 30545) from 4 1/2 km. NW Rama, Zelaya, which was taken in a mist net near a residence along the Río Mico, helps to clarify the distribution in Nicaragua. The karyotype of this specimen is identical to one reported previously (Greenbaum *et al.*, 1975) for a male from Costa Rica.

Diaemus youngii (Jentink, 1893). — This vampire is known from scattered localities from Tamaulipas, México, southward into South America. A female (TTU 27591) from 3 mi. NW La Herradura, La Paz, El Salvador, represents the first reported occurrence from that country, and a male (TTU 30667) from 3/4 mi. N Masachapa, Managua, and female (TTU 30668) from 3 km. NW Rama, Zelaya, are the second and third specimens to be recorded from Nicaragua (see Baker and Jones, 1975).

The Salvadorian specimen, nonpregnant on 16 May 1975, was netted over a logging road in gallery forest. The male from Nicaragua was taken in a net set over a stream bordered by riparian forest, along with hundreds of *Desmodus rotundus*, whereas the female (nonpregnant on 25 May 1977) was trapped in a mist net set across a road in second-growth rain forest.

Lasiurus ega panamensis (Thomas, 1901). — Only two specimens of this yellow bat have been reported previously from Honduras (Goodwin, 1942*b*; LaVal, 1969). Three additional specimens (TTU 28529-31), a male and two females, from 10 mi. SSW Nacáome were netted in a small banana grove on 22 May 1975. One of the two females was recorded as lactating by Greenbaum. Other Honduranian specimens in our collection include five (TTU 17130-34) from 11.1 mi. S Choluteca (16 July 1972), two males and three nonpregnant females, and a male (TTU 13386) from 12 km. N Santa Barbara.

Eumops auripendulus auripendulus (Shaw, 1800). — Eger (1977), in her revision of the genus *Eumops*, recorded only two specimens of this species from Nicaragua. Recently, two additional individuals, a male and female (USNM 514671-72) preserved in spirits, from San Carlos, Zelaya, were received by the National Museum of Natural History. These were "caught in houses away from the river" (Río San Juan) in September 1976 by Kurt Koenig. We are grateful to Dr. Don E. Wilson for permission to report on these bats.

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Addresses of authors: *Department of Biological Sciences and The Museum, Texas Tech University, Lubbock, 79409.* *Received 23 March, accepted 10 April 1978.*

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