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Cover: Indian Grey Wolf *Canis lupus pallipes* and Smooth-coated Otter *Lutrogale perspicillata* sharing the territory in Chambal basin. Digital art on Procreate by Aakanksha Komanduri.

and prepared following established protocols (Topál 1958). Craniodental measurements of the vouchers were obtained with a digital calliper (Sylvac, Switzerland) accurate to the nearest 0.01 mm following standard methods. Unfortunately, due to possible issues with preservation, no genetic material could be extracted from any of the specimens.

The acronyms for measurements are: Tail length (TL); Ear length (E); Tragus length (TR); Hindfoot length excluding claw (HF); Forearm length (FA); Tibia length (TB); 3rd Metacarpal length (3MT); 4th Metacarpal length (4MT); 5th Metacarpal length (5MT); Greatest length of skull including incisors (GTLi); Condylacanthine length (CCL); Maxillary tooththrow length (CM³); Width across third molars (M³-M³); Width across canines (C¹-C¹); Zygomatic breadth (ZW); Postorbital constriction (PoC); Breadth of braincase (BW); Mastoid breadth (MAB); Skull height (SKH); Length of mandible including incisors (MLi); Mandibular tooththrow length (CM₃); Height of coronoid process (COH).

For comparison, the following museum specimens were examined. Museum acronyms are as follows – CBC: Center for Biodiversity Conservation, Phnom

Penh, Cambodia; CDZTU: Central Department of Zoology, Tribhuvan University, Kathmandu, Nepal; HHNM: Hungarian Natural History Museum, Budapest, Hungary; HZM: Harrison Institute (formerly Harrison Zoological Museum), Sevenoaks, UK; IEBR: Institute of Biology (formerly Institute of Ecological and Biological Resources), Hanoi, Vietnam; NHMUK: The Natural History Museum (formerly British Museum (Natural History)), London, UK; ROM: Royal Ontario Museum, Canada;

H. cadornae: CAMBODIA: CBC IS.010310.2; INDIA: NHMUK 16.3.25.6 (holotype); LAOS: ROM 106385; 110471, 110479, 118267, 118288, 118306, 118327, 118328; MYANMAR: NHMUK 1997.375, 50.466, 50.467, 50.480, 76.1266; NEPAL: CDZTU (no number); VIETNAM: HHNM 2014.3.2; HZM 1.30538, 2.32164, 3.32165, 4.32166; IEBR 2556, 3266, 3269, PM05; ROM 106200, 106201, 106202, 107650, 107653.

RESULTS

Descriptions of the specimens: The forearm length of the newly recorded specimens are 35.0 and 35.7 mm. The dorsal fur is chocolate brown with a slight glossy



Image 1. Habitus of *Hypsugo cadornae* specimens from: A—Sairep V/M/ERS/742 | B—Reiek V/M/ERS/788 | C—dorsal | D—ventral aspects of fur | E—thumb callosity of the V/M/ERS/742 specimens (not to scale). © Uttam Saikia.

sheen, while the ventral fur is a lighter brown (Image 1). The bases of both dorsal and ventral hairs are dark brown. The wing and tail membranes are dark brown. The muzzle bears scattered hairs and swollen glands. The ears are broad; the distal margin is straight and rises to form a broadly rounded tip, whereas the proximal margin descends straight for approximately two-thirds of its length before curving inward to join the ear base. Five horizontal ridges are present across the distal half of the pinna. The tragus is short, wide, and curves inward.

Among the wing elements, the third metacarpal is the longest, followed by the fourth and fifth metacarpals (Table 1). The thumb bears a prominent oval callosity. The wing membrane attaches at the base of the toes. The calcar runs for around two thirds along the edge of the interfemoral membrane and has a longish lobe. The interfemoral membrane attaches to the feet at the tibio-metatarsal joint (the origin point of calcar). The tail is enclosed within the interfemoral membrane except for the terminal tip. The testes of the Sairep specimen collected in October 2023 were swollen. In

both individuals, the penis is thick, hirsute, and lacks any distinct modifications.

The cranium, in lateral view, exhibits an almost straight dorsal profile, except for a slightly elevated midsection (Image 2). The sagittal and lambdoid crests are moderately developed. In dorsal view, the braincase appears globose, the zygomatic arches are slightly flared outward, and the narial emargination is V-shaped. The first upper incisor is bicuspid and approximately equal in height to the second incisor. A distinct diastema is present between the second incisor and the canine. The canine is robust, unicuspid, and approximately twice the height of the second premolar. In the upper toothrow the first premolar is minute and completely displaced from the toothrow, resulting in direct contact between the canine and second premolar; the first and second molars possess nearly equal crown areas. The third molar is reduced, parastyle, and protocone are absent. The lower canine is weak, and the first lower incisor reaches about two thirds the height of the canine. Second lower premolar is higher than the first but does not attain the

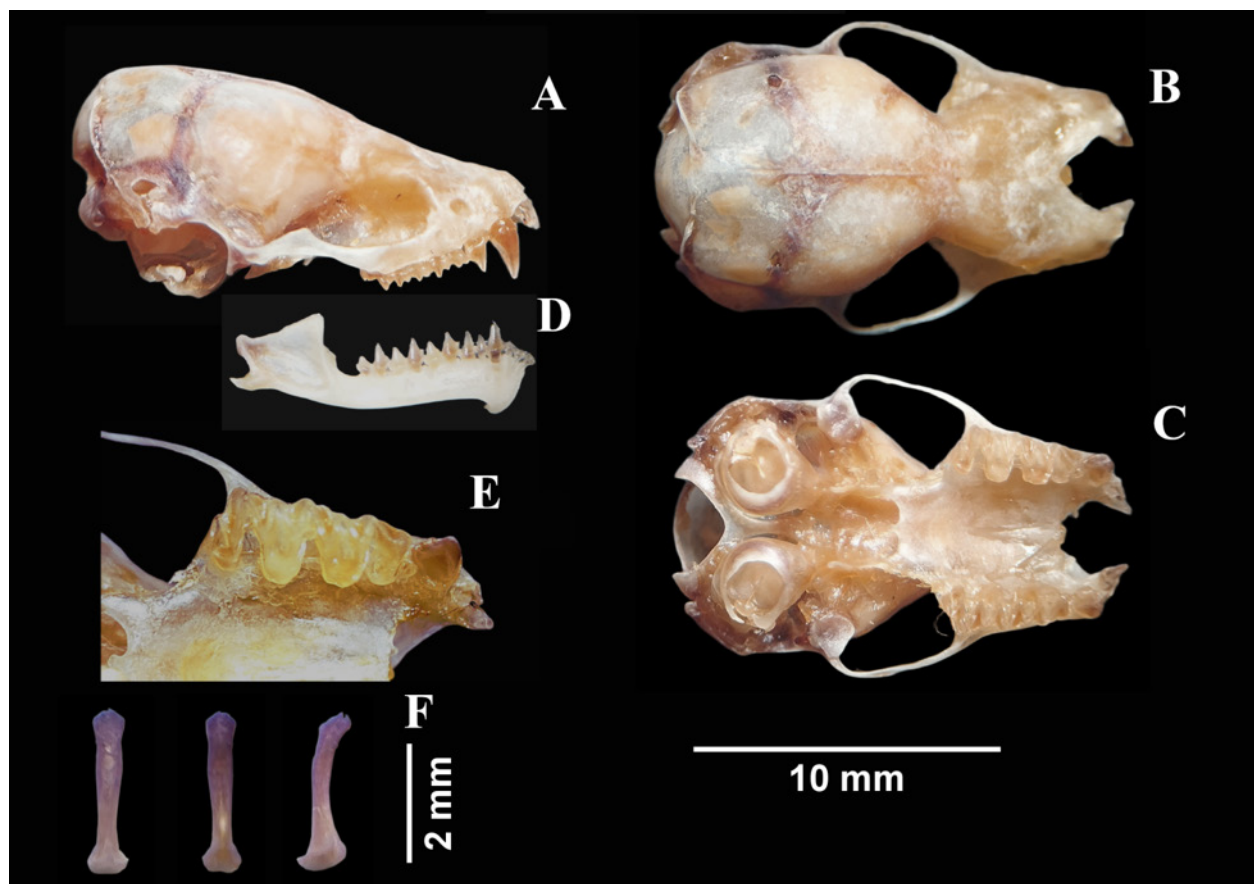


Image 2. *Hypsugo cadornae* Reiek specimen (V/M/ERS/788): A—lateral view of cranium | B—dorsal view of cranium | C—ventral view of cranium | D—lateral view of mandible | E—close-up occlusal view of the right maxillary dentition | F—dorsal, ventral & lateral view of baculum. © Uttam Saikia.



Image 3. Distribution of *Hypsugo cadornae*. The yellow colour indicates the distribution after Bates et al. (2019) with the type locality denoted by an asterisk; current records are marked by red dots.

height of the lower canine. The first two lower molars possess a myotodont cusp structure. The third molar is slightly reduced than the first two in surface area.

The baculum measures 2.35 mm in both specimens. In dorsal view, the baculum has a bulbous base, from which the shaft gradually widens to reach its maximum width at approximately two-thirds of its total length. Distal to this point, the shaft tapers slightly and terminates in a broad, rounded tip; in lateral view, the shaft curves anteriorly (Image 2F). It possesses a deep ventral groove.

The overall size, ear and tragus shape, combined with the bacular traits and myotodont dental characteristics, undoubtedly identify the two specimens as *Hypsugo*; within the genus, as defined by the FA length (below 37 mm), and the minute, labially fully intruded P2, they evidently represent *H. cadornae*.

Ecological notes: At Sairep Village, the individual was caught in the harp trap set across a forest trail. The sampling area was situated at a hilltop surrounded by tropical evergreen forest and bamboo clumps. At Reiek, the specimen was caught in the harp trap set

across a dry stream bed surrounded by tropical semi evergreen forest. Both the locations are in the vicinity of human habitations indicating its adaptation to human proximity. Although all the Indian records (Image 3) thus far are from mid elevation ranges (1,060–1,450 m), in other parts of the range, it was recorded from lowland forests and near human periphery (Bates et al. 2005; Xie et al. 2021) indicating broad ecological adaptations. Presence of distinct thumb pads in the specimens may also indicate roosting habits in smooth surfaces like bamboo internodes etc. Although no echolocation calls could be recorded, the reported maximum echolocation call frequency of 65.60 ± 4.89 kHz in China is suitable for hunting hard bodied insects like beetles or bugs (Xie et al. 2021).

DISCUSSION

Hypsugo cadornae is a widely distributed vespertilionid bat in southeastern Asia but confirmed locality records across the region remain sporadic (Bates et al. 2019). Interestingly, apart from its type locality, the species has not been documented elsewhere in

Table 1. Comparative morphometric details (in mm) of *Hypsugo cadornae* from Mizoram, India and from other parts of its distribution range including the type specimen (refer to comparative materials).

Parameter	Sairep V/M/ERS/742	Reiek V/M/ERS/788	Holotype	Specimens from SE Asia
Wt (g)	6.0	7.0	-	-
TL	38.0		-	-
E	12.0	13.9	-	-
TR	4.8	5.8	-	-
FA	35.0	35.7	-	35.4 ± 1.20 33.2–37.0 (19)
TB	15.7	15.8	-	15.2 ± 0.97 13.1–16.4 (13)
HF	5.8	6.7	-	6.1 ± 0.42 5.2–6.9 (17)
3MT	34.6		-	-
4MT	32.5		-	-
5MT	31.2		-	-
GTLi	13.70	14.56	-	13.71 ± 0.28 13.40–14.11 (23)
CCL	12.70	13.53	12.80	12.85 ± 0.23 12.44–13.32 (25)
ZB	8.73	9.73		8.73 ± 0.23 8.49–9.10 (17)
BW	6.47	7.21	7.09	6.80 ± 0.16 6.50–7.11 (23)
MAW	7.00	7.92	7.74	7.68 ± 0.22 7.09–8.01 (23)
POC	3.80		3.97	3.69 ± 0.13 3.45–3.93 (26)
SKH	5.40		5.11	4.90 ± 0.16 4.52–5.15 (24)
C ¹ C ¹	4.55	4.88	4.76	4.61 ± 0.15 4.30–4.86 (26)
M ³ M ³	6.14	6.38	6.28	5.91 ± 0.19 5.61–6.28 (25)
CM ³	4.52	4.94	4.91	4.70 ± 0.10 4.56–4.88 (26)
MLi	9.90		9.75	9.71 ± 0.19 9.42–10.13 (26)
CM ₃	4.93	5.53	-	5.03 ± 0.11 4.84–5.16 (26)
COH	3.07		2.81	2.71 ± 0.09 2.53–2.87 (25)
Baculum length	2.35	2.35	-	-

India. This apparent rarity is likely attributable to the lack of extensive field surveys and rigorous taxonomic investigations, a pattern that broadly characterizes bat research in India. However, recent records from two localities in Mizoram suggest its continued presence in suitable habitats of northeastern India. Although classified as ‘Least Concern’ on the IUCN Red List (Bates et al. 2019), the species remains poorly studied, and the absence of population data highlights the need for further surveys and conservation-focused research across its range.

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