Two new bat-fleas from Cambodia

by

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The ruins of the well-known temple of Angkor-Vat are situated to the north of lake Tonle-Sap and not far from Siem-Reap, in Cambodia. These decayed sandstone structures are used as roosts by numerous bats. In early 1956 Dr. R. LUMARET collected some bat guano from the temple and found in this sample a number of dried-up bat-fleas, which he kindly forwarded to me for identification.

Ten of the fleas, 3 ♂ 7 ♀, are *Lagaropsylla putilla* J. & R.; this species was hitherto known only from Madras, southern India. It was a pleasant surprise to find also three male fleas which represent two extremely distinct new species of *Araeopsylla*. These two new species, described below, are fairly closely related to each other but are rather distant from any of the five species of *Araeopsylla* which were known so far. The majority of species of *Lagaropsylla* (*L. putilla* inclusive) and of *Araeopsylla* are parasites of bats belonging to the genus *Tadarida* and it seems a safe assumption that both new species of *Araeopsylla* are also associated with *Tadarida*.

Araeopsylla lumareti sp. n.

(Figs. 1—6)

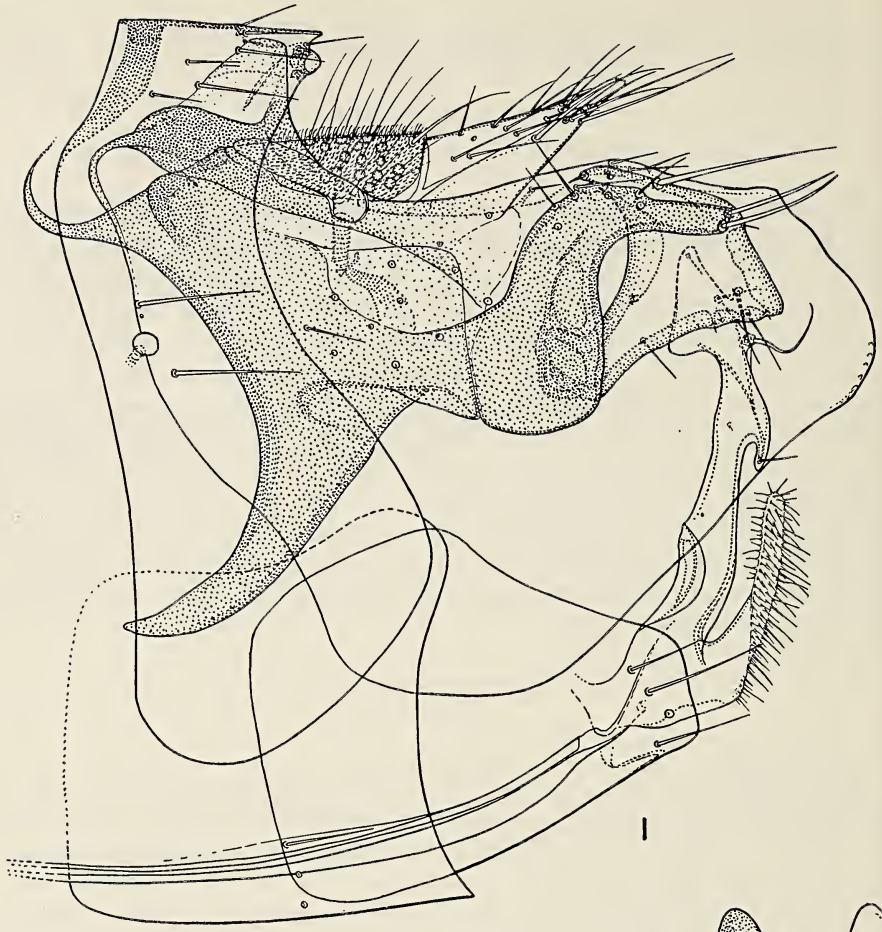
TYPE MATERIAL : Male holotype and one male paratype collected from bat guano obtained in the temple of Angkor-Vat, Cambodia, in January 1956, by Dr. R. LUMARET. Holotype in the British Museum collection of fleas at Tring, paratype in Dr. LUMARET's collection.

DIAGNOSIS : This new species and the following seem to be nearest related to *A. martialis* (Rothschild), 1903. Both new species, known only from the male sex, can easily be distinguished from *A. martialis,* and from each other, by the structure of the clasper and of sternum IX.

DESCRIPTION : Head more or less like that of *A. martialis*; preoral tuber (Fig. 6) fairly slender. Bordering the hyaline frontal band is a row of 17—22 small setae. Occiput without any marked dorsal incrassations, with five vertical rows of setae.

Pronotum about one and a third times higher than the dorsal length, with two or three rows of setae and a ctenidium of 22 fairly sharply pointed spines which are about two-thirds the length of the pronotum. The three pseudosetae on each side under the mesonotal collar are fairly long and their tips reach beyond the margin of the collar. Metanotum with two or three short and stout marginal spinelets.

Terga anteriorly with a strongly sclerotized dark band. Numbers of subdorsal marginal spinelets on each side of terga I—II in the male: 1 or 2, 1 respectively. Interspace between the two lowermost setae of terga II—VII more than twice the distance between these two setae. Sterna ventro-anteriorly with a horizontal rather narrow area which is slightly stronger sclerotized than the rest of the sterna.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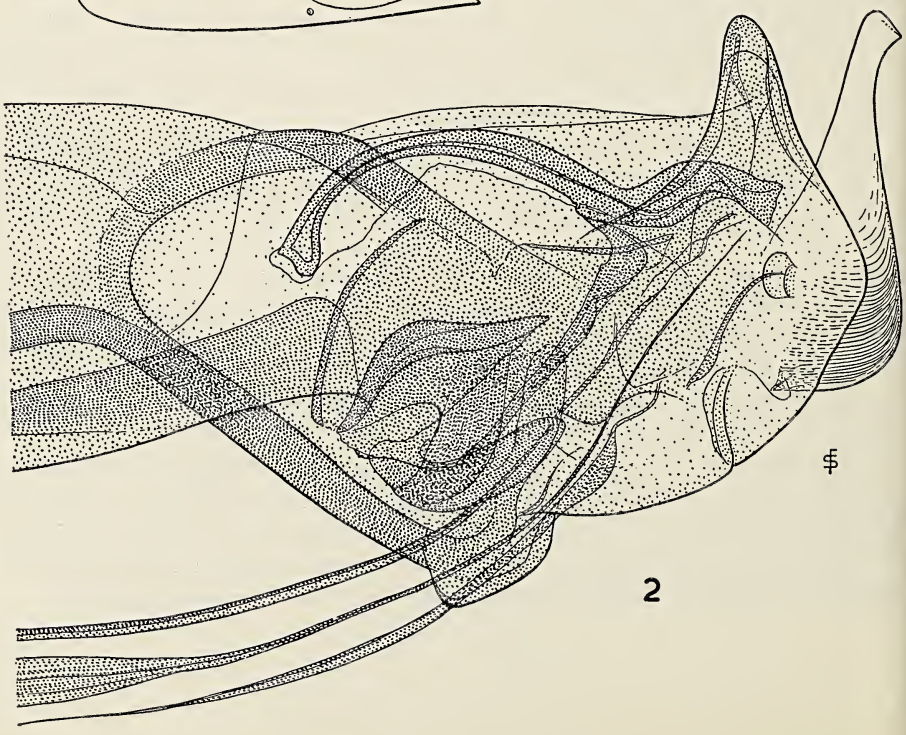
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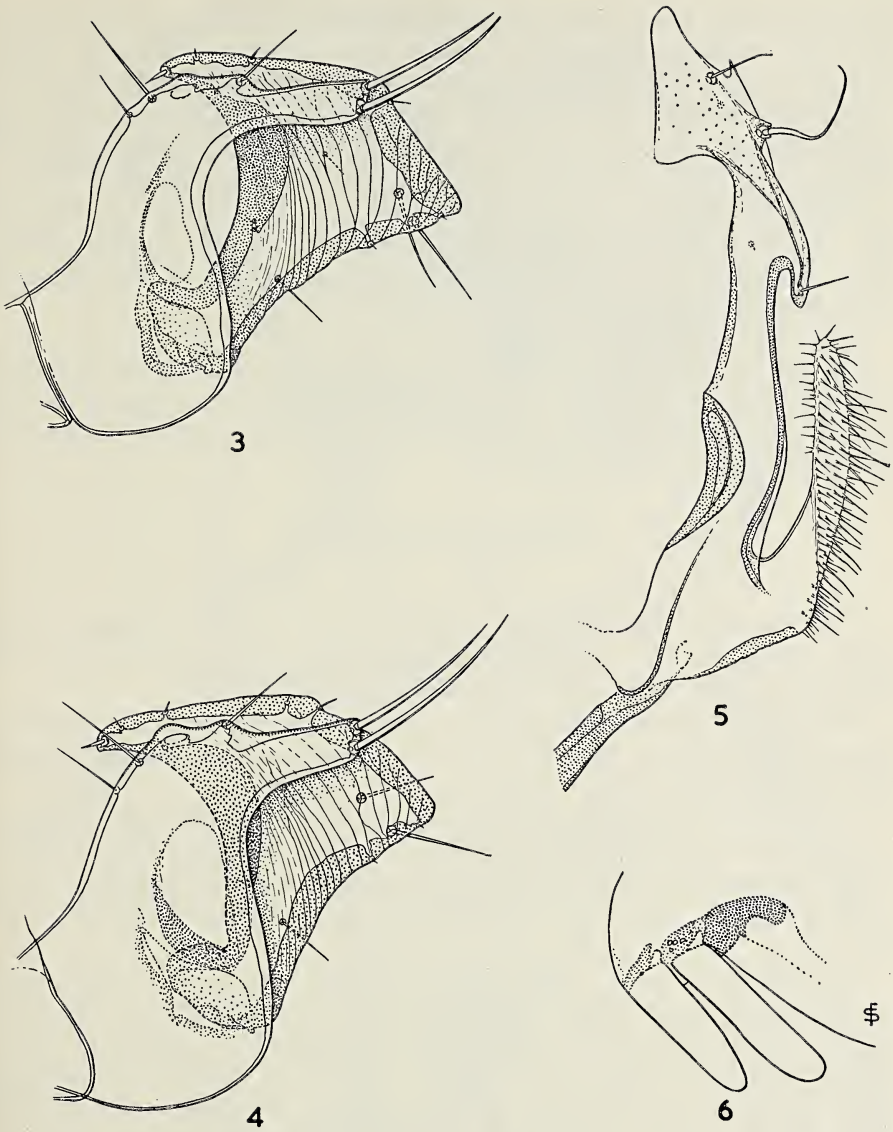

Figs. 3—6. *Araeopsylla lumareti* sp. n. 3. Clasper (holotype); 4. Clasper (paratype); 5. Sternum IX (holotype); 6. Preoral part of head (paratype).

M a l e (Figs. 1—5): Tergum VIII large, dorso-anteriorly with a very conspicuous sclerotization which partly surrounds the spiracular fossa; sternum VIII with a vertical row of four setae on each side (Fig. 1). Dorso-anterior angle of apodeme of tergum IX drawn out into a semicircular appendage. Manubrium fairly narrow, curved upwards, with a sharp apex. Corpus of clasper with a

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Figs. 1—2. *Araeopsylla lumareti* sp. n. (holotype). 1. Terminal segments; 2. Aedeagus.

dorsal and rather narrow fixed process which forms a right angle with the rest of the clasper and bears two short acetabular setae (Figs. 3, 4). Movable process triangular, with a strongly concave anterior margin; chaetotaxy of this process as in Figs. 3, 4. Sternum IX bifid, the setose upper arm with a triangular apex and one of its ventral setae markedly curved and placed on a short pedestal (Fig. 5). The apodemal tendon of sternum IX makes about half a convolution.

Aedeagus as in Fig. 2; note the presence of a long and curved rod in the upper part, and the club-shaped crochet. Median lamella of aedeagal apodeme with a broad and blunt apex. The two strongly sclerotized tendons of the phallosome make about one convolution.

Length: ♂ 2¼—2½ mm.

Remarks: I have much pleasure in naming this new flea after Dr. R. Lumaret, who most generously presented to the British Museum the holotype of the two new bat-fleas described in this paper, as well as specimens of other fleas collected by him in various countries.

Araeopsylla immanis sp. n.
(Figs. 7—10)

Type material: Male holotype collected from bat guano obtained in the temple of Angkor-Vat, Cambodia, in January 1956, by Dr. R. Lumaret. The specimen is in the British Museum collection of fleas at Tring.

Diagnosis: At once distinguishable in the male sex from all other species of the genus (and from all other bat-fleas) by the great development of the movable process of the clasper (Figs. 8, 9).

Description: Head, thorax and unmodified abdominal segments virtually as in *A. lumareti*. Preoral tuber as in Fig. 7; pronotal ctenidium with 25 spines; metanotum and terga I and II respectively on each side with 2 or 3, 2, and 1 marginal spinelets. Sterna ventro-anteriorly practically without darkened sclerotic areas.

Male (Figs. 8—10): Tergum VIII very large, with a dark sclerotization along part of the dorsal margin; sternum VIII with a horizontal row of four setae on each side (Fig. 8). Dorso-anterior angle of apodeme of sternum IX drawn out into a longish and upcurved appendage. Manubrium rather narrow, strongly curved upwards, with a sharp apex. Corpus of clasper rhomboid, its anterior half finely striated on the outer side; fixed process hardly differentiated, with two long acetabular setae (Fig. 9). Movable process very large and shaped somewhat like the blade of an axe; it is relatively larger than that in any other species of Ischnopsyllidae; the ventro-posterior portion of this process is only weakly sclerotized; chaetotaxy as shown in Fig. 9. Sternum IX bifid, the setose upper arm of a relatively simple structure and the curved seta not placed on a pedestal (Fig. 10). The apodemal tendon of sternum IX makes about half a convolution. Phallosome virtually identical with that of *A. lumareti*, differing only in some small details. Anal segment much prolonged (Fig. 8).

Length: ♂ 2 mm. (abdomen much contracted).