

KARYOTYPIC ANALYSES OF TWENTY-ONE SPECIES OF MOLOSSID BATS (MOLOSSIDAE: CHIROPTERA)

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Examination of 135 specimens representing 21 species from seven genera of the family Molossidae revealed diploid numbers ranging from 34 to 48. Seventeen species from six genera have diploid numbers of 48. Geographic variation and polymorphism were found only in *Eumops glaucinus*. Chromosomal variation within the family is presumed to be primarily due to changes in diploid number resulting from Robertsonian translocations.

Introduction

This paper is one of a series (for a review see Baker 1970a,b, 1973) describing the variation and evolution of karyotypes of bats (order Chiroptera). The objectives of these studies are to gain an understanding of the mechanisms of chromosomal change, and the patterns and evolutionary significance of chromosomal variation, and to assess the value of the karyotype in chiropteran systematics.

Present classification of the family Molossidae recognizes 11 recent genera containing approximately 82 species (Koopman and Jones, 1970) that are widely distributed in the tropical and warm temperate regions of the world. The karyotypes of 21 species representing seven genera are discussed in this paper. Four of these genera (*Promops*, *Molossops*, *Eumops*, and *Molossus*) are restricted to the New World while two (*Otomops* and *Platymops*) are found only in the Old World. Although *Tadarida* is common to both hemispheres, we have not examined Old World representatives of this genus.

Prior to this report, diploid numbers or karyotypes have been published for *Tadarida brasiliensis* (Painter, 1925; Patton and Baker, 1966; Kniazeff *et al.*, 1967; Hsu and Benirschke, 1970), *T. femorosacca* (Patton and Baker, 1966), *T. macrotis* (Patton and Baker, 1966; Baker, 1970a), *Eumops perotis* (Baker, 1970a), *Molossops greenhalli* (Linares and Kiblicky, 1969; Baker, 1970a) and *Molossus molossus* (Baker and Lopez, 1970). Herein, the karyotypes of 15 additional species are described.

Materials and Methods

Specimens were collected in caves, buildings, or at watering places with the aid of mist-nets. Although the techniques of karyotype preparation varied, the primary method involved *in vivo* culturing of bone marrow after injection with either colchicine or velban (Baker, 1970a). A minimum of five metaphase spreads was counted for each specimen listed under "specimens examined." Photomicrographic enlargements of suitable spreads were used for final comparisons.

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The fundamental number (FN) and the terms describing chromosomal morphology are used as defined by Patton (1967). Since the number of countable arms may vary between spreads from the same specimen due to varying degrees of contraction of some of the short arms of the nearly acrocentric chromosomes, the FN value assigned may not be readily determined from the figures shown. In all cases, we have considered the chromosomes with very small second arms as acrocentrics. In these instances the FN we report should be considered arbitrary and subjective.

Results

The chromosomal data are summarized in Table I and representative karyotypes are presented in Figs. 1-13. A brief description of the karyotype of each species follows.

Tadarida brasiliensis (Geoffroy) (Fig. 1; $2n = 48$, FN = 56)

The autosomes consist of one pair of large metacentrics, two pairs of medium-sized submetacentrics, one pair of medium-sized subtelocentrics, one pair of small subtelocentrics (about the fifth smallest pair), and a gradated series of 18 pairs of medium-sized to small acrocentrics, one pair of which is characterized by having secondary constrictions. Two pairs of the medium-sized acrocentrics sometimes appear to have a short second arm. The X chromosome is a medium-sized submetacentric and the Y is a small acrocentric.

T. laticaudata (Geoffroy) (Fig. 2; $2n = 48$, FN = 58).

The autosomes include one pair of large metacentrics, three pairs of medium-sized submetacentrics, one pair of medium-sized subtelocentrics, and one pair of small subtelocentrics (about the fourth smallest pair) as well as 17 pairs of acrocentrics. The X is a medium-sized submetacentric and the Y, a small acrocentric.

T. formosacca (Merriam) (Fig. 3; $2n = 48$, FN = 58)

The autosomes consist of one pair of large metacentrics, three pairs of medium-sized submetacentrics, one pair of medium-sized subtelocentrics, one pair of small subtelocentrics and 17 pairs of acrocentrics. One of the pairs of medium-sized acrocentrics sometimes appears to be subtelocentric. As in the above described karyotypes, the X chromosome is a medium-sized submetacentric. However, the Y is a medium-small submetacentric instead of a small acrocentric as in *T. brasiliensis* and *T. laticaudata*.

T. macrotis (Gray) ($2n = 48$, FN = 58)

The chromosomes of the single female examined are identical to those of *T. femorosacca* (Fig. 3). The Y chromosome is reported by Baker (1970a) as a small acrocentric instead of the medium-small submetacentric found in *T. femorosacca*.

T. aurispinosa (Peale) ($2n = 48$, FN = 58)

The autosomes are identical to those shown for *T. femorosacca* (Fig. 3). The X chromosome is very similar to those shown for other *Tadarida* (Figs. 1-3), but the acrocentric Y is about twice the size of the one shown for *T. laticaudata* (Fig. 2).

T. kalinowskii (Thomas) ($2n = 48$, FN = 56)

Only a single female was available for analysis. The karyotype is indistinguishable from that described for females of *T. brasiliensis* (Fig. 1).

Molossops greenhalli (Goodwin) (Fig. 4; $2n = 34$, FN = 60).

The autosomes consist of a gradated series of 11 pairs of submetacentric chromosomes, three pairs of medium-sized subtelocentrics, and two small pairs of acrocentrics. In our material, the X is a medium-sized subtelocentric, as reported by Baker (1970a), and the Y is a small submetacentric, not a metacentric as reported by Linares and Kibliskey (1969).

M. abrasus (Temminck) ($2n = 34$, FN = 60)

We found no detectable difference between the karyotype of this species and that shown for *M. greenhalli* (Fig. 4).

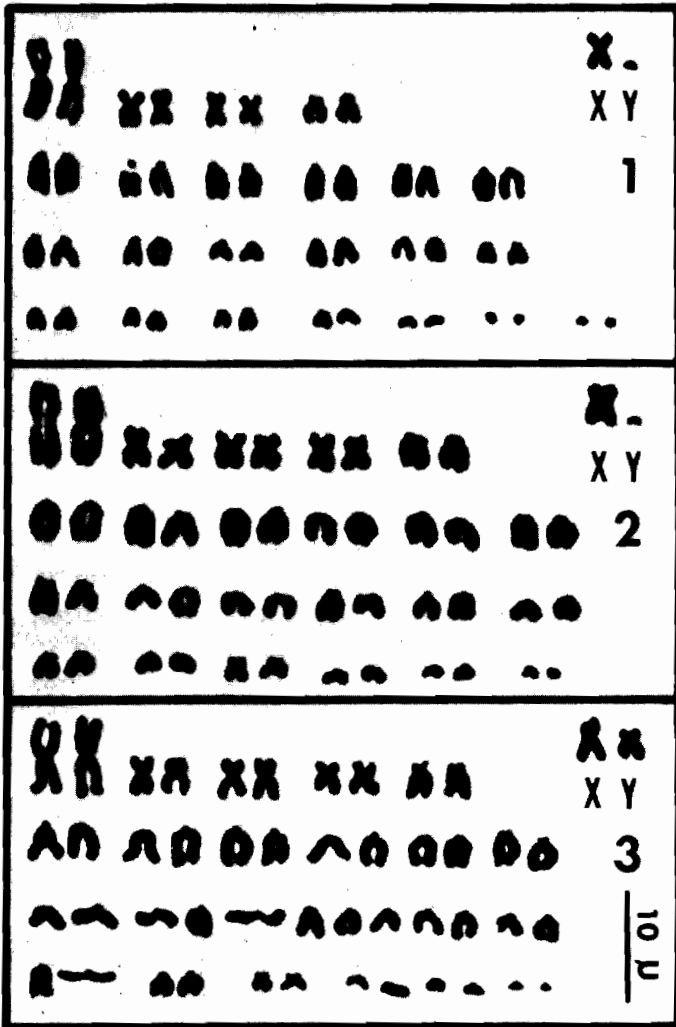


Fig. 1. Representative karyotype of a *Tadarida brasiliensis*, male, $2n = 48$, FN = 56, collected from Clinton, Louisiana. Fig. 2. *Tadarida laticaudata*, male, $2n = 48$, FN = 58, from near Cordoba, Veracruz. Fig. 3. *Tadarida femorosacca*, male, $2n = 48$, FN = 58, from Alamos, Sonora.

Eumops underwoodi (Goodwin) (Fig 5; $2n = 48$, FN = 56)

The autosomes consist of one large pair of metacentrics, two pairs of medium-sized submetacentrics, two pairs of medium-sized subtelocentrics, and a graded series of 18 pairs of acrocentrics. The sex chromosomes appear to be indistinguishable from those described for *T. brasiliensis*; the X is a medium-sized submetacentric and the Y a small acrocentric.

E. perotis (Schinz) ($2n = 48$, FN = 56)

The karyotype of this species was described by Baker (1970a). One of the larger pairs of acrocentrics has visible secondary constrictions such as those noted in members of the genus *Tadarida*. The sex chromosomes are identical to those of *E. underwoodi*.

E. auripendulus (Shaw) ($2n = 42$, FN = 62)

The autosomes consist of nine pairs of submetacentrics ranging in size from large to medium, two medium to small pairs of subtelocentrics, plus a series of nine acrocentrics. The X chromosome appears to be identical to that shown for *E. glaucinus* (Fig. 6), but the Y is a medium-sized subtelocentric.

E. glaucinus (Wagner) (Figs. 6, 7, and 8; $2n = 38$ or 40 , FN = 64)

Three karyotypes are known for this species. One has $2n = 40$ (Fig. 6) with the autosomes consisting of one large pair of submetacentrics, a graded series of 11 pairs of smaller submetacentrics, one pair of small subtelocentrics, and six pairs of medium to small acrocentrics. The sex chromosomes consist of a metacentric X almost as large as the largest pair of autosomes, and an acrocentric Y.

The other two karyotypes of *E. glaucinus* have $2n = 38$, the lowest diploid number found in any member of the genus *Eumops* examined. One of the $2n = 38$ karyotypes is composed of a graded series of 14 pairs of submetacentrics (one pair of which is the X), one pair of small subtelocentrics, and four pairs of small acrocentrics. Variation in the morphology of one of the medium-sized submetacentric elements (possibly the X chromosome) was found in specimens from Honduras and Costa Rica. Chromosomes like those shown as the X in Fig. 7 were found in three of four specimens examined from Veracruz and Chiapas. A male from Costa Rica possessed no acrocentric chromosomes, (shown as the X in Fig. 8), whereas one female from Honduras had one acrocentric and a submetacentric element. This heterozygous female suggests interbreeding between these two chromosomal morphs. Comparative measurements suggest that this variation is the result of a pericentric inversion, but additional specimens are needed before definite conclusions can be drawn. The Y chromosome in both karyotypes appears to be a very small metacentric.

Promops centralis Thomas ($2n = 48$, FN = 58)

The autosomal complement of this bat is characterized by having one pair of large submetacentrics, three pairs of medium-sized submetacentrics, one pair of medium-sized subtelocentrics, one small pair of subtelocentrics, and a graded series of 17 pairs of acrocentrics. As was true of most of the *Tadarida* examined, one of the larger acrocentric pairs has visible secondary constrictions. The metacentric X chromosome is approximately one-half the length of the largest pair of autosomes, and the Y is a medium-sized acrocentric.

P. davisoni (Thomas) (Fig. 9; $2n = 48$, FN = 58)

The autosomal karyotype is very similar to that of *P. centralis*. However, four pairs of the acrocentrics sometimes appear to have a small second arm. The X

chromosome is submetacentric, while the Y is acrocentric but only about one-third the size of that found in *P. centralis*.

Molossus sinaloae (J. A. Allen) (Fig. 10; $2n = 48$, FN = 58)

The autosomal complement of *M. sinaloae* has one large pair of metacentrics, three pairs of medium-sized submetacentrics, one pair of medium-sized subtelocentrics, one pair of small subtelocentrics, and 17 pairs of acrocentrics. Two of the acrocentric pairs sometimes appear to have short second arms. Secondary con-

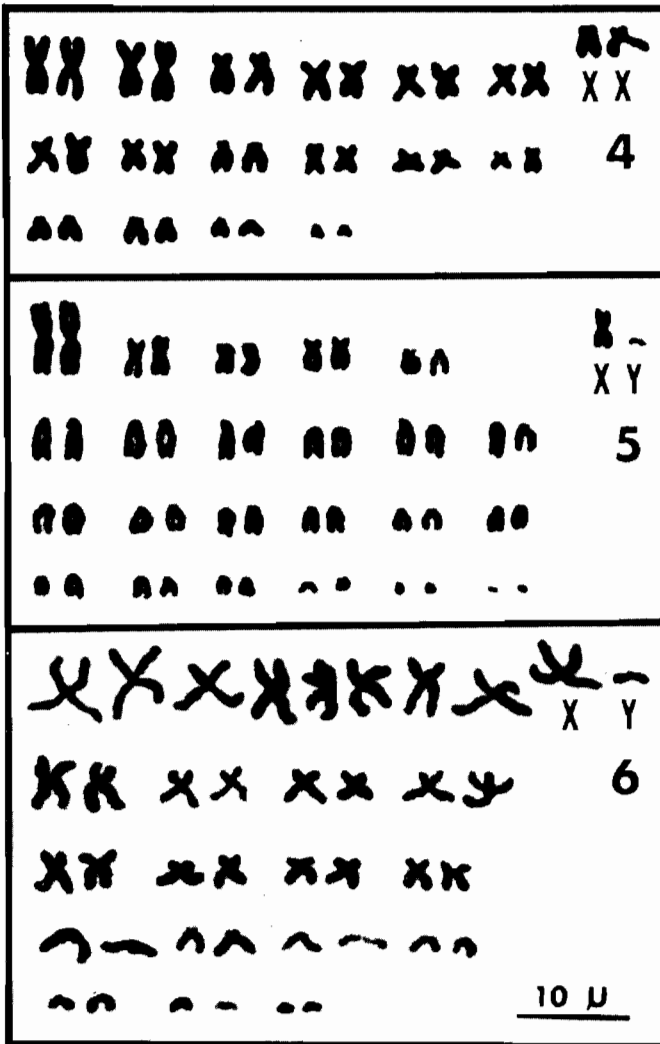


Fig. 4. *Molossops greenhalli*, female, $2n = 34$, FN = 60, from 2 km NW Santa Ana, Costa Rica. Fig. 5. *Eumops underwoodi*, male, $2n = 48$, FN = 56, from 2 mi E Sasabe, Arizona. Fig. 6. *Eumops glaucinus*, male, $2n = 40$, FN = 64, from Puerto Lopez, Colombia.

strictions are present in one of the larger pairs of acrocentric chromosomes. The sex chromosomes consist of a medium-sized submetacentric X and a small acrocentric Y.

M. molossus (Pallas) ($2n = 48$, FN = 58)

There are no distinguishing differences between the chromosomes of *M. molossus* and those of *M. sinaloae* (Fig. 10). The pair of acrocentric chromosomes with secondary constrictions is easily recognized.

In addition to *M. molossus*, we have examined specimens of *M. aztecus* and *M. cf. pygmaeus* from Mexico and Central America which have karyotypes indistinguishable from that of *M. molossus*. Jones *et al.* (1971) suggest that all specimens of small *Molossus* with white-based hairs from Central America belong to the same species. However, one of us (A. L. G.) is convinced on non-chromosomal grounds that at least two and possibly three species of small *Molossus* occur in this region.

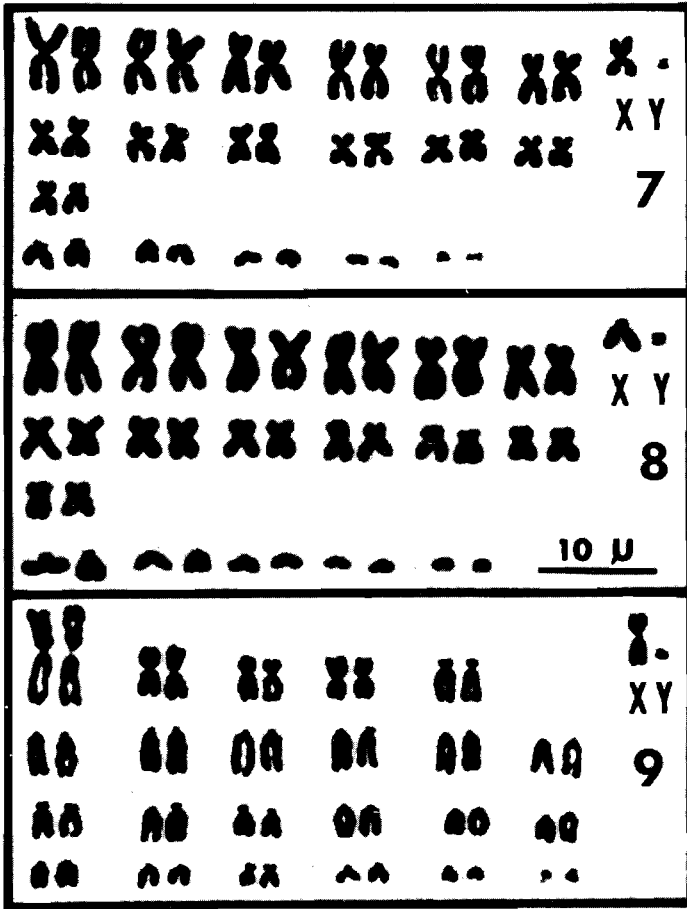


Fig. 7. *Eumops glaucinus*, male, $2n = 38$, FN = 64, from near Cintalapa, Chiapas.
 Fig. 8. *Eumops glaucinus*, male, $2n = 38$, FN = 64, from near Santa Ana, Costa Rica.
 Fig. 9. *Promops davisoni*, male, $2n = 48$, FN = 58, from Cañete, Perú.

M. ater (Geoffroy) (Fig. 11; $2n = 48$, FN = 58)

The autosomes appear to be identical to those of *M. sinaloae* (Fig. 10). The X chromosome is submetacentric as in *M. sinaloae* but appears to be somewhat smaller. The Y chromosome is a small subtelocentric.

Otomops martiensseni (Matschie) (Fig. 12; $2n = 48$, FN = 58)

The karyotype of this Old World species is very similar to those of several Western Hemisphere species, especially of *T. femorosacca*. The autosomes consist of one large metacentric pair, three somewhat smaller pairs of submetacentrics, one pair of medium-sized subtelocentrics, one pair of small subtelocentrics, and a gradated series of 17 pairs of acrocentrics. Two of the acrocentric pairs often appear subtelocentric. One large pair of acrocentrics has secondary constrictions. The sex chromosomes consist of a medium-sized submetacentric X and a somewhat smaller submetacentric Y.

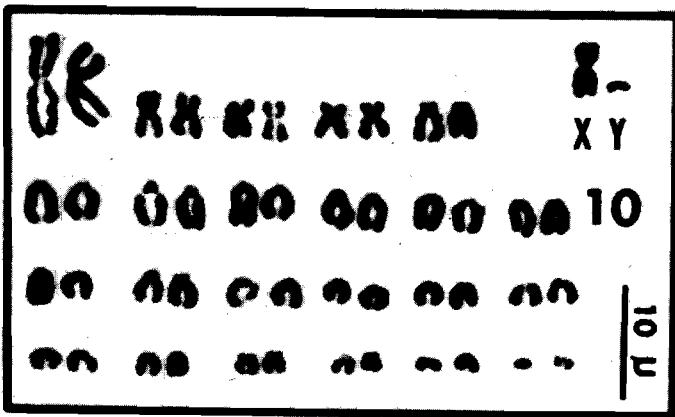
Platymops setiger (Peters) (Fig. 13; $2n = 48$, FN = 54)

The karyotype contains one pair of large submetacentrics, three pairs of medium-sized submetacentrics, and a gradated series of 19 pairs of acrocentrics. The X chromosome is a medium to large submetacentric, and the Y is an acrocentric approximately one-half as long as the X.

Discussion

Although some species of molossids are among the most common bats (for example, *Tadarida brasiliensis* in the Nearctic and *Molossus* spp. in the Neotropics), many nominal taxa are poorly represented in collections, and currently accepted interpretations of phylogenetic relationships are based on meager data. Chromosomal studies could prove useful in evaluating these relationships. Our sample does not include all taxa but we hope it will serve as a basis for evaluating some groups, especially when representatives of additional taxa are examined.

Except for the problem of determining how many acrocentric chromosomes had small second arms, we detected no individual variation (other than sexual). Geographic variation was found only in *Eumops glaucinus*. Specimens from Mexico, Honduras, and Costa Rica have a diploid number of 38. The *E. glaucinus*



we examined from Colombia have a diploid number of 40. Since there is no change in fundamental number of most specimens this difference is probably due to Robertsonian variation.

In addition to the above mentioned variation in diploid number in *E. glaucinus* there is variation within the $2n = 38$ forms which involves a medium sized pair of elements (approximately the size of the X) which appear acrocentric or submetacentric. Our material does not reveal whether this dimorphism involves races of this species or whether this is a widely distributed polymorphism as found in *Mimon* (Baker *et al.*, 1972). The karyotype of a heterozygous female indicates that both karyotypes are found in Honduras.

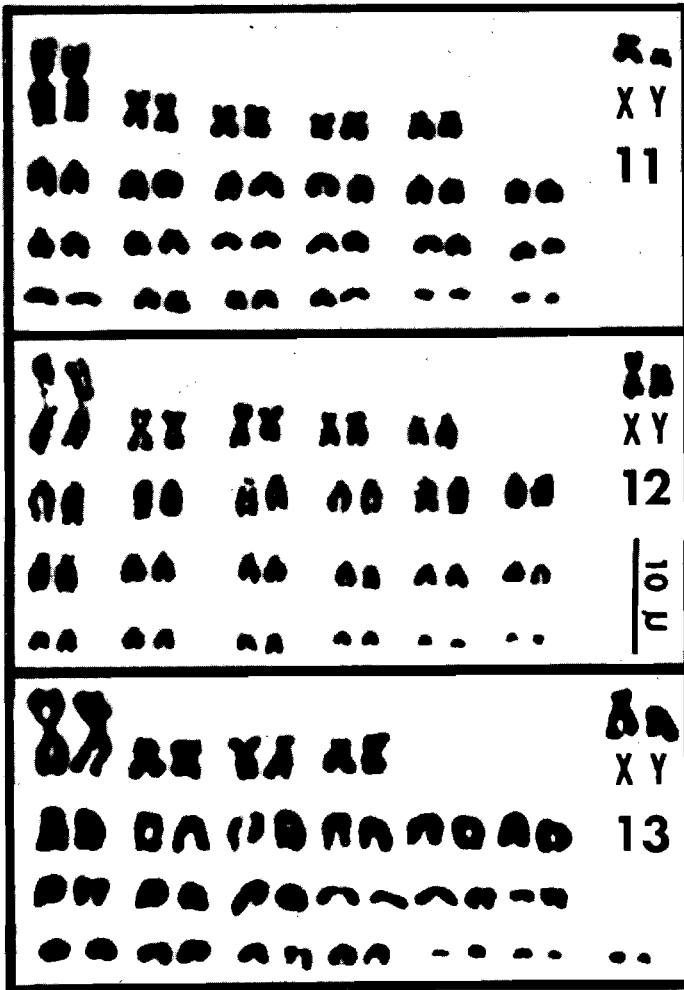


Fig. 11. *Molossus ater*, male, $2n = 48$, $FN = 58$, from near Santa Ana, Costa Rica. Fig. 12. *Otomops martiensseni*, male, $2n = 48$, $FN = 58$, from 1 mi SE Sigor, Wei Wei River, Kenya. Fig. 13. *Platymops setiger*, male, $2n = 48$, $FN = 54$, from 1 mi SE Sigor, Wei Wei River, Kenya.

The diploid numbers for the family range from 34 to 48 and the fundamental number from 54 to 64. In 17 of the 21 species analyzed, the diploid number is 48 (see Table 1). These species are representatives of six of the seven genera studied. One of the major problems in using karyotypes in systematic and evolutionary studies is distinguishing the ancestral from the derived condition. Although final proof of what was the ancestral karyotype will always be lacking, our data do suggest that 48 was the ancestral diploid number, and the primitive molossid karyotype was probably similar to that of *Molossus*, *Otomops*, *Platymops*, and *Tadarida*. Since this karyotype is found in diverse genera in both the Old and New World, it is logical to assume that it was characteristic of a common progenitor.

If we assume that the $2n = 48$ karyotype described above was ancestral for the family, then several conclusions can be made. The considerable divergence in cranial and external features within the taxa of molossids examined has not been accompanied by major chromosomal rearrangements detectable with our techniques. This stability of karyotypes is significant because the New and Old World

TABLE I
Karyotypic data reported for molossids

Species	2n	FN	X	Y	○	○	○	○	Authority
<i>Tadarida brasiliensis</i>	48	58	—	—	—	—			Painter, 1925
	48	—	—	—	—	—			Patton & Baker, 1966
	48	54	SM	A	1	1			Kniazeff <i>et al.</i> , 1967
	48	56	SM	A	13	3			This paper
<i>T. laticaudata</i>	48	58	SM	A	1	0			This paper
<i>T. femorosacca</i>	48	—	—	—	—	—			Patton & Baker, 1966
	48	58	SM	SM	3	1			This paper
<i>macrotis</i>	48	—	—	—	—	—			Patton & Baker, 1966
	48	56	SM	A	1	0			Baker, 1970a
	48	58	SM	?	0	1			This paper
<i>T. aurispinosa</i>	48	58	SM	A	2	0			This paper
<i>T. kalinowskii</i>	48	56	SM	?	0	1			This paper
<i>Molossops greenhalli</i>	34	—	M	M	1	0			Linares & Kiblisly, 1969
	34	60	ST	SM	1	0			Baker, 1970a
	34	60	ST	?	0	1			This paper
<i>M. abrasus</i>	34	60	ST	SM	0	1			This paper
<i>Eumops underwoodi</i>	48	56	SM	A	2	2			This paper
<i>E. perotis</i>	48	56	SM	A	1	0			Baker, 1970a
	48	56	SM	A	1	0			This paper
<i>E. auripendulus</i>	42	60	SM	ST	0	2			This paper
<i>E. glaucinus</i>	40	64	SM	A	5	1			This paper
	38	64	SM	M	3	6			This paper
	38	64	A?	M	1	1			This paper
<i>Promops centralis</i>	48	58	M	A	2	4			This paper
<i>P. davisoni</i>	48	58	SM	A	1	1			This paper
<i>Molossus sinaloae</i>	48	58	SM	A	3	9			This paper
<i>M. molossus</i>	48	56	SM	A	0	7			Baker & Lopez, 1970
	48	58	SM	A	17	24			This paper
<i>M. aztecus</i>	48	58	SM	A	0	6			This paper
<i>M. pygmaeus</i>	48	58	SM	A	0	2			This paper
<i>M. ater</i>	48	58	SM	ST	7	3			This paper
<i>Otomops martiensseni</i>	48	58	SM	SM	1	0			This paper
<i>Platymops swiger</i>	48	54	SM	SM	1	0			This paper

M = Metacentric, SM = Submetacentric, ST = Subtelocentric, A = Acrocentric.

molossids have probably been separated since early Miocene (Koopman, 1970). A $2n = 48$, FN = 58-60, ancestral karyotype for this family differs little from the primitive karyotype of $2n = 44-50$, FN = 50, proposed for the Vespertilionidae (Baker, 1970a) — the family believed to be most closely related to the Molossidae.

If 48 is the primitive diploid number, then the genus *Eumops* includes species with both ancestral and derived karyotypes. *Eumops underwoodi* and *E. perotis* have diploid numbers of 48, whereas two other species have undergone a series of centric fusions (*E. auripendulus*, $2n = 42$, FN = 60; and *E. glaucinus*, $2n = 40$ or 38, FN = 64). In order to explain the difference between the fundamental number in *E. auripendulus* and that of the other two species examined, rearrangements other than those of the Robertsonian type are required. The two species of *Molossops* are most closely related to the *Eumops* with the lowest diploid number. However, at this stage of our knowledge it is equally probable that the karyotype characterizing *Molossops* was derived independently of the *Eumops* line.

Acknowledgements

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The South American specimens in the Louisiana State University Museum of Zoology were collected by one of us (A. L. G.) while a member of the LSUMZ Peruvian expeditions during the summer of 1968 and spring of 1971. Appreciation for the financial support of these expeditions is expressed to Messrs. John S. McIlhenny (both years) and Eugene du Pont III (1968); the Bradley Fisk Fund (1971); and a grant from the Louisiana State University, Graduate Research Council awarded to Dr. George H. Lowery, Jr. (1968). The LSUMZ Costa Rican material was prepared by A. L. G. while a Fellow in Tropical Medicine during 1966 and 1967 with the Louisiana State University, International Center for Medical Research and Training, funded under National Institutes of Health grant No. AI-00007. Otherwise, this study was supported, in part, by research grants GB-29132X and GN-29132X1 from the National Science Foundation and the Institute for Museum Research, Texas Tech University.

Specimens Examined

Voucher specimens are deposited in The Museum, Texas Tech University (TT), Lubbock; Collection of Mammals, Department of Biological Sciences, University of Arizona (UA), Tucson; Museum of Vertebrate Zoology (MVZ), University of California, Berkeley; and Museum of Zoology, Louisiana State University (LSUMZ), Baton Rouge. Specimens which have not been catalogued will be deposited in The Museum, Texas Tech University.

Tadarida brasiliensis

Texas: Sutton Co., 3 mi NE Sonora, 11(TT 6227, 6229, 6232-33, 6431-35, 6437, 6442). New Mexico: Eddy Co., El Paso Gap, Jackson Tank, 1(TT 8576). Arizona: Cochise Co., Southwestern Research Station, 1 (not catalogued). Louisiana: East Feliciana Parish, Clinton, 3 (not catalogued).

T. laticaudata

México: Veracruz, Ojo de Agua del Río Atoyac, 1 (not catalogued).

T. femorosacca

México: Sonora, Rio Cuchijaqui, 3(TT 6343, UA 14268-69); Sinaloa, 13 km E Concordia, 1 (not catalogued).

T. macrotis

México: Sonora, Río Cuchijaqui, 1(UA 14277).

T. aurispinosa

México: Sonora, Río Cuchijaqui, 2(TT 6269-70).

T. kalinowskii

Perú: Depto. Lima, Hda. Don Germán, Cañete, 1(LSUMZ 16638).

Molossops greenhalli

Trinidad: Blanchisseuse, 1(TT 9776). Costa Rica: Prov. San José, 2 km NW Santa Ana, 3(LSUMZ 12998-13000).

M. abrasus

Perú: Dept. Loreto, Balta, Río Curanja, 1(LSUMZ 14201).

Eumops underwoodi

Arizona: Pima Co., 2 mi E Sasabe, 4 (not catalogued).

E. perotis

México: Sonora, Río Alamos, 1(TT 6372).

E. auripendulus

Trinidad: Maracas Valley, 2(TT 5244-45).

E. glaucinus

Colombia: Meta, Puerto López, 6(TT 9529-31, 9533-35). Costa Rica: Prov. San José, 2 km NW Santa Ana, 4(LSUMZ 13015-13018). México: Chiapas, San Fernando Ranch, 3 (not catalogued); Veracruz, 23 mi W Puente Nacional, 3(TT 13473-74, 1 not catalogued). Honduras: Francisco Morazán, 10 mi N Tegucigalpa, 1(TT 13470).

Promops centralis

Trinidad: Tacarigua Orphan Home, 6(TT 6248-53).

P. davisoni

Perú: Depto. Lima, Hda. Don Germán, Cañete, 2(LSUMZ 16639, 17353).

Molossus sinaloae

Nicaragua: Rivas, 5 mi N, 1 mi W San Juan del Sur, 1(TT 13477); Zelaya, 4.5 km NW Rama, 2(TT 13471-72). Honduras: 12 km N Santa Bárbara, 1(TT 13478). México: Morelos, Río Yautepec, 4(UA 16611-14). Costa Rica: Prov. San José, 2 km NW Santa Ana, 4(LSUMZ 13099-13102).

M. molossus

Trinidad: Port of Spain, 1(TT 5640); 2 mi N Port of Spain, 2(TT 11829, 11835); Las Cuevas, 3(TT 5413-14, 5432); Maracas Valley, 1(TT 5435); Blanchisseuse, 3(TT 11821-22, 11837). Colombia: Tolima, Melgar, 1(TT 9321); Meta, Restrepo, 1(TT 9409); Meta, Puerto Lopez, 4(TT 9536-37, 9539-40). Puerto Rico: El Verde Research Station, 1(TT 11823); Laquillo Forest, 6(12149-54). Perú: Depto. Huánuco, Tingo María, Río Huallaga, 1(LSUMZ 14317); Dept. Loreto, Yarinacocha, 6(LSUMZ 14318-21, 16640-41). Depto. Loreto, Balta, Río Curanja, 5(LSUMZ 14334-36, 16645, MVZ 136564); Depto. Ayacucho, Hda. Luisiana, Río Apurimac, 3(LSUMZ 16648-50). Nicaragua: 2.2 mi S Rivas, 3(TT 13467-69).

M. aztecus

México: Chiapas, Rancho San Miguel, 1(UA 16179); Chiapas, San Fernando Ranch, 2(UA 16221-22); Chiapas, Puente Vado Ancho, 1(UA 16224). Costa Rica: Prov. Puntarenas, 41.2 mi SE Cañas, 2(TT 13464, 13466).

M. pygmaeus

El Salvador: 1 mi W San Salvador, 2(TT 13479-80).

M. ater

México: Chiapas, San Fernando Ranch, 1(UA 16618). Trinidad: Maracas Valley, 1(TT 5246); San Rafael, 1(TT 5388); Las Cuevas, 1(TT 5433); Port of Spain, 1(TT 5639); Blanchisseuse, 3(TT 17425, 2 not catalogued). Costa Rica: Prov. Puntarenas, 1 (13476); Prov. San José, 2 km NW Santa Ana, 1(LSUMZ 13068).

Otomops martiensseni

Kenya: 1 mi SE Sigor, Wei Wei River, 1(MVZ 142037).

Platymops setiger

Kenya: 1 mi SE Sigor, Wei Wei River, 1(MVZ 142036).

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ADDENDUM

Since this manuscript was submitted an important paper on molossid karyotypes has appeared describing the karyotypes of *Otomops martiensseni*, *Tadarida condylura* and *Tadarida pumila*. Dulic, B., and Matere, F. A. 1973. Comparative study of the chromosomes of some molossid bats from eastern Africa. *Periodicum Biologorum*, **75**: 61-65.