

**THE TRIBE OTIOCERINI IN CHINA  
WITH DESCRIPTIONS OF FIVE NEW SPECIES  
(HEMIPTERA: FULGOROIDEA: DERBIDAE)**

HAI-XIA WU, AI-PING LIANG\* & GUO-MEI JIANG  
Institute of Zoology, Chinese Academy of Sciences, Beijing 100080, P. R. China

**ABSTRACT.** This paper deals with 8 species in 5 genera of the tribe Otiocerini (Hemiptera: Fulgoroidea: Derbidae) from China. Five species are described as new: *Vivaha dispersa*, sp. nov.; *Kamendaka beijingensis*, sp. nov.; *K. ochracea*, sp. nov.; *K. brevicula*, sp. nov. and *Nesokaha rubricaudata*, sp. nov. One new combination, *Megatropis leucocrocota* (Fennah), comb. nov., which is also a new record from China, is proposed. A key to the 5 genera and 8 species dealt with is given.

Key words: Otiocerini, new species, new combination, Hemiptera, Derbidae, China.

**Introduction**

The tribe Otiocerini (Hemiptera: Fulgoroidea: Derbidae) was erected by Muir in 1918 and currently contains more than 300 species in over 40 genera with a worldwide distribution. In this paper eight species in five genera of the tribe from China are dealt with. Of them five species are described as new and illustrated. One new combination, *Megatropis leucocrocota* (Fennah), comb. nov. (which is also a new record from China) is proposed.

Specimens examined are deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS); China Agricultural University, Beijing, China (CAU); Guizhou University, Guizhou, China (GU); and Nankai University, Tianjing, China (NU).

**Tribe Otiocerini Muir**

Otiocerini Muir, 1918: 229; Fennah, 1952: 152; Yang & Wu, 1994: 139. Type genus: *Otiocerus* Muir, 1913.

**Diagnosis:** Head narrow, frons laminated, frontal carinae reaching to base of clypeus. Eyes normal. Antennae variable, with or without subantennal process and foliate pronotal carinae. Tegmina 2.5 times longer than wide, clavus open. Wings more than half length of tegmina, M simple or 2-branched, Cu<sub>1</sub> 2 or 3 branched, stridulatory organ present. Hind tibia without lateral teeth. Spinal formula of hind leg (3-9)-(4-9)-(2-9). Female genitalia developed (Yang & Wu, 1994).

**Key to genera and species of Otiocerini from China**

1. Tegmina with a fork of R+M, M arising from R..... *Mysidioides sapporoensis* Matsumura
- Tegmina with a fork of R+Sc, M arising from common stem of Sc+R ..... 2
2. Head produced far beyond eyes, about twice as long as pronotum and mesonotum combined  
..... *Vivaha dispersa*, sp. nov.
- Head never so long..... 3
3. Median sectors confined to apical 1/3 of tegmen..... *Megatropis* ... 4

\* Corresponding author. E-mail address: liangap@ioz.ac.cn

- Median sectors not confined to apical 1/3 of tegmen..... 5
- 4. Tegmina yellow; frons with upper 1/2 distinctly divergent.....  
..... *M. leucocrocota* (Fennah), comb. nov.
- Tegmina dirty white, with brownish suffusion; frons closely approximate .....  
..... *M. formosanus* (Matsumura)
- 5. Subantennal process well developed; Ms<sub>1</sub> leaving M more distad than R leaving Sc .....  
..... *Nesokaha rubricaudata*, sp. nov.
- Subantennal process absent; Ms<sub>1</sub> leaving M more basad than R leaving Sc. *Kamendaka* ... 6
- 6. Frons entirely divergent ..... *K. beijingensis*, sp. nov.
- Frons with upper 1/2 convergent..... 7
- 7. Anal segment with ventral margin protruding near apex..... *K. brevicula*, sp. nov.
- Anal segment with ventral margin not protruding near apex..... *K. ochracea*, sp. nov.

### Genus *Vivaha* Distant

*Vivaha* Distant, 1906: 307; Kirkaldy, 1907: 44; Muir, 1918: 239; Fennah, 1952: 154; van Stalle, 1987: 303. Type species: *V. facialis* Distant, 1906.

**Diagnosis:** Head compressed, protruding far beyond eyes, about twice as long as pronotum and mesonotum combined. Tegmina about 2.6 times longer than widest part, considerably amplified toward apex, apical margin truncate, a little obliquely angulated anteriorly and posteriorly, with a Sc+R fork; M arising from the common stem of R+Sc, median sectors 4-5; Cu<sub>1</sub> 2-branched, both branches reaching to Ms<sub>1</sub>. Wings shorter and a little narrower than tegmina (modified from Distant, 1906).

**Distribution:** P. R. China (Hainan, Hubei), India.

**Remarks:** Only the type species, *V. facialis* Distant, 1906, known in India and China, is included in *Vivaha* Distant. We describe one new species from Hainan, China below.

#### 1. *Vivaha dispersa*, sp. nov. (Figs. 1-9)

Length (incl. tegmina): ♂ 9.5 mm.

**Male:** General color light dirty yellow. Head with dorsal and ventral margins brown. Face yellowish brown. Lateral carinae of frons brown, with yellow sensory pits. Antennae brown. Postclypeus with basal and dorsal ends brown. Tegmina (Fig. 9) white, scattered with many brown spots, costal margin yellow. Wings white. Legs yellowish brown. Abdomen with ventral part reddish.

Head (Figs. 1, 2) produced far beyond antennae, nearly twice as long as pronotum and mesonotum combined, in profile triangular, with dorsal margins serrated (Fig. 3). Vertex (Fig. 2) triangular. Frons (Fig. 1) with two carinae slightly divergent at the level of apex of antennae. Antennae (Figs. 1, 3) compressed, with second segment slightly angularly prolonged downward, about 4.4 times as long as width. Spinal formula of hind legs: 5-2-2.

**Male genitalia:** Anal segment (Figs. 4, 5) stout, basal half tubular, distal half spoon-like, apical margin round. Anal style (Fig. 4) about in the middle, sinking into the spoon-like portion. Pygofer (Figs. 4, 6) moderately broad, with laterocaudal margin nearly straight, ventrocaudal margin slightly sinuate and nearly straight. Style (Figs. 4, 6) very stout, basal 1/3 slender, dorsal and ventral margins with thin and sinuate flange, with setae in the middle, dorsal margin with a hook near apex turning outward. Aedeagus (Figs. 7, 8) with forked apex, with a pair of symmetric processes on back, the two processes 2-branched at apex with the upper branch long and acute.

*Holotype*: ♂, P. R. CHINA: Hainan: Tahua, 5.vii.1935, Coll. L. Gressitt (IZCAS).

*Distribution*: P. R. China (Hainan).

*Etymology*: The species name is derived from the Latin "*dispersus*", referring to scattered brown spots on tegmina.

*Remarks*: This species can be separated from *V. fascialis* Distant by the tegmina with scattered brown spots and having no fasciae or stripes.

#### Genus *Kamendaka* Distant

*Kamendaka* Distant, 1906: 310; 1911: 646; 1916: 75; Muir, 1918: 237; Fennah, 1952: 154; 1956: 128; Yang & Wu, 1994: 147. Type species: *K. spectra* Distant, 1906.

*Generic diagnosis*: Head in profile projecting in front of eyes. Frontal carinae separated or contiguous. Antennae short, subantennal process absent or very small. Clypeus shorter than frons. Ocelli absent or present. Pronotum with lateral carinae not forming a subfoliate ridge. Tegmina about 3 times longer than widest part, widest subapically, with Sc+R forked at middle, M arising from the common stem of Sc+R, with 4 sectors, Cu<sub>1</sub> 2-branched, not reaching to Ms<sub>1</sub>, Cu<sub>1</sub>a connected with Ms<sub>1</sub> by a cross vein. Wings slightly shorter than tegmina, very broad, M simple, Cu<sub>1</sub> 3-branched. Spinal formula of hind legs: 5-6-5 or (8-9)-8-(6-7) (after Yang & Wu, 1994).

*Distribution*: Oriental, Ethiopian, Australian, and Palearctic Regions.

*Remarks*: Until now, 63 species are known in the world, most of them distribute in the Oriental and Ethiopian Regions. Ten species were known from China. We describe 3 new species from Beijing, Tibet and Hainan, respectively, in China below.

#### 2. *Kamendaka beijingensis*, sp. nov. (Figs. 10-19)

Length (incl. tegmina): ♂ 4.6mm, ♀ 4.8mm.

*Male*: General color whitish yellow or slightly ochraceous. Lateral surface of frons light brown, with two slightly dark illegible spots (Fig. 12) below eyes (females with 3 distinct brown spots: one at the apex, the other two as in male). Eyes brown. Antennae ochraceous. Mesonotum ochraceous. Abdomen with dorsal part brown and ventral part whitish yellow. Tegmina (Fig. 18) white, scattered with many irregular light brown spots. Wings (Fig. 19) white.

In profile vertex (Fig. 12) meeting frons at an angle of 45-90°. Vertex (Fig. 11) in the middle line as long as widest part. Frons (Fig. 10) entirely divergent, the length of its bottom about 3 times as long as its apex (about 2 times in female). Ocelli present. Tegmina (Fig. 19) about 3 times as long as widest part.

*Male genitalia*: Anal segment (Figs. 13, 14) moderately long, in profile narrow; apical margin nearly straight; ventral margin slightly protruding at base, with apical 1/5 relatively narrow, and apical 1/3 convex. Anal style (Figs. 13, 14) near apex of anal segment. Pygofer (Figs. 13, 15) relatively broad, dorsal apex angular, medioventral process long, nearly 1/2 as long as middle line of sternum, narrowing to apex, apical margin truncate. Style (Figs. 13, 15) long, basal 1/2 narrow, apical 1/2 broad, with a membranous vesicle and a hook turning outward in the middle of dorsal margin; ventral margin sinuate, with two blunt teeth at apical 1/3. Aedeagus (Figs. 16, 17) slender, apex with two short and thin processes pointing caudad, with two long processes pointing

cephalad near apex, and a membranous process between the long processes leaning rightward, the apex of the process angular and slightly turning upward.

*Holotype*: ♂, P. R. CHINA: Beijing: Mentougou, Xiaolongmen, 6.ix.1976, Coll. F. S. Li (CAU). Paratypes: 3♀, same data as the holotype (CAU; IZCAS).

*Distribution*: P. R. China: Beijing.

*Etymology*: The species name is derived from the Chinese phonetic alphabet "Beijing", referring to the type locality.

*Remarks*: This species is similar to *K. annulata* Yang & Wu, but can be separated from the latter by the face with two spots and by the different color of the abdomen and the different male genitalia.

### 3. *Kamendaka ochracea*, sp. nov. (Figs. 20-29)

Length (incl. tegmina): ♂ 6.0 mm.

*Male*: General color yellow. Lateral surface of frons (Fig. 22) with two black fasciae, one in the middle, the other at the bottom. Eyes brown. Mesonotum ochraceous. Mesopleuron and metapleuron each with a black spot on each side. Abdomen yellow. Tegmina (Fig. 29) whitish, with a broad, irregularly ochraceous longitudinal stripe, M cell with a black spot in the middle, apex with 2 black spots in the middle, apical 1/2 of costal region with 5 brown fasciae. Wings whitish.

In profile, vertex (Fig. 22) meeting frons at an angle of about 90°. Vertex (Fig. 21) in the middle line shorter than widest part about 1: 1.8. Frons (Fig. 20) with 3/5 near postclypeus divergent. Ocelli absent. Tegmina (Fig. 29) about 3 times as long as widest part. Spinal formula of hind legs: 5-5-5, 5-6-5.

*Male genitalia*: Anal segment (Figs. 23, 24) moderately long, lateral sides extending laterad, apex round. Anal style (Figs. 23, 24) near apex of anal segment. Pygofer (Figs. 23, 25) relatively wide, dorsocaudal margin angularly protruding caudad; medioventral process distinct, 1/3 times as long as length of the middle line, its apical margin round. Style (Figs. 23, 25) with a hook turning outward at apical 2/5 and a membrane-like, pilose vesicle in the middle on dorsal margin, ventral margin with an angular process and setae about in the middle. Aedeagus (Figs. 26-28), in left side, with two slender processes pointing cephalad, the upper process relatively broad, with a membranous process in their right side; in right side, the membranous process with ossified long strip in the middle, with a short angular process.

*Holotype*: ♂, P. R. CHINA: Tibet: Chayu, Dongjiong, 1570 m, 24.vi.1978, Coll. F. S. Li (CAU). Paratypes: 2♂, same data as the holotype (CAU; IZCAS).

*Distribution*: P. R. China (Tibet).

*Etymology*: The species name is derived from the Latin "*ochraceus*", referring to the ochraceous longitudinal fascia on the tegmina.

*Remarks*: This species is similar to *K. vittata* Distant, *K. maculosa* Distant and *K. maskeliyae* Distant (all from Sri Lanka), but can be separated from the former two species by the color of tegmen and from the third species by the color of clypeus, frons, tegmen and sternum.

#### 4. *Kamendaka brevicula*, sp. nov. (Figs. 30-39)

Length (incl. tegmina): ♂ 5.0 mm.

*Male*: General color dirty yellowish. Lateral surface of frons (Fig. 32) with a black, oblique stripe at the level of lower margin of eye. Eyes brownish. Mesopleuron and metapleuron each with a blackish spot on each side. Abdomen whitish yellow. Tegmina (Fig. 39) whitish, with black and light markings. Wings white.

Vertex (Fig. 32) in profile meeting frons at an angle of 45°-80°. Vertex (Fig. 31) in middle line shorter than widest part (about 1: 1.8). Frons (Fig. 30) with upper 2/3 convergent, 1/3 near postclypeus divergent. Ocelli absent. Tegmina (Fig. 39) about 3 times as long as widest part. Spinal formula of hind legs: 5-6-5.

*Male genitalia*: Anal segment (Figs. 33, 34) moderately long, apical margin round, ventral margin protruding downward near apex. Anal style (Figs. 33, 34) near apex of anal segment. Pygofer (Figs. 33, 35) relatively wide, dorsocaudal margin angularly produced caudad and the "angle" relatively long, ventral margin gently protruding caudad, cap-like and slightly sinking. Style (Figs. 33, 35) very long, basal 1/2 narrow and long, beyond anterior margin of 8th sternum, with apical 1/2 moderately broad, dorsal margin sinuate, with a membrane-like, pilose vesicle and a hook turning about at apical 1/4, ventral margin with an angular process at 1/4 near apex. Aedeagus as in figures 36-38.

*Holotype*: ♂, P. R. CHINA: Hainan: Jianfengling, 14.v.1997, Coll. M. F. Yang (GU).

*Distribution*: P. R. China (Hainan).

*Etymology*: The species name is derived from the Latin "*breviculus*", referring to the short medioventral process of pygofer.

*Remarks*: This species is distinct in its medioventral process of pygofer.

#### Genus *Megatropis* Muir

*Megatropis* Muir, 1913: 57; 1918: 239; Fennah, 1952: 154; Yang & Wu, 1994: 162. Type species: *M. coccineolinea* Muir, 1913.

*Mesotlocerus* Matsumura, 1914: 301. Type species: *M. formosanus* Matsumura, 1914.

*Generic diagnosis*: Head compressed, protruding beyond eyes, shorter than 2 times of pronotum and mesonotum combined. Frontal carinae closely approximate. Clypeus shorter than frons. Ocelli absent. Antennae cylindrical, simple, with a round projection, or a distinct prong. Tegmina about 4 times longer than widest part, M arising from common stem of Sc+R, median sectors confined to apical third of tegmen; Cu<sub>1</sub> 2-branched, both branches reaching to Ms<sub>1</sub>. Spinal formula of hind legs: 6-4-2 (after Yang & Wu, 1994).

*Distribution*: Oriental Region.

Twelve species are known in the genus. Two Chinese species including one new species are dealt with here.

#### 5. *Megatropis formosana* (Matsumura)

*Mesotlocerus formosanus* Matsumura, 1914: 301; Schumacher, 1915: 122; Liang & Suwa, 1998: 149.  
*Megatropis formosana*: Muir, 1915: 124; Fennah, 1956: 480; Chou et al., 1985: 51; Yang & Wu, 1994: 163.

Length (incl. tegmina): ♂ 10.7-10.9 mm, ♀ 11.7 mm.

*Specimens examined:* P. R. CHINA: Guangxi: Huaping, 2♂, 6.vi.1997, Coll. M. F. Yang (GU). P. R. CHINA: Hainan: Diaoluoshan: Xin'an, 1♀, 3.iv.1980, Coll. H. G. Zou (NU); Shuiman, 1♂, 1879 m, 26.v.1980, Coll. X. Z. Zhang (IZCAS).

*Distribution:* China (Taiwan, Guangxi, Hubei, Hainan).

*Remarks:* The antennae of females of this species, as in *M. leucocrocota* (Fennah), have one short branch and one long branch, while the antennae of the males have two equal-long branches.

**6. *Megatropis leucocrocota* (Fennah), comb. nov., new record in China (Figs. 40-50)**

*Vivaha leucocrocota* Fennah, 1978: 246.

*Interamma leucocrocota* (Fennah); van Stalle, 1987: 303.

Length (incl. tegmina): ♂ 9.4 mm, ♀ 10.1 mm.

*Male:* General color yellow. Head and thorax yellow and slightly reddish, apex of antennae and lateral surface of head reddish. Eyes black. Tegmina (Fig. 50) yellow and translucent. Wings whitish yellow.

Head (Figs. 40, 42) protruding far beyond eyes, in profile (Figs. 41, 43) slightly angular at the junction of vertex and frons. Vertex (Fig. 44) triangular, slightly longer than pronotum and mesonotum combined, lateral carinae with sensory pits, hind margin slightly concave. Frons (Fig. 40) with upper half slightly divergent, the lower half convergent. Antennae (Figs. 40-43) "U"-shaped and longer than frons in males and stick-shaped and shorter than frons in females. Ocelli absent. Tegmina (Fig. 50) about 3 times as long as width. Spinal formula of hind legs: 6-4-2.

*Male genitalia:* Anal segment (Figs. 45, 46) stout, basal half tubular, distal half spoon-like, apical margin round. Anal style (Fig. 45) about in the middle. Pygofer (Figs. 45, 47) relatively broad, dorsal apex blunt, ventrocaudal margin straight. Style (Figs. 45, 47) with basal 1/4 slender, with a lamellar process turning outward at apical 1/4 of dorsal margin. Aedeagus as in figures 48 and 49.

*Specimens examined:* P. R. CHINA: Hainan: Jianfengling, Tianchi, 1♂, 14.v.1997, Coll. M. F. Yang (GU); 1♀, same data except 15.v.1997 (GU).

*Distribution:* P. R. China (Hainan), Vietnam (Ninh-Binh). This is the first record of this species from China.

**Genus *Mysidioides* Matsumura**

*Mysidioides* Matsumura, 1905: 60; 1914: 298; Fennah, 1952: 154; Yang & Wu, 1994: 163. Type species: *Otiocerus sapporoensis* Matsumura, 1900.

*Neocyclometopum* Muir, 1913: 61; 1914: 48. Type species: *N. sordidum* Muir, 1913.

*Generic diagnosis:* Head protruding beyond eyes. Frontal carinae mostly convergent, divergent below lower level of eyes. Clypeus as long as frons. Ocelli present. Antennae short, somewhat flattened. Subantennal process developed. Lateral pronotal carinae and lateral margins foliate, forming a deep fovea. Tegmina amplified subapically, with a M+R fork about in the middle; M arising from R, with 5 sectors; Cu<sub>1</sub> 2-branched, connected with Ms<sub>1</sub> by a cross vein. Wings longer than half-length of tegmina. Spinal formula of hind legs: 4-5-5 (after Yang & Wu, 1994).

*Distribution:* Oriental, Ethiopian and Palaearctic Regions.

Seventeen species are known in the genus (3 species in African Region, 13 species in Oriental Region and 1 species in both Palaearctic Region and Oriental Region). One Chinese species is recorded here.

#### 7. *Mysidioides sapporoensis* (Matsumura)

*Otiocerus sapporoensis* Matsumura, 1900: 209; Liang & Suwa, 1998: 152.

*Mysidioides sapporoensis*: Matsumura, 1905: 60; 1914: 299; Muir, 1915: 125; Schumacher, 1915: 122; Yang & Wu, 1994: 170.

Length (incl. tegmina): ♀ 9.0 mm.

*Specimen examined:* P. R. CHINA: Hubei: Wudangshan, 1♀, 7.viii.1997, Coll. M. F. Yang (GU).

*Distribution:* China (Hubei, Shaanxi, Taiwan, Heilongjiang), Japan.

#### Genus *Nesokaha* Muir

*Nesokaha* Muir, 1913: 51; 1918: 173, 201; Fennah, 1952: 153; Yang & Wu, 1994: 143. Type species: *N. piroensis* Muir, 1913.

*Generic diagnosis:* Head not compressed, not produced. Frontal carinae usually contiguous at base, divergent at apex. Antennae short, elongate ovate, about twice as long as wide. Subantennal process well developed. Pronotum with lateral carinae each forming a subfoliaceous ridge. Tegmina amplified subapically, with Sc+R fork near base; M arising from common stem of Sc+R, with 5 sectors; Cu<sub>1</sub> 2-branched, Cu<sub>1</sub>a connected with Ms<sub>1</sub> by a cross vein. Wings shorter than tegmina about 1: 0.8, Cu<sub>1</sub> 3-branched. Spinal formula of hind legs: 5-(4-5)-5 (after Yang & Wu, 1994).

*Distribution:* Oriental Region.

Nine species are known in the genus. We here describe one new species from China.

#### 8. *Nesokaha rubricaudata*, sp. nov. (Figs. 51-58)

Length (incl. tegmina): ♂ 5.7 mm.

*Male:* General color yellow. Vertex and face yellow, base of postclypeus (Fig. 53) with a black spot. Eyes brown. Antennae yellow. Pronotum and mesonotum yellow, hind angle of mesonotum with a black spot. Tegmina light yellow and transparent; veins, especially distal half of tegmina, reddish; basal half of costal margin brown, costal region with many yellow brownish stripes between cross veins; end of 4th median sector with a blackish spot.

Vertex (Fig. 52) triangular, hind margin deeply concave. Frons (Fig. 51) mostly convergent with lower 1/3 divergent. Face (Fig. 51) with a ridge between divergent carinae. Antennae 1.5 times longer than wide. Ocelli reduced. Pronotum with 3 short median carinae. Tegmina about 3 times longer than wide. Spinal formula of hind legs: 5-5-4.

*Male genitalia:* Anal segment (Figs. 54, 55) long, apicoventral angle strongly produced downward, then angularly produced caudad, apical margin deeply concave. Anal style (Figs. 54, 55) near apex of anal segment. Pygofer (Figs. 54, 56) moderately narrow, ventrocaudal margin straight. Style (Figs. 54, 56) with dorsal margin sinuate,

basal 1/4 slender, apex angular, with a pilose process about in the middle. Aedeagus as in figures 57 and 58.

*Holotype*: ♂, P. R. CHINA: S. Jiangxi: S. Taianhong, 4.vii.1936, Coll. L. Gressitt (IZCAS).

*Distribution*: P. R. China (Jiangxi).

*Etymology*: The species name is derived from the Latin "rubra" and "caudatus", referring to red veins on tegmina, especially on the apical half.

*Remarks*: This species is similar to *N. rubrinervis* Muir, but can be separated from the latter by its smooth, non-pustulate sides of the head before the eyes.

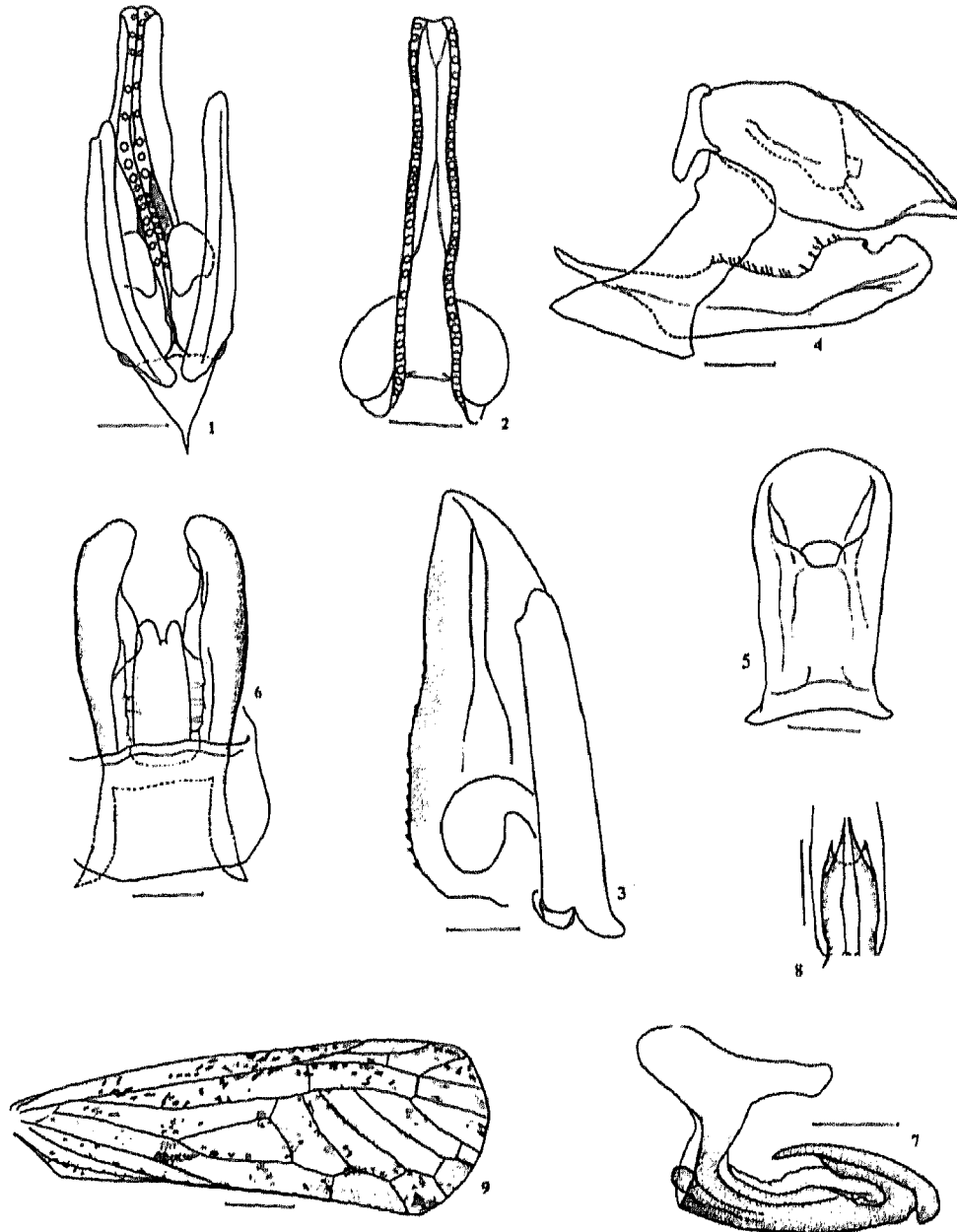
#### Acknowledgments

We thank Mr. F.-S. Li (CAUIC), Dr. M.-F. Yang (GU) and Prof. L.-Y. Zheng (NU) for the loan of specimens. This work was supported by the following sources: the Hundred Talent Program from the Chinese Academy of Sciences (grant number A2903077), the National Natural Science Foundation of China (grant number 30370187), and the National Science Fund for Fostering Talents in Basic Research (NSFC-J0030092), all awarded to APL.

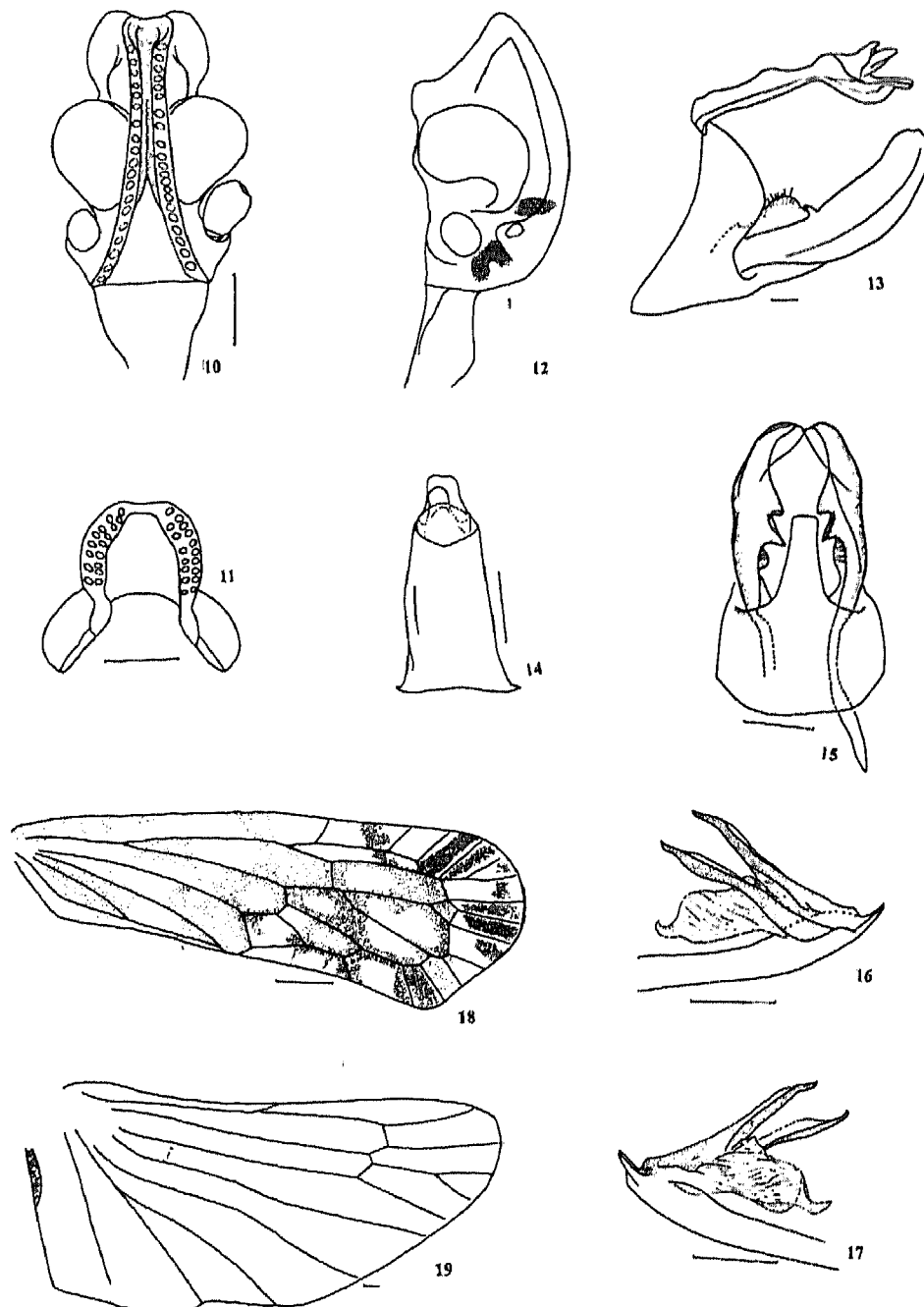
#### References

- CHOU, I., LU, J. S., HUANG, J. & WANG, S. Z., 1985. Economic Insects Fauna of China. Fasc. 36. Homoptera Fulgoroidea. Science Press, Beijing. viii+152 pp. [In Chinese with English summary.]
- DISTANT, W. L., 1906. Rhynchota. Heteroptera-Homoptera. The Fauna of British India, including Ceylon and Burma, 3: 295-316.
- DISTANT, W. L., 1911. Descriptions of new genera and species of Oriental Homoptera. Ann. Mag. Nat. Hist., (8) 8: 639-649.
- DISTANT, W. L., 1916. Rhynchota. Heteroptera-Homoptera. The Fauna of British India, including Ceylon and Burma, 6: 50-69.
- FENNAH, R. G., 1952. On the generic classification of Derbidae (Fulgoroidea) with descriptions of new Neotropical species. Trans. R. Ent. Soc. London, 103 (4): 109-170.
- FENNAH, R. G., 1956. Fulgoroidea from Southern China. Proc. Calif. Acad. Sci., 4 (28): 476-484.
- FENNAH, R. G., 1978. Fulgoroidea (Homoptera) from Vietnam. Ann. Zool., 34 (9): 207-279.
- KIRKALDY, G. W., 1907. Leaf-hoppers, supplement. (Hemiptera). Bull. Hawaii. Sugar Plant. Assoc., Div. Entomol., 3: 1-186, pls. 1-20.
- LIANG, A.-P. & SUWA, M., 1998. Type specimens of Matsumura's species of Fulgoroidea (excluding Delphacidae) in the Hokkaido University insect collection, Japan (Hemiptera: Fulgoromorpha). Insecta Matsumurana, 54: 133-166.
- MATSUMURA, S., 1900. Uebersicht der Fulgoriden Japans. Ent. Nachr., 26: 205-213.
- MATSUMURA, S., 1905. Thousand Insects of Japan, vol. 2. 1 + 163 + 8 pp., pls. 18-35, Keiseisha, Tokyo. [In Japanese.]
- MATSUMURA, S., 1914. Beitrag zur Kenntnis der Fulgoriden Japans. Ann. Mus. Nat. Hungarici, 12: 261-305.
- MUIR, F., 1913. On some new Fulgoroidea. Proc. Hawaiian Ent. Soc., 2: 237-269.
- MUIR, F., 1914. On some Derbidae from Formosa and Japan. Proc. Hawaiian Ent. Soc., 3: 42-52.
- MUIR, F., 1915. New and little-known Derbidae. Proc. Hawaiian Ent. Soc., 3: 116-136.
- MUIR, F., 1918. Notes on the Derbidae in the British Museum collection - I. Zoraidinae. Ent. Monthly Mag., 54: 173-177, 201-207.
- SCHUMACHER, F., 1915. Der gegenwärtige stand unserer Kenntnis von der Homopteren Fauna der Insel Formosa. Mitt. Zool. Mus. Berlin, 8 (1): 73-134.
- VAN STALLE, J., 1987. A review of *Interamma* Walker, 1870 and *Vivaha* Distant, 1906 with descriptions of two new species from Sulawesi (Homoptera, Derbidae). Indo-Malay Zool., 4 (2): 303-315.
- YANG, C. T. & WU, R. H., 1994. Derbidae of Taiwan (Homoptera: Fulgoroidea). National Chung Hsing University, Department of Entomology, Taichung, Taiwan. vi + 230 pp.

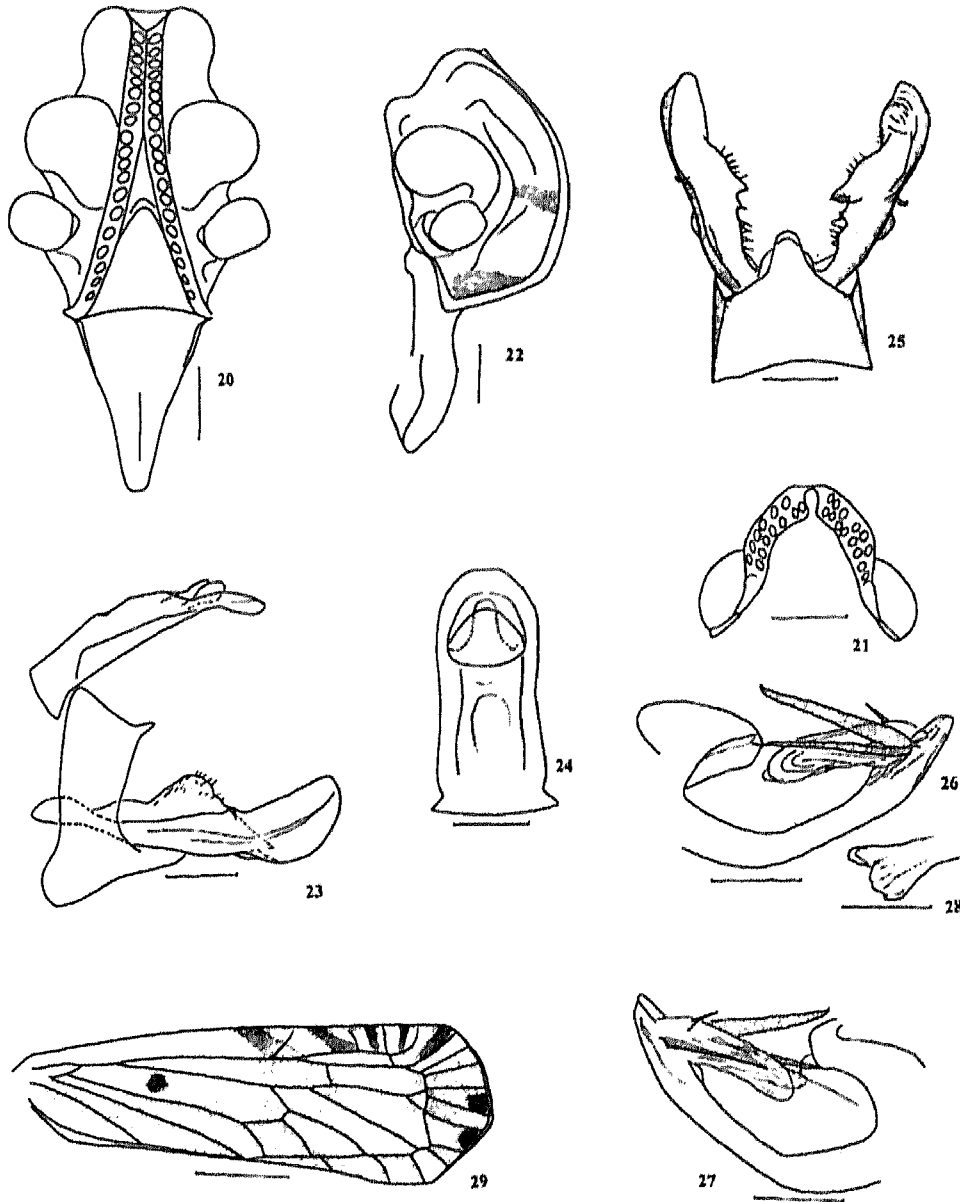




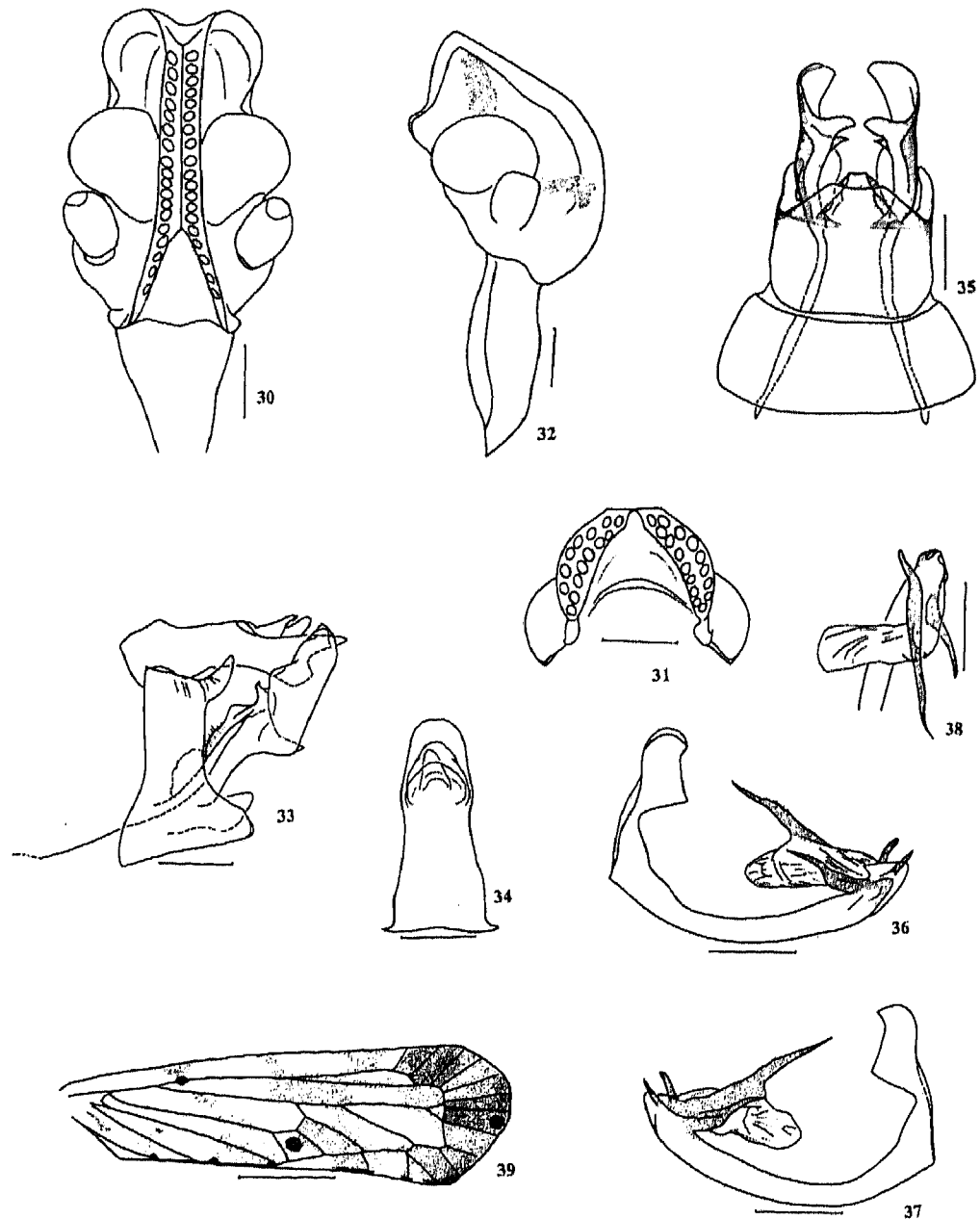
Figs. 1-9. *Vivaha dispersa*, sp. nov.: 1, head (ventral view); 2, head (dorsal view); 3, head, (excl. clypeus, lateral view); 4, male genitalia (lateral view); 5, anal segment (dorsocaudal view); 6, male genitalia (ventral view); 7, style (dorsal view); 8, aedeagus (left side); 9, tegmen. Scale bars: Fig. 1 = 0.4 mm, Figs. 2, 3 = 0.5 mm, Figs. 4-8 = 0.2 mm, Fig. 9 = 1 mm.



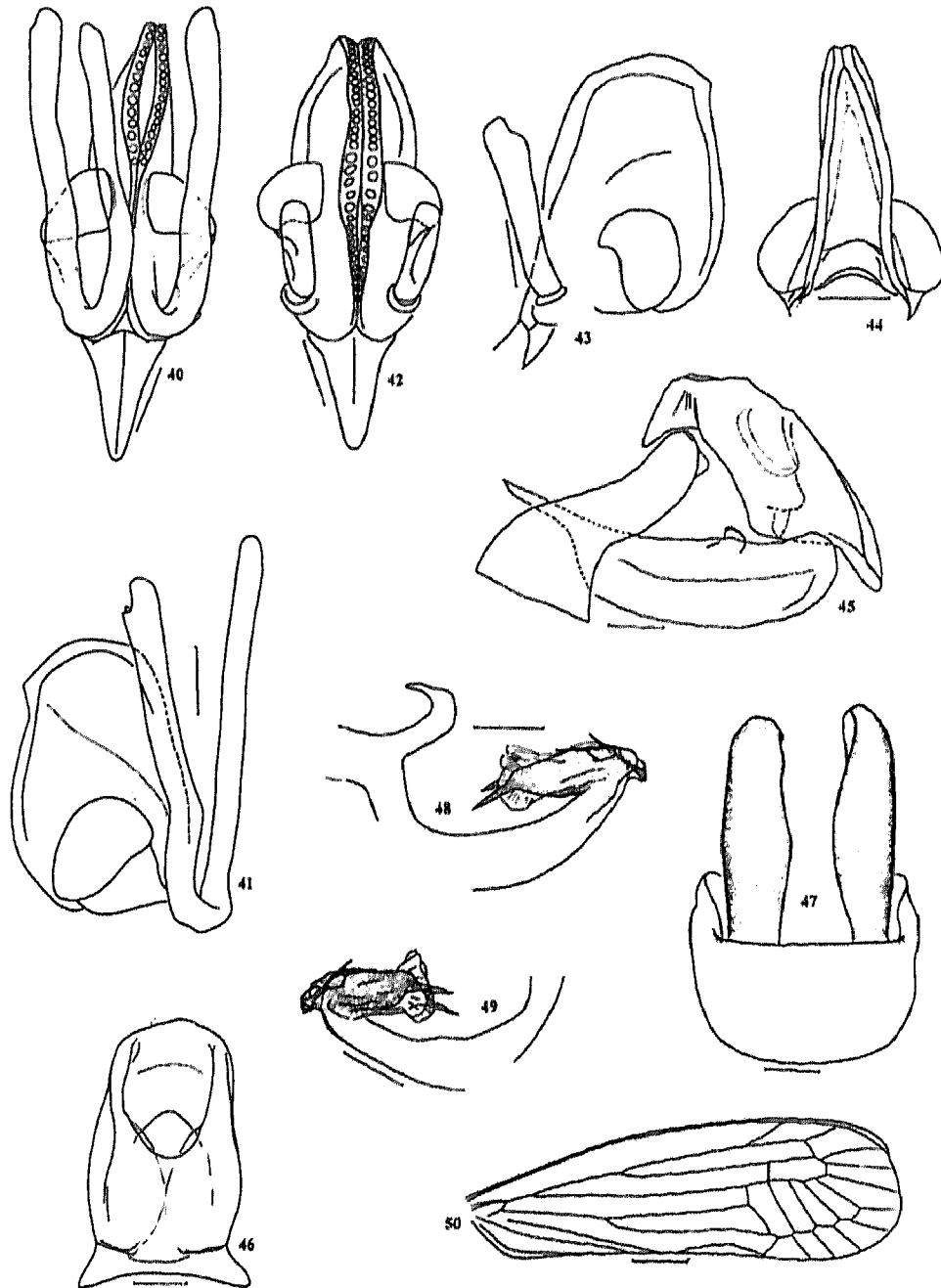
Figs. 10-19. *Kamendaka beijingensis*, sp. nov.: 10, head (ventral view); 11, head (dorsal view); 12, head (lateral view); 13, male genitalia (lateral view); 14, anal segment (dorsal view); 15, male genitalia (ventral view); 16, aedeagus (left side); 17, aedeagus (right side); 18, tegmen; 19, wing. Scale bars: Figs. 10-18 = 0.2 mm, Fig. 19 = 0.5 mm.



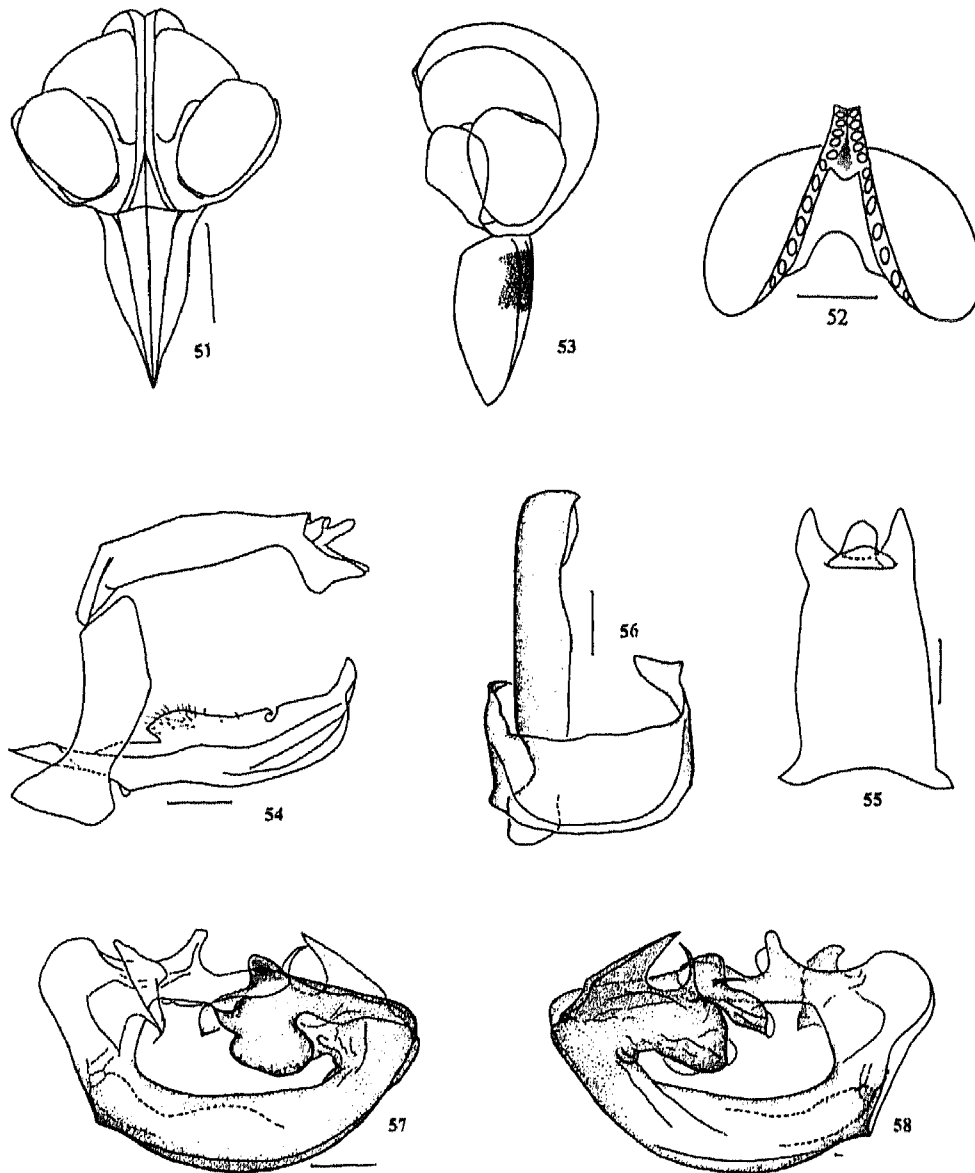
Figs. 20-29. *Kamendaka ochracea*, sp. nov.: 20, head (ventral view); 21, head (dorsal view); 22, head (lateral view); 23, male genitalia (lateral view); 24, anal segment (dorsal view); 25, male genitalia (ventral view); 26, aedeagus (left side); 27, aedeagus (right side); 28, membranous process of aedeagus (dorsal view); 29, tegmen. Scale bars: Figs. 20-28 = 0.2 mm, Fig. 29 = 1 mm.



Figs. 30-39. *Kamendaka brevicula*, sp. nov.: 30, head (ventral view); 31, head (dorsal view); 32, head (lateral view); 33, male genitalia (lateral view); 34, anal segment (dorsal view); 35, male genitalia (ventral view); 36, aedeagus (left side); 37, aedeagus (right side); 38, aedeagus (dorsal view); 39, tegmen. Scale bars: Figs. 30-38 = 0.2 mm, Fig. 39 = 1 mm.



Figs. 40-50. *Megatropis leucocrocota*: 40, head (♂, ventral view); 41, head (♂, excl. clypeus, lateral view); 42, head (♀, ventral view); 43, head (♀, excl. clypeus, lateral view); 44, head (dorsal view); 45, male genitalia (lateral view); 46, anal segment (dorsal view); 47, male genitalia (ventral view); 48, aedeagus (left side); 49, aedeagus (right side); 50, tegmen. Scale bars: Figs. 40-44 = 0.4 mm, Figs. 45-49 = 0.2 mm. Fig. 50 = 1 mm.



Figs. 51-58. *Nesokaha rubricaudata*: 51, head (ventral view); 52, head (dorsal view); 53, head (lateral view); 54, male genitalia (lateral view); 55, anal segment (dorsal view); 56, male genitalia (ventral view); 57, aedeagus (left view); 58, aedeagus (right view). Scale bars: Figs. 51, 53 = 0.4 mm, Figs. 52, 54-58 = 0.2 mm.