Chromosomal Polymorphism in the Phyllostomatid Bat, *Mimon crenulatum* (Geoffroy)

The chromosomes of 49 species of bats of the family Phyllostomatidae have been described based on the examination of 441 specimens\(^1\). In only two species, *Mesophylla macconelli*\(^2\) and *Uroderma magnumstrum*\(^3\), have chromosomal polymorphisms been reported. We have found two additional polymorphic chromosomal systems in specimens of *Mimon crenulatum* collected from localities in Trinidad, Colombia, and Peru, spanning a distance of more than 1500 miles.

Specimens were obtained by use of mist nets from natural populations and karyotypic preparations were made from in vivo cultures of bone marrow\(^4\). A minimum of 25 spreads from each individual was examined. Voucher specimens from Peru were deposited in the collections of the Louisiana State University Museum of Zoology (L.SUMZ)\(^5\), and the Museum of Vertebrate Zoology, University of California (MVZ) and the material from Colombia and Trinidad is in the Museum, Texas Tech University (TT).

A total of 20 specimens was examined (8 from Trinidad, 6 from Colombia, and 6 from Peru) and all had a diploid number of 32. Chromosomal data for the 20 specimens are

---


presented in the Table. Representative karyotypes are shown in Figure 1 and 2. The polymorphism is probably restricted to the 5th largest pair of autosomes. These chromosomes exhibit at least 3 different morphological types—one is submetacentric (M, Figure 1), a second type is subterminal (S, Figure 2), and the last type is acrocentric (A, Figure 2). In all cases each chromosomal type is easily distinguished from the others. In as much as diploid number remains constant, the chromosomal rearrangements probably arose by pericentric inversions or centric shifts.

Perhaps the most interesting aspect of this polymorphic system is that all 3 chromosomal morphological types are found in the 3 areas (see Table) where the species has been studied. For this polymorphic system to survive over such a wide geographic area, it must either offer a selective advantage to the species that is greater than the expense of its maintenance or be selectively neutral.

Specimens examined—Trinidad: Las Caivas (3°23′12″) 5264, 5340, 5341, and 5442; San Rafael (1°59′) 5460; Caura Valley, St. George Co. (1°59′) 5379; Blanchisseuse (1°59′) 5374, 5375; Colombia: Departamento de Amazonas, Leticia (3°31′, 3°32′) 8826, 8841, 9448, 8828, 9042, 9043. Peru: Departamento de Loreto, Balta, Rio Curanja (3°31′, 3°32′) LSUMZ 14087–14090, MVZ 136404 and 136442.

**Resumen.** Se discute el polimorfismo cromosómico en el murciélago *Mimon crenulatum* desde localidades en Trinidad, Colombia, y el Perú. Se hallaron tres tipos morfológicos para cromosomas considerado a representar el quinto par de autosomas en ejemplares de cada región geográfica donde hemos estudiado la especie. Los tres tipos morfológicos de los cromosomas del quinto par evidentemente originado por medio de inversiones pericentricas son metacentérico, subtelocentrico, y acrocentrico.

Z. J. Baker, A. L. Gardner and J. L. Patton

Texas Tech University,
Department of Biology and The Museum
P. O. Box 4149,
Lubbock (Texas 79409, USA),
Louisiana State University,
Department de Biologie,
Baton Rouge (Louisiana, USA) and
University of California,
Museum de Vertébrate Zoology,
Berkeley (California 94720, USA),
24 January 1972

[Fig. 1 and 2. Karyotypes of two male *Mimon crenulatum* from Leticia, Colombia. In Figure 1 note that the 5th largest pair is metacentric (M), in Figure 2 note that one to the 5th largest pair of elements is acrocentric (A) and the other is subterminal (S).]

3 T. C. Hsu, R. J. Baker and T. Utakoji, Cytogenetics 7, 27 (1968).
8 R. J. Baker and T. C. Hsu, Cytogenetics 9, 131 (1970).
14 Field work in Peru by the Louisiana State University Museum Museum of Zoology was supported from 1968 and 1971 by John S. McVay and in 1968 by Eugene de Pont, I and a Louisiana State University Graduate Research Council grant to George H. Lowery Jr.
15 Supported in part by NSF Grand No. GB-8120 awarded to Baker.