



## DURBAN MUSEUM NOVITATES

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### A NEW SPECIES OF PIPISTRELLE BAT (CHIROPTERA: PIPISTRELLUS) FROM SOUTH ISRAEL

by

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A small bat was obtained by the author on the 13 October, 1959, at Yotvata, in the Wadi Araba, about 40 km. north of Eilat, Israel. This specimen is so distinctly different from all related small Vespertilionid bats that it is considered to represent a new species to science. It is proposed to name this species in honour of the late Prof. F. S. Bodenheimer, who made such a great contribution to our knowledge of Middle Eastern mammals,

#### ***Pipistrellus bodenheimeri*, sp.nov.**

*Type:* Adult female. Yotvata, Wadi Araba, 40 km. north of Eilat, Israel. 13 October, 1959. Collected by the author, and in his collection (No. 1. 2987).

*Description:* A small bat, with very delicate limbs and body and extremely pallid pelage, contrasting sharply with the darker membranes. The fur of the upper surface of the head and body is long and dense, about 8.5 mm. long in the mid-dorsal region. Its distal half is extremely pale whitish buff (nearest to Putty Seed Pearl Cartridge Buff—Plate II 2B, Maerz and Paul, 1950) very faintly tipped with brown in the nuchal region. The basal half of the hairs is dark slaty. On the ventral surface the hairs are white distally, very faintly washed with buff and their bases are dark slaty grey. The pelage does not extend on to the limbs or membranes\*.

\*A thin covering of hairs is present on the proximal part of the interfemoral membrane above.

wing membranes are dusky blackish, not so dark as in *P.kuhli*, and lacking any white border. The ears and interfemoral membrane are much paler than the wings and are semi-translucent. The wing membrane is attached to the base of the toe. A very small post-calcaneal lobe is present and the tip of the tail barely projects from the interfemoral membrane. The muzzle has well defined parahinal glandular eminences and the parahinal glands were visible on the internal aspect of the skin as a flat orange coloured body on each side.

The ears are proportionately large compared to the very delicate body. The tip of the ear is evenly rounded off, its external border slightly concave above with a marked emargination a little above half the height of its external border. There is a well developed anti-tragal lobe. The tragus is large, 4 mm. in height, 1.8 mm. in greatest width, its anterior border slightly concave, rising to a blunt point, its superior border slightly convex, sloping gently downwards to meet the posterior border at a blunt angulation, about two-thirds the height of the tragus, this being its broadest point. The posterior border is at first slightly convex then sharply emarginated just above the basal lobule, which is bluntly pointed, triangular in shape.

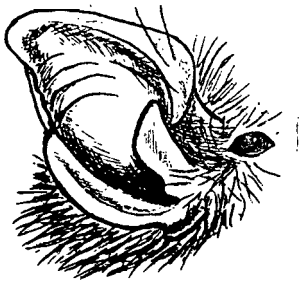


Fig. 1

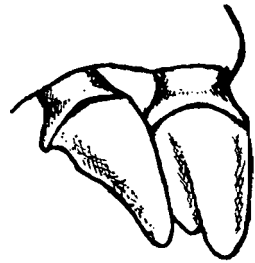


Fig. 2

## FIGURE 1.

*Pipistrellus bodenheimeri*. Type. Ear and tragus. 3 times nat. size.

## FIGURE 2

*Pipistrellus bodenheimeri*. Type. Right upper incisors. 75 times nat. size approx.

The skull is considerably smaller than that of *P.kuhli*, the frontal region slightly more raised in the dorsal profile than in that species, the facial skeleton decidedly lower than the braincase, there being scarcely any trace of the sagittal and no trace of any lambdoid crests. The supraorbital ridges are contrastingly well developed, and there is a pronounced hollow on each side of the rostrum between

their overhanging anterior parts laterally and the nasal bones medially. This hollow throws into sharp relief the knob-like projection over the root of the canine tooth. There is also a less pronounced hollow in the median line between the two nasal bones. The palate is highly arched and hollowed out posteriorly.

The first upper incisor is bicuspidate, the posterior cusp is two-thirds the height of the principal cusp. The second upper incisor is well developed, exceeding the posterior cusp of the first in height so as to attain fully three-quarters the height of the first incisor. The second incisor has no posterior cusp, but it has a well developed cingulum. The first upper premolar is minute, wholly hidden in the angle between the canine and the large premolar and invisible when the toothrow is viewed from without. The six lower incisors are tricuspidate and overlapping. The lower canine has a very prominent antero-medial cingular cusp which lies behind the outer aspect of the third lower incisor and exceeds it in height. The anterior lower premolar is rather more than half the height of the second and is in the line of the toothrow, the canine and succeeding premolar not nearly touching each other on its internal side.

*Measurements of the Type:* Total length 74.2, forearm 31.6, hind foot (S.U.) 5.9, tail 34.2, ear 11.6, tibia 12.1, 3rd finger metacarpal 27.3, 1st phalanx 9.2, 2nd phalanx 9.8 mm.

Skull. Greatest length 12, condylobasal length 11.5, zygomatic breadth 7.2, breadth of the braincase 5.8, maxillary cheekteeth  $c-m^3$  3.8, mandibular cheekteeth  $c-m_3$  4.2, mandible 8.2 mm.

*Remarks:* The delicate body of this bat, its proportionately large ears, extremely pallid colour, pale interfemoral membrane and characteristic dentition immediately distinguish it amongst all known Vespertilionid bats from the Arabian Peninsula. Its dentition shows that it belongs to the *P.savii* group of which it appears to be a small and very distinct Arabian representative. Some points of comparison may be noted with other species with which Bodenheimer's *Pipistrelle* might be confused.

Compared with *Eptesicus nasutus matschiei* Thomas, 1905: Jimel, near Aden, this species is very much paler above and whiter below, while the ears and membranes of *E.n.matschiei* are darker. The skull of *E.n.matschiei* is smaller, it lacks the small upper premolar, while the first upper incisor is unicuspidate, the second upper incisor relatively smaller, reaching only half the height of the inner tooth.

*Pipistrellus kuhli* Kuhl, 1819: Trieste, northern Italy, is immediately distinguishable by its darker pelage, heavier build and the

white border of the wing membrane, while the outer upper incisor is smaller. *Pipistrellus deserti* Thomas, 1902: Mursuk, Tripoli, Libya, is similarly distinguished by its darker colour, white wing border and dentition like *P.kuhli*

*Pipistrellus ruppelli coxi* Thomas, 1919: Beit Mahommed Chakala, Amara, Iraq, is a larger bat, the colour of its dorsal surface is not so pale and the hairs of its ventral surface are pure white to their bases, not slaty basally as in this species. The limbs and ears of *P.r.coxi* are black, contrasting with the pale membranes; in this species they are not contrasted. The skull of *P.r.coxi* is much larger and its upper outer incisor is very small, barely exceeding in height the cingulum of the bicuspidate inner incisor, while its upper small premolar is easily visible from without the toothrow.

*Pipistrellus ariel* Thomas, 1904: Eastern Egyptian Desert, lat. 22° N., long. 35° E., is a species of about the same external size but comparison with the *Type* shows that it is much darker in colour, its skull is smaller, its first upper incisor is unicuspid, the outer one is about the same size relatively as in Bodenheimer's *Pipistrelle*. Its small upper premolar is even more reduced than in the present species. Its membranes are all pale brownish.

*Pipistrellus marrensis* Thomas and Hinton, 1923: Foothills of S. Jebel Marra, Darfur, Sudan, is smaller than this bat, it is dark brown in colour and the outer upper incisor is very small indeed, the inner one unicuspidate, and the first upper premolar minute.

*Nycticeius (Scotienus) schlieffeni bedouin* Thomas and Wroughton, 1908: Lahej, Aden Protectorate, which is about the same size, is at once distinguishable by the absence of both the outer upper incisor and the small upper premolar.

It is of great interest that two incomplete and unidentified skins of *Pipistrelles* in the British Museum collection (Nos. 57.423 and 57.424), which were collected by D. J. Greathead at Seiyun, in the eastern Aden Protectorate, agree very closely in colour with the *Type* of Bodenheimer's *Pipistrelle*. Unfortunately in the absence of the skulls it is not possible to make a precise identification of these skins, but it seems at least possible that the range of the species extends to southern Arabia.

This specimen was shot flying shortly after dusk in the light cast by the headlights of a vehicle. It was flying around a line of tamarisk trees in a small area of cultivation surrounded by sandy

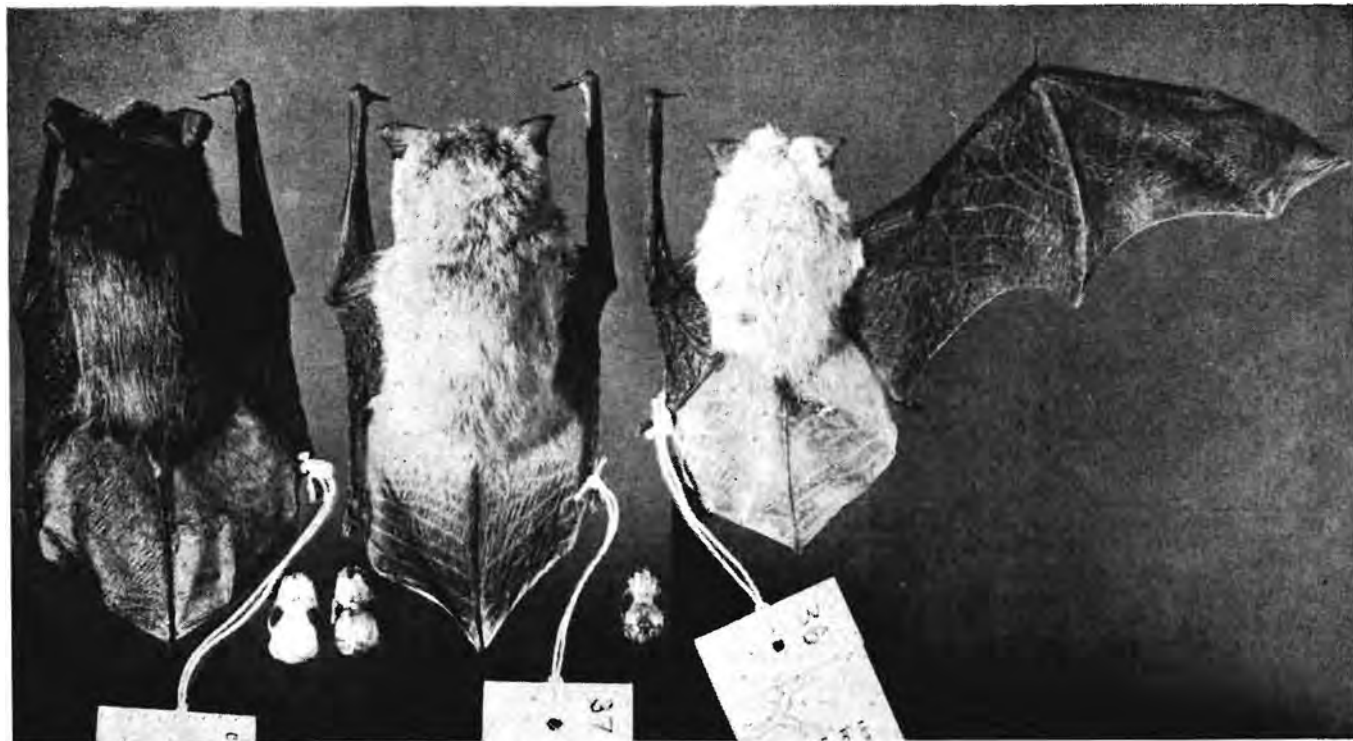
desert with acacia trees. An examination of the genitalia did not reveal any evidence of pregnancy.

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- 1950 Maerz, A. and Paul M. Rea, *A Dictionary of Colour*. 2nd Ed. McGraw Hill Book Co. Pub.



## PLATE I

Left: *Pipistrellus savii*. Rapallo, northern Italy. Adult female.

Centre: *Pipistrellus kuhli*. Beersheba, Israel. Adult female.

Right: *Pipistrellus bodenheimeri*. Type. Yotvata, Wadi Araba, Israel. Adult female.  
(Dorsal views)

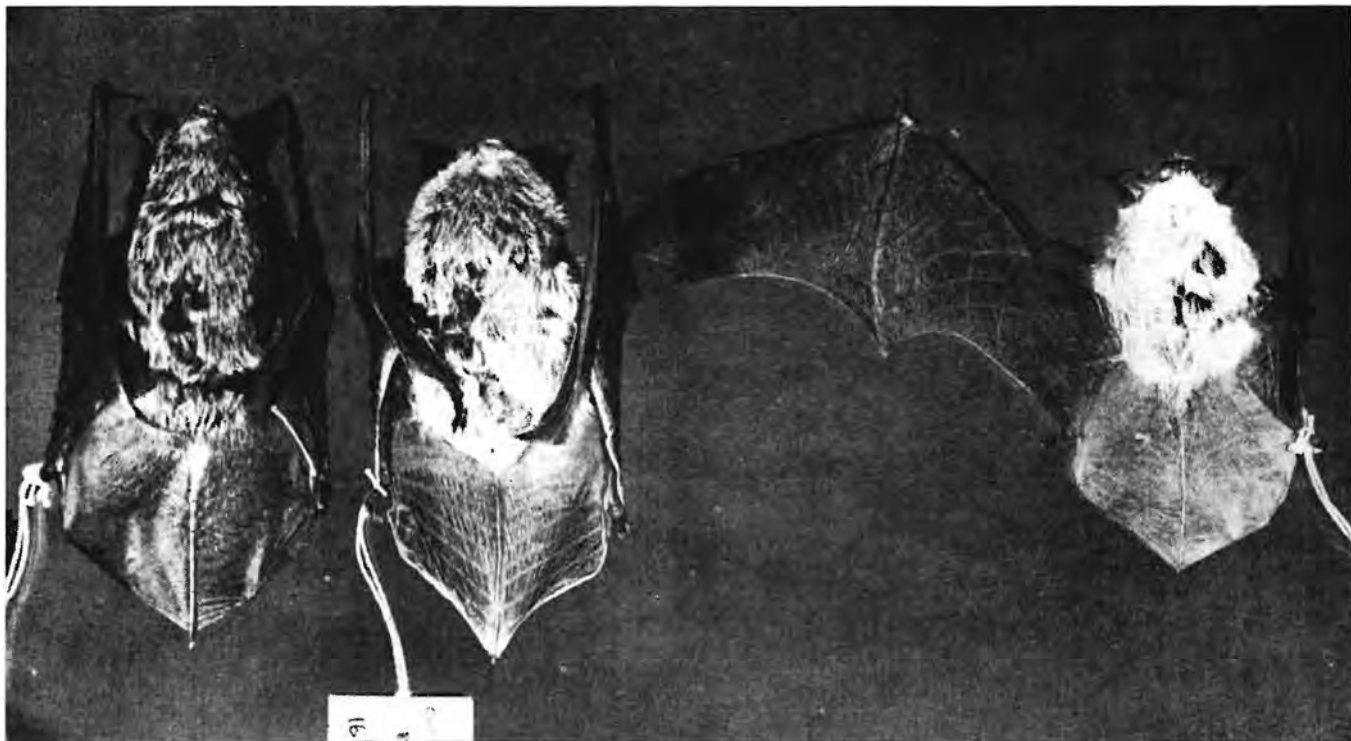


PLATE II

Left: *Pipistrellus savii*. Rapallo, northern Italy. Adult female.

Centre: *Pipistrellus kuhli*. Beersheba, Israel. Adult female.

Right: *Pipistrellus bodenheimeri*. Type. Yotvata, Wadi Araba, Israel. Adult female.

(Ventral views)