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The genus *Lumpuria* Edwards, with description of a new species from Nepal (Diptera, Scatopsidae) (Taxonomic notes on Oriental Scatopsidae. I.)

by J.-P. Haenni

Abstract: *Lumpuria* Edwards is redescribed, and placed within the Scatopsini with *Villoscatopse* Cook as a junior synonym; its systematic position is discussed. *L. flavicornis* Edwards (type-species, Malaysia) is figured for the first time, as is *L. brancuccii* n.sp. (Nepal). A key to the males of the 5 known species of the genus is given.

Key-words: Diptera Scatopsidae *Lumpuria* - Nepal, Oriental region - taxonomy – new species – key.

Scatopsidae of the Oriental region have been little studied. Only about 30 species have been described from this part of the world and faunas of large areas remain totally unknown. The fauna of Nepal, with only 11 species (COOK, 1978), seems presently to be the richest of the whole region, and this fact can show how fragmentary is our knowledge of the family.

During a collecting trip in East Nepal (Arun Valley) and in Kathmandu Valley conducted by Dr Michel Brancucci of Natural History Museum Basel during May-June 1983, I collected some Scatopsids. Though few in number, they proved to be very interesting. This note is the first of a series designed to deal with this material, in connection with revisions of previously described species. I am very happy to gratefully thank here my friend Michel Brancucci for allowing me to take part in this expedition. My thanks are also due to Drs P.S. Cranston and B. Townsend, British Museum (Natural History), London, and A. Borkent and H.J. Teskey, Biosystematic Research Institute, Ottawa, for the loan of type-material of *Lumpuria* and *Villoscatopse*.

Introduction

The genus *Lumpuria* was described by EDWARDS (1928) for one species, *flavicornis* Edwards, known only from one male specimen taken in the Federated Malay States (presently Malaysia). Though rather short and devoid of drawings, the diagnosis of *Lumpuria* gives some characteristics unusual to other Scatopsidae that make this genus rather well

recognizable. However there has been at my knowledge no other mention of this genus since its original description and *L. flavicornis* appears as incertae sedis in DELFINADO & HARDY (1973).

Among the material collected in East Nepal one specimen fits quite well in the sketchy description of *Lumpuria*. However on the other hand it also closely resembles by the genital characters *Villoscatopse ultima* Cook, the type-species of the genus erected by COOK (1978) for 3 new nepalese species. Comparison of type-material proved that *Villoscatopse* Cook is a junior synonym of *Lumpuria* Edwards which includes now 5 oriental species, since the above mentioned specimen belongs to a still unknown species which is described here as new.

Genus *Lumpuria* Edwards

Lumpuria EDWARDS, 1928, J. Fed. Malay St. Mus. 14:48 (Type-species: *Lumpuria flavicornis* EDWARDS, 1928, by original designation).

Villoscatopse COOK, 1978, Ann. Ent. Soc. Amer. 71: 529 (type-species: *Villoscatopse ultima* COOK, 1978, by original designation.), **n.syn.**

1.5–2.5 mm. Dull brownish-yellow Scatopsids, with elongate legs and yellowish antennae. Whole body densely microtrichiose.

Head (Figs 2–3, 9) short, higher than long, rather conical posteriorly in side view, with occiput somewhat hollowed out in its upper part. Antennae yellowish, more or less elongate, 10-segmented, each segment bearing irregularly arranged setae, cylindrical, devoid of apparent neck, or the latter inconspicuous (Fig. 1).

Palpi small, oval (Fig. 3). Eyes dichoptic (Fig. 2), with posterior margin sinuous.

Thorax stout, rather quadrate in shape (Fig. 10), broader than usual in Scatopsids. Spiracular sclerite small, rather rounded, spiracle large (Fig. 5). Pedicel of halter devoid of setae.

Wings densely covered with microtrichia, dull in appearance. Venation (Figs 4, 11) of the *Scatopse* type, R-complex long, extending far beyond middle of wing, m_1 with an anteriorly directed spur not reaching r_3 , false vein present, cu_{1b} neither sharply bent nor double bent. No setae on the membrane or on the posterior veins.

Legs elongate, particularly the hind ones. Femora normal, tibiae long and slender, parallel-sided, tarsi elongate and slender (Fig. 12).

Abdomen elongate, with 7 segments before the genitalia. Segment 7 variously modified (Figs 6, 13–14, 17–19 and COOK, 1978, Figs 1, 4)

but always with a more or less complete strongly chitinized basal ring. Sternum remarkably developed, encircling the tergum, bearing in some species a patch of spiniform setae medially near the posterior margin.

Genitalia capsule-like, complex, with 1–3 pairs of variously modified appendages (Figs 7–8, 15–16 and COOK, 1978, Figs 2–3, 5–7). Penis highly and variously modified. Sperm-pump not closely attached to the genital complex. Female genitalia with a single pair of cerci. Spermatheca simple. See COOK (1978) for more detail since the only available female specimen (a paratype of *V. intermedia* Cook) is not in a sufficiently good state to allow description.

Included species: *L. brancuccii* n.sp., *L. flavicornis* Edwards, 1928 (type-species), *L. intermedia* (Cook, 1978), *L. prima* (Cook, 1978), *L. ultima* (Cook, 1978).

Species of *Lumpuria* are presently known only from the Oriental region (Malay Peninsula and Himalaya) at elevations ranging from 136 m to 2273 m above sea level). Their biology and immature stages remain totally unknown.

Discussion: The characters pointed out by EDWARDS (1928) and COOK (1978) to erect respectively *Lumpuria* and *Villoscatopse* are curiously completely different: the former notes the elongate cylindrical flagellar segments, and the shape of legs “rather longer and more slender than usual”; he also notes the shape of the head «closely applied to the thorax and somewhat hollowed out behind» but he considers this character with some doubt on the base of the only specimen, wondering if it is natural. In fact, after maceration in potash the shape of the head appears less hollowed (as shown in Fig. 3), but still very different from that of other Scatopsids genera. On the other hand COOK (1978) listed the following characters for *Villoscatopse*: whole body densely microtrichiose, halteres without setae on pedicel, palpi small and oval, spiracle sclerite small, rounded, with spiracle relatively large, 7th tergum (and not 8th as wrongly stated in discussion p. 529, evidently a lapsus calami) posteriorly modified or produced, 7th sternum (and not 8th, as above) with modified posterior mesal setae, cu_{1b} gently curved, no setae on membrane and hind veins, wings very like those of *Scatopse*.

In fact, as already mentioned by COOK (1978) for *Villoscatopse*, this genus is rather difficult to place within the Scatopsinae. The latter author inclined for Rhegmoclematini. This placement seems to me not tenable. Among the characters given to support this placement, the absence of pedicellar setae on halteres is the only feature that would be decisive. All other characters can also be found within the Scatopsini

(shape of maxillary palpi and spiracular sclerite, modifications of 7th segment, wing venation. COOK (1978) himself notes that the wings of *Villoscatopse* are “very like those of *Scatopse*”. They lack very important features of Rhegmoclematini (cu_{1b} not sharply bent, no setae on membrane and hind veins). In fact the venation is very similar to that of *Colobostema* of the Scatopsini. Other characters suggest a relationship with this genus: – the rather quadrate thorax, much stouter and broader than in most Scatopsinae. This condition is found in *Colobostema* and *Holoplagia* of the Scatopsini, and in *Parascatopse* of the Rhegmoclematini, a genus with otherwise completely different features and obviously not related to *Lumpuria*; – the dichoptic or hardly holoptic eyes; – the modification of posterior margin of 7th segment. Genital features are very difficult to understand in most Scatopsid genera. Homologies are very obscure, and in the present state of our knowledge, no evidence based upon genital characters can be brought out at a higher taxonomic level. *Lumpuria* male genitalia would resemble those of *Colobostema* or *Apiloscatopse* of the Scatopsini rather than those of the Rhegmoclematini.

On the base of all these considerations, I propose to place *Lumpuria* within the Scatopsini, and this despite of the absence of pedicellar setae, a character considered by COOK (1981) as distinctive of this tribe. Diagnostic characters are the shape of tibiae and tarsi, the shape of head and the structure of antennal segments. These characters allow an easy separation of *Lumpuria* from the other genera of Scatopsini, as well as from other Scatopsidae.

The definition of the tribe Scatopsini is somewhat enlarged with this placement, but no doubt that further changes await the suprageneric classification of Scatopsidae, particularly of Scatopsinae with comparative study (especially of genital characters) and discovery of new taxa of specific or generic level.

***Lumpuria flavicornis* Edwards**

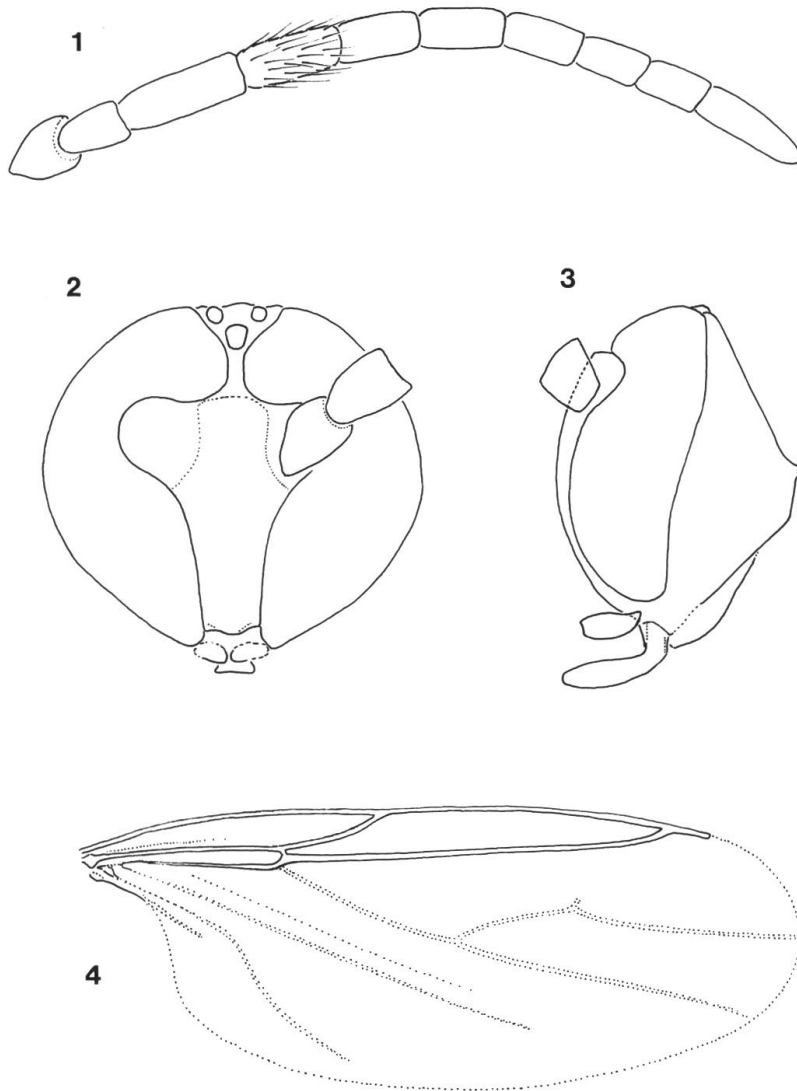
Figs 1–8.

Lumpuria flavicornis EDWARDS, 1928: J. Fed. Malay St. Mus. 14:49.

Diagnosis: Easily recognizable by the peculiar shape of genitalia and the long simple filiform penis (Fig. 7). Also distinguished from other species of the genus by the elongate antennae (longer than head and thorax together).

♂. 2.2 mm. Brown in general colour with bright reddish yellow an-

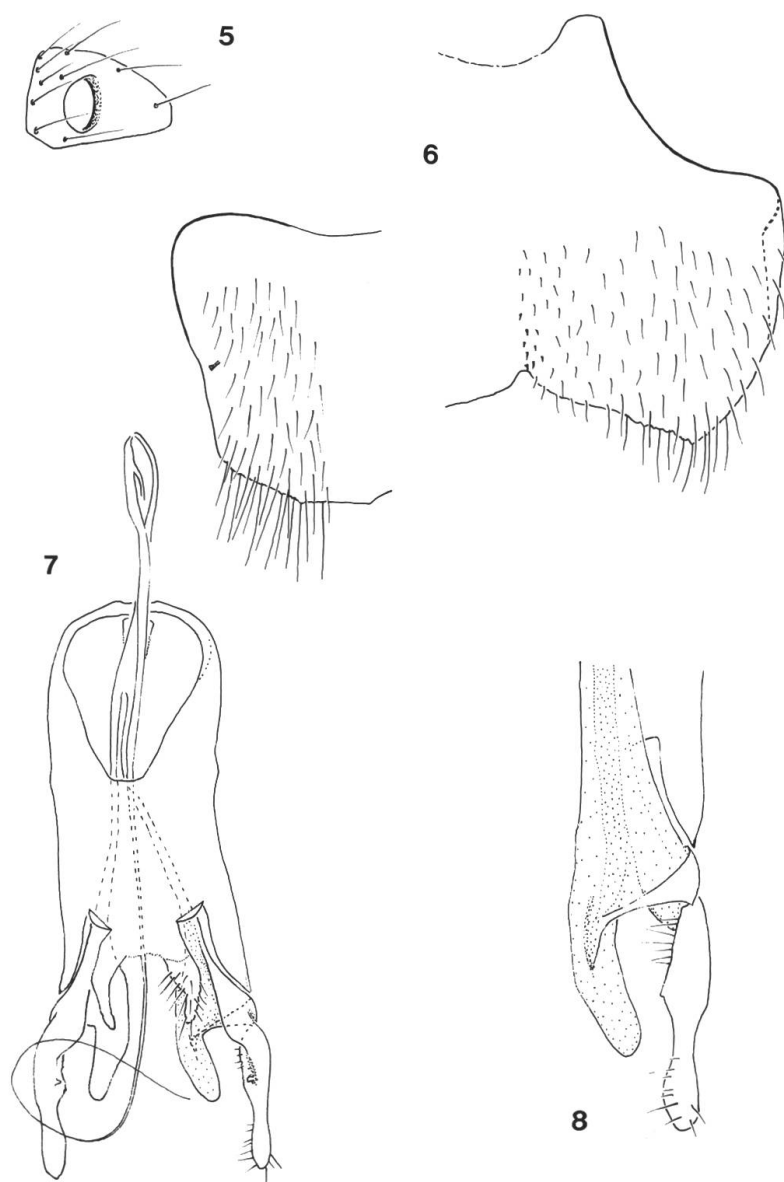
tennae and palpi, yellow face, reddish pleurae and tarsi. (The type specimen should be somewhat darker after Edwards' original description; maybe it has faded since that time).



Figs 1–4: *Lumpuria flavicornis* Edwards (holotype ♂): 1, Antenna. 2–3, Head. 4, Wing.

Head as in Figs 2–3. Antennae (Fig 1) elongate, longer than head and thorax together, of 10 segments devoid of visible neck. First flagellar segment 3 times as long as wide, other segments about 2 times as long as wide apart from the apical one which is more than 3 times as long as wide. All segments bearing a golden pilosity which is not ar-

ranged in whorls. Eyes not touching above antennae (Fig. 2), with posterior margin somewhat sinuous (Fig. 3). Face broad, with long dense yellowish-brown erect pilosity, the longest hairs longer than 1st antennal joint. Palpi short and rounded, dark pilose. Labellae short.



Figs 5–8: *Lumpuria flavicornis* Edwards (holotype ♂): 5, Spiracular sclerite. 6, Seventh tergum (left) and sternum. 7, Genitalia (ventral view). 8, Genitalia, detail of gonocoxite (dorsal view).

Thorax dull brown, with rather long brown pilosity, broader than long. Scutellum with 5 marginals on each side and no apicals. Spiracular sclerite (Fig. 5) somewhat longer than high with spiracle large, central. 5–7 supraalars longer than vicinous pilosity, no anepisternals.

Wings (Fig. 4) 2.8 mm long, brownish-grey, densely microtrichiose. Anterior veins yellowish-brown, posterior darker than membrane. Anterior spur on m_1 comparatively well developed.

Halters brown with reddish base. No pedicellar setae.

Legs reddish-brown with femora and tibiae somewhat infuscated, particularly f_1 and f_2 . Tibiae longer than femora, tarsi elongate, particularly the hind ones that are longer than the tibiae.

Abdomen brownish, somewhat darker than thorax. 7th tergum (Fig. 6) much more producing posteriorly than sternum, convex, truncate at apex with a comb-like row of setae that are nearly as long as half of tergum. 7th sternum (Fig. 6) with a shallow U-shaped posterior emargination, also bordered with a row of setae that are shorter than on tergum.

Genitalia (Figs 7–8) capsule-like, bearing long gonocoxites and various appendages. Penis light-yellow long and slender curved filament.

♀. unknown.

Type locality: Peninsular Malaysia, Pahang: Cameron Highlands. [4°30'N, 101°34'E].

Type material: Holotype ♂ (in British Museum) labelled: Pahang, F.M.S. «Cameron's Highlands» at light 4800 ft March 13th 1924 H.M. Pendlebury [reverse side] Ex coll. F.M.S. Museum / 1220 / Pres. by F.M.S. Museum. B.M. 1924–290 / *Lumpuria flavicornis* Edw. [in Edwards' handwriting] / Type H.T. [red circled round label]. Labelled by myself: *Lumpuria flavicornis* Edw. Holotypus ♂ J.-P. Haenni 1984 rev. & praep. The holotype has been mounted on a microscopic slide in Swan's Berlese Medium by the present author, but unfortunately some damage to the antennae and the abdomen occurred during the preparation.

Ecology: After the collector's indications, Mr. Pendlebury cited by EDWARDS (1928), Cameron's Highland «is an area of high ground» at about 4800 ft [1463 m], «well wooded» and «with plenty of soil on it». No more precise indications are available for the only known specimen.

Distribution: Known only from the type locality in mountainous area of Pahang (Peninsular Malaysia). *L. flavicornis* is presently the only species of the genus outside of Himalaya.

***Lumpuria brancuccii* n.sp.**

Figs 9–16.

Diagnosis: Shares with *L. ultima* (Cook) the flattened branched penis and general shape of genital capsule. Distinguished by the shape of gonocoxites (Fig. 16).

♂. About 2 mm long (3 in alcohol). Brown in general colour with yellow antennae and tarsi and reddish pleurae.

Head (Fig. 9) higher than long, very short behind the eyes, typical of the genus. Antennae bright reddish-yellow, about as long as thorax. First flagellar segment twice as long as broad, 4th flagellar segment hardly longer than broad. Other flagellar segments of only available specimen have been broken during slide-preparation. Eyes dichoptic, nearly touching above antennae, separated by width of an ocellus; posterior margin of eyes sinuous. Face dark yellow, with erect pilosity, about as wide as one third of an eye. Palpi longer than in *flavicornis*, less rounded, slightly curved. Labellae as long as palpi.

Thorax (Fig. 10) dark brown with dark pilosity, broadened, quadrate in shape. Spiracular sclerite slightly longer than high, with large, rather ventral spiracle.

Wings (Fig. 11) 2.3 mm, yellowish-brown, covered with microtrichia. Anterior veins brown, posterior hardly darker than membrane. Anterior spur of m_1 well marked.

Halters brown with light pedicel devoid of setae.

Legs (Fig. 12) brown except yellowish-brown tarsi, lengthened, especially the hind ones. Hind tarsi as long as tibia which is longer than femur.

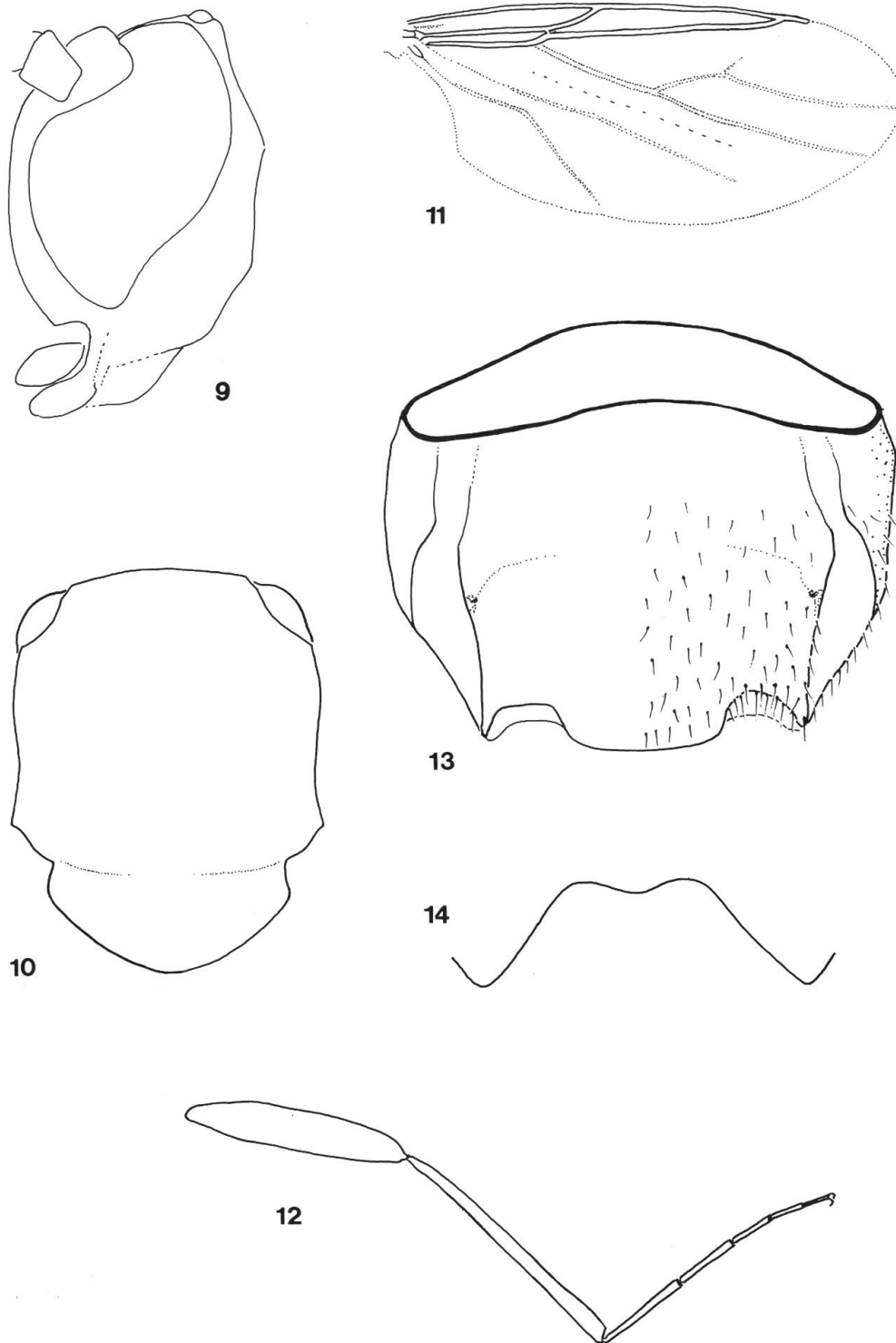
Abdomen brown, dark pilose. 7th segment (Fig. 13) with a strongly chitinized basal ring; tergum with a large median truncate projection, without long posterior pilosity; sternum broadly emarginate posteriorly with a small median projection (Fig. 14).

Genitalia (Figs 15–16) very like those of *L. ultima* (Cook), with 3 pairs of appendages and flattened 3-branched long penis. Gonocoxites (Fig. 16) massive, triangular, with straight margins and a strongly chitinized area medially in addition to the upper inner corner which is bare.

♀. unknown.

Type locality: East Nepal, Arun Valley: Mure (Ururu), 87°20'E, 27°30'N.

Type material: Holotype ♂ labelled «East Nepal Arun V. J.-P. Haenni / Mure, near Ururu 9.VI.1983 / 341–83 / *Lumpuria brancuccii* n.sp. ♂ Haenni 1986 / Holotype. Type cleared and mounted in Swan's Berlese Medium on microscopic slide, deposited in author's collection,



Figs 9–14: *Lumpuria brancuccii* n. sp. (holotype ♂): 9, Head. 10, Thorax (dorsal view). 11, Wing. 12, Left posterior leg (side view). 13, Segment 7, tergum above. 14, Posterior emargination of sternum 7 (diagrammatic).

Musée d'Histoire naturelle, Neuchâtel, Switzerland.

Etymology: named in honour of my friend Dr Michel Brancucci.

Ecology: The only known specimen was caught when sweeping low vegetation and bushes near a stream in a semi-wooded region with more or less degraded forests at about 2000 m of elevation. The natural vegetation is a *Quercus* forest (Upper Collinean Zone of DOBREMEZ & SHAKYA, 1975).

Distribution: Known only from type-locality in eastern range of Nepal Himalaya, Upper Arun Valley.

***Lumpuria intermedia* (Cook) n. comb.**

Figs 18–19.

Villoscatopse intermedia COOK, 1978: Ann. Ent. Soc. Am. 71:531, Figs 6–7 (description).

Type locality: Nepal, near Birganj, Lothar, 450' [136 m]. I have seen the types (♂ and ♀) of this species (C.N.C., Ottawa). COOK's (1978) description is adequate but his Fig. 8 is not tergum 7 of *V. intermedia* as wrongly indicated in the legend, but of *Colobostema josephi* as stated by COOK himself in the treatment of this species. 7th segment of male and female are figured respectively in figures 18 and 19.

***Lumpuria prima* (Cook) n. comb.**

Fig. 17.

Villoscatopse prima COOK, 1978: Ann. Ent. Soc. Am. 71:531, Figs 4–5 (description).

Type-locality: Nepal, Adhavar, 4 mi. N Simra, 1400' [420 m]. I have seen the holotype ♂ of this species (C.N.C., Ottawa). COOK's (l.c.) description is adequate. 7th segment of male is figured on figure 17.

***Lumpuria ultima* (Cook) n. comb.**

Villoscatopse ultima COOK, 1978: Ann. Ent. Soc. Am. 71:529, Figs 1–3 (description).

Type-locality: Nepal, Kathmandu, Pulchauki, 7500' [2273 m]. I have seen the holotype male of this species (C.N.C., Ottawa). COOK's (l.c.) description is adequate.

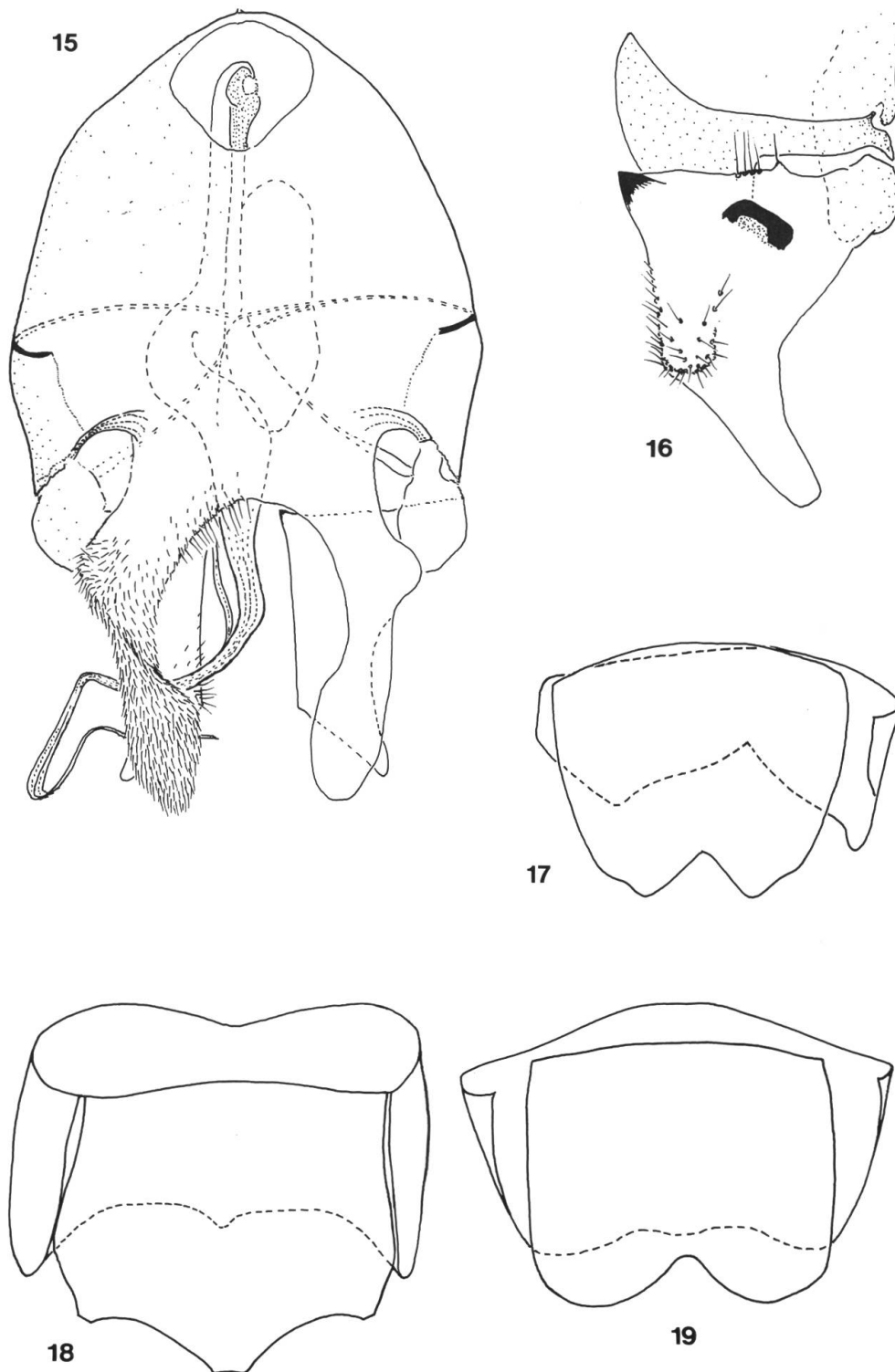
Key to the Oriental species of *Lumpuria* (♂ only)

1. Tergum 7 bilobed, with posterior margin deeply emarginate medially (Fig. 17). Penis short, un conspicuous. Nepal.

L. prima (Cook)

- Tergum 7 with posterior margin not emarginate, more or less produced medially

2



Figs 15–19: 15–16. *Lumpuria brancuccii* n. sp. (holotype ♂): 15, Genitalia (ventral view). 16, Genitalia, detail of gonocoxite (dorsal view). 17. *L. prima* (Cook) (holotype ♂): Segment 7, tergum above. 18–19. *L. intermedia* (Cook): 18, Segment 7 of ♂, tergum above (holotype). 19, Segment 7 of ♀, tergum above (paratype).

2. Penis filiform, very long, simple (Fig. 7). A fringe of very long setae on posterior margin of tergum 7 (Fig. 6). Antennae elongate, as long as head and thorax together. Malaysia.

L. flavicornis Edwards

- Penis complex, never simple nor filiform. No noticeable fringe of setae on posterior margin of tergum 7. Antennae shorter, at most as long as thorax 3

3. Penis long, flattened, 2 or 3-branched. Posterior margin of tergum 7 mesally produced in a broad truncate projection (Fig. 13; see also Fig. 1 in COOK, 1978) 4

- Penis not flattened, bearing near the middle a short lateral 4-branched process (see Fig. 6–7 in COOK, 1978). Posterior margin of tergum 7 mesally with a narrow truncate projection (Fig. 18). Nepal.

L. intermedia (Cook)

4. Gonocoxites massive, with straight margins, upper inner strongly chitinized corner bare, and an other strongly chitinized area near the middle (seen in transparence) (Fig. 16). Sternum 7 broadly emarginate posteriorly with a median short projection (Fig. 14). Nepal.

L. brancuccii n. sp.

- Gonocoxites elongate, somewhat distorted, with sinuous margins and upper inner strongly chitinized corner conspicuously hairy (see Fig. 2 in COOK, 1978). Sternum 7 broadly emarginate posteriorly, without median projection (see Fig. 1 in COOK, 1978). Nepal.

L. ultima (Cook)

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