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Koopmania concolor.

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Koopmania Owen, 1991

CONTEXT AND CONTENT. Order Chiroptera, Suborder Microchiroptera, Family Phyllostomidae, Subfamily Phyllostominae, Tribe Stenodermatini. Type species *Koopmania concolor* (Peters, 1865), by monotypy. *Koopmania* is composed only of the type species, which is monotypic.

Koopmania concolor (Peters, 1865)

Artibeus concolor Peters, 1865:357. Type locality "Paramaribo", [Suriname].

Dermanura concolor: Owen, 1987:47. Name combination.

Koopmania concolor: Owen, 1991:21. First use of current name combination.

CONTEXT AND CONTENT. Context same as for genus. *Koopmania concolor* is a monotypic species (Jones and Carter, 1976).

DIAGNOSIS. *Koopmania concolor* is a medium-sized fruit-eating bat. Size intermediate between the species assigned to *Artibeus* and those (except *concolor*) assigned to *Dermanura* by Owen (1987). Forearm length 43–52 mm (Handley, 1987). Facial stripes absent; no white anterior margin in the ear; tragus white; dactylopatagium between digits II and III translucent, with no pigmentation. Molars 3/3 present (Barriga-Bonilla, 1965*a*, 1965*b*), with m3 much smaller than in *Dermanura hartii* (Owen, 1991); M1 with strongly developed hypocone; lower incisors form a solid arcade. Braincase highly vaulted, highest just anterior to midpoint (Fig. 1); rostrum broad and short (Owen, 1991), shorter than in *Dermanura* species except *D. gnoma* (Handley, 1987); rostral shield well developed; rostrum distinctly dished in lateral view; mesopterygoid fossa broadly U-shaped; paraoccipital processes absent or indistinct; postpalatal shelf shorter than in *Dermanura* (Owen, 1991).

GENERAL CHARACTERS. Tail is absent, patagia are black with the exception of the dactylopatagium between digits II and III, and several parallel lines near digits IV and V, in which the skin lacks coloration. Ears are black, with white posterior margin, white tragus with three small teeth in the subapical portion of the posterior margin region as in *Artibeus lituratus* and *Dermanura cinerea*. The skin of the nasal, labial, and ocular regions is black. The glans is black and the prepuce is less intensely pigmented. Hair is long (from 8 to 10 mm, 9 mm in the interscapular region), and smooth and silky. Ventrally the hair is somewhat shorter and forms several lines parallel to the sides. The uropatagium is naked ventrally. The dorsal part of the bat has a brownish color, with the head and neck being lighter in color than the remainder of the animal. The pectoral region, abdomen, and sides are lighter in color than the dorsal part. Around the mouth and the genitals the predominant coloration is dark.

The sagittal and lambdoidal crests are as in *Dermanura cinerea*. The anterior margin of the ascendant branch of the dentary bone forms an angle of 90° in relation to the anterior crest of the masseter, giving the appearance that the ascendant branch is inclined forward. This characteristic is different from *D. cinerea*, in which the angle is definitely obtuse, giving the appearance of a backward inclination of the ascendant branch (Barriga-Bonilla, 1965*a*).

Relative to most species of *Dermanura* and other related genera, *Koopmania concolor* is characterized by greater nose leaf length, attachment of the plagiopatagium to the metatarsal-phalangeal joint, loss of the paraoccipital process, strong development of M1 hypocone, and loss of secondary foramen of the occipital condyle (Owen, 1987, 1991). The conditions of the plagiopatagium and paraoccipital process serve as synapomorphies that distinguish *Koopmania* from closely related taxa (Owen, 1991).

Swanepoel and Genoways (1979) reviewed morphometric values that had been recorded for the species before 1976. Eisenberg (1989) listed mean values for external measurements of a series of Venezuelan specimens, including average adult body mass of 18.33 g (males) and 19.98 g (females). Mean values and ranges of a series of *K. concolor* from Colombia (Barriga-Bonilla, 1965*b*), followed by values for specimens from Brazil (Andersen, 1908) and the holotype

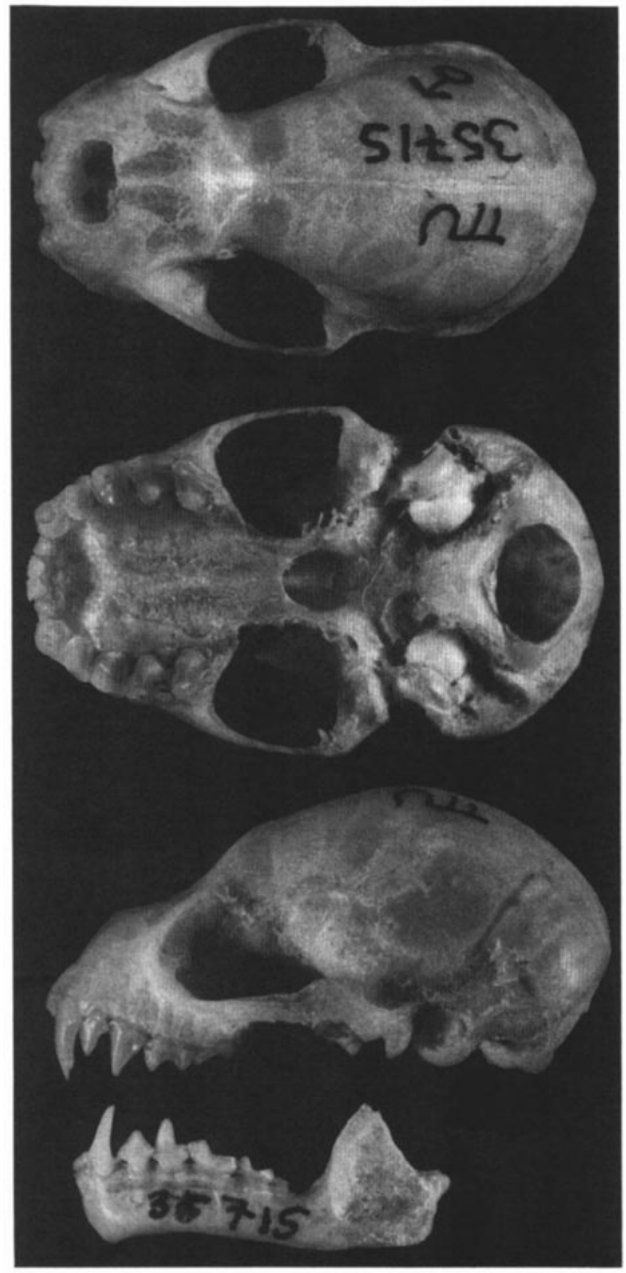

FIG. 1. Dorsal, ventral, and lateral views of cranium, and lateral view of mandible of a male *Koopmania concolor* from Saramacca Dist., Suriname. Greatest length of skull is 20.85 mm. Photos by Nicky Olson, provided by J. K. Jones, Jr.

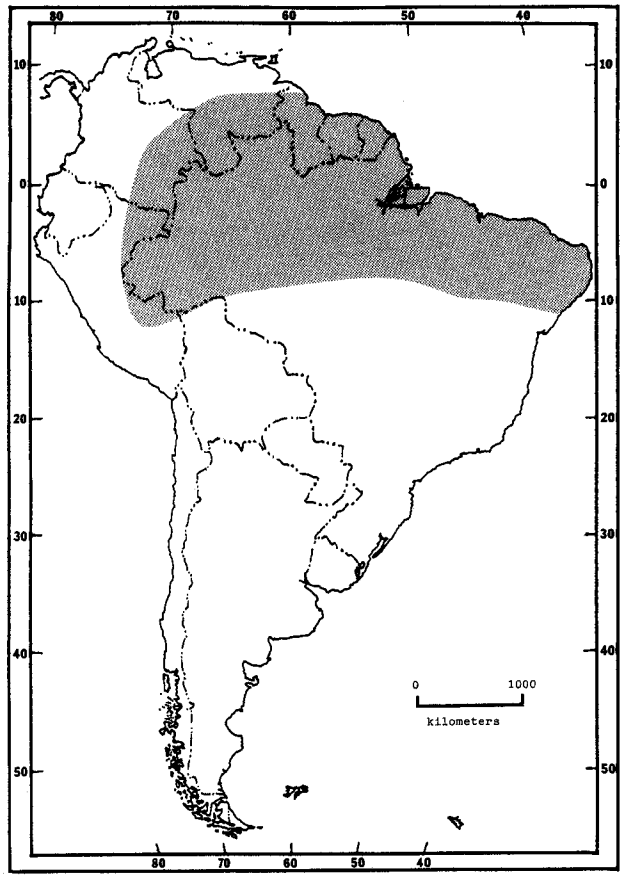

FIG. 2. Distribution of *Koopmania concolor* in South America. From Koopman (1982).

(Thomas, 1901) where available are (mm): total length of forearm, 46.1 (44.2–47.0), 50.0, holotype, 47.0; metacarpal III, 45.7 (44.3–46.7), 46.7; phalanx I of third digit, 15.7 (14.8–17.1), 16.0; length of ear, 16.6 (15.0–19.0), 17.7, holotype, 16.0; tragus, 5.20 (3.5–6.4), 6.0; length of nose leaf, 8.6 (8.0–9.1), 9.8; width of nose leaf, 5.6 (5.0–6.2), 6.0; length of tibia, 17.4 (16.9–17.9), 18.6, holotype, 18.0; length of hindfoot, 11.0 (10.1–12.5), 11.8; greatest length of skull, 21.21 (20.9–21.55); length from canine to prostion, 20.95 (20.6–21.4), 22.4; mastoid breadth, 11.49 (11.2–12.0), 11.8; braincase breadth, 9.9 (9.8–10.0), 10.3; zygomatic breadth, (12.5–13.4), 14.0; breadth at M1 level, 9.21 (9.0–9.55), 9.4; length of mandibular tooth row, 7.68 (7.4–8.2), 8.0; length from C1 to M2, 7.1 (6.8–7.6), 7.2, holotype, 7.5; total mandible length, 13.9 (13.7–14.0), 14.8; length of superior tooth row, 7.1 (6.8–7.6).

External and cranial measurements of females are larger than those of males. Secondary sexual variation is exhibited, and, in all cases, mean values for females are larger than mean values for males (Willig, 1983; Eisenberg, 1989). Analyzing measurement data from both sexes of all stenodermatine species, Owen (1988) found *K. concolor* to be most similar phenetically to *Dermanura*. No penial bone or cartilage was found in the specimens examined by Barriga-Bonilla (1965*b*).

DISTRIBUTION. Koopman (1976) considered *Koopmania concolor* to be endemic to the Amazon Basin, but later (Koopman, 1982) included the northeastern extreme of the eastern Brazilian Highlands and Coast. The known distribution of *K. concolor* (Fig. 2) includes Vaupes in southeastern Colombia (Barriga-Bonilla, 1965*a*), southern Venezuela (Linares, 1969), eastern Perú (Gardner, 1976; Koopman, 1982), Amazon and Orinoco basins in Brazil (Mares et al., 1981), and the Guianas (Cabrera, 1958; Genoways and Williams, 1979; Hill, 1964; Husson, 1962, 1978; Jones and Carter, 1976; Koopman, 1982).

FORM AND FUNCTION. Hair of *K. concolor* shows three bands, characteristic of many of the short-faced stenodermatines and *Dermanura* (Owen, 1991). The base is gray followed by a yellowish thick ring and subapical brownish ring. The apex is very short with a brownish coloration (Barriga-Bonilla, 1965*a*, 1965*b*).

ONTOGENY AND REPRODUCTION. The only record of reproductive activity in *Koopmania* is that of Thomas (1972), who collected a pregnant female during February in Colombia. Genoways and Williams (1979) reported non-pregnant females from Suriname in January, July, and August.

ECOLOGY. In Estado de Bolivar, Venezuela, Linares (1969) captured two specimens in woodlands that appeared to be deciduous. Mares et al. (1981) reported the species as present but rare in the Cerrado and Cerradao habitats of northeastern Brazil, and absent in nearby Caatingas habitat.

Based on dentition of *Artibeus* (including *K. concolor*), *K. concolor* is assumed to be frugivorous (Phillips and Grimes, 1977), but *Artibeus* also consumes pollen, nectar, flower parts, and insects. *Koopmania concolor* has no known endoparasites (Webb and Loomis, 1977) and only one reported ectoparasite, *Periglischrus iheringi* Oudemans, a spinturnicid wingmite found in two bats collected by the Smithsonian expedition in Venezuela (Herrin and Tipton, 1975). There are no reports in the literature about the behavior of *Koopmania concolor*.

GENETICS. *Koopmania concolor* has a karyotype of 2n = 30–31, FN = 56, with 10 pairs of submetacentric or metacentric, and four pairs of subtelocentric autosomal elements. It has a subtelocentric X, and two acrocentric Y chromosomes (Baker and Haiduk, 1981; Baker et al., 1981; Johnson, 1979). Koop and Baker (1983) examined 22 isozymes electrophoretically, and found no polymorphism in the one specimen of *K. concolor* they had available for study. Based on cladistic analysis of these isozyme data, they concluded that *K. concolor* is more closely related to *Artibeus jamaicensis* than either of those species is to the four *Dermanura* species they examined.

REMARKS. Dobson (1878:518) considered *A. concolor*, Peters, 1865, to be "VAR. a." of *A. planirostris*. Handley (1987) arranged the 10 small species of *Artibeus* (=*Dermanura*—Owen, 1987) into six species groups, one of them being the monotypic *A. concolor* group. Owen (1991) concluded that *concolor* is more closely related to the short-faced stenodermatine species than to the genus *Dermanura*. Because *concolor* is not a natural member of *Dermanura* and no generic name was available for this species, the newly described genus was named in honor of Dr. Karl. F. Koopman. We follow Baker et al. (1989) in assigning *Koopmania* to the tribe Stenodermatini of the subfamily Phyllostomidae.

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