

Eight new species of *Lonchoptera* from Burma (Dipt., Lonchopteridae)

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Among the extensive insect material collected in Burma by Dr. René Malaise, Stockholm, and now preserved in the Naturhistoriska Riksmuseum, Stockholm, there are 127 specimens of *Lonchoptera* that have kindly been made available for my study by Mr. P. I. Persson, Stockholm, to who I wish to express my sincere thanks.

I am also very much obliged to Dr. T. Saigusa, Fukuoka, Japan, for valuable help with Japanese literature and *Lonchoptera* material from Japan.

The Burmese material has been stored dry in tubes and afterwards relaxed and mounted. Therefore most specimens are more or less damaged, with loss of bristles, legs and other body parts. In spite of this, it has been quite possible to work up the males. Obviously the material has been collected in large samples and therefore usually a number of species are present in each collection. Due to this fact, and to the great sexual dimorphism and the uniform build of the females, it has not been possible to associate the females with corresponding males. Therefore, the females, 61 specimens, must remain unnamed.

It is surprising to find as many as 9 *Lonchoptera* species from one and the same restricted area, even if the material has been collected at various altitudes. Dr. Malaise (1945, p. 3—9, 68—74) has described the usually good collecting site at Kambaiti, near the Chinese border. The richness of insects in this place, according to Malaise, was partly due to climatic conditions that made the insects, migrating up and down in a valley, congregate in a glade of about 200 m. length along a path and a small stream. Malaise (op. cit.) has discussed the zoogeography of the saw flies of S. E. Asia. The present material cannot for the moment be used for any reliable discussion of the zoogeography of Lonchopteridae. It only stresses how incomplete our knowledge of this family is. Many more species can be expected, at least from higher altitudes of the Oriental region and the southeastern parts of Palaearctic. As a comparison can be mentioned that we know 4 Ethiopian, 3 Nearctic, 17 Palaearctic, 1 Oriental and 1 cosmopolitan species. Five of the Palaearctic species are known from Japan only. The Burmese species show affinities with *L. orientalis* Kert., also known from Formosa, and some

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Palearctic species, especially those described from Japan but also European, such as *L. tristis* Meig. and *L. fallax* de Meij.

The eight new species in this material from Burma, as is normal in the genus *Lonchoptera*, are very uniform in some body parts while there are great differences in others. Thus the shape and bristles of the head and thorax are very much alike in all the species and so are the wings. The colour of body, antennae and halteres is yellow; only in *annikaae* and *pipi* are mesonotum, antennae and halteres more or less dark brown. On the other hand, there are great differences in the bristles of the legs and in the proportions of the leg segments. Striking differences are also present in the male abdomen, especially in the size and shape of the genitalia.

The tibial bristles have been much used in the classification of *Lonchoptera* species. They are distinguished as ventral (v), anteroventral (av), anterior (a), anterodorsal (ad), dorsal (d), posterodorsal (pd), posterior (p), and posteroventral (pv). In some cases it can be difficult to give a certain bristle the right denomination. I have regarded the small subbasal bristle, present on all tibiae in all the Burmese species, as a true dorsal one. My classifying of some of the bristles may be doubtful; at least this is the case with some of the pd that with the same right could be classified as d.

Fore tibia (t_1). (Fig. 1, top row.) In all the species there is one distinct ad in basal half. In *casanova* and *malaisei* there is a small subapical ad. In all species, except *pipi*, three pd are found. The middle one is not present in *pipi*, and in some species, most apparent in *casanova*, it has a more dorsal position. All species have a subapical pv, which in *casanova* is very long and placed more proximally. *Annikaae* and *pipi* have another pv near the middle of the tibia.

Middle tibia (t_2). (Fig. 1, middle row.) All the species have two ad and two pd. All, except *elinorae* have one subapical pv. *annikaae*, *pipi* and *birmanica* have one subapical av. *pipi* has numerous large bristles on apical half. Small indistinct subapical bristles can be present in some species. In *annikaae* there is one more distinct ad near apex.

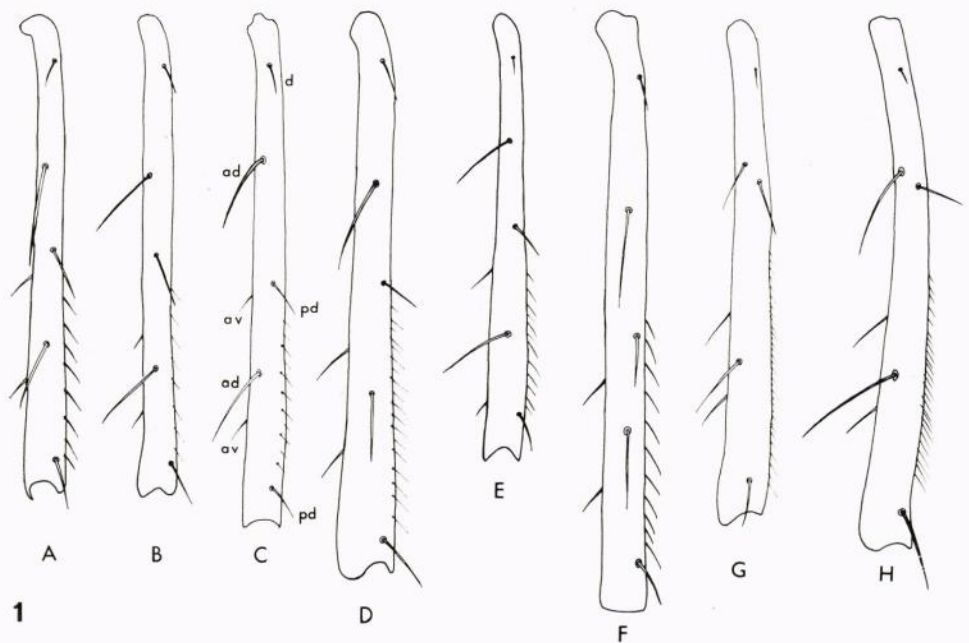
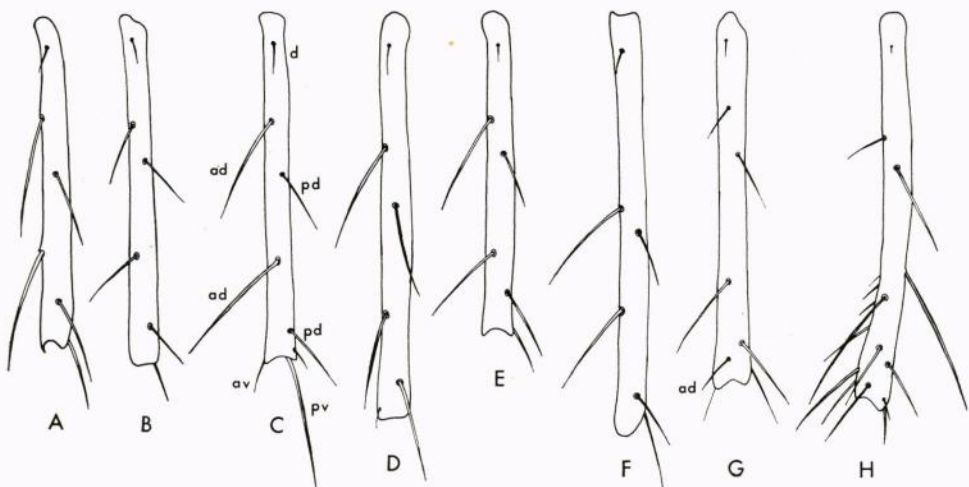
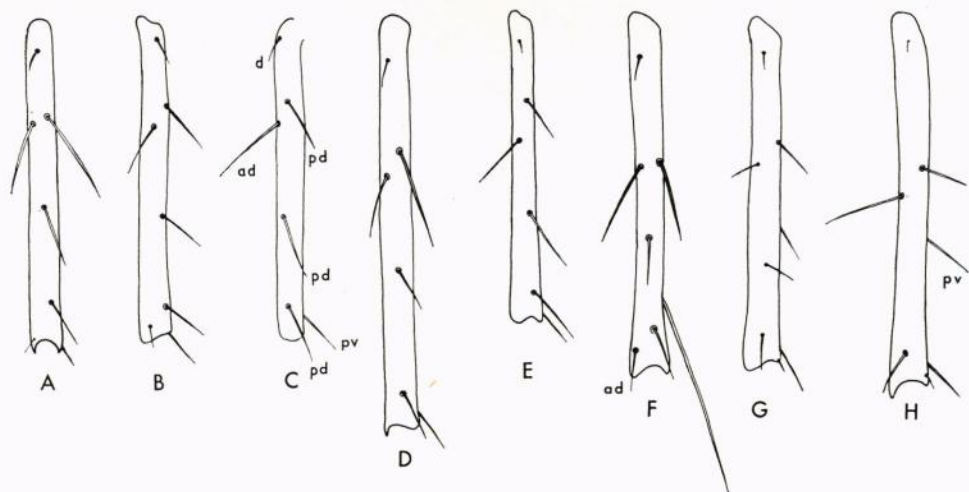
Hind tibia (t_3). (Fig. 1, bottom row.) In all the species there are two av, two ad and two pd. In *annikaae* and *pipi* the upper ad and the upper pd are much more close together than in the other species.

On the male fore tarsus there are usually special structures. On the first tarsal segment (ts_1) there is a shorter or longer pv, on second segment (ts_2) an anterior bristle or spine, on third segment (ts_3) 2—4 pointed or blunt spines, on fourth segment (ts_4) ventrally a carpet of fine soft hairs and on fifth segment (ts_5) various numbers of short thick bristles or small spines.

On front femur (f_1) there are usually present 1 av, 1 a, 1 d, 1 p, 1 pv in apical or subapical position and 1 d $1/5$ — $1/4$ the length of femur from apex. *casanova*, *annikaae* and *pipi* have 1 a in position $1/3$ — $2/5$ from apex. *elinorae* has no subapical d. *casanova* has a subapical pd.

On middle femur (f_2) there are 1 av, 1 a, 1 d, 1 p, in subapical position, 1 ad, usually small, at middle and 1 v at base. *casanova* has no av and no a

Fig. 1. From top to bottom: fore, middle and hind tibiae of A) *Lonchoptera birmensis* n. sp. B) *L. malaisei* n. sp. C) *L. birmanica* n. sp. D) *L. elinorae* n. sp. E) *L. alfhildae* n. sp. F) *L. casanova* n. sp. G) *L. annikaae* n. sp. H) *L. pipi* n. sp.



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Fig. 1.

but small subapical pd and d. Subapical p are also present in *elinorae*, *alphilidae* and *pipi annikaae* has two basal v and *pipi* three such v.

On hind femur (f_3) there are present 1 av, 1 a, usually 1 d, 1 pd, 1 p, and 1 pv in apical or subapical position. There are 2 ad in respective positions $1/5$ and $2/5$ the length of femur from apex. Dorsally in basal half there is a row of 8—10 erect hairs.

The scales in the figures are graduated in 0.1 mm.

Lonchoptera orientalis (Kertész).

In 1914, Kertész described the new species *Musidora orientalis* on material from Formosa. The description is not in all parts as circumstantial as could be desired but the male genitalia are figured. Among the present material there are two species with male genitalia very similar to those of *L. orientalis* as figured by Kertész. One of them will be described below as *L. birmensis* n. sp., the other, represented only by one very damaged male, is most probably conspecific with *L. orientalis*. Like the species figured by Kertész, it has a central sclerite with four bristles on the ventral side of cerci, one longer bristle at the ventroapical corner of epandrium, basoventrally three distinct bristles at each side of the median line, pregonite with one bent apical spine and postgonite with a long slender apical part. There is one difference: the Burmese specimen has only one bristle at middle of the pregonite while Kertész' figure shows two strong bristles in this position. The genitalia of the present specimen are figured in fig. 2.

Material: N. E. Burma, Kambaiti, 6800 ft, 7.4.1934 1 ♂, leg. R. Malaise.

Lonchoptera birmensis n. sp.

Type locality: N. E. Burma, Kambaiti.

This species resembles *L. orientalis* Kert., especially where colour and general features of male genitalia are concerned, but in the male genitalia there are some differences. Thus it has only one strong and one small bristle ventrobasally at each side of the median line (fig. 3 B) while *orientalis* has three equally strong ones. No strong bristle at the ventroapical corner of epandrium is present in *birmensis*. The central adeagal sclerite terminates in two long processi in *birmensis*, in *orientalis* it is only slightly excavated apically. The bristles on the abdominal sternites are different (figs. 2 E and 3 F).

Description, male: Head yellow with pale bristles. Antennae yellow. Arista pale at base, darkened towards tip. Frons shining, only faintly dotted.

Thorax yellow, on mesonotum dusted and with two pale brown stripes along dorsocentral lines. Thoracic bristles pale, longer than in *L. lutea* Panz. Prescutellar hairs very small.

Legs yellow, darkened at tip, with long pale bristles.

Fore leg: ts_1 apically with 1 a and 1 v. ts_2 apically with 1 spindleshaped av. ts_3 basally with 2 long blunt ventral spines. ts_4 with an anterior sensory area. ts_5 with 1 short unsymmetrical pv spine. Proportions of tarsal segments 45:16:13:10:15 (fig. 3 G). t_1 (fig. 1 A) with 1 ad, 1 d, 3 pd, and 1 pv. f_1 in apical third with 1 av, 1 a, 2 d, 1 p, and 1 pv.

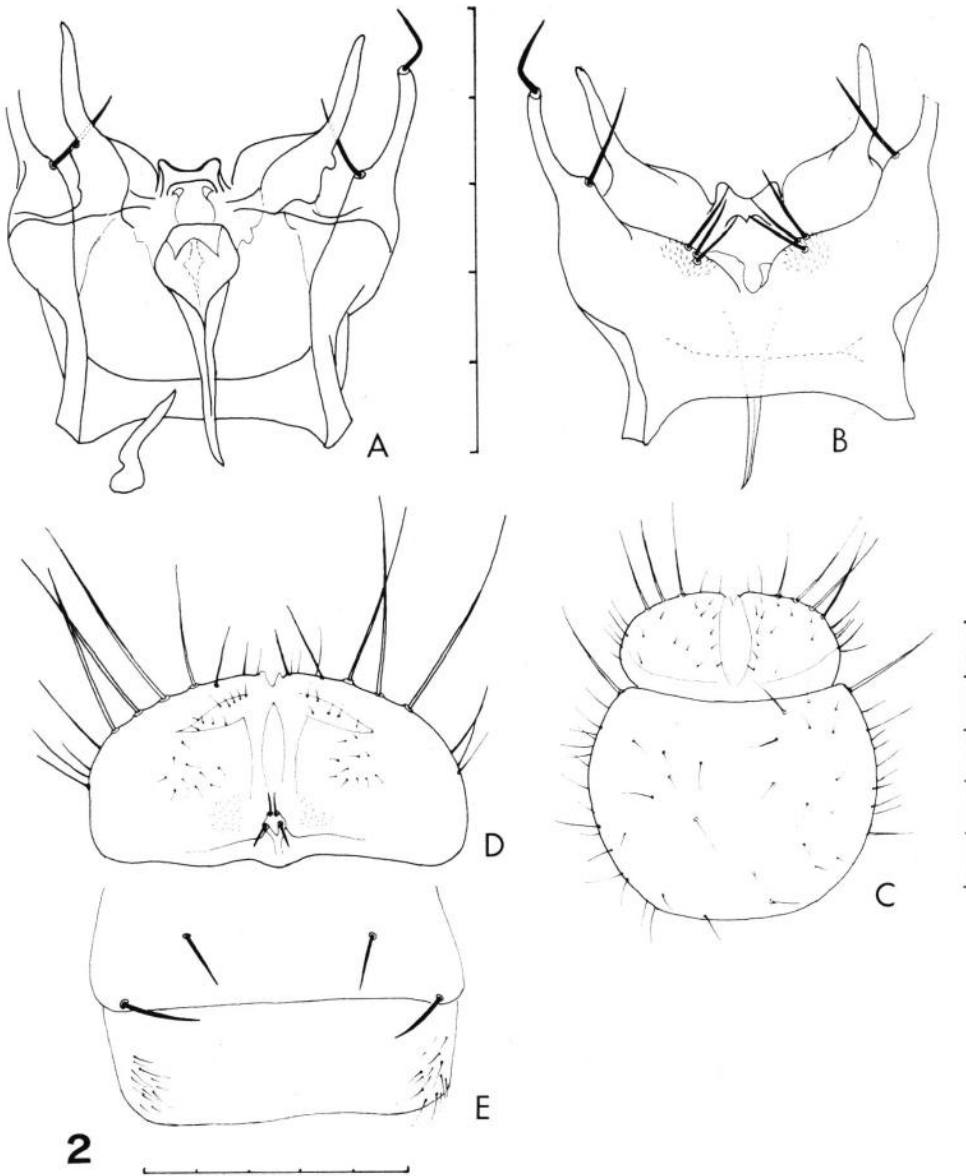


Fig. 2. *Lonchoptera orientalis* Kert., ♂ from N. E. Burma. A) Internal genitalia, dorsal view. B) Do., ventral view. C) Epandrium and cerci. D) Cerci, ventral view. E) Sternites 3—4.

Middle leg: t_2 (fig. 1 A) with 2 very long ad, 1 d, 2 pd, and 1 pv. f_2 subapically with 1 av, 1 a, 1 d, 1 pv, at middle with 1 small ad, and basally with 1 v. Proportions of tibia and tarsal segments 114 : 54 : 36 : 18 : 12 : 15.

Hind leg: t_3 (fig. 1 A) with 2 av, 2 ad, 1 d, 2 pd. f_3 subapically with 1 av, 1 a, 1 pd, 1 pv and 2 ad $1/5$ and $2/5$ respectively from apex.

Wings yellowish with pale veins. $m_{1-4} : m_{1-2} : m_2 = 5 : 5 : 9$. Wing length 3.2 mm. No special hairs on wings. Halteres pale, yellow.

Abdomen yellow, more or less brown dorsally. Sternite 3 at sides with groups of 3 bristles, sternite 4 with soft hairs (fig. 3 F). Male genitalia (fig. 3) yellow. Epandrium half-globular with rather large, broad cerci. Cerci ventrally in the middle with a spearhead-shaped sclerite with 2+2 bristles. Pregonites apically with a slightly bent spine and at middle with two unequal bristles. Postgonites narrow, tapering towards tip. Ejaculatory apodeme very small.

Body length 3 mm.

Holotype: N. E. Burma, Kambaiti, 2000 m, 12.5.1934, male, leg. R. Malaise. Paratypes: N. E. Burma, Kambaiti, 7000 ft, 1.4.1934 1 ♂, 15.4.1934 7 ♂, 17.4.1934 2 ♂, 25.5.1934 2 ♂, 8.6.1934 1 ♂; same locality, 2000 m, 19.4.1934 1 ♂, 23.4.1934 1 ♂, 12.5.1934 1 ♂, 15.5.1934 2 ♂, 16.5.1934 1 ♂, 21.5.1934 1 ♂, leg. R. Malaise. Holotype and paratypes in Naturhistoriska Riksmuseet, Stockholm. Paratypes in the author's collection.

Lonchoptera malaisei n. sp.

Type locality: N. E. Burma, Kambaiti.

Lonchoptera malaisei n. sp. is closely related to *L. orientalis* Kert. and *L. birmensis* n. sp. It has the same main arrangement of bristles on legs. Like these species it has ventrally on male cerci a median sclerite with four bristles (fig. 4 D). The main differences are that *malaisei* has shorter bristles on middle tibia, two spines instead of one at end of pregonite, broad postgonite with a lateral finger-like processus, and large ejaculatory apodeme (fig. 4).

Only one male is present in the Burmese material but another male from Formosa was sent to me by Dr. T. Saigusa under the name *L. orientalis* (Kertész).

Description, male: Head yellow. orb, oc, vti and anterior oral bristles dark. vte, posterior oral and postocular bristles pale. Antennae yellow, arista dark.

Thorax yellow with the usual small black spot behind the notopleural bristle. Thoracic bristles dark, of normal length. Prescutellars distinct.

Legs yellow, with dark bristles. Tarsi darkened at tip.

Fore leg. ts_1 subapically with 1 short v. ts_2 subapically with 1 v. ts_3 ventrobasally with 2 short blunt spines. ts_4 anteroventrally with a sensory area and in the proximal part of this area 1 very small black spine. ts_5 ventrobasally with a small tuft of sensory hairs, 3 stout, short av and 2 stout, short pv. Proportions of tarsal segments 55 : 30 : 17 : 15 : 20. t_1 (fig. 1 B) with 1 ad, 1 d, 3 pd, 1 pv and 1 small subapical ad. f_1 subapically with 1 av, 1 a, 1 d, 1 p, 1 pv and 1 d 1/4 from apex.

Middle leg. t_2 (fig. 1 B) with 2 ad, 1 d, 2 pd, and 1 pv. f_2 subapically with 1 av, 1 a, 1 d, 1 pv, at middle with 1 ad, and basally with 1 v. Proportions of tibia and tarsal segments 120 : 60 : 30 : 20 : 13 : 15.

Hind leg. t_3 (fig. 1 B) with 2 av, 2 ad, 1 d, and 2 pd. f_3 apically or subapically with 1 av, 1 a, 1 d, 1 pd, 1 p, 1 pv and 2 d 1/5 and 2/5 from apex.

Wings pale grey with yellow veins. $m_{1-4} : m_{1-2} : m_2 = 9 : 9 : 20$. Wing length 4.1 mm. Halteres yellow.

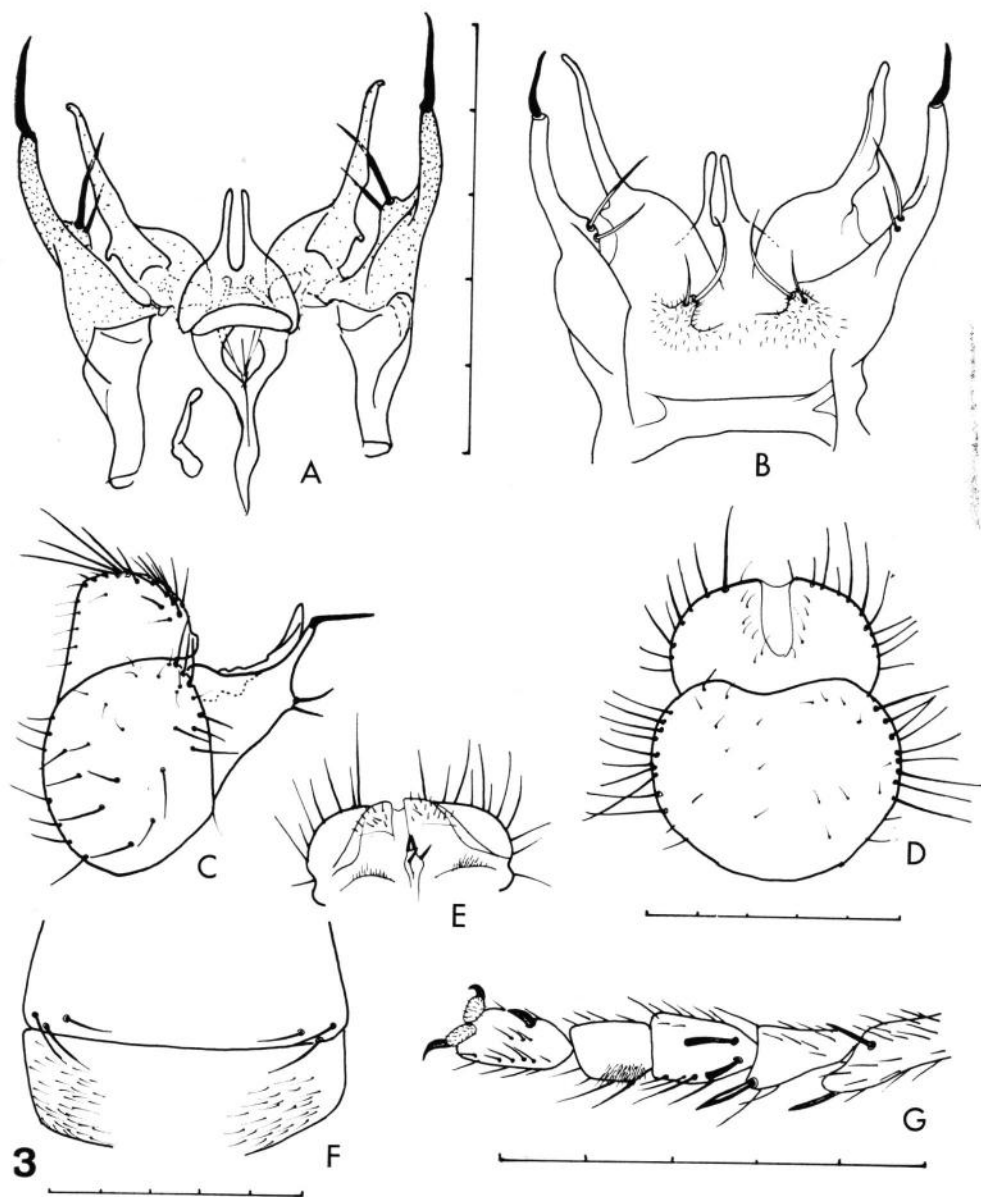


Fig. 3. *Lonchoptera birmensis* n. sp., ♂. A) Internal genitalia, dorsal view. B) Do., ventral view. C) genitalia, lateral view. D) Epandrium and cerci, dorsal view. E) Cerci, ventral view. F) Sternites 3-4. G) Left fore tarsus, ventral view.

Abdomen yellow. Sternite 3 at sides with 1 bristle. Male genitalia (fig. 4) yellow. Epandrium longer than broad, with short cerci. Cerci ventrally in median line with a sclerite with four bristles. Pregonites apically with two short spines, basally with two bristles. Postgonites broad, with a finger-shaped projection at upper outer corner. Ejaculatory apodeme large, anchor-shaped.

Body length 3.3 mm.

Holotype: N. E. Burma, Kambaiti, 7000 ft, 17.4.1934, male, leg. R. Malaise. Paratype: Taiwan, Vicinity of Taalaka anbu, ca 2700 m, Kagiken, 3.4.1967, male, leg. T. Shirozu. Holotype in Naturhistoriska Riksmuseum, Stockholm, paratype in the author's collection.

The species is named in honour of the collector, Dr. René Malaise, well known specialist in Hymenoptera Symphyta and inventor of the Malaise trap.

Lonchoptera birmanica n. sp.

Type locality: N. E. Burma, Kambaiti.

This species shows relationship with *L. elinorae* n. sp. in having only two bristles on the median sclerite of the ventral side of cerci and in having a bifide spine on tip of pregonite. Differences are found in the build of postgonites and in the bristles of middle tibia and femur. Distinctive for *birmanica* is the very long pv of t_2 and the long pv hairs of f_2 .

Description, male: Head yellow, more or less indistinctly brownish on frons and occiput. Frons dusted. fr, oc, ors, anterior and lateral oral bristles dark. vte, vti, postocular ciliation and posterior oral bristles pale. Antennae yellow, third segment small, indistinctly brownish. Arista dark.

Thorax yellow. Mesonotum indistinctly brownish. Bristles dark. Pre-scutellar hairs long.

Fore leg. ts_1 with 1 av. ts_2 with 1 distinct av that is shorter than ts_3 . ts_3 basally with 2 long blunt spines. ts_4 with an anterior sensory area. ts_5 with 2—3 ventral bristles and 3—4 stout bristles ventrally along anterior margin. t_1 (fig. 1 C) with 1 ad, 1 d, 3 pd, and 1 pv. f_1 subapically with 1 av, 1 a, 1 p, 1 pv, and 1 d 1/4 from apex.

Middle leg. t_2 (fig. 1 C) with 2 ad, 1 d, 2 pd, 1 short av, 1 very long pv. f_2 subapically with 1 av, 1 a, 1 d, 1 p, 1 pv, at middle with 1 ad and in basal half with 5 long pv hairs, the 2 proximal ones very long. Coxa apically on inner anterior corner with two strong bristles (fig. 5 C). Proportions of tibia and tarsal segments 110 : 70 : 35 : 25 : 15 : 15.

Hind leg. ts_1 apically with 1 v, basally with 1 av and 1 pv. t_3 with 2 av, 2 ad, 1 d, and 2 pd. f_3 subapically with 1 av, 1 a, 1 d, 1 pd, 1 pv and 2 ad 1/5 and 2/5 from apex.

Wings uncoloured with yellow veins. $m_{1-4} : m_{1-2} : m_2 = 28 : 25 : 47$. Wing length 3.8 mm. Halteres pale.

Abdomen brownish yellow. Sternite 2 with two bristles and sternite 3 with two spinelike bristles, bent at tip (fig. 5 E). Hypopygium pale, of medium size. Epandrium with a very long bristle at ventroapical corner. Cerci of medium size, ventrally with two spines a short distance apart. Pregonites long and slender, with a bristle near the apex and apically with a very large

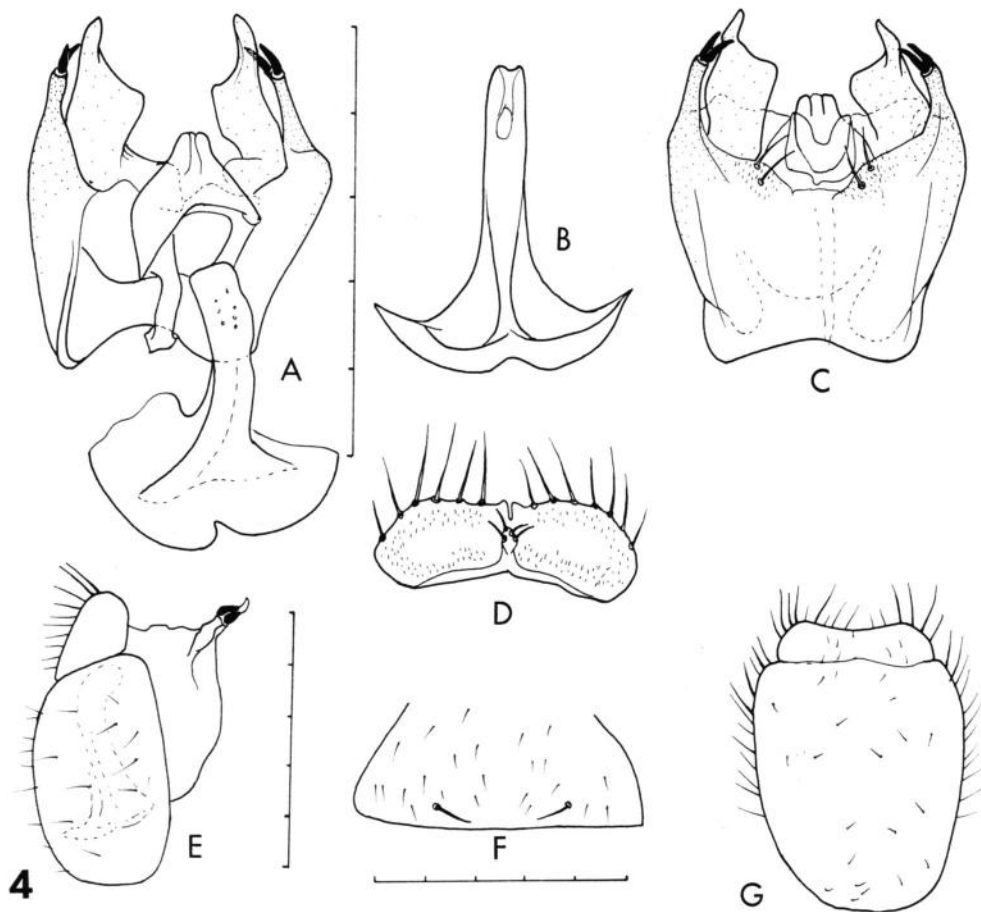


Fig. 4. *Lonchoptera malaisei* n. sp., ♂. A) Internal genitalia, dorsal view. B) Ejaculatory apodeme. C) Internal genitalia, ventral view. D) Cerci, ventral view. E) Genitalia, lateral view. F) Sternite 3. G) Epandrium and cerci, dorsal view.

bifide thorn. Postgonites very long, of irregular shape. Ejaculatory apodeme very small (fig. 5).

Body length 3 mm.

Holotype: N. E. Burma, Kambaiti, 2000 m, 28.4.1934, male, leg. R. Malaise. Paratypes: N. E. Burma, Kambaiti, 2000 m, 19.4.1934 1 ♂, 16.5.1934 1 ♂, leg. R. Malaise. Holotype and paratype in Naturhistoriska Riksmuseum, Stockholm. Paratype in the author's collection.

Lonchoptera elinorae n. sp.

Type locality: N. E. Burma, Kambaiti.

This species is related to *L. birmanica* n. sp. (cf. discussion under this species). Distinctive for *elinorae* is the absence of a subapical pv on t_2 .

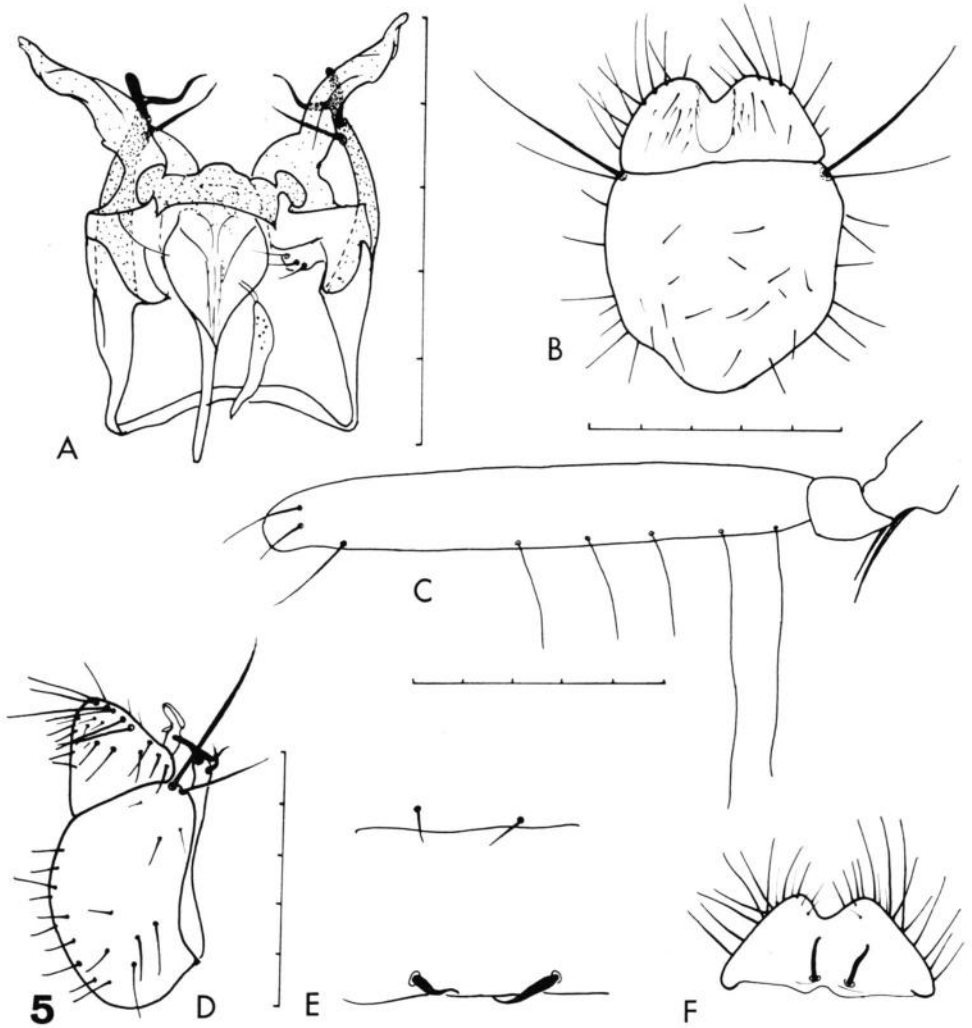


Fig. 5. *Lonchoptera birmanica* n. sp., ♂. A) Internal genitalia, dorsal view. B) Epandrium and cerci, dorsal view. C) Femur, trochanter and coxa of left middle leg, posterior view. D) Genitalia, lateral view. E) Sternites 2—3. F) Cerci, ventral view.

Description, male: Head yellow, with shining, very faintly dusted frons. orb, oc, pvt and anterior and lateral oral bristles dark. Other bristles on head pale. Antennae yellow with dark arista.

Thorax yellow, thinly dusted. Thoracic bristles dark. Prescutellars distinct. Legs yellow with dark hairs and bristles. Tarsi darkened towards tip.

Fore leg. ts_1 (fig. 6 F) with 1 apical pv. ts_2 with an anterior apical bristle. ts_3 basally with 2 short blunt spines. ts_4 with sensory area. ts_5 with 2 curved spine-like bristles. Proportions of tarsal segments 55:25:15:15:20. t_1 (fig.

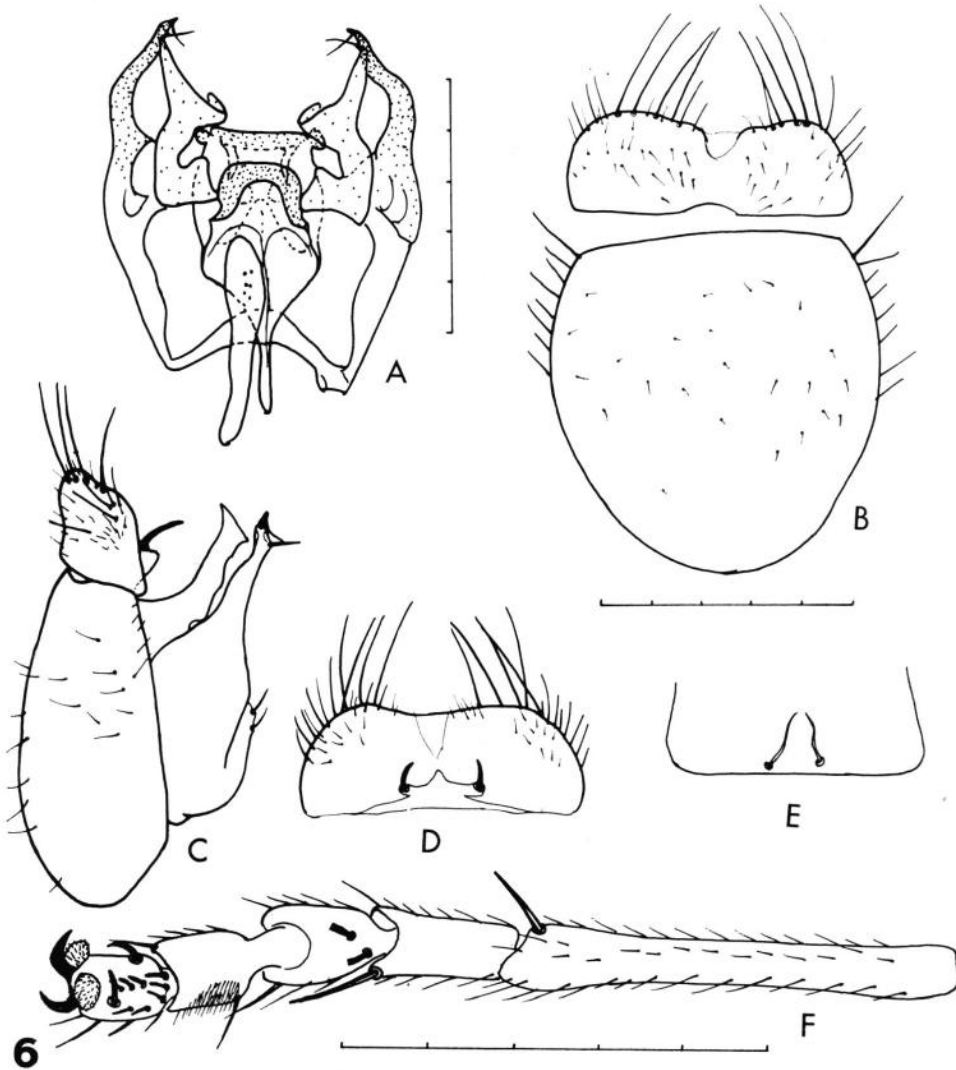


Fig. 6. *Lonchoptera elinorae* n. sp., ♂. A) Internal genitalia, dorsal view. B) Epandrium and cerci, dorsal view. C) Genitalia, lateral view. D) Cerci, ventral view. E) Sternite 3. F) Left fore tarsus, ventral view.

1 D) with 1 ad, 1 d, 3 pd, and 1 pv. f_1 subapically with 1 av, 1 a, 1 d, 1 p, 1 pv and 1 d $1/4$ from apex.

Middle leg. t_2 (fig. 1 D) with 2 long ad, 1 d, 2 pd, but no pv. f_2 subapically with 1 av, 1 a, 1 d, 1 p, 1 pv, at middle with 1 small ad and basally with 1 erect v. Proportions of tibia and tarsal segments 135 : 65 : 35 : 25 : 15 : 20.

Hind leg. t_3 (fig. 1 D) with 2 av, 2 ad, 1 d, and 2 pd. f_3 subapically with 1 av, 1 a, 1 p, 1 pv and 2 ad $1/5$ and $2/5$ from apex.

Wings pale yellowish, veins yellowbrown. $m_{1-4} : m_{1-2} : m_2 = 27 : 32 : 50$. Wing length 4.5 mm. Stem of haltere pale yellow, knob somewhat brownish yellow.

Abdomen yellow. Sternite 3 with two long curved bristles in the middle near hind margin (fig. 6 E). Postabdomen (fig. 6) pale. Epandrium rather large with short broad cerci. Cerci ventrally with a broad central sclerite with a central knob and one spine-like bristle at each side. Pregonites slender, curved, at apex with a blunt spine, which basally has a bristle-like appendix directed backwards, and with one bristle close behind the spine and with two small bristles at base. Postgonites basally curved, at apex broad, funnel-like. Ejaculatory apodeme moderately large.

Body length 3.2 mm.

Holotype: N. E. Burma, Kambaiti, 7000 ft, 17.4.1934, male, leg. R. Malaise. Paratypes: N. E. Burma, Kambaiti, 7000 ft, 8.6.1934 1 ♂, 12—17.6.1934 1 ♂, leg. R. Malaise. Holotype and paratype in Naturhistoriska Riksmuseum, Stockholm. Paratype in the author's collection.

Lonchoptera alfhildae n. sp.

Type locality: N. E. Burma, Kambaiti.

This species shows relationship with *L. casanova* n. sp. On the ventral side of cerci they both have two large lateral spines. *L. alfhildae* has a small hypopygium with long cerci while *casanova* has a very large hypopygium with short cerci.

Description, male: Head yellow with subshining frons. Bristles pale except for orb and oc. Antennae yellow with brown arista.

Thorax yellow. Mesonotum thinly dusted. Bristles dark brown. Prescutellar bristles distinct.

Legs yellow with brown hairs and bristles. Tarsi darkened at tip.

Fore leg. ts_1 with 1 subapical pv. ts_2 with a short thick spindle-shaped bristle in anterior position at apical end. ts_3 basally with two blunt curved spines. t_1 (fig. 1 E) with 1 ad, 1 d, 3 pd, and 1 pv. f_1 subapically with 1 av, 1 a, 1 d, 1 pd, 1 pv and 1 d 1/4 from apex.

Middle leg. t_2 (fig. 1 E) with 2 ad, 1 d, 2 pd, and 1 pv. f_2 subapically with 1 av, 1 a, 1 d, 1 p, 1 pv, at middle with 1 small ad, basally with 1 erect v.

Hind leg. t_3 (fig. 1 E) with 2 av, 2 ad, 1 d, 2 pd. f_3 apically or subapically with 1 av, 1 a, 1 pd, 1 p, 1 pv, and 2 ad 1/5 and 2/5 from apex.

Wings pale with pale veins. $m_{1-4} : m_{1-2} : m_2 = 23 : 22 : 50$. Wing length 3.7 mm. Halteres yellow.

Abdomen yellow. Sternite 3 with one pair of bristles (fig. 7 E). Male postabdomen pale (fig. 7). Epandrium small, relatively short. Cerci large, almost as long as epandrium. Cerci ventrally in the median line with a pair of bristles and laterally with one long spine-like bristle. Pregonites slender, with two long apical bristles. Postgonites large of complicated structure. Ejaculatory apodeme long and slender.

Body length 3 mm.

Holotype: N. E. Burma, Kambaiti, 2000 m, 11.6.1934, male, leg. R. Malaise. Paratypes: N. E. Burma, Kambaiti, 2000 m, 12.5.1934 1 ♂, 17.5.1934 1 ♂, 2.6.1934 1 ♂; same locality, 7000 ft, 1.6.1934 1 ♂, 12—17.6.1934 1 ♂,

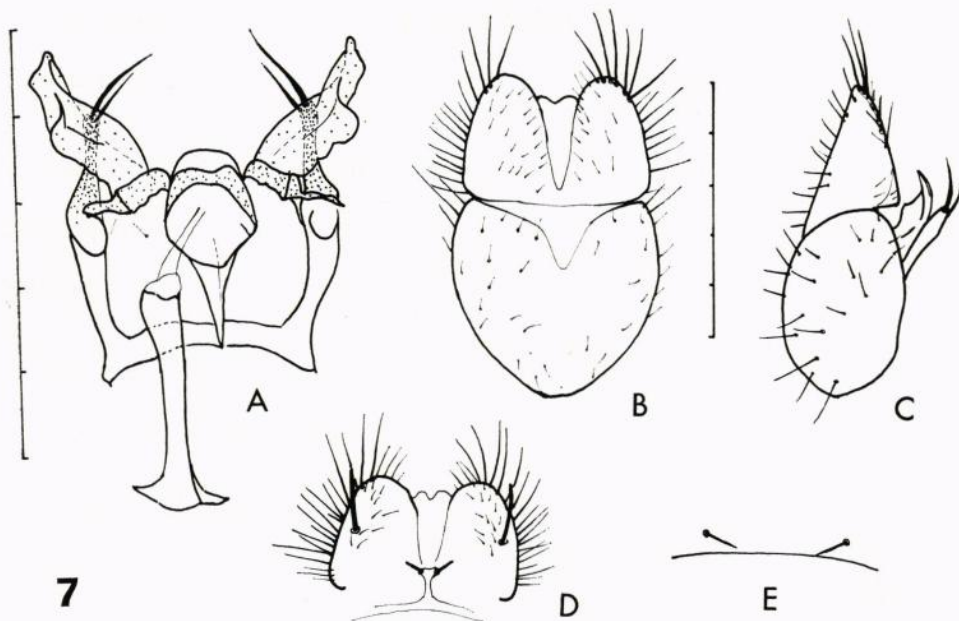


Fig. 7. *Lonchoptera alphildae* n. sp., ♂. A) Internal genitalia, dorsal view. B) Epandrium and cerci, dorsal view. C) Genitalia, lateral view. D) Cerci, ventral view. E) Sternite 3.

leg. R. Malaise. Holotype and paratypes in Naturhistoriska Riksmuseum, Stockholm. Paratypes in the author's collection.

Lonchoptera casanova n. sp.

Type locality: N. E. Burma, Kambaiti.

This species is related to *L. alphildae* n. sp. For a discussion of the relationship, see *alphildae*. *L. casanova* is characterized by an extremely large hypopygium, a very long pv on t_1 and a very long anterior bristle on ts_2 of the fore tarsus.

Description, male: Head yellow with pale bristles or with vte, oc, fr, and anterior and lateral oral bristles dark. Frons subshining, thinly dusted. Antennae yellow with pale brown arista.

Thorax dusted, yellow, sometimes with pale brown stripes along dorso-central lines. Thoracic bristles pale or in some specimens brown. Prescutellar hairs present.

Legs long, yellow with long pale bristles.

Fore leg. ts_1 (fig. 8 E) with a long pv bristle. ts_2 with a very long anterior apical bristle, ts_3 basally with two long curved blunt spines. Proportions of tarsal segments 40 : 35 : 25 : 10 : 20. t_1 (fig. 1 F) with 2 ad, 1 d, 3 pd (the middle pd almost in dorsal position), 1 very long pv. f_1 subapically with 1 av, 1 a, 1 d, 1 pd, 1 p, 1 pv and 1 a $2/5$ and 1 d $1/4$ from apex.

Middle leg. ts_1 distinctly longer than t_2 . t_2 (fig. 1 F) with 2 ad, 1 d, 2 pd,

and 1 pv. f_2 subapically with 1 d, 1 small pd, 1 small p, at middle with 1 small ad and basally with 1 v.

Hind leg. Hind tarsus longer than t_3 . t_3 (fig. 1 F) with 2 av, 2 ad, 1 d, and 2 pd. f_3 apically or subapically with 1 av, 1 a, 1 d, 1 pd, 1 p, 1 pv and with 2 ad $1/5$ and $2/5$ from apex.

Wings pale with yellow veins. $m_{1-4} : m_{1-2} : m_2 = 28 : 30 : 60$. Wing length 4.5 mm. Halteres yellow.

Abdomen yellow. Sternite 3 with one pair of strong bristles. Hypopygium (fig. 8) very large, nearly as long as preabdomen and even broader. Epanthrium large, pale. Cerci short, ventrally with one pair of short, stout bristles close together at apex of a central triangular, stalked sclerite. At each end of the base of this triangle there is one double-curved bristle. On each side of this central sclerite there is one long, stout, blunt spine. Pregonites with a curved bristle at middle and one longer bristle beneath the apex. Postgonites rather slender with a lateral knob below the middle. Ejaculatory apodeme very large, anchor-shaped.

Body length 3 mm.

Holotype: N. E. Burma, Kambaiti, 2000 m, 28.4.1934, male, leg. R. Malaise. Paratypes: N. E. Burma, Kambaiti, 2000 m, 19.4.1934 1 ♂, 23.4.1934 1 ♂, 18.5.1934 1 ♂; same locality, 6800 ft, 7.4.1934 1 ♂, 9.4.1934 1 ♂; same locality, 7000 ft, 15.4.1934 4 ♂, 17.4.1934 4 ♂, leg. R. Malaise. Holotype and paratypes in Naturhistoriska Riksmuseum, Stockholm. Paratypes in the author's collection.

Lonchoptera annikaee n. sp.

Type locality: N. E. Burma, Kambaiti.

This species shows affinities with *L. pipi* n. sp. Both species have dark brown antennae and halteres and mesonotum at least partly dark brown, both have a second pv near the middle of t_1 and the upper ad and the upper pd on t_3 more close together than other species. There are great similarities in the general structure of the male genitalia, especially in the gonites. The armament of cerci in both species is very remarkable but quite different. *L. pipi* is distinguished also by numerous additional bristles on t_2 .

Description, male: Head yellow with brownish, subshining frons. Head bristles, except lower postocular ciliation and posterior oral bristles, dark. First antennal segment brown, second and third segment dark brown to black. Arista dark.

Thorax yellow. Notopleurae brown. Mesonotum dark brown with paler stripes along the dorsocentral lines; these pale stripes unite behind the posterior dorsocentrals, forming a broad pale area anterior to the scutellum. Scutellum yellow with brown side stripes. Meso- and pteropleurae partly indistinct darkened. Bristles on thorax dark. Prescutellar bristles present.

Legs yellow, tibiae and tarsi more or less brownish. Hairs and bristles dark.

Fore leg. ts_1 with 1 short pv. ts_3 anteroventrally excavated, basally with 4 distinct, unequally long, more or less blunt spines. Proportions of tarsal segments 30:20:20:13:15. t_1 (fig. 1 G) with 1 ad, 3 pd, and 2 pv. f_1 subapically with 1 av, 1 a, 1 d, 1 p, 1 pv, and 1 a $2/5$ and 1 d $1/2$ from apex.

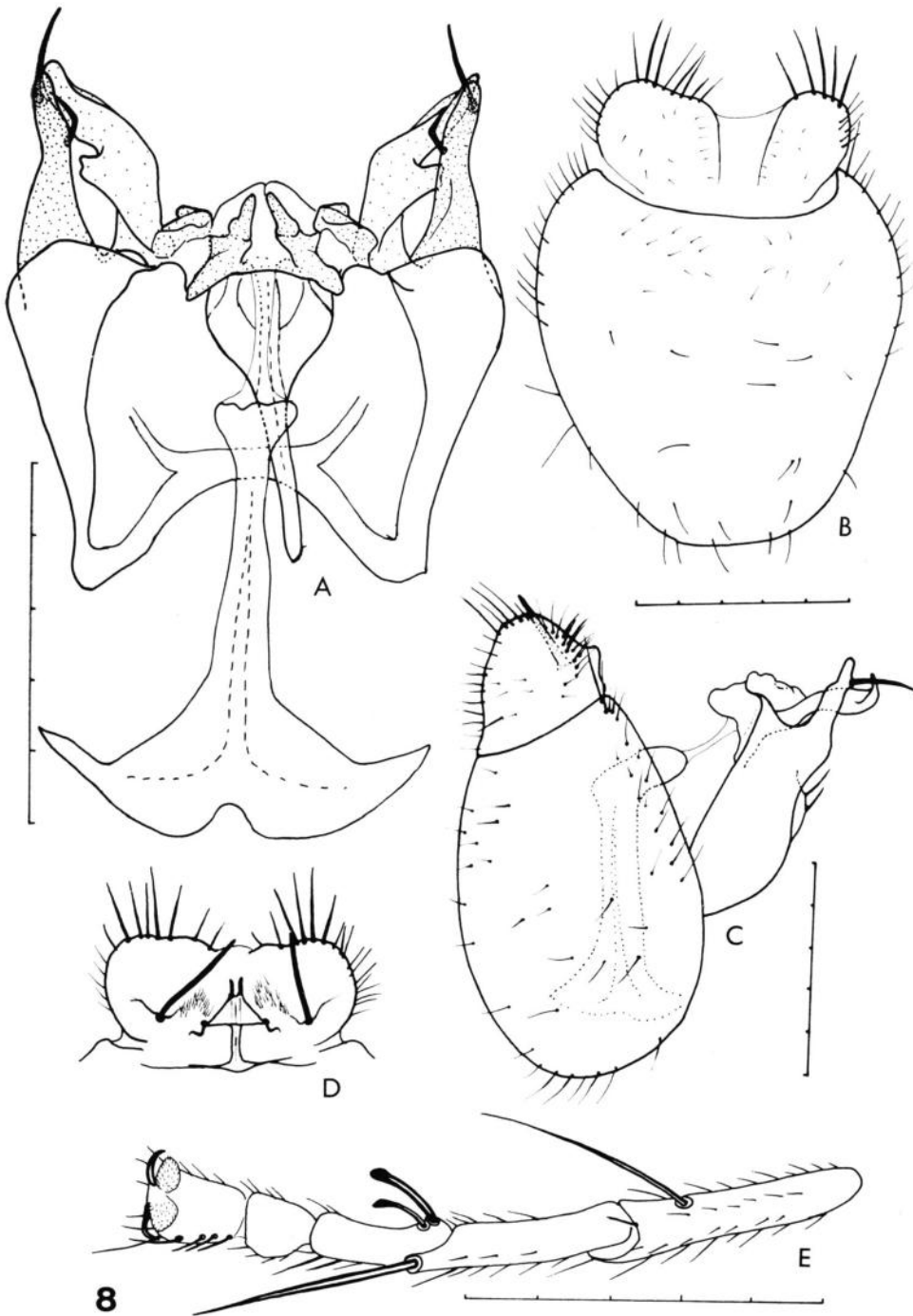


Fig. 8. *Lonchoptera casanova* n. sp., ♂. A) Internal genitalia, dorsal view. B) Epandrium and cerci, dorsal view. C) Genitalia, lateral view. D) Cerci, ventral view. E) Left fore tarsus, ventral view.

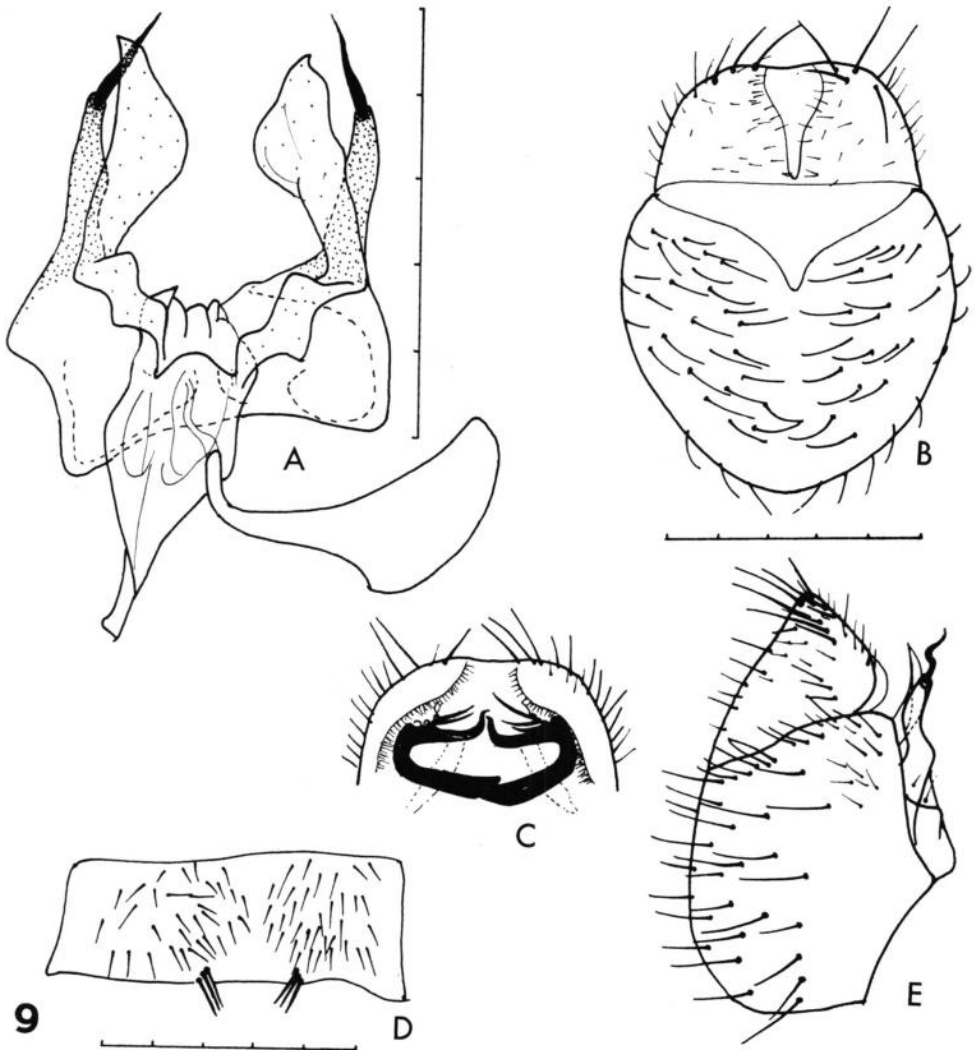


Fig. 9. *Lonchoptera annikaee* n. sp., ♂. A) Internal genitalia, dorsal view. B) Epandrium and cerci, dorsal view. C) Cerci, ventral view. D) Sternite 3. E) Genitalia, lateral view.

Middle leg. t_2 (fig. 1 G) with 1 av, 3 ad, 2 pd, and 1 pv. f_2 subapically with 1 av, 1 a, 1 d, 1 pv, at middle with 1 ad, and basally with 2 erect, hair-like v.

Hind leg. ts_1 basally with 1 v, 1 av, and subapically with 1 av. t_3 (fig. 1 G) with 2 av, 2 ad, 1 d, and 2 pd. f_3 apically or subapically with 1 av, 1 a, 1 d, 1pd, 1 p, 1 pv, and 2 ad $1/5$ and $2/5$ from apex.

Wings pale yellowish with pale brown veins. $m_{1-4} : m_{1-2} : m_2 = 25 : 27 : 50$. Wing length 3.9 mm. Halteres with pale stem and dark brown knob.

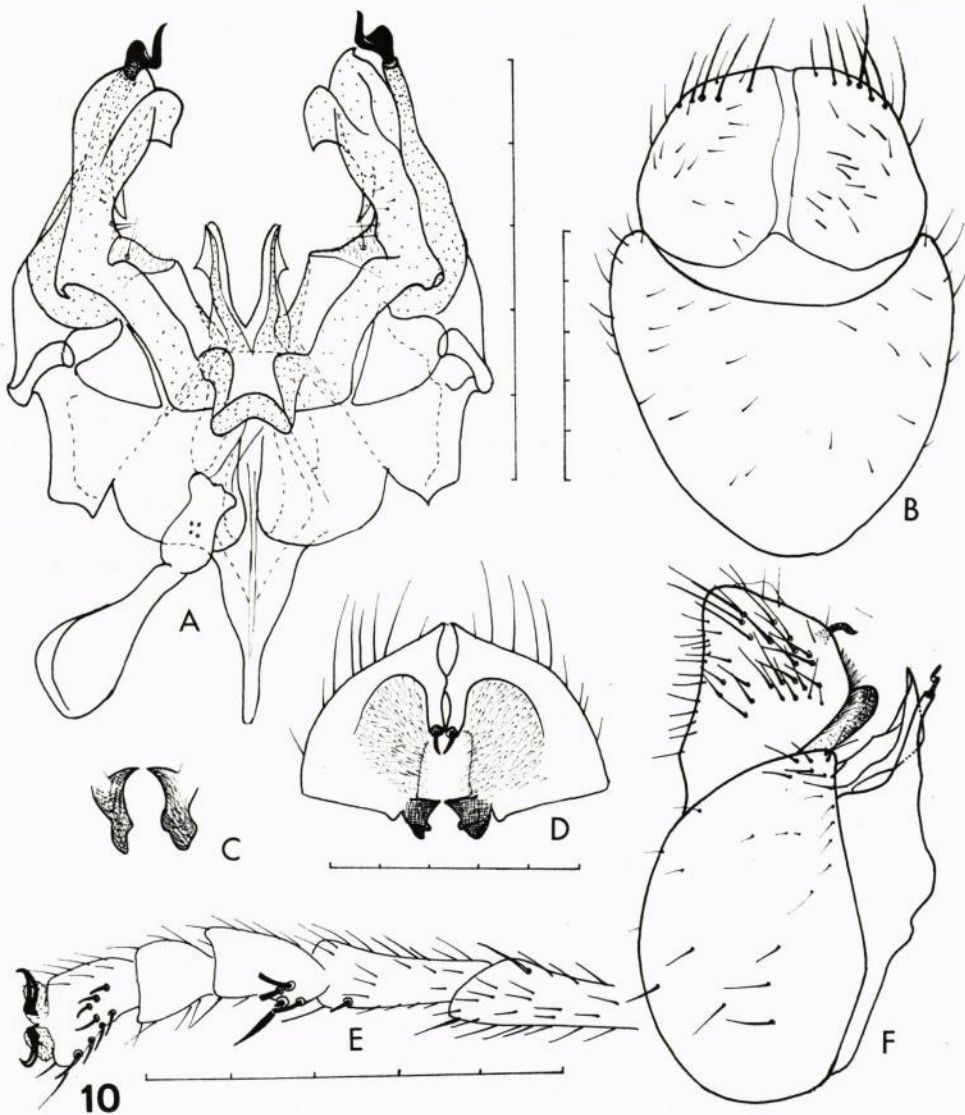


Fig. 10. *Lonchoptera pipi* n. sp., ♂. A) Internal genitalia, dorsal view. B) Epandrium and cerci, dorsal view. C) Sclerites of cerci. D) Cerci, ventral view. E) Left fore tarsus, ventral view. F) Genitalia, lateral view.

Abdomen brown. Sternite 3 hairy with two groups of three bristles (fig. 9 D). Epandrium (fig. 9) large and broad, dark brown. Cerci ventrally with a conspicuous armature: one large branched black spine, the posterior branch straight, broadening towards tip, the anterior branch is bent double and narrower at tip. Anterior of each double spine there is a group of three

distinct bristles. Pregonites slender with only one apical bristle. Postgonites large, broad, bile-like. Ejaculatory sclerite of medium size.

Body length 3.5 mm.

Holotype: N. E. Burma, Kambaiti, 7000 ft, 1.6.1934, male, leg. R. Malaise. Holotype in Naturhistoriska Riksmuseum, Stockholm.

Lonchoptera pipi n. sp.

Type locality: N. E. Burma, Kambaiti.

This species is related to *L. annikaae* n. sp. Cf. discussion of that species. *L. pipi* is characterized by the brown colour, the bristly t_2 and the distinctive male genitalia.

Description, male. Head yellow with brownish shining frons. Head bristles dark except lower postocular ciliation and posterior oral bristles. Antennae with first segment brown, second and third segments dark brown.

Thorax yellow but mesonotum brownish, especially on a broad border surrounding a paler central area between the dorsocentral lines. Bristles dark.

Legs yellow, tarsi more or less darkened. Hairs and bristles on legs dark.

Fore leg. ts_2 with one short subapical av. ts_3 with 3 curved, blunt spines and 1 longer spine-like bristle. ts_5 ventrally with 8 stout, short bristles (fig. 10 E). Proportions of tarsal segments 35 : 25 : 15 : 10 : 15. t_1 (fig. 1 H) with 1 ad, 1 d, 2 pd, and 2 pv. f_1 subapically with 1 av, 1 a, 1 d, 1 p, 1 pv, and 1 a 1/3 and 1 d 1/5 from apex.

Middle leg. t_2 (fig. 1 H) has in addition to the usual bristles, some of which are very long, a number of special bristles in apical third. f_2 subapically with 1 av, 1 a, 1 d, 1 p, 1 pv, at middle with 1 small ad and basally with 3 v. Proportions of tibia and tarsal segments 42 : 17 : 17 : 13 : 5 : 6.

Hind leg. t_3 (fig. 1 H) with 2 av, 2 ad, 1 d, 2 pd. f_3 apically or subapically with 1 av, 1 a, 1 d, 1 pv, and 2 ad 1/5 and 2/5 from apex.

Wings pale yellow-brown, with brown veins. $m_{1-4} : m_{1-2} : m_2 = 25 : 30 : 60$. Wing length 4.1 mm. Halteres with yellow stem and brown knob.

Abdomen yellow, more or less indistinctly brown, especially at base. Hypopygium (fig. 10) rather large. Epandrium relatively short and broad, dark brown. Cerci large, yellow, ventrally with large hairy areas. From their apical ends two cylindrical projections run backwards, each ending with a spinelike bristle. Cerci basally with a pair of large, black, beak-like sclerites. Pregonites slender, ending in curved spine which basally has a large, flat lateral bump. Postgonites large of complex structure. Ejaculatory sclerite of medium size.

Body length 3.5 mm.

Holotype: N. E. Burma, Kambaiti, 2000 m, 1.6.1934, male, leg. R. Malaise. Paratypes: N. E. Burma, Kambaiti, 15.4.1934 1 ♂; same locality, 2000 m, 16.5.1934 1 ♂, 21.5.1934 1 ♂; same locality, 7000 ft, 15.4.1934 1 ♂, 12—17.4.1934 8 ♂, 25.5.1934 1 ♂, 4.6.1934 1 ♂, leg. R. Malaise. Holotypes and paratypes in Naturhistoriska Riksmuseum, Stockholm. Paratypes in the author's collection.

This species is named in honour of Mr. P. I. Persson, curator of the Diptera collection at Naturhistoriska Riksmuseum, Stockholm, who has always carried out careful and unselfish work to make the large collections of this museum available for specialist study.

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