Scotonycteris ophiodon  POHLE’S FRUIT BAT (SNAKE-TOOTHED FRUIT BAT)
Fr. Scotonycteré à dents de serpent; Ger. Schlangenzähniger Harlekin-Flughund (Pohles Harlekin-Flughund)

Taxonomy  Synonyms: candaei. Subspecies: none (but see Geographic Variation). Novick (1958a) suggested that the peculiar dental features of *S. ophiodon* merit subgeneric recognition. Chromosome number (Cameroon): 2n = 34; aFN = 62; very distinct from other African pteropodid karyotypes (Haiduk et al. 1980, 1981, but these authors did not examine *S. zenkeri* and *Casinycteris argynnis*).

Description  Very small to small fruit bat with face-markings (white patch on forehead, white posterior eye-spots, broad white band around lips); no conspicuous basal ear-patches; no epaulettes; snout and finger-joints yellowish; forehead region of skull weakly concave; bony palate extending well beyond last teeth; premolars and molars with distinct cusps; FA: 73–87 mm. Sexes similar in colour, ♀♂ on average with slightly longer forearms. Pelage dense, soft and woolly dorsally; much shorter and sparser ventrally with very short and stiff hairs on chest and belly; mid-dorsal hairs 9–10 mm. Dorsal pelage medium brown to rusty-brown, mottled; hairs tricoloured, whitish to very pale grey with dark brown or blackish base and brown tip. Ventral pelage with chin, throat, breast and central belly white or whitish-grey; flanks medium to dark brown, contrasting with paler areas. No epaulettes or white markings on shoulders. Head brown with three conspicuous white patches (one on forehead between anterior corners of eyes, and one at posterior corner of each eye); skin of upper lip and front of muzzle greenish-yellow; lips bordered by broad band of white hair, conspicuously white except under nostrils; anterior basal ear-patches indistinct or absent. Muzzle broad, fairly short; cheeks of adult ♂ ♂ strikingly wide and capacious; upper lip moderately expansible, internally fringed with conspicuous papillae. Ears dark brown with yellowish inner edge (paler near base), naked, oval, somewhat pointed at tip. Eyes large, greenish-brown. Palate usually with six thick, undivided interdental ridges and 10–13 narrow, serrated postdental ridges. Wing-membranes brown with marked yellowish-green reticulation (in subadults, more or less uniformly medium to dark brown); attaching to first toe. Finger-joints of adults yellowish to bright greenish-yellow. Thumb comparatively long. Penis and scrotum of (♀ sexually active) ♂ ♂ also bright greenish-yellow. No visible tail.

Skull with braincase rounded; rostrum of medium relative length (33–37% of GLS), not upturned. Profile of forehead region (viewed laterally) weakly concave (cf. *Casinycteris*). Zygomatic width relatively narrow (62–64% of GLS) and zygomatic arches comparatively lightly built with lower margin level with infraorbital foramen (cf. *Casinycteris*). Bony palate extending well beyond last teeth. Canines comparatively long and with well-developed secondary cusps on inner edges. Upper canines strongly backward curved (*ophiodon* means snake-toothed); inner edges markedly serrated (Figure 54f and g) (cf. *S. zenkeri*, *Casinycteris* and all other fruit bats). Premolars and molars (except anterior premolar and posterior molar of lower toothrow) with two distinct cusps on inner and outer side of each tooth, giving a bifurcated appearance. Dental formula usually $2\times 3/2\times 3 = 28$.

Geographic Variation  Not yet adequately assessed because sample sizes are too small. Specimens from Liberia, Côte d’Ivoire and Ghana seem to be similar in measurements but specimens from Cameroon are slightly larger. Two ♀♂ from Dimonika, Congo (one subadult) are larger than any specimens from elsewhere (FA: 87, 82 mm; GLS: 42.9, 38.0 mm, GWS: 27.3, 23.1 mm, C–M1: 15.1, 13.8 mm) (Bergmans 1973, 1979, 1990). A very small, adult ♂ from Goumina, Congo (FA: 68 mm; GLS: 29.6 mm, GWS: 22.0 mm, C–M1: 10.2 mm) with different palatal ridges and peculiar dental characters was published by Dowsett et al. (1991) as *S. ophiodon*. This specimen represents an undescribed species and is not included here (J. Fahr unpubl.).

Similar Species  Only two other species of African fruit bats have white markings on the nose, upper lips and near the eyes:


*Casinycteris argynnis*. Much smaller (FA: 50–62 mm; GLS: 22.2–28.4 mm). Rostrum upturned; bony palate barely extending beyond last teeth.

Distribution  Endemic to Africa. Rainforest BZ (Western and West Central Regions). Known from only 15 localities, in Liberia, Côte d’Ivoire, Ghana, Cameroon and Congo. Known range very small and apparently disjunct (12,600 km$^2$ in E Liberia and SW Côte d’Ivoire, 14,700 km$^2$ in SW Côte d’Ivoire, 14,700 km$^2$ in S Ghana, 7500 km$^2$ in Cameroon), and a single locality in Congo. Mt Nimba, ca. 250 km inland, is the locality
furthest from the coast; absent from the central Congo Basin. The
distribution partly resembles the assumed distribution of Pleistocene
rainforest refugia. Gaps in the distribution are likely to be real because
this species has never been found in some intensely surveyed areas
between the regions of distribution, e.g. NE Gabon. Mostly recorded
with S. zenkeri, except at Dugbe R. near Jaoudi in Liberia. In contrast,
S. zenkeri is known from many regions from which S. ophiodon has not
been recorded (e.g. East Central Region of the Rainforest BZ and the
lowland forest and foothills along the western slope of the mountains
flanking the Albertine Rift).

Habitat One of the few African fruit bats that seems to be
restricted to the Rainforest BZ. Within this biotic zone, it has been
recorded from lowland rainforest, montane forest and coastal forest
vegetation zones. In Côte d’Ivoire, Ghana, Cameroon and Congo,
seems to prefer lowland rainforest up to 600 m (Eisentraut 1973a,
Bergmans 1990, J. Fahr unpubl.). In Liberia, it has been caught
fairly frequently on Mt Nimba up to 1200 m where it seems most
abundant in montane forest dominated by Parinari excelsa (Wolton
et al. 1982). However, it is not confined to the immediate vicinity of Mt
Nimba but also occurs in the lowland rainforests of SE Liberia and
adjacent Côte d’Ivoire. In Congo, recorded from degraded rainforest
in an area with low mountains (Bergmans 1973).

Abundance Locally rare to very rare. In Tàï N. P., Côte d’Ivoire,
comprised 6.5% of the fruit bat catch (n = 1216 individuals) and
was the fifth most abundant species in a community of eight species
of fruit bats (J. Fahr & S. Pettersson unpubl.). At Mt Nimba, Liberia,
comprised 1.0% of the fruit bat catch (n = 979; Wolton
et al. 1982). At Mt Nimba, Liberia, comprised 6.5% of the fruit bat catch
(n = 1216 individuals) and
was the fifth most abundant species in a community of eight species
of fruit bats.

Adaptations Probably roosts in vegetation; one individual was
found hanging from a forest tree (Hayman 1945). Recapture-rate
in Tàï N. P. 17.1% (n = 41); most recaptures up to half a year later;
three recaptured one year later. All (including subadults and young-
adults) were recaptured less than 400 m from initial site (most less
than 250 m) suggesting that home-ranges are very small (several ha)
and site-fidelity is unusually high (J. Fahr unpubl.). Frequency of
captures varied throughout night, with three distinct peaks: 19:30–
20:30h, 23:30–02:30h, and 03:30 h to dawn. In captivity, the
1.5 hours before dawn were spent extensively grooming the body
(Wolton et al. 1982).

Foraging and Food Frugivorous. Eisentraut (1959) caught three
individuals in elevated nets and concluded that this bat might forage in
the upper forest strata. Data from Tàï N. P. partly support this (median
capture height 18.4 m, n = 40) but also indicate foraging from
ground to canopy level (min–max: 1.1–23.6 m) (J. Fahr unpubl.).
Captive bats fed more or less continuously from ca. 21:00h to 06:00h,
but usually rested for ca. 20 minutes, two or three times per night
(Wolton et al. 1982). The unique dentition suggests a specialized diet
or way of feeding. While most other fruit bats hang vertically (from
one foot) and hold fruit in the other foot while eating it, S. ophiodon
hangs horizontally (with both feet and thumbs gripping a branch), and
keeps its food on its chest: pieces are bitten off and slowly masticated
until the fibrous parts are spat out as pellets. Diet mostly unknown.

Eisentraut (1959) found Ficus seeds in stomach. In Tàï N. P., most
captured individuals had Ficus seeds in faeces and some were caught
with entire figs in mist nets. Captive bats at Tàï N. P. ate fruits of Parinari
excelsa (J. Fahr unpubl.), and those at Mt Nimba ate fruits of Onagkea
gore, bananas, plantains and guavas (Wolton et al. 1982). In captivity,
the mean ± S.D. nightly fruit consumption was 49.6 ± 8.5 g (n = 7);
the dry weight assimilated was 81%; and the mean consumption per
unit body weight was lower (0.79 g/gbw) than in five other species of
fruit bats (0.92–1.18 g/gbw) (Wolton et al. 1982). The ratio between
body length and intestine length is 1 : 5.4 (5.1–5.7), which is typical
for (mainly) frugivorous fruit bats (Eisentraut 1959).

Social and Reproductive Behaviour No information.

Reproduction and Population Structure Litter-size: one
(n = 6). Reproductive chronology uncertain. At 05° 50’N (Tàï N.
P., Côte d’Ivoire), 9 adult ♀♂ were neither pregnant nor lactating
in Jan–Feb; 3 of 11 were lactating in Mar, 1 of 5 was pregnant in
May, 1 of 4 was pregnant in Aug, 12 of 15 were pregnant in Sep,
1 of 1 was pregnant in Oct, and 2 of 7 were pregnant and one was lactating
in Dec; none of the ♀♀ was simultaneously lactating and
pregnant; no data for other months (J. Fahr unpubl.). At 07° 32’N
(Mt Nimba, Liberia), one ♀ was not palpably pregnant in Jul, 2 of
2 were pregnant in late Aug, 1 of 1 was pregnant in early Sep and 1 of
1 was pregnant (CR: 33 mm) in mid-Nov; no data for other months
(Wolton et al. 1982). At 04° 20’N (Malende, Cameroon), a pregnant
♀ (CR: 23 mm) was recorded in mid-Dec (Eisentraut 1959).
At 05° 55’N (Oda, Ghana), a lactating ♀ was found in Dec (Hayman
1945). These data suggest that in West Africa and Cameroon most
♀♂ are pregnant between Aug–Dec, that most births occur at end
of wet season (between Dec–Mar). The data are compatible with
extended seasonal monoestry, but more data are needed to confirm
the chronology. Data from four marked and recaptured ♀♂ is
also indicative of monoestry: one was pregnant in two consecutive
September and reproducively inactive in the intervening Mar; one
was pregnant in two consecutive September and reproducively
inactive the following Mar, and one was reproducively inactive in
Feb and pregnant the following Aug.
The ratio of ♀♂ to ♀♀ in 73 individuals captured at Tàï N. P. was
1 : 1.9. In museum collections, the ratio in 22 specimens was 1 : 1.

Predators, Parasites and Diseases Ectoparasites include a
mite Binuncus (Binuncus) scotonycteris (Acari: Myobiidae) (Uchikawa
1986).

Conservation IUCN Category: Near Threatened.

Close to qualifying as Vulnerable because of its small and disjunct
area of occupancy (see Distribution), its low abundance and strong
dependency on forest habitat. Major threats: agriculture, mining,
selective logging and deforestation. Human activities in historic
times have reduced the area of forests in West Africa by at least
88.5%. Several of the sites where this species is known to occur,
e.g. Mt Nimba, forest sites in Ghana, and Mt Cameroon, are under
heavy pressure from mining, logging and encroachment by farmers.
Population size unknown, population trend inferred as strongly
declining (>50%) due to loss of habitat.

Family PTEROPODIDAE
**Measurements**

*Scotonycteris ophiodon*

FA (♂ ♀): 76.5 (74–79) mm, n = 19
FA (♀ ♂): 77.5 (73–81) mm, n = 38
WS (♂): 523 (469–548) mm, n = 10
HB: 117.1 (115–122) mm, n = 9
T: 0 mm
E: 22.6 (20–25) mm, n = 14
Tib: 29.1 (26–32) mm, n = 10
HF: 18.1 (17–19) mm, n = 15
WT (♂ ♀): 67.2 (60–77) g, n = 12
WT (♀ ♂): 74.4 (64–95) g, n = 30

GLS: 37.8 (35.3–40.0) mm, n = 8
GWS: 23.3 (22.3–24.3) mm, n = 14
C–M1: 12.5 (12.0–13.4) mm, n = 17
Liberia, Côte d’Ivoire, Ghana, Cameroon (BMNH [incl. holotype cansdalei], FC, SMF, SMNS, USNM, ZFMK)

For specimens from Congo, see Geographic Variation


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