

### NOTES

CHROMOSOMES OF SOME VESPERTILIONID BATS OF THE GENERA *LASIURUS* AND *PLECOTUS*.—The chromosomes of four species of the genus *Lasiurus* (*borealis*, *cinereus*, *ega*, *intermedius*) were reported by Baker and Patton (J. Mamm. 48: 270-286, 1967). Those of a male *Lasiurus seminolus* (Rhoads) are shown in Figure 1. The karyotype of this species is indistinguishable from that of specimens of *L. borealis*. Two of the six small autosomes (Fig. 1) are metacentric. At least some specimens of *L. borealis* and *L. seminolus* have up to four small metacentric autosomes. Possibly this is characteristic of both species since these small elements are often overcontracted or do not always lie in the proper plane for detailed morphological study.

The X chromosome of specimens of *L. intermedius* was reported to be submetacentric (Baker and Patton, 1967). The morphology of the X chromosomes was

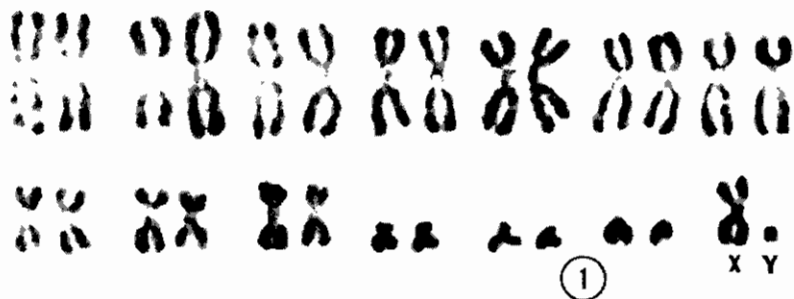


Fig. 1. Representative karyotype of a male *Lasiurus seminolus* from San Jacinto Co., Texas. *In vitro* lung culture method, acetic orcein stain.

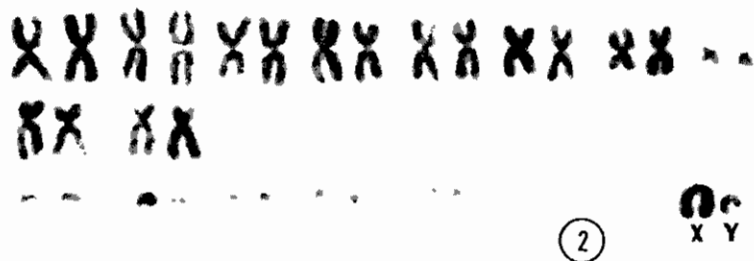


Fig. 2. Representative karyotype of a male *Plecotus townsendii* from Fort Stanton, New Mexico. *In vivo* bone marrow culture, blaze dry technique, Giemsa's stain.

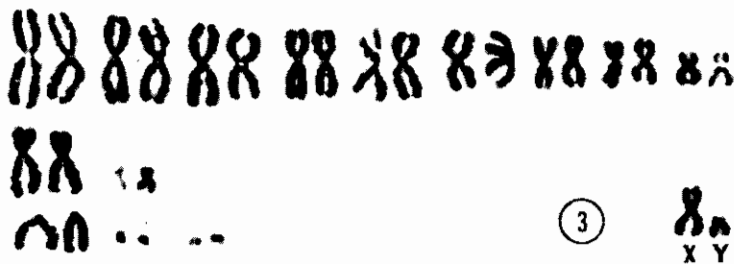


Fig. 3. Representative karyotype of a male *Plecotus phyllotis* from Mohave Co., Arizona. In vivo bone marrow culture, blaze dry technique, Giemsa's stain.

acrocentric in two specimens from Brownsville, Texas. Re-examination of the specimens reported by Baker and Patton revealed that these specimens also have an acrocentric X. The correct fundamental number (total number of arms of the autosomal complement) of *I. intermedius* is 42.

The chromosomes of female *Plecotus townsendii* Cooper and *Plecotus phyllotis* (G. M. Allen) were described by Baker and Patton (*loc. cit.*). The karyotypes of males of these two species are shown in Figures 2 and 3, respectively. Note that the X isacrocentric in *P. townsendii* and submetacentric in *P. phyllotis*. The chromosomes of a male *Plecotus rafinesquii* Lesson were identical to those shown for *P. townsendii*. This difference in X chromosome morphology can be accounted for by a pericentric inversion. The direction of the change probably was from submetacentric to acrocentric, because most vespertilionids have a submetacentric X (Baker and Patton, *loc. cit.*). The identical X chromosome morphology of *P. townsendii* and *P. rafinesquii* suggest the pericentric inversion occurred in their common ancestor.

In relating the chromosomal morphology of the two female *Plecotus* Baker and Patton assumed the X to be biarmed in both species, resulting in a Fundamental Number of 52 for *P. townsendii* and 50 for *P. phyllotis*. Because the morphology of the X in *P. townsendii* and in *P. rafinesquii* is acrocentric the correct Fundamental Number for all three species is 50. Although the Fundamental Number of the two karyotypes is the same, the amount of morphological karyotypic variation between them (Figs. 2 and 3) is still considerably more than that found within most bat genera (Baker and Patton, *loc. cit.*, and Baker, *Southwestern Nat.*, 12: 407-428, 1967). The three extra pairs of small acrocentrics in *P. townsendii* and *P. rafinesquii* and the large pair of acrocentric autosomes in *P. phyllotis* indicate the lack of morphological homology among several pairs of the autosomes.

Of the specimens examined (listed below), those from Arizona are deposited in the mammal collection of the University of Arizona and those from New Mexico, Kentucky, and Texas are in the Texas Tech University Collection of Recent Mammals.

*Lasiurus borealis*.—TEXAS: San Jacinto Co., San Jacinto River on Farm Rd. 945, NE of Cleveland (1 male, 2 females). *Lasiurus seminolus*. —TEXAS: San Jacinto Co., San Jacinto River on Farm Rd. 945, NE of Cleveland (5 males, 5 females). *Lasiurus intermedius*.—TEXAS; Cameron Co., 5 mi. SE Brownsville. (1 male,

1 female). *Plecotus townsendii*.—ARIZONA: Cochise Co., Chiricahua Mtns., Herb Marty Dam, collector G. C. Mitchell (1 male); NEW MEXICO: Lincoln Co.: Fort Stanton (2 males, 1 female) collector Suzanne Fowler. KENTUCKY: Lee Co., Cathedral Domain Cave (1 male) collector Dr. Wayne Davis. *Plecotus rafinesquii*.—Kentucky: Lee Co., Cathedral Domain Cave (1 male) collector Dr. Wayne Davis. *Plecotus phyllotis*.—ARIZONA: Mohave Co., Black Mtns., 2 mi. W Union Pass (2 males, 1 female).— *Robert J. Baker and James T. Mascarello, Department of Biology, Texas Tech University, Lubbock and Section of Cell Biology, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, Houston, Texas.*