

**New records of mammals from
Quintana Roo, México**

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According to a project of completion of the scientific collections in the Instituto de Biología, Quintana Roo turned to be one of the Mexican states least represented by specimens. This, as well as the relative scarcity of literature on the mammals of the eastern part of the Yucatan Peninsula (see Birney *et al.* 1974 ; Genoways and Jones 1975 ; and Hall 1981), prompted a series of collecting expeditions to the area during 1982 and 1983.

Seven species of mammals not previously known from Quintana Roo are recorded here ; all voucher specimens are deposited in the Instituto de Biología, Universidad Nacional de México (IBUNAM).

Pteronotus davyi fulvus (Thomas, 1892).

One adult female (IBUNAM 20108), 20 April 1983, Ejido "El Limonal" (antes Pedro Joaquín), 15 km N San Pedro Peralta (18°37' N, 88°46' W).

The area where this bat was collected is covered by tropical rainforest with elements such as *Manilkara zapota*, *Brosimum alicastrum* and *Swietenia macrophylla*, trees that in other areas grow tall, but here reach only 25 to 30 meters (Télez and Sousa 1982).

Mormoops megalophylla megalophylla Peters, 1864.

One adult male (IBUNAM 20107), 18 April 1983, Kohunlich ruins (18°23' N, 88°42' W).

The place is covered by tropical rainforest with several species of *Ficus* as well as with *Brosimum alicastrum*, *Bursera simaruba* and large patches of corozo (Palmae : *Orbignya cohune*).

Mormoops m. megalophylla had been reported from certain localities in the Yucatan Peninsula (Jones *et al.* 1973 ; Birney *et al.* 1974). Other bats captured with *M. megalophylla* are *Pteronotus parnelli*, *Sturnira lilium*, *Uroderma bilobatum*, *Carollia brevicauda* and *Tonatia brasiliense*.

Uroderma bilobatum molaris Davis, 1968.

Six males and four females, including one lactating (IBUNAM 20153-20162), 18 April 1982, Kohunlich ruins.

These bats were collected in the same site as *Mormoops*, and represent the first record from Quintana Roo, as well as for the entire Yucatan Peninsula.

Tonatia brasiliense (Peters, 1866).

One adult male (IBUNAM 20117), 18 April 1982, Kohunlich ruins.

Measurements of this individual fall within the range of species as reported by Goodwin and Greenhall (1961). The species has been recorded from Veracruz by Lackey (1970). It is the first known from the Peninsula and the second from Mexico.

Tonatia evotis Davis and Carter, 1978.

One male and one female (IBUNAM 20116 and 20113), 19 April 1982 and two females (IBUNAM 20114 and 20115), 22 April 1982, from 4 km S, 1 km W Bacalar (18°38' N, 88°24' W). Two of our females were lactating.

This series is composed only of adult animals (judged so by the phalangeal ossification). The male and one of the females show a well developed sagittal crest, while in the other two females it is weak. Most of the measurements of our three females are smaller than those reported by Davis and Carter (1978) for their only examined female (the type specimen of *T. evotis*) and are the following, in mm : greatest length of skull, 25, 24.6, 25.2 ; zygomatic breadth, 11.6, 11.7, 12.2 ; breadth of braincase, 10, 9.6, 9.8 ; postorbital constriction, 3.9, 3.8, 3.9 ; maxillary toothrow, 8.6, 8.6, 8.6 ; forearm, 49.2, 47.2, 47.4 ; and hind foot, 15, 14, 14. In contrast, the mandibular length (15.9, 15.5, 15.7) and calcar length (15.4, 15, 16.9) of our female specimens were larger.

Almost all of the measurements of the male herein discussed are within the range observed by Davis and Carter (1978) except for the width across M3 (7.7) and the width across canines (5.2) which were smaller. Goodwin (1942) reported one specimen from Belize and Jones *et al.* (1973) another from Campeche, México ; measurements of both specimens fall within the limits set by those of ours.

The two first *T. evotis* were captured in a mist net across a path inside secondary-growth forest dominated by plants such as *Lysiloma latisiliqua*, *Bursera simaruba*, *Manilkara zapota*, *Cordia sp.* and *Cecropia obtusifolia*. The net was open before dusk of April 19, with cloudy sky and almost full moon. At 21:30 we obtained the first specimen ; at 23:00 the moon set and at 24:00 we caught the second bat. Few chiropterans of other species (*Pteronotus parnelli*, *Carollia perspicillata*, *Artibeus phaeotis* and *Desmodus rotundus*) were captured. The night of April 22 was even clearer, and we set five nets in the same site ; at 03:00, when the moon was low, we started capturing *Desmodus*, and fifteen minutes after moonset, at 04:10, the first *T. evotis* hit one net. At 04:45 we obtained another specimen and at 05:00 daylight appeared. All this could suggest that these bats are more active when the moon conditions are of low luminosity, as has been observed for other chiropterans (Turner 1975 ; Morrison 1978).

T. evotis is known from Tabasco, Veracruz, Campeche and Chiapas (Ramírez-Pulido *et al.* 1983).

Molossus sinaloae sinaloae J.A. Allen, 1906.

Three females and one male (IBUNAM 20164-20167), 25 April 1983. City of Chetumal (18°30' N, 88°17' W).

These animals represent the first record from the state, and were taken amongst the wooden pieces of the roof of an inhabited house within the urban area. Two of the females had one embryo, 13 and 18 mm respectively.

Tapirus bairdii (Gill, 1865).

A skeleton of one subadult male, judged so because the last molar, although clearly visible inside the alveolus had not yet erupted (IBUNAM 20986), 26 April 1982, 3 km N of Kohunlich ruins (18°23' N, 88°14' W).

Selected measurements of our specimen are : Greatest length of skull, 380 mm ; condylobasal length, 364 ; zygomatic breadth, 168 ; interorbital breadth, 84.3 ; braincase breadth 8.5 ; width across molars, 102.7 ; maxillary toothrow, 92 ; nasal length, 71.2.

The tapir was shot by the owner of a cultivated field after the animal had been seen several times in it. It is said to be relatively common.

Acknowledgements. — This paper is part of the results obtained through an agreement : Consejo Nacional de Ciencia y Tecnología — Banco Interamericano de Desarrollo — Universidad Nacional Autónoma de México for the years 1982-1984, for the increase of the scientific collections of the Instituto de Biología, UNAM.

We thank J.M. Reyes, L. Urrutia, M. Aranda, H. Arita, O. Téllez and L. Eguiarte.

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Dissémination de spores de champignons par les petits mammifères

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La survie des peuplements forestiers est conditionnée, en milieu tempéré et boréal, par l'existence d'ectomycorhizes (association symbiotique de la racine des arbres avec le mycélium de certains champignons) et dépend donc étroitement de la reproduction des champignons ectomycorhiziens. Parmi ces derniers, on trouve des espèces aériennes et des espèces souterraines ; au contraire des premières, chez lesquelles la masse de tissus stériles organisés pour favoriser la dispersion des spores est considérable, les secondes consacrent l'essentiel de leur énergie à l'édification de tissus fertiles. Elles sont de ce fait tributaires, pour leur dissémination, d'animaux consommateurs ou parasites.

Les principaux agents disséminateurs sont, avec les invertébrés (Fogel et Peck 1975), les mammifères consommateurs de carpophores (Trappe et Maser 1977 ; Fogel et Trappe 1978 ; Maser, Trappe et Nussbaum 1978 ; Maser, Trappe et Ure 1978 ; Durrieu *et al.* 1984 ; Kotter et Farentinos 1984a ; Mac Intire 1984 ; Maser, Maser et Trappe 1985). Après leur transit digestif, les spores ingérées par ces derniers restent viables (Trappe et Maser 1976) et sont capables d'assurer de nouvelles symbioses avec des arbres qui leur sont associés (cf. Bergstrom 1979 ; Kotter et Farentinos 1984b).

Toutefois la nature de l'influence du transit reste mal connue. Afin d'en aborder certains aspects, nous avons comparé le devenir de spores directement extraites de carpophores du genre *Elaphomyces* (champignon ectomycorhizien souterrain) à celui de spores provenant des mêmes carpophores mais ayant subi le transit de micromammifères. Deux mulots (*Apodemus sylvaticus* L.) et trois campagnols agrestes (*Microtus agrestis* L.) captifs ont été alimentés pendant quinze