

## The Coenomyiidae of China (Diptera)

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### Introduction

The family Coenomyiidae contains 6 genera and 26 species known from the world, of which 5 genera and 6 species have been known from China. This paper lists 5 genera and 9 species, of which 7 species are described or redescribed and 3 species appear to be new to science.

NAGATOMI and SAIGUSA (1970) made a study on the Japanese Coenomyiidae. WEBB (1978, 1983 a, b, c) revised the Nearctic *Dialysis*, *Coenomyia*, and *Arthropeas*, and erected a new genus *Napemyia*. NAGATOMI (1985) and NAGATOMI and NAGATOMI (1988) revised *Odontosabula* and *Arthropeas* respectively.

For diagnosis, synapomorphic characters, a list of the genera and species, the structures of the genitalia and mouthparts in some genera and species of the family Coenomyiidae, see NAGATOMI (1975, 1977, 1987, and 1992), NAGATOMI and IWATA (1976), and NAGATOMI and SOROIDA (1985).

Thus, various characters of the family Coenomyiidae, its component genera and some Chinese species are well known, but some of them have been repeated for revisional purpose in the present article. Besides new species, the spermatheca in all of the species and the genitalia in most of the species are presented for the first time.

The types are deposited in the Insect Collections of Beijing Agricultural University, Beijing, China, and some paratypes are preserved in Kagoshima University, Kagoshima, Japan.

### Family Coenomyiidae

Diagnosis. Body usually robust, sometimes relatively slender. Eyes in both sexes bare but haired in *Coenomyia*; male eyes contiguous or narrowly separated, female eyes widely separated; female frons convergent toward vertex, but nearly parallel-sided in *Dialysis*; clypeus nearly triangular, flat and plate-like, its level lower than that of eye margin; face sloping inward, convergent towards antennae; antennal flagellum 8-annulated, but conical with a long unsegmented arista in *Dialysis* and *Napemyia*. Proboscis fleshy; palpus cylindrical and usually 1-segmented. Mesonotum convex, sometimes with two mid-posterior warts just before scutellum. Scutellum unarmed, but with two spines in *Coenomyia* and *Odontosabula*; its basal margin nearly straight, but distinctly convex forward in *Dialysis* and *Arthropeas*. Metapleuron pilose. Hind femur shorter than mesonotum + scutellum, but longer than it in *Dialysis* and *Odontosabula*. Tibial spur formula 1 - 2 - 2. Wing: Alula well developed with strongly convex margin; vein C entirely surrounding wing margin; Rs arising well before base of discal cell; veins R<sub>1</sub> and R<sub>2+3</sub> closely ending apically;

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vein  $R_3$  ending beyond wing tip; 4th posterior cell widely open but closed in *Dialysis* and *Napemyia*; anal cell narrowly open or closed. Abdomen with 5 to 7 visible segments; sternite 1 well developed with mid-posterior part protuberant and longer pilose. Male genitalia: Epandrium (= tergite 9) with mid-anterior area membranous; tergite 10 not seen or sometimes present as a reduced sclerite; gonocoxites with a transverse membranous window on fused ventral surface; hypandrium absent; gonostylus thick and nearly straight; aedeagal complex surrounded by dorsal and ventral plates, dorsal plate (= gonocoxal bridge) broad with wide apex, ventral plate shorter and folded twice laterally; aedeagal apodeme slender or thick with broad anterior portion; a pair of endophallic sclerites long and their posterior portions located below a membranous lobe, separated or connected by a more or less sclerotized band. Female genitalia: Cercus long, and two-segmented; genital furca with lateral bar having posterior widened part whose shape is various; spermathecae 3 in number.

Distribution. Palaearctic region, Nearctic region and Oriental region.

Remarks. The family Coenomyiidae is at once separated from the Xylophagidae in many respects: (1) apex of antennal flagellum pointed; (2) palpus cylindrical and usually 1-segmented; (3) male eyes contiguous or nearly so; (4) 2nd submarginal cell including wing tip, and apical portion of vein  $R_4$  more or less curved upward; (5) alula well developed (margin of alula strongly arched); (6) ovipositor including abdominal segment 5; etc. In Xylophagidae, (1) rounded; (2) palpal segment 2 strongly widened; (3) widely separated; (4) vein  $R_3$  ending at wing tip; (5) margin of alula rather straight; (6) ovipositor consisting of segments 6-8; etc.

**Key (1) to genera of Chinese Coenomyiidae**  
(after NAGATOMI, 1975)

1. Antennal segment 3 annulated, porrect and subulate; 4th posterior cell widely open and anal cell narrowly open or closed at wing margin; in ♀ frons broader toward antenna ..... 2
  - Antennal segment 3 conical and with a long arista; 4th posterior cell (when vein  $M_3$  is present) and anal cell closed before wing margin (sometimes the latter closed at wing margin); in ♀ frons parallel sided; body slender, scutellum unarmed, hind femur distinctly longer than mesonotum and scutellum combined ..... *Dialysis*
2. In antenna, segment 1 about as long as wide and segments 1+2 less than 1/2 as long as flagellum; head nearly as wide as or somewhat narrower than thorax (as well as in *Dialysis*); body slender or nearly so but sometimes (e.g. in *Arthropeas magnum* JOHNSON) fairly robust ... 3
  - In antenna, segment 1 distinctly longer than wide and segments 1+2 over 1/2 as long as flagellum; head distinctly narrower than thorax [which is massively developed]; body robust ..... 4
3. Scutellum with a pair of spine-like processes; hind femur distinctly longer than mesonotum and scutellum combined; body slender ..... *Odontosabula*
  - Scutellum unarmed; hind femur not longer than mesonotum and scutellum combined (as well as in *Coenomyia* and *Anacanthaspis*); body somewhat slender to fairly robust ... *Arthropeas*
4. Scutellum unarmed, much wider than long, and its hind margin distinctly concave at middle and consisting of two more or less rounded portions; vein  $M_4$  arising from discal cell at or near m-cu crossvein (as well as in *Dialysis*, *Odontosabula*, and *Arthropeas*) or sometimes arising from m-cu crossvein; eye bare or practically so (as well as in *Dialysis*, *Odontosabula*, and *Arthropeas*); abdomen widest at segment 3 or 4 ..... *Anacanthaspis*

- Scutellum trapezoidal or semicircular and with a pair of spine-like processes (which become small and inconspicuous in *C. bituberculata* ENDERLEIN); vein M<sub>4</sub> arising from discal cell much beyond m-cu crossvein and distance between bases of M<sub>2</sub> and M<sub>3</sub> roughly as long as that between bases of M<sub>3</sub> and M<sub>4</sub>; eye distinctly pilose; abdomen widest at segment 2 or 3 ..... *Coenomyia*

**Genus *Anacanthaspis* VON RÖDER**

*Anacanthaspis* VON RÖDER, 1889, Wien. Ent. Ztg., 8: 7. Type species: *Anacanthaspis bifasciata* VON RÖDER, 1889.

Diagnosis. Body large and robust. Head distinctly narrower than thorax (difference between them conspicuous in ♀) which is massively developed; eyes bare in both sexes, male eyes contiguous, female eyes widely separated; female frons convergent towards vertex, its width just above

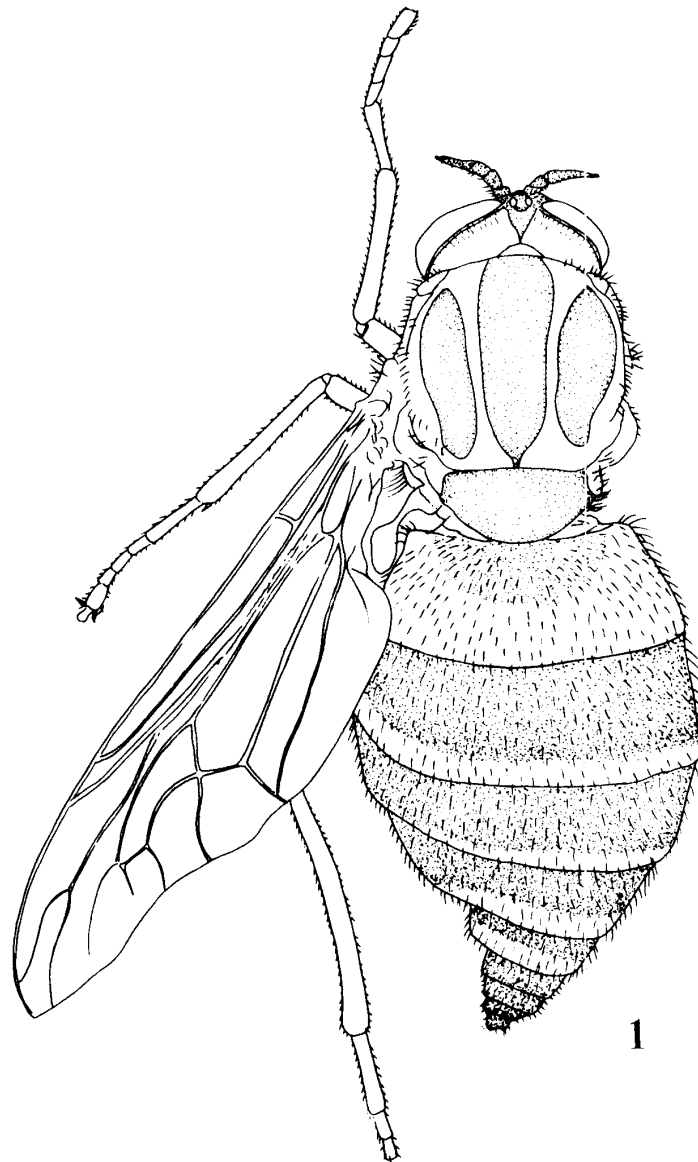
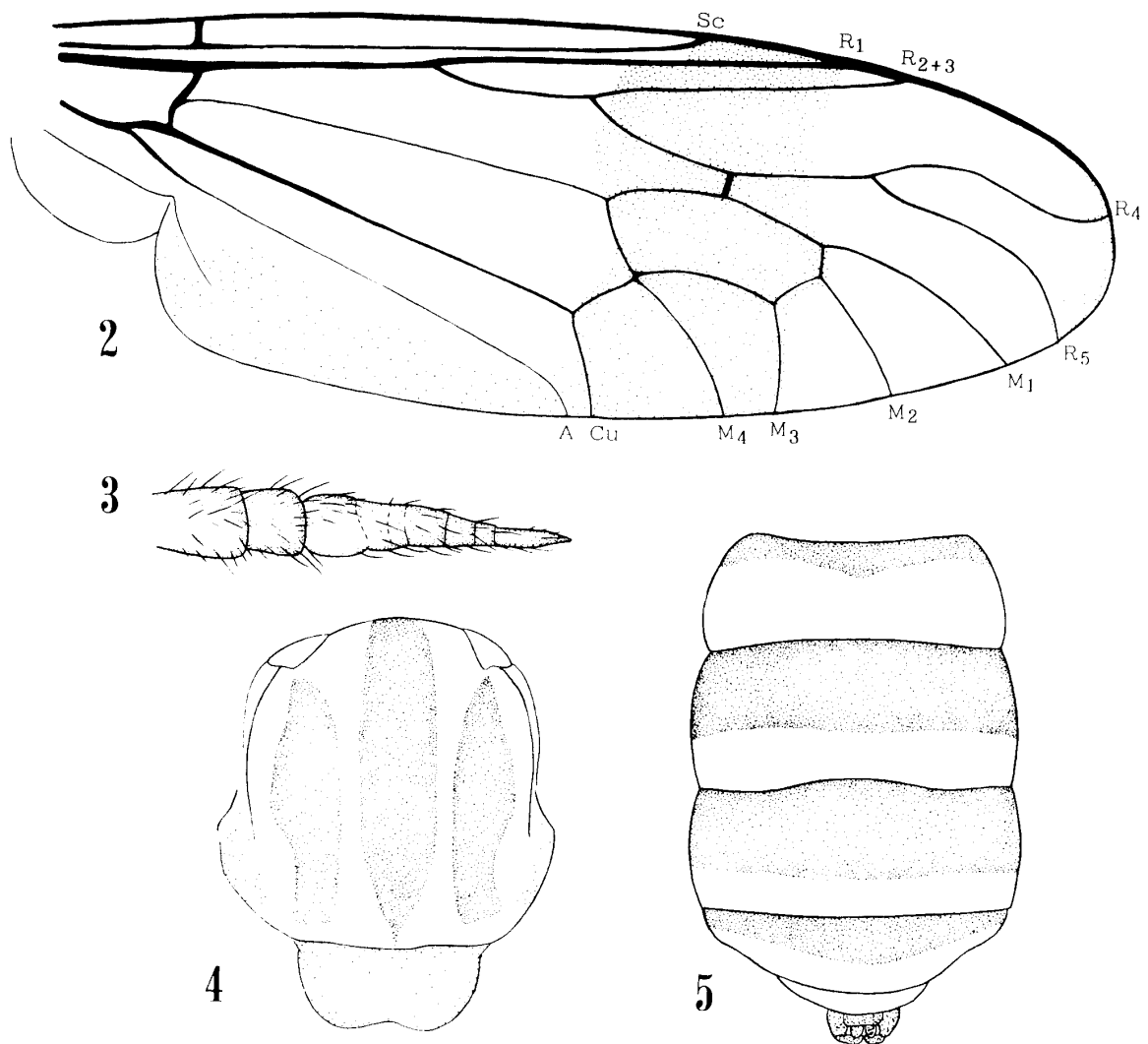


Fig. 1. *Anacanthaspis bifasciata* VON RÖDER, female.

antenna over 1/2 that of one eye; gena below eye rather narrow; face haired; antennal scape distinctly longer than wide, pedicel shorter than scape, scape + pedicel longer than 1/2 of flagellum; palpus somewhat longer than or about as long as clypeus. Mesonotum with a pair of weak wart-like processes at middle of posterior margin. Scutellum trapezoid, convex on disc, without spines; its basal margin nearly straight, posterior margin concave at middle. Metapleuron pilose except for hind margin. Hind femur shorter than mesonotum + scutellum; wing with 4th posterior cell open and M<sub>1</sub> arising from discal cell at or near crossvein. Abdomen widest at segment 3.

Distribution. Palaearctic region (1 species).

Remarks. The genus *Anacanthaspis* contains only one species from NE China, E. Siberia and Japan. The Japanese form may be different specifically from the continental form and its status is to be discussed below.



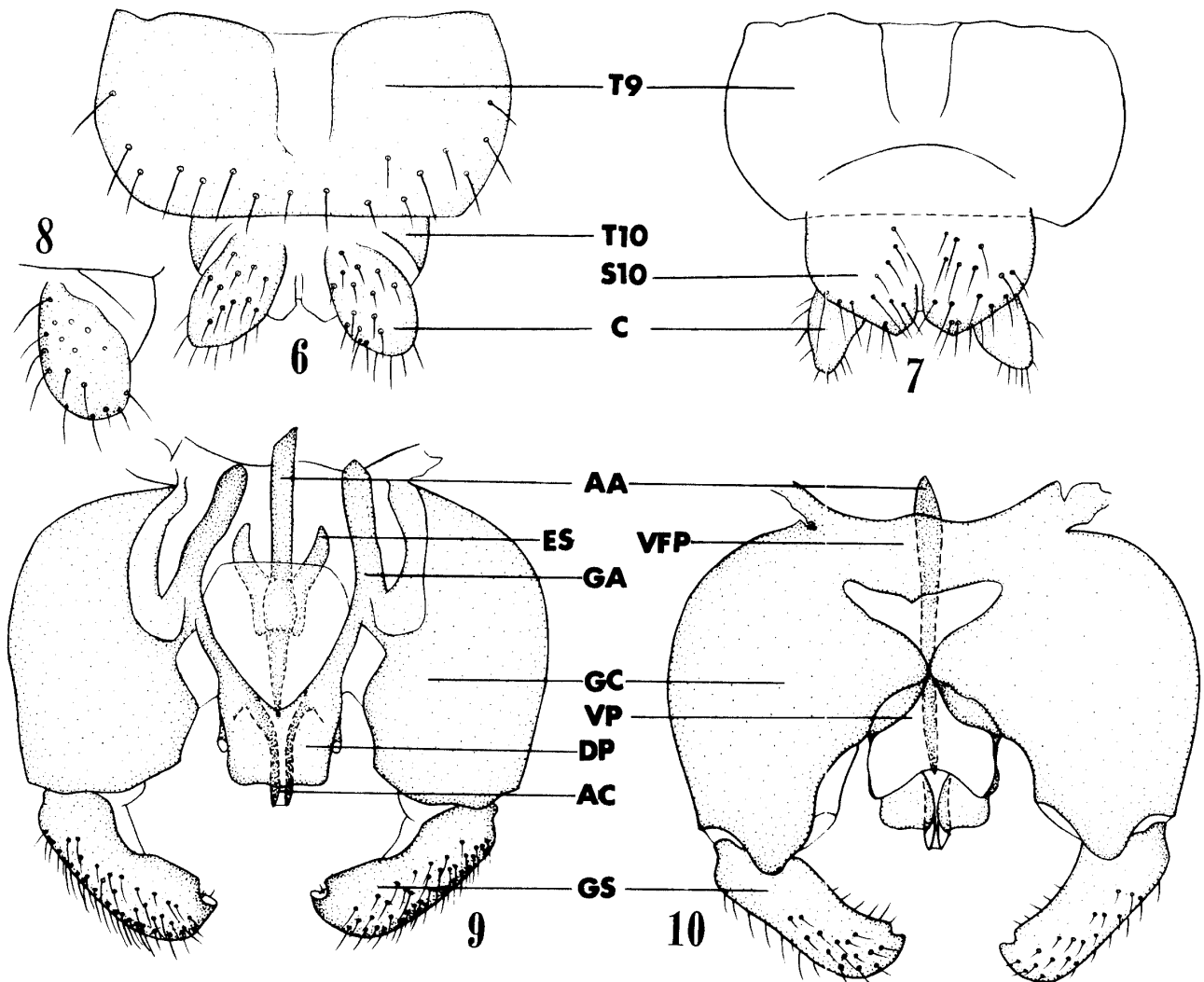
Figs. 2-5. *Anacanthaspis bifasciata* VON RÖDER, male. 2, Wing; 3, antenna, outer view; 4, thorax, dorsal view; 5, abdomen, dorsal view.

*Anacanthaspis bifasciata* VON RÖDER

(Figs. 1-14)

*Anacanthaspis bifasciata* VON RÖDER, 1889, Wien. Ent. Ztg., 8: 8. Type locality: Siberia (Amur).

Male. Body length 12.3-13.6 mm; wing length 10.7-12.0 mm. Head black with pale gray pollinosity. Head with black hairs which are longer on gena, but bare on ocellar tubercle and frons; occiput with pale hairs. Head 1.6 times higher than long; width of one eye on a mid line from a direct frontal view 1.2 times distance from antenna to median ocellus, 2.4-2.7 times width of frons just above antenna and 1.2-1.3 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.4-0.5 times distance from antenna to median ocellus, 0.5 times width of face at lowest point from a direct frontal view and 3.2-3.7 times width of frons at median ocellus;

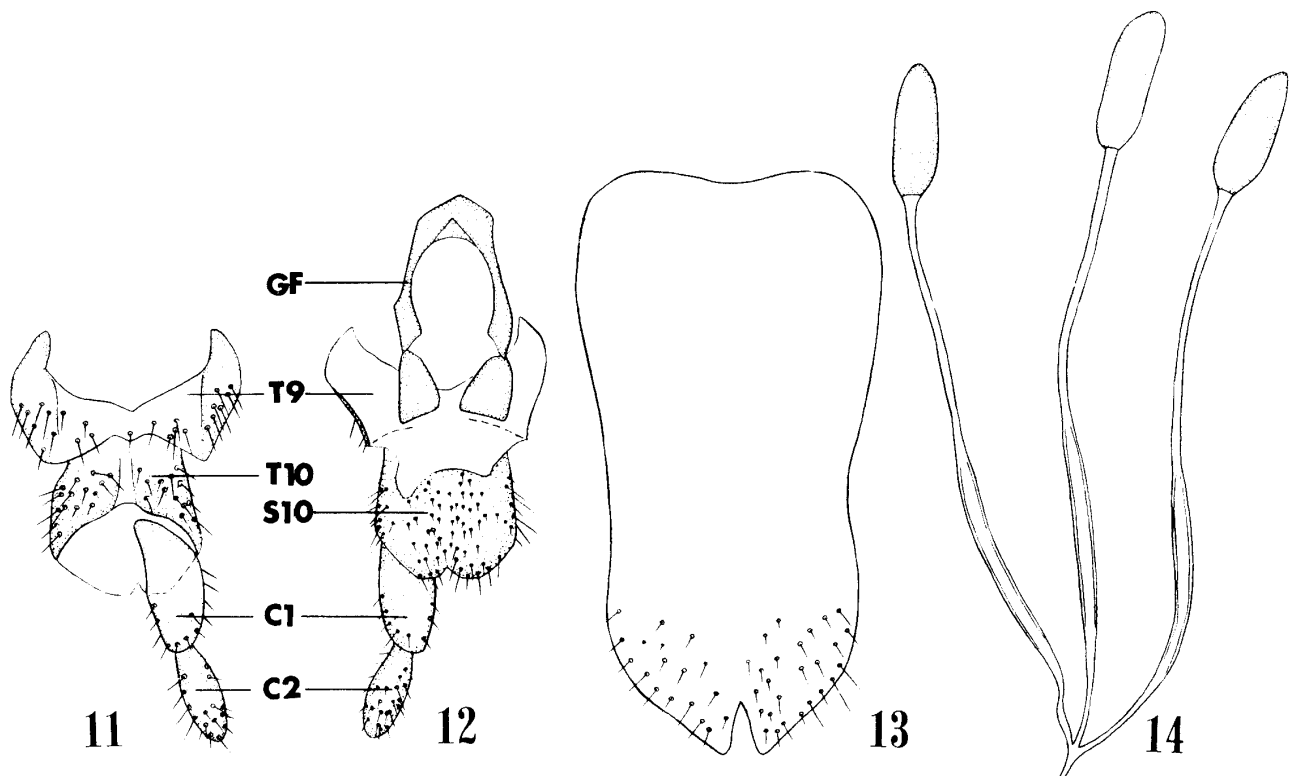


Figs. 6-10. *Anacanthaspis bifasciata* VON RÖDER, male. 6, Tergites 9-10 and cerci, dorsal view; 7, tergite 9, sternite 10 and cerci, ventral view; 8, cercus, dorsolateral view; 9, genital capsule, dorsal view; 10, genital capsule, ventral view. AA, aedeagal apodeme; AC, aedeagal complex; C, cercus; DP, dorsal plate; ES, endophallic sclerite; GA, gonocoxal apodeme; GC, gonocoxite; GS, gonostylus; S10, sternite 10; T9, tergite 9; T10, tergite 10; VFP, ventral fused portion of gonocoxites; VP, ventral plate.

distance from ridge below proboscis to antenna 1.0-1.1 times that from antenna to median ocellus; width of clypeus 0.9 times its length, 0.9-1.0 times width of face at upper portion of clypeus; clypeus 0.6-0.7 times as long as face. Antenna dark brownish yellow, but scape dark brown with brown apex; antennal ratio *c.* 1 : 0.7 : 2.7; total length of antenna 0.9 times distance from antenna to median ocellus. Proboscis dark brown with chiefly pale hairs; palpus 0.7-0.8 times as long as distance from antenna to median ocellus, 1.1 times as long as clypeus, dark brown with black hairs; data based on 2 specimens.

Thorax dark brown to black, with pale gray pollinosity; mesonotum yellow (due to dense yellow pollen) with 3 broad black longitudinal stripes, of which the median one becomes thinner posteriorly before scutellum; scutellum 2.4 times as wide as long. Hairs on thorax chiefly pale; darker stripes on mesonotum chiefly black haired, pleuron chiefly with black hairs except for metapleuron largely pale haired. Legs dark brown to black, coxae concolorous with pleuron; tibiae, apices of femora, tarsomeres 1-2 yellow; hairs on legs chiefly black, but tibiae and tarsi yellow haired. Wing tinged with yellow, with a broad brown band extending to posterior margin from anterior margin through discal cell; axillary cell also tinged with brown;  $M_1$  directly arising from discal cell at insertion of crossvein or with a short basal section; anal cell narrowly open or closed. Halter yellow.

Abdomen dark brown to black with pale gray pollinosity; tergite 1 yellow (due to dense yellow pollen) except narrow black basal band, tergites 2-4 each with yellow apical band (due to dense yellow pollen); venter sometimes reddish brown. Hairs on abdomen pale. Male genitalia (Figs. 6-10): Epandrium wider than long and with narrow mid-anterior area nearly membranous;



Figs. 11-14. *Anacanthaspis bifasciata* VON RÖDER, female. 11, Tergites 9-10 and cerci, dorsal view; 12, genital furca, sternite 10 and cerci, ventral view; 13, sternite 8, ventral view; 14, spermatheca. C1, segment 1 of cercus; C2, segment 2 of cercus; GF, genital furca; S10, sternite 10; T9, tergite 9; T10, tergite 10.

cercus oval; sternite 10 nearly membranous with distinct mid-apical incision; gonocoxites very large, with a triangular membranous window on fused ventral surface; gonostylus moderately long, almost cylindrical, weakly concave on dorso-basal margin, with a weak incision at apex; gonocoxal apodemes somewhat convergent; dorsal plate nearly quadrate, narrowly connected with gonocoxites; ventral plate shorter than dorsal plate, nearly membranous medially; aedeagal apodeme very slender; endophallic sclerites connected posteriorly.

Female. Body length 15.2-20.5 mm; wing length 12.2-14.7 mm. Similar to male except as follows: Hairs on head black except for upper occiput with some pale hairs. Head 1.6-1.7 times higher than long; width of one eye on a mid line from a direct frontal view 1.1-1.2 times distance from antenna to median ocellus, 1.3-1.4 times width of frons just above antenna and 0.8-0.9 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.7-0.9 times distance from antenna to median ocellus, 0.6-0.7 times width of face at lowest point from a direct frontal view and 1.5-1.6 times width of frons at median ocellus; distance from ridge below proboscis to antenna 1.1-1.3 times that from antenna to median ocellus; width of clypeus 0.9 times its length, 0.7-0.8 times width of face at upper portion of clypeus; clypeus 0.7 times as long as face. Antennal ratio *c.* 1 : 0.7 : 2.3. Palpus 1.1 times as long as clypeus. Wing without distinct dark markings. On abdominal tergites 3-4 yellow apical bands not extending to lateral margin. Female genitalia (Figs. 11-14): Sternite 10 weakly concave at posterior margin; cercus with segment 1 thicker than segment 2; genital furca with lateral bar having widened part nearly triangular; of three spermathecal heads which are long, lateral ones are narrowed apically and median one is nearly rounded apically.

Specimens examined: 1 ♂, Qingyuan, Liaoning, 20. vi. 1954; 2 ♀♀, Ning'an, Heilongjiang, 16. viii. 1985, Ke LUO; 1 ♂, 1 ♀, Ersentientze, Manchuria, 15. vi. 1941, V. N. ALIN.

Distribution. China (Liaoning, Heilongjiang), Siberia.

***Anacanthaspis bifasciata japonica* SHIRAKI**

(Figs. 15-23)

*Anacanthaspis bifasciata* var. *japonica* SHIRAKI, 1932, Trans. Nat. Hist. Formosa, 22: 489. Type locality. Honshu (Kamikochi or Ibuki).

Some notes and illustrations are added to SHIRAKI (1932) and NAGATOMI and SAIGUSA (1970).

In the continental form (= *bifasciata*), (1) median stripe on mesonotum acute posteriorly just before scutellum (Fig. 4); (2) 1st and 2nd basal cells and anal cell without distinct darkened spots (Fig. 2); (3) abdominal tergite 1 with narrow basal black spot (Fig. 5); (4) male cercus oval with rounded apex (Fig. 8); (5) male sternite 10 with distinct mid-posterior incision (Fig. 7); (6) distribution: E. Siberia and China.

Whereas in the Japanese form (= *bifasciata japonica*), (1) median spot on mesonotum wide posteriorly just before scutellum (Fig. 17); (2) 1st and 2nd basal cells with darkened basal spot, and anal cell nearly wholly darkened (Fig. 15); (3) abdominal tergite 1 with very wide black basal spot (Fig. 18); (4) male cercus triangular with acute apex (Fig. 21); (5) male sternite 10 with weak mid-posterior incision (Fig. 20); (6) distribution: Japan.

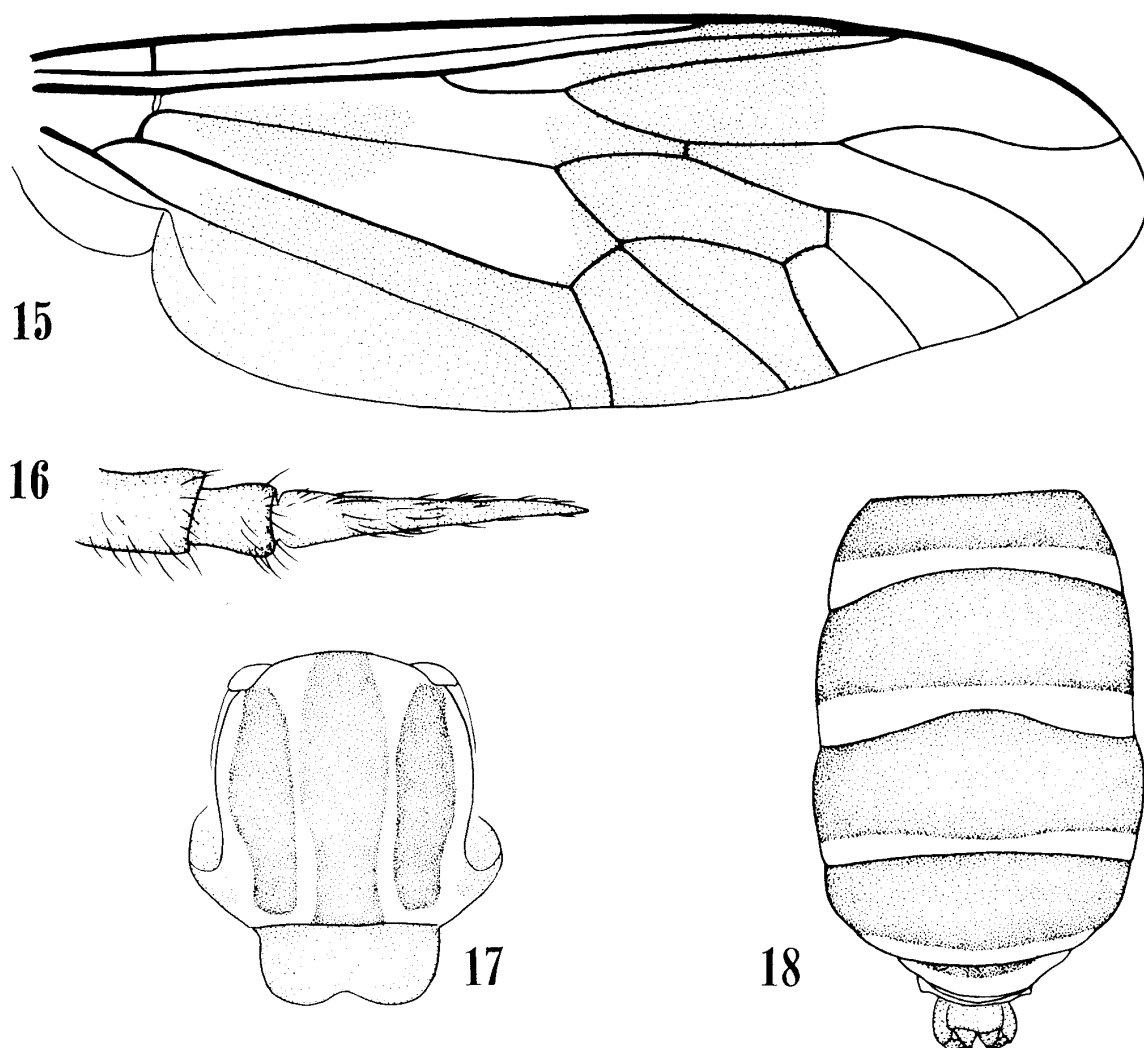
The Japanese form is probably distinct specifically from the continental form, because the character (4) is striking as the difference between the two forms.

**Genus *Arthropeas* LOEW**

*Arthropeas* LOEW, 1850, Stettin. Ent. Ztg., 9: 304. Type species: *Arthropeas sibirica* LOEW. By monotypy.

Diagnosis. Body moderately large. Head nearly as wide as (in ♂) or distinctly narrower than (in ♀) thorax; eye bare in both sexes, male eyes contiguous, female eyes widely separated; female frons somewhat convergent toward vertex, its width just above antenna over 1/2 that of one eye; gena below eye wide; face with some hairs on upper lateral area; antennal scape as wide as long, slightly longer than pedicel, scape + pedicel shorter than 1/2 of flagellum. Palpus longer than clypeus. Scutellum rounded, convex on disc, without spines; its basal margin convex forward. Metapleuron pilose except for antero-dorsal and posterior margins bare. Hind femur shorter than mesonotum + scutellum. Wing with 4th posterior cell widely open and vein  $M_1$  arising from discal cell at or near crossvein. Abdomen widest at segment 1, then gradually becoming narrower toward apex.

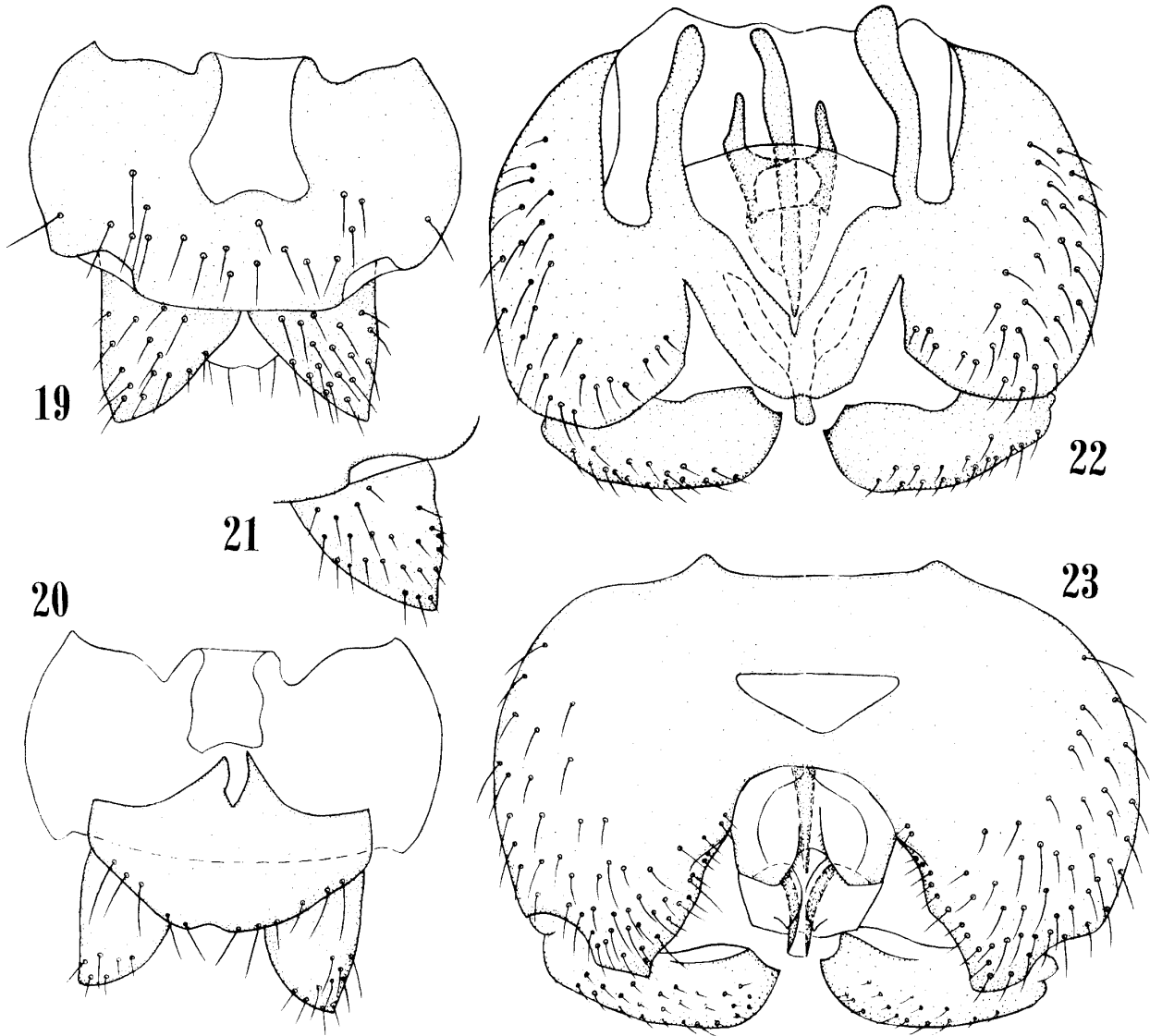
Distribution. Palaearctic region (2 species), Nearctic region (2 species).



Figs. 15-18. *Anacanthaspis bifasciata japonica* SHIRAKI, male. 15, Wing; 16, antenna, outer view; 17, thorax, dorsal view; 18, abdomen, dorsal view.



Remarks. The genus *Arthropeas* LOEW contains 4 known species which are distributed in the Holarctic region. NAGATOMI and NAGATOMI (1988) made a revisional study of the world species. Only one species has been known from China.



Figs. 19-23. *Anacanthaspis bifasciata japonica* SHIRAKI, male. 19, Tergites 9 and cerci, dorsal view; 20, tergite 9, sternite 10 and cerci, ventral view; 21, cercus, dorsolateral view; 22, genital capsule, dorsal view; 23, genital capsule, ventral view.

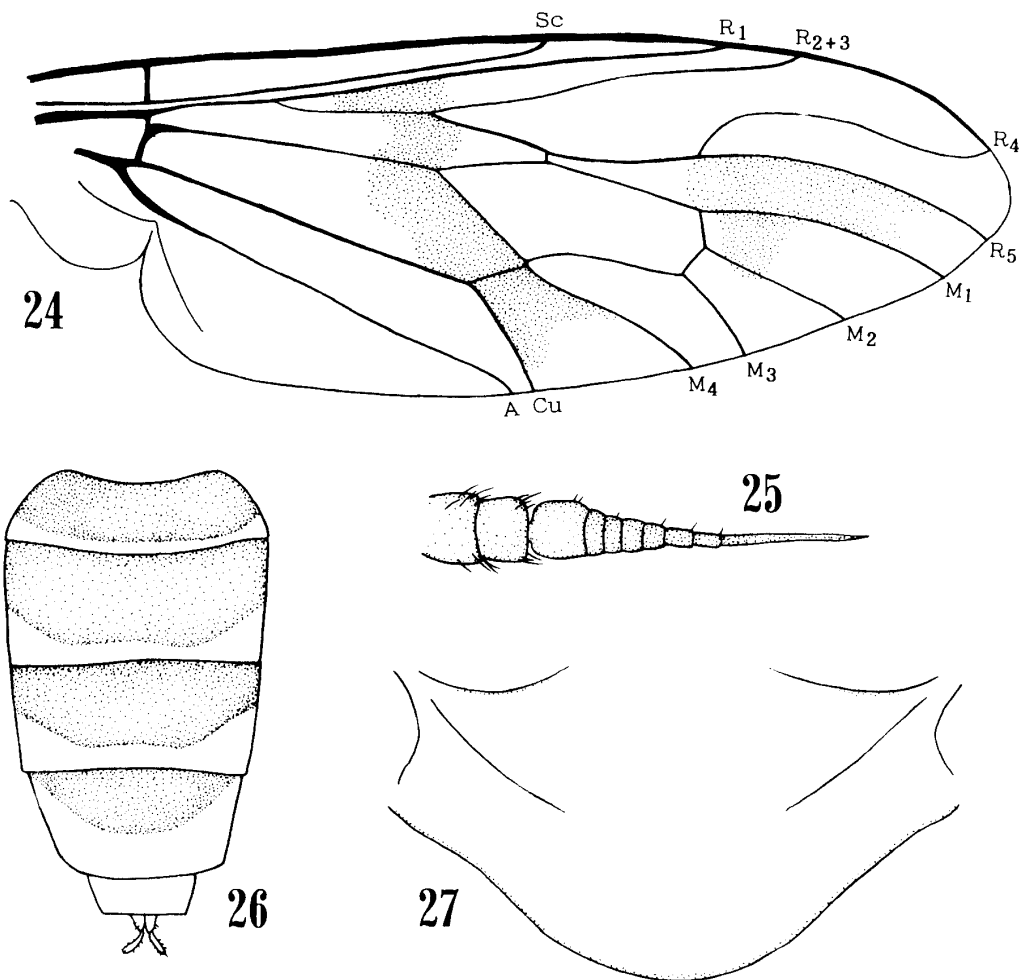
***Arthropeas sibiricum* LOEW**

(Figs. 24-36)

*Arthropeas sibiricum* LOEW, 1850, Stettin. Ent. Zeitg., 9: 305. Type locality: Siberia.

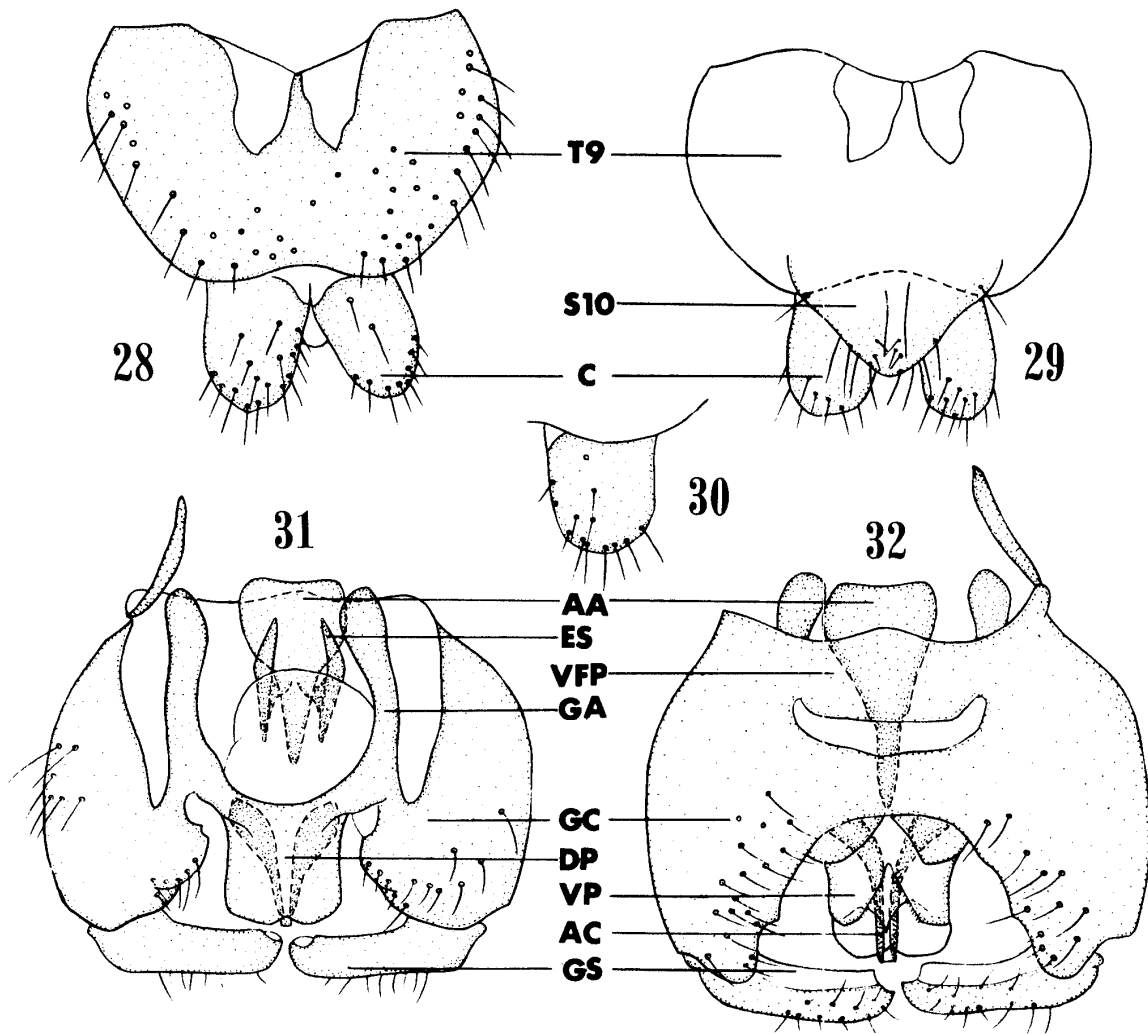
Male. Body length 9.8-10.0 mm, wing length 8.7-8.9 mm. Head dark brown to black with pale gray pollinosity, but lower frontal triangle, lateral border of face, and clypeus tinged with brownish yellow. Hairs on head pale, but longer on gena; upper occiput with some black hairs. Head 1.3-1.5 times higher than long; eyes narrowly separated or contiguous; width of one eye on a mid line from

a direct frontal view 1.1-1.2 times distance from antenna to median ocellus, 1.9-2.3 times width of frons just above antenna and 1.0 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.5-0.6 times distance from antenna to median ocellus, 0.5-0.6 times width of face at lowest point from a direct frontal view and 3.0-3.7 times width of frons at median ocellus; distance from ridge below proboscis to antenna 1.1 times that from antenna to median ocellus; width of clypeus 0.9-1.0 times its length, 0.5-0.6 times width of face at upper portion of clypeus; clypeus 0.6 - 0.7 times as long as face. Antenna yellow with pale hairs; antennal ratio  $c. 1 : 0.8 : 5.2$ ; total length of antenna 0.9-1.0 times distance from antenna to median ocellus. Proboscis yellow with pale hairs; palpus 0.7-0.8 times as long as distance from antenna to median ocellus, 1.2-1.3 times as long as clypeus, yellow with long pale hairs; data based on 4 specimens.



Figs. 24-27. *Arthropeas sibiricum* Loew, male. 24, Wing; 25, antenna, outer view; 26, abdomen, dorsal view; 27, scutellum, dorsal view.

Thorax dark brown to black with pale gray pollinosity; mesonotum with 3 broad darker stripes. Hairs on thorax pale, mesonotum with chiefly black hairs on median portion, and pale hairs on lateral portion; hairs on scutellum chiefly black. Legs yellowish brown, coxae black and concolorous with pleuron; tarsomeres 4-5 darker; hairs on legs chiefly black, but coxae only with pale hairs. Wing tinged with grayish yellow, with a median oblique dark spot extending from basal portion of 2nd marginal cell to basal portion of 5th posterior cell through apical portions of basal



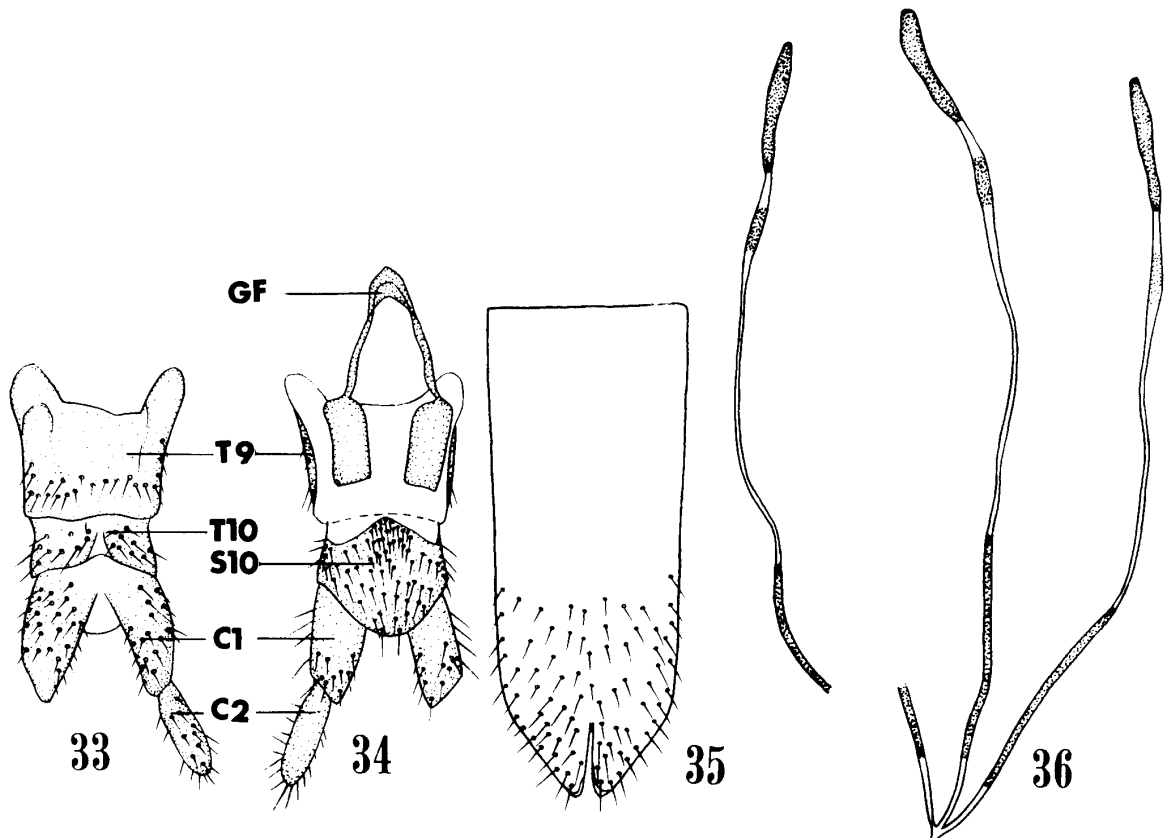
Figs. 28-32. *Arthropeas sibiricum* Loew, male. 28, Tergite 9 and cerci, dorsal view; 29, tergite 9, sternite 10 and cerci, ventral view; 30, cercus, dorsolateral view; 31, genital capsule, dorsal view; 32, genital capsule, ventral view.

cells and one (or two) darker apical spot ending before wing margin. Halter brownish yellow.

Abdomen light yellowish brown; tergites 1-4 each with a black basal band; genitalia black. Hairs on abdomen pale, but dorsum with some black hairs. Male genitalia (Figs. 28-32): Epandrium wider than long, with mid-anterior area somewhat membranous, sternite 10 somewhat acute posteriorly; cercus short and rounded posteriorly; fused gonocoxites wider than long, and with a narrow membranous window ventrally; gonostylus nearly straight; gonocoxal apodemes nearly parallel; dorsal plate nearly quadrate and with a weak mid-posterior incision on dorsal view; aedeagal apodeme quite broad with acute posterior portion; endophallic sclerites separated and stripe-like.

Female. Body length 10.4-11.8 mm, wing length 9.3-10.0 mm. Similar to male except as follows: Head 1.4-1.5 times higher than long; width of one eye on a mid line from a direct frontal view 1.0-1.1 times distance from antenna to median ocellus, 1.0-1.2 times width of frons just above antenna and 0.7-0.8 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.9-1.0 times distance from antenna to median ocellus, 0.7-0.8 times width of face at lowest point from a direct frontal view and 1.3-1.4 times width of frons at median ocellus;

distance from ridge below proboscis to antenna 1.4 times that from antenna to median ocellus; width of clypeus 0.9 times its length, 0.5 times width of face at upper portion of clypeus; clypeus 0.6-0.7 times as long as face. Antennal ratio *c.* 1 : 0.9 : 6.1; total length of antenna 1.2-1.3 times distance from antenna to median ocellus. Palpus 1.0 times as long as distance from antenna to median ocellus, 1.2-1.3 times as long as clypeus. Data based on 5 specimens. Female genitalia (Figs. 33-36): Sternite 10 rounded apically; cercus with segment 1 thicker than segment 2; genital furca with lateral bar having posterior widened part long and rectangular; spermathecal head quite slender.



Figs. 33-36. *Arthropeas sibiricum* LOEW, female. 33, Tergites 9-10 and cerci, dorsal view; 34, genital furca, sternite 10 and cerci, ventral view; 35, sternite 8, ventral view; 36, spermatheca.

Specimens examined: 3 ♂♂, 1 ♀, Mengyuan, Qinghai, 15-30. vii. 1990; 2 ♀♀, Jone, Gansu, 16. viii. 1980, Chi-kun YANG; 1 ♀, Têwo (1,700m), Gansu, 12. viii. 1980, Chi-kun YANG; 1 ♂, Hezheng, Gansu, 26. vii. 1980; 2 ♀♀, Wulingshan Mountain, Hebei, 21. viii. 1973, Chi-kun YANG; 1 ♀, Wulingshan Mountain, Hebei, viii. 1974; 1 ♀, Baihuashan Mountain, Beijing, vii. 1983, Qin WANG.

Distribution. China (Qinghai, Xizang, Gansu, Hebei, Beijing), E. Siberia, Korea.

Remarks. For redescription of this species, also see NAGATOMI and NAGATOMI (1988).

#### Genus *Coenomyia* LATREILLE

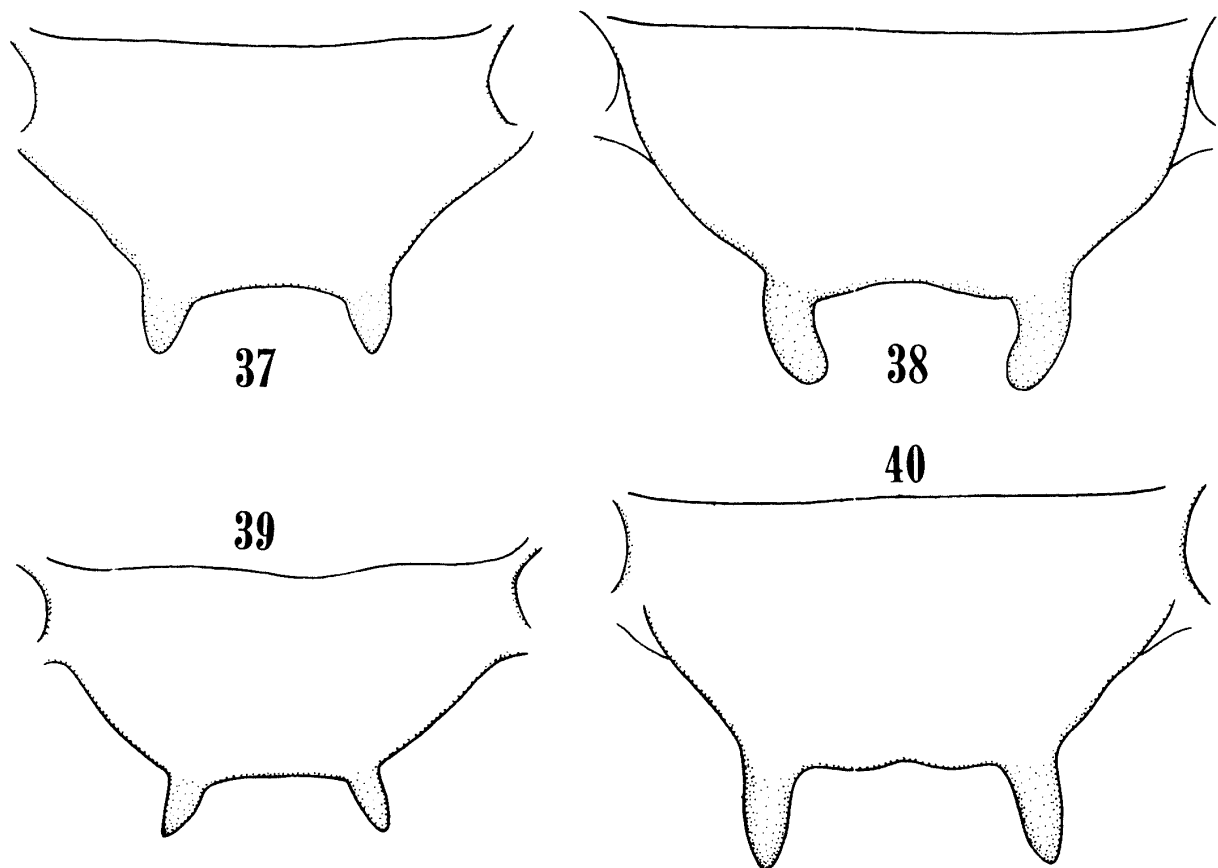
*Coenomyia* LATREILLE, 1796, *Precis d. caract. gener. d. Ins.*, p.159. Type species. *Musca ferruginea* SCOPOLI.

**Diagnosis.** Body large and robust. Head distinctly narrower than thorax (difference between them conspicuous in ♀) which is massively developed; eyes long haired in both sexes; male eyes narrowly separated or contiguous, female eyes widely separated; female frons convergent toward vertex, its width just above antenna over 1/2 that of one eye; frons with a median wart near antenna; clypeus large and nearly extending to antenna; gena below eye markedly wide especially in ♀; face with dense and long hairs; antennal scape distinctly longer than wide, pedicel much shorter than scape, scape + pedicel over 1/2 as long as flagellum; palpus long, nearly extending to antenna. Mesonotum strongly convex, usually with two mid-posterior warts just before scutellum. Scutellum trapezoid, convex on disc, with two small spines which are much shorter than half of scutellum; its basal margin nearly straight. Metapleuron pilose except for posterior margin. Hind femur shorter than mesonotum + scutellum. Wing with 4th posterior cell widely open and vein  $M_4$  arising from discal cell much beyond crossvein. Abdomen widest at segments 2-3.

A striking sexual dimorphism is present in body size and coloration.

**Distribution.** Palaearctic region (3 species, of which 1 species extends to the Oriental region, 1 to the Nearctic region), Oriental region (1 new species + 1 species), Nearctic region (1 species).

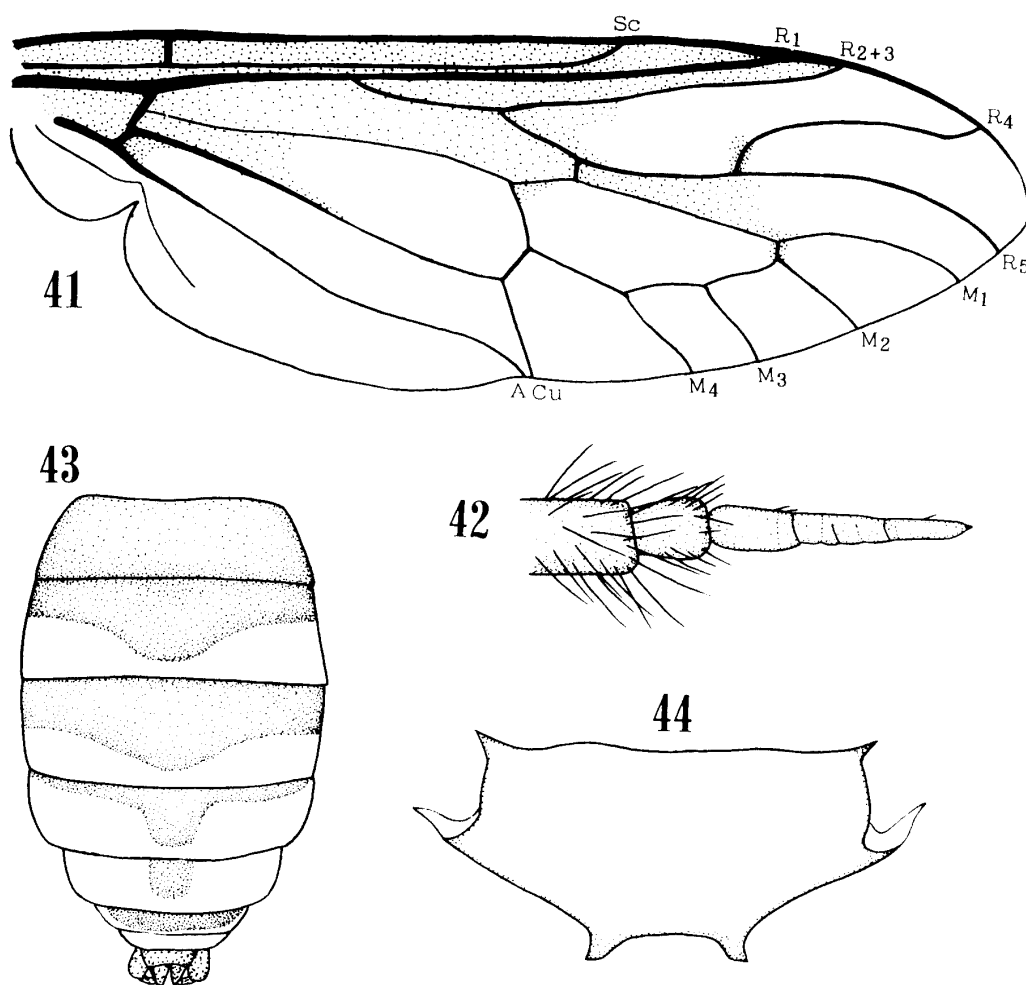
**Remarks.** *Coenomyia* contained 3 known species from the world. OLDROYD (1966) revised these species. One species was previously known from China. Here 1 new species is added to the fauna of China. A key to the world species of *Coenomyia* is presented for the convenience of future study.



Figs. 37-40. Scutellum of *Coenomyia* species, dorsal view. 37, *Coenomyia ferruginea* (SCOPOLI), male; 38, *Coenomyia ferruginea* (SCOPOLI), female; 39, *Coenomyia basalis* MATSUMURA, male; 40, *Coenomyia basalis* MATSUMURA, female.

Key (2) to world species of *Coenomyia*

1. Spines on scutellum conspicuous, conical (Figs. 37-40) ..... 2
- Spines on scutellum inconspicuous (Figs. 44, 53, 62) ..... 3
2. Hairs on eyes longer; male eyes narrowly separated; female antenna 1.8-1.9 times and female palpus 1.4-1.7 times as long as distance from antenna to median ocellus (after NAGATOMI, 1987). Sakhalin, Kuril Is., Japan ..... *basalis* MATSUMURA
- Hairs on eyes shorter; male eyes contiguous; female antenna 0.9 times (or so) and female palpus 0.8 times (or so) as long as distance from antenna to median ocellus (after NAGATOMI, 1987). Europe, N. America ..... *ferruginea* (SCOPOLI)
3. Mesonotum with two weak warts at middle of posterior margin; male abdomen reddish brown, with dorsum having dark brown parts; female abdomen wholly dark yellow or orange; female frons and face markedly convergent below. N. China, Sikkim, Nepal ..... *bituberculata* ENDERLEIN
- Mesonotum without distinct warts at middle of posterior margin; abdomen dark brown to black with paired triangular apical yellow spots on tergite 2. S. China ..... *maculata* sp. nov. (♀ unknown)



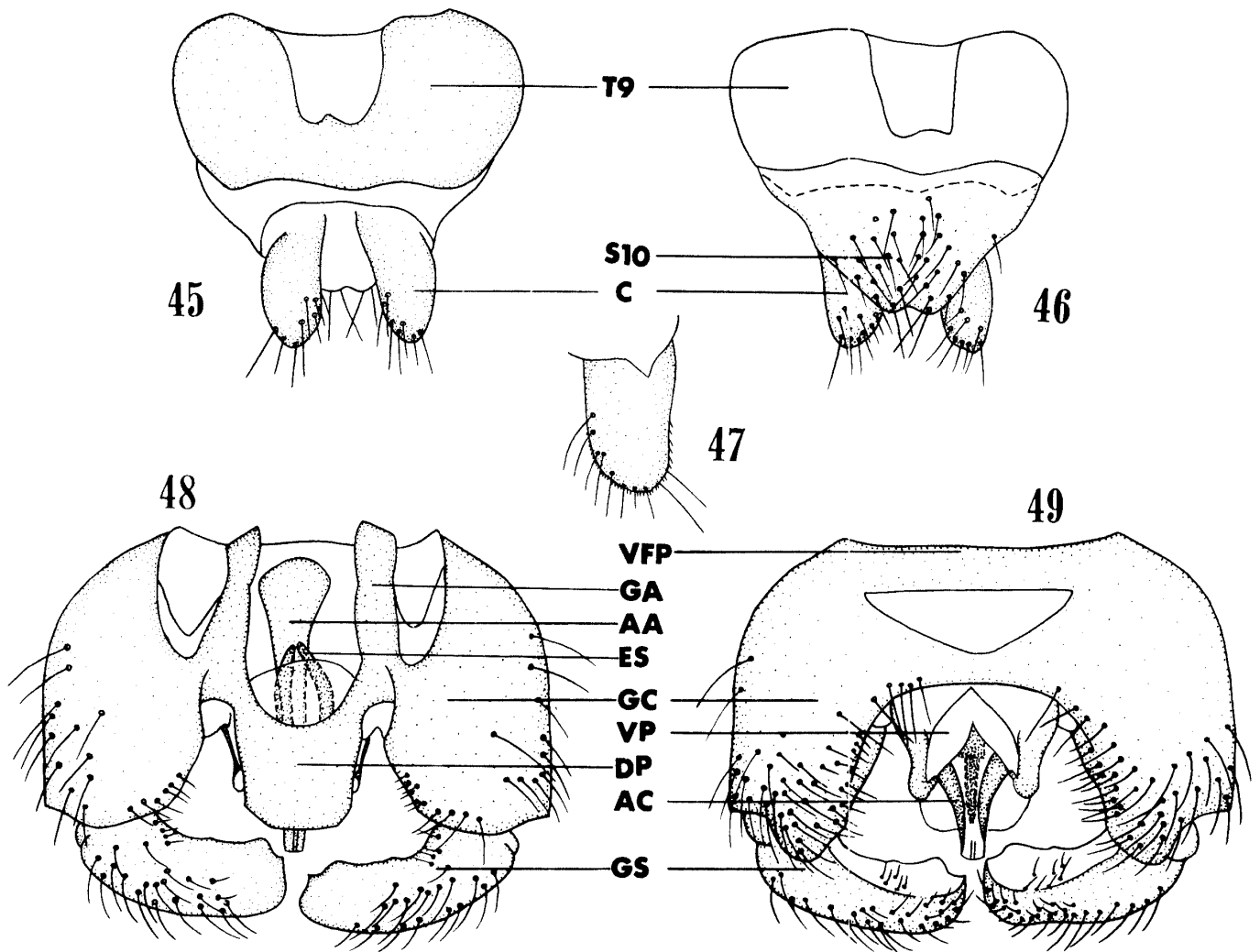
Figs. 41-44. *Coenomyia bituberculata* ENDERLEIN, male. 41, Wing; 42, antenna, outer view; 43, abdomen, dorsal view; 44, scutellum, dorsal view.

*Coenomyia bituberculata* ENDERLEIN

(Figs. 41-58)

*Coenomyia bituberculata* ENDERLEIN, 1921, Mitt. Zool. Mus. Berlin, 10: 213. Type locality: Sikkim.

Male. Body length 12.9 mm, wing length 10.2 mm. Head dark brown to black with thick white pollinosity. Hairs on head yellow and long, but clypeus bare. Eyes narrowly separated, with pale yellow hairs. Head 1.9 times higher than long; width of one eye on a mid line from a direct frontal view 1.2 times distance from antenna to median ocellus, 1.9 times width of frons just above antenna and 0.8 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.6 times distance from antenna to median ocellus, 0.45 times width of face at lowest point from a direct frontal view and 5.0 times width of frons at median ocellus; distance from ridge below proboscis to antenna 1.2 times that from antenna to median ocellus; width of clypeus 0.9 time its length, 0.8 times width of face at upper portion of clypeus; clypeus 0.9 times as long as face. Antenna black except for apex of pedicel and base of flagellum yellow; scape and pedicel

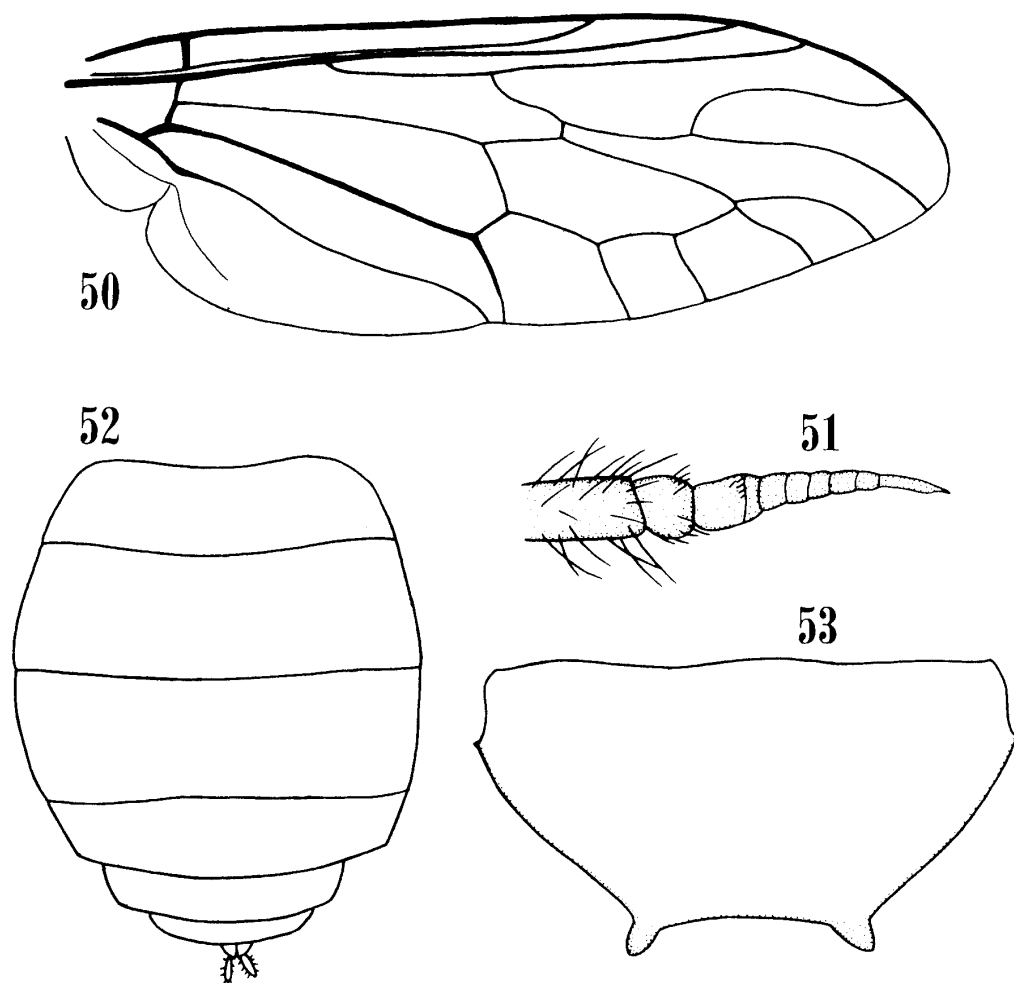


Figs. 45-49. *Coenomyia bituberculata* ENDERLEIN, male. 45, Tergites 9-10 and cerci, dorsal view; 46, tergite 9, sternite 10 and cerci, ventral view; 47, cercus, dorsolateral view; 48, genital capsule, dorsal view; 49, genital capsule, ventral view.

with black and yellow hairs, flagellum with some indistinct black hairs; antennal ratio *c.* 1 : 0.6 : 2.2; total length of antenna 1.1 times distance from antenna to median ocellus. Proboscis brownish to blackish brown with chiefly yellow hairs; palpus 0.9 times as long as distance from antenna to median ocellus, nearly as long as clypeus, blackish brown with yellow hairs.

Thorax dark brown with grayish white pollinosity; mesonotum with 3 broad darker longitudinal stripes, of which the median one is more or less divided by a pale line. Hairs on thorax yellow; postscutellum bare medially; lower portion of pleuron bare. Mesonotum with mid-posterior small and inconspicuous warts just before scutellum; scutellum 2.7 times wider than long, with two short spines slightly curved outward. Legs reddish brown, but coxae and trochanters darker and concolorous with pleuron; hairs long and yellow, but those on tibiae, tarsi and hind femur (except for basal portion) uniformly short, brownish or black. Wing pale gray, but costal field darker. Halter yellow, but knob paler.

Abdomen reddish brown, but tergite 1 wholly black, tergites 2-4 with a basal black spot, tergite 5 with a median blackish spot, tergite 6 blackish with reddish brown posterior margin; venter wholly light reddish brown. Hairs on abdomen yellowish brown, longer laterally. Male genitalia (Figs. 45-49): Epandrium distinctly wider than long, and with mid-anterior area membranous; sternite 10 weakly concave posteriorly; cercus rounded apically; gonocoxites wider than



Figs. 50-53. *Coenomyia bituberculata* ENDERLEIN, female. 50, Wing; 51, antenna, outer view; 52, abdomen, dorsal view; 53, scutellum, dorsal view.



long, with a triangular membranous window on fused ventral surface; gonostylus weakly concave on inner margin; gonocoxal apodemes nearly parallel; dorsal plate nearly quadrate; aedeagal apodeme very long, with wider anterior portion; endophallic sclerites curved and stripe-like.

Female. Body length 18.0-21.2 mm, wing length 13.2-15.8 mm. Head dark yellow, but occiput dark brown except for mid-upper area and lower portion. Hairs on head yellow, especially long on lower portion; clypeus bare except for upper margin with some hairs. Head 1.9-2.0 times higher than long; width of one eye on a mid line from a direct frontal view 1.1-1.2 times distance from antenna to median ocellus, 1.0-1.2 times width of frons just above antenna and 0.6-0.7 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.9-1.1 times distance from antenna to median ocellus, 0.6-0.7 times width of face at lowest point from a direct frontal view and 2.2-2.3 times width of frons at median ocellus; distance from ridge below proboscis to antenna 1.7-1.8 times that from antenna to median ocellus; width of clypeus 0.7-0.8 times its length, 0.7-0.8 times width of face at upper portion of clypeus; clypeus 0.9 times as long as face. Antenna dark yellow, antennal ratio *c.* 1 : 0.4 : 1.9; total length of antenna 1.7 times distance from antenna to median ocellus. Proboscis dark yellow, with yellow hairs; palpus 1.4-1.6 times as long as distance from antenna to median ocellus, nearly as long as clypeus, yellow or dark yellow with yellow hairs; data based on 4 specimens.

Thorax dark yellow, but mesonotum sometimes with one pair of indistinct blackish longitudinal stripes. Hairs on thorax yellow, postscutellum bare medially; median portion of sternopleuron and area above mid and hind coxae bare. Mesonotum with two mid-posterior warts just before scutellum; scutellum 2.1 times wider than long. Spines on scutellum short. Legs dark yellow with yellow hairs; hairs on tibiae, tarsi and hind femur (except basal portion) uniformly short. Wing pale, veins yellow to dark yellow. Halter yellow.

Abdomen dark yellow with yellow hairs. Female genitalia (Figs. 55-58): Sternite 8 compara-

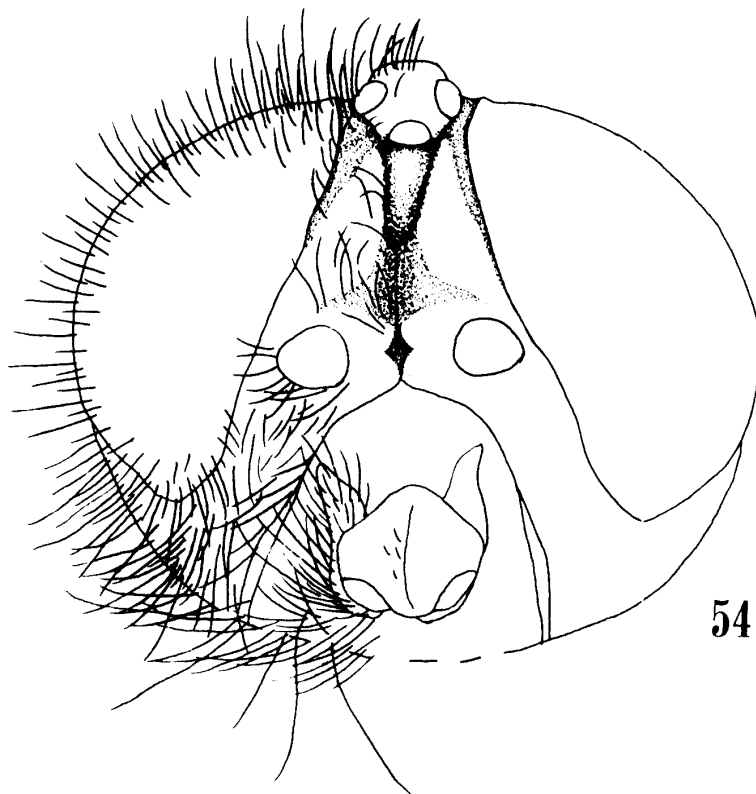
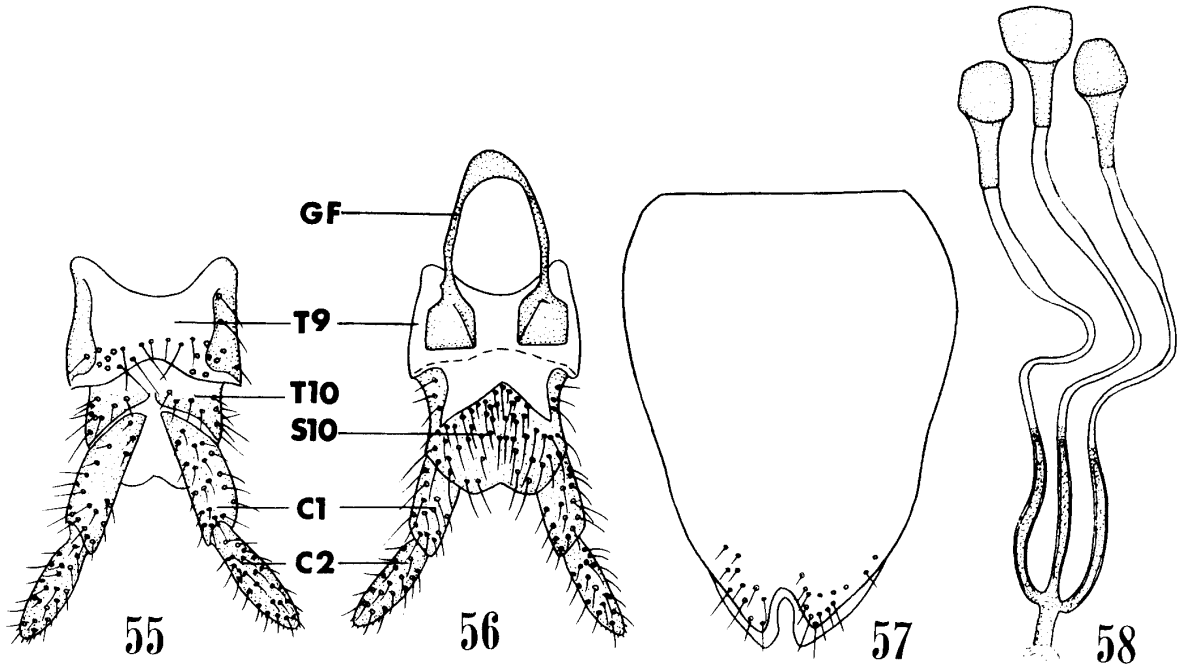


Fig. 54. *Coenomyia bituberculata* ENDERLEIN, female head, anterior view.

tively wide with a narrow posterior incision; sternite 10 concave posteriorly; cercus with segment 1 thicker than segment 2; genital furca with lateral bar having posterior nearly quadrate widened part; spermathecal head nearly quadrate at the end section.



Figs. 55-58. *Coenomyia bituberculata* ENDERLEIN, female. 55, Tergites 9-10 and cerci dorsal view; 56, genital furca, sternite 10 and cerci, ventral view; 57, sternite 8, ventral view; 58, spermatheca.

Specimens examined: 5 ♀♀, Bomi, Xizang, 18. vii. 1978, Fasheng LI; 1 ♂, Yadong, Xizang, 7. vii. 1992, Tianyu GUO.

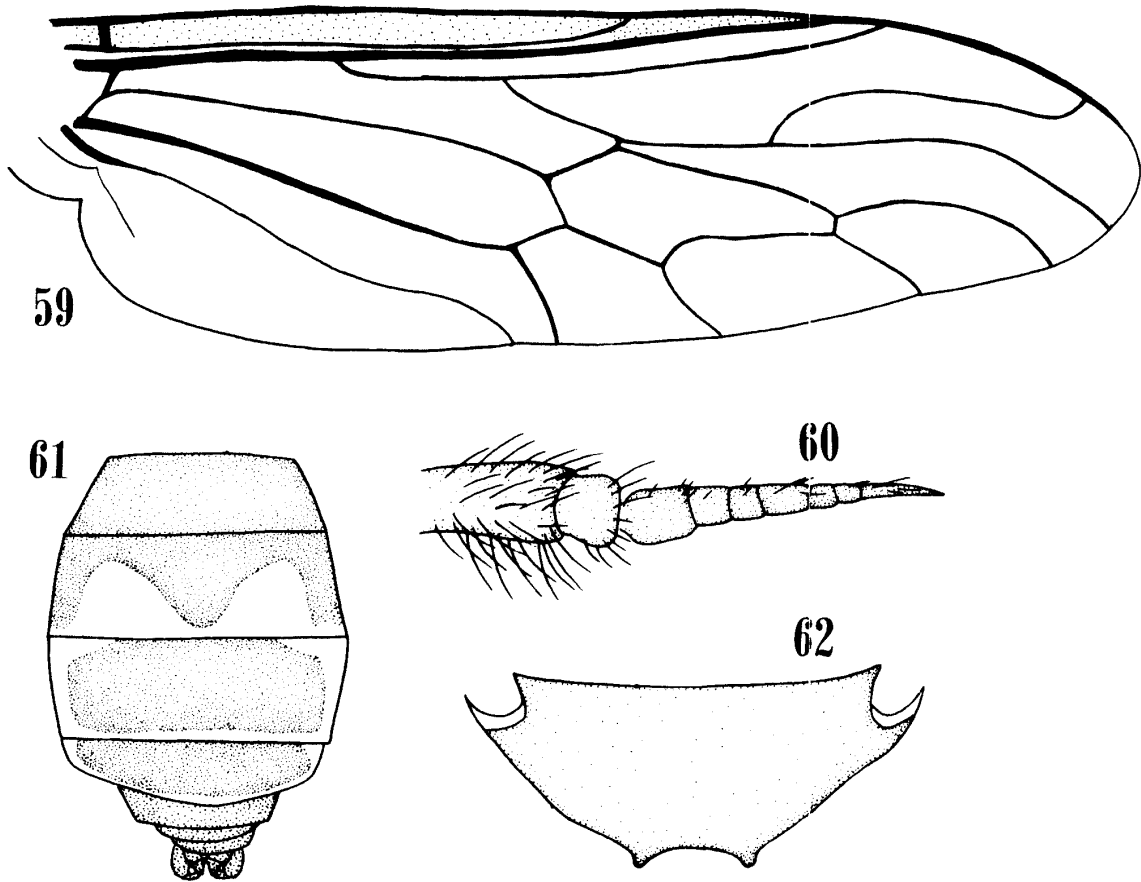
Distribution. China (Xizang), Sikkim and Nepal.

Remarks. For redescription of this species, also see OLDROYD (1966).

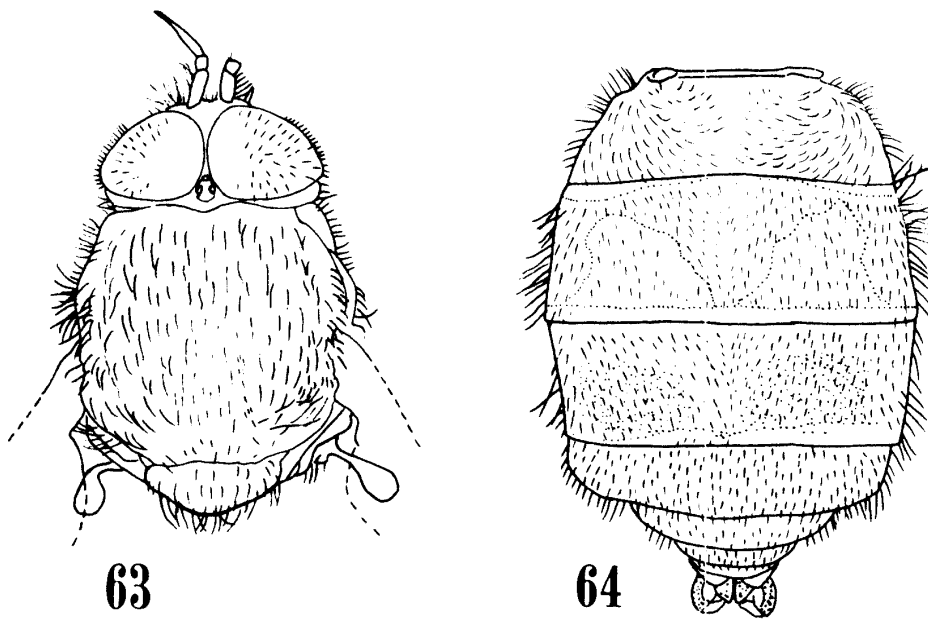
***Coenomyia maculata* YANG et NAGATOMI, sp. nov.**

(Figs. 59-69)

Male. Body length 11.3-12.2 mm, wing length 11.5-11.8 mm. Head dark brown to black with thick white pollinosity. Hairs on head yellow and long, but ocellar tubercle, face and gena with some black hairs, clypeus bare except for upper portion chiefly yellow haired. Eyes nearly contiguous with pale hairs. Head 1.8 times higher than long; width of one eye on a mid line from a direct frontal view 1.2-1.3 times distance from antenna to median ocellus, 2.1-2.2 times width of frons just above antenna and 0.8-0.9 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.6 times distance from antenna to median ocellus, 0.4 times width of face at lowest point from a direct frontal view and 4.0-4.2 times width of frons at median ocellus; distance from ridge below proboscis to antenna 1.2-1.3 times that from antenna to median ocellus; width of clypeus 0.8-0.9 times its length, 0.7 times width of face at upper portion of clypeus; clypeus 0.8-0.9 times as long as face. Antenna yellow, but scape blackish brown with yellow tip; scape and pedicel with chiefly yellow hairs, flagellum with some yellow or black hairs; antennal ratio c. 1 : 0.4 : 2.1; total length of antenna 1.2-1.3 times distance from antenna to median ocellus.



Figs. 59-62. *Coenomyia maculata* sp. nov., male. 59, Wing; 60, antenna, outer view; 61, abdomen, dorsal view; 62, scutellum, dorsal view.

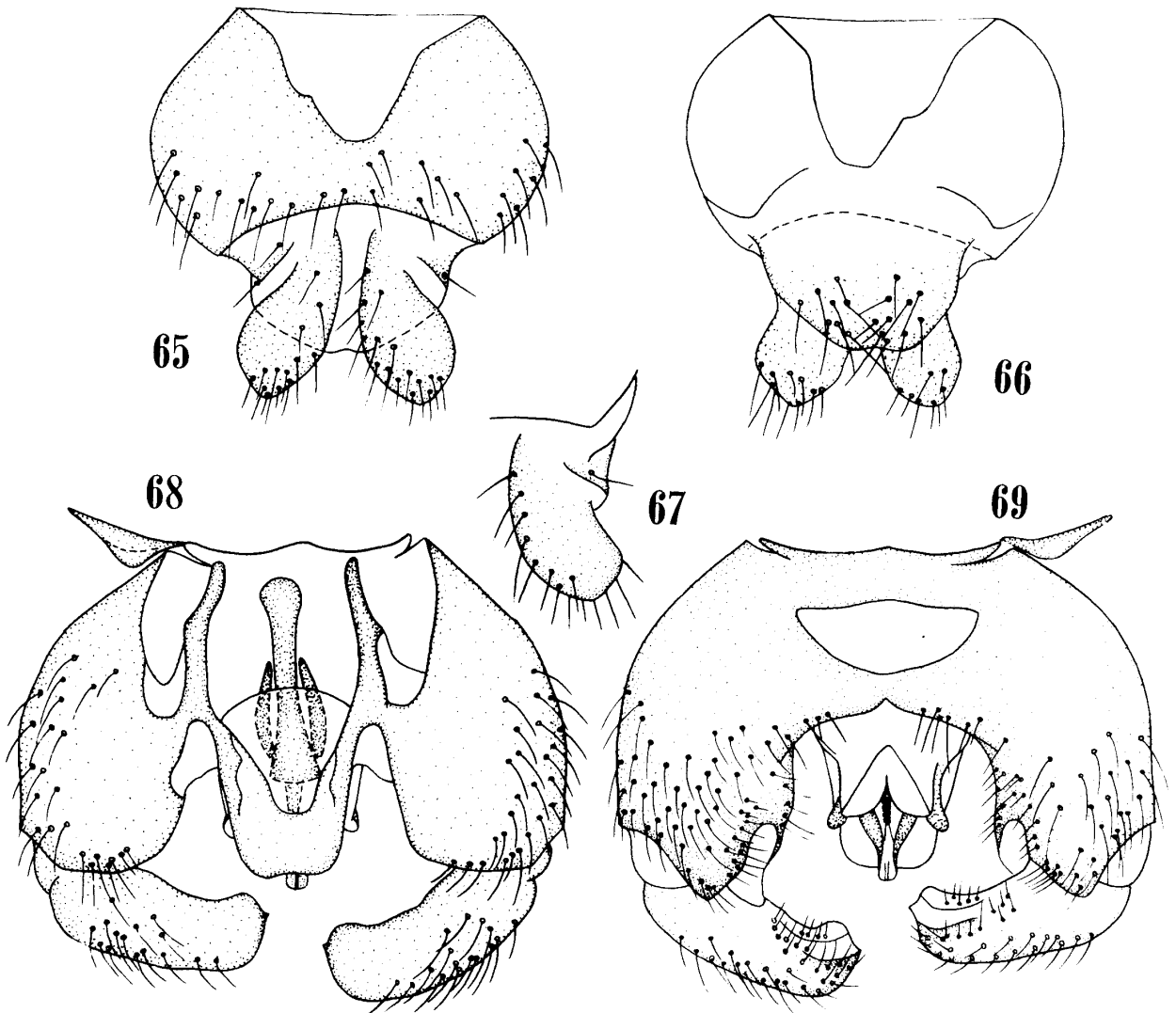


Figs. 63-64. *Coenomyia maculata* sp. nov., male. 63, Head and thorax, dorsal view; 64, abdomen, dorsal view.

Proboscis brownish yellow with short brown hairs; palpus as long as distance from antenna to median ocellus, 1.0-1.1 times as long as clypeus, blackish brown with long yellow hairs. Data based on 5 specimens.

Thorax dark brown with grayish white pollinosity; mesonotum with 3 broad darker longitudinal stripes. Hairs on thorax yellow; postscutellum bare medially; lower part of pleuron bare. Mesonotum without distinct mid-posterior warts just before scutellum; scutellum 2.7-2.9 times wider than long, with two very weak spines. Legs reddish brown, but coxae and trochanters darker and concolorous with pleuron and tarsomeres 2-5 darkened; hairs long and yellow, but those on tibiae, tarsi, and hind femur (except for basal portion) uniformly short, brownish or black. Wing pale gray, but anterior field darker. Halter yellow.

Abdomen blackish brown, but tergite 2 with a pair of triangular posterior spots, tergites 3-4 with lateral and posterior margins paler. Hairs on abdomen pale, longer laterally. Male genitalia (Figs. 65-69): Epandrium wider than long with large mid-anterior area membranous; sternite 10 weakly concave posteriorly; cercus slightly curved outward, with somewhat acute apex;



Figs. 65-69. *Coenomyia maculata* sp. nov., male. 65, Tergites 9-10 and cerci, dorsal view; 66, tergite 9, sternite 10 and cerci, ventral view; 67, cercus, dorsolateral view; 68, genital capsule, dorsal view; 69, genital capsule, ventral view.

gonocoxites very large, wider than long, with a nearly triangular or semicircular membranous window on fused ventral surface; gonostylus with inner margin weakly curved; gonocoxal apodemes weakly convergent; dorsal plate quadrate, narrowly connected with gonocoxites; aedeagal apodeme narrow; endophallic sclerites narrow, stripe-like.

Female. Unknown.

Holotype ♂, paratypes 7 ♂♂, Jian'ou, Fujian, 20-25. iv. 1988, Shuiquo ZHENG.

Distribution. China (Fujian).

Remarks. This species is peculiar among congeners by having the abdominal tergite 2 with a pair of paler spots, mesonotum without warts at middle of posterior margin and the spines on scutellum very weak.

### Genus *Dialysis* WALKER

*Dialysis* WALKER, 1850, Ins. Saund., Dipt. 1, p.4. Type species: *Dialysis dissimilis* WALKER, 1850 (from N. America). By monotypy.

*Triptotricha* LOEW, 1872, Berl. Ent. Zeits., 14 : 59. Type species: *Triptotricha lauta* LOEW, 1872 (from California). By designation of JAMES, 1965.

Diagnosis. Body moderately large and slender. Head slightly wider than thorax in male, narrower than thorax in female; eyes bare in both sexes, male eyes contiguous or nearly so, female eyes distinctly separated; female frons nearly parallel-sided, its width just above antennae less than 1/2 of one eye; gena below eye narrow; face bare except for upper portion with some hairs. Antennal scape and pedicel short and sub-equal in size, scape + pedicel much shorter than 1/2 of flagellum; flagellum small and conical with a long unsegmented terminal arista. Palpus distinctly shorter than clypeus and ending far below antenna. Mesonotum distinctly convex, without warts at middle of posterior margin; scutellum sub-conical or rounded, flat on disc, and without spines; its basal margin distinctly convex forward. Mesopleuron pilose except for dorsal and posterior borders. Hind femur distinctly longer than mesonotum + scutellum. Wing with 4th posterior cell closed before wing margin and vein M<sub>1</sub> arising from discal cell at or near crossvein. Abdomen relatively slender.

Distribution. Palaearctic region (1 new species + 2 species), Oriental region (1 new species + 1 species), Nearctic region (9 species).

Remarks. This genus contains 12 known species from the world. Only 1 species has been known from China. Here 2 species from China are described as new to science.

### Key (3) to Chinese species of *Dialysis*

1. Antenna (except arista) yellowish brown to reddish brown; abdominal tergites 1-4 with yellow to yellowish brown postero-lateral parts which are very often connected with each other ... 2
- Antenna wholly dark brown; abdominal dorsum almost wholly dark brown to black; fore and mid tibiae dark brown to black (sometimes female mid tibia paler); hind femur and tarsomere 1 (each except apical portion) yellow to pale brown (in female each darkened apical part very narrow) ..... *sinensis* sp. nov.
2. Thorax largely dark brown to black; fore and mid tibiae and hind tarsomeres 1-2 yellow to pale brown; hind tibia dark brown to black ..... *cispacifica* BEZZI (♀ unknown)

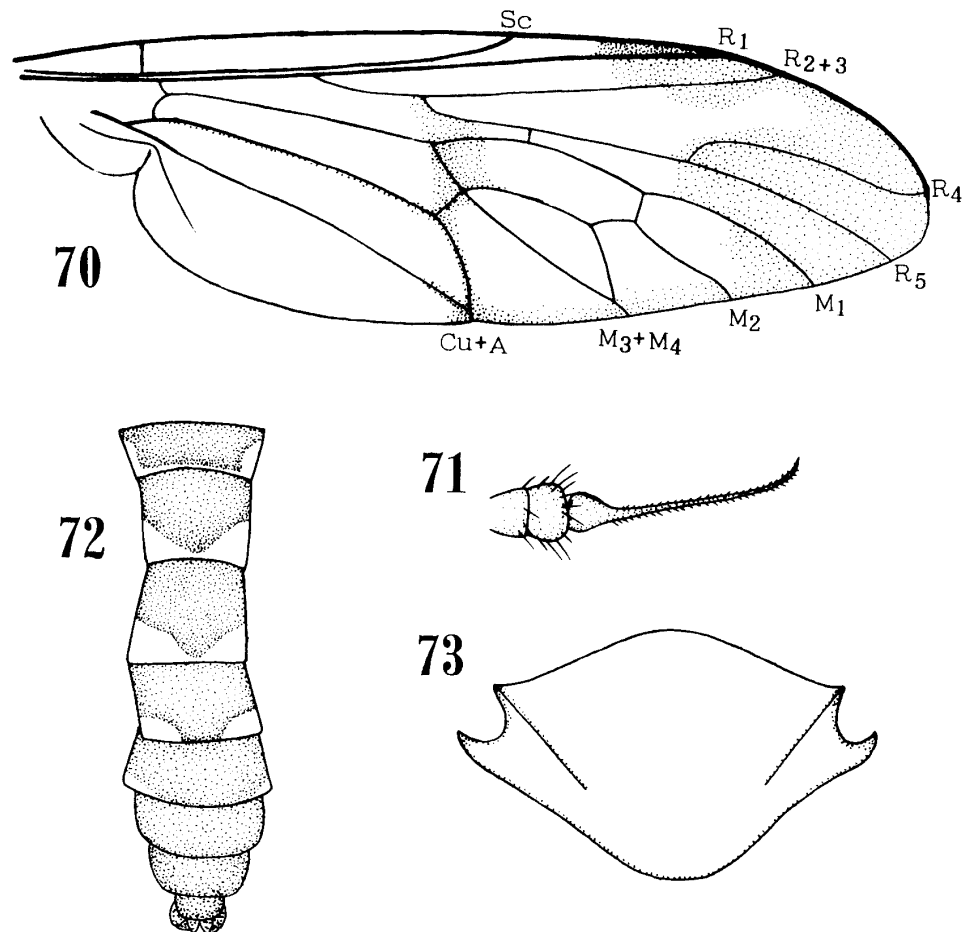
- Thorax largely yellowish brown to reddish brown; tibia and tarsus (except extreme base of tibia) entirely dark brown to black ..... *pallens* sp. nov. (♂ unknown)

***Dialysis cispacifica* BEZZI**

(Figs. 70-78)

*Dialysis cispacifica* BEZZI, 1912, Ann. Mus. Nat. Hung., 10 : 444. Type locality: Taiwan.

Male. Body length 8.6 mm, wing length 7.6 mm. Head black with white pollinosity except for vertex, upper frontal triangle and upper margin of occiput where pollinosity is indistinct. Hairs on head pale; face just below antenna with some hairs laterally; clypeus bare. Eyes contiguous. Head 1.5 times higher than long; contiguous portion of eyes 1.6 times as long as ocellar triangle; width of one eye on a mid line from a direct frontal view 1.0 times distance from antenna to median ocellus, 3.5 times width of frons just above antenna and 1.5 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.3 times distance from antenna to median ocellus, 0.4 times width of face at lowest point from a direct frontal view and 2.7 times width of frons at median ocellus; distance from ridge below proboscis to antenna 0.9 times that from antenna to median ocellus; width of clypeus 0.9 times its length, 0.8 times width of face at up-

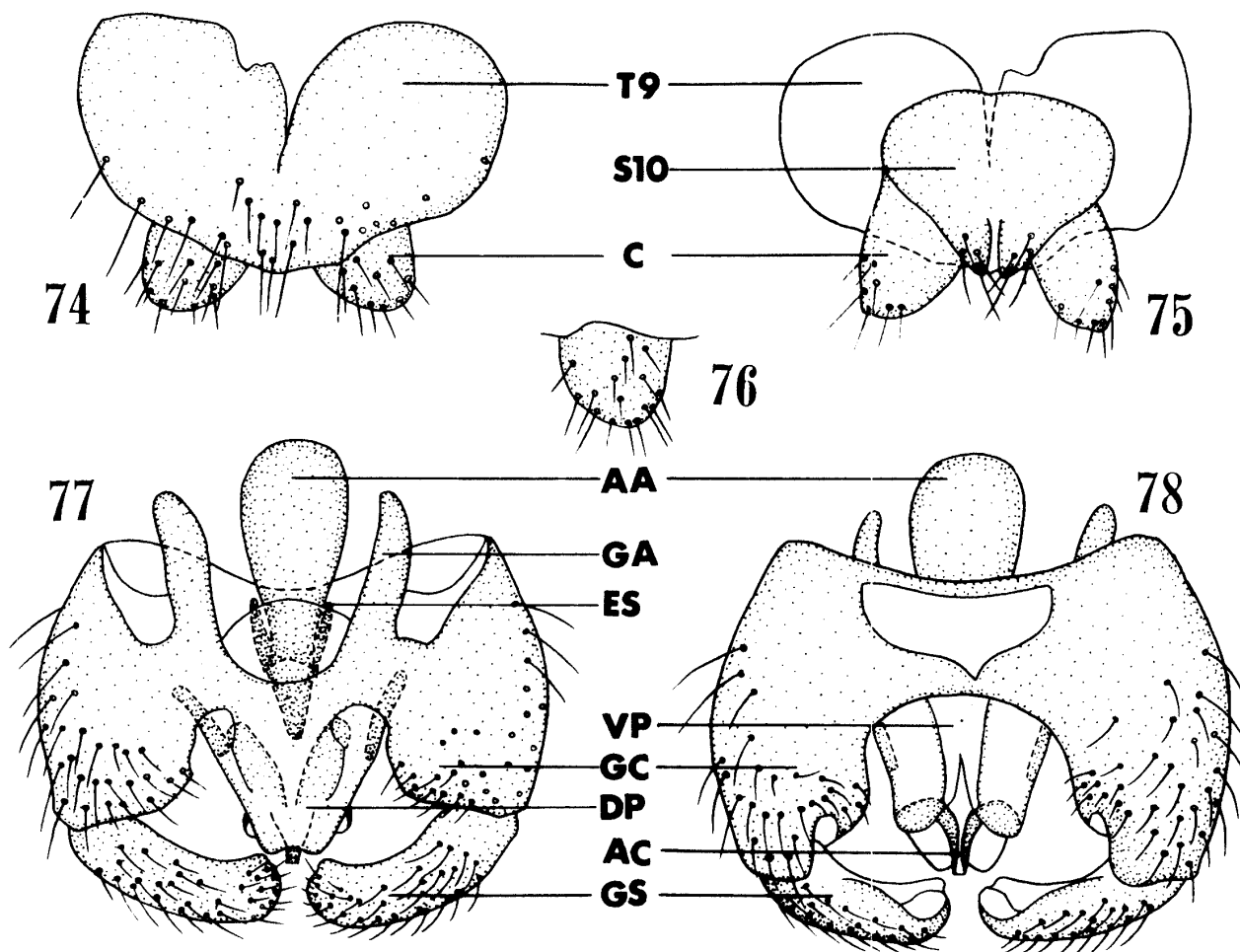


Figs. 70-73. *Dialysis cispacifica* BEZZI, male. 70, Wing; 71, antenna, outer view; 72, abdomen, dorsal view; 73, scutellum, dorsal view.

per portion of clypeus; clypeus 0.6 times as long as face. Antenna light brownish yellow to yellow with pale gray pollinosity; arista brownish black; scape and pedicel chiefly black haired, flagellum bare with arista minutely pubescent; antennal ratio *c.* 1 : 1 : 7.8; total length of antenna subequal to distance from antenna to median ocellus. Proboscis yellow with brown hairs; palpus 0.5 times as long as distance from antenna to median ocellus, 0.8 times as long as clypeus, yellow with pale hairs.

Thorax dark brown to black with gray pollinosity; mesonotum and scutellum subshiny; scutellum subconical, 2.3 times as wide as long. Mesopleuron and ventral portion of sternopleuron shiny; pro-, upper portion of sterno-, lower part of ptero-, and hypopleuron more densely white pollinose. Mesonotum and scutellum with pale pile, but postscutellum and lower part of pleuron largely bare. Legs yellow with coxae pale pollinose; apical portion (except tip) of hind femur light blackish, hind tibia blackish; tarsi dark brown except for mid tarsomere 1 and hind tarsomeres 1-2 pale. Hairs on legs pale, but tarsi, hind femur and tibia chiefly with black or brown hairs; fore and mid femora with some black hairs apico-dorsally. Wing nearly hyaline with a indistinct median spot from base of  $R_{4+5}$  to posterior margin across base of discal cell; apical portion may be tinged with black chiefly along wing margin. Halter yellow.

Abdomen dark brown to black, but postero-lateral portion of tergites 1-4 and posterior mar-



Figs. 74-78. *Dialysis cispaefica* BEZZI, male. 74, Tergites 9 and cerci, dorsal view; 75, tergite 9, sternite 10 and cerci, ventral view; 76, cercus, dorsolateral view; 77, genital capsule, dorsal view; 78, genital capsule, ventral view.

gin of tergites 1-3 yellow; venter yellow on posterior margin of sternites 2-5. Hairs on abdomen pale and black, but longer laterally. Male genitalia (Figs. 74-78): Epandrium wider than long; sternite 10 narrowly incised posteriorly; cercus rounded posteriorly; gonocoxites wider than long, with a large triangular membranous window on fused ventral surface; gonostylus weakly curved, with a weak incision on posterior margin; gonocoxal apodemes somewhat divergent; dorsal plate narrower toward apex, weakly incised posteriorly; aedeagal apodeme with wider anterior portion; endophallic sclerites thin.

Female. Not available.

Specimens examined: 1 ♂ (paratype), Toyenmongai, Taiwan.

Distribution. Taiwan.

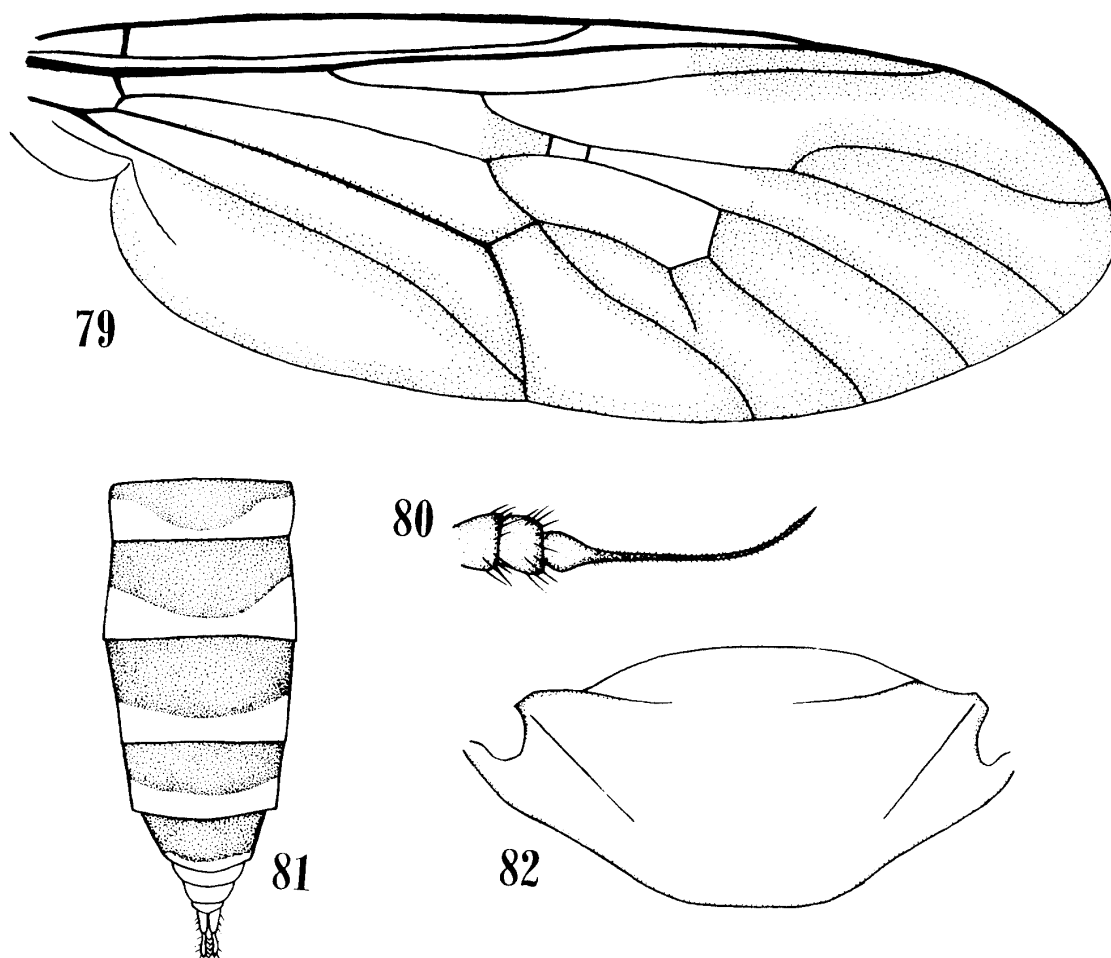
Remarks. FREY (1954) recorded this species from South China.

*Dialysis pallens* YANG et NAGATOMI, sp. nov.

(Figs. 79-86)

Female. Body length 11.2 mm, wing length 11.6 mm.

Head dark brown to black and gray pollinose; occiput with narrow mid-upper area brownish yellow. Hairs on head yellow, but frons and face (except upper area) bare and occiput with some



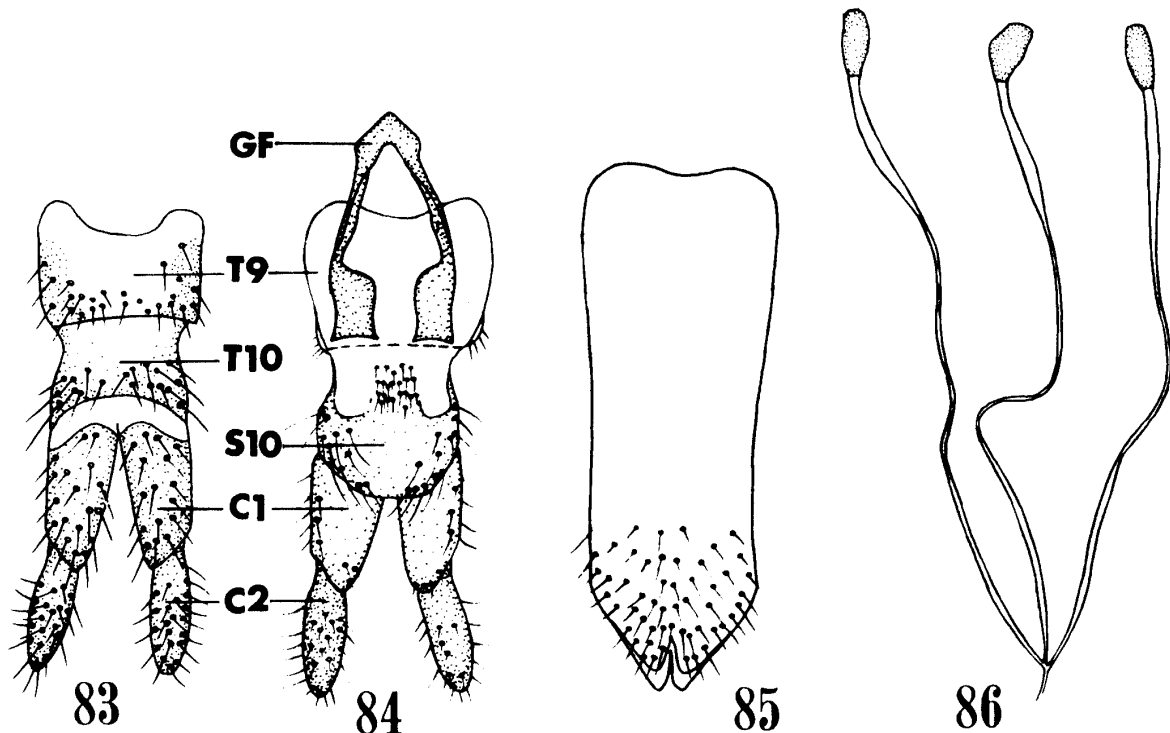
Figs. 79-82. *Dialysis pallens* sp. nov., female. 79, Wing; 80, antenna, outer view; 81, abdomen, dorsal view; 82, scutellum, dorsal view.



black hairs on upper part. Head 1.4 times higher than long; width of one eye on a mid line from a direct frontal view 1.3 times distance from antenna to median ocellus, 2.2 times width of frons just above antenna and 1.3 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.6 times distance from antenna to median ocellus, 0.6 times width of face at lowest point from a direct frontal view and 1.3 times width of frons at median ocellus; distance from ridge below proboscis to antenna 1.4 times that from antenna to median ocellus; width of clypeus 0.8 times its length, 1.0 times width of face at upper portion of clypeus; clypeus 0.7 times as long as face. Antenna light brownish yellow to yellow with pale gray pollinosity; arista black with base yellow; scape and pedicel black haired, flagellum bare with arista minutely pubescent; antennal ratio *c.* 1 : 1 : 6.6; total length of antenna 1.5 times distance from antenna to median ocellus. Clypeus dark brownish yellow. Proboscis brownish yellow, tinged with gray, and with black hairs; palpus 0.6 times as long as distance from antenna to median ocellus, 0.8 times as long as clypeus, brownish yellow with pale hairs.

Thorax yellow; mesonotum light brownish yellow and subshiny, with 3 indistinct blackish stripes; scutellum light brownish yellow, 2.5 times wider than long. Pro-, upper portion of sterno-, lower part of ptero-, and hypopleuron more densely pale pollinose. Hairs on thorax yellow, but shorter on mesonotum and scutellum; postscutellum sparsely haired laterally; pile on pleuron sparse, but that on metapleuron dense. Legs yellow, coxae white pollinose; apex (except tip) of hind femur blackish, tibiae brownish black to black except basal portions brownish yellow, tarsi entirely black; hairs on legs short and chiefly black but coxae only with longer yellow hairs. Wing nearly hyaline, but tinged with light brown along veins and outer margin; anterior field yellow. Halter yellow, but knob tinged with dark brown.

Abdomen yellow, but tergites 1-5 each with a wide dark brown basal spot. Hairs on abdomen black. Female genitalia (Figs. 83-86): Sternite 8 with a very narrow incision posteriorly; sternite



Figs. 83-86. *Dialysis pallens* sp. nov., female. 83, Tergites 9-10 and cerci, dorsal view; 84, genital furca, sternite 10 and cerci, ventral view; 85, sternite 8, ventral view; 86, spermatheca.

10 rounded posteriorly; cercus with segment 2 distinctly thicker than segment 1; genital furca with lateral bar having wider rectangular part which is longer than wide; spermathecal head rather small and obtuse apically, wider medially.

Holotype ♀, Mokanshan Mountain, Zhejiang, 18. vi. 1990, Shuilong MA.

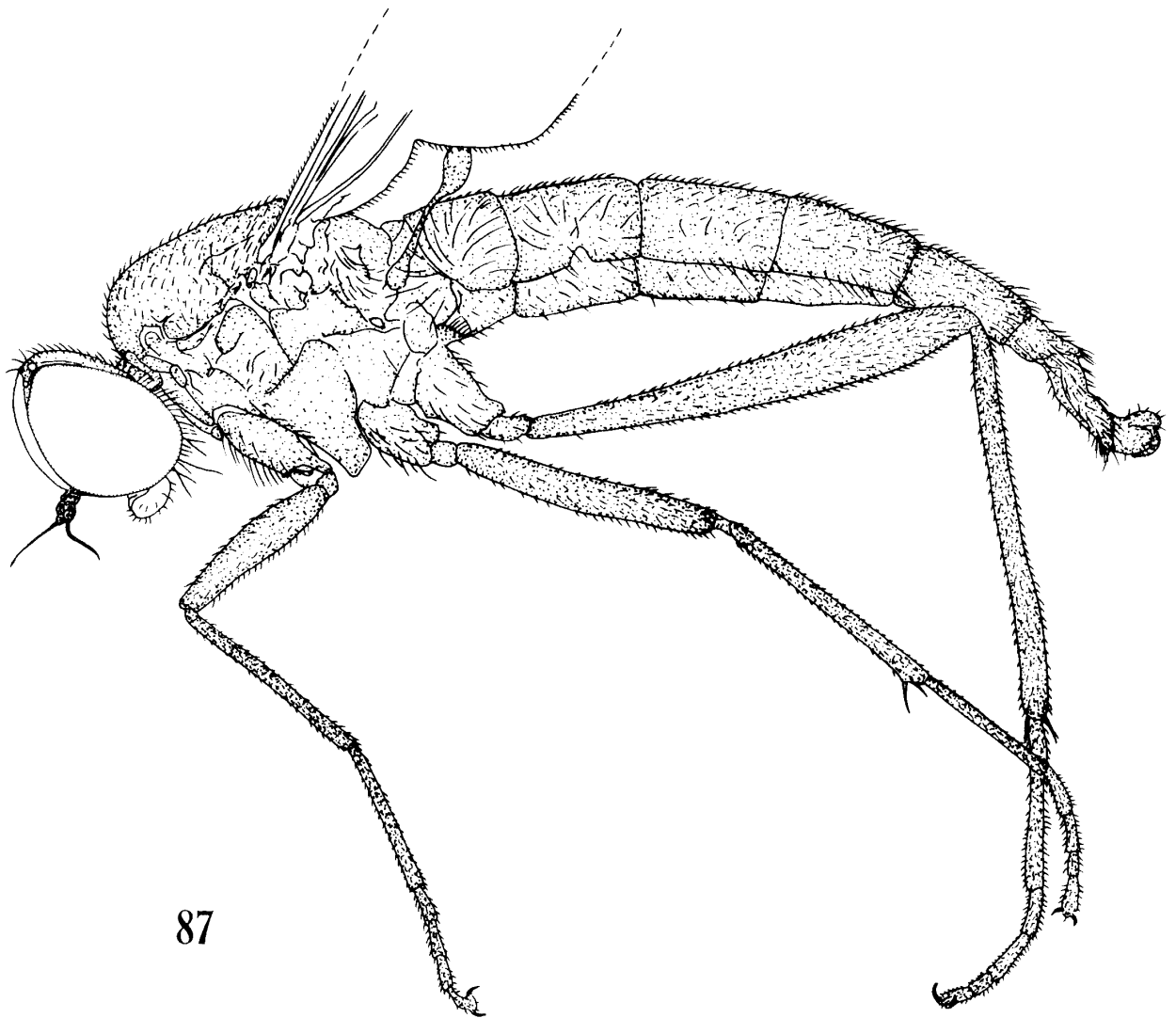
Distribution. China (Zhejiang).

Remarks. This species (♀) may be distinguished from *cispacifica* (♂) and *sinensis* (♂, ♀) as shown in the key (3).

***Dialysis sinensis* YANG et NAGATOMI, sp. nov.**

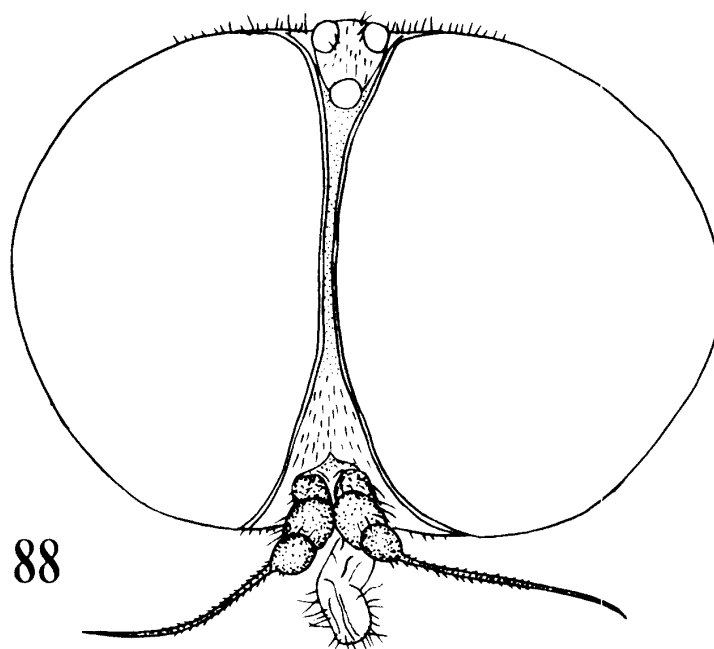
(Figs. 87-101)

Male. Body length 8.0-8.5 mm; wing length 7.8-7.9 mm. Head somewhat velvety black with gray pollinosity except for frons just above antennae and face including clypeus white pollinose. Hairs on head chiefly black, but lower occiput with chiefly pale hairs; frons and face including clypeus bare but face just below antennae with some black hairs laterally. Eyes narrowly sepa-



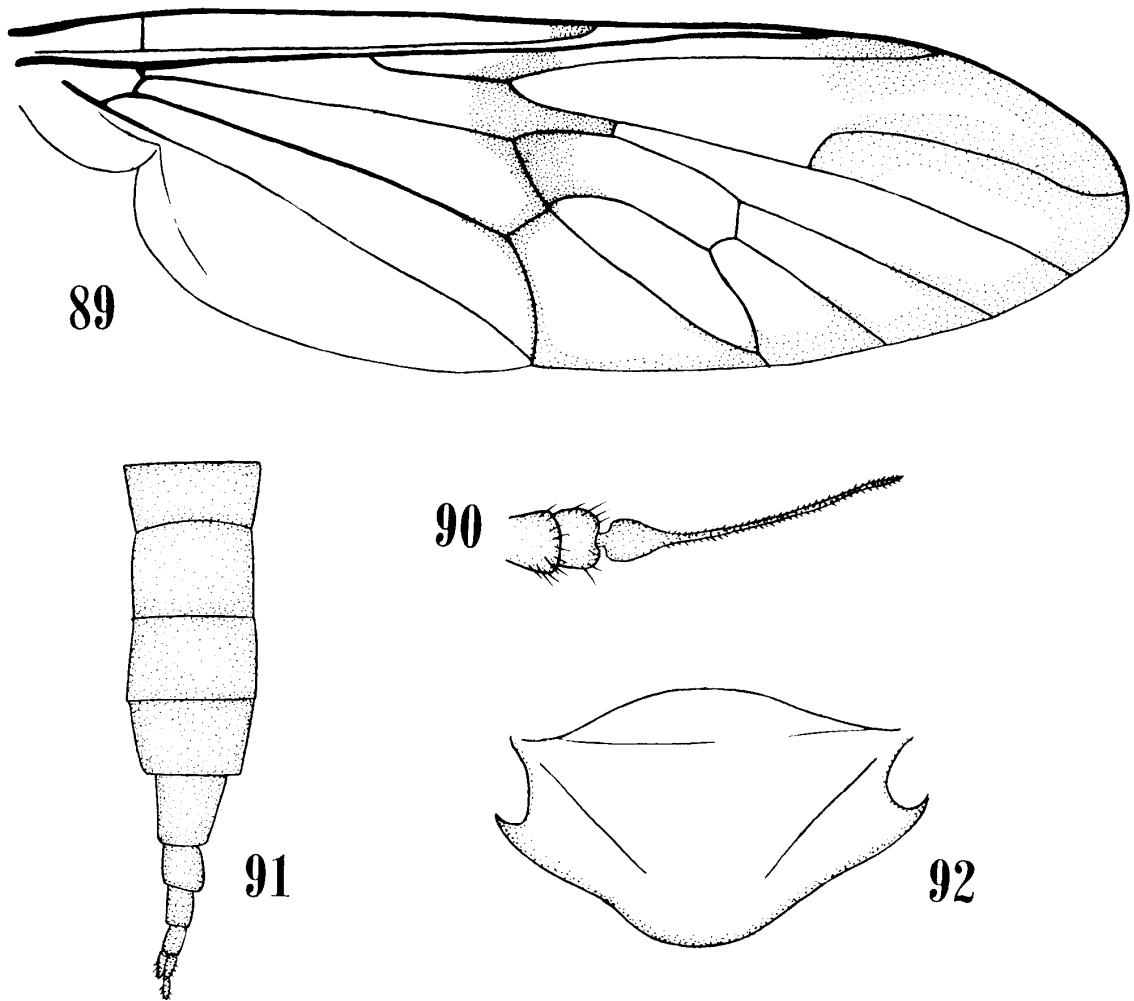
Figs. 87. *Dialysis sinensis* sp. nov., male.

rated. Head 1.5-1.7 times higher than long; width of one eye on a mid line from a direct frontal view 0.6-0.8 times distance from antenna to median ocellus, 3.2-3.3 times width of frons just above antenna and 1.3-1.6 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.25-0.3 times distance from antenna to median ocellus, 0.4-0.5 times width of face at lowest point from a direct frontal view and 1.5-1.6 times width of frons at median ocellus; distance from ridge below proboscis to antenna 0.9-1.0 times that from antenna to median ocellus; width of clypeus 0.6-0.8 times its length, 0.9-1.0 times width of face at upper portion of clypeus; clypeus 0.7 times as long as face. Antenna blackish brown except for pedicel somewhat brown and with pale gray pollinosity, arista black; scape and pedicel black haired, flagellum bare with arista minutely pubescent; antennal ratio c. 1 : 1 : 6. 5; total length of antenna 0.8-0.9 times distance from antenna to median ocellus. Proboscis dark brown with pale and black hairs; palpus 0.7 times as long as distance from antenna to median ocellus, 0.7 times as long as clypeus, blackish brown with pale hairs; data based on 3 specimens.



Figs. 88. *Dialysis sinensis* sp. nov., male head, direct frontal view.

Thorax dark brown to black with gray pollinosity; mesonotum and scutellum subshiny; mesopleuron and lower portion of sternopleuron shiny; pro-, upper portion of sterno-, lower part of ptero-, and hypopleuron more densely white pollinose. Scutellum subconical, 2.3 times as wide as long. Hairs on thorax pale; postscutellum sometimes with sparse hairs medially; pleuron with upper and posterior areas of mesopleuron, antero-ventral area of sternopleuron, and upper part of pteropleuron sparsely haired; metapleuron except for dorsal and posterior area with dense and long hairs, lower part of pteropleuron only with a cluster of longer hairs just before hypopleuron. Legs yellow with coxae pale pollinose; apical portion (except tip) of hind femur blackish to black; fore and mid tibiae blackish brown, hind tibia yellowish brown to yellow with apical portion blackish brown; tarsi blackish brown, but hind tarsomere 1 yellow with apical portion darker; hairs on legs chiefly black, but coxae only with yellow hairs. Wing nearly hyaline, with a narrow median spot running from basal portion of 1st marginal cell to apex of anal cell through base of discal cell;



Figs. 89-92. *Dialysis sinensis* sp. nov., female. 89, Wing; 90, antenna, outer view; 91, abdomen, dorsal view; 92, scutellum, dorsal view.

apical portion darker along longitudinal veins and outer margin. Halter light brownish yellow.

Abdomen brownish black, but tergites 1-2 sometimes with narrow apical margins brownish; basal portion of sternite 1, sternite 2, apical margins of sternites 3-5 brownish to brown. Hairs on abdomen short and chiefly black, but long and yellow laterally. Male genitalia (Figs. 93-97): Epandrium slightly wider than long, and with small mid-anterior area membranous; sternite 10 deeply concave posteriorly; cercus rounded posteriorly; gonocoxites distinctly wider than long, with large membranous window on fused ventral surface; gonostylus weakly curved on inner margin; gonocoxal apodemes nearly parallel; dorsal plate trapezoid; aedeagal apodeme (except posterior part) nearly parallel-sided and narrower than *cispacifica*; endophallic sclerites longer than in *cispacifica*.

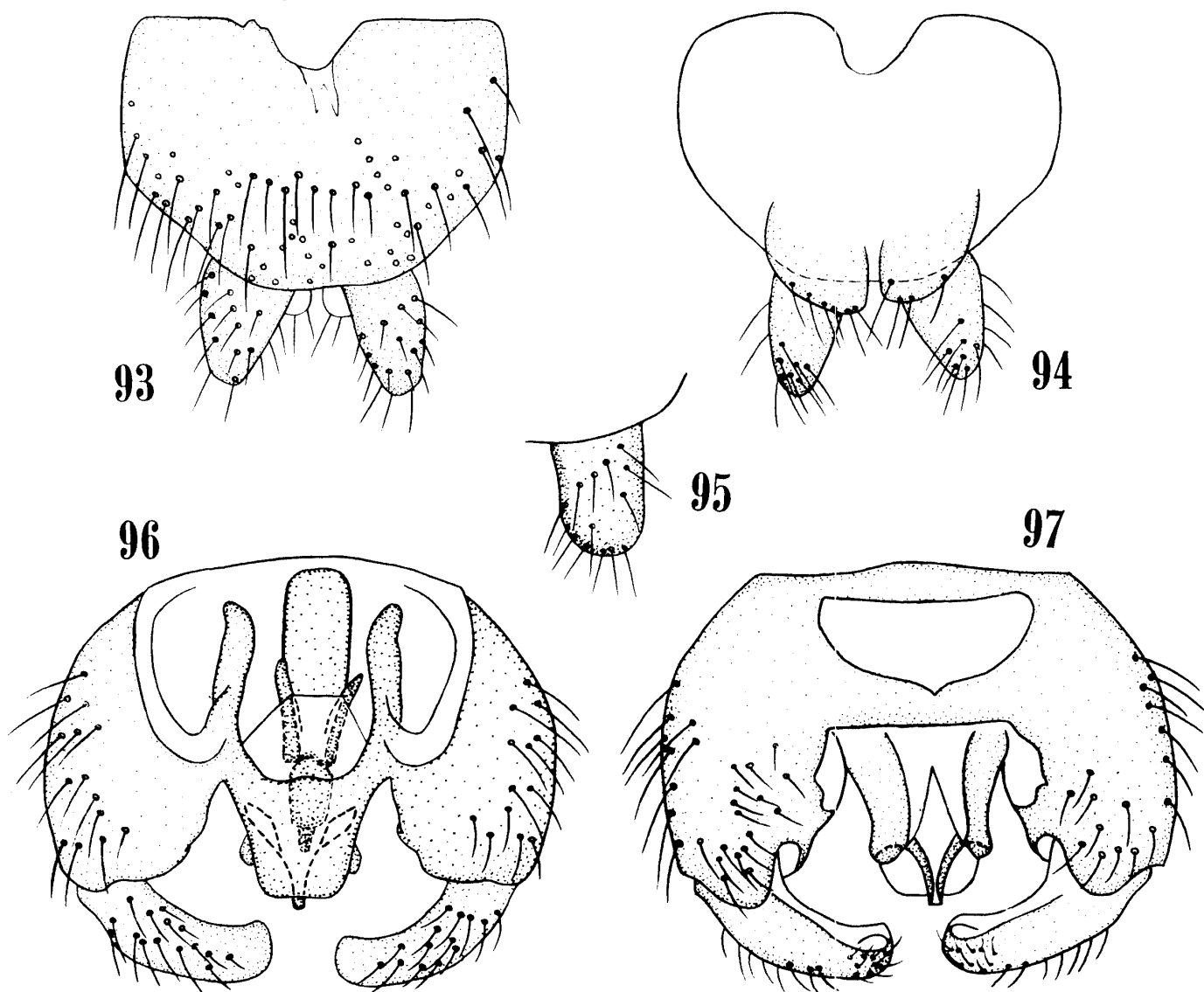
Female. Body length 9.1-10.3 mm, wing length 8.7-9.4 mm. Similar to male but different as follows: Head 1.3-1.4 times higher than long; width of one eye on a mid line from a direct frontal view 1.0-1.2 times distance from antenna to median ocellus, 2.2-2.3 times width of frons just above antenna and 1.3-1.4 times width of face at lowest point from a direct frontal view; width of frons just above antenna 0.5 times distance from antenna to median cellus, 0.5-0.6 times width of face at lowest point from a direct frontal view and 1.1-1.3 times width of frons at median ocellus;

distance from ridge below proboscis to antenna 1.3-1.4 times that from antenna to median ocellus. Antennal ratio  $c. 1 : 1 : 6.2$ ; total length of antenna 1.3-1.4 times distance from antenna to median ocellus. Palpus 0.4-0.6 times as long as distance from antenna to median ocellus, 0.7 times as long as clypeus. Data based on 5 specimens. Female genitalia (Figs. 98-101): Sternite 8 narrowly concave posteriorly; sternite 10 rounded posteriorly; cercus with segment 1 distinctly thicker than segment 2; genital furca with lateral bar having large trapezoid posterior widened part; of three spermathecal heads which are smaller than in *cispacifica*, lateral ones acute apically and median one obtuse apically.

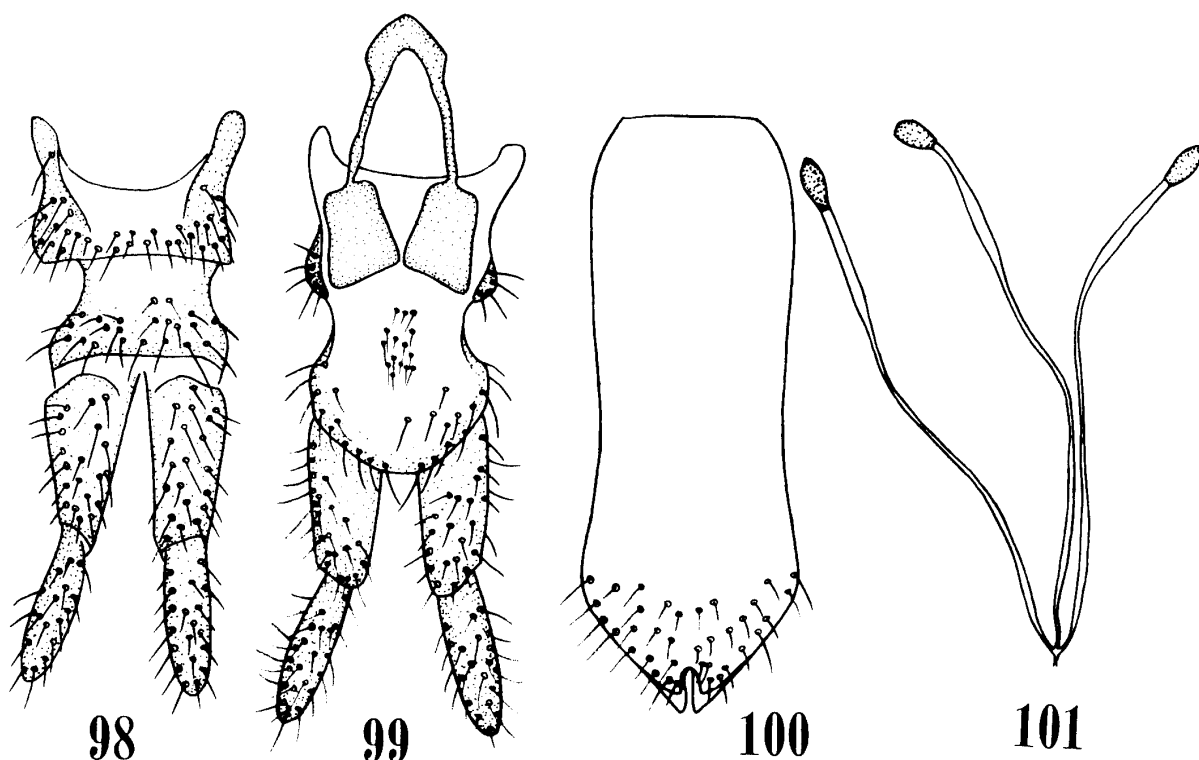
Holotype ♂, paratypes 2 ♂♂, 13 ♀♀, Lushan Mountain, Jiangxi, 29. vi. - 4. vii. 1987, Hongye CHEN; 1 ♀, Lushan Mountain, Jiangxi, 9. vii. 1979; 3 ♀♀, Liuyang, Hunan, 30. v. 1984; 1 ♀, Luzhi (1,540m), Guizhou, 13. vi. 1980.

Distribution. China (Guizhou, Hunan, Guangxi).

Remarks. This new species is quite similar to *D. cispacifica* BEZZI, but differs from the latter as shown in the key (3).



Figs. 93-97. *Dialysis sinensis* sp. nov., male. 93, Tergites 9 and cerci, dorsal view; 94, tergite 9, sternite 10 and cerci, ventral view; 95, cercus, dorsolateral view; 96, genital capsule, dorsal view; 97, genital capsule, ventral view.



Figs. 98-101. *Dialysis sinensis* sp. nov., female. 98, Tergites 9-10 and cerci, dorsal view; 99, genital furca, sternite 10 and cerci, ventral view; 100, sternite 8, ventral view; 101, spermatheca.

#### Genus *Odontosabula* MATSUMURA

*Odontosabula* MATSUMURA, 1905, Thous. Ins. Jpn., 2: 78. Type species: *Odontosabula gloriosa* MATSUMURA, 1905 (from Japan). By monotypy.

*Stratioleptis* PLESKE, 1925, Encyc. ent. B. II (Dipt.), 2: 182. Type species: *Stratioleptis czerskii* PLESKE, 1925 (from E. Siberia). By monotypy.

**Diagnosis.** Body moderately large and somewhat slender. Head nearly as wide as thorax in male, narrower than thorax in female. Eyes bare in both sexes, male eyes contiguous and female eyes widely separated; gena below eye rather narrow; face distinctly haired; female frons somewhat convergent toward vertex, its width just above antenna larger than 1/2 of one eye. Palpus longer than length of clypeus. Antennal scape slightly longer than pedicel, scape + pedicel shorter than 1/2 of flagellum; flagellum 7-8 segmented. Mesonotum distinctly convex without warts at middle of posterior margin; scutellum trapezoid, convex on disc, and with two spines which are longer than half of scutellum; its basal margin nearly straight. Metapleuron pilose except for anterodorsal and posterior borders. Hind femur distinctly longer than mesonotum + scutellum. Wing with 4th posterior cell widely open and vein  $M_1$  arising from discal cell at or very near crossvein. Abdomen nearly parallel-sided.

**Distribution.** Palaearctic region (5 species).

**Remarks.** The genus *Odontosabula* contains 5 known species. Two species have been known from China. We have no Chinese specimen before us. NAGATOMI (1985) made a revisional work on this genus.

*Odontosabula czerskii* (PLESKE)

*Stratioleptis czerskii* PLESKE, 1925, Bull. Soc. ent. France, 1925: 166 (or Encyc. ent. B. II (Dipt.), 2: 182). Type locality: E. Siberia ("Province Littorale").

Distribution. China (Manchuria), E. Siberia and Korea.

Remarks. For redescription of this species, see NAGATOMI (1985).

*Odontosabula licenti* (SÉGUY)

*Stratioleptis licenti* SÉGUY, 1952, Rev. Fr. Ent., 19: 243. Type locality: Jilin.

Distribution. China (Jilin).

Remarks. It is possible that *licenti* is a synonym of *czerskii* (NAGATOMI, 1985).

## Summary

The Chinese Coenomyiidae is revised. Five genera and 9 species are now known from China. Among them 3 species (*Coenomyia maculata*, *Dialysis pallens*, *D. sinensis*) are herein described as new to science.

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