

The Chinese *Clitellaria* (Diptera: Stratiomyidae)

Ding YANG^{1),2)} and Akira NAGATOMI¹⁾

Abstract

The Chinese species of *Clitellaria* (= *Taurocera* syn. n.) are revised. Nine species are described or redescribed and a key to these is presented. The following 7 species are described as new to science: *chikuni*, *crassistilus*, *flavipilosa*, *kunmingana*, *longipilosa*, *mediflava*, and *nigra*.

Key words: Taxonomy, Orthorrhaphous Brachycera, *Clitellaria*, 7 new species, China

Introduction

Nine species of the genus *Clitellaria* (= *Taurocera*) have hitherto been known from the world and they are distributed as follows: *ephippium* (F.) and *pontica* (LINDNER) (Europe); *bergeri* (PLESKE) (Siberia and China); *orientalis* (LINDNER) (China); *obtusa* (JAMES) (Japan); *aurofasciata* (BRUNETTI) (Laos); *ignifera* (BRUNETTI) (Burma, India); *stylata* (BRUNETTI) (India); *bilineata* (F.) (India, Java, Malaya, Sumatra, Thailand, Moluccas [Gilolo]). In this paper, 7 new species are described and a key to the 9 species of *Clitellaria* now known from China is presented.

The important papers and lists of species on the genus *Clitellaria* (= *Taurocera*) are as follows: BRUNETTI (1920, 1923, 1924); JAMES (1941, 1975); LINDNER (1936–38, 1951); NAGATOMI (1977); ROZKOŠNÝ (1983); ROZKOŠNÝ and NARTSHUK (1988).

A world revision of *Clitellaria* is not being made now, because we have not seen specimens of several species. However, we wish to include them from the literature in our future paper where the description of the female terminalia of the Chinese species will be included.

All of the holotypes and most of the paratypes are deposited in Beijing Agricultural University, Beijing, China and some paratypes are preserved in Kagoshima University, Kagoshima, Japan.

1) Entomological Laboratory, Faculty of Agriculture, Kagoshima University, Kagoshima 890, Japan

2) Permanent address: Department of Plant Protection, Beijing Agricultural University, Beijing 100094, P. R. China

Genus *Clitellaria* MEIGEN

Clitellaria MEIGEN, 1803, Mag. Insektenk., 2: 265. Type species: *Stratiomys ephippium* FABRICIUS, 1775.

Taurocera LINDNER, 1936, Mitt. K. naturw. Inst. Sofia, 9: 91. Type species: *Taurocera pontica* LINDNER, 1936. **Syn. n.**

For synonyms of *Clitellaria*, see ROZKOŠNÝ and NARTSHUK (1988).

For generic characters of *Clitellaria*, see ROZKOŠNÝ (1983: 11–12, 166). An abridged diagnosis is given below.

Male. Eyes contiguous and densely pilose; frontal triangle with a median longitudinal groove; upper face gently or more strongly convex; lower facets smaller than upper facets, but dividing line between them absent or indistinct; antennal scape as long as or longer than pedicel, and scape + pedicel much shorter than flagellum; basal segment of flagellum (antennal segment 3) consisting of 3 + 1 (or 3 + 2) subsegments (the divisions are not always clear) and apical segments of flagellum, 3 in number (of 3 segments, proximal one is often short and may be easily overlooked); [correctly speaking, antennal segments 3–5 are loosely fused with one another]; palpus well developed and 2-segmented; proboscis fleshy and short. Mesonotum with one lateral spine-like thick process above each wing base; scutellum with two spine-like processes. Marginal cell parallel-sided or convergent apically.

Female. Eyes widely separated; frons distinctly or somewhat wider towards antennae and with a longitudinal groove from median ocellus to antennae; wide postocular rim present.

For characters distinguishing *Clitellaria* from *Nigritomyia*, see NAGATOMI (1977). The diagnosis of *Nigritomyia* will be discussed again in our forthcoming paper.

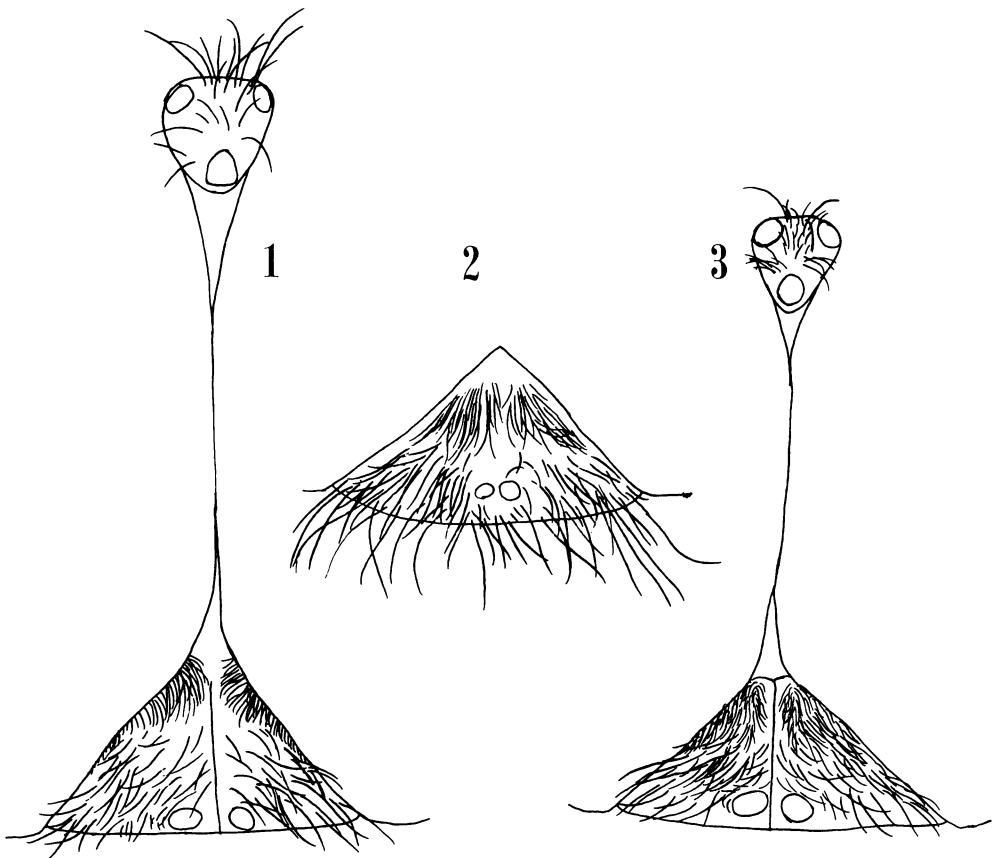
Taurocera may possibly be separated from *Clitellaria* by having a thick blunt apical style on the antennal flagellum. However, the thickness of the apical style is not clear-cut in the degree of development between “*Taurocera*” and *Clitellaria* and is not a reliable character in generic diagnosis.

Judging from fig. 4 in BRUNETTI (1924), *Clitellaria aurofasciata* (BRUNETTI, 1924) (from Laos) has the female frons narrow and narrower towards the antennae. It is uncertain therefore whether or not *aurofasciata* is a true *Clitellaria*.

Key (1) to species of the Chinese *Clitellaria*

1. Spines on scutellum in the same plane as the mesonotum and scutellum 2
- Spines on scutellum strongly directed upward. China and Siberia *bergeri*
- 2(1). Apical style of antennal flagellum thick (Figs. 33, 69) 3
- Apical style of antennal flagellum thin (Figs. 15, 24, 25, 36, 44, 47, 56, 59, 60) 4
- 3(2). Last three segments of antennal flagellum densely covered with short black hairs *orientalis*
- Antennal flagellum white tomentose *crassistilus* (♂ unknown)
- 4(2). Antennal flagellum (except last two segments) twice or not more than 2.5

- times as long as wide (Figs. 25, 56, 59, 60) in lateral view 5
- Antennal flagellum (except last two segments) 3 times or more as long as wide (Figs. 15, 24, 36, 44, 47) in lateral view 7
- 5(4). Spines on scutellum black or largely so 6
- 6(5). Spines on scutellum yellowish brown or largely so; see couplet 7 *chikuni*
- 6(5). Abdominal tergite 5 with three well marked short white recumbent pilose patches, i.e., mid-posterior and mid-lateral ones; wing membrane (except stigma and area above it) paler than in *nigra*; antennal flagellum (except last three segments) yellowish brown *mediflava* (♂ unknown)
- Abdominal tergite 5 largely or almost wholly short white recumbent pilose in both sexes; wing membrane more strongly tinged with dark brown than in *mediflava*; antennal flagellum dark brown to black but often brown to reddish brown (except last three segments) *nigra*
- 7(4). At least mid tarsomere 1 yellowish brown 8
- Legs (except knee and apex of trochanter) dark brown to black; see couplet 5 *chikuni*



Figs. 1-3. Male frontal triangle and ocellar triangle of *Clitellaria*, from a direct frontal view (distance between antennae and median ocellus is kept horizontal). 1, *bergeri*; 2, *flavipilosa* (ocellar triangle is omitted); 3, *chikuni*.

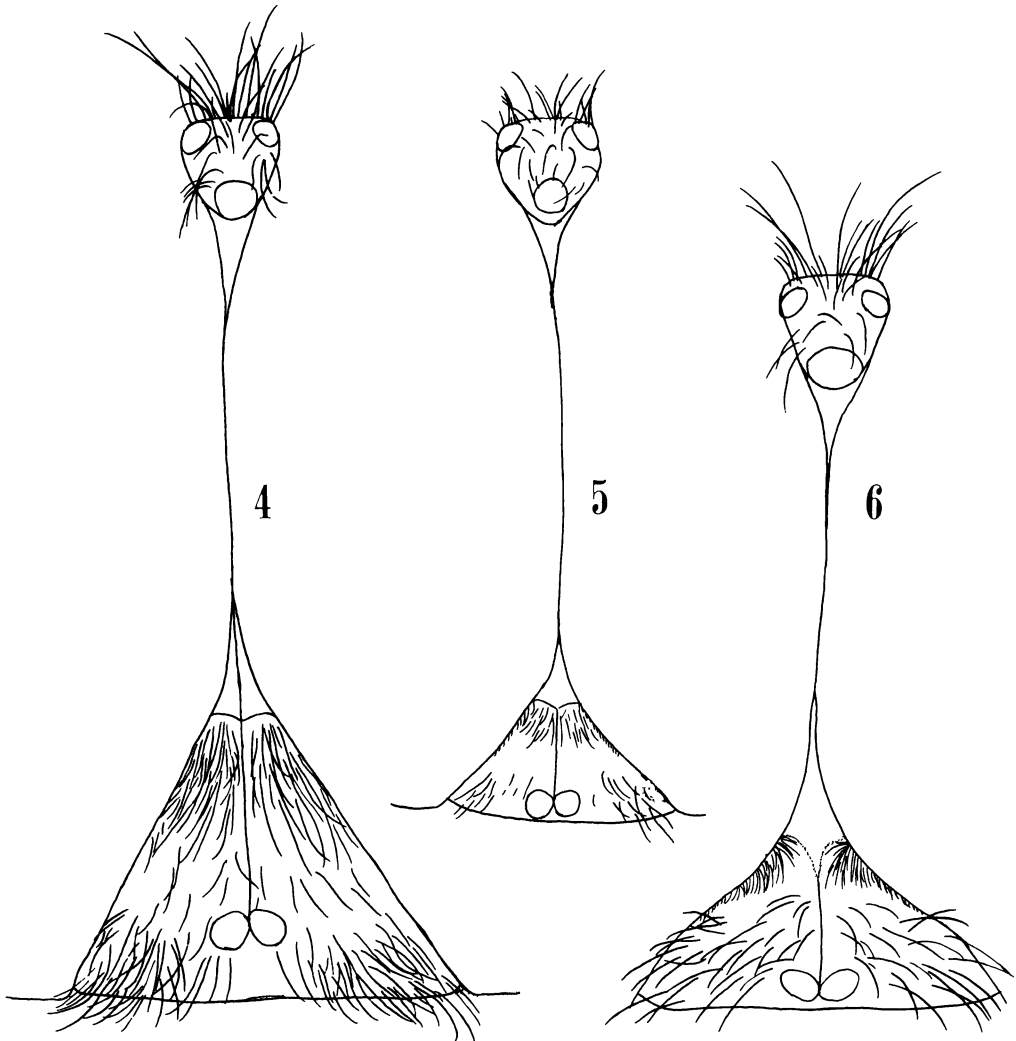
- 8(7). Fore tarsomere 1 and spines on scutellum yellowish brown..... 9
 — Fore tarsomere 1 and spines on scutellum black *kunmingana* (♂ unknown)
- 9(8). Apical style of antennal flagellum much less than 1/2 as long as rest of flagellum; antennal segment 1 distinctly longer than segment 2; male upper face, frontal triangle, mesonotum and scutellum with longer erect black hairs; antenna wholly dark brown to black (apices of segments 1–2 in female yellowish [or reddish] brown) *longipilosa*
 — Apical style of antennal flagellum about 1/2 as long as rest of flagellum; antennal segment 1 about as long as segment 2; upper face and frontal triangle pale or pale yellow pilose; mesonotum and scutellum with golden yellow longer erect pilosity; antennal segments 1–2 (except base of segment 1) and flagellum (except last 2 segments) yellowish (or reddish) brown
 *flavipilosa* (♀ unknown)

Key (2) to 6 species of the Chinese *Clitellaria* based on male frontal triangle

1. Pile on upper portion longer and not tomentose 2
 — Pile short and tomentose at least on uppermost part 3
- 2(1). Pile on upper portion rather recumbent; hairs on lower portion black, erect, and longer than pile on upper portion *longipilosa*
 — Pile on upper portion suberect and inclined toward antennae; hairs on lower portion pale and erect *flavipilosa*
- 3(1). Hairs on lower portion longer and entirely or chiefly black 4
 — Hairs on lower portion pale, short and sparse *nigra*
- 4(3). Not as below 5
 — Tomentum-like pale pile becoming partly longer, suberect or erect, and black hairs on lower portion becoming pale at sides *chikuni*
- 5(4). Hairs on lower portion shorter than in *orientalis* *bergeri*
 — Hairs on lower portion longer than in *bergeri* *orientalis*

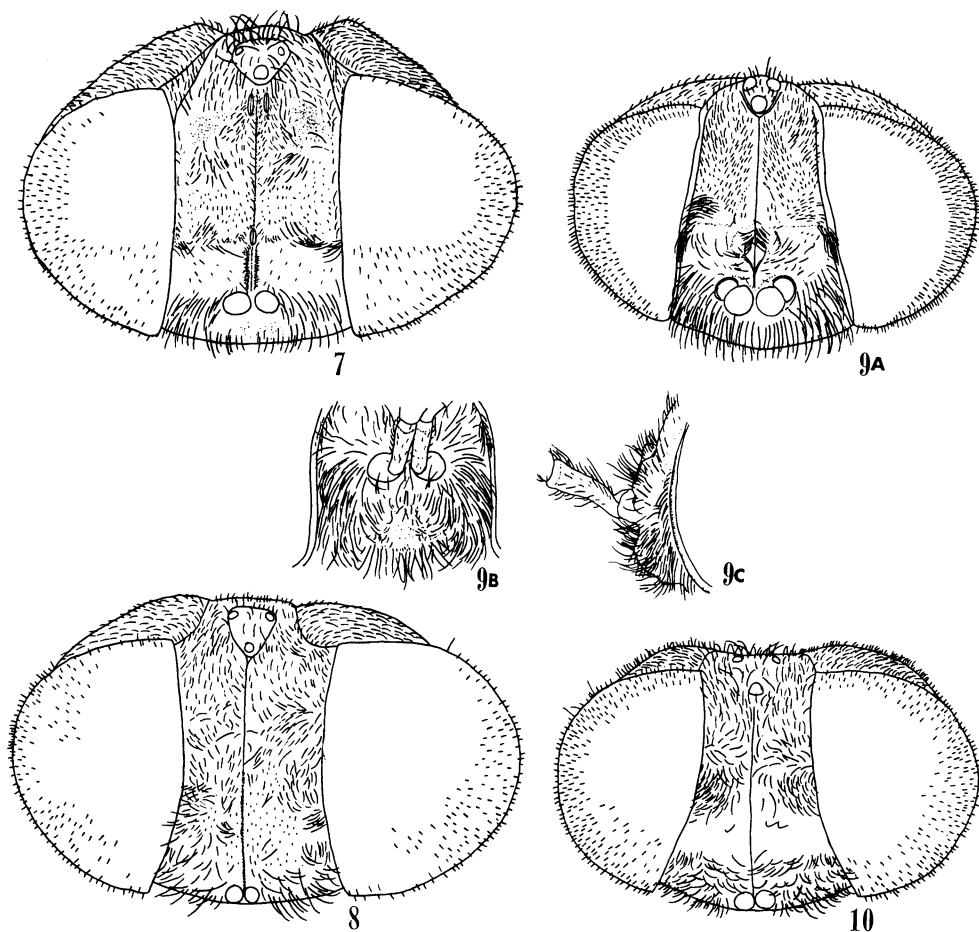
Key (3) to 8 species of the Chinese *Clitellaria* based on female frons

1. Frons just above antennae distinctly narrower than an eye (Figs. 12–13) 2
 — Frons just above antennae roughly as wide as or wider than an eye (Figs. 7–10, 11, 14) 3
- 2(1). Median longitudinal low ridge present somewhat below median ocellus ... *mediflava*
 — Not as above; see couplet 8 *nigra*
- 3(1). Frons markedly wider below (Figs. 9–11); pile on frons golden yellow or white 4
 — Frons more or less wider below or more gradually wider toward antennae (Figs. 7–8, 12–14) 6
- 4(3). Rounded knob absent along antenna; usually bare transverse band present



Figs. 4-6. Male frontal triangle and ocellar triangle of *Clitellaria*, from a direct frontal view (distance between antennae and median ocellus is kept horizontal), 4, *longipilosa*; 5, *nigra*; 6, *orientalis*.

- above antennae and extending to lateral margin 5
- A rounded knob present along dorso-lateral part of antennae; a bare rather triangular spot present above the somewhat raised lower portion (the presence, absence or extent of bare spot may vary with individual or condition of specimens); pile on frons white *crassistilus*
- 5(4). Bare band wide; pile on frons chiefly golden yellow *kunmingana*
- Bare band narrow or often disappearing (according to condition of specimens); pile on frons chiefly white *longipilosa*
- 6(3). Hairs on frons chiefly or partly black; lower frons more raised 7
- Hairs on frons golden yellow or white; lower frons less raised 8
- 7(6). Paired low ridges present below median ocellus (besides single median low

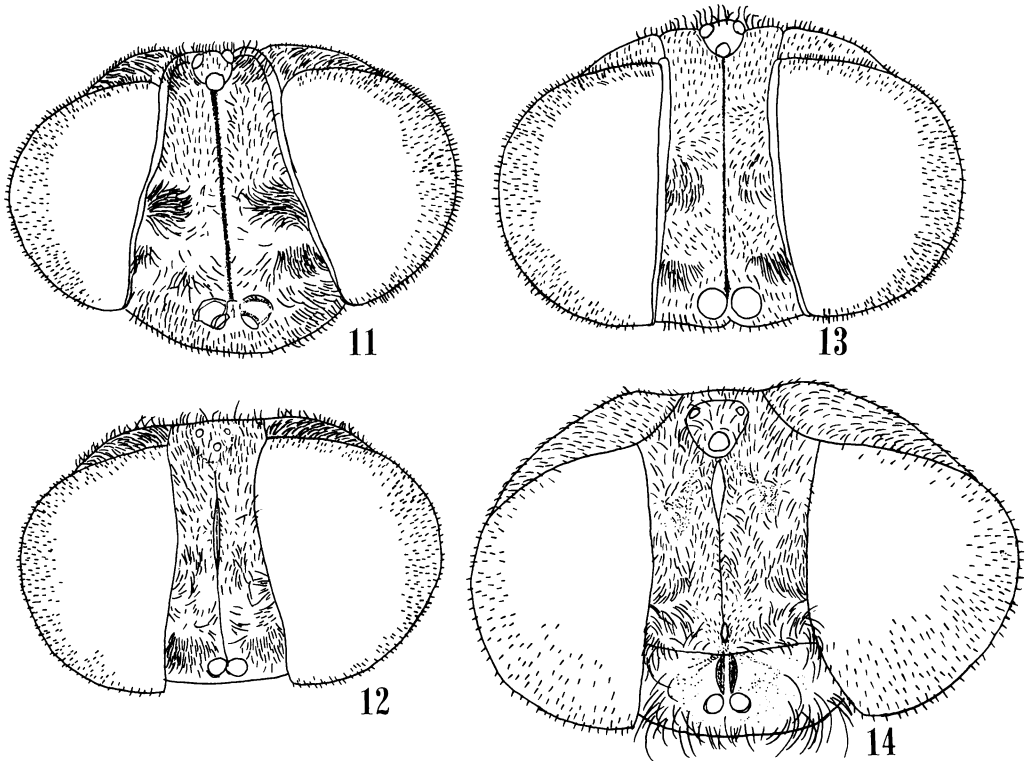


Figs. 7-10. Female head of *Clitellaria*, from a direct frontal view. 7, *bergeri*; 8, *chikuni*; 9, *crassistilus* (B, base of antenna and area near it, anterior view; C, ditto, lateral view); 10, *kunmingana*.

- ridge above raised lower portion)*bergeri*
- Single low ridge present below median ocellus (besides single median low ridge above raised lower portion)*orientalis*
- 8(6). Pile on frons white; denser recumbent pilose lateral patch present near antenna; see couplet 2.....*nigra*
- Pile on frons yellow *chikuni*

Key (4) to 6 species of the Chinese *Clitellaria* based on male genitalia

- 1. Aedeagal complex widest at base (Figs. 42, 66) 2
- Aedeagal complex widest at middle (Figs. 21, 31, 53, 75) 3
- 2(1). Median concavity at posterior margin of dorsal bridge deeper; gonocoxal apodeme shorter; Figs. 63-68*nigra*
- Median cocavity at posterior margin of dorsal bridge shallow; gonocoxal



Figs. 11-14. Female head of *Clitellaria*, from a direct frontal view. 11, *longipilosa*; 12, *mediflava*; 13, *nigra*; 14, *orientalis*.

- apodeme longer; Figs. 39-43 *flavipilosa*
- 3(1). Mid length of tergite 9 long; fused gonocoxites shorter than in *chikuni* 4
- Mid length of tergite 9 short; fused gonocoxites markedly long; Figs. 28-32
..... *chikuni*
- 4(3). Dorsal bridge present; paired posterior processes on dorsal bridge large and
wide 5
- Dorsal bridge absent; dorso-inner posterior processes on gonocoxite small
and thin; Figs. 50-55 *longipilosa*
- 5(4). Paired posterior processes on dorsal bridge wider; aedeagal complex more
slender in dorsal view and its base quadrate in lateral view; Figs. 72-77 ...*orientalis*
- Paired posterior processes on dorsal bridge narrower; aedeagal complex
more robust in dorsal view and its base rectangular in lateral view; Figs. 18-
23.....*bergeri*

Male frontal triangle and female frons

The male frontal triangle and female frons have the specific characters as shown in the keys (2) and (3) and they are here described separately for each species in order to emphasize

them.

C. bergeri. Male frontal triangle (Fig. 1): With white tomentum-like pilose patch at upper portion and with erect, rather long black hairs which are absent on upper portion and which are shorter than in *orientalis*.

Female frons (Fig. 7): More or less wider below; with black hairs which become white at dorso-lateral parts of somewhat raised lower portion; pile on upper part of frons chiefly pale; for further particulars, see key (3) (couplet 6).

C. chikuni. Male frontal triangle (Fig. 3): With longer erect black hairs which become pale on sides and tomentum-like on uppermost portion (tomentum-like pilose patch is interrupted by mid groove).

Female frons (Fig. 8): More or less wider below; with golden yellow or pale yellow pile and without bare band.

C. crassistilus. Female frons (Fig. 9): Markedly wider below; with a rounded knob along dorso-lateral part of antennal segment 1; with a bare triangular median spot above raised lower portion; with white hairs and with denser recumbent pilose lateral patches at and above dorso-lateral parts of somewhat raised lower portion.

C. flavipilosa. Male frontal triangle (Fig. 2): With longer sparse pale pile which becomes denser and is inclined towards antennae on upper portion.

C. kunmingana. Female frons (Fig. 10): Markedly wider below; with white hairs; with wide transverse bare band extending to lateral margin; with denser recumbent pilose lateral patches above and below bare band (lower patches are smaller in area than the upper).

C. longipilosa. Male frontal triangle (Fig. 4): White recumbent pilose on upper portion and erect longer black haired on lower portion.

Female frons (Fig. 11): Markedly wider below; with golden yellow hairs which become white on the slightly raised lower portion; with denser recumbent pilose lateral 4 patches above antennae and near middle of frons; with a narrow transverse bare band extending to lateral margin just above slightly raised lower portion (this band may often disappear according to the condition of specimen), and with median groove comparatively wide and deep.

C. mediflava. Female frons (Fig. 12): Frons just above antennae distinctly narrower than an eye; frons with white hairs which become partly black on upper portion and which may be largely or partly recumbent except for upper portion (the condition of the only specimen, the holotype, is not good); frons with a longitudinal median low ridge somewhat below median ocellus.

C. nigra. Male frontal triangle (Fig. 5): With white tomentum-like pilose patch at upper portion and with short sparse pale pile which is absent on upper portion.

Female frons (Fig. 13): More or less wider below; very often distinctly narrower than an eye; with white hairs and with denser recumbent lateral patches near antennae.

C. orientalis. Male frontal triangle (Fig. 6): With white tomentum-like pilose patch at upper portion and with erect rather long black hairs which are absent on upper portion and which are longer than in *bergeri*.

Female frons (Fig. 14): More or less wider below; with white pile and with denser

recumbent pilose lateral 4 patches near antennae and near middle; with black hairs on raised lower portion and between upper and lower recumbent white pilose patches; for median low ridge, see key (3) (couplet 6).

***Clitellaria bergeri* (PLESKE)**

(Figs. 1, 7, 15–23)

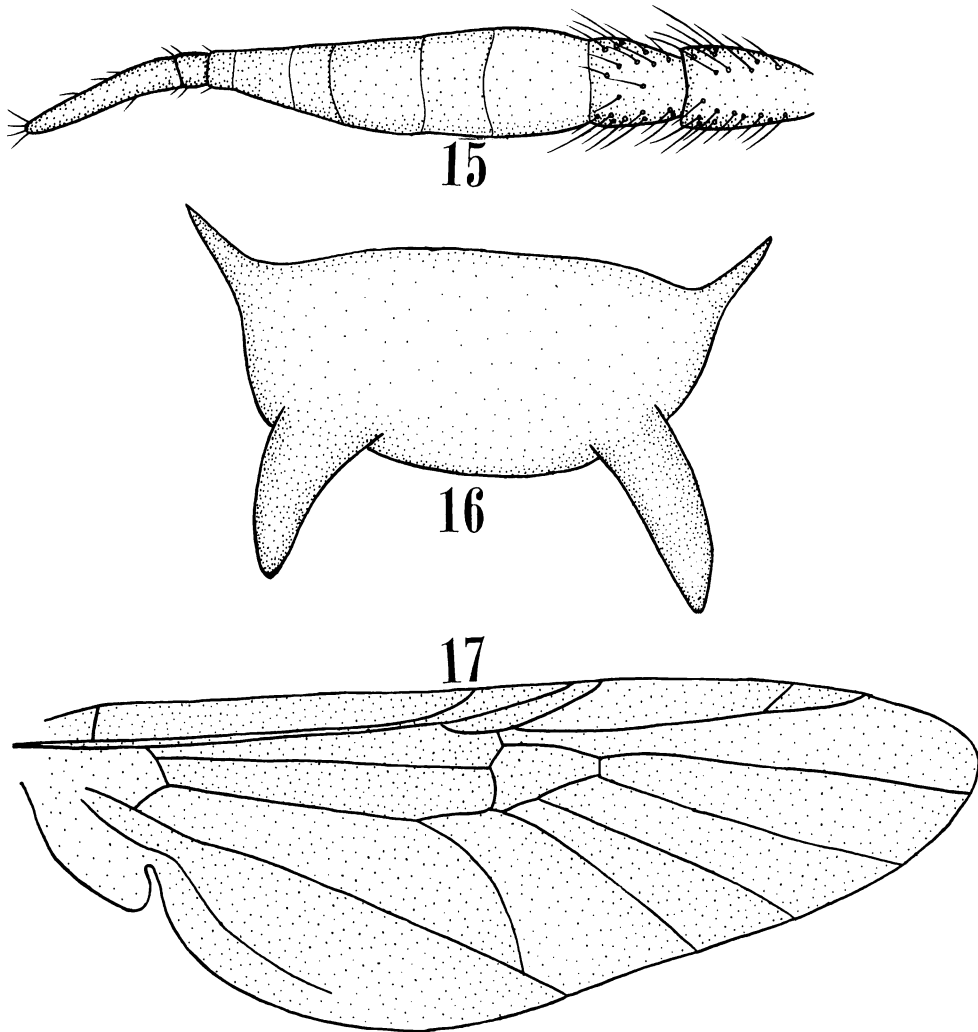
Potamida bergeri PLESKE, 1925, *Encycl. ent.* (B II) Dipt., 1: 108. Type locality: "Sedanka; Tschernigovka" (USSR: Maritime Territory).

The specimens described below are identified as *bergeri*, but the examination of the type specimen or a specimen from the type locality is very necessary for conclusive determination. *C. bergeri* was recorded from China by LINDNER (1936–1938) and by JAMES (1941).

Besides the feature in the key (1) (couplet 1), *bergeri* (♂, ♀) is characterized as follows: Spines on scutellum conspicuously thick and conical; body wholly black (except haltere knob which is creamy yellow or creamy white); hairs on body wholly black (except pale pile on proboscis, short recumbent white pilose stripes on mesonotum, some white pile on abdomen, upper face, and female frons); wing membrane strongly tinged with dark brown; apical style of antenna much less than 1/2 as long as rest of flagellum; antenna longer than distance from antennae to median ocellus.

Male. Body length 8.8–11.9 mm, wing length 8.3–10.6 mm. Head black; hairs on head black, but face just below antennae with a pair of tufts of pale pile and upper frons with recumbent short pale pile; frons and face with narrow pale grey pollinosity along eye margin. Eyes with dense black hairs. Head 1.4 times higher than long; contiguous portion of eyes 1.6–1.7 times as long as ocellar triangle; width of one eye on a mid line from a direct frontal view 1.0–1.1 times distance between antennae and median ocellus, 2.0–2.1 times width of frons just above antennae and 1.1–1.2 times width of face at lowest point from a direct frontal view; width of frons just above antennae 2.4–2.5 times as wide as ocellar triangle, 0.5–0.6 times distance between antennae and median ocellus, and 0.5–0.6 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 1.1–1.2 times that between antennae and median ocellus. Antenna black; scape and pedicel black haired, flagellum pale grey pollinose with sparse and short black hairs on apical portion; apical style shorter, 0.3–0.35 times as long as rest of flagellum; antennal ratio *c.* 1:0.7:4.1. Total length of antenna 1.1–1.2 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.24–0.26 times as wide as long (N=5). Proboscis blackish with pale hairs; palpus blackish with black hairs, segment 2, 1.5 times as long as segment 1. Data based on 3 individuals.

Thorax blackish, but humeri, postalar calli and apex of spines on mesonotum and scutellum usually reddish brown. Hairs on thorax black, mesonotum with one pair of pale longitudinal hair stripes. Lateral spine on mesonotum acute and thickened; spines on



Figs. 15–17. *Clitellaria bergeri* (PLESKE), male. 15, Antenna, outer view; 16, scutellum, dorsal view; 17, wing.

scutellum very thick, conical, nearly as long as scutellum, and directed postero-dorsally or nearly vertically. Legs wholly blackish, with black hairs. Wing dark brown; veins brown to dark brown. Haltere creamy yellow with stem brownish.

Abdomen blackish with pale and black recumbent hairs which are erect and somewhat longer on sides of tergites 1–2. Male genitalia (Figs. 18–23): Dorsal bridge with two larger processes; gonocoxal apodemes convergent basally; aedeagal complex widest medially; median process of fused gonocoxites with W-shaped concavity.

Female. Body length 9.7–9.8 mm, wing length 9.8–10.2 mm. Similar to male except as follows: Hairs on head and its appendages black but white or pale on the following parts: raised lateral spots just below antennae; raised lateral spots above antennae (at widest part of frons); paired spots separated from eye margins at middle of frons; postocular rim; proboscis.

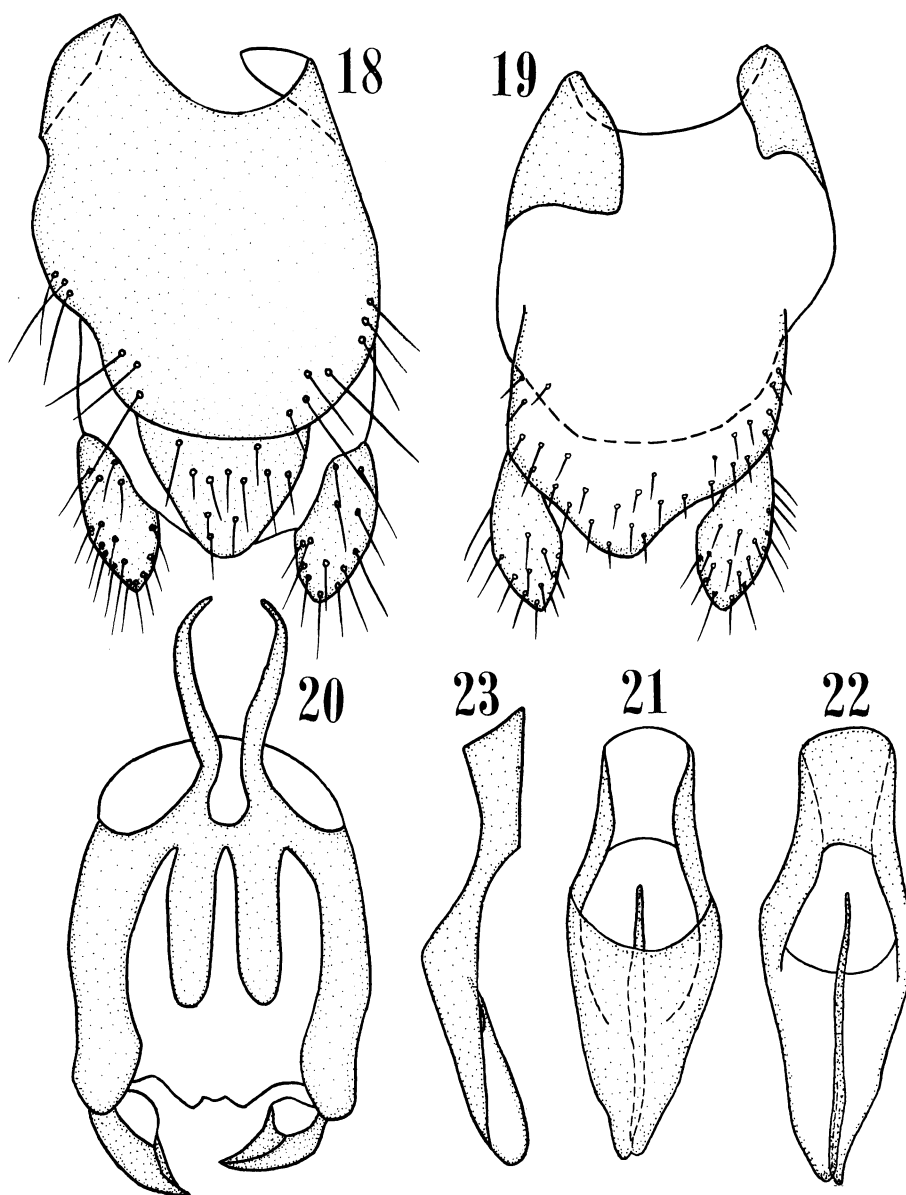


Fig. 18–23. *Clitellaria bergeri* (PLESKE), male. 18, Tergites 9–10 and cerci, dorsal view; 19, tergite 9, sternite 10 and cerci, ventral view; 20, genital capsule, dorsal view; 21, aedeagal complex, dorsal view; 22, ditto, ventral view; 23, ditto, lateral view.

Area around ocellar tubercle somewhat raised. Head 1.4 times higher than long; width of one eye on a mid line from a direct frontal view 0.9 times distance between antennae and median ocellus, 0.9 times width of frons just above antennae and 0.8 times width of face at lowest point from a direct frontal view; width of frons just above antennae 3.2–3.3 times as wide as ocellar triangle, 1.1 times width of frons at median ocellus and 0.8–0.9 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 1.2–1.3 times that between antennae and median ocellus. Total length of antenna

1.3–1.5 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.25–0.28 times as wide as long. Data based on 4 individuals.

Specimens examined. 1 ♂, Beijing, 23. vi. 1967, Chi-kun YANG; 1 ♂, Mentougou, Beijing, 8. vi. 1960; 1 ♀, Haidian, Beijing, vi. 1958, Fasheng LI; 2 ♀ ♀, Haidian, Beijing, 16/19. vi. 1980, Chi-kun YANG; 1 ♂, Haidian, Beijing, 29. v. 1973, Chi-kun YANG; 1 ♂, Haidian, Beijing, 25. v. 1974, Chi-kun YANG; 1 ♀, Haidian, Beijing, 26. vii. 1967; 2 ♂ ♂, Beijing, 6/8. vi. 1958; 1 ♂, Beijing, vi. 1981, Dayong XUE; 1 ♀, Beijing, 20. vi. 1947; 2 ♀ ♀, Yanqing, Beijing, 24. vi. 1975, Chi-kun YANG; 2 ♂ ♂, Sichuan, 1. viii. 1935, H. T. SHIH; 1 ♂, 1 ♀, Xingcheng, Liaoning, 8. vi. 1951, Weihua LI.

Distribution. China (Beijing, Liaoning and Sichuan), and E. Siberia.

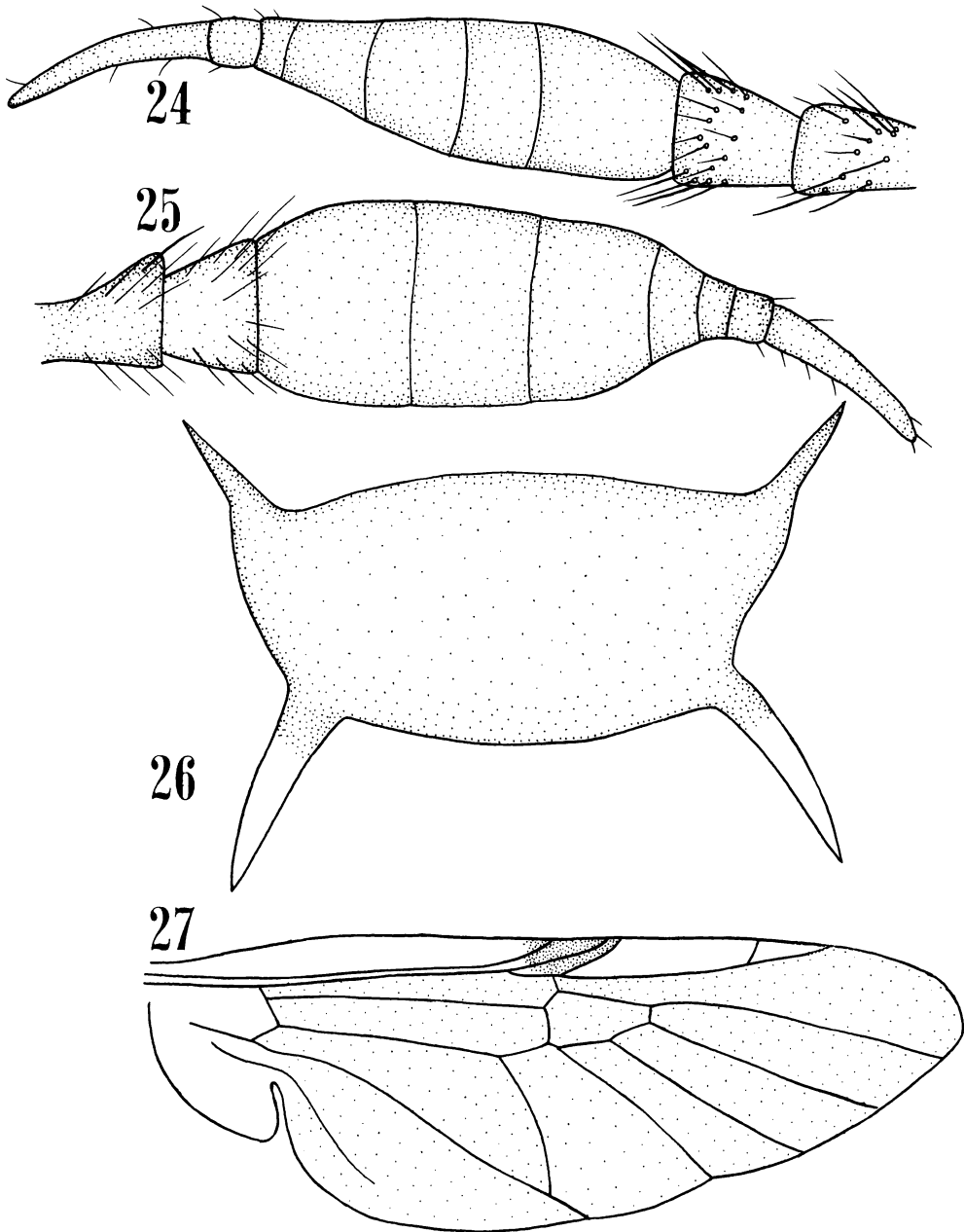
Remarks. Among the Chinese species, *bergeri* (♂, ♀) is similar to *nigra* (♂, ♀) and *orientalis* (♂, ♀) in having the wing membrane strongly tinged with dark brown to black, but is easily separated from them by the various characters shown in the keys (1)–(4).

Clitellaria chikuni YANG et NAGATOMI, sp. n.

(Figs. 3, 8, 24–32)

C. chikuni (♂, ♀) is distinguished from *longipilosa* (♂, ♀), *flavipilosa* (♂), and *kunmingana* (♀) as shown in the key (1) (couplets 5 and 7). *C. chikuni* (♂, ♀) has the following characters: Legs (except knees and apex of trochanter) wholly dark brown to black; apical style of flagellum over 1/2 in ♂ and less than 1/2 in ♀ as long as rest of antennal flagellum; female frons and upper face white shorter, chiefly recumbent pilose; male face with erect longer, chiefly black hairs; thorax with pale or pale yellow, chiefly recumbent pilosity; male mesonotum and scutellum with erect sparse black hairs in addition to pale yellow recumbent pilosity; spines on scutellum thinner and yellowish brown; haltere creamy yellowish brown, but base of stem dark brown; wing membrane faintly tinged with dark brown and 1st submarginal cell paler; abdomen with white, chiefly recumbent, pilosity.

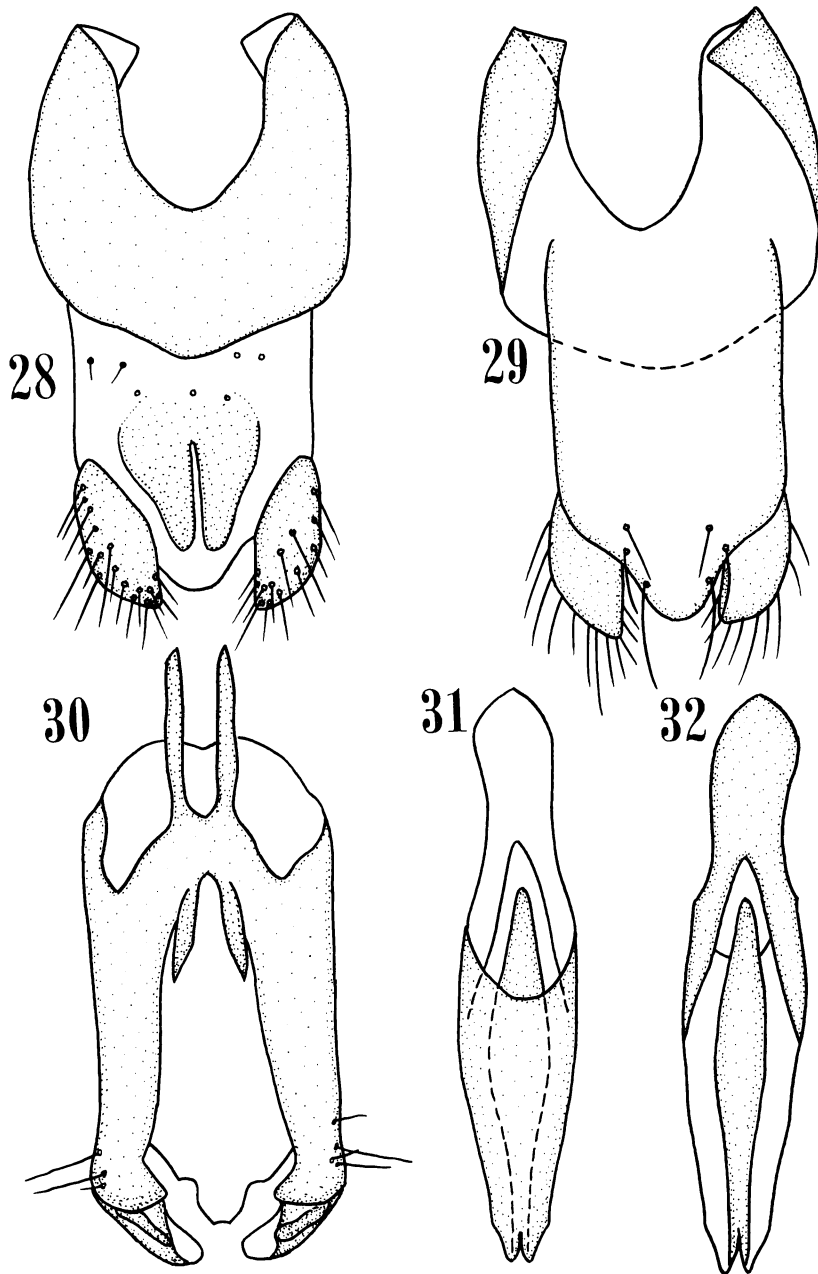
Male. Body length 6.1–9.3 mm, wing length 6.0–8.1 mm. Head black. Hairs on head white and black, ocellar tubercle with white and black hairs; face and frons with black hairs, upper part of frontal triangle with white recumbent pilosity; vertex and occiput with white shorter recumbent pilosity which becomes longer and erect on lower occiput (and cheeks); face and frons with narrow pale grey pollinose margins. Eyes with dense black erect hairs. Head 1.3–1.4 times higher than long; contiguous portion of eyes 2.1–2.5 times as long as ocellar triangle; width of one eye on a mid line from a direct frontal view 1.0–1.1 times distance between antennae and median ocellus, 1.6–1.7 times width of frons just above antennae and 1.2–1.3 times width of face at lowest point from a direct frontal view; width of frons just above antennae 3.0–3.1 times as wide as ocellar triangle, 0.6 times distance between antennae and median ocellus, and 0.7–0.8 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.9–1.0 times that between antennae and median ocellus. Antenna black; scape and pedicel black haired, flagellum pale grey pollinose with some short black hairs on apical portion; apical style long,



Figs. 24–27. *Clitellaria chikuni* sp. n. 24, Male antenna, outer view; 25, female antenna, outer view; 26, male scutellum, dorsal view; 27, male wing.

0.4–0.5 times as long as rest of flagellum; antennal ratio *c.* 1:1:5. Total length of antenna 0.9–1.0 times distance between antenna and median ocellus; antennal flagellum (minus last two segments) 0.34–0.4 times as wide as long. Proboscis brownish with pale hairs; palpus pale haired, but segment 2 with some black hairs and 2.3 times as long as segment 1. Data based on 3 individuals.

Thorax black, but humeri and postalar calli may have reddish brown parts. Lateral spine on mesonotum short, spatula-like and flattened dorso-ventrally. Spines on scutellum reddish yellow (except black base), 0.7 times as long as scutellum. Hairs on thorax dense, pale and yellow, but mesonotum, scutellum and upper portion of mesopleura with erect, somewhat longer black hairs. Mesonotum with three broad darker stripes (of which the lateral



Figs. 28-32. *Clitellaria chikuni* sp. n., male. 28, Tergites 9-10 and cerci, dorsal view; 29, tergite 9, sternite 10 and cerci, ventral view; 30, genital capsule, dorsal view; 31, aedeagal complex, dorsal view; 32, ditto, ventral view.

ones are interrupted at the suture), due to the presence of short black pile. Legs black, but apex of trochanter and knees reddish brown; hairs on legs pale, longer and erect on postero-ventral surface (except basal portion) of mid femora; tarsi with some black hairs. Wing light brownish grey with brown stigma; veins brown to dark brown. Haltere nearly white with brown base.

Abdomen black. Hairs on abdomen pale and recumbent, but erect and somewhat longer on sides of tergites 1–2. Male genitalia (Figs. 28–32): Fused gonocoxites much longer than wide; dorsal bridge with paired elongate processes; gonocoxal apodemes parallel; gonostyli not pointed but rounded apically, with inner concavity; aedeagal complex widest medially; median process of fused gonocoxites distinct with a weak concavity.

Female. Body length 6.5–8.2 mm, wing length 5.5–7.9 mm. Similar to male except as follows: Hairs on head white or pale, but face with some black hairs; eyes and antennal segments 1–2 with black hairs as in male. Head 1.2–1.3 times higher than long; width of one eye on a mid line from a direct frontal view 0.8 times distance between antennae and median ocellus, 1.0–1.2 times width of frons just above antennae and 0.8–0.9 times width of face at lowest point from a direct frontal view; width of frons just above antennae 3–4 times as wide as ocellar triangle, 1.2 times width of frons at median ocellus and 0.8–0.9 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.9 times that between antennae and median ocellus. Apical style shorter than in male and 0.4–0.5 times as long as rest of flagellum. Total length of antenna 1.1 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.41–0.44 times as wide as long. Data based on 3 individuals. Mid femora without longer erect pile, as well as fore and hind femora.

Holotype ♂, Xiangshan Mountain, Beijing, 7. vi. 1956, Chi-kun YANG. Paratypes: 1 ♂, 1 ♀, Xiangshan Mountain, Beijing, 8. v. 1977, Chi-kun YANG; 1 ♂, Xiangshan Mountain, Beijing, 13. vi. 1954, Chi-kun YANG; 1 ♂, Xiangshan Mountain, Beijing, 26. v. 1964, Fasheng LI; 1 ♂, Xiangshan Mountain, Beijing, 29. vi. 1976, Chi-kun YANG; 1 ♂, Xiangshan Mountain, Beijing, 13. vi. 1987, Jingping DU; 2 ♂♂, Xiangshan Mountain, Beijing, 15. v. 1986, Xiangxian WANG; 2 ♂♂. Beijing, v. 1948, Chi-kun YANG; 2 ♂♂, Haidian, Beijing, 17/28. iv. 1975, Chi-kun YANG; 1 ♂, Haidian, Beijing, 19. v. 1979, Chi-kun YANG; 1 ♂, Beihuashan Mountain, Beijing, 18. v. 1962, Chi-kun YANG; 1 ♀, Beihuashan Mountain, Beijing, 29. vii. 1983, Qin WANG; 1 ♂, Beijing, 12. iv. 1948; 1 ♂, 1 ♀, Beijing, v. 1948; 1 ♂, Ganquan, Shaanxi, 23. viii. 1971, Chi-kun YANG.

Distribution. China (Beijing and Shaanxi).

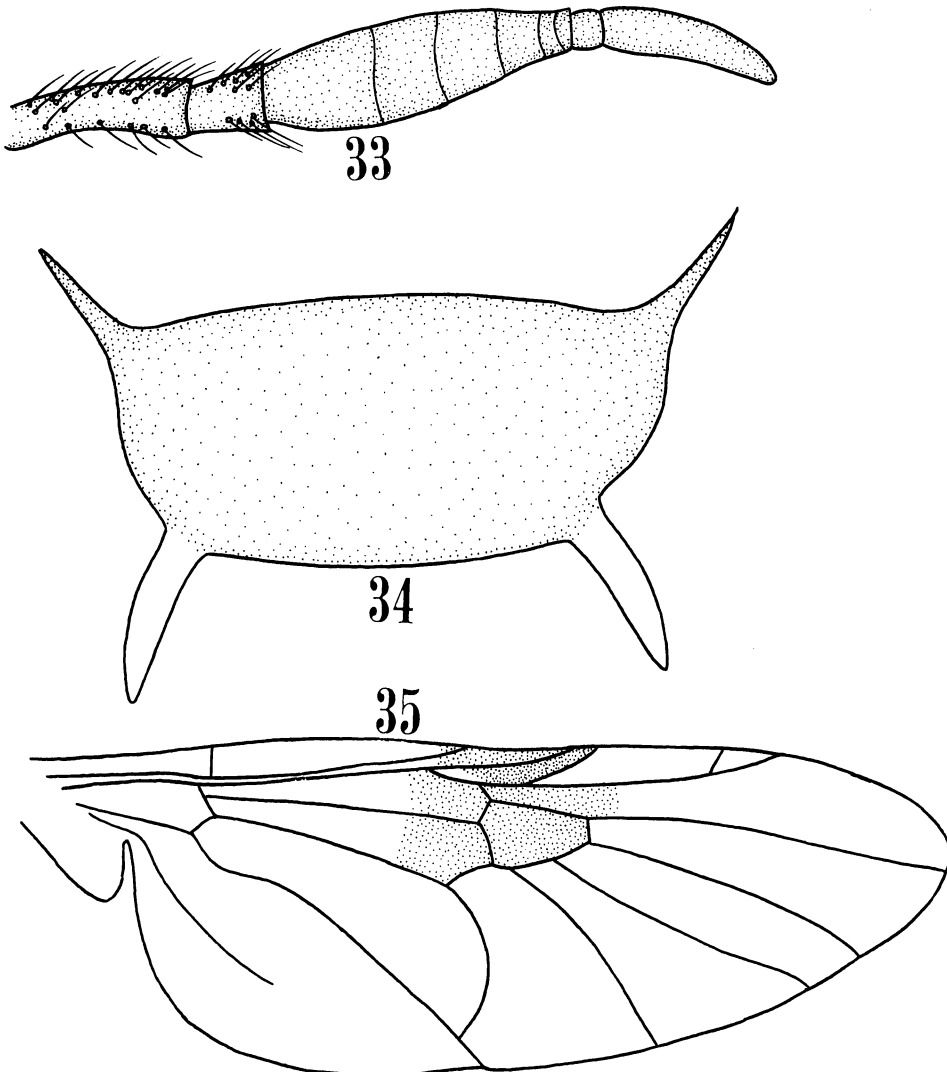
Remarks. Among the Chinese species, *chikuni* (♂, ♀) is similar to *kunmingana* (♀), *longipilosa* (♂, ♀) and *flavipilosa* (♂) in the shape of the antennae, but is easily separated from them by having the legs (except 'knees' and apices of trochanters) dark brown to black. See also the keys (1)–(4).

This species is named in honour of Professor Chi-kun YANG.

Clitellaria crassistilus YANG et NAGATOMI, sp. n.

(Figs. 9, 33–35)

This species (♀) is characterized as follows: Apical style of antennal flagellum thick; antenna longer; spines on scutellum shorter, thinner, and yellowish brown; frons with a knob at dorso-outer base of antenna; wing membrane nearly hyaline, with stigma, area above stigma, discal cell, area bordering discal cell, apical portion of 1st and 2nd basal cells, etc., darkened; mid and hind tarsomeres 1–2 yellowish brown; haltere creamy yellowish brown, with stem darker; frons and face white, chiefly recumbent pilose; thorax chiefly white recumbent pilose.



Figs. 33–35. *Clitellaria crassistilus* sp. n., female. 33, Antenna, outer view; 34, scutellum, dorsal view; 35, wing.

Female. Body length 7.8 mm, wing length 6.6 mm. Head black. Head with white hairs which become shorter and recumbent on postocular rim and occiput. Eyes with dense black hairs. Frons with a knob along dorso-lateral base of each antenna; median area on upper face distinctly convex. Head 1.2 times higher than long; width of an eye on a mid line from a direct frontal view 0.8 times distance between antennae and median ocellus, 0.85 times width of frons just above antennae and 0.8 times width of face at lowest point from a direct frontal view; width of frons just above antennae 4.0 times as wide as ocellar triangle, 1.4 times width of frons at median ocellus and 0.9 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.9 times that between antennae and median ocellus. Antenna black; scape and pedicel with chiefly pale hairs, flagellum pale grey pollinose except for apical style densely snow-white pollinose; apical style thicker, 0.5 times as long as rest of flagellum; antennal ratio *c.* 1:0.4:2.7. Total length of antenna 1.6 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.3 times as wide as long. Proboscis brown to dark brown with pale hairs; palpus brown to dark brown, with chiefly pale hairs, with segment 2 1.5 times as long as segment 1.

Thorax black, but humeri and postalar calli with reddish brown part. Lateral spine on mesonotum flattened dorso-ventrally, longer than wide and with apical margin rounded. Spines on scutellum thin, reddish yellow, 0.6 times as long as scutellum. Hairs on thorax pale, chiefly recumbent and frizzled. Legs black, but mid and hind tarsomeres 1–2 yellow; legs with pale hairs which become longer and erect on posterior surface (except basal portion) of mid femur; tarsi with some black hairs. Wing nearly hyaline with brown stigma; one large brownish spot just below stigma reaching to apical portion of 2nd basal cell; apex of costal cell and subcostal cell just above stigma brown; veins brown to dark brown. Haltere yellow.

Abdomen black. Hairs on abdomen pale, dorsum with some black hairs chiefly on median area and one narrow median longitudinal white hair stripe on apical portion; pile on sides of tergites 1–2 erect and longer.

Male. Unknown.

Holotype ♀, Kunming City, Yunnan, 15. v. 1983, Yixing ZHAO.

Distribution. China (Yunnan).

Remarks. Among the Chinese species, *crassistilus* (♀) is similar to *orientalis* in the shape of the antennal apical style, but is easily separated from the latter as shown in the key (1) (couplet 3). See also the key (3) (couplet 3).

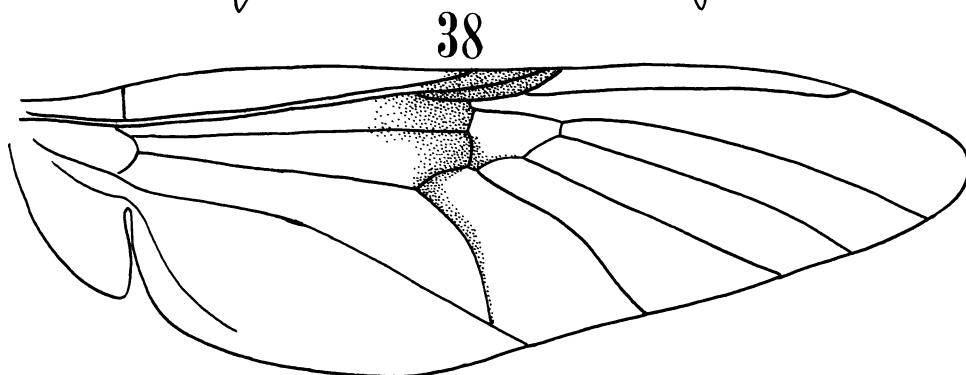
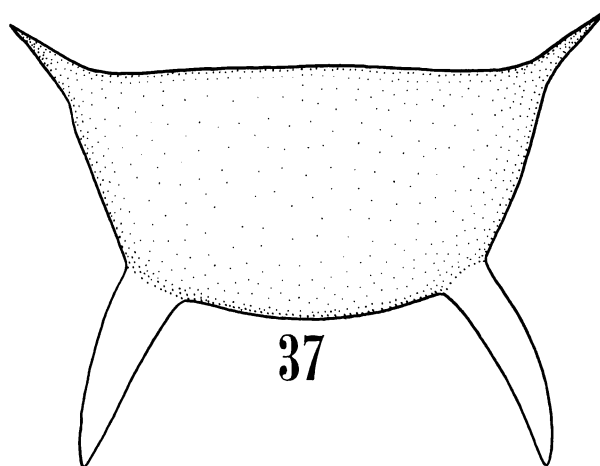
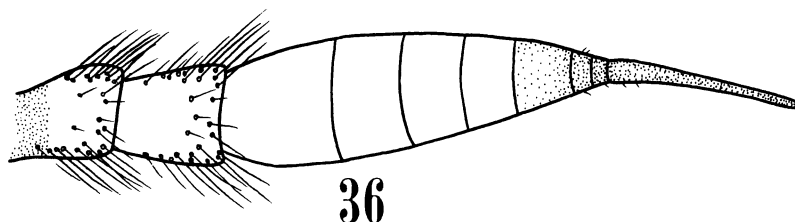
***Clitellaria flavipilosa* YANG et NAGATOMI, sp. n.**

(Figs. 2, 36–43)

C. flavipilosa (♂) is easily separated from *longipilosa* as shown in the key (1) (couplet 9). Besides the features in the key, *flavipilosa* (♂) has the following characters: Spines on scutellum yellowish brown; pleura pale or pale yellow pilose; wing membrane faintly tinged

with brown or nearly hyaline, but stigma, area above stigma, a band from base of vein Rs to apex of anal cell darker; haltere creamy yellow or white, but base of stem yellowish brown to brown; legs (except coxa) yellowish brown, but dorsal surfaces of fore tarsomeres 2–4, apical over 1/2 of fore and mid tibiae, etc., darkened.

Male. Body length 11.6 mm, wing length 10.1 mm. Head black. Hairs on head pale, but ocellar tubercle and vertex just behind ocellar tubercle with yellow hairs; mid-lower area of upper face convex and with yellow hairs. Eyes with dense black hairs which become pale on lower portion. Head 1.6 times higher than long; contiguous portion of eyes 2.3 times as long as ocellar triangle; width of one eye on a mid line from a direct frontal view 1.1 times distance between antennae and median ocellus, 2.4 times width of frons just above antennae



Figs. 36–38. *Clitellaria flavipilosa* sp. n., male. 36, Antenna, outer view; 37, scutellum, dorsal view; 38, wing.

and 1.5 times width of face at lowest point from a direct frontal view; width of frons just above antennae 2.2 times as wide as ocellar triangle, 0.4 times distance between antennae and median ocellus, and 0.6 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.8 times that between antennae and median ocellus. Antenna reddish yellow, but basal portion of scape blackish and flagellomeres 6–8 blackish brown; scape and pedicel yellow haired, flagellum pale grey pollinose with several indistinct short pale hairs on apical portion; apical style slender, 0.48 times as long as rest of flagellum; antennal ratio c. 1:1:5.9. Total length of antenna 0.9 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.35 times as wide as long. Proboscis brownish with pale hairs; palpus with pale and yellow hairs, segment 1 yellow, segment 2 brown and 1.7 times as long as segment 1.

Thorax black, humeri and lateral spines on mesonotum tinged with brownish yellow. Lateral spine on mesonotum rather spatula-like, flattened dorso-ventrally. Spines on scutellum yellow and 0.8 times as long as scutellum. Mesonotum with golden hairs consisting of shorter recumbent frizzled dense ones and longer erect sparse ones; mesonotum with two pairs of lateral darker spots where recumbent hairs are absent or few. Scutellum and its spines (except apex) with erect golden hairs, some of which may become black. Pleura with pale pile which becomes longer and erect on metapleura and anterior part of mesopleura and which becomes yellow on upper part of pteropleura; pteropleura and posterior part of metapleura bare. Legs reddish yellow to yellow, but coxae (except apex), fore and mid femora around middle portions, tibiae (except apex and basal 1/2 [in fore tibia] or basal lesser 1/2 [in mid and hind tibiae]), dorsal surface of fore tarsomeres 2–4 and that of hind tarsomere 4 black or darkened; legs with pale hairs which become erect and longer on dorso-posterior surface of fore and mid femora; tarsi with some black hairs. Wing nearly hyaline, and with one narrow brownish spot nearly reaching to tip of anal cell from apex of costal cell; stigma and area above stigma slightly darker than rest of membrane or almost concolorous with brown spot; veins brown to dark brown. Haltere with stem yellow and knob creamy white.

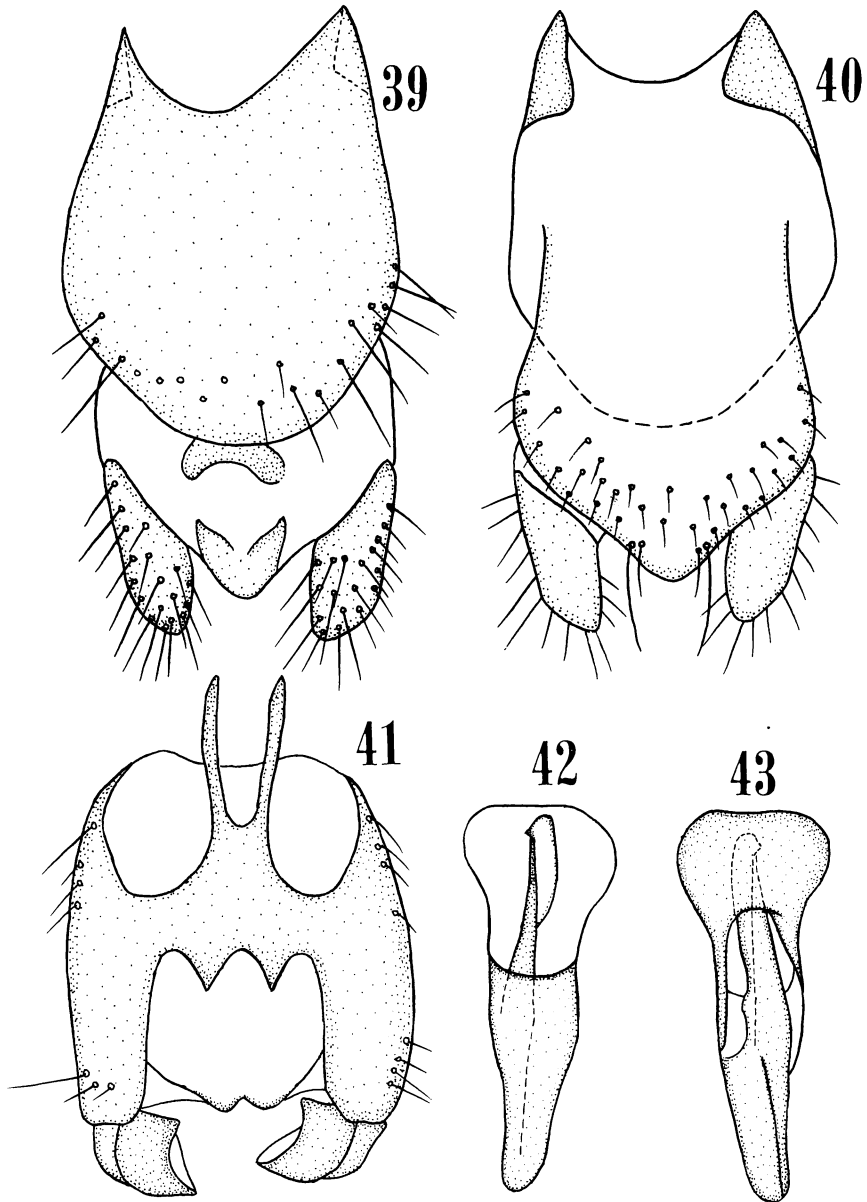
Abdomen black; abdomen with pale hairs, but tergites 2–3 and basal portion of tergite 4 with some black hairs; tergite 5 and apical portion of tergite 4 wholly with dense golden yellow hairs; hairs on sides of tergites 1–2 longer and erect. Male genitalia (Figs. 39–43): Dorsal bridge with a pair of short acute processes; gonocoxal apodemes nearly parallel; aedeagal complex widest basally; median processes of fused gonocoxites with a V-shaped shallow concavity.

Female. Unknown.

Holotype ♂, Mengla (800 m), Yunnan, 10. iv. 1981, Chi-kun YANG.

Distribution. China (Yunnan).

Remarks. Among the Chinese species, *flavipilosa* (♂) is similar to *longipilosa* in the shape of the antennae and the coloration of the legs, but is separated from the latter as shown in the key (1) (couplet 9). See also the keys (2) and (4).

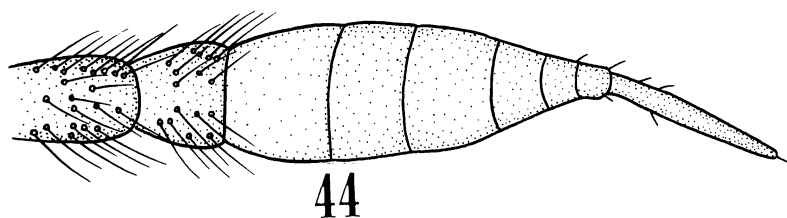


Figs. 39-43. *Clitellaria flavipilosa* sp. n., male. 39, Tergites 9-10 and cerci, dorsal view; 40, tergite 9, sternite 10 and cerci, ventral view; 41, genital capsule, dorsal view; 42, aedeagal complex, dorsal view; 43, ditto, ventral view.

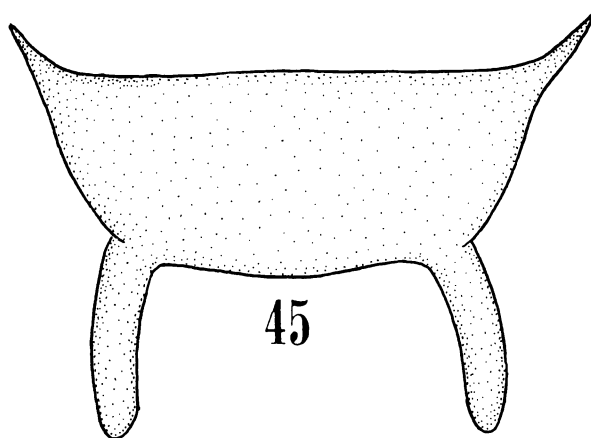
***Clitellaria kunmingana* YANG et NAGATOMI, sp. n.**

(Figs. 10, 44-46)

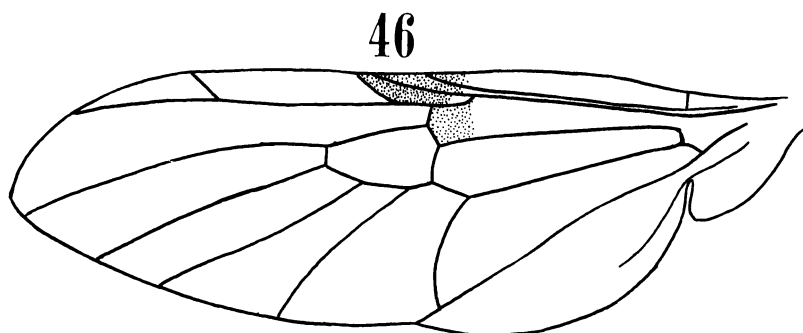
C. kunmingana (♀) is distinguished from *longipilosa* and *flavipilosa* as shown in the key (1) (couplet 8). *C. kunmingana* (♀) has the following characters: Fore tarsomere 1 and



44



45



46

Figs. 44–46. *Clitellaria kunmingana* sp. n., female. 44, Antenna, outer view; 45, scutellum, dorsal view; 46, wing.

spines on scutellum dark; apical style less than $1/2$ as long as antennal flagellum; antenna longer than distance between antennae and median ocellus; frons with broad transverse bare band above antennae; frons, upper face and thorax white, chiefly recumbent pilose; mesonotum with three broad darker stripes where recumbent pile is black; mesonotum and scutellum with erect longer sparse black hairs; wing membrane nearly hyaline, with stigma dark brown; haltere creamy white, with base of stem yellowish brown; abdominal tergite 4 with mid-posterior and lateral white pilose patches.

Female. Body length 5.0–5.6 mm, wing length 5.1–5.6 mm. Head black; hairs on head pale, ocellar tubercle with black hairs; eyes widely separated, with pale and black hairs. Frons with a wide bare band near antennae; median area on upper face convex. Head 1.5 times higher than long; width of one eye on a mid line from a direct frontal view 0.8 times

distance between antennae and median ocellus, 0.8 times width of frons just above antennae and 0.6–0.7 times width of face at lowest point from a direct frontal view; width of frons just above antennae 4.0–5.0 times as wide as ocellar triangle, 1.6 times width of frons at median ocellus and 0.8–0.9 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.9–1.0 times that between antennae and median ocellus. Antenna black; scape and pedicel chiefly pale haired, flagellum pale grey pollinose and apical style with several very short black hairs; apical style slender, 0.47 times as long as rest of flagellum; antennal ratio *c.* 1:0.7:4.3. Total length of antenna 1.2 times distance between antennae and median ocellus; antennal flagellum (minus last two segment) 0.35 times as wide as long. Proboscis brownish with pale hairs; palpus black, mixed with pale and black hairs, segment 1 often brownish yellow, segment 2, 1.3 times as long as segment 1. Data based on 2 individuals.

Thorax black, but humeri and postalar calli tinged with brownish yellow; hairs on thorax pale, mesonotum and scutellum with sparse and longer black hairs; mesonotum with one broad median longitudinal dark stripe and two pairs of broad lateral dark spots having black hairs. Lateral spine on mesonotum flattened rather dorso-ventrally. Spines on scutellum wholly black, and nearly as long as scutellum. Legs black, but mid tarsomere 1 (except apex) and hind tarsomeres 1–2 (often except apices) yellowish brown; hairs on legs yellow, but tarsi with some black hairs. Wing nearly hyaline or faintly tinged with brown, with dark brown stigma; tip of costal cell, and subcostal cell just above stigma brown, apical portion of 1st basal cell brownish; veins dark brown. Haltere yellow.

Abdomen black; hairs on abdomen pale, but dorsum with some short black hairs chiefly on median area.

Male. Unknown.

Holotype ♀, paratype 1 ♀, Kunming City, Yunnan, 24. iii. 1981, Chi-kun YANG.

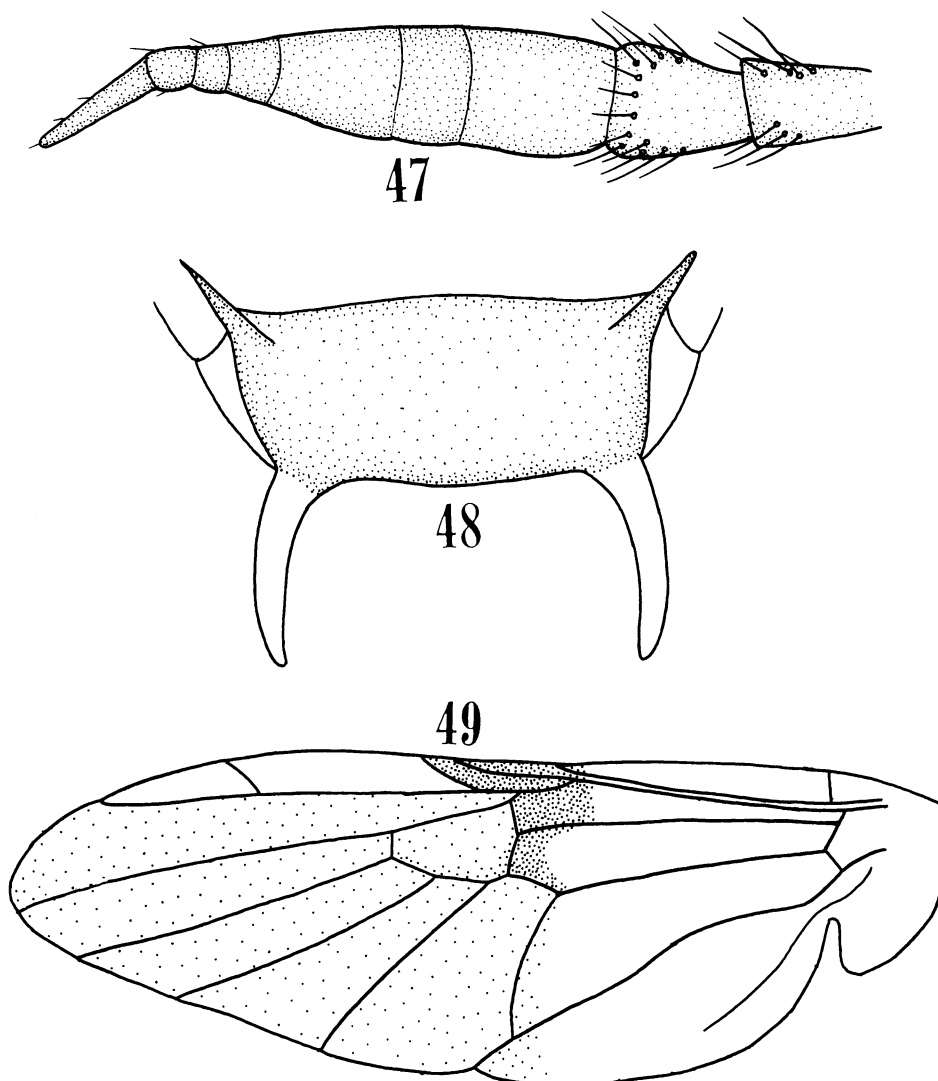
Distribution. China (Yunnan).

Remarks. Among the Chinese species, *kunmingana* (♀) is similar to *longipilosa* and *flavipilosa* in the shape of the antenna and the coloration of legs but is separated from them by having fore tarsomere 1 and spines on scutellum black. See also the key (3).

***Clitellaria longipilosa* YANG et NAGATOMI, sp. n.**

(Figs. 4, 11, 47–53)

C. longipilosa (♂, ♀) is easily separated from *flavipilosa* as shown in the key (1) (couplet 9). Besides the features in the key, *longipilosa* (♂, ♀) has the following characters: Female frons, upper face, and thorax with pale or pale yellow, chiefly recumbent pilosity; spines on scutellum yellowish brown; wing membrane faintly tinged with brown or nearly hyaline, but stigma, apical portion of subcostal cell, apex of costal cell, apical portion of 1st and 2nd basal cells, area bordering discal cell, m-cu crossvein, and vein Cu₁ dark brown; haltere creamy yellow or white, with base of stem yellowish brown to brown; 'knees', base of femur, apex of tibia, fore tarsomere 1, mid tarsomeres 1–2, and ventral surface of male hind tarsomere 1 (or



Figs. 47-49. *Clitellaria longipilosa* sp. n., male. 47, Antenna, outer view; 48, scutellum, dorsal view; 49, wing.

female hind tarsomeres 1-2) yellowish brown.

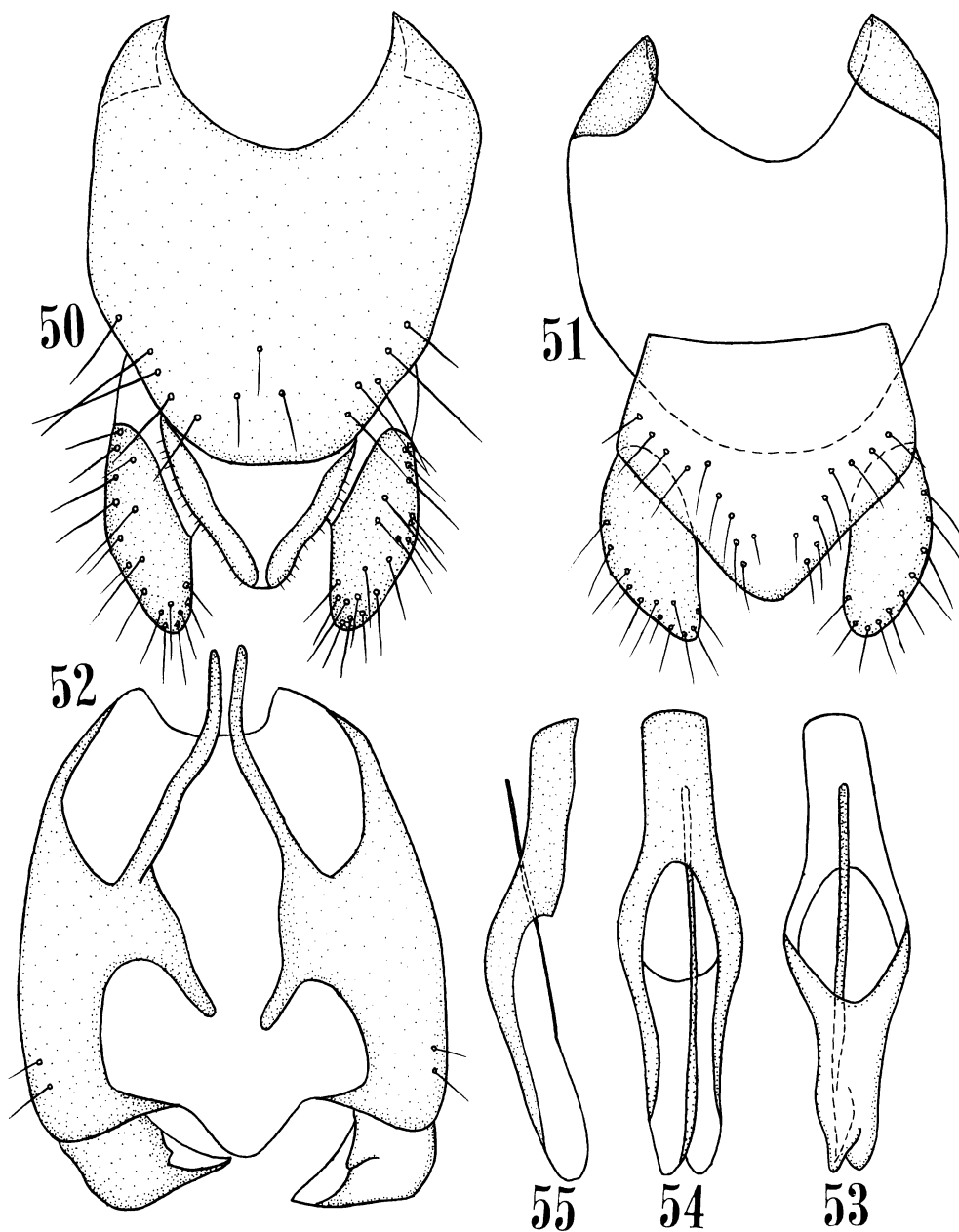
Male. Body length 7.0-7.2 mm, wing length 6.9-7.1 mm. Head blackish brown; hairs on head pale, but ocellar tubercle with black hairs, frons just near antennae and face with many long black hairs; lower frons and face with narrow pale grey pollinosity along eye margin. Eyes with dense and longer black hairs. Head 1.4-1.5 times higher than long; contiguous portion of eyes 2.5-2.9 times as long as ocellar triangle; width of one eye on a mid line from a direct frontal view 0.9-1.1 times distance between antennae and median ocellus, 1.6-1.7 times width of frons just above antennae and 1.2 times width of face at lowest point from a direct frontal view; width of frons just above antennae 3.1 times as wide as ocellar triangle, 0.6 times distance between antennae and median ocellus, and 0.7 times

width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.9–1.0 times that between antennae and median ocellus. Antenna blackish brown; scape and pedicel with pale and black hairs, flagellum pale grey pollinose with some black hairs on apical portion; apical style short, 0.3 times as long as rest of flagellum; antennal ratio *c.* 1:0.7:3.5. Total length of antenna 0.9–1.0 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.29–0.31 times as wide as long. Proboscis blackish brown with pale hairs; palpus blackish brown with pale hairs, segment 2 longer and 1.7 times as long as segment 1. Data based on 4 individuals.

Thorax blackish brown, but humeri with reddish brown corner; hairs on thorax pale, mesonotum and scutellum with shorter recumbent pile and erect black hairs; mesonotum with one median longitudinal dark wide stripe and two pairs of lateral dark wide spots without pale recumbent pile. Lateral spine on mesonotum short, spatula-like, and flattened dorso-ventrally. Spines on scutellum thin, reddish yellow, nearly as long as scutellum, being in the same plane as mesonotum and scutellum and with pale and black hairs. Legs black, but trochanter blackish yellow, femora with base and apex yellow, and tibiae with basal portion and apex yellow; tarsi yellow but dorsal surface except mid tarsomere 1 (or 1–2) darkened; hairs on legs pale, fore femora with long hairs (some of which may change into black) on posterior surface, mid femora with long pale hairs on posteroventral surface, and tarsi with some black hairs. Wing nearly hyaline but stigma, apex of costal cell, subcostal cell just above stigma, apical portions of 1st and 2nd basal cells and lower portion of discal cell brown or darker; veins brown to dark brown. Haltere whitish with base of stem brownish yellow.

Abdomen blackish brown with pale recumbent hairs which become erect on sides of tergites 1–2. Male genitalia (Figs. 50–55): Dorsal bridge not connected but divided medially; postero-dorsal inner process of gonocoxite short and thin; gonocoxal apodemes convergent apically; gonostyli tapering with inner concavity; aedeagal complex widest medially; median process of fused gonocoxites simple, without concavity.

Female. Body length 6.6–7.2 mm, wing length 6.8–6.9 mm. Similar to male except as follows: Head with pale pile which is shorter than in male. Eyes widely separated, with pale and black hairs which are shorter than in male. Head 1.2 times higher than long; width of one eye on a mid line from a direct frontal view 0.7 times distance between antennae and median ocellus, 0.75 times width of frons just above antennae and 0.7 times width of face at lowest point from a direct frontal view; width of frons just above antennae 4.0–4.4 times as wide as ocellar triangle, 1.5 times width of frons at median ocellus and 0.95 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.9–1.0 times that between antennae and median ocellus. Total length of antenna 1.1–1.2 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.33–0.37 times as wide as long. Data based on 2 individuals. Thorax pale haired; mesonotum and scutellum without longer black hairs, but mesonotum with one median longitudinal dark stripe and two pairs of lateral dark spots having some short black hairs. Legs with tarsomeres 1–2 wholly yellow; femora without long erect pile. Pile on



Figs. 50-55. *Clitellaria longipilosa* sp. n., male. 50, Tergites 9-10 and cerci, dorsal view; 51, tergite 9, sternite 10 and cerci, ventral view; 52, genital capsule, dorsal view; 53, aedeagal complex, dorsal view; 54, ditto, ventral view; 55, ditto, lateral view.

sides of abdominal tergites 1-2 shorter than in male.

Holotype ♂, paratypes 6♂♂, 1♀, Kunming, Yunnan, 24. iv. 1942. Paratypes: 1♀, Kunming, Yunnan, 15. iv. 1945; 1♀, Kunming (2,000 m), Yunnan, 16. v. 1981, Chi-kun YANG.

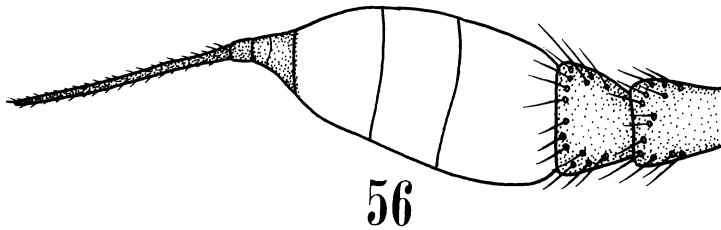
Distribution. China (Yunnan).

Remarks. Among the Chinese species, *longipilosa* (♂, ♀) is similar to *flavipilosa* (♂) in the shape of the antenna and the coloration of the legs but is separated from the latter as shown in the key (1) (couplet 9). See also the keys (2) and (4).

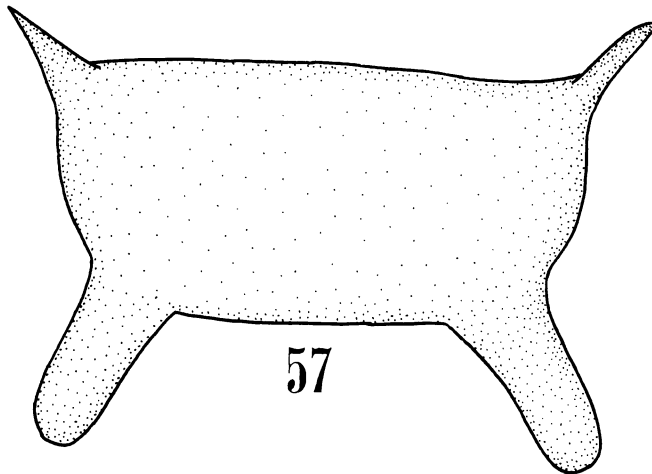
Clitellaria mediflava YANG et NAGATOMI, sp. n.

(Figs. 12, 56–58)

C. mediflava (♀) is diagnosed as follows: Antennal flagellum (except last two segments)

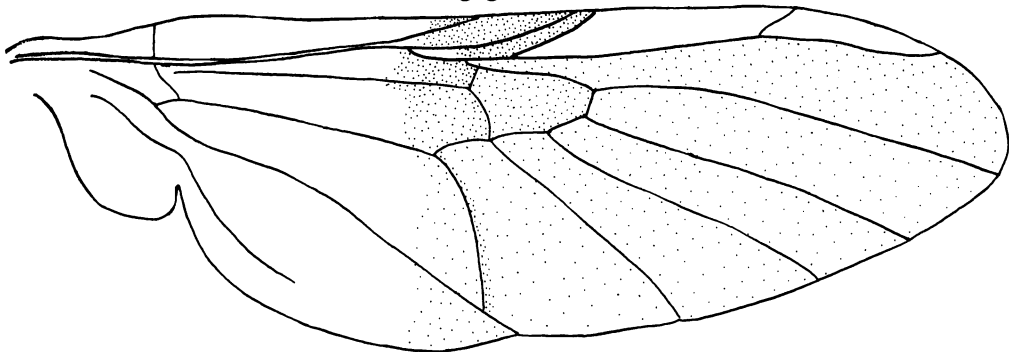


56



57

58



Figs. 56–58. *Clitellaria mediflava* sp. n., female. 56, Antenna, outer view; 57, scutellum, dorsal view; 58, wing.

conspicuously thick and about twice as long as wide in lateral view. It is easily separated from *nigra* as shown in the key (1) (couplet 6). Besides the features above, *mediflava* (♀) has the following characters: Antenna about as long as distance from antennae to median ocellus; apical style of antennal flagellum longer and thin; frons and upper face white, chiefly recumbent pilose; thorax chiefly white recumbent pilose; haltere with knob creamy white and stem yellowish brown; knees and tips of tibiae yellowish brown; spines on scutellum black.

Female. Body length 10.3 mm, wing length 10.2 mm. Head black. Hairs on head white, but vertex and ocellar tubercle with some black hairs; frons with white hairs, upper 1/3 with some black hairs. Eyes widely separated, with dense pale and black hairs; median area on upper face somewhat convex. Head 1.5 times higher than long; width of one eye on a mid line from a direct frontal view 0.7 times distance between antennae and median ocellus, 1.4 times width of frons just above antennae and 1.2 times width of face at lowest point from a direct frontal view; width of frons just above antennae 3.3 times as wide as ocellar triangle, 1.4 times width of frons at median ocellus and 0.8 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.8 times that between antennae and median ocellus. Antenna black, but flagellomeres 1–3 reddish yellow, flagellomeres 4–5 abruptly narrower and short; scape and pedicel with black and pale hairs, flagellum pale grey pollinose with short black hairs on apical portion; apical style very slender, 0.7 times as long as rest of flagellum; antennal ratio *c.* 1:1:8. Total length of antenna 1.1 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.53 times as wide as long. Proboscis brownish with pale hairs; palpus blackish and pale haired, but segment 2 brownish yellow, white pubescent and 1.2 times as long as segment 1.

Thorax black, but humeri, thicker lateral spine on mesonotum and postalar calli tinged with brownish yellow. Spines on scutellum black and 0.7 times as long as scutellum. Hairs on thorax white and recumbent, but mesonotum and scutellum with some longer, erect black hairs. Mesonotum with three broad dark stripes on which short recumbent pile becomes black (lateral stripes are interrupted at suture). Legs black, but trochanters, 'knees', and tips of tibiae brownish yellow; tarsi partly tinged with brownish yellow; hairs on legs pale, but tarsi with some black hairs. Wing light brownish with dark brown stigma and area above it; basal portion, costal cell except for apex, and 1st and 2nd submarginal cells paler; veins dark brown. Haltere yellow.

Abdomen black. Hairs on abdomen white; dorsum chiefly black haired, with lateral white hair spots on tergites 2–4 and median white hair spots on tergites 4–5.

Male. Unknown.

Holotype ♀, Xiangshan Mountain, Beijing, 18. vii. 1983, Yanli ZHOU.

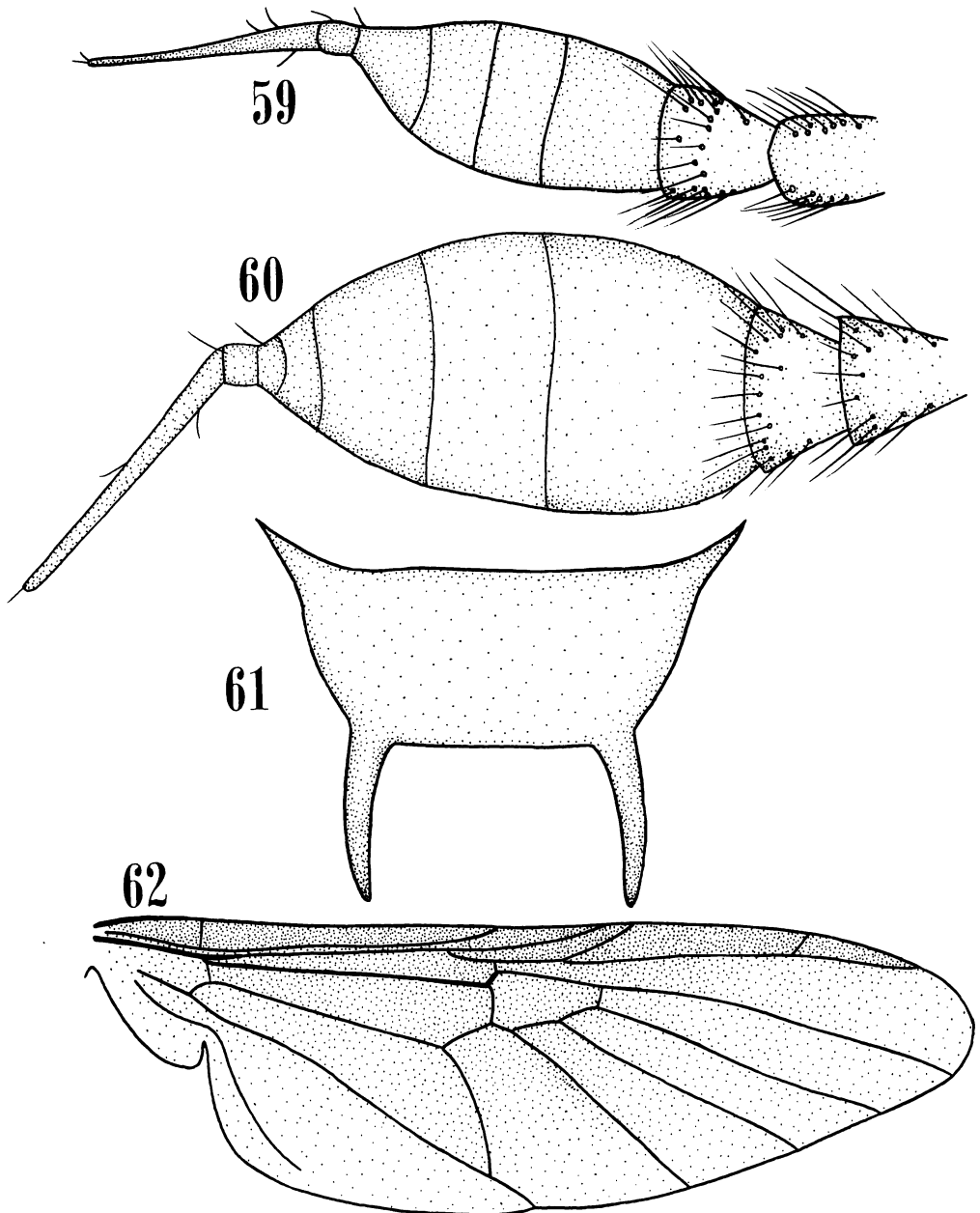
Distribution. China (Beijing).

Remarks. Among the Chinese species, *mediflava* (♀) is similar to *nigra* in the shape of the antenna, but is separated from the latter as shown in the key (1) (couplet 6). See also the key (3).

Clitellaria nigra YANG et NAGATOMI, sp. n.

(Figs. 5, 13, 59–68)

C. nigra (♂, ♀) is diagnosed as follows: Antennal flagellum (except last two segments) less than 2.5 times as long as wide in lateral view. It is easily separated from *mediflava* as



Figs. 59–62. *Clitellaria nigra* sp. n. 59, Male antenna, outer view; 60, female antenna, outer view; 61, male scutellum, dorsal view; 62, male wing.

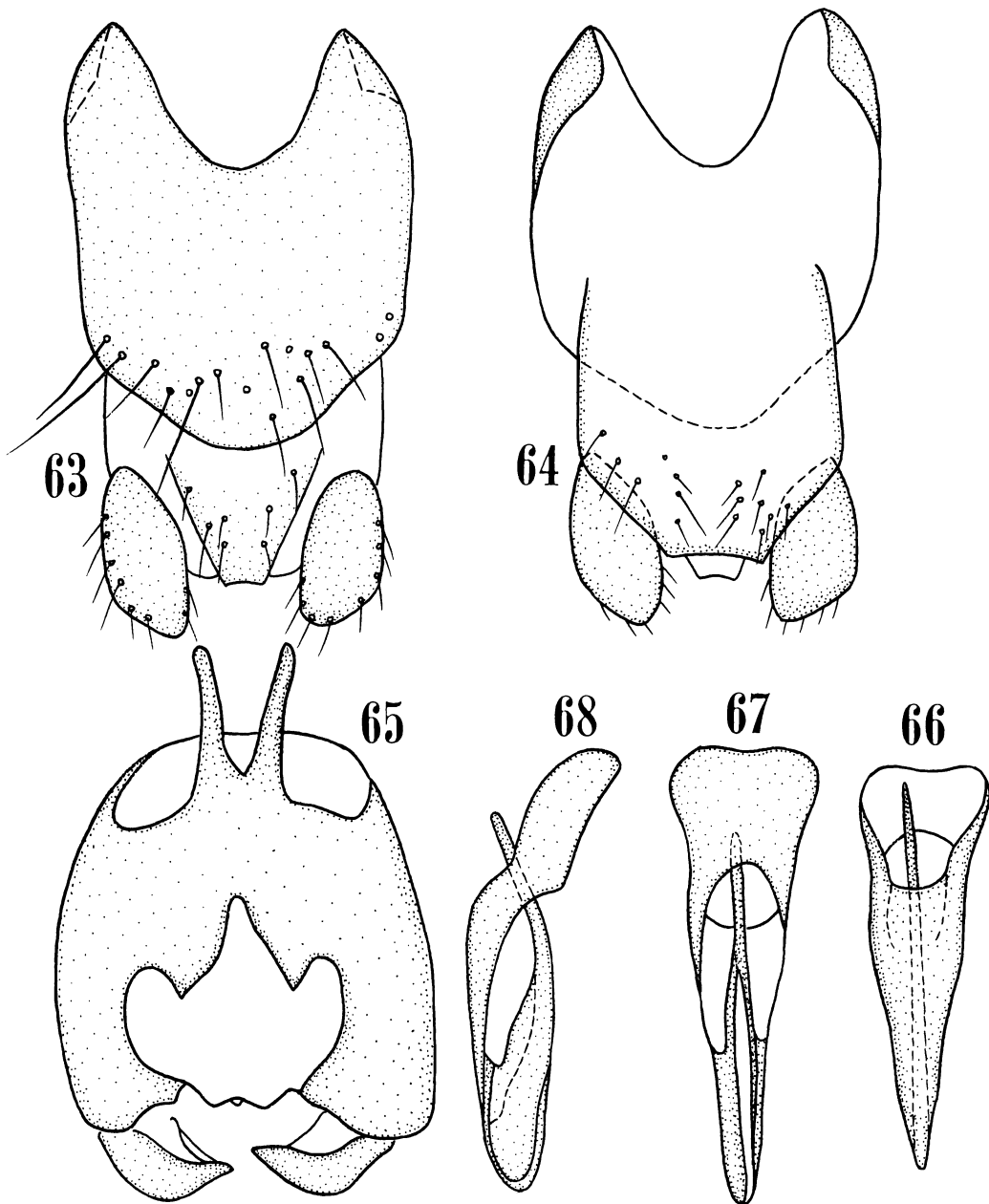
shown in the key (1) (couplet 6). Besides the features above, *nigra* has the following characters: Male antenna (including apical style) shorter and female antenna (including apical style) longer than distance from antennae to median ocellus; male face and thorax erect black pilose; female frons and upper face white shorter pilose; female pleura white shorter, chiefly recumbent pilose; female mesonotum and scutellum with erect black hairs and the former with 4 short recumbent white pilose stripes; in legs, only 'knees' yellowish brown; haltere yellowish brown, but upper (or inner) side of male knob dark brown to black.

Male. Body length 7.7–8.3 mm, wing length 7.8–8.7 mm. Head black. Hairs on head white, but ocellar tubercle with black hairs, and vertex and upper face with some black hairs; frontal triangle with a pair of small clusters of short recumbent pile. Eyes with black hairs, upper facets distinctly larger than lower ones. Head 1.4 times higher than long; contiguous portion of eyes 2.3–2.5 times as long as ocellar triangle; width of one eye on a mid line from a direct frontal view 0.9–1.0 times distance between antennae and median ocellus, 2.4–2.6 times width of frons just above antennae and 1.9–2.0 times width of face at lowest point from a direct frontal view; width of frons just above antennae 1.8–2.0 times as wide as ocellar triangle, 0.3–0.4 times distance between antennae and median ocellus, and 0.6–0.7 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.8 times that between antennae and median ocellus. Antennae reddish yellow (sometimes wholly blackish brown) with basal and apical portion darker; scape and pedicel black haired, flagellum pale grey pollinose with some black hairs on apical portion; apical style very slender, 0.65 times as long as rest of flagellum; antennal ratio *c.* 1:1:5.5. Total length of antenna 0.75–0.8 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.45–0.52 times as wide as long. Proboscis brown to dark brown with pale hairs; palpus brown to dark brown with pale hairs, segment 2, 1.6 times as long as segment 1. Data based on 3 individuals.

Thorax black; humeri and postalar calli tinged with reddish brown. Lateral spine on mesonotum rather acutely protruded. Spines on scutellum black, often with apical portion reddish brown to yellow, 0.8 times as long as scutellum. Hairs on thorax dense and black; pleura with pale hairs on anterior and ventral portions. Legs dark brown to black, but 'knees', tips of tibiae, and parts of tarsi reddish brown; hairs on legs chiefly pale, postero-ventral portion of fore and mid femora with longer, chiefly black hairs. Wing tinged with dark brown, anterior field darker; veins dark brown. Haltere brownish yellow with upper (or inner) side of knob usually dark brown.

Abdomen black. Dorsum with black hairs except for apical portion with chiefly white hairs, venter with white hairs. Male genitalia (Figs. 63–68): Dorsal bridge with a pair of wide processes whose apices are pointed; gonocoxal apodemes rather short and divergent apically; gonostyli pointed; posterior margin of ventral fused gonocoxites with a pair of short convexities; aedeagal complex widest anteriorly.

Female. Body length 7.1–7.6 mm, wing length 6.9–7.9 mm. Similar to male except as follows: Head with white hairs except for ocellar tubercle and vertex which have black hairs; eyes widely separated. Head 1.4–1.5 times higher than long; width of one eye on a mid line from a direct frontal view 0.7–0.8 times distance between antennae and median ocellus, 1.0–



Figs. 63–68. *Clitellaria nigra* sp. n., male. 63, Tergites 9–10 and cerci, dorsal view; 64, tergite 9, sternite 10 and cerci, ventral view; 65, genital capsule, dorsal view; 66, aedeagal complex, dorsal view; 67, ditto, ventral view; 68, ditto, lateral view.

1.4 times width of frons just above antennae and 0.9–1.1 times width of face at lowest point from a direct frontal view; width of frons just above antennae 3.3–3.4 times as wide as ocellar triangle, 1.2–1.6 times width of frons at median ocellus and 0.7–0.8 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 0.7–0.8 times that between antennae and median ocellus. Total length of antenna 1.0–1.1

times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.51–0.56 times as wide as long. Data based on 4 individuals. Thorax with pale hairs, but mesonotum and scutellum with black hairs; mesonotum with four longitudinal white pilose stripes.

Holotype ♂, paratype 1 ♀, Huashan Mountain, Shaanxi, 18. vi. 1956, Chi-kun YANG. Paratypes: 4 ♂♂, 2 ♀♀, Ganquan, Shaanxi, 12/27. vi. 1971, Chi-kun YANG; 1 ♂, Beijing, 21. vi. 1949; 1 ♂, 1 ♀, Tianlin, Guangxi, 29/30. v. 1982, Chi-kun YANG and Xinli WANG; 3 ♀♀, Nanjing, Jiangsu, 4. vii. 1986, Naizhong CHEN.

Distribution. China (Shaanxi, Beijing, Guangxi and Jiangsu).

Remarks. Among the Chinese species, *nigra* (♂, ♀) is similar to *mediflava* (♀) in the shape of the antenna, but is separated from the latter as shown in the key (1) (couplet 6). See also the key (3).

Clitellaria orientalis (LINDNER), comb. n.

(Figs. 6, 14, 69–77)

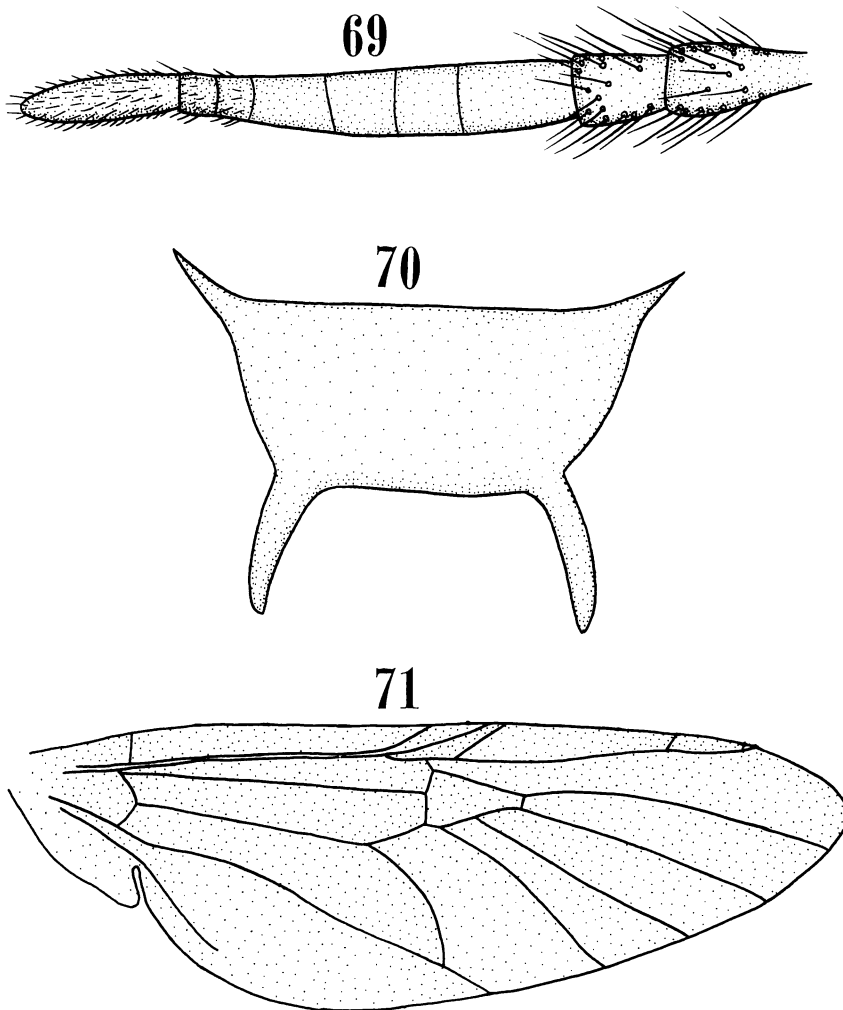
Taurocera orientalis LINDNER, 1951, Bonn. Zool. Beitr., 2: 186. Type locality: “Fu-kien” (China).

The specimens described below are determined tentatively as *orientalis*.

LINDNER (1951) did not mention the antenna shape of *orientalis* which must be different from that of *pontica*, if our material belongs to true *orientalis* [see Fig. 69 in the present paper and plate 55, fig. 4 in ROZKOŠNÝ (1983)]. LINDNER (1951) wrote, “Es unter scheidet sich von *pontica* nur durch folgende Merkmale; ... Die ganze Kopfbehaarung auch die der Augen ist nur halb so lang ...”. It is uncertain whether or not the length of the body hairs is so different between female *pontica* and true female *orientalis*. In any case, further comparison is necessary for a final decision.

Except for the features in the key (1) (couplets 1–3), *orientalis* (♂, ♀) is similar to *bergeri*. However in *orientalis*, the antenna is longer than in *bergeri*, and the spines on the scutellum are thinner than in *bergeri*.

Male. Body length 8.8–9.6 mm, wing length 8.3–9.7 mm. Head black; hairs on head black, but upper face with some pale hairs; vertex and upper occiput with pale recumbent pile; frons triangle and face narrowly tomentose along eye margin. Eyes with dense black hairs. Head 1.4 times higher than long; contiguous portion of eyes 1.1–1.5 times as long as ocellar triangle; width of one eye on a mid line from a direct frontal view 1.1 times distance between antennae and median ocellus, 1.9–2.0 times width of frons just above antennae and 1.2–1.3 times width of face at lowest point from a direct frontal view; width of frons just above antennae 2.1–2.5 times as wide as ocellar triangle, 0.5–0.6 times distance between antennae and median ocellus, and 0.6 times width of face at lowest point from a direct frontal view; distance between ridge below proboscis and antennae 1.0–1.1 times that between antennae and median ocellus. Antenna black; scape and pedicel black haired, flagellum pale grey pollinose with dense black hairs on apical three segments; apical style (= last



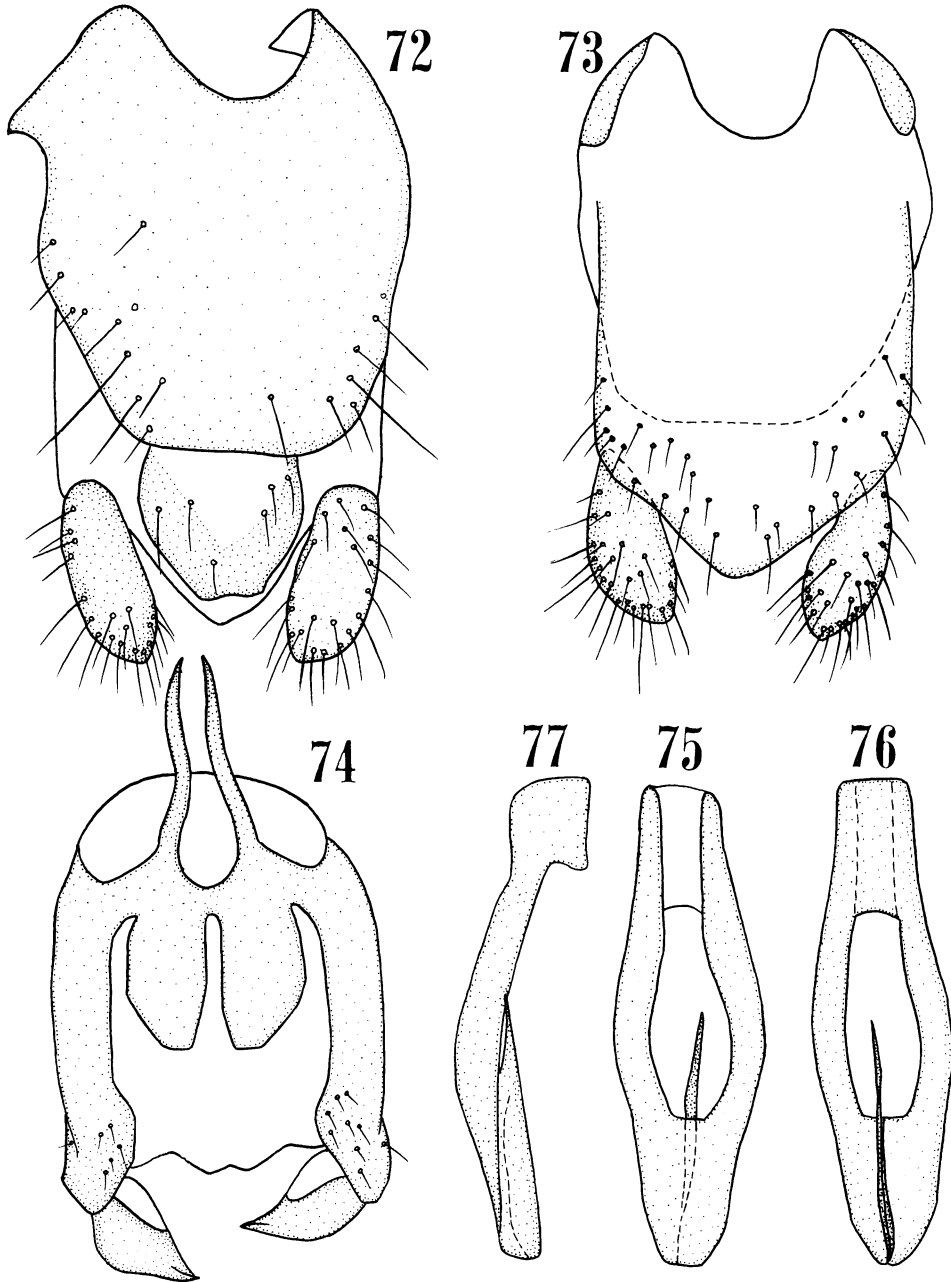
Figs. 69–71. *Clitellaria orientalis* (Lindner), male. 69, Antenna, outer view; 70, scutellum, dorsal view; 71, wing.

segment) thick, 0.3 times as long as rest of flagellum; antennal ratio *c.* 1:0.7:4.5. Total length of antenna 1.3–1.4 times distance between antennae and median ocellus; antennal flagellum (minus last two segments) 0.20–0.21 times as wide as long. Proboscis blackish brown with black hairs; palpus black with black hairs, segment 2, 1.4 times as long as segment 1. Data based on 4 individuals.

Thorax black, but humeri, postalar calli and apex of spines on mesonotum and scutellum usually tinged with reddish brown. Hairs on thorax black, mesonotum with one pair of median longitudinal pale hair stripes. Lateral spine on mesonotum rather large and thick and rather acutely pointed. Spines on scutellum nearly as long as scutellum, and are almost in the same plane with the mesonotum and scutellum. Legs black, with black hairs; posterior surface of fore and mid femora with longer and erect pile. Wings strongly tinged with dark brown to black; veins dark brown to black. Haltere yellow with basal portion

brown.

Abdomen black with pale and black hairs. Male genitalia (Figs. 72–77): Dorsal bridge with a pair of large processes; gonocoxal apodemes slightly convergent apically; gonostyli tapering apically with a baso-inner concavity; aedeagal complex widest medially; median



Figs. 72–77. *Clitellaria orientalis* (Lindner), male. 72, Tergites 9–10 and cerci, dorsal view; 73, tergite 9, sternite 10 and cerci, ventral, view; 74, genital capsule, dorsal view; 75, aedeagal complex, dorsal view; 76, ditto, ventral view; 77, ditto, lateral view.

process of fused gonocoxites with a shallow V-shaped concavity.

Female. Body length 9.2–11.0 mm, wing length 9.9–10.9 mm. Similar to male except as follows: Head with chiefly pale hairs; hairs on ocellar tubercle black; hairs on postocular rim and upper 2/3 of frons wholly pale, lower 1/3 of frons with black hairs except for mid-lateral areas with pale hairs. Eyes widely separated. Head 1.2–1.3 times higher than long; width of one eye on a mid line from a direct frontal view 0.8–0.9 times distance between antennae and median ocellus, 0.9 times width of frons just above antennae and 0.8 times width of face at lowest point from a direct frontal view; width of frons just above antennae 3.3 times as wide as ocellar triangle, 0.9 times width of face at lowest point from a direct frontal view and 1.2–1.3 times width of frons at median ocellus; distance between ridge below proboscis and antennae 1.2–1.3 times that between antennae and median ocellus. Total length of antenna 1.6–1.8 times distance between antenna and median ocellus; antennal flagellum (minus last two segments) 0.25–0.26 times as wide as long. Data based on 3 individuals. Mesonotum with four longitudinal white pilose stripes.

Specimens examined. 7 ♂♂, 2 ♀♀, Zayü (2,400 m), Xizang, 22. vi. 1978, Fasheng LI. 1 ♂, 4 ♀♀, Kunming, Yunnan, 2/21. vi. 1940; 2 ♂♂, 4 ♀♀, Kunming, Yunnan, 21. v./ 31. vi. 1941; 2 ♂♂, Kunming, Yunnan, 6/9. vi. 1942; 1 ♂, Kunming, Yunnan, 18. v. 1945; 1 ♂, Kunming, Yunnan, 26. v. 1943; 1 ♂, Cheng Kong, Yunnan, 2. vii. 1940; 1 ♀, Cheng Kong, Yunnan, 10. viii.?. 1 ♀, Lijiang (2,400 m), Yunnan, 11. vi. 1974, Io CHOU and Feng YUANG; 1 ♀, Maolan, Guizhou, 18. v. 1990, Zhiqi LIU; 1 ♀, Longzhou (240 m), Guangxi, 18. v. 1982, Chi-kun YANG; 1 ♀, Fuzhou, Fujian, vi. 1988, Wenjun YU.

Distribution. China (Xizang, Yunnan, Guizhou, Guangxi and Fujian).

Remarks. Among the Chinese species, *orientalis* (♂, ♀) is similar to *bergeri* (♂, ♀) and *nigra* (♂, ♀) in having the wing membrane strongly tinged with dark brown to black, but is easily separated from them by having the various characters shown in the keys (1)–(4).

Acknowledgements: We are much indebted to Professor Chi-kun YANG and Mr. Fasheng LI (Beijing Agricultural University, Beijing) for their constant encouragement and support. Our sincere thanks are also expressed to Dr. K. KUSIGEMATI, Mrs. Ningwu LIU and Miss K. MOROI (Kagoshima University, Kagoshima) for their help in many ways.

Mr. K. G. V. SMITH (formerly British Museum [Natural History], London) has kindly checked the English of this manuscript. His help is greatly appreciated.

References

- BRUNETTI, E. 1920. The fauna of British India, including Ceylon and Burma. Diptera, Brachycera. Vol. 1, 401 pp, Taylor & Francis, London.
- BRUNETTI, E. 1923. Second revision of the Oriental Stratiomyidae. Rec. Ind. Mus., 25: 45–180.
- BRUNETTI, E. 1924. Nouvelles espèces de Stratiomyidae de l'Indo-Chine. Encycl. Ent., (B II), Dipt., 1: 67–71.
- JAMES, M. T. 1941. New species and records of Stratiomyidae from Palaeartic Aisa (Diptera). Pan-Pacif. Ent., 17: 14–22.
- JAMES, M. T. 1975. Family Stratiomyidae. In: A Catalog of the Diptera of the Oriental Region, Vol.

- II. (Ed., DELFINADO, M. D. and HARDY, D. E.), pp. 14–41. The University Press of Hawaii, Honolulu.
- LINDNER, E. 1936–1938. 18. Stratiomyiidae. Flieg. palaearkt. Reg., 4(3): 1–218.
- LINDNER, E. 1951. Über einige südchinesische Stratiomyiiden (Dipt.). Bonn. Zool. Beitr. 2: 185–189.
- NAGATOMI, A. 1977. The Clitellarinae (Diptera, Stratiomyidae) of Japan. Kontyû, 45(2): 222–241.
- ROZKOŠNÝ, R. 1983. A biosystematic study of the European Stratiomyidae (Diptera), Vol. 2. Series Ent., 25: 1–431.
- ROZKOŠNÝ, R. and NARTSHUK, E. P. 1988. Family Stratiomyidae. In: Catalogue of Palaearctic Diptera, Vol. 5. (Ed. Soós, A. and PAPP, L.), pp. 42–96, Akadémiai Kiadó, Budapest.

(Accepted July 22, 1992)