Revision of the subfamily Rogadinae (Hymenoptera: Braconidae) from China

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The genera and species of the subfamily Rogadinae Foerster, 1862 sensu stricto from China are revised. A key to the Chinese genera is given and all genera, including three genera new to science and four new to China, are described and illustrated. Keys to the Chinese species of Rogadinae are provided. Of all 116 species, 46 species are described as new to science and 11 species as newly recorded from China, while in addition four new combinations (*Arcaleiodes aglaurus* (Chen & He, 1991), *A. nitidus* (Chen & He, 1991), *A. pulchricorpus* (Chen & He, 1991), and *A. unifasciatus* (Chen & He, 1991)) and one synonym (*Spinaria bicolor* Szépligeti, 1902, of *S. armator* (Fabricius, 1804)) are proposed.

Contents

Introduction

The subfamily Rogadinae Foerster, 1862, has been regarded as a distinct subfamily within the family Braconidae. The definition, composition and phylogeny of this subfamily have been the subject of considerable discussion in the higher classification of Braconidae over the past decade (van Achterberg, 1976, 1984, 1988b, 1990, 1991 & 1993; Quicke & van Achterberg, 1990; Wharton, 1993a; Wharton, et al., 1993), no consensus, however, has yet been reached at present, and clearly more work will be needed. Fortunately, van Achterberg's (1991) work on the Afrotropical and W. Palaearctic Rogadinae has laid a solid foundation for further study of this subfamily and a revision of the genera of the Oriental Rogadinae in progress by van Achterberg will enable us to define more accurately this group. At present the identification of the Oriental genera of Rogadinae is problematic. In the present paper we treat Rogadinae in restricted sense and follow the definition given by van Achterberg (1991) and the composition proposed by van Achterberg (1993, 1995). The description of the genus *Cystomastoides* gen. nov. is by C. van Achterberg (Leiden).

Rogadinae is a rather large subfamily, which consists of koinobiont endoparasites of larval Lepidoptera. The host caterpillar is mummified. Included in this subfamily are four tribes, viz. Rogadini, Yeliconini, Clinocentrini and Stiropiini. The Stiropiini is a group restricted to the New World and mainly parasites of Lyonetiidae, while other three tribes are cosmopolitan ones and have a much wider range of hosts. More than 45 genera and 450 species have been recorded in the world. Area's with its fauna of Rogadinae poorly known include the Oriental, Australian, and Neotropical regions.

The Rogadine fauna of China is poorly studied, only 8 genera and 24 species have been reported before we begun to study the Chinese Rogadinae in 1984 (Brullé, 1846; Enderlein, 1912b; Fahringer, 1929; Kokujev, 1898; Rohwer, 1934; Uchida, 1931; Watanabe, 1932, 1934, 1935, 1937a, 1950 & 1957). Since 1988 we have published a series of papers on the Chinese *Aleiodes* and reported 17 newly-recorded species and 12 new species, of which four are transferred into *Arcaleiodes* gen. nov. and one to *Rogas* in this paper (Chen & He, 1991 & 1992a; Chen, He & Ma, 1992; He & Chen, 1988 & 1990). You (1992) described another newly-recorded species. The number of Rogadinae known from

China mentioned above is certainly too small compared with the number of species of the world fauna. An intensive and extensive study of the Chinese Rogadinae, therefore, is needed. Here we make a contribution in this regard by reporting the results of a five-year study which was based on the material in the major Chinese collections, in particular at the Zhejiang Agricultural University (Hangzhou), the Zoological Research Institute (Beijing), and the Fujian Agricultural University (Fuzhou). Those species and genera previously known to China and of which no specimens available for this study are not included in the text and keys, but listed at the end of this paper.

Terminology for morphology and sculpturing follows Gauld & Bolton (1988) and van Achterberg (1979 & 1988), and Harris (1979), respectively, while that for venation follows van Achterberg (1979 & 1988a). Most morphological terms used in this paper are summarized in figures 1-19.

Systematic part

Key to tribes, subtribes and genera of the Chinese Rogadinae

1. Legs short and robust; fore and middle telotarsi strongly enlarged, longer than the exceptionally short and widened second-fourth tarsal segments combined (fig. 20); fore tibial spurs as long as fore basitarsus (fig. 20); fore basitarsus unspecialized (fig. 20); hind basitarsus with specialized area (fig. 20); labrum flat and more or less slanted backwards and subhorizontal; vein M+CU1 of fore wing distinctly curved (fig. 20); mandibles (nearly) unidentate (tribe Yeliconini van Achterberg) ..... ***Yelicones*** Cameron

- Legs normal, slender; fore and middle telotarsi normal, shorter than second-fourth tarsal segments combined (figs 33, 35, 55, 61, 63); fore basitarsus with inner concavity and specialized setae (figs 33, 55, 59); hind basitarsus normal (figs 35, 57, 74); labrum concave and (sub)vertical; vein M+CU1 of fore wing usually nearly straight or slightly curved (figs 37, 70, 275), but sometimes distinctly curved (figs 88, 328, 332, 336); second tooth of mandible more or less developed 2

2. Vein m-cu of hind wing present, at least as a fold in the wing membrane (figs 37, 39, 52); propodeal areola present, at least posteriorly (fig. 33); tarsal claws simple (fig. 34); ovipositor sheath distinctly protruding beyond apex of metasoma (fig. 33); third metasomal tergite at most with sharp lateral crease anteriorly and at most moderately sculptured dorsally (figs 33, 36, 46); third or fourth tergite often with fine transverse sculpture (figs 36, 46, 51); (tribe Clinocentrini van Achterberg) ..... ***Clinocentrus*** Haliday

- Vein m-cu of hind wing absent (figs 59, 63), if exceptionally present (some *Aleiodes* spp.), then propodeal areola completely absent (figs 63, 76, 299); ovipositor sheath hardly or not protruding beyond apex of metasoma (figs 63, 85, 336), if distinctly protruding (Spinariina, *Rogas* and *Triraphis*), then tarsal claws with a large lobe (figs 61, 366); other characters variable; (tribe Rogadini Foerster) 3

3. Metasomal tergites united, forming a metasomal carapace (figs 55, 59); third-fifth tergites with sharp stout spines (figs 55, 58, 59); propodeum short, sharply slanted posteriorly (fig. 55); head unproportionally small (figs 55, 59); (subtribe Spinariina van Achterberg) 4

- Metasomal tergites movably joined except for second and third tergites (figs 67, 299, 308); third-fifth tergites without spine (figs 67, 299, 308); propodeum and head normal (figs 67, 303); (subtribe Rogadina Foerster) 5

4. Pronotum with a long, acute, curved spine dorsally (fig. 60); propodeum with a stout tooth postero-laterally (fig. 59); fifth metasomal tergite with a sharp median tooth apically (fig. 59); sutures between metasomal tergites distinct and strongly crenulate (fig. 59); tarsal claws with a large lobe (fig. 61) ..... ***Spinaria*** Brullé
- Pronotum without spine dorsally (fig. 55); propodeum without tooth (fig. 55); fifth tergite with four sharp teeth (fig. 58); sutures between metasomal tergite shallowly impressed (fig. 55); tarsal claw simple (fig. 56) ..... ***Batotheca*** Enderlein
5. First metasomal tergite distinctly widened basally in front of subbasal constriction (figs 307, 318, 358, 363); hind tibial spurs completely glabrous except for some inconspicuous setae on outer spur basally, and curved (figs 305, 316, 356, 361); inner spur of middle tibia with row of setae; fourth metasomal tergite with sharp lateral crease (figs 303, 354) 6
- First metasomal tergite normal basally, not or slightly widened basally (figs 63, 311, 341), if distinctly widened basally, and somewhat constricted subbasally (some *Aleiodes* species), then hind spurs setose and nearly straight (figs 83, 175); hind spurs setose (figs 89, 275) or glabrous (figs 325, 344); inner spur of middle tibia evenly setose or (nearly) completely glabrous; fourth tergite variable 9
6. Veins r apically, 3-SR basally and 2-SR dorsally of fore wing distinctly swollen (fig. 359); dorsope of first metasomal tergite large and deep, connected to each other, forming a hole in lateral view (figs 359, 363); tarsal claws with a large lobe (fig. 360); palpi normal (fig. 359) ..... ***Megarhogas*** Szépligeti
- Veins r, 3-SR and 2-SR of fore wing normal (figs 63, 303, 308); dorsope of first tergite large, not connected to each other (figs 302, 307), if exceptionally connected and forming a hole, then tarsal claws without lobe (figs 304, 355); palpi variable 7
7. Tarsal claws with a large lobe (fig. 315); hind coxa with a tubercle dorsally (fig. 314); third segment of maxillary palpi and second segment of labial palpi inflated and widened (fig. 313) ..... ***Cystomastoides*** van Achterberg, gen. nov.
- Tarsal claws simple (figs 304, 355); hind coxa without a tubercle dorsally (figs 303, 354); palpi of female normal, of male sometimes inflated and widened (figs. 303, 353) 8
8. First metasomal tergite nearly linearly widened (sub) basally (fig. 307); vein 3-SR of fore wing about twice as long as vein 2-SR (fig. 303); hypopygium of female strongly convex ventrally and posteriorly evenly curved and partly closed (fig. 303); vein 2-SC+R of hind wing vertical or subquadrate (fig. 303); second and third labial palp segments of male strongly inflated; third and fourth maxillary palp segments of male extremely inflated and aciculate ..... ***Colastomion*** Baker
- First tergite angularly or roundly widened (sub)basally and with lobe-like processes latero-basally (fig. 358); vein 3-SR of fore wing 1-2 times as long as vein 2-SR (figs 354, 375); hypopygium of female straight ventrally or nearly so (fig. 354); vein 2-SC+R of hind wing subquadrate to longitudinal (figs 335, 354, 375); palpi of male normal ..... ***Macrostomion*** Szepligeti
9. Propodeum with a spine or sharp stout tooth latero-posteriorly (figs 308, 333); dorsal carinae of first metasomal tergite not united or nearly so (figs 311, 330); tarsal claws with a large acute lobe (figs 309, 329); vein m-cu of fore wing straight and angled with vein 2-CU1 (figs 308, 328) 10
- Propodeum without tooth (figs 319, 336, 342); first tergite, tarsal claws, veins m-cu and 2-CU1 of fore wing variable 11

10. Middle lobe of mesoscutum strongly convex, distinctly higher than lateral lobes (fig. 308); propodeum with a spine latero-posteriorly (fig. 308); vein M+CU1, 1-CU1 and cu-a of fore wing normal, subbasal cell of fore wing normal (fig. 308) ..... ***Conspinaria*** Schulz
- Middle lobe of mesoscutum slightly convex, not or slightly higher than lateral lobes (fig. 333); propodeum with a stout tooth latero-posteriorly (fig. 333); apical part of vein M+CU1, 1-CU1 and cu-a of fore wing strongly swollen (figs 328, 332); subbasal cell of fore wing strongly widened apically (figs 328, 332) ..... ***Gyroneuron*** Kokujev
11. Fourth-fifth metasomal tergites with sharp lateral crease (figs 319, 323, 342); vein m-cu of fore wing more or less curved and gradually merging into vein 2-CU1 (figs 319, 364); inner side of hind tibia with distinct comb of modified ivory setae apically (figs 325, 344, 368); third maxillary palp segment (especially of male) often enlarged; hypopygium of female medium-sized to large (figs 342, 364, 376); malar suture impressed (figs 319, 324, 364); ovipositor sheath slender; tarsal claws with or without a lobe 12
- Fourth-fifth tergite without lateral crease (figs 67, 85, 275, 336); vein m-cu of fore wing straight and angled with vein 2-CU1 (figs 70, 275, 336); inner side of hind tibia without comb of modified setae apically (figs 74, 289, 340); palpi normal; hypopygium of female small to medium-sized; malar suture absent (figs 85, 275, 336); ovipositor sheath comparatively robust; tarsal claws simple, without a lobe (figs 66, 281, 339) 17
12. Vein 1-M of hind wing two times vein M+CU (fig. 319); vein 1-M of fore wing distinctly curved posteriorly (fig. 319); vein M+CU1 of fore wing straight (fig. 319); first metasomal tergite without laterope and dorsope (fig. 322) ..... ***Darnilia*** van Achterberg
- Vein 1-M of hind wing about equal or slightly longer than vein M+CU (figs 342, 369, 380), if about two times, than vein 1-M of fore wing slightly curved; first tergite with laterope and dorsope (figs 432, 364, 380) 13
13. Hind tibial spurs curved, at least apical half glabrous (figs 325, 344) ..... ***Iporhogas*** Granger
- Hind tibial spurs straight and with setae (figs 368, 378) 14
14. Tarsal claws simple, without a lobe (fig. 300); occipital carina reduced ventrally, not reaching hypostomal carina; third-sixth metasomal tergites obliquely and longitudinally striate (and the striation diverging posteriorly) (fig. 302), subbasally and medially with "T"-shaped depression, apically concave (figs 299, 302); hypopygium of female distinctly convex ventrally, evenly curved (fig. 299) ..... ***Canalirogas*** van Achterberg & Chen
- Tarsal claws with a lobe (figs 366, 377); occipital carina variable; third-sixth tergites normal, longitudinally striate and without depression (figs 364, 376, 380); hypopygium of female medium-sized, nearly straight ventrally (figs 364, 376, 380) 15
15. Tarsal claws with a large, blackish and truncate lobe (figs 366, 377); hypostomal carina reaching occipital carina ventrally (figs 364, 376); occipital carina complete; second metasomal tergite with a triangular area medio-basally (fig. 367), but absent in *Rogasodes* 16

- Tarsal claws with a small to medium-sized, yellowish lobe (figs 381, 391); hypostomal carina not reaching occipital carina ventrally (fig. 380); occipital carina interrupted medio-dorsally and reduced ventrally; second tergite without a triangular area medio-basally (figs 383, 393) ..... ***Triraphis*** Ruthe

16. Third segment of maxillary palpi inflated and enlarged (figs 365, 370, 373); dorsal carinae of first tergite remain more or less separated (fig. 367), but may be united in some species (figs 371, 374); vein SR of hind wing slightly curved basally (figs 369, 372) ..... ***Rogas*** Nees
- Maxillary palpi normal, slender (fig. 376); dorsal carinae of first tergite united basally (fig. 379); vein SR of hind wing strongly curved basally (fig. 376) ..... ***Rogasodes*** gen. nov.

17. Subbasal cell of fore wing distinctly widened apically (fig. 336); vein m-cu of fore wing diverging from vein 1-M posteriorly (fig. 336); first subdiscal cell of fore wing comparatively high (fig. 336); hind tarsal claws only basally finely pectinate (fig. 339); occipital carina strong and angulate ventrally (fig. 336); propodeum more or less protuberant medio-laterally ..... ***Hemigyroneuron*** Baker
- Subbasal cell of fore wing weakly or not widened apically (figs 109, 200, 286); vein m-cu of fore wing (sub)parallel or converging to vein 1-M posteriorly (figs 109, 200, 241), if distinctly diverging from vein 1-M posteriorly (figs 275, 286), then vein 1-M of hind wing strongly curved (figs 275, 286); hind tarsal claws simple (figs 66, 133), or completely pectinate (figs 96, 113); occipital carina and propodeum variable 19

19. Vein m-cu of fore wing distinctly diverging from vein 1-M posteriorly (figs 286, 297); vein 1-M of hind wing distinctly curved (figs 286, 297); basal cell of hind wing narrow (figs 286, 297); hind tarsus yellowish white; head and mesosoma with rich reddish or yellowish spots ..... ***Arcaleiodes*** gen. nov.
- Vein m-cu of fore wing subparallel or converging to vein 1-M posteriorly (figs 63, 70, 200, 267); vein 1-M of hind wing straight (figs 63, 70, 200, 267); basal cell of hind wing normal (figs 63, 70, 200, 267); hind tarsus and colour of head and mesosoma variable ..... ***Aleiodes*** Wesmael

Tribe Yeliconini van Achterberg, 1991

Yeliconini van Achterberg, 1991: 7, 1993: 16, 25, 1995: 147.

Diagnosis.— Antennal segments 35-54; occipital carina distinct and slender; labrum largely flat and more or less slanted backwards and subhorizontal; mandibles nearly unidentate; pronope absent; prosternum lamelliform, strongly protruding, and visible in lateral view (fig. 20); precoxal sulcus wide and shallow, sometimes obsolescent (fig. 20); notauli narrow and shallow, sometimes indistinct; transverse mesoscutal suture widened in front of scutellar sulcus; metanotum anteriorly with median carina medially; vein M+CU1 of fore wing distinctly curved (figs 20, 23, 29); vein m-cu of hind wing distinct and long (figs 23, 27, 29); legs robust; fore and middle tarsus widened, telotarsi strongly enlarged, longer than the exceptionally short second-fourth tarsal segments combined (fig. 20); fore tibial spur as long as basitarsus (fig. 20); hind basitarsus with specialized area (fig. 20); fore tarsal claw pectinate (fig. 20); first-third metasomal segments longitudinally rugose; hypopygium medi-

um-sized, straight ventrally and truncate apically (fig. 20); ovipositor short, more or less compressed.

Distribution: Cosmopolitan; contains one genus: *Yelicones* Cameron, 1887.

Yelicones Cameron, 1887
(figs 20-32)

Yelicones Cameron, 1887: 387; Togashi, 1980: 518; Papp, 1985b: 360-364, 1991: 156-165; van Achterberg, 1991: 7, 1995: 147; Belokobylskij, 1993a: 44, 1993b: 92-94; Quicke & Kruft, 1995: 130; Quicke et al., 1996: 19; Quicke et al., (revision; in press). Type species (designated by Viereck, 1914): *Yelicones violaceipennis* Cameron, 1887.

Pectenopius Fischer, 1961: 156. Syn. by Marsh, 1979a. Type species (by original designation): *Pectenopius paradoxus* Fischer, 1961.

Rhopalotoma Cameron, 1911a: 318. Syn. by Muesebeck, 1931. Type species (by monotypy): *Rhopalotoma crassitarsis* Cameron, 1911.

Diagnosis.— See diagnosis of tribe.

Biology.— Only known of one species, *Y. delicatus* (Cresson, 1872): it is an endoparasite of Pyralidae (Quicke & Kruft, 1995).

Distribution.— Cosmopolitan; medium-sized genus with 36 known species. This genus is new to China. Six species from China are reported below, three of them are new species, but will be published elsewhere (Quicke et al., in press).

Key to Chinese species of the genus *Yelicones*

1. Length of first metasomal tergite 1.5 times its apical width (fig. 24); vein m-cu of hind wing distinctly postfurcal (fig. 23); body brownish yellow with brownish spots; length of body 5 mm. Guangxi ..... *Y. maculatus* Papp
- Length of first tergite 1.0-1.2 times its apical width (figs 22, 26, 28); vein m-cu of hind wing antefurcal to slightly postfurcal (figs 25, 27, 29, 31); body colour variable 2
2. Body entirely yellow or brownish yellow; wing membrane without distinct brown spots (figs 20, 31), but pattern present in *Y.* spec. F nov. (fig. 25); second metasomal tergite with a distinct, smooth triangular area medio-basally (figs 22, 26, 32) 3
- Body yellowish brown or dirty yellow with brown spots; wing membrane with distinct dark brown spots (figs 27, 29); second tergite with small and obsolescent area medio-basally (figs 28, 30) 5
3. Body and pterostigma brownish yellow; pterostigma issuing vein r from its middle (fig. 25); vein SR1 of fore wing 2.7 times vein 3-SR (fig. 25); vein r of fore wing slightly shorter than 3-SR (fig. 25); vein m-cu of hind wing slightly antefurcal (fig. 25); length of body 4.9 mm. Shandong ..... *Y.* spec. F nov. Chen & Quicke
- Body yellow; basal half of pterostigma dark brown, its remainder yellow; pterostigma issuing vein r proximally from its middle (figs 20, 31); vein SR1 of fore wing 3.6-5.1 times vein 3-SR (figs 20, 31); vein r of fore wing distinctly longer than 3-SR (figs 20, 31); vein m-cu of hind wing slightly postfurcal (figs 20, 31) ... 4
4. Antennal segments 38-39; vein SR1 of fore wing 3.6 times vein 3-SR (fig. 20); vein 2-SC+R of hind wing quadrate (fig. 20); first-second metasomal tergites, and

third tergite basally longitudinally rugose; legs entirely yellow. Length of body 7.0 mm. Shandong, Zhejiang and Yunnan .....*Y.* spec. B nov. Quicke, Jamil & Chen

- Antennal segments 50-54; vein SR1 of fore wing 5.1 times vein 3-SR (fig. 31); vein 2-SC+R of hind wing longitudinal (fig. 31); first metasomal tergite and second tergite basally longitudinal rugose; legs yellow, tibia, and tarsus brown. Length of body 7.8 mm. Hubei and Sichuan ..... ***Y. nipponensis*** Togashi

5. Vein SR1 of fore wing curved, its length 2.5 times vein 3-SR (fig. 27); vein 1-R1 of fore wing as long as pterostigma (fig. 27); vein 2-CU1 of fore wing 1.3 times 1-CU1 (fig. 27); vein 2-SC+R of hind wing longitudinal (fig. 27); body pale yellow. Length of body 6.0 mm. Zhejiang ..... *Y.* spec. L. nov. Quicke, Jamil & Chen

- Vein SR1 of fore wing straight, its length 3.4 times vein 3-SR (fig. 29); vein 1-R1 of fore wing 1.2 times length of pterostigma (fig. 29); vein 2-CU1 2.3 times vein 1-CU1 (fig. 29); vein 2-SC+R of hind wing quadrate (fig. 29); body yellowish brown. Length of 4.0 mm. Fujian ..... ***Y. koreanus*** Papp

Yelicones spec. B. nov. Quicke, Jamil & Chen, MS
(figs 20-22)

Yelicones spec. nov. Quicke, Jamil & Chen, (in press).

Material.— Paratypes from China: 3♀♀ + 7♂♂; 1♀(ZRI), "Zhejiang, Xinchang (Sinchang), [29°.4'N, 120°.9'E], 17. vi.1935, [collector unknown]"; 2♀♀ + 6♂♂(ZRI), "Shangdong, Jinan (Tsinanfu), Long-Tong, 500-700 m, [36°.6'N, 117°.0'E], [collecting date and collector unknown]"; 1♂(ZRI), Yunnan, Xishangbanna, 650 m, [220°.0'N, 100°.8'E], 1.vi.1958, Hong Cunpai"; 1♂(?)(SEI), "Yunnan, Tengchong, [25°.0'N, 98°.5'E], 5.x.1981, He Xiusong, 34004580".

Note.— This species is closely related to *Y. nipponensis* Togashi, the difference is given in the key above.

Yelicones koreanus Papp, 1985
(figs 29-30)

Yelicones koreanus Papp, 1985b: 360.

Material.— 1 ♀(ZAU), "Fujian, Sangang, [27°.7'N, 117°.6'E], 9.ix.1983, Wang Jiashe, 854208"; 1 ♀ + 1 ♂ (ZAU), "Zhejiang, Mt. Jiulong Shan, [28°.3'N, 118°.8'E], 17.vii.1994, Xu Zaifu, 944451, 944452".

Variation.— Length of body 4.1-4.8 mm, of fore wing 3.4-5.5 mm; antennal segments 30-33; length of penultimate segment of antenna 2.1-2.4 times its width.

Note.— This species is new to China.

Yelicones spec. F. nov. Chen & Quicke, MS
(figs 25-26)

Yelicones spec. nov. Chen & Quicke, (in press).

Material.— Holotype, ♀(ZRI), "Shangdong, Jinan (Tsinanfu), Long-Tong, 500-700 m, [36°.6'N, 117°.0'E], [collecting date and collector unknown]".

Yelicones spec. L. nov. Quicke, Jamil & Chen, MS
(figs 27-28)

Yelicones spec. nov. Quicke, Jamil & Chen, (in press).

Material.— Paratype, ♀ (ZAU), "Zhejiang, Mt . Tianmu Shan, [30°.4'N, 120°.8'E], 27.vi. 1954, C. S. Tsi, 871076".

Note.— This species is similar to *Y. koreanus* Papp, 1985, but can be separated from the latter by having the length of eye in dorsal view 1.3 times temple, the length of malar space 0.7 times basal width of mandible, the vein r of fore wing distinctly longer than vein 3-SR, vein SR1 3.5 times vein 3-SR, 1-CU1:2-CU1 = 14:18, the vein m-cu of hind wing interstitial, the length of hind femur 3.8 times its width, the body dirty yellow, and the first to seventh metasomal tergites laterally and posteriorly brown.

Yelicones maculatus Papp, 1985
(figs 23-24)

Yelicones maculatus Papp, 1985b: 362.

Material.— 1 ♀(ZRI), "Guangxi, Longsheng, 900 m, [25°.7'N, 110°.0'E], 12.vi. 1963, Wang Chunguang"; 1 ♀(ZRI), "Sichuan, Mt Emei Shan, 800-1000 m, [29°.5'N, 103°.3'E], 22.xi.1957, Zhu Fuxing".

Note.— This species is new to China.

Yelicones nipponensis Togashi, 1980
(figs 31-32)

Yelicones nipponensis Togashi, 1980: 518; Papp, 1985b: 364.

Material.— 1 ♀(ZAU) from Hubei (Shengnongjia); 1 ♀(ZRI) from Sichuan (Mt Emei Shan).

Note.— This species was originally described from Japan and later reported from Korea by Papp (1985b).

Tribe Clinocentrini van Achterberg, 1991

Clinocentrini van Achterberg, 1991: 20.

Diagnosis.— Antennal segments 22-40; eyes weakly or not emarginate; occipital carina curved towards hypostomal carina ventrally and joining it (fig. 33); propodeal spiracle round and in front of middle of propodeum; propodeal areola medium-sized, or reduced; vein CU1a of fore wing closer to level of vein 2-1A than to level of vein 2-CU1 or situated about halfway; vein CU1b of fore wing absent or short; vein 1-SR of fore wing continuous with vein 1-M (figs 37, 38, 41); vein M+CU of hind wing variable, shorter than vein 1-M, about as long as or longer than vein 1-M; vein m-cu of hind wing present, at least as a fold in the membrane; tarsal claws simple; dorsal carinae of first metasomal tergite variable, but if united than enclosing a slender triangular area; second tergite without triangular area medio-basally, but weakly

developed in *Clinocentrus* (figs 36, 38, 40); third tergite at most anteriorly with acute lateral margin, and finely to moderately coarsely sculptured; third or fourth tergite with fine transverse sculpture (figs 36, 46), exceptionally absent; fourth and fifth tergites without sharp lateral crease (fig. 33); ovipositor sheath slender and medium-sized to about as long as metasoma.

Distribution.— Cosmopolitan; contains four genera, *Clinocentrus* Haliday, 1833, *Tebennotoma* Enderlein, 1912 (including the subgenus *Eorhyssalus* Belokobylskij, 1989), *Artocella* van Achterberg, 1980 and *Xenosternum* Muesebeck, 1935. According to Belokobylskij (1993b), *Eorhyssalus* Belokobylskij, 1989, has to be recognized as valid genus. In China represented by the genus *Clinocentrus* and *Tebennotoma*, the latter was reported from Taiwan province (as *Eorhyssalus* Belokobylskij, 1989).

Clinocentrus Haliday, 1833
(figs 33-54)

Clinocentrus Haliday, 1833: 266; Tobias, 1971: 201 (transl. 175: 62); Shenefelt, 1975: 1187-1193; Tobias, 1976: 45-46; Marsh, 1979a: 178; Belokobylskij & Tobias, 1986: 71-72; Shaw & Huddleston, 1991: 94-95 (biology); Belokobylskij, 1995: 803-836 (Palaearctic species). Type species (by monotypy): *Clinocentrus umbratilis* Haliday, 1833.

Camptocentrus Kriechbaumer, 1894: 61; Shenefelt, 1975: 1216; Marsh, 1979a: 179 (as synonym of *Rogas* auct.). Syn. by van Achterberg (1991). Type Species (by monotypy): *Camptocentrus testaceus* Kriechbaumer, 1894 (= *Clinocentrus kriechbaumeri* (Fahringer, 1941)).

Microrhogas Cameron, 1910b: 96; Shenefelt, 1975: 1240. Syn. by van Achterberg (1991). Type species (by monotypy): *Microrhogas foveatus* Cameron, 1910.

Neorhyssalus Baker, 1917a: 286. Syn. by Muesebeck, 1935. Type species (by monotypy): *Neorhyssalus compositus* Baker, 1917.

Diagnosis.— Antennal segments 24-40; apex of scapus subtruncate (fig. 33); maxillary palp medium-sized and 6-segmented; no groove connected to precoxal sulcus dorsally (fig. 33); propodeum with (irregular) medium-sized areola; marginal cell of fore wing long, reaching apex of wing (figs 37, 39, 45); second submarginal cell of fore wing medium-sized (figs 37, 39, 45); first subdiscal cell of fore wing closed apically and moderately robust (figs 37, 39, 45); vein 3-M of fore wing unsclerotized; vein m-cu of fore wing distinctly antefurcal (figs 37, 39, 45); vein M+CU of hind wing about as long as vein 1-M (figs 37, 39, 45); outer spur of hind tibia distinctly longer than surrounding setae (fig. 35); dorsal carinae of first metasomal tergite united and enclosing a triangular area (fig. 36); second metasomal suture slightly to deeply impressed; third tergite frequently (partly) with transverse sculpture (figs 36, 46, 51, 54); fourth tergite smooth; ovipositor sheath comparatively long (fig. 33).

Biology.— Endoparasites of larvae of Tortricidae, Pyralidae, Momphidae, Choreutidae, Epermeniidae, Yponomeutidae, and Oecophoridae.

Distribution.— Cosmopolitan; medium-sized genus with a mainly Holarctic and Oriental distribution, about 32 known species (Shenefelt, 1975; Belokobylskij, 1995). One species, *C. umbratilis* Haliday (subspecies *disruptus*) was reported from Taiwan province (Belokobylskij, 1995), but no specimens are available for this study. In this paper, nine species of this genus are recognized from China, all of them are new species.

Key to the Chinese species of the genus *Clinocentrus* Haliday

1. Vein r of fore wing 0.9-1.0 times vein 3-SR (figs 33, 37, 39, 41); second submarginal cell (sub)quadrate (figs 33, 37, 39, 41) 2
- Vein r of fore wing 0.3-0.6 times vein 3-SR (figs 43, 45, 47); second submarginal cell rectangular (figs 43, 45, 47) 5
2. Body black, prothorax, mesopleuron and mesosternum yellowish brown to reddish brown; legs brownish yellow, hind femur apically and hind tibia apically brownish; pterostigma brown, extremely basally yellow, veins brown. Sichuan ..... ***C. nigricans*** spec. nov.
- Body yellow, reddish yellow to brownish yellow; at most propodeum and metasomal tergites dark; legs entirely yellow or yellowish brown, without any dark spot; colour of pterostigma and veins variable 3
3. Body reddish yellow, propodeum and base of first metasomal tergite dark brown; pterostigma yellow, but apically brown; length of first metasomal tergite equal to its apical width; third tergite weakly striate; length of ovipositor sheath 0.7 times metasoma. Xinjiang ..... ***C. xinjiangensis*** spec. nov.
- Body yellow to brownish yellow, propodeum and basal three metasomal tergites brown; colour of pterostigma variable; length of first tergite longer than its apical width; third tergite distinctly striate; length of ovipositor sheath 0.8-1.0 times metasoma 4
4. Head brown; pterostigma brown, its extreme base paler. Guizhou ..... ***C. cephalus*** spec. nov.
- Head entirely yellow; pterostigma yellow, its extreme apex brownish. Hubei ..... ***C. hubeiensis*** spec. nov.
5. Length of first metasomal tergite equal to its apical width (fig. 47); body reddish yellow; propodeum and basal three metasomal tergites brown; antenna brownish yellow, darker towards its apex. Zhejiang ..... ***C. cornalus*** spec. nov.
- Length of first tergite 1.4-1.6 times its apical width (figs 44, 46); body dark brown, head and thorax with yellow to reddish yellow parts; antenna brown 6
6. Pterostigma yellow, vein yellowish brown to yellow; diameter of posterior ocellus longer than OOL. Fujian, Guangxi and Yunnan ..... ***C. pallidistigmus*** spec. nov.
- Apical half of pterostigma brown, but basally yellowish; veins light brown to brown; diameter of posterior ocellus less than OOL 7
7. Third metasomal tergite finely and densely curved aciculate; femur and tibia tinged with yellow and brown alternately, tarsus brown; fore and middle coxa and trochanters yellow, hind coxa with brown spot dorsally. Sichuan, Fujian, and Guangxi ..... ***C. zebripes*** spec. nov.
- Third tergite coarsely longitudinally rugose; legs entirely yellow or brownish yellow, at most femur brownish apically and hind tibia largely brown 8
8. Frons and vertex finely transversely rugose (fig. 50); head entirely brownish yellow, except for temple along occipital carina brownish. Zhejiang, Fujian and Guangxi ..... ***C. rugifrons*** spec. nov.
- Frons and vertex largely smooth (fig. 53); face, frons and vertex and occiput partly dark brown. Zhejiang, Sichuan, Fujian, and Guizhou ..... ***C. politus*** spec. nov.

Clinocentrus cephalus spec. nov.
(figs 41-42)

Material.— Holotype, ♀(ZAU), "Guizhou, Guiyang, [26°.6'N, 106°.7'E], 8-12.x.1983, He Junhua, 834415". Paratype: 1♂(ZAU), same data as holotype.

Holotype, ♀, length of body 3.6 mm, of fore wing 3.4 mm.

Head.— Antennal segments 31, setose, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 4.2, 3.2 and 2.4 times their width, respectively; length of antenna 1.1 times fore wing; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 1.8 times temple; temple largely and directly narrowed posteriorly; occipital carina complete, angular in dorsal view; OOL:OD:POL = 5:2.5:2; frons flat, smooth; temple and vertex smooth; face medially slightly longitudinally convex with few fine transverse rugae laterally; clypeus slightly convex, punctate; width of hypoclypeal depression 0.5 times width of face; length of malar space 0.8 times basal width of mandibles, 0.3 times of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum medially and posteriorly crenulate, dorsally and ventrally rugose; precoxal sulcus narrow, distinct medially, finely crenulate; mesopleuron glabrous; metapleuron irregularly rugose; mesoscutum smooth; notauli narrow, crenulate; scutellar sulcus wide, with one carinae and few weak rugae; scutellum nearly smooth with few punctures; propodeum irregularly reticulate-rugose, with median carina basally, areola obsolescent.

Wings.— Fore wing: 1-SR+M slightly curved, SR1 straight; r:3-SR:SR1 = 8:8:29; 2-SR:3-SR:r-m = 10:8:8; 1-CU1:2-CU1 = 3.5:15.5; cu-a nearly vertical. Hind wing: 2-SC+R quadrate; M+CU:1-M = 24:20; cu-a long.

Legs.— Hind coxa nearly smooth, with few fine rugae laterally; length of femur, tibia, and basitarsus of hind leg 3.5, 11.0 and 9.0 times their width, respectively; length of hind tarsus equal to hind tibia; length of hind tibial spurs 0.30 and 0.22 times hind basitarsus.

Metasoma.— Length of first tergite 1.2 times its apical width, its surface longitudinally rugose, dorsal carina united at basal 0.36, connected to a distinct median carina; dorsope large; medio-basal area of second tergite small and irregular; second tergite distinctly longitudinally rugose; third tergite more weakly longitudinally rugose with subapical rugae curved towards lateral margin, medio-apically transversely rugose; length of second tergite 1.4 times third tergite; fourth and its following tergites smooth; length of ovipositor sheath 0.41 times fore wing, 0.8 times metasoma.

Colour.— Brownish yellow; face, vertex and temple (except for orbit), occiput, metanotum, propodeum, first to third metasomal tergites and ovipositor sheath brown to blackish brown; antenna light brown, dark towards its apex; legs yellow, femur darker; middle tarsus, hind tibia and tarsus yellow brown to light brown; wing membrane hyaline with brownish setae; pterostigma and veins brown, base of pterostigma yellow.

Variation.— Length of body (male) 2.5 mm, of fore wing 2.25 mm; male generally similar to female, but pterostigma unicolorous, length of first metasomal tergite 1.3 times its apical width; apical third of third tergite transversely rugose; fourth and fifth tergites dark.

Clinocentrus cornalus spec. nov.
(figs 47-48)

Material.— Holotype, ♀(ZAU), "Zhejiang, Mt W Tianmu Shan, [30°.4'N, 119°.5'E], 10-12.ix. 1983, Wan Xingsheng, 834037".

Holotype, ♀, length of body 4.1 mm, of fore wing 3.8 mm.

Head.— Antennal segments 33, setose, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.3, 2.4 and 2.1 times their width, respectively; length of antenna 1.1 times fore wing; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 3.0 times temple; temple largely and directly narrowed posteriorly; occipital carina complete; OOL:OD:POL = 4:3:3; frons flat, smooth; temple and vertex smooth; face shiny, medially longitudinally slightly convex, with median carina dorsally and transverse rugae dorso-laterally; clypeus slightly convex, punctate; width of hypoclypeal depression 0.5 times width of face; length of malar space 0.7 times basal width of mandibles, 0.2 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum medially and posteriorly crenulate, ventrally rugose, dorsally smooth; precoxal sulcus present only medially, crenulate; mesopleuron smooth; metapleuron irregularly rugose; mesoscutum sparsely and finely punctate; notauli narrow; scutellar sulcus wide, with one carinae and few weak rugae; scutellum nearly smooth; propodeum irregularly rugose, basally with median carina, areola present.

Wings.— Fore wing: 1-SR+M slightly curved, SR1 apically curved; r:3-SR:SR1 = 6:12:24; 2-SR:3-SR:r-m = 8:12:5; 1-CU1:2-CU1 = 3.5:13; cu-a inclivous. Hind wing: 2-SC+R quadrate; M+CU:1-M = 19:15; cu-a vertical to M+CU; m-cu long.

Legs.— Hind coxa nearly smooth; length of femur, tibia, and basitarsus of hind leg 5.2, 11.0 and 9.0 times their width, respectively; length of hind tarsus equal to hind tibia; length of hind tibial spurs 0.33 and 0.22 times hind basitarsus.

Metasoma.— Length of first tergite 1.1 times its apical width, its surface longitudinally rugose, dorsal carina united at basal 0.38, connected to a strong median carina, dorsope large; medio-basal area of second tergite small and irregular, rugose; second and third tergite distinctly finely longitudinally rugose; apical margin of third tergite finely transversely rugose; length of second tergite 1.2 times third tergite; second tergite transverse; fourth and its following tergites smooth; second metasomal suture slightly impressed medially; length of ovipositor sheath 0.41 times fore wing.

Colour.— Reddish yellow; antenna yellow, but darkened towards its apex; propodeum and first to third metasomal tergites blackish; ovipositor sheath brown; legs yellow; wing membrane hyaline with brownish setae, pterostigma and veins brown, basal half of pterostigma yellow.

Clinocentrus hubeiensis spec. nov.
(figs 39-40)

Material.— Holotype, ♀(ZAU), "Hubei, Fang Xian, [32°.0'N, 101°.7'E], 29.viii.1982, He Junhua, 825321". Paratype: 1♀(ZAU), same data as holotype, 825313.

Holotype, ♀, length of body 3.3 mm, of fore wing 3.2 mm.

Head.— Antennal segments 31, setose, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.8, 3.0 and 2.0 times their width, respectively; length of antenna 1.2 times fore wing; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 1.9 times temple; temple slightly narrowed posteriorly; occipital carina complete; OOL:OD:POL = 5:2:1.5; frons flat, smooth; temple and vertex smooth; face medially slightly longitudinally convex, finely rugulose laterally, nearly smooth; clypeus slightly convex, rugo-punctate; width of hypoclypeal depression 0.5 times width of face; length of malar space 0.7 times basal width of mandibles, 0.3 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum medially and posteriorly crenulate, ventrally rugose, antero-dorsally smooth; precoxal sulcus narrow, only medially present, crenulate; mesopleuron smooth; metapleuron irregularly rugose; mesoscutum smooth; notauli narrow and crenulate; scutellar sulcus wide, with three carinae; scutellum smooth; propodeum short, sharply slanted backwards, its surface irregularly rugose, areola obsolescent, median carina only present at extreme base.

Wings.— Fore wing: 1-SR+M and SR1 straight; r:3-SR:SR1 = 9:9:34; 2-SR:3-SR:r-m = 9:9:8; 1-CU1:2-CU1 = 4.5:14; cu-a inclivous. Hind wing: 2-SC+R quadrate; M+CU:1-M = 21:16; cu-a long.

Legs.— Hind coxa smooth, outer side with few fine rugae; length of femur, tibia, and basitarsus of hind leg 5.2, 11.5 and 8.5 times their width, respectively; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.35 and 0.24 times hind basitarsus.

Metasoma.— Length of first tergite 1.2 times its apical width, its surface longitudinally rugose, dorsal carinae united at basal 0.3, connected at median carina; median carina distinct only medially; dorsope large; medio-basal area of second tergite small and irregular; second tergite distinctly longitudinally rugo-striate; third tergite more finely and weakly rugose, apically with few fine transverse rugae; length of second tergite 1.4 times third tergite; second metasomal suture obsolescent; fourth and its following tergites smooth; length of ovipositor sheath 0.44 times fore wing, and as long as metasoma.

Colour.— Light brownish yellow; propodeum and first metasomal tergite dark; antenna yellowish brown, dark towards its apex; ovipositor sheath brown; legs yellow, hind tarsus yellowish brown; wing membrane hyaline, pterostigma largely yellow, extremely apically dark, veins light brown to yellowish brown.

Variation.— Length of body 3.3-4.2 mm, of fore wing 3.2-4.2 mm; first to third metasomal tergites dark; tarsus yellowish brown; length of ovipositor sheath 0.83-1.0 times metasoma.

Clinocentrus nigricans spec. nov.
(figs 33-36)

Material.— Holotype, ♀(ZAU), "Sichuan, Wolong, [30°.8'N, 113°.8'E], 18.viii.1986, Wang Jiaru, 907487".

Holotype, ♀, length of body 3.4 mm, of fore wing 3.3 mm.

Head.— Antennal segments 33, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 4.0, 3.0 and 2.5 times their width, respectively; length of antenna 1.3 times fore wing; length of maxillary palp 1.3 times

height of head; length of eye in dorsal view 2.4 times temple; temple largely and directly narrowed posteriorly; occipital carina complete; OOL:OD:POL = 4:2.5:2; frons flat, smooth; temple and vertex smooth; face medially longitudinally convex, with few transverse rugae laterally; clypeus slightly convex, punctate; width of hypoclypeal depression 0.5 times width of face; length of malar space 0.8 times basal width of mandibles, 0.25 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum dull, medially and posteriorly crenulate, ventrally rugose; precoxal sulcus narrow, crenulate; mesopleuron smooth and shiny; metapleuron distinctly irregularly rugose; mesoscutum smooth; notauli narrow, crenulate; scutellar sulcus wide, with four carinae; scutellum smooth; propodeum irregularly reticulate-rugose, areola obscure.

Wing.— Fore wing: 1-SR+M straight, SR1 apically curved; r:3-SR:SR1 = 8:9:35; 2-SR:3-SR:r-m = 9:9:7; 1-CU1:2-CU1 = 2.5:16; cu-a vertical; Hind wing: 2-SC+R quadrate; M+CU:1-M = 21:19; m-cu present.

Legs.— Hind coxa smooth, outer side with few fine rugae; length of femur, tibia, and basitarsus of hind leg 5.3, 10.4 and 8.6 times their width, respectively; length of hind tarsus 1.1 times hind tibia; length of hind tibial spurs 0.35 and 0.22 times hind basitarsus.

Metasoma.— Length of first tergite 1.2 times its apical width, its surface longitudinally rugose, dorsal carinae united at basal 0.33, enclosing a triangular area, median carina distinct, dorsopes large; medio-basal area of second tergite small and irregular; second-third tergites longitudinally rugose, third tergite more finely longitudinally rugose; length of second tergite 1.3 times third tergite; second metasomal suture partly absent medially; fourth and its following tergites smooth; length of ovipositor sheath 1.4 times fore wing.

Colour.— Black; antenna light brown; gena, mandibles (except for tooth apex), prothorax (except for dorsal margin of pronotum), tegulae and metasomal sternites yellow; meso- and metapleuron reddish brown; legs yellow, fore and middle tibia and tarsus dark, hind femur apically, tibia apically and tarsus brown; wing membrane hyaline, pterostigma brown, basally yellow; veins brown.

Clinocentrus pallidistigmus spec. nov.
(figs 43-44)

Material.— Holotype, ♀(ZAU), "Yunnan, Menghai, [21°.9'N', 100°.3'E], 6.ix.1983, Luo Henweng, 841421". Paratypes: 2♀; 1♀(FAC), "Fujian, Pucheng, [27°.9N, 118°.5'E], 30.vii.1973, Zhao Jingwei, 880816"; 1♀(ZAU), "Guangxi, Longzhou, [22°.3'N, 106°.8'E], 20.v.1982, He Junhua, 821611".

Holotype, ♀, length of body 5.2 mm, of fore wing 5.0 mm.

Head.— Antennal segments 41, setose, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 2.3, 2.2 and 2.3 times their width, respectively; length of antenna 1.2 times fore wing; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 3.4 times temple; temple distinctly narrowed posteriorly; occipital carina complete; OOL:OD:POL = 4:5:3; frons flat, smooth; temple and vertex smooth; face medially longitudinally slightly convex, dorsally with distinct median carina, laterally with oblique rugae, ventro-medially smooth; clypeus slightly convex, punctate; width of hypoclypeal depression 0.57

times width of face; length of malar space 0.4 times basal width of mandibles, 0.12 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.9 times its height; sides of pronotum medially and posteriorly crenulate, ventrally rugose, dorsally smooth; precoxal sulcus only medially present, wide and crenulate; mesopleuron glabrous; metapleuron irregularly rugose; mesoscutum slanted sharply anteriorly, its surface sparsely and finely punctate; notauli narrow; scutellar sulcus wide, with some carinae; scutellum smooth; propodeum irregularly reticulate-rugose, basally with median carina, areola obsolescent.

Wings.— Fore wing: 1-SR+M and SR1 straight; r:3-SR:SR1 = 10:23:40; 2-SR:3-SR:r-m = 14:23:10; 1-CU1:2-CU1 = 5:20; cu-a inclivous. Hind wing: 2-SC+R longitudinal; M+CU:1-M = 30:22; cu-a vertical to M+CU; m-cu long.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 6.9, 12.2 and 10.0 times their width, respectively; length of hind tarsus equal to hind tibia; length of hind tibial spurs 0.35 and 0.24 times hind basitarsus.

Metasoma.— First tergite nearly parallel-sided behind spiracles and before spiracles distinctly narrowed towards its base; its length 1.4 times its apical width, its surface longitudinally rugose, dorsal carina united at basal 0.28, joining into a strong median carina; medio-basal area of second tergite small and irregular; second and third tergite distinctly longitudinally rugose; third tergite apically with few fine transverse rugae; length of second tergite 1.4 times third tergite; fourth and its following tergites smooth; length of ovipositor sheath 0.4 times fore wing.

Colour.—Blackish brown; antenna dark brown; orbits, gena, mouth apparatus, tegulae and metasomal sternites yellow; side of pronotum dorsally and posteriorly, mesothorax and metathorax reddish yellow; apical margin of fourth to sixth tergite yellowish white; legs yellow to brownish yellow; wing membrane hyaline, pterostigma yellow; veins yellowish brown to yellow.

Variation.— Length of body 4.5-5.2 mm, of fore wing 4.4-5.0 mm; antennal segments 38-41; length of ovipositor sheath 0.4-0.5 times fore wing.

Clinocentrus politus spec. nov.
(Figs 52-54)

Material.— Holotype, ♀(ZAU), "Fujian, Mt Meihuan Shan, [26°.0'N, 119°.6'E], 23-24. vii.1988, He Junhua, 887433". Paratypes: 11♀♀ + 2♂♂; 1♀(RMNH), same data as holotype, but Fan Jinjiang, 886696; 1♀(ZAU), "Zhejiang, Mt W Tianmu Shan, [30°.4'N, 119°.5'E], 2.ix.1987, Fan Jinjiang, 875936"; 1♀(ZAU), "Sichuan, Guan Xian, [31°.0'N, 103°.6'E], 1.vii.1980, He Junhua, 803052"; 1♀(ZRI), "Sichuan, Mt Emei Shan, 1800-2000m, [29°.5'N, 103°.3'E], 21.viii.1957, Huang Keren, 871815"; 1♀(ZAU), "Fujian, Mt Huanggang Shan, [27°.8'N, 117°.7'E], 3.viii.1980, He Junhua, 832572"; 4♀♀ + 1♂(FAC), "Fujian, Mt Huanggang Shan, vi.1980, Chao Hsiu-fu, 880809 (1♀), 13-14, 30.vii.1985, Tang Yuqing & Zhen Di, 880789, 880806, 880815 (2♀♀ + 1♂), ix.1981, Huang Juchang, 880817 (1♀)"; 1♂ (FAC). "Fujian, Mt Wuyi Shan, [26°.4'N, 116°.4'E], 26.vi.1980, Huang Juchang, 880794"; 1♀(ZAU), "Guizhou, Mt Fanjing Shan, Huixiangping, [27°.9'N, 108°.6'E], 11.vii.1993, Yao Songlin, 937239"; 1♀(ZAU), "Guizhou, Guiyang, [26°.6'N, 106°.6'E], 16.ix.1983, He Junhua, 834629".

Holotype, ♀, length of body 4.4 mm, of fore wing 3.8 mm.

Head.— Antennal segments 36, setose, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 3.2, 2.7 and 2.3 times their width, respectively; length of antenna 1.3 times fore wing; length of maxillary palp

1.4 times height of head; length of eye in dorsal view 3.0 times temple; temple largely roundly narrowed posteriorly, its surface smooth near eye, finely rugulose near occipital carina; occipital carina complete; OOL:OD:POL = 4:3:2; frons flat and smooth; temple and vertex smooth; face medio-longitudinally slightly convex, dorsally with median carina, laterally with longitudinal rugae (diverging ventrally), medio-ventrally smooth; clypeus slightly convex, punctate; width of hypoclypeal depression 0.44 times width of face; gena rugose; length of malar space 0.6 times basal width of mandibles, 0.2 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.8 times its height; sides of pronotum shiny, medially and posteriorly crenulate, ventrally rugose, dorsally smooth; precoxal sulcus only medially present, narrow and crenulate; mesopleuron largely smooth; metapleuron irregularly rugose; mesoscutum glabrous; notauli narrow and crenulate; scutellar sulcus wide, with three carinae; scutellum smooth; propodeum irregularly reticulate-rugose, basally partly smooth with median carina, areola obsolescent.

Wings.— Fore wing: 1-SR+M slightly curved, SR1 straight; r:3-SR:SR1 = 9:15:37; 2-SR:3-SR:r-m = 11:9:8.5; 1-CU1:2-CU1 = 5:20; cu-a inclivous. Hind wing: 2-SC+R quadrate; cu-a subvertical to M+CU; M+CU:1-M = 26:23; m-cu long.

Legs.— Hind coxa smooth dorsally, coriaceous laterally; length of femur, tibia, and basitarsus of hind leg 5.2, 10.2 and 11.0 times their width, respectively; length of hind tarsus equal to hind tibia; length of hind tibial spurs 0.32 and 0.20 times hind basitarsus.

Metasoma.— Length of first tergite 1.4 times its apical width, its surface longitudinally rugose, dorsal carina united at basal 0.3, joining to a distinct median carina; dorsope large; medio-basal area of second tergite small and irregular; second and third tergite longitudinally rugose, only extremely apical margin of third tergite with few fine transverse rugae; remainder of tergite smooth; length of second tergite 1.3 times third terigte; length of ovipositor sheath 0.4 times fore wing.

Colour.— Blackish brown; antenna brown, scapus and pedicellus reddish brown, orbit, antennal sockets, clypeus, mouth apparatus, gena, side of pronotum posteriorly and prosternite posteriorly, mesoscutum, scutellum laterally, smooth part of mesopleuron reddish yellow; palp and metasomal sternites yellow; legs yellowish brown, coxa and trochanters yellow, tibia basally yellowish white, femur apically dark; wing membrane hyaline, pteostigma and veins brown, base of pterostigma yellow.

Variation.— Length of body 3.8-4.4 mm, of fore wing 3.5-4.0 mm; antennal segments 33-36; length of ovipositor sheath 0.40-0.43 times fore wing; third tergite with subapical rugose curved towards lateral margin, medio-apically transversely rugose; metasoma of male more slender, length of first tergite 1.6 times its apical width.

Note.— This new species is related to *C. compositus* (Baker, 1917), but the latter has the face nearly smooth, and the apical third of third metosomal tergite transversely rugose.

Clinocentrus rugifrons spec. nov.
(figs 49-51)

Material.— Holotype, ♀(ZAU), "Zhejiang, Mt Fengyang Shan, [28°.4'N, 119°.4'E], 15-17.vii.1989, He Junhua, 893807". Paratypes: 5♀♀; 2♀(ZAU), "Zhejiang, Mt Fengyang Shan, [28°.0'N, 119°.1'E], 16-27.vii.1982, Xu Junhuan, 826639", "Guangxi, Longsheng, [25°.7'N, 110°.0'E], 23.vi.1982, He Junhua, 823303", 3♀(FAC), "Fujian, Mt Wuyi Shan, [26°.4'N, 116°.4'E], ix-x.1979, Huang Juchang, 880792-3 (2♀♀), 29.vi. 1982, Xu Juanfei, 880820 (1♀)".

Holotype, ♀, length of body 4.5 mm, of fore wing 3.8 mm.

Head.— Antennal segments 36, setose, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 5.0, 3.0 and 2.5 times their width, respectively; length of antenna 1.5 times fore wing; length of maxillary palp 1.4 times height of head; length of eye in dorsal view 3.1 times temple; temple smooth, distinctly narrowed posteriorly; occipital carina complete; OOL:OD:POL = 5:3:2; frons flat, with few fine transverse rugae; vertex finely transversely rugose; face medially slightly convex, laterally finely transversely rugose, ventrally and medially nearly smooth; clypeus slightly convex, punctate; width of hypoclypeal depression 0.47 times width of face; gena rugose; length of malar space 0.5 times basal width of mandibles, 0.15 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.8 times its height; sides of pronotum shiny, medially and posteriorly crenulate, ventrally rugose, dorsally smooth; precoxal sulcus present only medially, narrow and crenulate; mesopleuron smooth; metapleuron irregularly rugose; mesoscutum remotely finely punctulate, nearly smooth; notauli narrow and crenulate; scutellar sulcus wide, with three carinae; scutellum nearly smooth; propodeum irregularly reticulate-rugose, basally smooth with median carina, areola indistinct.

Wings.— Fore wing: 1-SR+M nearly straight; SR1 apically curved; r:3-SR:SR1 = 8:13:36; 2-SR:3-SR:r-m = 11:13:8; 1-CU1:2-CU1 = 3.5:18.5; cu-a subvertical. Hind wing: 2-SC+R subquadrate; cu-a subvertical to M+CU; M+CU:1-M = 25:21.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 5.3, 10.8 and 12.0 times their width, respectively; length of hind tarsus 1.1 times hind tibia; length of hind tibial spurs 0.28 and 0.20 times hind basitarsus.

Metasoma.— Length of first tergite 1.5 times its apical width, its surface longitudinally rugose, dorsope large; medio-basal area of second tergite small; second and third tergites distinctly longitudinally rugose; second tergite quadrate, its length 1.3 times third tergite; third tergite with apically rugae curved towards its lateral margin, medio-apically with fine transverse rugae; remainder of tergites smooth; length of ovipositor sheath 0.45 times fore wing.

Colour.— Blackish brown; head (except for occiput laterally), pronotum medially, side of pronotum dorsally and ventrally, prosternite, mesoscutum (except lateral lobe posteriorly), scutellar sulcus and scutellum, mesopleuron (except for dorsal rugose part), mesosternum, metapleuron, metasomal sternites, fourth-sixth tergites reddish yellow to brownish yellow; legs brownish yellow, coxa and trochanter yellow, hind femur apically dark; wing membrane hyaline, pterostigma and veins brown, basal third of pterostigma yellow.

Variation.— Length of body 4.0-4.5 mm, of fore wing 3.8-4.2 mm; antennal segments 34-36; length of ovipositor sheath 0.40-0.45 times fore wing; length of first tergite 1.5-1.8 times its apical width.

Clinocentrus xinjiangensis spec. nov.
(figs 37-38)

Material.— Holotype, ♀(ZRI), "Xinjiang, viii.1954, Yang Weiyi, 871385".

Holotype, ♀, length of body 3.8 mm, of fore wing 4.0 mm.

Head.— Flagellum missing; scapus glabrous; maxillary palp slender, third segment slightly enlarged, apical three segments missing; length of eye in dorsal view 1.8 times temple; temple smooth, roundly narrowed posteriorly; occipital carina complete; OOL:OD:POL = 4:2.5:2; frons flat, smooth; vertex smooth; face medially longitudinally slightly convex, with few rugae laterally; clypeus slightly convex, punctate; width of hypoclypeal depression 0.57 times width of face; gena smooth; length of malar space 0.6 times basal width of mandibles, 0.21 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.6 times its height; sides of pronotum shiny, medially and posteriorly crenulate, ventrally rugose; precoxal sulcus narrow, only medially distinct, crenulate; mesopleuron smooth; metapleuron irregularly rugose; mesoscutum smooth; notauli narrow and crenulate; scutellar sulcus wide, with three carinae; scutellum smooth; propodeum short, sharply slanted posteriorly, its surface irregularly rugose, areola obscure, median carina only present at extreme base.

Wings.— Fore wing: 1-SR+M and SR1 straight; r:3-SR:SR1 = 9:9:34; 2-SR:3-SR:r-m = 9:9:8; 1-CU1:2-CU1 = 4.5:14; cu-a inclivous. Hind wing: 2-SC+R quadrate; M+CU:1-M = 21:16; cu-a long.

Legs.— Hind coxa smooth, outer side with few fine rugae; length of femur, tibia, and basitarsus of hind leg 5.2, 11.5 and 8.5 times their width, respectively; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.35 and 0.24 times hind basitarsus.

Metasoma.— Length of first tergite equal to its apical width, its surface longitudinally rugose, dorsal carina united and connected to a distinct median carina; dorsope large; medio-basal area of second tergite small; second and third tergites longitudinally rugose, third tergite with subapical rugae curved towards lateral margin, apically without distinct transverse rugae, nearly smooth; length of second tergite 1.3 times third tergite; second metasomal suture absent medially; fourth and its following tergites smooth; length of ovipositor sheath 0.38 times fore wing, 0.7 times metasoma.

Colour.— Reddish yellow; metanotum medially, propodeum and first metasomal tergite basally blackish; ovipositor sheath brown; wing membrane hyaline, pterostigma brown, but basal half yellow; veins largely brown, but veins near wing base yellow.

Clinocentrus zebripes spec. nov.
(figs 45-46)

Material.— Holotype, ♀(ZAU), "Fujian, Mt Huanggang Shan, [27°.8'N, 117°.7'E], vi.1980, Huang Juchang, 880841". Paratypes: 3♀♀; 1♀(ZRI), "Sichuan, Mt Emei Shan, [29°.5'N, 103°.3'E], 18.viii.1957, Zhu Fuxing, 871756"; 1♀(RMNH). "Fujian, Mt Huanggang Shan, vii.1980, Huang Juchang, 880821"; 1♀(ZAU), "Guangxi, Longshen, [25°.7'N, 110°.0'E], 25-26. vi.1982, He Junhua, 823822".

Holotype, ♀, length of body 4.0 mm, of fore wing 3.7 mm.

Head.— Antennal segments 31, setose, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 3.2, 2.6 and 3.0 times their width, respectively; length of antenna 1.1 times fore wing; length of maxillary palp 1.1 times height of head; length of eye in dorsal view 1.9 times temple; temple largely

roundly narrowed posteriorly, its surface smooth near eye, finely rugulose near occipital carina; occipital carina complete; OOL:OD:POL = 4:3:3; frons flat, finely transversely rugose; vertex finely transversely rugose; face medially longitudinally slightly convex, finely transverse rugose laterally, smooth ventro-medially; clypeus slightly convex, punctate; width of hypoclypeal depression 0.46 times width of face; gena with few rugae; length of malar space 0.5 times basal width of mandibles, 0.2 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.9 times its height; sides of pronotum medially and posteriorly crenulate, ventrally finely rugose; precoxal sulcus only medially presents, wide and crenulate; mesopleuron largely smooth, but rugose above precoxal sulcus; metapleuron largely rugose; mesoscutum smooth; notauli narrow; scutellar sulcus wide, with three carinae; scutellum smooth; propodeum long, its surface irregularly rugose, base-medially smooth, basal half with median carina, areola present on apical half.

Wings.— Fore wing: 1-SR+M slightly curved, SR1 straight; r:3-SR:SR1 = 8:19:33; 2-SR:3-SR:r-m = 12:19:9; 1-CU1:2-CU1 = 4:18; cu-a subvertical. Hind wing: 2-SC+R quadrate; M+CU:1-M = 24:21; cu-a reclivous; m-cu long.

Legs.— Hind coxa glabrous dorsally, rugose laterally; length of femur, tibia, and basitarsus of hind leg 5.5, 9.6 and 9.6 times their width, respectively; length of hind tarsus 1.2 times hind tibia; length of hind tibial spurs 0.31 and 0.23 times hind basitarsus.

Metasoma.— Length of first tergite 1.7 times its apical width, its surface longitudinally rugose, dorsal carina united at basal 0.25, connected to a distinct median carina; dorsope large; medio-basal area of second tergite comparatively large, and irregular rugose; second tergite distinctly longitudinally rugose, but weakly rugose basomedially, nearly smooth; third tergite finely curved transversely rugose, but weakly baso-medially; length of ovipositor sheath 0.4 times fore wing.

Colour.— Blackish brown; antenna brown; orbit, antennal sockets, gena, mouth apparatus, side of pronotum dorsally and ventrally, mesoscutum medially and along notauli, tegulae, mesopleuron above precoxal sulcus, metapleuron dorsally, second and third metasomal tergites medio-basally, fourth to sixth metasomal sternites yellow to yellowish brown; legs brownish yellows, femur extremely basally, medially and extremely apically, tibia medially and extremely apically, tarsus (except for extreme base of each segment), and hind coxa latero-medially brown; hind tibia basally yellowish white; wing membrane hyaline, pterostigma and veins brown, basal third of pterostigma yellow.

Variation.— Length of body 4.0-4.3 mm, of fore wing 3.8-4.1 mm; antennal segments 31-33; length of ovipositor sheath 0.36-0.40 times fore wing; third metasomal tergite transversely rugose but basally weakly longitudinally rugose.

Note.— This species is closely related to *C. umbratilis* Haliday, but differs by the colour pattern of legs, the rugulose vertex, and the yellowish middle of second and third tergites and the entirely transversely rugose third tergite.

Tribe Rogadini Foerster, 1862

Rogadoidae Foerster, 1862: 228, 240.
Rhogadides Marshall, 1872: 99.

Pelecystominae Viereck, 1918: 71.
Aleiodinae Muesebeck, 1928: 901.
Rogadini van Achterberg, 1991: 23.

Diagnosis.— Antennal segments 27-104; inner sides of eyes more or less emarginated (figs 64, 276); propodeal spiracles situated in front of middle of propodeum and round (figs 63, 67, 275), exceptionally elliptical; propodeal areola usually reduced or absent, if exceptionally present then narrow; vein CU1b of fore wing much shorter than vein 3-CU1, often (nearly) absent (figs 70, 297); vein 1-SR of fore wing usually (sub)continuous with 1-M, exceptionally angled with vein 1-M; vein m-cu of hind wing absent, exceptionally present; vein M+CU of hind wing longer than vein 1-M or of about equal length (figs 70, 299), exceptionally shorter than vein 1-M (fig. 319); tarsal claws with (fig. 366) or without lobe (fig. 66); first metasomal tergite movably joined to second tergite (fig. 67), except in the subtribe Spinariina (figs 55, 59); second tergite with distinctly differentiated, usually triangular or semi-circular, medio-basal area, often minute (figs 63, 280), but absent in *Triraphis* (fig. 383) and some *Aleiodes* species; fourth-sixth tergites exposed (figs 59, 275, 364), exceptionally largely or completely retracted; ovipositor sheath hardly or not protruding beyond apex of metasoma, except in the subtribe Spinariina, *Rogas* and *Triraphis*.

Distribution.— Cosmopolitan; contains two subtribes: Spinariina van Achterberg, 1988 and Rogadina Foerster, 1862.

Subtribe Spinariina van Achterberg, 1988

Spinariini van Achterberg, 1988b: 91, 1990: 43.
Spinariina van Achterberg, 1991: 23.

Diagnosis.— Head unproportionally small and transverse (figs 55, 59); eyes emarginated at inner sides; occipital carina present or absent (figs 55, 59); pronotal spine present (fig. 60) or absent (fig. 55); precoxal sulcus distinct (fig. 55); metanotum medially with or without small tooth; propodeum short, sharply slanted posteriorly, latero-posteriorly with or without strong teeth (figs 55, 59); vein SR1 of fore wing about twice as long as vein 3-SR (figs 55, 59); vein 2-SR+M of fore wing present (figs 55, 59); vein cu-a of fore wing postfurcal (figs 55, 59); vein M+CU of hind wing about equal to vein 1-M (figs 55, 59); metasomal tergites united, forming a carapace (figs 58, 59); third-fifth tergites with spines (figs 58, 59); ovipositor sheath protruding beyond apex of metasoma (fig. 55).

Biology.— Parasite of Limacodidae.

Distribution.— Indo-Australian region; contains three genera, *Spinaria* Brullé, 1846, *Batotheca* Enderlein, 1905, and *Batothecoides* Watanabe, 1958. The former two genera are reported from China in this paper.

Batotheca Enderlein, 1905
(figs 55-58)

Batotheca Enderlein, 1905: 227; Watanabe, 1938: 170, 1958: 52; Shenefelt, 1978: 1458. Type-species (by original designation): *Batotheca dohrniana* Enderlein, 1905.

Diagnosis.— Head small, strongly transverse (fig. 55); occipital carina absent (fig. 55); eye emarginate at inner sides; pronotum simple without any tooth (fig. 55); prepectal carina complete (fig. 55); precoxal sulcus present (fig. 55); metanotum with a small spine medially; propodeum a little convex at extreme base and then abruptly declivous, without lateral teeth (fig. 55); vein SR1 of fore wing twice as long as 3-SR (fig. 55); vein m-cu connected to first submarginal cell; vein cu-a of fore wing distinctly postfurcal (fig. 55); vein M+CU of hind wing about equal to vein 1-M (fig. 55); tarsal claws simple, without lobe (fig. 56); hind tibial spurs straight, short and setose (fig. 57); metasoma with five visible tergites, all tergites striate (figs 55, 58); first tergite sessile, as broad as apical width of propodeum (fig. 58); third and fourth tergites with long and strong spines postero-laterally (fig. 58); fifth tergite with four teeth, two of then very long, the other two at postero-lateral angle much shorter (fig. 58); ovipositor sheath slender, protruding beyond apex of metasoma and setose (fig. 55).

Biology.— Parasite of Limacodidae.

Distribution.— Oriental region; contains 4 described species. One species, *B. nigriceps* (Cameron) is reported from Guangxi below.

Batotheca nigriceps (Cameron, 1897)
(figs 55-58)

Spinaria nigriceps Cameron, 1897: 37.
Batotheca nigriceps; Enderlein, 1905: 228; Watanabe, 1938: 178, 1958: 53; Shenefelt, 1978: 1459.

Material.— 4♀♀ (ZAU) from Guangxi (Hechi, Huaping).

Biology.— Parasite of *Cheromettia apicata* Moore (specimen from Hechi).

Note.— This species was originally described from Ceylon and later reported from India, and reared from the same host.

Spinaria Brullé, 1846
(figs 59-62)

Spinaria Brullé, 1846: 512; Shenefelt, 1975: 1257. Type species (designated by Viereck, 1914): *Bracon armator* Fabricius, 1804
Brownius Ashmead, 1905: 7; syn. by Roman, 1913. Type species (by original designation): *Brownius armatus* Ashmead, 1905.

Diagnosis.— Head in dorsal view transverse (fig. 59); eyes medium-sized, emarginated at inner sides; occipital carina absent (fig. 59); pronotal bidentate anteromedially, armed with a vertical long spine (figs 59, 60); prepectal carina complete; precoxal sulcus complete and distinct; propodeum rugose with strong teeth posterolaterally (fig. 59); vein r of fore wing arising from about middle of pterostigma (fig. 59); vein SR1 of fore wing about twice as long as 3-SR (fig. 59); vein 2-SR of fore wing oblique, its length as long as 3-SR (fig. 59); vein r-m of fore wing vertical (fig. 59); vein m-cu of fore wing connected with second submarginal cell; vein cu-a of fore wing postfurcal (fig. 59); tarsal claws with large acute lobe (fig. 61); apex of hind tibia with a comb of specialized setae at inner side (fig. 62); hind tibial spurs straight and setose (fig. 62); metasomal tergites distinctly longitudinally rugose and with sharp lateral crease (fig. 59); metasomal sutures deep and crenulate (fig. 59); third and

fourth metasomal tergites with sharp spine apico-laterally and a blunt median tooth apico-medially (fig. 59); fifth tergite with a spine apico-medially (fig. 59); ovipositor sheath slightly protruding beyond apex of metasoma.

Biology.— Parasite of Limacodidae.

Distribution.— Indo-Australian region; contains 12 known species with three species previously recorded in China. In this paper four Chinese species of this genus are listed below.

Note.— *Spinaria* Brullé is an aberrant and interesting genus of Braconidae. Although known species can be arranged in four smaller groups by the colour characters as proposed by Watanabe (1937b), they appear to be so remarkably similar in structure and sculpture, that therefore careful examination of all the types is necessary to come to a definite taxonomic conclusion about these species. Due to the types not available for this study, we are obliged to follow Watanabe's (1937b) treatment in our attempt to separate the Chinese species.

Key to Chinese species of the genus *Spinaria*

1. Metosomal tergites without blackish spots; outer margins of wing membrane, area along parastigma and vein 3-CU1 of fore wing smoky; antenna black; hind tarsus except for basal 2/3 of basitarsus brown. Taiwan and Yunnan. ..... ***S. spinator*** (Guérin-Méneville)
- Metasomal tergites with blackish spots; other characters variable 2
2. Wing membrane entirely dark brown, sometimes yellow basally; hind leg black; first-fourth metasomal tergites black, lateral margins of first-second tergites and fifth tergite pale yellow. China ..... ***S. fuscipennis*** Brullé
- Wing membrane yellow, its apex smoky; hind legs reddish yellow; colour of metasomal tergites variable 3
3. Propodeum and hind leg black; outer margins of wing membrane, area along parastigma and basal portion of vein 3-CU1 of fore wing smoky. Guangxi and Yunnan ..... ***S. albiventris*** Cameron
- Propodeum and hind leg yellowish brown; hind coxa and hind trochanters of female dark, hind tarsus brown; outer margins of wing membrane, area along parastigma and vein 1-SR+M of fore wing, and vein 3-CU1 of fore wing smoky; Zhejiang, Taiwan, Fujian, Guangdong, Hainan and Guangxi ..... ***S. armator*** (Fabricius)

Spinaria albiventris Cameron, 1899

Spinaria albiventris Cameron, 1899: 82; Watanabe, 1937b: 109; Shenefelt, 1975: 1257.

Material.— 7♀♀ + 1♂♂ (ZAU) from Guangxi (Longzhou) and Yunnan (Menghai, Mengla, Simo); 1♀(RMNH) from Yunan (Menghai).

Biology.— Parasite of *Setora nitens* Walker (from Menghai) and a limacodid larva (from Simo).

Note.— This species is new to China. Outside China distributed in India, Viet Nam and Laos.

Spinaria armator (Fabricius, 1804) (figs 59-62)

Bracon armator Fabricius, 1804: 107.
Ichneumon furcator Thunberg, 1822: 261.
Spinaria armator; Brullé, 1846: 513; Watanabe, 1937b: 109; Sonan, 1944: 17; Chao, 1982: 304; He & Wang, 1986: 408; Shenefelt, 1975: 1258; Chou, 1981: 74.
Spinaria armatrix; Schulz, 1906: 138; emend.
Spinaria bicolor Szépligeti, 1902: 46; Watanabe, 1937b: 109; Shenefelt, 1975: 1258. **Syn. nov.**

Material.— 5♀♀ + 1♂(ZAU) from Zhejiang (Mt W Tianmu Shan), Guangdong (Xinhui), Hainan (Ya Xian), and Guangxi (Beiliu); 1♀ (RMNH) from Guangdong (Xinhui).

Biology.— Parasite of a limacodid larva (from Ya Xian).

Note.— According to Szépligeti (1902), *S. bicolor* differs from *S. armator* only in the colour of the first metasomal tergite which in the former is uniformly yellowish red, while in the latter pale yellow with a black spot at the apex. However, both cases are present in the same series of specimens from Beiliu, Guangxi, consequently, we consider *S. bicolor* to be a junior synonym of *S. armator*. *S. armator* was previously reported from Taiwan province (Watanabe, 1937), and outside China distributed in Indonesia and Malaysia, and reared from *Setora nitens* Walker. *S. bicolor* was known only from Borneo.

Spinaria fuscipennis Brullé, 1846

Spinaria fuscipennis Brullé, 1846: 514; Watanabe, 1937b: 111; Shenefelt, 1975: 1258.

Note.— This species was reported to occur in China by Brullé (1846), but no exact locality was given. No specimen is available for this study.

Spinaria spinator (Guérin-Méneville, 1830)

Bracon spinator Guérin-Méneville, 1830 in Duperry: 199.
Spinaria spinator; Brullé 1846: 514; Wilkinson, 1930: 275; Watanabe, 1937a: 32, 1937b: 110; Shenefelt, 1975: 1259; Chou, 1981: 74.
Spinaria spinatrix; Schulz, 1906: 138, emend.

Material.— 2♀♀ (ZAU) from Yunnan (Simo, Jinghong).

Biology.— Parasite of a limacodid larva (from Simo).

Note.— Previously reported from Taiwan province, and outside China distributed in India, Nepal, Indonesia and Malaysia, and reared from *Setora nitens* Walker.

Subtribe Rogadina Foerster, 1862

Rogadini auct. p.p.

Diagnosis.— Head normal (figs 63, 303); eye distinctly emarginate at inner side (figs 64, 285); occipital carina more or less present (figs 65, 196); pronotum without spine (figs 67, 308); precoxal sulcus present (figs 92, 319) or absent (figs 67, 85); metanotum without tooth; propodeum latero-posteriorly with (figs 92, 106) or without

blunt teeth (figs 114, 178); metasomal tergites movably jointed except for second and third tergites (figs 76, 336); third to fifth tergites without spines (figs 63, 308); ovipositor sheath not or slightly protruding beyond apex of metasoma.

Distribution.— Cosmopolitan, large subtribe; in China represented by 15 genera.

Aleiodes Wesmael, 1838
(figs 63-274)

Aleiodes Wesmael, 1838: 194; Shenefelt, 1975: 1163-1185; Marsh, 1979a: 177-178; Papp, 1985a: 143-164, 1985b: 347-349; Shaw & Huddleston, 1991: 95-96 (biology). Type species (designated by Viereck, 1914): *Aleiodes heterogaster* Wesmael, 1838 [= *A. albitibia* (Herrich-Schäffer, 1838)].

Petalodes Wesmael, 1838: 123; Tobias, 1971: 218 (transl. 1975: 86-87); Shenefelt, 1975: 1209-1211; Tobias, 1976: 90; Marsh, 1979a: 179. Syn. by van Achterberg, 1991. Type species (by monotypy): *Petalodes unicolor* Wesmael, 1838 [= *Aleiodes compressor* (Herrich-Schäffer, 1838)].

Heterogamus Wesmael, 1838: 120; Tobias, 1971: 217 (transl. 1975: 86); Shenefelt, 1975: 1200-1202; Tobias, 1976: 89; van Achterberg, 1985: 178-180; Tobias, 1986: 85. Syn. by van Achterberg, 1985. Type species (by monotypy): *Aleiodes crypticornis* Wesmael, 1838 [= *A. dispar* (Haliday, 1833)].

Schizoides Wesmael, 1838: 94. Unavailable name.

Nebartha Walker, 1860: 310; Shenefelt, 1975: 1216; Marsh, 1979a: 179. Syn. by van Achterberg, 1991. Type species (by monotypy): *Nebartha macropodides* Walker, 1860.

Neorhogas Szépligeti, 1906: 605; Shenefelt, 1975: 1205. Syn. by Papp, 1985. Type species (by monotypy): *Neorhogas luteus* Szépligeti, 1906 [= *Aleiodes praetor* (Reinhard, 1863)].

Chelonorhogas Enderlein, 1912b: 258; Shenefelt, 1975: 1187. Syn. by van Achterberg, 1991. Type species (by monotypy): *Chelonorhogas rufithorax* Enderlein, 1912 [nec *Aleiodes rufithorax* (Cameron, 1911) = *A. convexus* van Achterberg, 1991].

Leluthinus Enderlein, 1912a: 96; Shenefelt, 1975: 1202-1203. Syn. by van Achterberg, 1991. Type species (by monotypy): *Leluthinus lividus* Enderlein, 1912.

Aleirhogas Baker, 1917b: 383, 411; Shenefelt, 1974: 1185-1186. Syn. by van Achterberg, 1991. Type species (designated by Viereck, 1921): *Rhogas (Aleirhogas) schultzei* Baker, 1917.

Heterogamoides Fullaway, 1919: 43; Shenefelt, 1975: 1188. Syn. by van Achterberg, 1991. Type species (by monotypy): *Heterogamoides muirii* Fullaway, 1919.

Hyperstemma Shestakov, 1940: 10; Shenefelt, 1975: 1200. Syn. by van Achterberg, 1991. Type species (by monotypy): *Hyperstemma chlorotica* Shestakov, 1940.

Jirunia Malác, 1941: 137; Shenefelt, 1975: 1200. Syn. by van Achterberg, 1991. Type species (by monotypy): *Heterogamus farmakena* Malác, 1941 [depository unknown; = *Aleiodes excavatus* Telenga, 1941].

Eucystomastax Brues, 1912: 223; Shenefelt, 1975: 1199. Syn. by Shaw, 1993. Type species (by monotypy): *Eucystomastax bicolor* Brues, 1912.

R(h)ogas auct.; Tobias, 1971: 215-217 (transl. 1975: 83-86); Shenefelt, 1975: 1215-1256; Tobias, 1976: 81-89, 1986: 74-78; Marsh, 1979a: 179-181.

Diagnosis.— Antennal segments 27-75, apical segment with or without spine; maxillary and labial palpi slender, exceptionally widened; hypostomal carina joining occipital carina ventrally (fig. 196), or reduced ventrally (fig. 65); occipital carina variable, usually medio-dorsally interrupted; vertex and frons smooth or sculptured; malar suture absent (fig. 67); eyes more or less emarginate (fig. 64, 69); antescutal depression more or less developed; prosternum variable, comparatively wide and upcurved to obsolescent; prepectal carina complete (fig. 67); precoxal sulcus absent (fig. 67) or present (fig. 92); notauli variable, may be partly absent; lateral carina of scutellum absent, obsolescent or strong; median carina of metanotum absent to nearly complete; propodeal areola absent, at most with some carinae (figs 63, 67, 76); propodeal tubercles usually absent, but present in some species (figs 85, 92, 106); vein 1-SR of fore wing variable; vein m-cu of fore wing antefurcal, straight, angled with vein 2-CU1, and converging to or parallel with vein 1-M posteriorly (figs 70, 80); vein r of fore wing usually medium-sized, but some species with long vein r

(figs 221-223, 225); vein 3-SR of fore wing from about as long as vein 2-SR to much longer; first subdiscal cell of fore wing robust to slender, vein 1-CU1 horizontal, short to long; vein cu-a of fore wing short to long, vertical or inclivous; vein M+CU1 of fore wing usually slightly sinuate; marginal cell of hind wing variable, parallel-sided (figs 174, 181) or widened (figs 70, 80); vein 1r-m of hind wing long to rather short, oblique; tarsal claws without lobe and setose (figs 66, 84), in several species also pectinate (figs 90, 96); tarsi of males normal, similar to tarsi of females; apex of hind tibia without distinct comb of specialized setae at inner side, very exceptionally present; first tergite with large to rather small dorsope, its dorsal carinae united and more or less arched, and tergite without basal flanges (figs 63, 73); second tergite with mediobasal triangular area and medio-longitudinal carina variable (figs 63, 73); second tergite and at least base of third tergite with sharp lateral crease (fig. 67), but in some species fourth tergite also with a crease (fig. 237); hypopygium of female medium-sized, ventrally straight and apically truncate (figs 67, 76, 85).

Biology.— Endoparasites of (young) larvae of Geometridae, Noctuidae, Notodontidae, Lasiocampidae, Pterophoridae, Lycaenidae, Zygaenidae, Sphingidae, Hesperiidae, Satyridae, Arctiidae, Lymantriidae, Drepanidae and Yponomeutidae. The following hosts need confirmation: Limacodidae, Tortricidae, Oecophoridae, Lyonetiidae, and Nymphalidae (van Achterberg, 1991).

Distribution.— Cosmopolitan; large genus. The type species of the subgenus *Neorhogas* Szépligeti, *Aleiodes praetor* (Reinhard, 1863) is known from W. and E. Palaearctic areas, including Japan. Both the other subgenera contain large conglomerates of species. The subgenus *Chelonorhogas* is predominantly Holarctic. The fourth subgenus, *Eucystomastax* Brues proposed by Shaw (1993), contains those New World species with infumate wings, enlarged hypoclypeal depression, and a swollen maxillary palp.

Note.— It is the largest genus in the subfamily Rogadinae with more than 300 species known worldwide. There are 39 species of this genus previously recorded in China. In this paper 51 species of this genus are recorded for China, in which nine species are new to science, and eight species new to China (the latter are indicated by an asterisk in the key below). The recognition of the Herrich-Schäffer, Hellén and other West Palaearctic species is done by van Achterberg (in litt.) and its full synonymy will be published elsewhere (van Achterberg & Shaw, in prep.).

Key to subgenera and species of the genus *Aleiodes* from China

1. Ovipositor sheath largely glabrous (except apically and ventrally); ovipositor with small ventral teeth and a wide dorsal flange; marginal cell of hind wing narrowed at basal 0.6 and slightly widened apically (fig. 63); lateral carina of scutellum strong (fig. 63); prosternum comparatively wide and distinctly upcurved; vein SC+R1 of hind wing angularly bent (fig. 63); vein cu-a of fore wing long and oblique (fig. 63); lateral carina of propodeum angularly protruding (fig. 63); vein r of fore wing 0.6-0.7 times vein 3-SR (fig. 63); posterior corners of first metasomal tergite distinctly protruding (fig. 63); parasite of Sphingidae; (subgenus *Neorhogas* Szepligeti). Heilongjiang, Jilin, Liaoning, Inner Mongolia, Beijing, Henan, Jiangsu, Zhejiang, Hubei and Fujian ..... ***A. praetor*** (Reinhard)
- Ovipositor sheath largely setose; ovipositor without ventral teeth and at most

with a narrow dorsal flange; marginal cell of hind wing largely parallel-sided or evenly widened distally (figs 174, 181), only exceptionally narrowed at base; lateral carina of sutellum absent, or if present then weakly developed; prosternum less developed and less upcurved posteriorly; vein SC+R1 of hind wing usually nearly straight or evenly curved (figs 174, 181); vein cu-a of fore wing shorter and usually less oblique (figs 174, 181); lateral carina of propodeum and vein r of fore wing variable; posterior corners of first tergite variable, usually not or hardly protruding; parasites of other lepidopterous families 2

2. Apical half of marginal cell of hind wing distinctly widened, its maximum width 1.6 times its width near hamuli or wider (figs 70, 80) or if exceptionally largely parallel-sided, then tarsal claws blackish pectinate; mesopleuron partly smooth, exceptionally densely sculptured (figs 99); second metasomal tergite with distinct and smooth triangular area medio-basally (figs 73, 91); occipital carina usually reduced ventrally, not reaching hypostomal carina (figs 65, 85); lateral carina of scutellum usually absent; (subgenus *Chelonorhogas* Enderlein) 3

- Apical half of marginal cell of hind wing parallel-sided or slightly widened and its maximum width less than 1.8 times its width near hamuli (figs 174, 181), or if up to 2.7 times as wide apically (figs 227, 249) then mesopleuron largely coriaceous; mesopleuron extensively coriaceous or finely granulate, but some species medially coarsely sculptured (fig. 178); tarsal claws at most yellowish pectinate (figs 194, 224); second tergite without triangular area medio-basally or this area minute or indistinct; occipital carina usually complete ventrally and reaching hypostomal carina (figs 186, 196); lateral carina of scutellum more or less developed, but sometimes absent; (subgenus *Aleiodes* Wesmael) 23

3. Antenna medially with pale segments, like a pale ring (figs 71, 79); mesopleuron largely smooth (figs 67, 76) 4

- Antenna without pale segments, at most paler basally or apically; mesopleuron variable 5

4. Tarsal claws blackish pectinate (fig. 75); pronotum without dorsope dorsally; precoxal sulcus absent (fig. 67); lateral carina of propodeum protruding posteriorly (fig. 67); third metasomal tergite normal apically (fig. 67); first-second tergites with a lateral carina (fig. 67); vein 1-CU1 of fore wing as long as 2-CU1 (fig. 70); hind tarsus brown. Guangxi ..... ***A. latericarinis*** Chen & He

- Tarsal claws simple (fig. 84); pronotum with a dorsope dorsally (fig. 81); precoxal sulcus present, smooth (fig. 76); lateral carina of propodeum not protruding (fig. 76); third metasomal tergite convex and curved downwards apically (fig. 76); first-second tergites without lateral carina; vein 1-CU1 of fore wing distinctly shorter than 2-CU1 (fig. 80); second-fourth segments of hind tarsus yellowish white. Fujian, Hainan, Guangxi and Yunnan ..... ***A. coronarius*** Chen & He

5. Hind tarsal claws with conspicuous blackish (or brownish exceptionally) pecten and pecten robust (figs 90, 96, 113); if pecten is intermediate or hardly visible then vein 1-CU1 of fore wing about as long as 2-CU1 and wing membrane subhyaline 6

- Hind tarsal claws yellowish or brownish setose (fig. 119), frequently with about three yellowish or brown wide bristles or only pectinate basally; if exceptionally distinctly yellowish pectinate, then wing membrane infuscated; vein 1-CU1 of fore wing much shorter than vein 2-CU1 (figs 117, 123) 16

6. Vein 1-CU1 of fore wing about as long as 2-CU1 (figs 88, 97, 152, 155) 7
- Vein 1-CU1 of fore wing much shorter than 2-CU1 (figs 117, 129)..... 13
7. Vein 1-SR+M of fore wing angularly bent (fig. 88); vein M+CU1, 1-CU1 and cu-a of fore wing swollen (fig. 88); pterostigma issuing vein r from its basal third (fig. 88); tarsal claws with blackish and robust pecten (fig. 90); body blackish brown, mandible, meso- and metapleuron reddish brown. Length of body 7-10 mm. Jiangsu, Zhejiang and Yunnan ..... ***A. angulinervis*** Chen & He
- Vein 1-SR+M straight or slightly curved (figs 97, 102); vein M+CU1, 1-CU1 and cu-a normal (figs 97, 102); other characters variable 8
8. Third metasomal tergite convex and distinctly curved downwards apically (fig. 154); eye small, in lateral view length of malar space 0.8 times height of eye (fig. 153); mesosoma entirely reddish yellow, head and metasoma blackish brown; length of first metasomal tergite much shorter than its apical width; mesopleuron smooth (fig. 153); precoxal sulcus absent (fig. 153); vein SR1 of fore wing ending distinctly before tip of wing (fig. 152); second submarginal cell quadrate (fig. 152). Zhejiang, Hubei, Hunan, Fujian, Guangdong, Hainan, Guangxi, Guizhou and Yunnan ..... ***A. convexus*** van Achterberg
- Third metasomal tergite normal (figs 92, 99); eye medium-sized to large, in lateral view length of malar space at most 0.5 times height of eye (figs 92, 99); mesosoma black or with brownish spots, if entirely reddish yellow or yellow then body entirely reddish yellow or yellow, other characters variable 9
9. Hind coxa black; mesopleuron densely sculptured, or rugose medially and its surrounding area punctate (fig. 92) 10
- Hind coxa yellow to reddish yellow; mesopleuron largely smooth, or with few rugae medially..... 11
10. Body entirely black, hind tibia white extremely basally; hind tarsal claws pectinate (fig. 96); lateral carina of propodeum distinctly protruding posteriorly (fig. 92); width of hypoclypeal depression 0.5 times minimum width of face (fig. 94); marginal cell of fore wing long, vein SR1 ending tip of fore wing. Shaanxi, Jiangsu, Jiangxi and Sichuan ..... ***A. shestokovi*** (Shenefelt)
- Body black, first-second metasomal tergites reddish yellow; fore and middle legs yellow; hind leg black, trochanters and tibia basally brownish yellow; hind claws simple, without pecten (cf fig. 84); lateral carina of propodeum not protruding posteriorly; width of hypoclypeal depression 0.7 times minimum width of face (fig. 156); marginal cell of fore wing short, vein SR1 ending distinctly before tip of wing (fig. 155). Heilongjiang ..... ****A. krulikowskii*** (Kokujev)
11. Hind claws simple; marginal cell of hind wing slightly widened apically (fig. 157); body entirely yellow. Hubei ..... ****A. aestuosus*** (Reinhard)
- Hind claws with conspicuous pecten (cf fig. 96); marginal cell of hind wing distinctly widened apically (figs 159, 162); body blackish brown, or reddish yellow with brownish spots 12
12. Clypeus obtuse apically (fig. 163); width of hypoclypeal depression 0.4 times minimum width of face (fig. 164); body reddish yellow, head, mesopleuron, mesosternum, metanoutum and metapleuron, propodeum, third metasomal tergite and its following tergites, fore and middle femora apically, apical half of hind femur and tibia black; antenna reddish yellow, dark towards its apex; length of body 5.0-5.5 mm. Heilongjiang and Xinjiang ..... ****A. schirjajewi*** (Kokujev)

- Clypeus sharp apically (fig. 160); width of hypoclypeal depression 0.6 times minimum width of face (fig. 161); body blackish brown, posterior half of mesoscutum, scutellum, metanotum, first metasomal tergite and legs reddish brown. Length of body 7-8 mm. Inner Mongolia ..... **A. cruentus* (Reinhard)

13. Mesopleuron with coarse rugae (fig. 99); precoxal sulcus present (fig. 99); first-third metasomal tergites longitudinally striate; vein m-cu of hind wing present (fig. 102); body and legs entirely black. Zhejiang, Hubei, Hunan and Fujian .... *A. microculatus* (Watanabe)
- Mesopleuron without rugae, smooth (fig. 106); precoxal sulcus absent (fig. 106); first-second metasomal tergites longitudinally striate, third tergite smooth or punctate (fig. 106); vein m-cu of hind wing absent 14

14. Vein 2-SC+R of hind wing longitudinal (fig. 165); lateral carina of propodeum not protruding posteriorly; first-third metasomal tergites reddish yellow; legs reddish yellow, coxa, trochanters and femora dorsally black; length of body 7 mm. Sichuan and Yunnan ..... *A. rufipes* (Thomson)
- Vein 2-SC+R of hind wing vertical (figs 109, 166); lateral carina of propodeum protruding posteriorly; metasomal tergites black; colour of legs variable 15

15. Legs reddish yellow, hind femur apically, hind tibia largely and hind tarsus blackish brown, hind tibia yellowish white basally; propodeum very short (fig. 106); dorsal carinae of first metasomal tergite strongly convex basally in lateral view (fig. 106); marginal cell of fore wing short (fig. 109); antennal segments 54-56; length of body 7-8 mm. Heilongjiang, Hubei, Taiwan, Fujian, Hainan and Guangxi ..... *A. cariniventris* (Enderlein)
- Legs entirely black; propodeum comparatively long (cf fig. 114); dorsal carinae of first metasomal tergite normal, slightly convex basally in lateral view; marginal cell of fore wing long (fig. 166); antennal segments 62-66; length of body 9 mm. Heilongjiang ..... *A. sapporensis* (Watanabe)

16. Clypeus strongly protruding, shield-like (fig. 169); eye small, in lateral view length of malar space 0.7 height of eye (fig. 169); first-second metasomal tergites with honeycomb-like macro-punctures, third tergite with smaller punctures; propodeum short; marginal cell of fore wing very short, vein SR1 ending distinctly before tip of wing (fig. 167); second submarginal cell quadrate (fig. 167); body reddish yellow, propodeum and legs blackish brown; length of body 7-8 mm. Heilongjiang, Inner Mongolia, Xinjiang, Beijing, Hebei, Shanxi and Gansu .... *A. mongolicus* (Telenga)
- Clypeus convex or flat (fig. 114); eye medium-sized to large, in lateral view length of malar space at most 0.5 times height of eyes (fig. 114); first-third metasomal tergites longitudinally striate, at most sometimes third tergite punctate or smooth; other characters variable 17

17. Mesopleuron smooth (fig. 114); precoxal sulcus absent (fig. 114); width of hypoclypeal depression 0.7 times minimum width of face (fig. 116); body yellow or reddish yellow, sometimes propodeum and first metasomal tergite brownish; pterostigma yellow. Length of body 6.7 mm. Ningxia and Qinghai .... *A. fahringeri* (Telenga)
- Mesopleuron with rugae, at least medially (figs 120, 126, 129); body at least partly blackish; colour of pterostigma variable 18

18. Lateral lobes of mesoscutum coriaceous and comparatively dull (fig. 130); margi-

nal cell of fore wing comparatively long (figs 123, 129) 19
- Lateral lobes of mesoscutum smooth or densely punctate, interspaces between punctures usually shooth and shiny (fig. 138); marginal cell of fore wing comparatively short (fig. 137) 22

19. Basal half of hind tibia pale yellow or ivory, at least inner side contrasting with reddish or dark brown colour of basal half of hind femur, its apex dark brown or black; width of hypoclypeal depression 0.5-0.6 times minimum width of face (fig. 144); fourth metasomal tergite entirely and third tergite partly smooth and very glossy (fig. 145), or partly sculptured; pterostigma and veins brown 20
- Hind tibia entirely reddish yellow or yellow, slightly paler than basal half of hind femur; width of hypoclypeal depression 0.4 times minimum width of face (fig. 149); third and fourth tergites coriaceous and dull (fig. 126); pterostigma and veins yellow 21

20. Precoxal area comparatively narrow and posteriorly largely or completely smooth; third metasomal tergite usually largely smooth and as strongly glossy as following tergites, especially of female (fig. 145); antennal segments 47-56 (female) or 51-59 (male); hind femur usually reddish apically. Length of body 6-7 mm. Xinjiang and Qinghai ..... ***A. unipunctator*** (Thunberg)
- Precoxal area comparatively wide and posteriorly rugose or distinctly punctate (fig. 120); third tergite distinctly striate in its basal half and less shiny (fig. 120); antennal segments 56-62; hind femur more or less smudged black apically, sometimes completely. Length of body 8-9 mm. Heilongjiang, Xinjiang, Gansu, Hebei and Guangxi ..... ***A. eurinus*** (Telenga)

21. Body reddish yellow, head, third metasomal tergite apically and fourth-seventh tergites completely black. Length of body 6.7-8 mm. Heilongjiang, Jilin, Liaoning and Inner Mongolia ..... ***A. pallidistigmus*** (Telenga)
- Body black, prothorax, palpi, first-second metasomal tergites and third tergite basally reddish. Length of body 6-7 mm. Heilongjiang and Jilin ..... ***A. spretus*** (Telenga)

22. Antenna of female robust, much shorter than length of body, basal half of antenna of female yellow, apical half black; antennal segments 38-42; body black, head, legs, and first-second metasomal tergites reddish yellow to reddish brown; hind femur dorso-apically, apical half of hind tibia and hind tarsus brownish to black. Length of body 6.0-8.4 mm. Heilongjiang, Jilin, Liaoning, Xinjiang, Beijing, Hebei, Shandong, Shanxi, Henan, Shaanxi, Gansu, Zhejiang, Hubei, Sichuan, Guizhou and Yunnan ..... ***A. ruficornis*** (Herrich-Schäffer)
- Antenna of female normal, slender, as long as or longer than length of body, yellow, dark towards its apex; antennal segments 50-64; body reddish yellow, head and fouth-seventh metasomal tergites black; legs reddish yellow; sometimes mesosoma with black parts. Length of body 8-9 mm. Xinjiang ..... ***A. ferrugiteli*** (Shenefelt)

23. Vein r of fore wing 0.7-3.0(-6.0) times vein 3-SR (figs 221-223), if about 0.7 times then length of malar space 0.5 times height of eye in lateral view 24
- Vein r of fore wing 0.2-0.6 times vein 3-SR (figs 181, 200), if about 0.6 times then length of malar space 0.3-0.4 times height of eye in lateral view 34

24. Vein r and m-cu of hind wing present (figs 221, 223); mesopleuron entirely with rugae; tarsal claws pectinate (fig. 224) 25

- Vein r of hind wing absent, vein m-cu present or absent (figs 229, 241); mesopleuron at least ventrally and posteriorly smooth; tarsal claws simple (fig. 234) 26

25. Vein r of fore wing 2 times vein 3-SR (fig. 221); vein M+CU1 and 1-CU1 of fore wing normal (fig. 221); vein 1-SR of hind wing distinctly bent (fig. 221); marginal cell of hind wing widened basally (fig. 221). Jilin, Zhejiang, Hubei, Hunan, Sichuan, Guangxi and Guizhou ..... *A. pallidinervis* (Cameron)
- Vein r of fore wing slightly longer than vein 3-SR (fig. 223); vein M+CU1 apically and 1-CU1 of fore wing swollen (fig. 223); vein 1-SR straight (fig. 223); marginal cell of hind wing not widened basally (fig. 223). Guizhou ..... *A. crassinervis* spec. nov.

26. Hind trochantellus normal, robust (cf fig. 254); vein m-cu of hind wing present (figs 227, 228) 27
- Hind trochantellus very slender, its length 2.4-4.5 times its width (figs 240, 242); vein m-cu of hind wing variable 30

27. Metasoma compressed apically (fig. 226); vein 1-CU1 of fore wing about as long as vein 2-CU1 (fig. 225); body reddish yellow. Yunnan ..... *A. equalis* spec. nov.
- Metasoma normal, more or less depressed (cf fig. 235); other characters variable 28

28. Body blackish brown, pterostigma and veins brown; antenna brown basally and apically, yellow medially; legs yellow, hind femur blackish brown. Yunnan ..... *A. albigenus* spec. nov.
- Body reddish yellow to brownish yellow, pterostigma and viens variable; antenna blackish brown, basal two segments yellow; legs yellow 29

29. Pterostigma and veins yellow, parastigma and vein 1-SR of fore wing blackish brown (fig. 227); hind tibia brownish apically. Guangxi ..... *A. naevius* spec. nov.
- Pterostigma and veins largely blackish brown, pterostigma basally and veins on base of fore wing yellow (fig. 228); legs completely yellow, without brownish spots. Heilongjiang, Jilin, Zhejiang, Hubei, Hunan, Sichuan and Fujian ..... *A. aethris* spec. nov.

30. Fourth metasomal tergite with sharp lateral crease (fig. 237); propodeum without minute tubercle postero-laterally; wing membrane hyaline, pterostigma and veins yellow; body completely yellow. Jiangsu, Zhejiang, Jiangxi, Hunan, Sichuan, Taiwan, Fujian, Guangdong, Guangxi and Guizhou ..... *A. narangae* (Rohwer)
- Fourth metasomal tergite without lateral crease (cf fig. 213); propodeum with minute tubercle postero-laterally; wing membrane brown, pterostigma and veins brown; colour of body variable 31

31. Vein 3-SR of fore wing very short (fig. 238); vein r of fore wing 6 times vein 3-SR (fig. 238); second submarginal cell triangular. Guangxi ..... *A. triangularis* spec. nov.
- Vein 3-SR of fore comparatively long (figs 239, 241); vein r of fore wing less than 3 times vein 3-SR (figs 239, 241); second submarginal cell quadrate (figs 239, 241) 32

32. Hind trochantellus very slender, its length 3.5-5.0 times its width and 1.8-3.0 times length of trochanter (fig. 240); subhyaline area of fore wing restricted to patch below pterostigma or this area absent (fig. 239); male without metasomal depressions; lateral carina of scutellum strong 33

- Hind trochantellus medium-sized, its length 2.4-3.0 times its width and 1.5 times length of trochanter (fig. 242); subhyaline area of fore wing reaching posterior margin of fore wing or nearly so (fig. 241); second and third metasomal tergites of male with pubescent depressions medially (fig. 243); lateral carinae of scutellum weak. Jilin, Zhejiang and Fujian ..... **A. excavatus* (Telenga)

33. Antenna of female tricoloured, basad and apicad of white band dorsally blackish or dark brown, and subbasally yellowish. Jilin, Beijing, Jiangsu, Zhejiang, Anhui, Hubei, Hunan, Sichuan, Fujian, Guangdong, Guangxi, Guizhou and Yunnan ..... **A. dispar* (Haliday)
- Antenna unicoloured brownish yellow. Fujian ..... *A. kytos* spec. nov.

34. Antenna black, medially with yellow segments; body black, legs and metasomal sterna yellowish brown. Length of body 8.2 mm. Fujian and Guangxi..... *A. fuscus* Chen & He
- Antenna unicoloured, medially without pale segments, at most paler basally or apically; other characters variable 35

35. Fourth metasomal tergite with a more or less sharp lateral crease for whole length (figs 170, 178), if weak or absent then length of malar space 0.5-0.6 times height of eye in lateral view; mesopleuron dorsally and propodeum coarsely rugose (figs 170, 178) and fourth tergite distinctly sculptured basally (fig. 173) (but of *A. gracilipes* smooth); precoxal area distinctly and usually coarsely rugose (figs 170, 178) 36
- Fourth tergite without lateral crease, only gently folded laterally (fig. 196, 205); length of malar space 0.2-0.4 times height of eye in lateral view (figs 196, 205); precoxal area, mesopleuron dorsally and propodeum with few rugae only or completely coriaceous (figs 196, 205); fourth tergite usually smooth or superficially sculptured (fig. 201) 40

36. Ocelli large, OOL 0.6 time OD (fig. 192); Fourth metasomal tergite distinctly reticulate with apico-lateral concavity (figs 170, 173); body milkish yellow, sides of scutellum and metanotum, basal half of propodeum and basal half of baso-lateral triangular area of second and third tergites, fourth tergite baso-medially brownish. Length of body 5 mm. Zhejiang, Anhui, Hunan and Guangxi ..... *A. buzurae* He & Chen
- Ocelli comparatively small, OOL longer than OD (fig. 180); fourth tergite not reticulate, without any concavity apico-laterally (figs 178, 181); colour of body variable 37

37. Mesopleuron completely coarsely rugose, without smooth area (fig. 245); fourth metasomal tergite without distinct rugae, largely coriaceous; hind femur slender, its length 6-7 times its width (fig. 246); body black, orbit, first-second metasomal tergites and legs reddish, trochanters, fore and middle coxa, hind femur, and hind tibia apically blackish brown. Length of body 6-8 mm. Zhejiang, Hunan, Fujian, Guangxi, Guizhou and Yunnan ..... *A. gracilipes* (Telenga)
- Mesopleuron posteriorly (speculum) partly smooth and shiny (fig. 178); fourth tergite distinctly striate (fig. 182); hind femur comparatively robust, its length about 5 times its width (fig. 183); colour of body variable 38

38. Hind femur distinctly partly (0.1-0.5 times its length) dark brown or blackish dorso-apically, dark part usually sharply delimited; fore femur robust, its length 5-5.8 times its width; length of female antenna 1.2-1.3 times fore wing; pterostig-

ma of female largely dark brown or blackish, with its base usually contrastingly yellowish; orbits posteriorly usually black, but orbits may be yellowish; metasoma (especially first tergite) rather robust, and its basal half usually partly reddish yellow; antennal segments of female 43-49, of male 45-53. Length of body 6-6.5 mm. Beijing and Guangxi ..... ***A. alternator*** (Nees)

- Hind femur usually completely yellowish; fore femur more slender, 5.4-6.5 times as long as wide, or more robust, about 4.5-4.6 times its width; mesoscutum less robust; pterostigma yellow; orbits and metasoma variable; antennal segments of female 35-38, of male 39-50 39

39. Body completely yellow, sometimes propodeum and first metasomal tergite dark; temple rounded behind eyes (fig. 248); vein 2-CU1 of fore wing 4-5 times vein 1-CU1 (fig. 247); second submarginal cell of fore wing subquadrate, its length 1.4 times its height (fig. 247); vertex and temple finely granulate, nearly smooth. Length of body 4.0-4.8 mm. Jiangsu, Zhejiang, Anhui, Jiangxi, Hubei and Fujian ..... ***A. oryzaetora*** He & Chen

- Body black, palpi, orbits, legs and metasomal sternites reddish yellow; temple linearly narrowed behind eyes (fig. 180); vein 2-CU1 of fore wing 2-3 times vein 1-CU1 (fig. 181); second submarginal cell of fore wing comparatively long, its length more than 1.5 times its height (fig. 181); vertex and temple coarsely rugose. Length of body 6-7 mm. Zhejiang, Anhui, Jiangxi, Hubei, Sichuan and Fujian ..... ***A. coxalis*** (Spinola)

40. Temple distinctly narrowed behind eyes (figs 189, 250); length of eye in dorsal view (3.0-) 3.5-6.2 times length of temple; ocellus large, OOL 0.3-0.8 times OD; length of malar space of female 0.25 times height of eye in lateral view (fig. 251), but in *A. seriatus* and *A. euproctis* 0.33 times (fig. 186) 41

- Temple moderately to slightly narrowed behind eyes (fig. 199); length of eye 1.8-3.2 times length of temple; ocelli usually smaller, OOL more than 0.8 times OD (fig. 199); length of malar space of female 0.3-0.4 times height of eye in lateral view (fig. 196) 44

41. Basal half of antenna blackish, apical half yellowish brown (fig. 187); precoxal sulcus present (fig. 186); body blackish brown, head and mesosoma with rich yellowish spots, first metasomal tergite basally and apically, second tergite (except for black triangular area baso-laterally) yellow; legs reddish yellow, hind tarsus yellowish white. Length of body 5-6 mm. Hunan ..... ***A. euproctis*** He & Chen

- Antenna unicoloured or at most paler at base; other characters variable 42

42. Antennal segments of female 56-62, of male up to 65; marginal cell of hind wing widened apically (fig. 249); length of fore wing 7-10 mm; ocelli large (fig. 250); vein 1-CU1 comparatively long, about as long as vein 2-CU1 (fig. 249); parasites of *Dendrolimus* species. Heilongjiang, Jilin, Liaoning, Xinjiang, Beijing, Shandong, Shaanxi, Jiangsu, Zhejiang, Anhui, Jiangxi, Hunan, Sichuan, Taiwan, Fujian and Guangxi ..... ***A. esenbeckii*** (Hartig)

- Antennal segments of female 39-56, of male 40-53; marginal cell of hind wing parallel-sided or slightly widened apically (fig. 255); length of fore wing less than 7 mm; ocelli comparatively small (fig. 271); vein 1-CU1 of fore wing comparatively short (figs 255, 257); parasites of other hosts 43

43. Length of hind femur 5.2-6.5 times its width (fig. 256); surroundings of veins 1-M and 1-SR of fore wing more or less infuscated (fig. 255); antennal segments of

female 45-50, of male 48-53; body yellow, mesosoma and metasoma with dark spots; legs yellow, hind femur largely and hind tibia basally dark brown. Length of body 4.0-5.5 mm. Guangxi and Guizhou ..... **A. seriatus* (Herrich-Schäffer)

- Length of hind femur 3.5-5 times its width (fig. 259); surroundings of vein 1-M and 1-SR of fore wing (sub)hyaline (fig. 257); antennal segments of female 54-56; body black, palpi and legs yellow, hind tibia largely and hind tarsus brown, base of hind tibia yellowish white, first-second metasomal tergites with a yellow spot respectively (fig. 258). Length of body7-8 mm. Jilin and Hubei .... *A. lymantriae* (Watanabe)

44. Antennal segments of female 51-57, of male unknown; scapus in lateral view distinctly oblique apically (fig. 268); fourth metasomal tergite largely superficially granulate; occipital carina reaching hypostomal carina (fig. 268); vein 2-CU1 of fore wing 2.2-3.0 times vein 1-CU1 (fig. 267); body brownish yellow. Length of body 5.5-7.6 mm. Heilongjiang, Inner Mongolia, Beijing, Hebei, Anhui, Yunnan and Tibet ..... *A. pallidator* (Thunberg)
- Antennal segments of female 28-49, of male 33-46; scapus in lateral view slightly oblique or truncate apically (fig. 272); fourth tergite usually partly smooth; other characters variable 45
45. Metasoma of female largely strongly compressed (figs 262, 264); second metasomal suture obsolescent (figs 262, 264); first metasomal tergite nearly parallel-sized (figs 262, 264); pterostigma largely yellow 46
- Metasoma of female depressed, or subapically more or less compressed (figs 201, 266); second metasomal suture distinct (figs 201, 205); first metasomal tergite narrowed towards its base (figs 201, 209); colour of pterostigma variable 47
46. Body reddish yellow, propodeum and first metasomal tergite brown; length of first metasomal tergite 1.5 times its apical width (fig. 262); length of second tergite 1.2 times third tergite (figs 261, 262); vertex, temple and frons finely coriaceous; propodeum granulate. Length of body 4.6-6.5 mm. Heilongjiang, Beijing, Shandong, Jiangsu and Zhejiang ..... **A. compressor* (Herrich-Schäffer)
- Body black, mesopleuron largely, mesosternum, metapleuron and legs yellow to reddish yellow; length of first tergite 2.8 times its apical width (fig. 264); length of second tergite 3.2 times third tergite (fig. 64); vertex, temple, frons and propodeum distinctly rugose. Length of body 6.0 mm. Hunan ..... *A. petalus* spec. nov.
47. Temple rather wide, its width near middle of eye 0.7-0.8 times transverse diameter of eye in lateral view (fig. 196); occipital carina straight in lateral view (fig. 196); hind femur of female slender, its length 4.9-6.2 times its width (fig. 202); ocelli small, OOL 1.0-1.6 times OD (fig. 199); pterostigma of female usually largely yellowish; antennal segments of female 39-44, of male 40-45; length of second metasomal tergite 0.9-1.0 times its basal width (fig. 201); second submarginal cell of fore wing more slender (fig. 200); hypopygium of female usually infuscated; apex of female metasoma often dark brown, but also frequently yellowish; precoxal sulus usually with some rugae (fig. 196); parasites of Noctuidae. Heilongjiang, Jilin, Zhejiang, Hubei, Sichuan, Fujian, Guangdong, Guangxi, Guizhou and Yunnan ..... *A. mythimnae* He & Chen
- Temple rather narrow (figs 205, 213); occipital carina slightly curved in lateral view (figs 205, 213); hind femur of female comparatively robust, its length 3.9-5.1

times its width (figs 211, 219), if more than 5.0 times then OOL less than 0.8 times OD; ocelli medium-sized to rather large, OOL of female 0.3-1.0 times OD (figs 206, 215); pterostigma of female partly conspicuously dark brown; other characters variable; parasites of Geometridae, Notodontidae and Yponomeutidae 48

48. Antennal segments of female 41-44, of male 40-44; propodeum at least partly rugose (fig. 205); pterostigma of female dark brown, of male yellow; body reddish yellow; sometimes propodeum and first metasomal tergite brownish. Length of body 5-6 mm. Liaoning, Zhejiang, Hubei and Hunan ..... ***A. drymoniae*** (Watanabe)

- Antennal segments of female 27-37, of male 32-39; propodeum largely coriaceous or only rugulose (fig. 213); pterostigma of female and male unicoloured; colour of body variable 49

49. Metasoma distinctly compressed apically (fig. 226); length of eye in dorsal view 3.0-3.2 times temple; vertex finely rugose. Length of body 3.2-4.7 mm. Jiangsu, Zhejiang, Jiangxi, Hubei, Sichuan, Guangdong, Guangxi and Yunnan ..... ***A. earias*** spec. nov.

- Metasoma depressed; length of eye in lateral view less than 3 times temple; vertex nearly smooth 50

50. Angle between vein r of fore wing and postero-apical margin of pterostigma about 90 (fig. 216); pterostigma completely or largely yellowish; length of first metasomal tergite of female 0.8-1.0 times its apical width (fig. 218); antennal segments of female 31-33, of male 30-31; gregarious parasites of Notodontidae. Length of body 4.5-5.5 mm. Heilongjiang, Liaoning, Inner Mongolia, Xinjiang and Shaanxi ..... ***A. pallescens*** (Hellén)

- Angle between vein r of fore wing and postero-apical margin of pterostigma distinctly less than 90 (fig. 269); pterostigma partly dark brown; length of first metasomal tergite of female 0.9-1.1 times (of male up to 1.2 times) its apical width, antennal segments of female 33-39, of male 33-41; solitary parasites of Geometridae and Yponomeutidae. Jilin, Liaoning, Inner Mongolia, Shanxi, Shaanxi, Jiangsu, Zhejiang, Anhui, Sichuan, Taiwan, Fujian, Guangdong and Guizhou ..... ***A. gastritor*** (Thunberg)

Subgenus *Neorhogas* Szepligeti, 1906

Aleiodes praetor (Reinhard, 1863)
(figs 63-66)

Rogas praetor Reinhard, 1863: 264; Shenefelt, 1975: 1244.
Neorhogas luteus Szépligeti, 1906: 606; Shenefelt, 1975: 1205.
Aleiodes praetor; He & Chen, 1990: 201, 202; Belokobylskij, 1996: 14.

Material.— 12♀♀ + 9♂♂; 1♀(RMNH) from Liaoning (Tieling); 1♀♀ + 8♂♂ (ZAU) from Heilongjiang (Dailing, Harnin and Faku), Inner Mogolia (Qianjiandian), Henan (Xinxiang), Jiangsu (Nanjing), Zhejiang (Changhua, Lin'an), Hubei (Wuchang) and Fujian (Shanghang); 1♀1♂ (ZRI) from Heilonjiang (Gaolingtze) and Beijing (Sanbao).

Biology.— Parasite of *Callambulyx tatarinovi* Bremer & Grey (from Harbin, Faku and Nanjing).

Note.— Previously recorded as parasite of *Smerinthus populi* (Linnaeus), *Smerinthus planus* Walker, *Sphinx pinastri* Linnaeus and *Dilina tiliae* (Linnaeus) and reported from France, Hungary, England, Germany, Japan, Korea, Russia, Finland, Italy and Belgium.

Subgenus *Chelonorhogas* Enderlein, 1912

Aleiodes aestuosus (Reinhard, 1863) (figs 157-158)

Rogas aestuosus Reinhard, 1863: 265; Shenefelt, 1975: 1216.
Rhogas aestuosus var. *desertus* Telenga, 1941: 153.

Material.— 1♀ (ZAU) from Hubei (Shennongjia).

Note.— This species is new to China. Outside China it occurs in Russia (Siberia), Cyprus and Syria.

Aleiodes angulinervis He & Chen, 1990 (figs 85-91)

Aleiodes angulinervis He & Chen, 1990: 202; Belokobylskij, 1996: 3.

Material.— Holotype, ♀ (ZAU), "Zhejiang, Shen Xian, [29°.6'N, 120°.8'E], 6.v.1955, He Junhua, 5608.3, Host: *Acronycta major* Bremer", "*Aleiodes angulinervis* He & Chen". Paratypes: 2♀♀ + 4♂♂ (ZAU), "Jiangsu, Nanjing, [30°.0'N, 118°.7'E], 30.vii.1935, Chu Jootso, Host: *Ac. major* Bremer"; 1♂ (ZAU), "Zhejiang, Tangxi, [29°.0'N, 119°.4'E], 21.viii. Chu Jootso, Host: *Ac. major* Bremer"; 1♀ (ZAU), "Zhejiang, Lanxi, [29°.2'N, 119°.4'E], Chu Jootso, Host: *Ac. major* Bremer"; 1♀ + 2♂♂ (ZAU), "Zhejiang, Hangzou, [30°.2'N, 120°.1'E], 23.viii.3, 3.ix.1935, Chu Jootso, Host: *Ac. major* Bremer"; 2♀♀ + 1♂ (ZAU), "Yunnan, Kuanming, [25°.0'N, 102°.7'E], 12-15.v.1940, Chu Jootso, Host: *Ac. major* Bremer".

Biology.— Parasite of *Acronycta major* Bremer.
Note.— Outiside China reported from Russian Far East.

Aleiodes cariniventris (Enderlein, 1912) (figs 106-133)

R(h)ogas cariniventris Enderlein, 1912b: 257; Watanabe, 1937a: 59; Shenefelt, 1975: 1221:

Material.— 3♀♀ (RMNH) from Fujian (Jianyang and Qingliu); 13♀♀ + 3♂♂ (ZAU) from Heilongjiang (Jiangqiao), Hubei (Wuchang, Shennongjia), Fujian (Mt Wuyi Shan, Sha Xian, Qingliu, Mt Meihua Shan), Taiwan (Taihorinsho), Hainan (Jianfengling), Guangxi (Jinxiu); 1♀ + 1♂ (ZRI) from Fujian (Chong'an, Jianyang).

Biology.— Parasite of *Plusia agnata* Staudinger (Noctuidae) (from Jianyang); solitary parasite.
Note.— This species was originally described from Taiwan province (Enderlein, 1912).

Aleiodes convexus van Achterberg, 1991
(figs 152-154)

Chelonorhogas rufithorax Enderlein, 1912b: 258; Shenefelt, 1975: 1189; Chou, 1981: 74.
Aleiodes convexus van Achterberg, 1991: 25 (replacement name).
Aleiodes (Chelonorhogas) rufithorax; He & Chen, 1992: 1253.

Material.— 1♀ + 2♂♂ (RMNH) from Guangxi (Nanning, Jinxiu); 8♀♀ + 9♂♂ (ZAU) from Zhejaing (Hangzhou), Hubei (Wuchang), Hunan (Chengbu), Fujian (Jianyang, Sha Xian), Guangdong (Fengkai), Guangxi (Nanning, Longzhou, Tianlin, Beiliu), Guizhou (Huishui, Pingtang) and Yunnan (Lancang, Wenshan); 3♀♀ + 3♂♂ (ZRI) from Zhejiang (Mt W Tianmu Shan), Hainan (Yinggen), Yunnan (Xishangbannan).

Note.— This species was originally reported from Taiwan province (Enderlein, 1912b).

Aleiodes coronarius Chen & He, 1991
(figs 76-84)

Aleiodes coronarius Chen & He, 1991: 30, 33.

Material.— Holotype, ♀ (ZAU), "Guangxi, Tianlin, [24°.3'N, 106°.2'E], 30.v.1982, He Junhua, 822032, "*Aleiodes coronarius* Chen & He". Paratypes: 1♂ (ZAU), "Guangxi, Jinxiu, [24°.1'N, 110°.1'E], 15.vi.1982, 823164"; 1♀(BAU), "Fujian, Chong'an, [27.7'N, 118.0'E], 5.viii. 1985, Liu Mingjun"; 1♂(FAU), "Fujian, Jianyang, Dazhulan, [27°.7'N, 117°.6'E], 1370m, 28.v.1948, Chao Hsiufu"; 1♀(ZAU), "Haina, Jianfengling, [187°.7'N, 108°.8'E], 8.vii. 1981, Hua Lizhong, 870325'; 1♀(ZAU), "Yunnan, Ruili, [24°.0'N, 97°.8'E], 2-6.v.1981, He Junhua, 812963". Other specimens: 11♀♀ + 3♂♂ (ZAU) from Zhejiang (Songyang), Fujian (Mt Meihua Shan, Kangshang); 1♀ + 1♂(RMNH) from Fujian (Mt Meihua Shan).

Aleiodes cruentus (Nees, 1834)
(figs 159-161)

Rogas cruentus Nees, 1834: 212; Fahringer, 1932: 236; Telenga, 1941: 155; Shenefelt, 1975: 1222.
Aleiodes cruentus; Belokobylskij, 1996: 6.

Material.— 1♀ (BAU) from Inner Mongolia (Qahar Youyi Zhongqi).

Note.— This species is new to China, and outside China widely distributed in the Palaearctic region.

Aleiodes eurinus (Telenga, 1941)
(figs 120-125)

R(h)ogas eurinus Telenga, 1941: 182, 922; Shenefelt, 1975: 1228.
Aleiodes eurinus; Chen & He, 1992a: 125.

Material.— 2♀♀ (BAU) from Hebei (Xinglong), Guangxi (Pingxiang); 1♀(ZAU) from Gansu (Lanzhou); 3♀♀ + 2♂♂ (ZRI) from Heilonjiang (Harbin, Gaolingtze), Xinjiang (Toli, Moyu, Guangwu).

Note.— Previously recorded as parasite of *Apamea anceps* (Schiffermüller), *Euxoa islandica* Staudinger and recorded from Mongolia, Russia, Spain and Kazakhstan outside China.

Aleiodes fahringeri (Telenga, 1941)
(figs 114-119)

R(h)ogas fahringeri Telenga, 1941: 173, 419; Shenefelt, 1975: 1228.
Aleiodes fahringeri; Chen & He, 1992a: 125.

Material.— 3♀♀ (ZAU) from Ningxia (Yingchuan); 1♀ (SIE) from Qinhai (Haiyan).

Note.— This species was previously reported from Mongolia (Telenga, 1941).

Aleiodes ferrugiteli (Shenefelt, 1975)
(figs 134-141)

Rhogas ferrugineus Telenga, 1941: 178, 240.
Rogas ferrugitelli Shenefelt, 1975: 1229 (replacement name).
Aleiodes ferrugiteli; Chen & He, 1992a: 125.

Material.— 34♀♀ + 10♂♂ (ZAU) from Xinjiang (Mosuowan, Bole, Shihezi, Turpan, Pishan); 3♀♀ + 1♂ (RMNH) from Xinjiang (Bole, Shihezi, Pishan).

Note.— Previously reported from Mongolia, Russia and Kazakhstan.

Aleiodes krulikowskii (Kokujev, 1898)
(figs 155-156)

R(h)ogas krulikowskii Kokujev, 1898: 300; Szépligeti, 1904: 865; Telenga, 1941: 157; Shenefelt, 1975: 1235.
Aleiodes krulikowskii; Belokobylskij, 1996: 9.

Material.— 8♀♀ + 2♂♂ (ZRI) from Heilongjiang (Gaolingzte).

Note.— This species is new to China, and outside China recorded from Russia and Mongolia.

Aleiodes latericarinis Chen & He, 1991
(figs 67-75)

Aleiodes latericarinis Chen & He, 1991: 30, 33.

Material.— Holotype, ♀(ZAU), "Guangxi, Longzhou, [22°.3'N, 106°.8'E], 19.v.1982, HE Junhua, N.821507", "*Aleiodes latericarinis* Chen & He".

Aleiodes microculatus (Watanabe, 1937)
(figs 99-105)

Rhogas microculatus Watanabe, 1937a: 60.
Aleiodes microculatus; Belokobylskij, 1996: 13.
Rhogas caliginosus Shestakov, 1940: 9; Shenefelt, 1975: 1220. Syn. by Belokobylskij, 1996.
Aleiodes caliginosus; You, 1992: 1253.

Material.— 2♀♀ + 2♂♂ (RMNH) from Zhejiang (Mt W Tianmu Shan); 20♀♀ + 29♂♂ (ZAU) from Zhejiang (Mt W Tianmu Shan, Longquan, Songyang, Anjie), Hubei (Shennongjia, Fang Xian), Hunan (Chengbu, Shimeng, Mt Tianping Shan), Sichuan (Mt Emei Shan) and Fujian (Mt Wuyi Shan).

Note.— This species was previously described from Japan and later reported from Russia.

Aleiodes mongolicus (Telenga, 1941)
(figs 167-169)

R(h)ogas mongolicus Telenga, 1941: 172, 418; Shenefelt, 1975: 1239.
Aleiodes mongolicus; Chen, He & Ma, 1992: 495, 496.

Material.— 2♀♀ + 3♂♂ (BAU) from Inner Mongolia (Dehua, Tu Youqi), Beijing; 2♀♀ + 1♂ (ZAU) from Inner Mongolia (Qianjiadian), Shanxi (Taigu), Gansu (Zhenyuan); 10♀♀ + 17♂♂ (ZRI) from Heilongjiang (Harbin, Qiqihar), Inner Mongolia (Tomortei, Jining), Xinjiang (Zhaosu), Beijing (Pinghai Park), Hebei (Wei Xian), Shanxi (Taigu) and Gansu (Zhangye); 1♀ + 1♂ (RMNH) from Heilongjiang (Harbin).

Note.— This species was described from Mongolia.

Aleiodes pallidistigmus (Telenga, 1941)
(figs 126-133)

R(h)ogas pallidistigmus Telenga, 1941: 177, 420; Shenefelt, 1975: 1241.
Aleiodes pallidistigma; He & Chen, 1988: 353, 356; He et al., 1991: 39.

Material.— 2♀♀ (RMNH) from Jilin (Gongzhuling); 11♀♀ + 5♂♂ (ZAU) from Heilongjiang (Harbin, Jiamusi), Jilin (Gonzhuling, Liaodong), Liaoning (Shenyang) and Inner Mongolia (Qianjiadian); 1♀ + 2♂♂ (ZRI) from Heilongjiang (Harbin, Gaolingtze).

Biology.— Parasite of *Mythimna separata* (Walker).
Note.— This species was originally described from Russia.

Aleiodes ruficornis (Herrich-Schäffer, 1838)
(figs 1-19)

Bracon ruficornis Herrich-Schäffer, 1838: 156; Shenefelt, 1975: 1224 (as synonym of *dimidiatus*).
R(h)ogas gasterator auct.; Nees, 1818: 307; Fahringer, 1932: 249; Telenga, 1941: 176; Shenefelt, 1975: 1230.
R(h)ogas dimidiatus; Nees, 1834: 214; Fahringer, 1932: 238; Watanabe, 1937a: 59; Telenga, 1941: 183; Watanabe, 1950: 21; Shenefelt, 1975: 1223.
Aleiodes dimidiatus; He & Chen, 1988: 53, 356; He et al., 1991: 38.

Material.— 3♀♀ + 1♂ (BAU) from Beijing (Malianwa, Jushan Farmer), Yunnan (Kunming); 4♀♀ + 1♂ (RMNH) from Jilin (Gongzhuling), Henan (Zhenzhou); 77♀♀ + 23♂♂ (ZAU) from Heilongjiang (Harbin, Dailing), Jilin (Changchuan, Gongzhuling), Liaoning (Shenyang, Yingkou), Xinjiang (Urumqi, Bole, Shihezi, Shawan, Qitai, Mosuowan, Nilka), Beijing (Xi Shan), Hebei (Shijiazhuang), Shandong (Jinan, Wendeng, Tai'an, Tai Shan, Yantai), Shanxi (Linfen, Yuncheng), Henan (Zhenzhou, Xinxiang), Shaanxi (Xianyang), Gansu (Wudu, Zhenyuan, Wenxian), Zhejiang (Mt W Tianmu Shan, Longquan), Hubei (Zhuxi), Guizhou (Guiyang), Yunnan (Kunming, Zhaotong, Lijiang); 1♀ + 4♂♂ (ZRI) Heilongjiang (Harbin), Xinjiang (Urumqi, Yining), Beijing (West Suburbs Park).

Biology.— Parasite of *Agrotis ypsilon* (Rottemberg) (from Zhenzhou), *Euxos sibirica* Boisduval (from Wudu), *Mythimna separata* (Walker) (from Gongzhuling).
Note.— This species is widely distributed in the Palaearctic region.

Aleiodes rufipes (Thomson, 1892)
(fig. 165)

Rogas rufipes Thomson, 1892: 1669; Shenefelt, 1975: 1246.
Aleiodes rufipes; Chen, He & Ma, 1992: 496; Belokobylskij, 1996: 14.

Material.— 2♀♀ + 1♂ (ZRI) from Sichuan (Mt Emei Shan) and Yunnan (Menglong).

Note.— Previously reported from Sweden, Finland and Russian Far East.

Aleiodes sapporensis (Watanabe, 1937)
(fig. 166)

Rhogas sapporensis Watanabe, 1937a: 61.
Aleiodes sapporensis; Belokobylskij, 1996: 15.
R(h)ogas ussuriensis Telenga, 1941: 170, 418; Shenefelt, 1975: 1255. Syn. by Belokobylskij, 1996.
Aleiodes ussuriensis; Chen, He & Ma, 1992: 496.

Material.— 1♀ (ZRI) from Heilongjiang (Gaolingtze).

Note.— Prevously reported from Japan and Russia.

Aleiodes schirjajewi (Kokujev, 1898)
(figs 162-164)

R(h)rogas reticulator var. *schirjajewi* Kokujev, 1898: 299.
R(h)rogas schirjajewi; Szépligeti, 1904: 86; Telenga, 1941: 153; Shenefelt, 1975: 1249.

Material.— 2♀♀ (ZAU) from Xinjiang (Urumqi, Shache); 1♀ + 2♂♂ (ZRI) from Heilongjiang (Harbin) and Xinjiang (Aksu).

Note.— This species is new to China, and outside China reported from Russia, Hungary and Ukraine (Crimea).

Aleiodes shestakovi (Shenefelt, 1975)
(figs 92-98)

Rhogas orientalis Shestakov, 1940: 8.
Rogas shestakovi Shenefelt, 1975: 1250 (replacement name).
Aleiodes shestakovi; Chen & He, 1992a: 125.

Material.— 1♀ + 1♂ (SIE) from Shaanxi (Hua Shan), Jiangxi (Mt Jingang Shan); 1♀ + 1♂ (ZAU) from Jiangsu (Yixing), Sichuan (Guan Xian).

Note.— Outside China known from East Siberia.

Aleiodes spretus (Telenga, 1941)
(figs 147-151)

R(h)ogas spretus Telenga, 1941: 181, 421; Shenefelt, 1975: 1252.
Aleiodes spretus; Chen, He & Ma, 1992: 495, 496.

Material.— 4♀♀ (ZAU) from Heilongjiang (Jiamusi), Jilin (Gongzhuling), Liaoning (Yinggou); 1♀ + 2♂♂ (ZRI) from Heilongjiang (Harbin), Beijing (West Suburb Park).

Biology.— Parasite of *Mythimna separata* (Walker).

Note.— This species was described from Russia.

Aleiodes unipunctator (Thunberg, 1822)
(figs 142-146)

Ichneumon unipunctator Thunberg, 1822: 267.
R(h)ogas unipunctator; Roman, 1912: 287; Fahringer, 1932: 282; Telenga, 1941: 180; Shenefelt, 1975: 1254.
Aleiodes unipunctator; Chen & He, 1992a: 125; Belokobylskij, 1996: 18.

Material.— 2♂♂ (SEI) from Qinghai (Huangyuan); 1♂ (ZRI) from Xinjiang (Dushanzi).

Note.— Previously recorded as parasite of *Apamea sordens* (Hufnagel), *Hadena unanimis* Treitschke, *Leucania comma* Linnaeus and *Trichiocampus aencus* Zaddach outside China, and widely distributed in Palaearctic region.

Subgenus *Aleiodes* Wesmeal, 1838

Aleiodes aethris spec. nov.
(fig. 204)

Material.— Holotype, ♀ (ZAU), "Hunan, Liuyang, [28°.1'N, 113°.6'E], 3.vi.1985, Tong Xinwang, 864619, Host: a lymantriid larva". Paratypes: 1♀(ZRI), "Heilongjiang, Gaolingtze, [44°.8'N, 128°.8'E], 23.vii.1939, M. Volkoff"; 1♂ (ZAU), "Jilin, Liuhe, [42°.4'N, 125°.6'E], 7.vii.1980, collector unknown, 861196"; 1♀ (ZAU), "Zhejiang, Jinyun, 28.6'N, 120°.0'E, 1980, Li Shichun, 800802"; 1♀(ZAU), "Hubei, Wuchang, [30.5'N, 114.3'E], 13-18.viii.1982, He Junhua, 825298"; 2♀♀ + 1♂ (ZAU), "Hunan, Liuyang, 11, 14, 17.vi.1985, Tong Xinwang, 864601, 864602, 864597"; 2♂♂ (ZAU), "Hunan, Liuyang, 25.vi.1981, 10.viii.1983, Tong Xinwang, 864596, 864617, Host: a lymantriid larva"; 1♂ (ZAU), "Hunan, Mt TianpingShan, 4.vi.1981, Tong Xinwang, 846499"; 1♂ (ZAU), "Hunan, Suoxiyu, 17.x. 1988, Tong Xinwang, 906454"; 1♀ (ZRI), "Sichuan, Mt Emei Shan, [29°.5'N, 103°.3'E], 550-750 m, 30.v.1957, Wang Zhongyuan, 871767"; 1♂ (ZRI), "Sichuan, Mt Emei Shan, 800-1000 m, 25.vi.1957, Huang Keren, 871779"; 1♀(FAU), "Fujian, Sha Xian, [26.4'N, 117.7'E], 7.v.1978, Huang Bangkai"; 1♂(ZAU), "Guangdong, Guangzhou, [23°.1'N, 113°.2'E], collecting date unkown, Zhongshan University, 896870".

Holotype, ♀, length of body 7.3 mm, of fore wing 7.1 mm.

Head.— Antennal segments 59, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 1.8, 1.3 and 1.7 times their width, respectively; length of antenna 1.1 times length of body; length of maxillary palp 1.2 times height of head; eye distinctly protruding, length of eye in dorsal view 3.8 times temple; temple distinctly narrowed posteriorly; occipital carina medio-dorsally reduced, ventrally joining hypostomal carina; OOL:OD:POL = 2:5:3; frons extremely finely granulate, nearly smooth; vertex and temple finely granulate; face largely finely granulate, only dorsally finely transversely rugose; clypeus convex, finely granulate; width of hypoclypeal depression 0.38 times width of face; gena nearly smooth; length of malar space 0.75 times basal width of mandibles, 0.20 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum medially and posteriorly smoothly crenulate, ventrally finely granulate; precoxal sulcus

shallow, obscurely rugose; mesopleuron nearly smooth, dorsally with some rugae; metapleuron finely coriaceous, posteriorly and ventrally rugose; mesoscutum and scutellum coriaceous; scutellar sulcus with three carinae; propodeum finely rugo-punctate, median carina finely and complete, postero-lateral tubercle present.

Wing.— Fore wing: r:3-SR:SR1 = 17:17:47; 2-SR:3-SR:r-m = 11:17:9; 1-CU1: 2-CU1 = 13:17; 1-SR+M and SR1 straight; cu-a inclivous. Hind wing: 2-SC+R vertical; marginal cell slightly widened apically; M+CU:1-M = 27:22; cu-a reclivous; m-cu long.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 5.1, 10.7 and 7.9 times its width, respectively; length of hind tarsus 0.9 times hind tibia; hind tibial spurs of about equal length, 0.33 times hind basitarsus.

Metasoma.— Length of first tergite equal to its apical width, narrowed towards its base, dorsal carinae united, medio-basal area smooth; medio-basal area of second tergite very small; first-third tergites distinctly longitudinally rugose and median carina present, apical margin of third tergite and its following tergites smooth; length of second tergite 0.8 times its width, 1.3 times length of third tergite; second and third tergites with sharp lateral crease; length of ovipositor sheath 0.1 times fore wing.

Colour.— Yellow to reddish yellow; palpi yellowish white; antenna (except for basal two segments) blackish brown; telotarsus and ovipositor sheath brown; wing membrane apically brownish, basally yellowish; veins C+SC+R apically, parastigma, pterostigma subapically, 1-SR, 1-M, 1-SR+M, r, 2-SR, CU1, m-cu and cu-a of fore wing, veins 1r-m, 2-M, 2-SC+R and SR apically and area nearby of hind wing blackish brown, remainder of veins yellow.

Variation.— Length of body 6.8—7.8 mm, of fore wing 5.8—7.6 mm; antennal segments 58-63.

Biology.— Parasite of Lymantriidae.

Aleiodes albigenus spec. nov.
(fig. 222)

Material.— Holotype, ♂, Yunnan, Ruili, [24°0'N, 97°8'E], 2-6.v.1981, He Junhua, 812961".

Holotype, ♂, length of body 6.6 mm, of fore wing 6.1 mm.

Head.— Antennal segments 62, length of third segment 1.6 times fourth segment, length of third, fourth and penultimate segments 2.8, 2.0 and 2.8 times their width, respectively; length of antenna 1.4 times length of body; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 2.4 times temple; temple distinctly narrowed posteriorly; occipital carina complete, straight in dorsal view, joining hypostomal carina; OOL:OD:POL = 4:5:3; frons ventrally rugose, dorsally granulate; vertex and temple distinctly rugo-punctate; face dorso-medially with median carina, transversely rugo-punctate; clypeus convex, rugo-punctate; width of hypoclypeal depression 0.4 times width of face; gena smooth; length of malar space 1.3 times basal width of mandibles, 0.36 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum medially coarsely crenulate, remainder finely granulate; precoxal sulcus complete, shallow, and rugose; mesopleuron largely finely granulate, anteriorly and dorsally rugose; metapleuron dorsally coriaceous, remainder rugose; mesoscutum densely rugo-punctate; scutellar sulcus with three carinae; scutellum rugose, without lateral

carina; propodeum irregularly rugose, median carina complete.

Wing.— Fore wing: r:3-SR:SR1 = 15:15:46; 2-SR:3-SR:r-m = 14:15:11; 1-CU1:2-CU1 = 11:20; 1-SR+M nearly straight; SR1 slightly curved; cu-a inclivous. Hind wing: 2-SC+R vertical; marginal cell widened towards its apex; M+CU:1-M = 27:20; cu-a reclivous; m-cu long.

Legs.— Hind coxa coriaceous, finely rugose; length of femur, tibia, and basitarsus of hind leg 8.1, 12.0 and 8.3 times its width, respectively; length of hind tarsus 1.0 times hind tibia; length of hind tibial spurs 0.30 and 0.28 times hind basitarsus; tarsal claws simple.

Metasoma.— Length of first tergite 1.2 times its apical width, slightly narrowed towards its base, its dorsal carinae united, medio-basal area smooth; medio-basal area of second tergite small and smooth; first-third tergites distinctly longitudinally rugose and median carina strong, apical margin of third tergite and its following tergites smooth; second tergite quadrate, its length 1.3 times third tergite; second-fifth tergites with sharp lateral crease.

Colour.— Blackish brown; antenna blackish brown, medially yellowish white; orbit, frons dorsally, gena, mandible (except apex) and legs yellow, hind telotarsus and hind femur brown; wing membrane slightly brownish, pterostigma and veins brown.

Aleiodes alternator (Nees, 1834)

Rogas alternator Nees, 1834: 213.
Aleiodes geniculator var. *alternator*; Shenefelt, 1975: 1174.
Aleiodes alternator; Chen, He & Ma, 1992: 495, 496.

Material.— 3♀♀ (ZAU) from Beijing (Xi Shan), Guangxi (Liuzhou, Yishan).

Note.— Outside China previously recorded as parasite of *Triphaena fimbria* Linnaeus and distributed in Germany, Ireland, Belgium, Latvia, Rumania, England, France and Finland.

Aleiodes buzurae He & Chen, 1990
(figs 170-177)

Aleiodes buzurae He & Chen, 1990: 202, 204; Chen & He, 1992b: 1252; Belokobylskij, 1996: 19.

Material.— Holotype, ♀ (ZAU), "Zhejiang, Taishun, [27°5'N, 119° 7'E], vii.1954, Shan Keyong, 5520.2. Host: *Buzura suppressaria* (Guenée)", "*Aleiodes buzurae* He & Chen". Paratypes with label "*Aleiodes buzurae* He & Chen": 2♂♂ (ZAU), the same data as holotype. Additional specimens: 5♀♀ (ZAU) from Anhui (Anqing), Hunan (Changde), Guangxi (Guilin, Longzhou).

Biology.— Parasite of *Buzura suppressaria* (Guenée).

Note.— This species is similar to *A. pallidator* (Thunberg), *A. negativus* Tobias and *A. euproctis* He & Chen, but can be separated by having the fourth metasomal tergite distinctly reticulate with an apical-lateral concavity, and the body milkish yellow. Outside China recently reported from Russian Far East.

Aleiodes compressor (Herrich-Schäffer, 1838) (figs 260-262)

Rogas compressor Herrich-Schäffer, 1838: 215; Shenefelt, 1975: 1210 (as synonym of *Petalodes unicolor* Wesmael).
Petalodes unicolor Wesmael, 1838: 123; Shenefelt, 1975: 1210. Syn. by van Achterberg, 1991.
Aleiodes compressor; van Achterberg, 1991: 25.

Material.— 16♀♀ + 8♂♂ (ZAU) from Heilongjiang (Dailing, Gaolingtze), Beijing (Malianwa, West Suburs Park), Shandong (Jinan, Mt Culai Shan), Jiangsu (Nanjing, Tongshan), Zhejaing (Hangzhou, Changxing); 1♀ (RMNH) from Jiangsu.

Biology.— Parasite of *Clostera anachoreta* (Fabricius).

Note.— According to previous records, there are many other host species, e.g., *Clostera pigra* (Hufnagel), *Stilpnotia salicis* (Linnaeus), *Hydriomena fuscata* Thunberg, *Apochemia hispidaria* Schiffermüller, *Nycteola revayana* (Scopoli), *Aconia* spec., etc. outside China, and widely distributed in the Palaearctic region.

Aleiodes coxalis (Spinola, 1808) (figs 178-185)

Bracon coxalis Spinola, 1808: 126.
Rogas coxalis; Nees, 1834: 209; Shenefelt, 1975: 1222.
Aleiodes tristis; He & Chen, 1988: 354, 359; He et al., 1991: 39; Chen & He, 1992b: 1252. [misident.].
Rogas spec. He et al., 1979: 30; Sheng & Yang, 1981: 30; Zhu & Zhang, 1986: 53; Hubei Agric. Academy, 1982: 11; He et al., 1986: 62.

Material.— 1♀ + ♂ (RMNH) from Zhejiang (Lishui); 20♀♀ + 15♂♂ (ZAU) from Henan (Shimeng), Zhejiang (Hangzhou, Jiaxing, Lishui, Changhua, Wenzhou, Dongyang), Anhui (Yuexi), Jiangxi (Hukou, Fengcheng, Wanzai), Hubei (Shengnongjia), Sichuan (Tianquan, Yingjing).

Biology.— Parasite of *Mycalesis gotama* Moore and *Cnaphalocrocis medinalis* Guenée; solitary parasite.

Note.— Previously recorded from Jianyang, Sha Xian of Fujian Province, China and outside China distributed in Italy.

Aleiodes crassinervis spec. nov. (figs 223-224)

Material.— Holotype, ♀(ZAU), "Guizhou, Guiyang, [26°6'N, 106°7'E], 20.iv.1980, Guizhou Research Institute of Forestry, 801731". Paratype: 1♀ (ZAU), same data as holotype.

Holotpye, ♀, length of body 6.8 mm, of fore wing 6.8 mm.

Head.— Antennal segments 25(+), length of third segment 1.4 times fourth segment, length of third and fourth segments 2.0 and 1.4 times their width, respectively; length of maxillary palp 1.1 times height of head; eye distinctly protruding, length of eye in dorsal view 3.0 times temple; temple narrowed posteriorly; occipital carina complete, round in dorsal view, ventrally joining hypostomal carina; OOL:OD:POL = 6:5:3; frons flat, nearly smooth; vertex and temple rugo-punctate; face dorsally with median carina, laterally finely transversely rugulose; clypeus convex, punctate; width of hypoclypeal depression 0.4 times width of face; gena rugose; length of

malar space 1.0 times basal width of mandibles, 0.28 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially, dorsally and posteriorly largely crenulate; precoxal sulcus shallow, coarsely rugose; mesopleuron rugo-punctate; metapleuron rugose; mesoscutum and scutellum densely rugose-punctate; scutellar sulcus with three carinae; propodeum irregularly rugose, median carina complete, postero-lateral tubercle distinct.

Wings.— Fore wing: r:3-SR:SR1 = 16:14:58; 2-SR:3-SR:r-m = 9:14:9; 1-CU1:2-CU1 = 13:16; 1-SR+M and SR1 straight; 1-CU1 oblique, M+CU1 apically curved, cu-a, 1-CU1 and M+CU1 apically swollen; subbasal cell apically slightly widened. Hind wing: 2-SC+R1 quadrate; marginal cell narrowed at vein r, widened apically; M+CU: 1-M = 30:25; cu-a subvertical; m-cu present.

Legs.— Hind coxa coriaceous; length of femur, tibia, and basitarsus of hind leg 5.6, 10.0 and 7.3 times their width, respectively; length of hind tarsus 1.0 times hind tibia; length of hind tibial spurs 0.36 and 0.34 times hind basitarsus; tarsal claws pectinate ventrally.

Metasoma.— Length of first tergite 1.1 times its apical width, its dorsal carinae united, median carina weak; medio-basal area of second tergite small; first-second tergites and third tergite basally distinctly longitudinally rugose and with median carina, third tergite apically and its following tergites smooth; second and third tergites with sharp lateral crease; length of ovipositor sheath 0.06 times fore wing.

Colour.— Yellow; antenna (except for basal two segments) blackish brown; lateral lobes of mesoscutum, second-fourth tergites, hind coxa, hind femur, hind tibia apically, hind tarsus and ovipositor sheath dark brown; claws brown, pecten pale; wing membrane yellowish, pterostigma and veins yellow, parastigma, veins 1-SR and C+SC+R apically of fore wing blackish brown.

Note.— This species is related to *A. pallidinervis* (Cameron, 1910), but differs in the latter having vein r of fore wing longer than two times 3-SR, vein cu-a, 1-CU1 and M+CU1 apically of fore wing normal, not swollen.

Aleiodes dispar (Haliday, 1833)
(figs 239-240)

Rogas dispar Haliday, 1833: 481; Curtis, 1834: 512.
Heterogamus dispar; van Achterberg, 1975: 15; Shenefelt, 1975: 120; Belokobylskij, 1996: 30.
Aleiodes dispar; van Achterberg, 1985: 181, 1991: 24.
Aleiodes (Heterogamus) crypticornis Wesmael, 1838: 150.

Material.— 6♀♀ + 9♂♂ (FAU) from Fujian (Mt Wuyi Shan, Dawufeng, Mt. Meihua, Sha Xian); 3♀♀ + 3♂♂ (ZRI) from Sichuan (Mt Emei Shan), Fujian (Chong'an); 26♀♀ + 23♂♂ (ZAU) from Jilin (Mt Changbei Shan), Beijing (Xi Shan, Wofushi), Jiangsu (Nanjing, Yangzhou), Zejiang (Hangzhou, Mt W Tianmu Shan, Songyang, Lishui, Mt. Gutian, Zhuji), Anhui (Yuexi), Hubei (Zhu Shan, Zhuxi, Rongzhong), Hunan (Mt Tianping Shan, Chengbu, Liuyang, Suoxiyu, Nanyue), Fujian (Mt Wuyi Shan), Guandong (Shixing), Guangxi (Longzhou, Fuchuan, Leping), Guizhou (Guiyang, Du Shan), Yunnan (Tengchong); 1♀ + 1♂ (RMNH) from Hunan (Mt Tianping Shan).

Note.— This species is new to China and widely distributed in the Palaearctic region. Previously reported as parasite of *Agrotis segetum* Schiffermüller and *Melittaea aurinia* Rottemberg.

Aleiodes drymoniae (Watanabe, 1937) (figs 205-212)

R(h)ogas drymoniae Watanabe, 1937a: 61; Shenefelt, 1975: 1226.
Aleiodes drymoniae; He & Chen, 1990: 202, 204; Chen & He, 1992b: 1251.

Material.— 5♀♀ + 1♂ (BAU) from Liaoning (Xingcheng); 1♀ + 1♂ (RMNH) from Hubei (Fangxian); 10♀♀ + 8♂♂ (ZAU) from Liaoning (Dabeigou), Zhejiang (Jinhua), Hubei (Fangxian), Hunan (Changsha), Sichuan (Yongchuan).

Biology.— Parasite of *Phalera fuscescens* Butler (from Changsha), and *Phalerodonta albibsis* (Chiang) (from Jinhua). Solitary parasitism.

Note.— Outside China distributed in Russia, Korea and Japan. Hosts are *Drymonia manleyi* Leech and *Orgyia* species.

Aleiodes earias spec. nov. (figs 265-266)

Rogas testaceus; He, 1984: 200 [misidentification].

Material.— Holotype, ♀ (ZAU), "Sichuan, Jianyang, [30.3N, 104.5E], Sichuan Institute of Agric. Science, 5631.16, Host: *Earias cupreoviridis* (Walker)". Paratypes (27♀♀ + 14♂♂; ZAU); 3♂♂, same data as holotype; 1♀, "Jiangsu, Nantong, [32°0'N, 120°8'E], 1979, Yang Lianfang, 791199, host: *Earias cupreoviridis* (Walker)"; 2♀♀, "Zhejiang, Hangzhou, [30°4'N, 120°1'E], 24.ix.1935, Chu Joo-tso"; 3♀♀, "Zhejiang, Hangzhou, 27-28.viii.1965, He Junhua, 65065.3, 65065.7, 65081.5"; 1♀, "Zhejiang, Changxing, [31°0'N, 119°9'E], 4.xii.1935, Chu Joo-tso"; 1♂, "Zhejiang, Suichang, [28°6'N, 119°2'E], vii.1976, He Junhua, 771110"; 3♀♀ + 1♂, "Jiangxi, Ganzhou, [25°8'N, 114°9'E], 1959, Zhang Xiaolan, 6012.1, Host: *Earias cupreoviridis* (Walker)"; 1♀, "Jiangxi, Nanchang, [28°6'N, 115°9'E], 29.vii.1974, Ye Zhengxiang, 740635"; 1♀, "Jiangxi, Jiujiang, [29°7'N, 115°9'E], 9.vi.1978, Zhang Jinguang, 790858"; 1♀ + 1♂, "Hubei, Jingzhou, [30°3'N, 112°1'E], 1962, Hubei Institute of Agric. Science, host: *Parnara guttata* (Bremer & Grey) (needs confirmation)"; 3♀♀, "Hubei, Shashi, [27°0'N, 114°0'E], 1963, Wu Sixuan, 63059.6, host: *Earias cupreoviridis* (Walker)"; 1♀ + 2♂♂, "Sichuan, Jianyang, 8.vi.1975, Sichuan Cotton Institute, host: *Earias cupreoviridis* (Walker)"; 1♂, "Hainan, Ya Xian, [18°2'N, 109°5'E], vi.1966, He Junhua, 66023.4"; 1♀, "Guangxi, Nanning, [22°8'N, 108°3'E], 21.vi.1961, Li Yongxi, 870192, host: *Earias fabia* Stoll"; 4♀♀, "Guangxi, 1961, collector unknown, 6106.22"; 2♀♀, "Yunnan, Binchuan, [25°8'N, 100°5'E], vi.1959, Working Group of Cotton Pests, 6004.2, host: *Earias fabia* Stoll"; 2♀♀ + 2♂♂, "Yunnan, Binchuan, 6.i.1960, Experimental Station, 6003.6, host: *Earias insulana* (Boisduval)"; 1♀ + 2♂♂, "Yunnan, Binchuan, 1960, Yunnan Institute of Agric. Scienc, 814288, host: *Earias fabia* Stoll"; 1♀ + 1♂ (RMNH), "Yunnan, Binchuan, 6.i.1960, Experimental Station, 6003.6, host: *Earias insulana* (Boisduval)".

Holotype, ♀, Length of body 4.0 mm, of fore wing 3.6 mm.

Head.— Antennal segments 35, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 2.6, 2.0 and 2.0 times their width, respectively; length of antenna about equal to length of body; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 3.2 times temple; temple distinctly narrowed posteriorly; occipital carina complete, round in dorsal view, ventrally joining hypostomal carina; OOL:OD:POL = 3:3:2; frons finely rugulose; vertex and temple finely rugose; vertex distinctly slanted posteriorly; face finely transversely rugulose, laterally finely granulate, dorsally with median carina; clypeus convex, finely rugo-punctate; width of hypoclypeal depression 0.46 times width of face; gena rugose-punctate; length of malar space 0.8 times basal width of mandibles, 0.25 times

height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.8 times its height; side of pronotum medially crenulate, ventrally longitudinally rugose, remainder irregularly rugose; precoxal sulcus very shallow, finely rugose; mesopleuron dorsally rugose, postero-medially smooth, remainder finely rugulose; metapleuron rugose; mesoscutum coarsely coriaceous; scutellar sulcus with carinae; scutellum without lateral carina; propodeum irregularly rugose, median carina complete.

Wing.— Fore wing: r:3-SR:SR1 = 9:15:38; 2-SR:3-SR:r-m = 10:15:7; 1-CU1:2-CU1 = 7:17; 1-SR+M slightly curved; cu-a inclivous. Hind wing: 2-SC+R quadrate; marginal cell parallel-sized; M+CU:1-M = 25:17; cu-a reclivous; m-cu absent.

Legs.— Hind coxa finely rugulose; length of femur, tibia, and basitarsus of hind leg 4.9, 11.0 and 10.5 times its width, respectively; length of hind tarsus 0.9 times hind tibia; hind tibial spurs 0.33 and 0.28 times hind basitarsus; tarsal claws simple.

Metasoma.— Length of first tergite as long as its apical width, narrowed towards its base, its dorsal carinae united, basal area smooth; medio-basal area of second tergite small; first-third tergites distinctly longitudinally rugose, apical margin of third tergite and its following tergites smooth; first and second tergites with median carina; second and third tergites with sharp lateral crease; length of second tergite 1.2 times third tergite; third tergite apically and its following tergites compressed; length of ovipositor sheath 0.11 times fore wing.

Colour.—Yellow; antenna dark apically; ovipositor sheath yellowish brown; wing membrane hyaline, pterostigma yellow, ventrall margin of pterostigma and veins in middle of wing light brown, remainder veins yellow.

Variation.—Length of body 3.3-4.7 mm, of fore wing 3.0-3.9 mm; antennal segments 35-37(♀) or 33(♂); metasomal apex of male less compressed; mesopleuron except for dorsally and precoxal sulcus largely granulate.

Biology.— Parasite of *Earias cupreoviridis* (Walker), *Earias fabia* Stoll, *Earias insulana* (Boisduval), and *Parnara guttata* (Bremer & Grey) (latter needs confirmation). Solitary parasite.

Note.— This new species is related to *A. equalis* spec. nov. considering the metasomal characters, but differs from the latter in having the vein r of fore wing as long as vein 3-SR. The new species belongs to the *A. gastritor*-complex; it has the face comparatively strongly sculptured, the fourth tergite smooth, and the setose part of the ovipositor sheath is comparatively long.

Aleiodes equalis spec. nov.
(figs 225-226)

Material.— Holotype, ♀(ZAU), "Yunnan, Ruili, [24°0'N, 97°8'E], 5.vi.1981, He Junhua, 814031".

Holotype, ♀, length of body 4.2 mm, of fore wing 3.4 mm.

Head.— Antennal segments 39, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 2.8, 2.2 and 1.7 times their width, respectively; length of antenna equal to length of body; length of maxillary palp 1.0 times height of head; length of eye in dorsal view 3.0 times temple; temple distinctly narrowed posteriorly; occipital carina complete, ventrally joining hypostomal carina; OOL:OD:POL = 4:3.5:3; frons finely rugulose; vertex and temple finely transversely

rugulose; face finely rugulose, medio-longitudinally slightly convex, dorsally with median carina; clypeus finely rugo-punctate; width of hypoclypeal depression 0.35 times width of face; gena finely rugo-punctate; length of malar space 1.4 times basal width of mandibles, 0.38 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum antero-dorsally crenulate, remainder smooth; precoxal sulcus absent; mesopleuron smooth; metapleuron largely smooth, only posteriorly and ventrally rugose; mesoscutum distinctly rugose; scutellar sulcus with some carinae; scutellum punctate-rugose, without lateral carina; propodoeum irregularly rugose, postero-meidally smooth, median carina complete.

Wing.— Fore wing: r:3-SR:SR1 = 11:10:36; 2-SR:3-SR:r-m = 9:10:6; 1-CU1:2-CU1 = 12:12.5; 1-SR+M and SR1 straight; cu-a subvertical. Hind wing: 2-SC+R quadrate; marginal cell parallel-sided; M+CU:1-M = 17:12; cu-a subvertical; m-cu present as a trace.

Legs.— Hind coxa glabrous; length of femur of hind leg 5.2 times its width; hind tibia, tarsus missing.

Metasoma.— Length of first tergite 1.1 times its apical width, narrowed towards its base, its dorsal carinae united, medio-basal area smooth; medio-basal area of second tergite large, irregular and rugose; first and second tergite distinctly longitudinally rugose, and with median carina; remainder of tergites smooth; second-third tergites with sharp lateral crease; apical tergites compressed; length of ovipositor sheath 0.11 times fore wing.

Colour.— Reddish yellow, propodeum postero-medially, first and second tergites (except baso-medially) brown; antenna yellowish brown, dark towards its apex; ovipositor sheath blackish brown; wing membrane hyaline, pterostigma and veins yellowish brown.

Aleiodes esenbeckii (Hartig, 1838)
(figs 249-254)

Rogas esenbeckii Hartig, 1838: 255; Shenefelt, 1975: 1228.
Rhogas (Rhogas) esenbeckii; Fahringer, 1932: 246; Telenga, 1941: 150.
Phanomeris dendrolimi Matsumura, 1926a: 41.
Rhogas dendrolimi; Chu, 1937: 98; Watanabe, 1937a: 55; Sonan, 1944: 18; Chen, Song & Xiao, 1980: 38.
Rogas dendrolimi; Chu et al., 1978: 53; Zhu & Zhang, 1986: 53; Dang & Jin, 1982: 140; He & Wang, 1986: 408.
Aleiodes dendrolimi; Shenefelt, 1975: 1172; Chou, 1981: 74; He & Chen, 1990: 202, 203; Chen & He, 1992b: 1251.
Rhogas metanastriae Rohwer, 1934: 47. Syn. by Watanabe, 1937a.
Phanomeris spectabilis Matsumura, 1926b: 33. Syn. by Watanabe, 1937a.
Rhogas spectabilis; Watanabe, 1935: 46; Chu, 1937: 69; Chao & Lin, 1948: 155; Zhang, 1973: 631.
Rhogas corsicus Szépligeti, 1906: 616. Syn. by Fahringer, 1932.
Rogas gastropachae Kokujev, 1901: 190. Syn. by Telenga, 1941.

Material.— 1♂ (BAU) from Yunnan (Kunming); 2♀ + 2♂ (RMNH) from Shandong (Jinan, Linqu); 117♀♀ + 112♂♂ (ZAU) from Heilongjiang (Yichuan, Hailin), Jilin (Mt Changba Shan, Dongliao, Liuhe), Liaoning (Shenyang, Qingyuan, Tieling), Xinjiang (Mosuowan), Beijing (Miyun, Wanhua Shan), Shangdong (Jinan, Linqu, Mt Kunyu Shan), Shaanxi (Lantian), Jiangsu (Yixing), Zhejiang (Hangzhou, Changxing, Mt Siming Shan, Mt Mogan Shan, Mt Tianmu Shan, Yuhang, Lin'an, Dongyang, Fenghua, Anji, Quzhou, Lishui, Suichang), Anhui (Anqing, Xuncheng), Jiangxi (Hukou, Jiujiang), Hubei (Wuhan, Tongcheng), Hunan (Changsha, Dong'an, Taojiang, Qiyang, Mt Tianping

Shan, Nanyue, Liuyang), Sichuan (Hu Xian), Fujian (Fuzhou, Sha Xian, Shaowu), Guangdong (Guangzhou, Shibei, Longmeng), Guangxi (Sanjiang).

Biology.— Parasite of *Dendrolimus punctata* Walker (from Changxing, Dong' an, Shibei), *D. spectabilis* Butler (Jinan, Linqu, Mt. Kunlun Shan), *D. superans* Butler (Yichuan, Hailin, Dongliao, Qingyun), and *D. tabulaeformis* Tsai & Liu (Miyun, Sichuan).

Note.— In China prevously reported from Shaanxi and Taiwan provinces; outside China recorded as parasite of *Dendrolimus pini* Linnaeus, *Cosmotriche lunigera* Esper and *Endromis versicolora* Linnaeus and reported from Germany, Italy, Former USSR, Austria, Afghanistan, Hungary, Korea, Japan and Mongolia.

According to previous reports, this species was frequently hyperparasitized by species of Ichneumonidae, Eurytomidae, Pteromalidae, Eupelmidae, Torymidae, Perilampidae, etc.

Aleiodes excavatus (Telenga, 1941)
(figs 241-243)

Heterogamus excavatus Telenga, 1941: 132-133, 402; van Achterberg, 1975: 15; Shenefelt, 1975: 1201; Belokobylskij, 1996: 31.
Aleiodes excavatus; van Achterberg, 1985: 184.
Heterogamus (Jirunia) farmakena Malác, 1941: 137-139.

Material.— 3♂♂ (ZAU) from Jilin (Dongliao), Zhejiang (Mt W Tianmu Shan), Fujian (Mt Huanggang Shan).

Notes.— This species is new to China and widely distributed in the Palaearctic region.

Aleiodes euproctis He & Chen, 1990
(fig. 186-195)

Aleiodes euproctis He & Chen, 1990: 202, 203; Chen & He, 1992b: 1251.

Material.— Holotype, ♀ (ZAU), "Hunan, Dong'an, [23°2'N, 119°4'E], 31.v.1954, Liu Yongfu, host: *Euproctis bipunctapex* (Hampson)", "*Aleiodes euproctis* He & Chen". Paratypes: 3♀♀ (ZAU), same data as holotype.

Biology.— Parasite of *Euproctis bipunctapex* (Hampson).

Note.— This species is similar to *A. negativus* Tobias, but differs from the latter by antennal segments 44-47, the length of second metasomal tergite 0.8-0.9 times its apical width, the length of hind femur 4.6-5.0 times its width, and the hind tarsus pale yellow.

Aleiodes fuscus Chen & He, 1991

Aleiodes fuscus Chen & He, 1991: 30, 34.

Material.— Holotype, ♀ (FAU), "Fujian, Mt Wuyi Shan, Dazhulan, [27°7'N, 117°6'E], 1370 m, 22.v.1948, Chao Hsiufu", "*Aleiodes fuscus* Chen & He". Paratype: 1♀ (ZRI), "Guangxi, Longtan, [21°7'N, 109°7'E], 6.vi.1963, Wang Shuyong", "*Aleiodes fuscus* Chen & He".

Note.— This species is similar to *A. nigricornis* Wesmael and *A. circumscriptus* (Nees) in some aspects, but can be readily separated from both by its antenna having pale segments.

Aleiodes gastritor (Thunberg, 1822)
(figs 269-274)

Ichneumon gastritor Thunberg, 1822: 260; Shenefelt, 1975: 1182 (as synonym of *Aleiodes testaceus* (sensu auct.)).
Aleiodes gastritor; Chen & He, 1992b: 1252.
R(h)ogas japonicus Ashmead, 1906: 199; Uchida, 1931: 158; Chu, 1933: 36; Chu, 1934: 16; Chu, 1952: 31; Zhejiang Agric. Univ., 1963: 589; Chu et al., 1978: 53; He & Wang, 1986: 407.
Aleiodes japonicus; He & Chen, 1990: 202, 204.
Rogas fuscomaculatus Ashmead, 1906: 198; He et al., 1986: 63. Syn. with *Rhogas japonicus* by Watanabe, 1957a.

Material.— 3♀♀ + 3♂♂ (BAU) from Beijing (Huanfushi), Hebei (Xingrong), Jiangsu (Yixing), Guangxi (Pingxiang), Xizhang (Tibet) (Zhamu); 2♀♀ + 1♂ (RMNH) from Zhejiang (Hangzhou); 29♀♀ + 31♂♂ (ZAU) from Jilin (Changchuan, Gongzhuling), Liaoning (Tieling), Inner Mongolia (Chifeng), Hebei (Handan), Shanxi (Huata, Yuncheng), Shaanxi (Zhouzhi), Jiangsu (Wuxi, Yixing), Zhejiang (Hangzhou, Zhuji), Hunan (Chengbu).

Biology.— Solitary parasite of *Plathypena seabra* (Fabricius) (from Tieling), *Plusia agnata* Staudinger (from Yuncheng) and a lepidopterous larva from beet field (from Chifeng); gregarius parasite of *Phthonandria atrilineata* (Butler).

Note.— Previously reported from Anhui, Sichuan, Taiwan, Guandong and Guizhou provinces, but no specimens from these provinces are availabe for this study. It was reported that *A. gastritor* was hyperparasitized by *Mesochorus disciter-gus* Say and *Gelis* sp. According to Shenefelt (1975), it is also known from Europe and Japan.

A. japonicus may be considered a junior synonym of *gastritor*, but it is worthy to point out that *japonicus* is a gregarious parasite of *Phthonandria atrilineata* (Butler) and some populations from Hangzhou have the temple slightly narrowed posteriorly, the length of eye in dorsal view 1.4 times temple, the ocelli small, the OD much less OOL, the body dark with a yellow spot on first tergite apico-medially and the second tergite medially, respectively.

Aleiodes gracilipes (Telenga, 1941)
(figs 245-246)

Rhogas (Aleiodes) gracilipes Telenga, 1941: 190, 423.
Aleiodes gracilipes; Shenefelt, 1975: 1176; Chen, He & Ma, 1992: 495, 496; Chen & He, 1992b: 1253.

Material.— 1♀ (BAU) from Yunnan (Menghai); 3♀♀ + 5♂♂ (FAU) from Fujian (Mt Wuyi Shan); 3♀ + 1♂ (RMNH) from Zhejiang (Longquan); 13♀♀ + 39♂♂ (ZRI) from Zhejiang (Mt W Tianmu Shan), Fujian (Shaowu, Jianyang, Chong'an), Yunnan (Xishangbanna, Menghai); 25♀♀ + 7♂♂ (ZAU) from Zhejiang (Mt W Tianmu Shan, Longquan, Qingyuan), Hunan (Mt Tianping Shan), Fujian (Mt Wuyi Shan, Chong'an), Guangxi (Jinxiu, Tianlin), Guizhou (Guiyang), Yunnan (Menghai, Ruili, Baoshan).

Note.— Outside China known from the former USSR.

Aleiodes kytos spec. nov.
(fig. 244)

Material.— Holotype, ♀ (FAU), "Fujian, Hongdu, ix.1979, Chen Jiahua".

Holotype, ♀, Length of body 4.2 mm, of fore wing 3.3 mm.

Head.— Antennal segments 42, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 3.2, 2.7 and 2.0 times their width, respectively; scapus robust; length of antenna 1.3 times length of body; length of maxillary palp 1.5 times height of head; length of eye in dorsal view 2.4 times temple; temple roundly slightly narrowed posteriorly; occipital carina complete, straight in dorsal view, joining hypostomal carina; OOL:OD:POL = 3:2.5:2.5; frons flat, transversely rugose; vertex and temple densely rugo-punctate; face transversely densely rugose; medio-longitudinally slightly convex; clypeus slightly convex, rugose; width of hypoclypeal depression 0.34 times width of face; gena densely rugose; length of malar space 1.6 times basal width of mandibles, 0.57 times height of eye in lateral view.

Mesosoma.—Length of mesosoma 2.3 times its height; antescutal depression deep, distinct; prothorax long; pronotum, metapleuron, mesoscutum and scutellum densely rugose; precoxal sulcus narrow; mesopleuron rugose above precoxal sulcus, remainder smooth; notauli narrow, shallow and obscure; propodeum irregularly coarsely rugose, median carina complete.

Wing.— Fore wing: r:3-SR:SR1 = 8:8:33; 2-SR:3-SR:r-m = 9:8:7; 1-CU1:2-CU1 = 3.5 :16; 1-SR+M slightly curved; SR1 straight; cu-a slightly inclivous. Hind wing: 2-SC+R quadrate; marginal cell parallel-sided; M+CU:1-M = 13:19; cu-a reclivous; m-cu remnant.

Legs.— Hind coxa finely and densely rugose; length of femur, tibia, and basitarsus of hind leg 5.0, 14.0 and 11.2 times its width, respectively; length of trochantellus 4.0 times its width, 2.3 times trochanter; length of hind tarsus 0.9 times hind tibia; hind tibial spurs 0.22 and 0.18 times hind basitarsus; tarsal claws simple.

Metasoma.— Length of first tergite 1.4 times its apical width, narrowed towards its base, its dorsopes large, dorsal carinae united, medio-basal area small and smooth; medio-basal area of second tergite small; first and second tergites distinctly longitudinally rugose and with median carina, third tergite densely rugo-punctate; length of second tergite 1.1 times its apical width, 1.1 times third tergite; second and third tergites with sharp lateral crease; length of ovipositor sheath 0.05 times fore wing.

Colour.— Dark yellowish brown; palpi yellowish white; ovipositor sheath blackish brown; wing membrane slightly brownish, with a subhyaline pit below basal half of pterostigma, apical half of pterostigma and veins light brown, basal half of pterostigma yellow.

Note.— This new species is related to *A. takasuae* van Achterberg, 1985, but differs in the latter having the scapus black, the mesoscutum, the propodeum and the hind femur more or less dark brown, and the length of hind trochantellus 1.8 times its trochanter.

Aleiodes lymantriae (Watanabe, 1937)
(figs 257-259)

Rhogas lymantriae Watanabe, 1937a: 57.

Rogas lymantriae; Marsh, 1979b: 804; Schaefer et al., 1984: 425; Yan, 1985: 23.
Aleiodes lymantriae; He & Chen, 1990: 202, 206; Belokobylskij, 1996: 27.

Material.— 1♀ (ZAU) from Jilin (Dunhua), Hubei (Fangxian).

Biology.— Parasite of *Lymantria mathura* Moore (from Dunhua). Solitary parasitism.

Note.— According to previous records, parsitized on *Lymantria dispar* Linnaeus and reported from Japan, Russian Far East and America (introduced from Japan) outside China.

Aleiodes mythimnae He & Chen, 1988
(figs 196-204)

Aleiodes mythimnae He & Chen, 1988: 354, 358; He et al., 1991: 38.
Aleiodes australis He & Chen, 1988: 354, 357; He et al., 1991: 38. Syn. by van Achterberg (in litt.).
Aleiodes chui He & Chen, 1988: 354, 359; He et al., 1991: 38. Syn. by van Achterberg (in litt.).
Rhogas fuscomaculatus; Chao & Chen, 1947: 27 [misident.].
Rogas fuscomaculatus; Chao, 1982: 303; Sheng & Yang, 1981: 30; Tao et al., 1982: 11; Zhu & Zhang, 1982: 53 [misident.].
Rogas spec. He et al., 1986: 61

Material.— Holotype of *A. mythimnae*, ♀ (ZAU), "Heilongjiang, Jiamusi, [46°8'N, 130°3'E], 1958, Ma Huaiyi, 730121, host: *Mythimna separata* (Walker)", "*Aleiodes mythimnae* He & Chen". Paratypes of *A. mythimnae* He & Chen": 9♀♀ + 7♂♂ (ZAU), same data as holotype; 2♀♀ (RMNH), same data as holotype; 2♂♂ (FAU), Fujian, Chong`an, [27°7'N, 118°0'E], vii, 9.ix.1981, Huang Juchang". Holotype of *A. australis*, ♀(ZAU), "Hainan, Ya Xian, [18°2'N, 109°3'E], 1-10. vi.1966, He Junhua, 66022.39, host: a noctuid larva", "*Aleiodes australis* He & Chen". Paratypes of *A. australis* He & Chen": 6♀♀ + 4♂♂ (ZAU), same data as holotype; 2♀♀ (RMNH), same data as holotype. Holotype of *A. chui* , ♀(ZAU), "Guizhou, Bijie, [27°3'N, 105°3'E], v.1980, Lu Xinchuan, 8101747, host: *Mythimna separata* (Walker)", "*Aleiodes chui* He & Chen". Paratypes of *A. chui* He & Chen": 1♀ + 1♂ (RMNH), same data as holotype; 62♀♀ + 34♂♂ (ZAU); 5♀♀ + 2♂♂, same data as holotype; 6♀♀ + 4♂♂, "Heilongjiang, Jiamusi, [46°8'N, 130°3'E], 1958, 1978, Ma Huaiyi, 73012.12, 73012.13, 790611, host: *Mythimna separata* (Walker)"; 2♀, "Jilin, Changchun, [43°9'N, 125°3'E], 4.ix.1985, Yan Hui, 16.ix.1985, Li Zhaofang, 861194, 861192"; 1♂, "Jilin, Jingyuetan, [43°9'N, 125°3'E], 13.ix.1985, Yan Hui, 861191"; 1♀, Jilin, Erdao Baihe, [42°2'N, 128°1'E], Mao Zenghua, 861189"; 2♀, "Jilin, Shuiku, 7.ix.1985, Bai Hongyu, 861190, 861193"; 9♀♀ + 2♂♂, "Zhejiang, Mt West Tainmu Shan, [30°4'N, 119°5'E], 18.vi.1983, Shi Zuhua, He Junhua, 23.vi.1984, Zhu Xiliang, 25.vi.1984, Chen Xuexin, 29.vii.1984, Qian Ying, Hu Xiaojin, 830475, 830699, 841792, 842004, 842322, 842328, 842333, 842906, 844364, 844390"; 1♀, "Zhejiang, Huangyan, [28°6'N, 119°4'E], viii-x.1934, Chu Joo-tso"; 1♀, "Zhejiang, Fengyang Shan, [28°0'N, 119°4'E], 19.vii.1984, Sheng Lirong, 843807"; 2♀, "Hubei, Shengnongjia, [37°1'N, 110°6'E], 23, 24.viii.1982, He Junhua, 823807, 825542"; 5♀13♂, "Sichuan, Chongqing, [30°6'N, 103°6'E], vii.1954, Institute of Plant Protection, Sichuan, 5631.11, host: *Mythimna separata* (Walker)"; 1♂, "Fujian, Fuzhou, [26°0'N, 119°3'E], 19.iv.1947, Chao Hsiu-fu, 4702.1, host: *Mythimna separata* (Walker)"; 1♀, "Hainan, Wanning, [18°8'N, 110°3'E], 1973, Chen Xiu, 73073.2"; 1♀, "Hainan, Ya Xian, [18°2'N, 109°5'E], v.1966, He Junhua, 73017.16"; 1♀, "Guangxi, Longzhou, [22°3'N, 106°8'E], 19.v. 1982, He Junhua, 821515"; 3♀, "Guangxi, Jinxiu, [24°1'N, 110°1'E], 12.vi.1982, He Junhua, 822760, 823051"; 3♀ + 1♂, "Guangxi, Tianlin, [24°3'N, 106°2'E], 28.v.1982, He Junhua, 821178, 821179-81"; 2♀ + 2♂, "Yunnan, Kunming, [25°0'N, 102°7'E], 16.v.1982, He Junhua, 810931-34"; 4♀♀ + 2♂♂, "Yunnan, Zhaotong, [27°3'N, 103.°7'E], 18.vii.1973, Zhang Wanchuan, vi.1978, Yang Weizhong, 730541, 813542, host: *Mythimna separata* (Walker)"; 2♀♀ + 2♂♂, "Yunnan, Xinping, [24°0'N, 101°9'E], 16.x.1981, Jiang Yongqing, 815744"; 8♀♀ + 1♂, "Yunnan, Simao, [22°7'N, 100°9'E], 1982, Yi Shiqing, 826907, 826880, 826892"; 1♂, "Yunnan, Mojiang, [23°4'N, 101°7'E], 5.iv.1981, He Junhua, 811429"; 1♀ + 2♂♂, "Yunnan, Wenshan, [23°3'N, 104°2'E], 6.iv.1964, 25.iii.1977, 29.v.1977, Sun Zengyang, 64068.8, 771177-78"; 2♀♀, "Yunnan, Lianghe, [24°8'N, 98°2'E], 20.v.1982, Tao Shaolin, 846482, host: *Mythimna separata* (Walker)". Other specimens: 1♀ + 3♂♂ (ZAU) from Guizhou (Huaxi).

Biology.— Parasite of *Mythimna separata* (Walker) (specimens from Bijie, Jiamushi, Chongqing, Fuzhou, Zhaotong, WenShan, Lianghe); solitary parasite.

Note.— This species is rather variable, especially in colour. Outside China distributed in the West Palaearctic region.

Aleiodes naevius spec. nov.
(fig. 227)

Material.— Holotype, ♀ (ZAU), "Guangxi, Longzhou, [22°3'N, 106°8'E], 9.v.1982, He Junhua, 821625". Paratypes: 10♀♀ + 2♂♂; 8♀♀ + 2♂♂ (ZAU), the same data as holotype but 821529, 821482, 821624, 882215, 824412; 1♀ (RMNH), "Guangxi, Longzhou, 23.v.1982, He Junhua, 821714"; 1♀ (BAU), "Guangxi, Longzhou, 20.v.1982, Li Fasheng, 871877".

Holotype, ♀, length of body 8.2 mm, of fore wing 8.6 mm.

Head.— Antennal segments 67, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 2.1, 1.5 and 1.4 times their width, respectively; length of antenna 1.2 times length of body; length of maxillary palp 1.4 times height of head; length of eye in dorsal view 3.6 times temple; temple distinctly narrowed posteriorly; occipital carina complete, slightly reduced medio-dorsally, ventrally joining hypostomal carina; OOL:OD:POL = 5:6:2; frons slightly concave, nearly smooth; vertex and temple finely transversely rugulose; face dorsally finely rugulose, ventrally finely coriaceous; clypeus convex, punctate; width of hypoclypeal depression 0.36 times width of face; gena finely coriaceous; length of malar space 1.0 times basal width of mandibles, 0.25 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum medially and posteriorly crenulate, ventrally granulate, remainder rugose; precoxal sulcus shallow, coarsely rugose; mesopleuron dorsally coarsely rugose, medially (above precoxal sulcus) finely rugose, remainder finely granulate; metapleuron largely finely granulate, posteriorly and ventrally rugose; mesoscutum coriaceous, dull; scutellar sulcus with some carinae; scutellum coriaceous; propodeum irregularly rugose, median carina complete.

Wing.— Fore wing: r:3-SR:SR1 = 17:14:46; 2-SR:3-SR:r-m = 9:14:7; 1-CU1:2-CU1 = 10:17; 1-SR+M nearly straight; r and SR1 slightly curved; cu-a inclivous; 1-CU1 oblique. Hind wing: 2-SC+R vertical; marginal cell slightly widened; M+CU:1-M = 23:20; cu-a subvertical; m-cu present.

Legs.— Hind coxa finely coriaceous, nearly smooth; length of femur, tibia, and basitarsus of hind leg 6.0, 10.8 and 8.0 times its width, respectively; length of hind tarsus 1.1 times hind tibia; length of hind tibial spurs 0.33 and 0.30 times hind basitarsus; tarsus claws simple.

Metasoma.— Length of first tergite 1.2 times its apical width, narrowed towards its apex, dorsal carinae united, medio-basal area smooth; postero-lateral corner slightly protruding; medio-basal area of second tergite small; first-third tergites distinctly longitudinally rugose and with median carina, apical margin of third tergite and its following tergites smooth; second tergite quadrate, its length 1.3 times third tergite; second and third tergites with sharp lateral crease; length of ovipositor sheath 0.08 times fore wing.

Colour.— Yellow to brownish yellow; antenna (except for basal two segments)

dark brown; telotarsus, hind tibia apically and hind basitarsus dark; metasomal tergites slightly darker; wing membrane yellow, pterostigma and veins yellow, parastigma, vein 1-SR, vein C+SC+R apically and area along above veins black.

Variation.— Length of body 7.2-9.4 mm, of fore wing 7.0-8.6 mm; antennal segments 57-67; sometimes metasomal apex darkened; metasomal sternites reddish yellow to dark.

Aleiodes narangae (Rohwer, 1934)
(figs 229-237)

Rhogas narangae Rohwer, 1934: 46; Watanabe, 1937a: 64; Sonan, 1943: 244, 1944: 13; Zhejiang Agric. Univ., 1962: 165.

Rogas narangae; Chu et al., 1976: 146; Chu et al., 1978: 53; He et al., 1979: 11, 22; Chen et al., 1980: 36; Wu et al., 1980: 53; Chao, 1982: 303; Chou, 1981: 74; Sheng & Yang, 1981: 30; Northwestern Agric. Uni., 1981: 269; Zhejiang Agric. Univ., 1982: 186; Zhu & Zhang, 1986: 53; Chen & Song, 1982: 67; Tao et al., 1982: 11; Hubei Agric. Academy, 1982: 11; He et al., 1986: 12, 61; He & Wang, 1986: 407.

Rhogas sp. Xia, 1957: 311.

Aleiodes narangae; He & Chen, 1988: 353, 356; He et al., 1991: 38.

Material.— 1♀ (BAU) from Guangxi (Yanshan); 2♀♀ + 1♂ (IRRI) from Zhejiang (Fenghua); 3♀ + 1♂ (RMNH) from Fujian (Mt Wuyi Shan); Guangxi (Yan Xian); 76♀♀ + 25♂♂ (ZAU) from Jiangsu (Yangzhou), Zhejiang (Hangzhou, Cixi, Jiaxing, Dongyang, Sheng Xian, Wenzhou, Huangyan, Linhai, Fenghua, Lishui, Mt W Tianmu Shan), Anhui (Yuexi), Jiangxi (Fengcheng, Jiujiang), Hubei (Leifeng), Hunan (Changsha), Sichuan (Chongqing, Nancong), Fujian (Qingyuan, Fuzhou, Shanghang, Liancheng, Wuyi, Mt Wuyi Shan), Guangdong (Panyu), Hainan (Yacheng), Guangxi (Longzhou, Guilin), Guizhou (Meitan, Majiang), Yunnan (Shimao, Tengchong, Yiule Shan). 14♀♀ + 4♂♂ (ZRI) from Fujian (Chong'an), Hainan (Wanning, Baoting, Yinggen), Yunnan (Menglun, Mengyang, Meng'a, Menglong).

Biology.— Parasite of *Naranga aenescens* Moore; solitary parasite.

Note.— Previously recorded as parasite of *Jaspida distinguenda* Staudinger and *Nymphula depunctalis* (Guenée) (He et al., 1979). This species was previously recorded from Taiwan, and outside China from Japan, Thailand, Malaysia, Philippines and India.

Aleiodes oryzaetora He & Chen, 1988
(figs 247-248)

Aleiodes oryzaetora He & Chen, 1988: 354, 357; He et al., 1991: 39.

Material.— Holotype, ♀ (ZAU), "Zhejiang, Linhai, [28.8N, 121.0E], 6.vii.1965, He Junhua, 65062.12", "*Aleiodes oryzaetora* He & Chen". Paratypes with label "*Aleiodes oryzaetora* He & Chen": 15♀♀ + 8♂♂; 1♀(RMNH), "Zhejiang, Hangzhou, [30.2N, 120.1E], viii.1965, He Junhua, 65046.18"; 1♂ (RMNH), "Zhejiang, Hangzhou, 27-28.viii.1965, He Junhua, 65081"; 1♂ (ZAU), same data as holotype; 1♂(ZAU), "Jiangsu, Nanjing, [32.0N, 118.7E], 13.vii.1957, Yang Chikun"; 1♀(ZAU), "Jiangsu, Suzhou, 31.3N, 120.6N, 30.viii.1914, He Junhua, 64047.7"; 1♂ (ZAU), "Zhejiang, Hangzhou, 18.vii.1957, He Junhua, Host: *Naranga aenescens* Moore, 5728.23"; 1♀ (ZAU), "Zhejiang, Hangzhou, 31.v.1959, Xie Bingzhang, Host: *Naranga aenescens* + 1♂ (ZAU), "Zhejiang, Wenzhou, [28.0N, 120.6E], ix.1964, He Junhua, 64094.17"; 2♀♀ (ZAU), "Zhejiang, Dongyang, [29.2N, 120.2E], 31.v.1963, He Junhua, 760322"; 3♀♀ + 1♂ (ZAU), Zhejiang, Dongyang, 1.iv.1964, He Junhua, 64086"; 1♀ + 1♂ (ZAU), "Anhui, Chao Xian, 331.5N, 117. 8E, 1979, Ji Tongyun, 800959"; 1♀ + 1♂ (ZAU), "Jiangxi, Fengcheng, 28.2N, 115.7E, 1981, Ye Zhengxiang, 815934-35"; 1♂(ZAU), "Jiangxi, Hukou, [29.7N, 116.2E], 21.viii.1979, Qiu Jiakui, 800235"; 1♀(ZAU), "Hubei, Wuhan, [30.5N, 114.2E], 1978, Jiang Dongrong, 790103"; 1♀(FAU), "Fujian, Fuzhou, [26.0N, 119.3E], 2.vii.1963, Chao Hsiu-fu"; 1♀(FAU), Fujian, Fuzhou, 27.xi.1963, Zhuang Xingfa".

Biology.— Parasite of *Naranga aenescens* Moore; solitary parasite.

Note.— This species is similar to *A. narangae* (Rohwer), but can be spearated from the latter by having the temple roundly narrowed behind eyes, the prothorax normal, not exceptionally long, the vein 3-SR of fore wing twice as long as vein r, the submarginal cell of fore wing quadrate, and the ratio of 1-CU1:2-CU1 = 1:5-6.

Aleiodes pallescens Hellén, 1927
(figs 213-220)

Aleiodes testaceus var. pallescens Hellén, 1927: 31; Shenefelt, 1975: 1183 (as synonym of *Aleiodes testaceus* (sensu auct.)).
Aleiodes pallescens; van Achterberg & Shaw (in litt.).
Aleiodes nocturnus; He & Chen, 1990: 202, 204 [misidentification].

Material.— 2♀♀ + 1♂ (RMNH) from Liaoning (Faku), Inner Mongolia (Chifeng), Hubei (Zhushan); 23♀♀ + 13♂♂ (ZAU) from Heilongjiang (Longjiang), Liaoning (Faku), Inner Mongolia (Chifeng), Xinjiang (Bazhou), Shaanxi (Yichuan, Yulin), Zhejiang (Songyang), Hubei (Zhu Shan).

Biology.— Parasite of *Cerura menciana* Moore (from Longzhou, Chifeng, Yichuan, Yulin).

Note.— Outside China known from Finland and Mongolia.

Aleiodes pallidator (Thunberg, 1822)
(figs 267-268)

Ichneumon pallidator Thunberg, 1822: 259.
Rhogas pallidator; Roman, 1912: 271.
Aleiodes pallidator; Shenefelt, 1975: 1179; He & Chen, 1990: 202, 206.
Aleiodes unicolor Wesmael, 1838: 111. Syn. by Roman, 1912.

Material.— 3♀♀ (BAU) from Inner Mongolia (Baotou), Beijing, Xizhang (Tibet) (Yi'ong); 5♀♀ + 2♂♂ (ZAU) from Heilongjiang (Gannan), Inner Mongolia (Qahar Youyi Qianqu), Hebei (Zhangbei), Anhui (Yuehui), Yunnan (Shimo); 2♀♀ (ZRI) from Beijing (West Suburbs Park).

Biology.— Parasite of *Stilpnotia salicis* (Linnaeus).

Notes.— Outside China distributed in Europe and North America. More than ten host species belonging to the Noctuidae and Geometridae are reported (Shenefelt, 1975).

Aleiodes pallidinervis (Cameron, 1910)
(fig. 221)

Rhogas pallidinervis Cameron, 1910b: 97; Watanabe, 1937a: 65.
Rogas pallidinervis; Watanabe, 1957b: 46; Shenefelt, 1975: 1241.
Neorhogas kishidae Ishii, 1935: 2. Syn. by Watanabe, 1957b.

Material.— 13♀♀ + 3♂♂ (ZAU) from Jilin (Liaodong), Zhejiang (Mt Wuyanlin), Hubei (Shi'an), Hunan (Hengshan, Nanmi), Sichuan (Chongqing, Changshou), Guangxi (Jinxiu), Guizhou (Guiyang); 2♀♀ (RMNH) from Jilin (Liaodong).

Note.— Previously recorded as parasite of *Euproctis flava* Bremer, and outside China known from Japan.

Aleiodes petalus spec. nov.
(figs 263-264)

Material.— Holotype, ♀ (ZAU), "Hunan, Mt Tianping Shan, 5.vi.1981, Tong Xin- wang, 864611".

Holotype, ♀, Length of body 6.0 mm, of fore wing 4.8 mm.

Head.— Antenna incomplete, with 33 segments, length of third segment 1.3 times fourth segment, length of third and fourth segments 2.1 and 2.6 times their width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 2.7 times temple; temple distinctly narrowed posteriorly; occipital carina complete, ventrally near but not joining hypostomal carina; OOL:OD:POL = 4:3:3; frons flat, shiny, rugose; vertex and temple distinctly rugose; face finely transversely rugose, medio-longitudinally slightly convex; clypeus distinctly convex, rugo-punctate; width of hypoclypeal depression 0.45 times width of face; gena smooth; length of malar space 1.0 times basal width of mandibles, 0.28 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.8 times its height; antescutal depression deep and small; side of pronotum medially smoothly crenulate, postero-medially finely crenulate, remainder rugose; precoxal sulcus narrow, sparsely crenulate; mesopleuron anteriorly and dorsally rugose, postero-medially smooth, remainder coriaceous; metapleuron largely finely coriacoeus, only ventrally and posteriorly rugose; mesoscutum finely coriaceous; scutellum coriaceous, basally with lateral carina; propodeum irregularly rugose, median carina complete.

Wing.— Fore wing: r:3-SR:SR1 = 8.5:15:38; 2-SR:3-SR:r-m = 10:15:7.5; 1-CU1:2-CU1 = 6:14; 1-SR+M and SR1 slightly curved; cu-a slightly inclivous. Hind wing: 2-SC+R subquadrate; marginal cell parallel-sided; 1r-m long; M+CU:1-M = 23:15; cu-a subvertical to M+CU; 1-M oblique; m-cu present.

Legs.— Hind coxa finely granulate; length of femur, tibia, and basitarsus of hind leg 5.1, 11.5 and 9.5 times its width, respectively; length of hind tarsus 1.0 times hind tibia; hind tibial spurs 0.31 and 0.27 times hind basitarsus; tarsal claws pectinate ventrally.

Metasoma.— Length of first tergite 2.8 times its apical width, narrowed parallel-sided; medio-basal area of second tergite medium-sized; first and second tergites longitudinally rugose and with median carina, third tergite (except extreme base) and its following tergites smooth; second suture obscure; length of second tergite 3.2 times third tergite; second and third tergites with sharp lateral crease; second and its following tergites strongly compressed, knife-like; length of ovipositor sheath 0.08 times fore wing.

Colour.— Black; orbits (dorsally and posteriorly), head ventrally (below ventral margin of eye, including mouth apparatus), side of pronotum postero-ventrally, mesopleuron largely and mesosternum, metapleuron, and legs yellow to reddish yellow; antenna brown; wing membrane hyaline, pterostigma yellow (its margin brownish), veins brown.

Note.— This new species is similar to *A. compressor* (Herrich-Schäffer), but differs from the latter by the black body and the rugose propodeum.

Aleiodes seriatus (Herrich-Schäffer, 1838)
(figs 255-256)

Rogas seriatus Herrich-Schäffer, 1838: 12; Shenefelt, 1975: 1185 (as synonym of *Aleiodes vittiger* Wesmael, 1838).

Material.— 87♀♀ + 29♂♂ (ZAU) from Guangxi (Longzhou, Tianlin, Jinxiu), Guizhou (Sandu); 2♀ + 1♂ (RMNH) from Guangxi (Longzhou).

Note.— This species is new to the fauna of China.

Aleiodes triangularis spec. nov.
(fig. 238)

Material.— Holotype, ♀? (ZAU), "Guangxi, Longzhou, [22°3'N, 106°8'E], 20.v.1982, He Junhua, 824428".

Holotype, ♀?, Length of body 4.1 mm, of fore wing 3.2 mm.

Head.— Antennal segments 46, slender, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.5, 3.0 and 4.0 times their width, respectively; scapus robust; length of antenna 1.3 times length of body; length of maxillary palp 1.5 times height of head; eye distinctly protruding, length of eye in dorsal view 3.0 times temple; temple roundly narrowed posteriorly; occipital carina complete, straight in dorsal view, ventrally joining hypostomal carina; OOL:OD:POL = 4:3:2; frons slightly concave, transversely rugose; vertex and temple densely punctate-rugose; face finely transversely rugose; medio-longitudinally slightly convex, dorsally with median carina; clypeus convex, finely punctate; width of hypoclypeal depression 0.43 times width of face; length of malar space 1.3 times basal width of mandibles, 0.33 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 2.3 times its height; antescutal depression deep and large; prothorax long; pronotum, precoxal sulcus, mesopleuron, metapleuron, mesoscutum and scutellum densely punctate-rugose; propodeum irregularly coarsely rugose, median carina complete.

Wing.— Fore wing: r:3-SR:SR1 = 10:2:35; 2-SR:3-SR:r-m = 9:2:11; 1-CU1:2-CU1 = 3:18; SR1 straight; cu-a distinctly inclivous; 2-SR of right wing absent. Hind wing: 2-SC+R quadrate; marginal cell slightly widened apically; M+CU:1-M = 19:19; cu-a reclivous; m-cu present as a trace.

Legs.— Hind coxa densely rugose; length of femur, tibia, and basitarsus of hind leg 6.0, 15.8 and 10.5 times its width, respectively; length of trochantellus 4.3 times its width, 1.9 times trochanter; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.29 and 0.19 times hind basitarsus; tarsal claws simple.

Metasoma.— Length of first tergite 1.4 times its apical width, narrowed towards its base, dorsal carinae united, medio-basal area small and smooth; medio-basal area of second tergite small and smooth; first-third tergites distinctly longitudinally rugose and with median carina; fourth and fifth tergites longitudinally weakly

rugose, sixth tergite smooth; length of second tergite 1.1 times its apical width, 1.3 times third tergite; second and third tergites with sharp lateral crease.

Colour.— Yellow brown; palpi yellowish white; legs yellow, tarsus yellowish brown; wing membrane slightly brownish with a subhyaline spot below base of pterostigma, pterostigma and veins brown, base of pterostigma yellow.

Note.— This new species is similar to *A. dispar* (Haliday, 1833), but can be readily separated from the latter by having the second submarginal cell of fore wing nearly triangular.

Arcaleiodes gen. nov.
(figs 275-298)

Type species: *Aleiodes unifasciatus* Chen & He, 1991.

Etymology: from "arcus" (Latin for "arched") and the generic name *Aleiodes* Wesmael, because it is superficially similar to *Aleiodes* but differs in having the vein 1-M of hind wing distinctly curved.

Diagnosis.— Antennal segments 50-64, with pale segments (figs 283, 293); maxillary and labial palpi normal, slender (figs 275, 282); hypostomal carina joining occipital carina ventrally (figs 275, 282); vertex narrow; eyes and ocelli large (figs 277, 284); length of eyes in dorsal view 3-4 times temple; occipital carina complete, strong and ventrally angulate (figs 275, 282); antescutal depression well developed; prepectal carina complete (figs 275, 282); mesopleuron smooth (figs 275, 282); precoxal sulcus absent (figs 275, 282); mesoscutum and scutellum densely punctate-rugose (figs 279, 287); propodeal areola absent, lateral carina only distinctly postero-laterally (figs 275, 282); vein m-cu of fore wing antefurcal, angled with vein 2-CU1, distinctly diverging from vein 1-M posteriorly (figs 275, 282, 291, 297); vein 3-SR longer than 2-SR (figs 275, 282, 291, 297); vein 1-CU1 of fore wing short and oblique; basal cell of hind wing narrow (figs 275, 282, 291, 297); vein 1-M of hind wing strongly curved (figs 275, 282, 291, 297); tarsal claws simple, without lobe (figs 281, 290); apex of hind tibia without comb of specialized setae at inner side (fig. 289); hind tibial spurs straight and setose (fig. 289); first tergite with large dorsope, its dorsal carinae united and without basal flanges (figs 280, 288; but dorsal carinae may be protruding); medio-basal area of second tergite distinct and triangular (figs 280, 288); second and base of third tergite with sharp lateral crease (figs 275, 282); basal three metasomal tergites longitudinally rugose (figs 280, 288); hypopygium of female medium-sized, ventrally straight and apically truncate (figs 275, 282).

Biology.— Unknown.

Distribution.— Oriental region; four species included (all from the Oriental part of China).

Note.— This new genus is closely related to *Aleiodes* Wesmael, but differs from the latter in having the vein m-cu of fore wing distinctly diverging from vein 1-M posteriorly, the vein 1-M of hind wing strongly curved, the basal cell of hind wing very narrow and the antenna medially with pale segments.

Key to species of the genus *Arcaleiodes* nov.

1. Length of first metasomal tergite more than 1.2 times its apical width (figs 280, 292); second tergite quadrate; first-second tergites finely, weakly and longitudinally striate; basal segments of maxillary and labial palpi brown 2
- Length of first metasomal tergite less than 1.2 times its apical width (figs 288, 298); second tergite transverse; first-second tergites coarsely and longitudinally striate; maxillary and labial palpi wholly yellowish white 3
2. Length of second submarginal cell of fore wing 3.1-3.7 times its height (fig. 275); body black, metasomal tergites with a yellow band; antenna tricoloured; hind coxa black. Length of body 8 mm. Hubei and Sichuan ..... ***A. unifasciatus*** (Chen & He)
- Length of second submarginal cell 2.8 times its height (fig. 291); body dark brown, mesopleuron, metathorax, propodeum and first-second metasomal tergites reddish yellow; antenna bicoloured; hind coxa yellowish brown. Length of body 7 mm. Guangxi and Yunnan ..... ***A. nitidus*** (Chen & He)
3. Antennal segments 62-64; length of second submarginal cell of fore wing 2.5-2.7 times its height, longer than length of first subdiscal cell of fore wing (fig. 286); OD 4 times OOL; third metasomal tergite weakly striate. Length of body about 8 mm. Zhejiang, Anhui, Hunan and Sichuan ..... ***A. pulchricorpus*** (Chen & He)
- Antennal segments 50-55; length of second submarginal cell 2.2-2.4 times its height, as long as first subdiscal cell (fig. 297); OD 2-3 times OOL; third tergite distinctly longitudinally striate and with obvious median carina. Length of body about 6.5 mm. Zhejiang, Jiangxi and Yunnan ..... ***A. aglaurus*** (Chen & He)

Arcaleiodes aglaurus (Chen & He, 1991) comb. nov.
(figs 293-298)

Aleiodes aglaurus Chen & He, 1991: 30, 32.

Material.— Holotype, 1♂, "Yunnan, Tengchong, [25°0'N, 98°0'E], 22.v.1983, Zhen Weijun, 846477", "*Aleiodes aglaurus* Chen & He". Paratypes of *A. glaurus* Chen & He":1♀ + 1♂; 1♀(ZAU), "Zhejiang, Mt. W. Tainmu Shan, [30°4'N, 119°5'E], vi.1981, Zhang Junxiong, 880601"; 1♂(SEI), "Jiangxi, Kuling, [29°4'N, 121°2'E], 10.viii.1935, O. Piel".

Arcaleiodes nitidus (Chen & He, 1991) comb. nov.
(figs 291-292)

Aleiodes nitidus Chen & He, 1991: 29, 30.

Material.— Holotype, ♀(ZAU), "Yunnan, Ruili, [24°0'N, 97°8'E], 1.v.1981, He Junhua, 812267", "*Aleiodes nitidus* Chen & He". Paratype: 1♀(ZAU), "Guangxi, Xilin, [24°5'N, 105°0'E], 3.xi.1983, Huang Fugao", "*Aleiodes nitidus* Chen & He".

Arcaleiodes pulchricorpus (Chen & He, 1991) comb. nov.
(figs 282-290)

Aleiodes pulchricorpus Chen & He, 1991: 29, 32; Chen & He, 1992: 1250.

Material.— Holotype, ♀(ZAU), "Zhejiang, Mt W Tianmu shan, [30.°4'N, 119°5'E], 9.x.1982, Zhu Kunyang, 825998", "*Aleiodes pulchricorpus* Chen & He". Paratypes of *A. pulchricorpus* Chen & He": 2♀♀ + 1♂; 1♂(ZAU), "Hunan, Mt Tianping shan, [29°4'N, 109°5'E], 20.vi.1981, Tonxingwang, 864612"; 1♀(BAU), "Anhui, Mt Huang shan, [30°0'N, 118°8'E], 24.vii.1977, Li Fasheng, 871685"; 1♀(NAU), "Sichuan, Mt. Emei shan, [29°5'N, 103°3'E], 800-1000 m, 2.v.1957, Huang Keren". Additional specimen: 1♀(NAU), "Sichuan, Guang Xian, [31°0'N, 103°6'E], 7.vii.1940, C.S. Tsi, 871074".

Arcaleiodes unifasciatus (Chen & He, 1991) comb. nov.
(figs 275-281)

Aleiodes unifasciata Chen & He, 1991: 29, 30.

Material.— Holotype, ♀(ZAU), "Hubei, Mt Jiugong Shan, [29°3'N, 114°6'E], 7.viii.1982, Min Guanpei, 826999", "*Aleiodes unifasciata* Chen & He". Paratype: 1♀(ZRI), "Sichuan, Mt Emei shan, [29°5'N, 103°3'E], 1800-1900 m, 3.viii.1957, Yu Youcai, 871784", "*Aleiodes unifasciata* Chen & He".

Canalirogas van Achterberg & Chen, 1996
(figs 299-302)

Canalirogas van Achterberg & Chen, 1996: 63-64 (key to species). Type species (by original designation): *Canalirogas balgooyi* van Achterberg & Chen, 1996.

Diagnosis.— Antennal segments of ♀ 42-61, and of ♂ 32-41, apical segment with distinct spine; length of antenna 1.6-2.1 times fore wing; apex of scapus oblique (fig. 299); maxillary and labial palpi of both sexes slender, at most slightly widened (fig. 299); occipital carina nearly complete and remaining removed from hypostomal carina or nearly so; vertex smooth; frons largely flat and smooth except for some rugae; malar suture complete, distinct; eyes distinctly emarginate, large (fig. 299); antescutal depression distinct; prepectal carina complete; precoxal sulcus medially impressed and crenulate (fig. 299); notauli narrow, reduced posteriorly; mesoscutum with medium-sized to long medio-posterior median groove or pit; medial carina of metanotum present anteriorly, not protruding dorsally; propodeal areola and median carina absent, only with a reversed V-shaped area; propodeal tubercles absent (fig. 299) or nearly so; vein 1-SR of fore wing short, continuous with vein 1-M; vein m-cu of fore wing shortly antefurcal (fig. 299), more or less slightly curved, gradually merging into vein 2-CU1 (but rarely rather angled), and nearly parallel with vein 1-M (fig. 299); vein r of fore wing not continuous with posterior margin of pterostigma; vein 3-SR of fore wing long (fig. 299), about two-thirds as long as vein SR1; first subdiscal cell of fore wing elongate, vein 1-CU1 short (fig. 299); vein cu-a of fore wing vertical; vein M+CU1 of fore wing straight; marginal cell of hind wing narrow, parallel-sided apically (fig. 299); vein SR of hind wing slightly curved basally and unsclerotized, but sometimes distinctly pigmented; vein 1r-m of hind wing oblique; vein M+CU of hind wing longer than vein 1-M; tarsal claws simple (fig. 300), at most slightly serrate medio-ventrally; tarsi slender (fig. 299); middle and hind tibial spurs straight and shortly setose (fig. 299); apex of hind tibia with distinct comb of specialized setae at inner side (fig. 301); first tergite with large dorsope, its dorsal carinae present at basal third, reduced posteriorly and posterior half with weak median carina, and without basal flanges (fig. 302); second tergite with indistinct or rather distinct sculptured medio-basal triangular area and distinct medio-longi-

tudinal carina (fig. 302); second-sixth tergites with sharp lateral crease and sculptured (fig. 299); third-sixth tergites slightly emarginate medio-posteriorly; third-fifth tergites obliquely striate anteriorly (fig. 302), but sometimes indistinct, mainly coriaceous; hypopygium of female in lateral view convex ventrally and large, medioventrally without keel, and apically truncate (fig. 299); ovipositor distinctly curved downwards (fig. 299); apical half of ovipositor sheath widened, its length 0.10-0.15 times fore wing; metasoma of dead ♀ often scorpion-like curved up apically.

Biology.— Unknown.

Distribution.— Oriental and Australian (Papuan) regions with 11 species known.

Note.— This genus is related to the genera *Macrostomion* Szépligeti and *Colastomion* Baker, but can be easily separated from both by having the first metasomal tergite not widened basally, and its hind tibial spurs setose and nearly straight.

Canalirogas balgooyi van Achterberg & Chen, 1996
(figs 299-302)

Canalirogas balgooyi van Achterberg & Chen, 1996: 70-72, figs 1-12.

Material.— Paratype, ♀(ZAU), "Guangxi, Longzhou, Nonggang, [22°3'N, 106°8'E], 20.v.1982, He Junhua, 821601".

Note.— Outside China known from India, Nepal, Malaysia, and Indonesia (Sunda Islands).

***Colastomion* Baker, 1917**
(figs 303-307)

Colastomion Baker, 1917a: 283, 290; Shenefelt, 1975: 1198; van Achterberg, 1991: 29. Type species (by monotypy): *Colastomion abdominalis* Baker, 1917.

Diagnosis.— Antennal segments 49-65, apical segment with short spine; maxillary and labial palpi of female normal (fig. 303), of male partly extremely inflated; hypostomal carina not joining occipital carina ventrally (fig. 303); occipital carina absent ventrally (fig. 303); vertex strongly declivous posteriorly and with some punctures; frons flat and smooth; malar suture short (fig. 303); eyes distinctly emarginate; antescutal depression deep and narrow; prepectal carina complete (fig. 303); only posterior half of precoxal sulcus shallowly impressed and with weak crenulate (fig. 303); notauli deep and rather narrow; median carina of metanotum only anteriorly developed; propodeal areola absent, but median carina may be present; propodeal tubercles present, small and blunt (fig. 303); vein 1-SR of fore wing medium-sized, continuous with vein 1-M (fig. 303); vein m-cu of fore wing subinterstitial, curved, gradually merging into vein 2-CU1, and converging to vein 1-M posteriorly (fig. 303); vein r of fore wing discontinuous with posterior margin of pterostigma (fig. 303); vein 3-SR of fore wing nearly twice as long as vein 2-SR (fig. 303); first subdiscal cell of fore wing elongate, vein 1-CU1 short or absent (fig. 303); vein cu-a of fore wing vertical (fig. 303); vein M+CU1 of fore wing straight (fig. 303); marginal cell of hind wing wide basally, narrow and parallel-sided apically (fig. 303); vein 1r-m of hind wing oblique; vein 2-SC+R of hind wing vertical or subquadrate (fig. 303); tar-

sal claws simple (fig. 304); tarsi of males elongate, similar to tarsi of females; middle and hind tibial spurs glabrous (figs 305, 306), but inner middle spur with row of long setae; apex of hind tibia with distinct comb of specialized setae at inner side (fig. 305); first tergite with dorsope situated laterally, not visible in dorsal view, its dorsal carinae united, with basal flanges absent, but (nearly) linearly narrowed subbasally (fig. 307); second tergite with medium-sized medio-basal triangular area and indistinct medio-longitudinal carina (fig. 307); second-fifth tergites with sharp lateral crease (fig. 303); hypopygium of female large, ventrally strongly convex, posteriorly evenly curved and apically partly closed (fig. 303); ovipositor slightly curved; ovipositor sheath rather slender, its length about 0.1 times fore wing (fig. 303).

Biology.— Unknown.

Distribution.— Oriental and Afrotropical Regions with six valid species. One species, *C. formosana* (Watanabe), originally described by Watanabe (1932) from Taiwan province, is reported from Hainan province in this paper.

Colastomion formosana (Watanabe, 1932)
(figs 303-307)

Cystomastax formosana Watanabe, 1932: 186.
Colastomion formosana; Watanabe, 1934: 192; Watanabe, 1937a: 393.
Dedanima formosana; Shenefelt, 1975: 1197; Chou, 1981: 74.

Material.— 1♀ (BAU) from Hainan (Dan Xian (= Nada)).

Note.— Not known from outside China.

Conspinaria Schulz, 1906
(figs 308-311)

Paraspinaria Cameron (Oct.) 1905b: 88 (not Cameron, Jan. 1905). Type species (by monotypy): *Paraspinaria pilosa* Cameron, 1905.
Conspinaria Schulz, 1906: 139 (replacement name); Shenefelt, 1975: 1194. Type species: *Paraspinaria pilosa* Cameron, 1905.
Paragyroneuron Baker, 1917a: 284, 318. Syn. by Baltazar, 1961. Type species (by monotypy): *Paragyroneuron bicolor* Baker.

Diagnosis.— Antennal segments 70-75, longer than body; maxillary and labial palpi of both sexes normal, slender (fig. 308); hypostomal carina not joining occipital carina ventrally (fig. 308); occipital carina complete; malar suture absent (fig. 308); antescutal depression deep and large; prepectal carina complete (fig. 308); precoxal sulcus complete and wide (fig. 308); middle lobe of mesoscutum strongly convex (fig. 308); scutellum without lateral carina; metanotum with median carina; propodeum short, distinctly slanted posteriorly, irregularly (somewhat transversely) posterolateral with a spine (fig. 308); vein 1-SR+M and SR1 of fore wing nearly straight (fig. 308); vein of 2-SR of fore wing 0.5 times vein 3-SR (fig. 308); vein cu-a of fore wing nearly vertical (fig. 308); vein 1r-m of hind wing strongly reclivous (fig. 308); vein M+CU of hind wing longer than 1-M (fig. 308); marginal cell of hind wing slightly widened basally, parallel-sided medially and apically (fig. 308); vein 2-SC+R of hind wing quadrate (fig. 308); vein cu-a of hind wing slightly reclivous; vein m-cu of hind

wing absent (fig. 308); tarsal claws with a large and acute lobe (fig. 309); apex of hind tibia with distinct comb of specialized setae at inner side (fig. 310); hind tibial spurs straight and setose (fig. 310); first metasomal tergite nearly parallel-sided, its dorsopes large, dorsal carinae nearly parallel-sided and reaching apex of tergite, median carina present between dorsal carinae, marginal carina present (fig. 311); medio-basal area of second tergite small and triangular (fig. 311); second tergite with median carina and marginal carina (fig. 311); second-sixth tergites with sharp lateral crease (fig. 308); hypopygium medium-sized, nearly straight ventrally, truncate apically (fig. 308); ovipositor sheath short and slender (fig. 308).

Biology.— Unknown.

Distribution.— Oriental region with three described species. *C. flava* (Enderlein), previously described from Taiwan province (Watanabe, 1937), is reported from Zhejiang, Anhui, Jiangxi, Hunan, Fujian, Guangxi and Yunnan provinces in this paper.

Conspinaria flava (Enderlein, 1920)
(figs 308-311)

Gyroneuron flavum Enderlein, 1920: 144.
Paragyroneuron flavum; Watanabe, 1934: 124; Watanabe, 1937a: 48.
Conspinaria flavum; Shenefelt, 1975: 1194; Chou, 1981: 74.

Material.— 1♀ (FAU) from Fujian (Fuzhou); 5♀♀ + 5♂♂ (ZAU) from Zhejiang (Hangzhou, Wuyanling), Anhui (Anqing), Jiangxi (Jiujiang), Hunan (Tongdao), Fujian (Shaowu), Guangxi (Longsheng, Longzhou, Guilin); 1♀ (ZRI) from Yunnan (Xishangbanna, 620-650 m); 1♀ (RMNH) from Guangxi (Longzhou).

***Cystomastacoides* van Achterberg, gen. nov.**
(figs 312-318)

Type-species: *Cystomastacoides coxalis* spec. nov.

Etymology: because it is similar to the genus *Cystomastax* Szépligeti, 1904, from the New World, the ending "oides" (= resembling) is added. Gender: masculine.

Diagnosis.— Maxillary palp of female normal with third segment slightly swollen (fig. 312); second segment of labial palp of female angularly widened apically (fig. 313); hypostomal carina joining occipital carina ventrally (fig. 312); occipital carina complete; malar suture present (fig. 312); antescutal depression deep and narrow; prepectal carina complete (fig. 312); precoxal sulcus narrowly impressed medially (fig. 312); metapleural flange finger-like (fig. 312); scutellum without lateral carinae; metanotum with median carina; lateral carinae of propodeum distinct posteriorly and protruding (fig. 312); pterostigma long (fig. 312); vein 1-SR+M and SR1 of fore wing slightly curved (fig. 312); vein cu-a of fore wing inclivous, curved (fig. 312); vein 1r-m of hind wing strongly reclivous (fig. 312); vein M+CU of hind wing longer than 1-M (fig. 312); marginal cell parallel-sided (fig. 312), vein SR of hind wing not sclerotized; vein 2-SC+R quadrate (fig. 312); claws with medium-sized lobe (fig. 315); hind tibial spurs curved and largely glabrous (fig. 316); apical half of middle tibial spurs glabrous (fig. 317); first metasomal tergite narrowed but near its base distinctly widened, its length about 2 times its apical width, dorsopes large, dorsal carinae

united basally, then connected to a strong median carina (fig. 318); medio-basal area of second tergite small, sculptured and triangular (fig. 318); second to sixth metasomal tergites with sharp lateral crease (fig. 312); hypopygium large, convex ventrally, slightly round apically (fig. 312); ovipositor sheath widened (fig. 312).

Biology.— Unknown.

Distribution.— China (Oriental part); only the type species known.

Note.— Differs from the Neotropical genus *Cystomastax* Szépligeti, 1904, by the comparatively long vein M+CU of hind wing (distinctly shorter than vein 1-M in *Cystomastax*), the coarsely sculptured metapleuron (smooth), the glabrous and curved hind tibial spurs (setose and straight), and the transverse first submarginal cell of fore wing (far less transverse).

Cystomastacoides coxalis spec. nov.
(figs 312-318)

Material.— Holotype, ♀(ZRI), "Yunnan, Xishuangbanna, Mengzhe, [22°0'N, 100°2'E], 890 m, 4.ix.1958, Wang Shuyong, 871721".

Holotype, ♀, length of body 14.0 mm, of fore wing 11.6 mm.

Head.— Antenna incomplete, antenna with 16 segments, length of third segment 1.8 times fourth segment, length of third and fourth segments 3.1 and 1.8 times their width, respectively; length of maxillary palp 1.5 times height of head; length of eye in dorsal view 4.3 times temple; temple hardly narrowed posteriorly; temple and vertex smooth; occipital carina complete; OOL:OD:POL = 2:5:2; frons narrow, slightly concave, rugose; face slightly convex medially, finely transversely rugose laterally; clypeus slightly convex, narrow and rugose; width of hypoclypeal depression 0.8 times width of face; gena rugose; length of malar space 0.2 times basal width of mandibles, 0.1 times height of eye in dorsal view.

Mesosoma.— Length of mesosoma 1.4 times its height; sides of pronotum shiny, medially and posteriorly crenulate, ventrally longitudinally rugose, remainder smooth; precoxal carina narrowly present medially, crenulate; mesopleuron smooth except for some rugae dorsally; metapleuron irregularly rugose; mesoscutum slant sharply anteriorly, shiny, remotely punctulate, nearly smooth; middle lobe distinctly convex; notauli narrow and deep; scutellar sulcus wide and deep, with one carinae; scutellum nearly smooth with finely punctulates; propodeum irregularly rugose, coarsely transversely rugose posteriorly, median carinae sinuated, lateral carina protruding posteriorly forming tubercle.

Wings.— Fore wing: pterostigma narrow and long; r:3-SR:SR1 = 13:25:37; 2-SR:3-SR:r-m = 13:25:10; 1-CU1:2-CU1 = 7:24; cu-a inclivous, curved. Hind wing: marginal cell parallel-sided; M+CU:1-M = 26:20; cu-a reclivous, m-cu absent.

Legs.— Hind coxa smooth with few shallow rugose, dorsally with a tubercle; length of femur, tibia, and basitarsus of hind leg 7.7, 11.8 and 12.3 times their width, respectively; length of hind tibial spurs 0.25 and 0.20 times hind basitarsus.

Metasoma.— Length of first tergite 2.5 times its apical width, its surface longitudinally rugose, dorsal carinae united at basal 0.2, and joining strong median carina, dorsope large; medio-basal area of second tergite large, smooth and triangular; second to fourth tergites and basal half of fifth tergite longitudinally rugose, apical half

of fifth tergite and sixth tergite smooth; second tergite and third tergite basally with median carina; length of second tergite 1.3 times third tergite; length of ovipositor sheath 0.03 times fore wing.

Colour.— Brownish yellow to yellowish brown; antenna and ovipositor sheath brown; legs brownish yellow; wing membrane subhyaline, but apically infuscate; pterostigma and veins yellowish brown, except for dark yellowish brown vein r and veins in middle of wing.

Darnilia van Achterberg, 1989
(figs 319-322)

Darnilia van Achterberg, 1989: 88. Type species (by original designation): *Darnilia flagellaris* van Achterberg, 1989.

Diagnosis.— Antennal segments 58-59, apical segment without spine; pedicellus small (fig. 319); maxillary and labial palpi with six and four segments, respectively, of normal length and shape (fig. 319); hypostomal carina about joining occipital carina (but latter is weak ventrally) (fig. 319); occipital carina nearly complete, with narrow interruption medio-dorsally; vertex aciculate; mandible rather slender and apically twisted; malar suture present (fig. 319); labrum concave, not slanted backwards; eyes glabrous and distinctly emarginate; pronotum not protruding antero-laterally, without pronope or antescutal depression rather wide and deep; prepectal carina complete (fig. 319); precoxal sulcus present (except anteriorly) and largely smooth (fig. 319); notauli narrow and complete; median carina of metanotum absent posteriorly; surface of propodeum granulate, its posterior half with rugae, and with complete median carina; propodeal tubercles and areola absent (fig. 319); propodeal spiracle round; vein 1-SR of fore wing short; vein m-cu of fore wing curved and just antefurcal, converging to vein 1-M posteriorly (fig. 319); vein 1-M of fore wing curved (fig. 319); second submarginal cell of fore wing slender (fig. 319); vein M+CU1 of fore wing straight (fig. 319); vein CU1b of fore wing reclivous and shorter than vein 3-CU1; vein 1-M of hind wing about twice length of vein M+CU (fig. 319); vein 1r-m of hind wing oblique and slightly curved (fig. 319); tarsal claws with conspicuous, rather acute and setose lobe (fig. 320); apex of hind tibia with distinct comb at inner side (fig. 321); hind tibial spurs straight and setose (fig. 321); first metasomal tergite without dorsope and laterope, its dorsal carinae united subbasally (fig. 322); second tergite without smooth medio-basal triangular area and no medio-longitudinal carina (fig. 322); median length of second tergite about 1.8 times median length of third tergite (fig. 322); spiracle of second tergite in its notum; metasoma sculptured (fig. 319); second-sixth tergites with sharp lateral crease (fig. 319); hypopygium of female rather large and apically truncate (fig. 319); length of ovipositor sheath about 0.2 times fore wing (fig. 319).

Biology.— Parasite of Limacodidae.

Distribution.— A monobasic genus described from Indonesia. This genus is new to China. One new species, *D. chinensis* spec. nov. is described from Jiangsu Province below.

Darnilia chinensis spec. nov.
(figs 319-322)

Material.— Holotype, ♀(ZAU), "Jiangsu, Lianyungang, [34°7'N, 119°4'E], 1-10.ix. 1993, [collector unknown], 871119".

Holotype, ♀, length of body 4.5 mm, of fore wing 3.8 mm.

Head.— Antennal segments 54, setose, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 2.7, 2.5 and 3.4 times their width, respectively; length of antenna 1.4 times length of body; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 3.5 times temple; temple distinctly narrowed posteriorly; occipital carina complete, medially weak in dorsal view; OOL:OD:POL = 2.5:3:2; frons largely smooth; vertex weakly and transversely rugulose; temple smooth; face medially convex, laterally transversely rugose; clypeus slightly convex, punctate; width of hypoclypeal depression 0.6 times width of face; length of malar space 1.3 times basal width of mandibles, 0.35 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially and posteriorly crenulate, ventrally with some rugae, remainder aciculate; precoxal sulcus present medially shallow, with some fine rugae; area below precoxal sulcus extremely finely rugulose; remainder of mesopleuron smooth; metapleuron aciculate, ventrally with some rugae; mesoscutum shiny and smooth; notauli narrow and deep; scutellar sulcus wide with three carinae; scutellum punctate and basally with lateral carina; propodeum largely granulate with fine and weak median carina, posteriorly with some rugae.

Wings.— Fore wing: r:3-SR:SR1 = 6:12:27; 2-SR:3-SR:r-m = 9:12:7; 1-CU1:2-CU1 = 1:16; 1-SR+M slightly curved; cu-a vertical; 1-M curved posteriorly and vertical to M+CU1. Hind wing: 2-SC+R quadrate; SR indistinct; marginal cell nearly parallel-sided; M+CU:1-M = 10:23; cu-a strongly reclivous; m-cu absent.

Legs.— Hind coxa finely rugulose antero-laterally; length of femur, tibia, and basitarsus of hind leg 5.3, 8.8 and 9.0 times their width, respectively; length of hind tarsus 1.2 times hind tibia; length of hind tibial spurs 0.31 and 0.25 times hind basitarsus.

Metasoma.— Length of first tergite equal to its apical width, its surface largely longitudinally rugose, baso-laterally granulate, its dorsal carinae present before spiracles and its spiracles distinctly protruding; second tergite without medio-basal area; second and third tergites longitudinally rugose; second suture deep and crenulate; length of second tergite 1.9 times third tergite; fourth-sixth tergites granulate; length of ovipositor sheath 0.13 times fore wing.

Colour.— Yellow to yellowish brown, without dark spots; antenna yellowish brown; ovipositor sheath and telotarsus brown; wing membrane hyaline, pterostigma brown, extremely basally and apically yellow, veins brown to yellowish brown.

Note.— The new species differs from the type species as follows: length of eye in dorsal view 3.5 times temple (11.0 times in type species), hind coxae finely rugulose antero-dorsally (smooth), body yellow to yellowish brown, without dark spots (mesosoma and metasoma with brownish spots).

Gyroneuron Kokujev, 1901
(figs 328-334)

Gyroneuron Kokujev, 1901: 231; Fahringer, 1931: 210; Watanabe, 1937a: 48; Shenefelt, 1975: 1199. Type species (by monotypy): *Gyroneuron mirum* Kokujev, 1901.

Diagnosis.— Antennal segments about 45, longer than body; maxillary and labial palpi normal and slender; occipital carina complete, reduced extremely ventrally, near but not joining hypostomal carina; malar suture absent; antescutal depression deep, distinct; prepectal carina complete (fig. 333); precoxal sulcus nearly complete, wide and shallow (fig. 333); mesopleuron smooth (fig. 333); scutellum without lateral carina; basal half of metanotum with median carina; propodeum short, distinctly slanted posteriorly, basally with median carina and postero-laterally with a stout tooth (fig. 333); vein 1-SR+M of fore wing straight (figs 328, 332); vein SR1 of fore wing slightly curved (figs 328, 332); vein cu-a of fore wing reclivous and curved (figs 328, 332); apical part of vein M+CU, vein 1-CU1 and vein cu-a of fore wing strongly swollen (figs 328, 332); subbasal cell of fore wing strongly widened apically (figs 328, 332); vein 1r-m of hind wing distinctly reclivous (figs 328, 332); vein M+CU of hind wing longer than vein 1-M (figs 328, 332); marginal cell of hind wing slightly widened basally, parallel-sided medially and apically (figs 328, 332); vein 2-SC+R transverse (figs 328, 332); vein cu-a of hind wing curved, reclivous (figs 328, 332); vein m-cu of hind wing absent (figs 328, 332); tarsal claws with a large and acute lobe (figs 329, 334); apex of hind tibia with distinct comb of specialized setae at inner side (fig. 331); hind tibial spurs straight and setose (fig. 331); first metasomal tergite with large dorsopes, its dorsal carinae not united, its median carina distinct (fig. 330); mediobasal area of second tergite small and triangular (fig. 330); second tergite with median carina (fig. 330); second-sixth tergites with sharp lateral crease; hypopygium medium-sized, straight ventrally, truncate apically; ovipositor sheath slender and short.

Biology.— Unknown.

Distribution.— Oriental region: two described species. In this paper both species are reported from mainland of China.

Key to species of the genus *Gyroneuron* Kokujev

1. Frons with transverse rugae and median groove; propodeum strongly reticulate-rugose; body yellow, mesosoma (except prothorax) and second-fifth metasomal tergites black; apical half of hind femur of male black; wing membrane hyaline with a broad dark brown median band (fig. 332), pterostigma brown. Hunan, Guangxi and Taiwan ..... ***G. mirum*** Kokujev
- Frons smooth and with a median groove; propodeum reticulate; body brownish yellow, but pronotum dorsally and mesoscutum laterally black; hind femur brownish yellow; wing membrane hyaline, without blackish band (fig. 328), pterostigma yellowish brown. Zhejiang, Hunan, Fujian, Guangxi, Yunnan and Taiwan ..... ***G. testaceator*** Watanabe

Gyroneuron mirum Kokujev, 1901
(figs 332-334)

Gyroneuron mirum Kokojev, 1901: 232; Fahringer, 1931: 210; Watanabe, 1934: 193; Watanabe, 1937a: 48; Shenefelt, 1975: 1199; Chou, 1981: 74.

Material.— 2♀♀ (ZAU) from Hunan (Mt Tianping Shan), Guangxi (Jinxiu); 1♂ (ZRI) from Guangxi (Tonkin).

Note.— Previously reported from Taiwan province (Watanabe, 1934). Outside China known from India (type locality).

Gyroneuron testaceator Watanabe, 1934
(figs 328-331)

Gyroneuron testaceator Watanabe, 1934: 193, 1937a: 48; Shenefelt, 1975: 1199; Chou, 1981: 74.

Material.— 1♀ (FAU) from Fujian (Shaowu); 6♀♀ (ZAU) from Zhejiang (Longquan, Qingyuan), Hunan (Mt Tianping Shan, Dayong), Fujian (Mt Wuyi Shan), Guangxi (Longzhou); 2♀ (ZRI) from Fujian (Chong'an), Yunnan (Xishuangbanna, 1200-1600 m); 1♀(RMNH) from Hunan (Mt Tianping Shan).

Note.— Originally described from Taiwan province; no records from outside China.

Hemigyroneuron Baker, 1917
(figs 336-341)

Hemigyroneuron Baker, 1917a: 284, 322; Shenefelt, 1975: 119; van Achterberg, 1991: 33. Type species (by original designation): *Hemigyroneuron speciosus* Baker, 1917.

Diagnosis.— Antennal segments 54-61, apical segment with spine; maxillary and labial palpi slender (fig. 336); hypostomal carina joining occipital carina ventrally (fig. 336); occipital carina complete, strong and angulate ventrally (figs 336, 338), but may be educed medio-dorsally; vertex rugolose or rugose-granulate; frons largely granulate or largely smooth with a curved carina laterally; malar suture absent (fig. 336); eyes distinctly emarginate (fig. 337); antescutal depression absent; prepectal carina complete (fig. 336); precoxal sulcus absent to shallowly impressed (fig. 336); median carina of metanotum short; propodeal areola absent, its median carina present at least in anterior half; propodeal tubercles small and obtuse (fig. 336); vein 1-SR of fore wing medium-sized, discontinuous with vein 1-M (fig. 336) or continous; vein m-cu of fore wing antefurcal, straight, angled with vein 2-CU1, and diverging from vein 1-M posteriorly (fig. 336); vein r of fore wing long, discontinous with posterior border of pterostigma (fig. 336); vein 3-SR of fore wing distinctly longer than (fig. 336) or as long as vein 2-SR; subbasal cell of fore wing without sclerotes, and distinctly widened subapically (fig. 336); first subdiscal cell of fore wing comparatively high, enlarged (fig. 336), vein 1-CU1 oblique; vein cu-a of fore wing long, straight or reclivous (fig. 336); vein M+CU1 of fore wing straight to slightly widened and curved (fig. 336); marginal cell of hind wing stongly widened apicaly (fig. 336); vein 1r-m of hind wing long and oblique (fig. 336); vein M+CU of hind wing longer than vein 1-M (fig. 336); vein m-cu of hind wing absent; tarsal claws

without lobe, its apical tooth angularly bent, and only basally finely pectinate (fig. 339); tarsi of males normal, similar to tarsi of females; hind tibial spurs straight and setose (fig. 340); apex of hind tibia without distinct comb of specialized setae at inner side (fig. 340); first tergite with large dorsope, its dorsal carinae united near level of spiracles, and without basal flanges (fig. 341); second tergite with rather small medio-basal triangular area distinct medio-longitudinal carina (fig. 341); second terigte and base of third tergite with sharp lateral crease (fig. 336); hypopygium of female medium-sized, ventrally straight and apically truncate (fig. 336); ovipositor sheath slender (fig. 336).

Biology.—Parasite of Lasiocampidae.

Distribution.— Oriental and Afrotropical regions with three described species. This genus is new to China. One new species, *H. nigricans* spec. nov., of this genus is described from China.

Key to species of the genus *Hemigyroneuron* Baker

1. Vein cu-a of fore wing curved, vein 1-CU1 strongly oblique; subbasal cell of fore wing strongly widened apically; frons with lateral carinae; second submarginal cell of fore wing relatively short, its length less than 2 times its height (cf. fig. 168 of van Achterberg, 1991); body yellowish brown. Madagascar ..... ***H. certum*** van Achterberg
- Vein cu-a of fore wing straight or slightly curved, vein 1-CU1 slightly oblique (fig. 336); subbasal cell of fore wing distinctly widened apically (fig. 336); frons without lateral carinae; second submarginal cell comparatively long, its length 2 times its height or more (fig. 336); colour of body variable 2
2. Vein 1-CU1 of fore wing very long, its length 2.4 times vein 2-CU1 (fig. 336); vein cu-a of fore wing slightly curved (fig. 336); body black. China: Yunnan ..... ***H. nigricans*** spec. nov.
- Vein 1-CU1 of fore wing about as long as vein 2-CU1; vein cu-a of fore wing straight (cf. fig. 206 of van Achterberg, 1991); body reddish brown or yellowish brown 3
3. Notauli distinct anteriorly; face rugose ventrally; body reddish brown, without dark spots; antenna unicolorous. Philippines ..... ***H. suffusus*** Baker
- Notauli indistinct; face transversely rugose dorsally; body yellowish brown; antenna medially with white segments. Philippines ..... ***H. speciosus*** Baker

Hemigyroneuron nigricans spec. nov.
(figs 336-341)

Material.— Holotype, ♀, "Yunnan, Ruili, Mengxiu, [24°0'N, 97°8'E], 2-6.v.1981, He Junhua, 813135".

Holotpye, ♀, length of body 8.2 mm, of fore wing 8.0 mm.

Head.— Antennal segments 68, setose, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 1.5, 1.1 and 1.4 times their width, respectively; length of antenna 1.3 times length of body; third segment of maxillary slightly swollen; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 7.7 times temple; temple distinctly narrowed posteriorly; occipital carina complete, and round in dorsal view; OOL:OD:POL = 1:6:2; temple and

vertex distinctly rugose; frons slightly concave, smooth with few rugae; face with distinct transverse striae; clypeus slightly convex, rugulose; width of hypoclypeal depression 0.44 times width of face; gena rugose; length of malar space 0.57 times basal width of mandibles, 0.11 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.8 times its height; sides of pronotum medially and posteriorly crenulate, remainder irregularly rugose; precoxal sulcus absent; mesopleuron smooth, except for few rugae dorsally; metapleuron nearly smooth, with some rugae; mesoscutum densely punctate, dull; scutellar sulcus with one carinae; scutellum densely punctate-rugose, basally with lateral carina; propodeum densely and finely reticulate-rugose, median carina complete.

Wings.— Fore wing: r:3-SR:SR1 = 9:21:43; 2-SR:3-SR:r-m = 10:21:9; 1-CU1:2-CU1 = 21:11; 1-SR+M ached; M+CU1 apically, 1-CU1 and cu-a distinctly swollen; subbasal cell slightly widened apically. Hind wing: 2-SC+R quadrate; marginal cell distinctly widened apically; M+CU:1-M = 24:18; cu-a vertical; m-cu absent.

Legs.— Hind coxa rugose laterally; length of femur, tibia, and basitarsus of hind leg 4.0, 10.0 and 9.0 times their width, respectively; length of hind tarsus 1.0 times hind tibia; length of hind tibial spurs 0.41 and 0.33 times hind basitarsus; tarsal claws simple.

Metasoma.— Length of first tergite 1.4 times its apical width, its dorsopes large, dorsal carinae united at basal 0.1, enclosing a small triangular area; medio-basal area of second tergite medium-sized, smooth and triangular; first and second tergites distinctly longitudinally rugose and with median carina, third tergite basally longitudinally finely rugose, apical half of third tergite and its following tergites smooth; length of second tergite 1.3 times third tergite; length of ovipositor sheath 0.07 times fore wing.

Colour.— Blackish brown; ventral half of mesopleuron and mesosternum reddish brown; tegulae, first tergite baso-laterally and apico-laterally and legs reddish yellow; hind tibia apically and hind tarsus brown; palpi yellowish white; wing membrane hyaline, setae brown, pterostigma and veins brown.

Iporhogas Granger, 1949
(figs 342-353)

Iporhogas Granger, 1949: 167; Shenefelt, 1975: 1202; van Achterberg, 1991: 35. Type species (by monotypy): *Iporhogas infuscatipennis* Granger, 1949.

Diagnosis.— Antennal segments about 51, antenna about 1.5 times fore wing, apical segment with spine; maxillary and labial palpi normal (fig. 342); hypostomal carina joining occipital carina ventrally (fig. 342); occipital carina complete; vertex rugose; frons rugulose; malar suture shallow (fig. 342); eyes rather emarginate; antescutal depression indistinct; prepectal carina nearly complete (fig. 342); precoxal sulcus narrow, absent anteriorly and posteriorly (fig. 342); notauli rather wide and crenulate; median carina of metanotum absent; propodeal areola present because of (partly) strongly developed submedial carinae (double median carinae); propodeal tubercles absent (fig. 342); vein 1-SR of fore wing medium-sized, continuous with vein 1-M (fig. 342); vein m-cu of fore wing antefurcal, slightly curved, gradually merging into vein 2-CU1, and converging to vein 1-M posteriorly (figs 342, 346, 348,

351); vein r of fore wing discontinuous with posterior margin of pterostigma (figs 342, 346); vein 3-SR of fore wing longer than 2-SR (figs 342, 346); first subdiscal cell of fore wing medium-sized, vein 1-CU1 short (figs 342, 346); vein 1-SR+M of fore wing slightly curved to sinuate; vein cu-a of fore wing nearly vertical (figs 342, 346); vein M+CU1 of fore wing nearly straight (figs 342, 346); vein 1-M of hind wing straight (figs 342, 346); marginal cell of hind wing parallel-sided apically, vein SR weakly curved basally and unsclerotized (figs 342, 346); vein 1r-m of hind wing comparatively short and oblique (figs 342, 346); tarsal claws with small to large lobe (figs 343, 347, 349, 352), but absent in one species; middle tibial spurs largely setose and nearly straight; apical half of hind tibial spurs glabrous and curved (fig. 344), in one species completely glabrous; apex of hind tibia with distinct comb of specialized setae at inner side (fig. 344); first tergite with large dorsope, its dorsal carinae united behind level of spiracles and without basal flanges (fig. 345); second tergite with large medio-basal triangular area, connected medio-longitudinal carina (fig. 345); second-fifth tergites with sharp lateral crease (fig. 342); hypopygium of female large, ventrally slightly convex and apically truncate (fig. 342); ovipositor sheath rather slender (fig. 342).

Biology.—Unknown.

Distribution.— Previously known only of the type species from Madagascar and here reported for the first time from the Oriental region. In this paper five new species are described from China.

Key to species of the genus *Iporhogas* Granger

1. Tarsal claws with minute to large lobe (figs 343, 347, 349, 352); hind tibial spurs setose basally 2
- Tarsal claws simple, without lobe (fig. 324); hind tibial spurs entirely glabrous .... *I. guangxiensis* spec. nov.
2. Prothorax and mesopleuron dark brown; wing membrane smoky, pterostigma and veins brown; tarsal claws with large rounded lobe (cf. fig. 173 of van Achterberg, 1991). Madagascar ..... *I. infuscatipennis* Granger
- Prothorax and mesopleuron yellow to brownish yellow; wing membrane hyaline, slightly brownish; tarsal claws with acute lobe (figs 343, 347) 3
3. Body reddish yellow, but metasomal tergites with black spots; tarsal claws with comparatively large lobe (figs 343, 347) 4
- Body yellow to brownish yellow without black spots; tarsal claws with relatively small lobe (figs 349, 352) 5
4. Pterostigma brown; hind tarsus brown; medio-basal area of second metasomal tergite smooth; vein cu-a of fore wing just postfurcal (fig. 342). Hainan .... *I. chinensis* spec. nov.
- Pterostigma yellow; hind tarsus brownish yellow; medio-basal area of second metasomal tergite with some rugae; vein cu-a of fore wing distictly postfurcal (fig. 346). Fujian, Guangxi and Yunnan ..... *I. flavistigma* spec. nov.
5. Occipital carina in dorsal view rounded (fig. 353); vertex transversely rugose; vein 1-M, 2-CU1 and cu-a of fore wing brown, remainder of veins yellow; vein 2-SC+R of hind wing quadrate (fig. 351). Guangxi ..... *I. rugivertex* spec. nov.
- Occipital carina in dorsal view angular (fig. 350); vertex smooth; veins of fore

wing entirely yellow; vein 2-SC+R longitudinal (fig. 348). Yunnan .... ***I. unicolor*** spec. nov.

Iporhogas chinensis spec. nov.
(figs 342-345)

Material.— Holotype, ♀(BAU), "Hainan, Xinglong, Wenquan, [18.°7'N, 110°1'E], 20.xii.1974, Yang Jikun, 871894.

Holotype, ♀, length of body 5.4 mm, of fore wing 4.4 mm.

Head.— Antennal segments 42 but antenna incomplete, setose, length of third segment 1.3 times fourth segment, length of third and fourth segments 3.6 and 2.8 times their width, respectively; length of antenna 1.2 times length of body; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 3.9 times temple; temple directly narrowed posteriorly; occipital carina complete; OOL:OD:POL = 4:3:2; frons flat with transverse rugae; vertex finely and transversely rugose; temple smooth; face medially convex and rugose, laterally transversely rugose; clypeus flat and rugo-punctate; width of hypoclypeal depression 0.5 times width of face; gena rugose; length of malar space 0.7 times basal width of mandibles, 0.24 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum shiny, medially sparsely crenulate, ventro-medially smooth, dorsally longitudinally rugose; precoxal sulcus present medially, shallow and crenulate; mesopleuron smooth; metapleuron largely smooth, ventrally and posteriorly rugose; mesoscutum shiny and nearly smooth; notauli distinct; scutellar sulcus wide, deep and with some carinae; scutellum nearly smooth and basally with lateral carina; propodeum irregularly rugose, with double median carinae, between median carinae with transverse rugae.

Wings.— Fore wing: r:3-SR:SR1 = 7:19:32; 2-SR:3-SR:r-m = 12:19:9; 1-CU1:2-CU1 = 1:23; SR1 curved apically; cu-a vertical. Hind wing: 2-SC+R subquadrate; marginal cell slightly narrowed apically; M+CU:1-M = 25:21; cu-a reclivous; m-cu absent.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.1, 9.8 and 10.0 times their width, respectively; length of hind tarsus 1.2 times hind tibia; length of hind tibial spurs 0.37 and 0.30 times hind basitarsus; tarsal claws with medium-sized lobe ventrally.

Metasoma.— Length of first tergite 1.3 times its apical width, its dorsopes large, dorsal carinae united at basal 0.2, enclosing a smooth triangular area; medio-basal area of second tergite large, smooth and triangular; first-sixth tergites distinctly longitudinally rugose, rugae on third-sixth tergites weaker; first and second tergites with median carina; second metasomal suture deep and crenulate; length of second tergite 1.6 times third tergite; length of ovipositor sheath 0.07 times fore wing.

Colour.— Head and mesosoma reddish yellow; first-fifth metasomal tergites medially dark brown, laterally and sixth tergite, and metasomal sternites yellow to pale yellow; antenna brown, basal two segments paler; fore and middle legs reddish yellow, coxa and trochanter yellow, but hind coxa, apical half of hind femur, hind tibia apically and hind tarsus brown; wing membrane hyaline, pterostigma and veins brown.

Iporhogas flavistigma spec. nov.
(figs 346-347)

Material.— Holotype, ♀(ZAU), "Fujian, Mt Wuyi Shan, [26°4'N, 116°4'E], 5-18. viii.1983, Zhou Hongzhang, 833210". Paratypes: 1♀(FAU), "Fujian, Shaowu, [27°3'N, 117°4'E], 14.v.1944, Chao Hsiufu"; 1♂(ZAU), "Guangxi, Longzhou, [22°3'N, 106°8'E], 18.v.1982, He Junhua, 821481"; 1♀(ZRI), "Yunnan, Xishuangbanna, Xiao Mengyang, 850 m, [22°0'N, 100°8'E], 6.ix.1957, Chang Linchao, 871732".

Holotype, ♀, length of body 6.5 mm, of fore wing 6.0 mm.

Head.— Antenna incomplete, with 10 segments, length of third segments 1.5 times fourth segment, length of third and fourth segments 2.8 and 2.0 times their width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 3.2 times temple; temple directly narrowed posteriorly; occipital carina complete, angular in dorsal view; OOL:OD:POL = 5:4:3; frons largely smooth with some rugae near median ocellus; vertex shiny, with few indistinct transverse rugae; temple smooth; face medially convex and dorsally with median carina, ventrally smooth, laterally finely transversely rugose; clypeus flat, punctate; width of hypoclypeal depression 0.5 times width of face; gena rugae; length of malar space equal to basal width of mandibles, 0.27 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially and posteriorly coarsely crenulate, ventrally granulate, remainder rugose; precoxal sulcus present medially, shallow and weakly crenulate; mesopleuron smooth; metapleuron largely coarsely rugose, antero-dorsally smooth; mesoscutum largely smooth, laterally indistinctly punctate; notauli narrow and deep; scutellar sulcus wide, deep and with few carinae; scutellum nearly smooth, extremely basally with lateral carina; propodeum irregularly rugose, posteriorly transversely rugose, median carina separating into two from base.

Wing.— Fore wing: r:3-SR:SR1 = 8:18:35; 2-SR:3-SR:r-m = 12:18:10; 1-CU1:2-CU1 = 3:19; SR1 nearly straight; cu-a slightly inclivous. Hind wing: 2-SC+R quadrate; M+CU:1-M = 25:18; cu-a reclivous; m-cu absent.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.6, 9.8 and 10.0 times their width, respectively; length of hind tarsus 1.3 times hind tibia; length of hind tibial spurs 0.39 and 0.30 times hind basitarsus; tarsal claw with medium-sized lobe ventrally.

Metasoma.— Length of first tergite 1.1 times its apical width, it dorsopes large, dorsal carinae united at basal 0.2, enclosing a smooth triangular area; medio-basal area of second tergite large, triangular, with few rugae; first-sixth tergites distinctly longitudinally rugose, rugae weakened towards sixth tergite; first and second tergites with median carina; second suture deep and crenulate; length of second tergite 1.4 time third tergite; length of ovipositor sheath 0.07 times fore wing.

Colour.— Head and mesosoma reddish yellow; metosomal tergites black, first-second tergites laterally, fifth and sixth tergites, metasomal sternites yellow; antenna brown, basal two segments paler; fore and middle legs yellow, tibia and tarsus brownish yellow; hind coxa, femur apically and tibia apically blackish brown, trochanter yellow, femur basally, tibia basally and tarsus yellowish brown; wing membrane hyaline, pterostigma yellow, its outer margin dark, veins brown to yellowish brown.

Variation.— Length of body 6.5-6.8(♀), or 4.4(♂), of fore wing 5.8-6.0(♀) or 4.0(♂) mm; antennal segments of male 42; first and second metasomal tergites sometimes largely yellow, fifth tergite sometimes largely black; hind legs largely blackish brown.

Iporhogas guangxiensis spec. nov.
(figs 323-327)

Material.—Holotype, ♀(ZAU), "Guangxi, Longzhou, Longgang, [22°3'N, 106°8'E], 21.v. 1982, He Junhua, 821684". Paratype: 1♂(ZAU), same data as holotype, 821693.

Holotype, ♀, length of body 6.1 mm, of fore wing 4.8 mm.

Head.— Antennal segments 51, setose, length of third segment 1.6 times fourth segment, length of third, fourth and penultimate segments 3.7, 2.3 and 3.4 times their width, respectively; length of antenna 1.3 times length of body; length of maxillary palp 1.4 times height of head; length of eye in dorsal view 4.2 times temple; temple largely and directly narrowed posteriorly; occipital carina complete; OOL:OD:POL = 2.5:4:2; frons largely smooth with some rugae near median ocellus; vertex medially with few transverse rugae; temple smooth; face shiny, medio-longitudinally convex, dorsally with median carina, ventrally with several longitudinal rugae, laterally indistinctly transversely rugose; clypeus flat, punctate; width of hypoclypeal depression 0.5 times width of face; gena rugose; length of malar space 0.8 times basal width of mandibles, 0.22 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.7 times its height; sides of pronotum medially with few rugose, remainder largely smooth; precoxal sulcus present medially, shallow, wide and crenulate; mesopleuron smooth; metapleuron dorsally smooth, ventrally and posteriorly rugose; mesoscutum shiny, sparsely punctulate; notauli narrow, smooth; scutellar sulcus deep with some carinae; scutellum nearly smooth and basally with lateral carina; propodeum largely irregularly rugose, basally smooth and with median carina.

Wings.— Fore wing: r:3-SR:SR1 = 6:19:33; 2-SR:3-SR:r-m = 12:19:8; 1-CU1:2-CU1 = 2:18; SR1 curved; cu-a vertical. Hind wing: 2-SC+R quadrate; marginal cell slightly narrowed towards its apex; M+CU:1-M = 21:15; r present as a fold.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.3, 8.8 and 9.5 times their width, respectively; length of hind tarsus 1.3 times hind tibia; length of hind tibial spurs 0.34 and 0.28 times hind basitarsus; tarsal claws simple, without lobe (fig. 324).

Metasoma.— Length of first tergite 1.2 times its apical width, its dorsopes large and dorsal carinae united at basal 0.2, enclosing a smooth triangular area, median carinae medially distinct but indistinct basally; medio-basal area of second tergite large, smooth and triangular; first-third tergites distinctly longitudinally rugose; fourth-sixth tergites with weaker longitudinal rugae, apical marginal of third-sixth tergites smooth; second suture deep; length of second tergite 1.7 times third tergite; length of ovipositor sheath 0.08 times fore wing.

Colour.— Yellow; propodeum medially, first-sixth tergites medio-basally and ovipositor sheath brownish; antenna brownish yellow; legs yellow, femur, tibia apically and tarsus darker; wing membrane hyaline, pterostigma and veins brown, base

and apex of pterostigma, parastigma and vein 1-R1 yellow.

Variation.— Length of body 5.2-6.1 mm, of fore wing 4.1-4.8 mm; antennal segments of male 34.

Iporhogas rugivertex spec. nov.
(figs 351-353)

Material.— Holotype, ♀(ZAU), "Yunnan, Longzhou, Nonggang, [22°3'N, 106°8'E], 20.v.1982, He Junhua, 822216.

Holotype, ♀, length of body 5.7 mm, of fore wing 4.9 mm.

Head.— Antenna incomplete, with 37 segments, length of third segment 1.4 times fourth segment, length of third and fourth segments 3.0 and 2.2 times their width, respectively; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 3.3 times temple; temple distictly narrowed posteriorly; occipital carina complete, round in dorsal view; OOL:OD:POL = 4:4:2; frons flat, shiny and transversely rugae; vertex finely transversely rugose; temple smooth; face medio-longitudinally convex and rugose, laterally transversely rugose; clypeus slightly convex, punctate; width of hypoclypeal depression 0.53 times width of face; gena rugose; length of malar space 0.9 times basal width of mandibles, 0.26 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.6 times its height; sides of pronotum medially and posteriorly crenulate, ventro-medially rugose, remainder smooth; precoxal sulcus present medially, shallow and crenulate; mesopleuron smooth; metapleuron largely rugose, dorsally punctate; mesoscutum smooth; notauli deep; scutellar sulcus wide, deep and with three carinae; scutellum finely rugulose, nearly smooth, without lateral carina; propodeum largely irregularly rugose, with submedian carinae, and between carinae with transverse rugae.

Wings.— Fore wing: r:3-SR:SR1 = 8:18:35; 2-SR:3-SR:r-m = 13:18:10; 1-CU1:2-CU1 = 3:25; SR1 slightly curved; cu-a vertical. Hind wing: 2-SC+R quadrate; M+CU:1-M = 30:23; marginal cell slightly narrowed apically; SR indistinct apically.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.3, 9.4 and 9.0 times their width, respectively; length of hind tarsus 1.1 times hind tibia; length of hind tibial spurs 0.40 and 0.36 times hind basitarsus; tarsal claws with a minute lobe ventrally (fig. 352).

Metasoma.— Length of first tergite 1.1 times its apical width, its dorsopes large, dorsal carinae united at basal 0.2, enclosing a smooth triangular area; medio-basal area of second tergite large, triangular and with some rugae; first-sixth tergites distinctly longitudinally rugose; first and second tergites with a median carina; second suture deep; length of second tergite 1.5 times third tergite; length of ovipositor sheath 0.06 times fore wing.

Colour.— Yellow to brownish yellow; apical metasomal tergites yellowish brown; antenna (except for basal two segments) and ovipositor sheath brown; wing membrane hyaline, pterostigma yellow, veins yellow, but vein 1-M, 2-CU1 and cu-a of fore wing brownish.

Iporhogas unicolor spec. nov.
(figs 348-350)

Material.— Holotype, ♂ (ZAU), "Yunnan, Simao, [22°7'N, 100°9'E], 1982, Yi Shiqing, 826878".

Holotype, ♂, length of body 5.1 mm, of fore wing 4.4 mm.

Head.— Antennal segments 10 (antenna incomplete), length of third segment 1.2 times fourth segment, length of third and fourth segments 3.2 and 2.6 times their width, respectively; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 2.8 times temple; temple distictly narrowed posteriorly; occipital carina complete, angular in dorsal view; OOL:OD:POL = 4:4:2; frons flat, with obscure rugae; vertex and temple smooth; face medio-longitudinally convex and punctate, laterally transversely rugose; clypeus slightly convex and rugose; width of hypoclypeal depression 0.47 times width of face; gena with few rugose; length of malar space 0.9 times basal width of mandibles, 0.35 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.6 times its height; sides of pronotum medially and posteriorly crenulate, ventrally granulate, remainder smooth; precoxal sulcus present medially, shallow and nearly smooth; mesopleuron smooth; metapleuron largely smooth, ventrally and posteriorly rugose; mesoscutum smooth; notauli narrow and smooth; scutellar sulcus wide, deep and with several carina; scutellum nearly smooth with few micropuncture, without lateral carina; propodeum largely smooth, posteriorly irregularly rugose, with submedian carinae.

Wings.— Fore wing: r:3-SR:SR1 = 6:18:29; 2-SR:3-SR:r-m = 13:18:8; 1-CU1:2-CU1 = 2:17; SR1 straight; cu-a nearly vertical. Hind wing: 2-SC+R longitudinal; marginal cell parallel-sided; M+CU:1-M = 21:15; cu-a reclivous; m-cu absent.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.0, 9.4 and 9.2 times their width, respectively; length of hind tibial spurs 0.39 and 0.30 times hind basitarsus; tarsal claws with a minute lobe ventrally (fig. 349).

Metasoma.— Length of first tergite 1.3 times its apical width, its dorsopes large, dorsal carinae united at basal 0.3, enclosing a smooth triangular area; medio-basal area of second tergite large, triangular and with some rugae; first-sixth tergites distinctly longitudinally rugose; first and second tergites with a median carina; second suture deep; length of second tergite 1.5 times third tergite.

Colour.— Yellow to brownish yellow, without any dark spot; antenna (except for basal two segments) brown; wing membrane hyaline, pterostigma and vein yellow.

Macrostomion Szépligeti, 1900
(figs 335, 354-358, 375)

Macrostomion Szépligeti, 1900: 57; Shenefelt, 1975: 1203; van Achterberg, 1991: 38. Type species (by monotypy): *Macrostomion bicolor* Szépligeti, 1900.

Macrostomionella Baker, 1917a: 283, 294. Syn. by Baltazar, 1961. Type species (by original designation): *Macrostomionella philippinensis* Baker, 1917.

Dedanima Cameron, 1903: 126; Shenefelt, 1975: 1197. Syn. by van Achterberg, 1991. Type species (by monotypy): *Dedanima longicornis* Cameron, 1903.

Diagnosis.— Antennal segments about 52, third segment subbasally slightly swollen (fig. 354); maxillary and labial palpi normal, slender (fig. 354); hypostomal carina joining occipital carina ventrally (fig. 354); occipital carina complete; malar

suture present (fig. 354); antescutal depression deep and narrow; prepectal carina complete (fig. 354); precoxal sulcus medially impressed (fig. 354); mesopleuron smooth (fig. 354); scutellum without lateral carina; metanotum basally with median carina; propodeum irregularly rugose, without median carina; vein 1-SR+M of fore wing curved (fig. 335); vein SR1 of fore wing straight; vein 3-SR of fore wing longer to much longer than vein 2-SR (figs 335, 354, 375); vein m-cu of fore wing antefurcal, slightly curved, gradually merging into vein 2-CU1, and converging to vein 1-M posteriorly (figs 335, 354, 375); vein cu-a of fore wing inclivous (figs 335, 354, 375); marginal cell of hind wing parallel-sided (figs 335, 354, 375); vein 1r-m of hind wing strongly reclivous (figs 335, 354, 375); vein 2-SC+R of hind wing quadrate (figs 335, 354, 375); vein M+CU of hind wing shorter than vein 1-M (figs 335, 354, 375); vein cu-a of hind wing reclivous; vein m-cu of hind wing absent (figs 335, 354, 375); claws simple, without lobe (fig. 355); hind tibial spurs curved and glabrous (fig. 356); apex of hind tibia with a distinct comb of specialized setae at inner side (fig. 356); first metasomal tergite narrowed towards basally, but widened extremely basally, dorsopes large and median carina obvious, dorsal carina united, enclosing a basal area fig. 358); medio-basal area of second tergite large, smooth and triangular (fig. 358); second to sixth tergites with sharp lateral crease (fig. 354); hypopygium large, convex ventrally, truncate apically (fig. 354); ovipositor sheath slender (fig. 354).

Biology.— Unknown.

Distribution.— Indo-Australian Region with five known species; three species are described in this paper, two of them are new to science.

Key to the Chinese species of the genus *Macrostomion* Szépligeti

1. Vein 3-SR of fore wing 2 times vein 2-SR (fig. 375); mesoscutum with black spots; apical 0.25 of fore wing membrane distinctly dark. Zhejiang, Hubei, Taiwan, Fujian, Hainan, Guizhou and Yunnan ..... ***M. sumatranum*** (Enderlein)
- Vein 3-SR of fore wing longer than (but less than 2 times) vein 2-SR (figs 335, 354); body entirely reddish yellow or brownish yellow, without blackish spots; wing membrane unicoloured or its apical margin fuscous 2
2. Apical margin of fore wing membrane fuscous; pterostigma yellow; veins brown. Length of body 5.4 mm. Hainan ..... ***M. fuscinervum*** spec. nov.
- Fore wing membrane unicoloured; pterostigma and vein C+SC+R yellowish brown, remainder of veins brown. Length of body 6.6 mm. Hainan ..... ***M. nadanum*** spec. nov.

Macrostomion fuscinervum spec. nov.
(fig. 335)

Material.— Holotype, ♀(ZAU), "Hainan, Jianfengling, [18°7'N, 108°8'E], 20.v.1983, Zhang Yalin, 907586".

Holotype, ♀, length of body 5.4 mm, of fore wing 4.4 mm.

Head.— Antenna incomplete, with 25 segments remaining, length of third segment 1.3 times fourth segment, length of third and fourth segments 4.0 and 3.1 times their width, respectively; length of maxillary palp 1.3 times height of head; length of

eye in dorsal view 3.0 times temple; temple transversely rugose, not narrowed posteriorly; occipital complete; OOL:OD:POL = 3:4:3; frons flat, coarsely transversely rugose; vertex shiny with few rugae; face convex and finely punctate medially, transversely rugose laterally; clypeus slightly convex, rugose; width of hypoclypeal depression 0.7 times with of face; gena rugose; length of malar space 0.5 times basal width of mandibles, 0.2 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially and posteriorly coarsely crenulate, remainder finely rugose; precoxal carina impressed medially, crenulate; mesopleuron smooth; metapleuron rugose, posteriorly coarsely rugose; mesoscutum densely punctate; notauli narrow and deep; scutellar sulcus wide and deep, with carinae; scutellum punctate-rugose; propodeum irregularly rugose, without distinct median carina.

Wings.— Fore wing: r:3-SR:SR1 = 7:13:35; 2-SR:3-SR:r-m = 11:13:7; 1-CU1:2-CU1 = 3:19. Hind wing: 2-SC+R quadrate; M+CU:1-M = 20:22; cu-a reclivous; m-cu absent.

Legs.— Hind coxa punctate dorsally, smooth laterally; length of femur and tibia of hind leg 6.2 and 11.5 times their width, respectively; hind basitarsus missing.

Metasoma.— Length of first tergite 1.5 times its apical width, its surface longitudinally rugose, dorsopes large, dorsal carinae united at basal 0.11, median carina distinct; medio-basal area of second tergite large, smooth and triangular; second-fifth tergites longitudinally rugose, apical margin of fifth tergite and sixth tergite smooth; length of second tergite 1.5 times third tergite; second metasomal suture deep; length of ovipositor sheath 0.07 times fore wing.

Colour.— Yellowish brown; antenna yellow; palp yellowish white; ovipositor sheath brown; leg (except coxa) pale yellow; wing membrane brownish apically; pterostigma yellow, brown near vein r; veins brown.

Note.— Character-states such as vein 3-SR of fore wing slightly longer than 2-SR of this new species may indicate that it is related to *Myocron* van Achterberg, 1991, but according to most of its characters we retain it in *Macrostomion*.

Macrostomion nadanum spec. nov.
(figs 354-358)

Material.— Holotype, ♀(BAU), "Hainan, Nada, [19°5'N, 109°5'E], 10.xii.1974, Li Fasheng, 871899".

Holotype, ♀, length of body 6.6 mm, of fore wing 6.0 mm.

Head.— Antennal segments 52, rather long and setose, third segment slightly swollen subbasally; length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 5.0, 3.7 and 2.5 times their width, respectively; length of maxillary palp 1.5 times height of head; length of eye in dorsal view 2.8 times temple; temple slightly narrowed posteriorly; occipital carina complete; OOL:OD:POL = 5:4:2; frons flat, coarsely rugose; vertex and temple smooth; face convex medially, transversely rugose laterally; clypeus slightly convex, rugose; width of hypoclypeal depression 0.8 times width of face; gena rugose; length of malar space 0.6 times basal width of mandibles, 0.2 times height of eye in dorsal view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially and posteriorly crenulate, ventrally finely striate, remainder punctulate, nearly

smooth; precoxal carina impressed medially, shallow, sparsely crenulate; mesopleuron shiny, glabrous; metapleuron posteriorly and ventrally rugose, remainder remotely punctate; mesoscutum finely and remotely punctate, shiny, middle lobe distinctly convex; notauli narrow and crenulate; scutellar sulcus wide and deep with carinae; scutellum nearly smooth; propodeum irregularly rugose, with weak median carina which dividing into two.

Wings.— Fore wing: r:3-SR:SR1 = 6:13:27; 2-SR:3-SR:r-m = 9:13:7; 1-CU1:2-CU1 = 4:20. Hind wing: 2-SC+R quadrate; M+CU:1-M = 19:20; cu-a obviously reclivous; m-cu absent.

Legs.— Hind coxa smooth with few punctures; length of femur, tibia, and basitarsus of hind leg 7.6, 11.2 and 15.0 times their width, respectively; length of hind tarsus 1.3 times hind tibia; length of hind tibial spurs 0.29 and 0.22 times hind basitarsus.

Metasoma.— Length of first tergite 1.6 times its apical width, its surface longitudinally rugose, its dorsopes large, dorsal carinae united at basal 0.12, median carina distinct; medio-basal area of second tergite large, smooth and triangular; second to sixth tergites longitudinally rugose, rugae on apical tergites weaker; second tergite with median carina, its length 1.5 times length of third tergite; second metasomal suture deep; length of ovipositor sheath 0.03 times fore wing.

Colour.— Yellowish brown; metasomal tergites dark yellowish brown; head ventrally, palpi, prosternite and hind coxa yellow to light yellow; antenna light brown, basal two segments yellowish brown; leg brownish yellow; wing membrane light brown, pterostigma, vein C+SC+R and basal half of vein 1-R1 brownish yellow, remainder of veins brown.

Macrostomion sumatranum (Enderlein, 1920)
(fig. 375)

Pelecystoma sumatranum Enderlein, 1920: 147.
Macrostomion sumatranum; Watanabe, 1937a: 47; Shenefelt, 1975: 1204; Chou, 1981: 74.

Material.— 8♀♀ + 5♂♂ (ZAU) from Zhejiang (Mt W Tianmu, Longquan Xian), Hebei (Lai Feng), Fujian (Jianyang, San Gang, Mt Wuyi Shan, Luoyuan, Shanghang), Guangxi (Sanjiang) and Guizhou (Sandu)"; 1♀ + 1♂ (BAU) from Fujian (Jianyang, Dehua); 2♀♀ + 2♂♂ (FAU) from Fujian (Sha Xian, Taining, Mt Wuyi Shan); 1♀ (ZSU) from Hainan (JianfengLing); 1♂ (ZRI) from Yunnan (Xishuangbanna, 850m); 2♀♀ (RMNH) from Fujian (Shanghang).

Note.— This species was described from Indonesia and later reported from Taiwan province (Watanabe, 1937).

***Megarhogas* Szépligeti, 1904, stat. nov.**
(figs 359-363)

Megarhogas Szépligeti, 1904: 83; Granger, 1949: 159; Shenefelt, 1975: 1195 (as synonym of *Cystomastax* Szépligeti, 1904). Type species (designated by Viereck, 1911): *Megarhogas longipes* Szépligeti, 1904.

Diagnosis.— Antennal segments about 77; maxillary and libial palpi slender (fig. 359); occipital carina complete, ventrally near hypostomal carina, but not connected (fig. 359); malar suture present (fig. 359); antescutal depression deep and narrow;

prepectal carina complete (fig. 359); precoxal sulcus complete (fig. 359); middle lobe of mesoscutum distinctly convex (fig. 359); metanotum with complete median carina; propodeum only basally with median carina, latero-posteriorly with blunt teeth (fig. 359); pterostigma narrow and long (fig. 359); vein 1-SR+M basally strongly curved (fig. 359); vein r apically, 3-SR basally and 2-SR dorsally (junction) of fore wing distinctly swollen (fig. 359); vein 3-SR basally and 2-SR dorsally distinctly curved (fig. 359); vein m-cu of fore wing antefurcal, strongly oblique and slightly curved, gradually merging into vein 2-CU1, and converging to vein 1-M posteriorly (fig. 359); vein 1-M of fore strongly oblique (fig. 359); vein 1r-m of hind wing strongly reclivous (fig. 359); vein M+CU of hind wing about equal to vein 1-M (fig. 359); basal cell of hind wing very narrow (fig. 359); marginal cell of hind wing strongly narrowed medially, vein SR near front margin of hind wing (fig. 359); vein m-cu of hind wing absent (fig. 359); claws with large and acute lobe (fig. 360); hind tibial spurs curved and glabrous (fig. 361); apex of hind tibia with a distinct comb of specialized setae at inner side (fig. 361); first metasomal tergite distinctly widened basally in front of subbasal constriction, dorsal carinae united, median carina strong, dorsopes large and deep (fig. 359, 363); medio-basal area of second tergite large, triangular and smooth (fig. 363); second to sixth tergites with sharp lateral crease (fig. 359); hypopygium large, convex ventrally and round apically, not closing (fig. 359); ovipositor sheath slender, slightly protruding (fig. 359).

Biology.— Parasite of Lymantriidae.

Distribution.— Oriental region; contains five described species. Two species of this genus are dealt with in this paper, one of which is new to science.

Key to the Chinese species of *Megarhogas* Szépligeti

1. Head black, mouth apparatus and palpi reddish yellow, antenna reddish yellow except for black base; mesosoma and metasoma reddish yellow to yellow, sixth-eighth tergites and hypopygium black; hind leg dark brown, coxa and tarsus yellow, dorsal part of femur brownish; wing membrane yellow, subhyaline; pterostigma and veins yellow. Taiwan and Guangxi ..... ***M. perinae*** Watanabe
- Body entirely reddish yellow to brownish yellow; legs yellow to brownish yellow; wing membrane with dark spots; basal half of pterostigma brown, apical half yellow; veins yellow to brownish yellow. Zhejiang, Fujian and Yunnan ..... ***M. maculipennis*** spec. nov.

Megarhogas maculipennis spec. nov.
(figs 359-363)

Material.— Hololype, ♀(ZAU), "Zhejiang, Wuyanling, 4.viii.1983, Cai Zhenbin, 833379". Paratypes (1♀ + 2♂♂): 1♀(FAU), "Fujian, Mt Wuyi Shan, [26°4'N, 116°4'E], 17.vii.1981, Huang Juchang"; 2♀♀(ZRI), "Yunnan, Xishuangbanna, Menglun, [21°9'N, 101°5'E], 20.iv.1982, Zhou Jinruo & Wang Shumei, 907591".

Holotype, ♀, length of body 13.5 mm, of fore wing 12.2 mm.

Head.— Antennal segments 64 (antenna incomplete), setose, length of third segment 1.5 times fourth segment, length of third and fourth segments 2.6 and 1.8 times their width, respectively; length of maxillary palp 1.4 times height of head; length of

eye in dorsal view 3.4 times temple; temple largely and distinctly narrowed posteriorly; temple and vertex smooth; occipital carina complete; OOL:OD:POL = 2:5:2; frons largely smooth with curved carina near antennal sockets; face slightly convex and rugose medially, transversely rugose laterally; clypeus flat and smooth; width of hypoclypeal depression 0.7 times width of face; length of malar space 0.58 times basal width of mandibles, 0.12 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.4 times its height; sides of pronotum medially and posteriorly coarsely crenulate, ventrally longitudinally rugose, remainder nearly smooth; precoxal carina complete, shallow and wide, irregularly rugose; mesopleuron antero-dorsally rugose, remainder smooth; metapleuron irregularly rugose; mesoscutum shiny, finely punctulate, middle lobe convex; notauli deep and crenulate; scutellar sulcus wide and deep with several carinae; scutellum finely punctuate, near smooth; propodeum largely finely rugose, posteriorly coarsely rugose, median carina present basally, fork-shaped, lateral carina distinct and protruding posteriorly.

Wings.— Fore wing: r:3-SR:SR1 = 8:28:35; 2-SR:3-SR:r-m = 11:28:8; 1-CU:2-CU1 = 6:24; cu-a vertical; 1-M very oblique. Hind wing: 2-SC+R quadrate; basal cell very narrow; marginal cell distinctly narrowed medially with SR almost touching frontal margin; cu-a reclivous, curved posteriorly; m-cu absent.

Legs.— Hind coxa nearly smooth; length of femur, tibia, and basitarsus of hind leg 7.4, 11.5 and 14.0 times their width, respectively; length of hind tibial spurs 0.27 and 0.23 times hind basitarsus; claws with large and acute lobe.

Metasoma.— Length of first tergite 2.3 times its apical width, its surface longitudinally rugose, dorsal carinae united at basal 0.14, connected to strong median carina, dorsope large, posterior corner of first tergites protruding; medio-basal area of second tergite large and triangular, smooth; second to fourth tergites longitudinally finely rugose, fifth and sixth tergites basally finely longitudinally rugose, apically finely punctulate; second tergite concave subbasally, with a median carina; third and fourth tergites with a oblique-longitudinal groove baso-laterally; length of second tergite 1.4 times third tergite; length of ovipositor sheath 0.05 times fore wing.

Colour.— Yellow, metasomal tergites yellowish brown, dark towards metasomal apex; antenna reddish yellow to reddish brown; ovipositor sheath brown; hind femur and tibia reddish brown to reddish yellow; wing membrane brown with a transparent band beneath apical half of pterostigma and with a dark brown band beneath basal half of pteostigma; pterostigma yellow, its outer margin brown basally, veins yellow to yellowish brown.

Variation.— Length of body 13.0-13.5 (♀) or 9.7-10.1 (♂) mm, of fore wing 11.5-12.2 (♀) or 8.3-8.5 (♂) mm; antennal segments 77, penultimate segment 2.4 times its width, length of antennal 1.2 times length of body; basal half of pterostigma of male brown, dark band on membrane in male more distinct than in female; palpi of male normal and slender.

Megarhogas perinae Watanabe, 1932

Megarhogas perinae Watanabe, 1932: 184, 1937a: 46.
Cystomastax perinae; Shenefelt, 1975: 1197; Chou, 1981: 74.

Material.— 1 ♀ (ZAU) from Guangxi (Longzhou).

Note.— This species was originally described from Taiwan province, and reared from *Perina nuda* (Fabricius). It has not been recorded from outside China.

Rogas Nees, 1818
(figs 364-374)

Rogas Nees, 1818: 306; van Achterberg, 1982: 138; van Achterberg, 1991: 60. Type species (designated by Curtis, 1834): *Ichneumon testaceus* Fabricius, 1798 [nec *I. testaceus* Gmelin, 1790; = *Rogas luteus* Nees, 1834].

Pelecystoma Wesmael, 1838: 91; Shenefelt, 1975: 1206-1209; Tobias, 1976: 89; Marsh, 1979a: 178; Tobias, 1986: 84-85 (included in *Rogas* auct.). Syn. by van Achterberg, 1982. Type species (designated by Foerster, 1862): *Rogas luteus* Nees, 1834 [type lost].

Rhogas Agassiz, 1846: 325 (invalid emendation).

Diagnosis.— Antennal segments 53-77, its apical segment with spine; third maxillary palpi segment strongly enlarged and flattened, second labial palp segment moderately enlarged and rather vesiculate, and other segments slender (figs 364, 370, 373); hypostomal carina joining occipital carina ventrally or nearly so (fig. 364); occipital carina complete; frons and vertex flat and smooth; malar suture present (fig. 364); eyes distinctly emarginate; antescutal depression deep and narrow; prepectal carina complete (fig. 364); precoxal sulcus only medially impressed, narrow and superficially crenulate (fig. 364); notauli narrow; median carina of metanotum long, not or slightly protruding; propodeal areola irregular, rather narrow and incomplete; propodeal tubercles absent, but carinae somewhat protruding (fig. 364); vein 1-SR of fore wing long, continuous with vein 1-M (figs 364, 369, 372); vein m-cu of fore wing just antefurcal, curved, and gradually merging into vein 2-CU1, and converging to vein 1-M posteriorly (figs 364, 369, 372); vein r of fore wing not continuous with posterior margin of pterostigma (figs 364, 369, 372); vein 3-SR of fore wing medium-sized, distinctly longer than vein 2-SR (figs 364, 369, 372); first subdiscal cell of fore wing elongate, vein 1-CU1 medium-sized (figs 364, 369, 372); vein cu-a of fore wing oblique as vein 3-CU1 (figs 364, 369, 372); vein M+CU1 of fore wing nearly straight (figs 364, 369, 372); marginal cell of hind wing parallel-sided apically, and vein SR slightly curved basally (figs 364, 369, 372); vein 1r-m of hind wing oblique (figs 364, 369, 372); cu-a of hind wing distinctly curved toward base of wing (figs 364, 369, 372); tarsal claws with large and truncate lobe (fig. 366); tarsi of male normal, similar to tarsi of female; middle and hind tibial spurs straight and setose (fig. 368); apex of hind tibia with distinct comb of specialized setae at inner side (fig. 368); first tergite with large dorsope, its dorsal carinae often united posteriorly, and tergite without basal flanges (figs 367, 371, 374); second tergite with irregular and partly sculptured medio-basal area (fig. 367); second-fifth tergites with sharp lateral crease (fig. 364); hypopygium of female medium-sized, ventrally straight and apically truncate (fig. 364); ovipositor sheath slender and protruding (fig. 364).

Biology.— Parasite of Limacodidae and Papilionidae; the records from Geometridae and Tortricidae need to be confirmed (van Achterberg, 1991).

Distribution.— Small genus with five known species distributed in Holarctic and Oriental regions. Four species of this genus are described in this paper, three of them are new species.

Key to species of the genus *Rogas* Nees

1. Pterostigma and veins yellow. Length of body 6-10 mm .. ***R. testaceus*** (Fabricius)
- Pterostigma and veins brown to black 2
2. Body black; wing membrane light brown 3
- Body reddish yellow or yellowish brown; wing membrane hyaline, at most its apical half brownish 4
3. Antenna slender, length of penultimate segment 3.0 times its width; second submarginal cell of fore wing slender, length of vein 3-SR of fore wing 1.9 times vein 2-SR; vein 1-SR of fore wing longer; second-sixth metasomal tergites without lateral oval sensory area; ovipositor sheath slightly longer than hind basitarsus. Length of body about 7 mm. China: Jilin ..... ***R. nigricans*** spec. nov.
- Antenna robust, length of penultimate segment 1.8-2.0 times its width; second submarginal cell of fore wing shorter, length of vein 3-SR of fore wing 1.3-1.5 times vein 2-SR; vein 1-SR of fore wing much shorter; second-sixth metasomal tergites with lateral oval sensory area; ovipositor sheath shorter than hind basitarsus. Length of body about 4.3-8.2 mm. Russian Far East ..... ***R. nigridorsum*** Belokobylskij
4. Length of 1-CU1 of fore wing longer than vein cu-a; vein M+CU of hind wing much shorter than vein 1-M; first metasomal tergite distinctly parallel-sided; second and following metasomal tergites fuscous. Length of body 6-10 mm. China: Shaanxi and Zhejiang; Japan ..... ***R. oyeyamensis*** (Watanabe)
- Length of 1-CU1 of fore wing as long as or shorter than vein cu-a; vein M+CU of hind wing slightly shorter than vein 1-M; first metasomal tergite at least slightly widened apically; second and following metasomal tergites not fuscous 5
5. Propodeum coarsely and strongly rugose; body reddish yellow. Length of body 12 mm 6
- Propodeum moderately rugose; body brownish yellow or yellowish brown. Length of body 6-8 mm 7
6. Vein 3-SR of fore wing 2.0 times vein r; second segment of hind tarsus as long as fifth segment; metasoma reddish yellow. Siberia ..... ***R. roxanus*** (Telenga)
- Vein 3-SR of fore wing 3.0 times vein r; second segment of hind tarsus 1.5 times fifth segment; metasoma brown. USSR ..... ***R. nigrovenosus*** (Vojnovskaja-Krieger)
7. Antenna dark brown; third segment of maxillary palpi distinctly enlarged, fourth segment slightly enlarged (fig. 373); OOL:OD = 5:6; M+CU:1-M = 18:20 (fig. 372); pterostigma large, dark brown; first metasomal tergite parallel-sided, median carina weak (fig. 374). China: Shaanxi ..... ***R. nigristigma*** spec. nov.
- Antenna brownish yellow; third and fourth segments of maxillary palpi distinctly enlarged (fig. 370); OOL:OD = 2:5; M+CU:1-M = 20:26 (fig. 369); pterostigma comparatively small, light brown; first tergite narrowed towards its base, median carina relatively strong (fig. 371). China: Liaoning ..... ***R. flavus*** spec. nov.

Rogas flavus spec. nov.
(figs 369-371)

Material.— Holotype, ♀(ZAU), "Liaoning, Zhangwu, [42°3'N, 122°5'E], 8.vii.1964, Shengyang Agric. College, 772229, host: *Parasa consocia* Walker". Paratype: ♂(ZAU), "Liaoning, Shengyang, [41°8'N, 123°4'E], 9.viii.1965, Li Yajie, 772185, host: *Parasa lepida* Cramer".

Holotype, ♀, length of body 7.7 mm, of fore wing 7.2 mm.

Head.— Antennal segments 40 (antenna incomplete), length of third segment 1.4 times fourth segment, length of third and fourth segments 2.5 and 1.8 times their width, respectively; length of maxillary palp 1.4 times height of head; length of eye in dorsal view 2.5 times temple; temple distinctly narrowed posteriorly; OOL:OD:POL = 2:5:3; frons flat and smooth; vertex and temple smooth; vertex distinctly slanted posteriorly; face medio-longitudinally slightly convex, finely transversely rugulose; clypeus punctate; width of hypoclypeal depression 0.6 times width of face; gena smooth; length of malar space 0.7 times basal width of mandible, 0.2 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.6 times its height; sides of pronotum medially largely and posteriorly crenulate, ventrally longitudinally rugose, remainder smooth; precoxal sulcus narrow and crenulate; mesopleuron glabrous except for few rugae dorsally; metapleuron largely rugose, dorsally sparsely punctate; mesoscutum nearly smooth; scutellar sulcus with three carinae; scutellum nearly smooth, basally with lateral carina; propodeum short, distinctly slanted posteriorly, its surface irregularly rugose, with sinuate median carina.

Wings.— Fore wing: r:3-SR:SR1 = 9:21:42; 2-SR:3-SR:r-m = 14:21:11; 1-CU1:2-CU1 = 5:20; 1-SR+M medially slight curved; SR1 apically curved posteriorly; cu-a slightly curved. Hind wing: 2-SC+R quadrate; M+CU:1-M = 20:26; cu-a vertical.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 4.9, 9.2 and 8.0 times their width, respectively; length of hind tarsus 1.0 times hind tibia; length of hind tibial spurs 0.30 and 0.20 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.1 times its apical width, narrowed towards its base, its dorsopes large, dorsal carinae united at basal 0.3, medio-basal area of second tergite distinct; first-fifth tergites distinctly longitudinally rugose, rugae on fourth and fifth tergites weaker, sixth tergites smooth; first-third tergites with median carina; length of second tergite 1.4 times third tergite; length of ovipositor sheath 0.08 times fore wing.

Colour.— Brownish yellow; palpi light yellow; antenna brownish yellow; ovipositor sheath brown; stemmactium and apex of mandibles black; legs brownish yellow, claws brown; wing membrane hyaline, setae on apical 2/3 brown, but on basal third yellow, pterostigma, and veins light brown, but parastigma, extreme base of pterostigma, veins C+SC+R, base half of vein M+CU and vein 1A+2A of fore wing, veins C+SC+R, M+CU, 1-1A and cu-a of hind wing yellow.

Variation.— Length of body 6.5-7.7 mm, of fore wing 5.5.-7.2 mm.

Biology.— This species was reared from *Parasa lepida* Cramer, and *P. consocia* Walker (Limacodidae).

Rogas nigricans spec. nov.
(figs 364-368)

Material.— Holotype, ♀(ZAU), "Jilin, Mt Changbai Shan, [42°0'N, 128°1'E], 10. viii.1977, He Junhua, 771347".

Holotype, ♀, length of body 6.9 mm, of fore wing 6.8 mm.

Head.— Antennal segments 63, rather long and setose, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.0, 2.3 and 3.0 times their width, respectively; length of antenna 1.2 times length of body; length of maxillary palp 2.8 times height of head; length of eye in dorsal view 1.8 times temple; temple largely narrowed posteriorly; OOL:OD:POL = 4:4:3; frons flat and smooth; vertex and temple smooth; vertex strongly slanted posteriorly; face medio-longitudinally convex and smooth, remainder rugose; clypeus finely rugose; width of hypoclypeal depression 0.4 times width of face; gena smooth; length of malar space 1.0 times basal width of mandible, 0.3 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum shiny, medially and posteriorly crenulate, dorsally smooth; precoxal sulcus narrow, nearly smooth; mesopleuron smooth except some rugae dorsally; metapleuron largely sparsely punctate, anteriorly, ventrally and posteriorly rugose; mesoscutum remotely and finely punctulate, nearly smooth; scutellar sulcus with three carinae; scutellum nearly smooth, basally with lateral carina; propodeum short, distinctly slanted posteriorly, its surface irregularly rugose, median carina complete.

Wings.— Fore wing: r:3-SR:SR1 = 8:21:34; 2-SR:3-SR:r-m = 11:21:7; 1-CU1:2-CU1 = 7:18; 1-SR+M slight curved; SR1 apically curved posteriorly; cu-a inclivous. Hind wing: 2-SC+R quadrate; M+CU:1-M = 18:21; cu-a vertical. Wing membrane densely setose.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 5.0, 8.8 and 8.7 times their width, respectively; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.3 and 0.27 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.3 times its apical width, nearly parallel-sized, its dorsopes large, dorsal carinae nearly united at basal 0.4, and merging into median carina; medio-basal area of second tergite large and rugose; first -fifth tergites distinctly longitudinally rugose, rugae on fourth and fifth tergites weaker, sixth-eighth tergites smooth; second and third tergites with weak median carina; length of second tergite 1.3 times third tergite; length of ovipositor sheath 0.14 times fore wing.

Colour.— Black; malar space, temple ventrally, hypoclypeal depression and mandible yellow; palpi yellowish white; antenna dark brown; mesopleuron ventrally, metapleuron, meso- and metasternites and legs yellow, but mesopleuron and mesosternum slightly darker, telotarsus, hind tibia apically, membrane slightly brownish, pterostigma dark brown, veins brown, but veins on wing base yellowish brown.

Rogas nigristigma spec. nov.
(figs 372-374)

Material.— Holotype, ♀(ZAU), "Shaanxi, Ningshan, [33°3'N, 108°3'E], 11.xi.1983, Wang Jiaru, 907465".

Holotype, ♀, length of body 5.9 mm, of fore wing 6.8 mm.

Head.— Antennal segments 77, rather long and setose, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 2.4, 1.7 and 2.2 times their width, respectively; length of antenna 1.9 times length of body; length of maxillary palp 1.5 times height of head; length of eye in dorsal view 2.2

times temple; temple distinctly narrowed posteriorly; OOL:OD:POL = 5:6:4; frons flat and smooth; vertex and temple smooth; vertex distinctly slanted posteriorly; face rugose, medio-longitudinally slightly convex; clypeus punctate; width of hypoclypeal depression 0.5 times width of face; gena smooth; length of malar space 0.6 times basal width of mandible, 0.2 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.3 times its height; sides of pronotum medially and posteriorly crenulate, ventrally longitudinally rugose, remainder smooth; precoxal sulcus narrow crenulate; mesopleuron smooth except for same rugae dorsally; metapleuron anteriorly and ventrally rugose, remainder sparsely punctate; mesoscutum nearly smooth; scutellar sulcus with three carinae; scutellum nearly smooth, basally with lateral carina; propodeum short, distinctly slanted posteriorly, its surface irregularly rugose, median carina complete.

Wings.— Fore wing: r:3-SR:SR1 = 6:17:37; 2-SR:3-SR:r-m = 12:17:7; 1-CU1:2-CU1 = 4:16; 1-SR+M slightly curved; SR1 apically curved; cu-a subvertical. Hind wing: 2-SC+R quadrate; M+CU:1-M = 18:20; cu-a vertical. Wing membrane densely setose.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 4.4, 8.7 and 8.0 times their width, respectively; length of hind tarsus 0.8 times hind tibia; length of hind tibial spurs 0.4 and 0.33 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.2 times its apical width, its tergite nearly parallel-sized, dorsopes large, dorsal carinae united, median carina weak; mediobasal area of second tergite large, triangular and rugose; first-fifth tergites distinctly longitudinally rugose, rugae on fourth and fifth tergites weaker, sixth tergite smooth; length of second tergite 1.2 times third tergite; length of ovipositor sheath 0.1 times fore wing.

Colour.— Yellowish brown; face, clypeus, gena and mandible (except apex) brownish yellow; palpi light yellow; antenna dark brown; ovipositor brownish yellow, middle coxa yellowish brown; hind legs yellowish brown, trochanters brownish yellow, tarsus yellow, claws brown; wing membrane hyaline, setae on apical 2/3 brown but on third yellow, pterostigma and veins blackish brown, but vein C+SC+R of fore wing yellowish brown, basal half of vein M+CU1, vein 1A+2A of fore wing, veins C+SC+R, M+CU, 1-1A and cu-a of hind wing yellow.

Rogas oyeyamensis Watanabe, 1937

Rogas oyeyamensis Watanabe, 1937a: 54; Belobobylskij, 1996: 34.
Aleiodes oyeyamensis; Chen et al, 1992: 495.

Material.— 2♀♀ from Shaanxi (Mt Hua) and Zhejiang (Wuyanling).

Note.— Outside China distributed in Japan.

***Rogasodes* gen. nov.**
(figs 376-379)

Type species: *Rogasodes masaicus* spec. nov.

Etymology: From the generic name *Rogas* Nees and "odes" (Latin for "similar") because it resembles *Rogas*. Gender: masculine.

Diagnosis.— Antennal segments 33-40; maxillary and labial palpi of both sexes normal, slender (fig. 376); hypostomal carina joining occipital carina ventrally (fig. 376); occipital carina complete; malar suture distinct (fig. 376); antescutal depression deep and narrow; prepectal carina complete (fig. 376); precoxal sulcus shallow and wide (fig. 376); notauli deep, narrow and crenulate; lateral carina of scutellum present on basal half; metanotum with median carina on basal half; propodeum irregularly reticulate-rugose and with complete median carina; vein 1-SR of fore wing continuous with vein 1-M (fig. 376); vein m-cu of fore wing antefurcal, straight, and angled with vein 2-CU1, and converging to vein 1-M posteriorly (fig. 376); vein r of fore wing not continuous with posterior margin of pterostigma (fig. 376); vein 3-SR of fore wing distinctly longer than vein 2-SR (fig. 376); vein 1-SR+M and SR1 of fore wing slightly curved (fig. 376); vein cu-a of fore wing curved, nearly vertical (fig. 376); vein M+CU1 of fore wing nearly straight (fig. 376); vein 1r-m of hind wing strongly reclivous; vein M+CU of hind wing slightly longer than vein 1-M (fig. 376); marginal cell of hind wing distinctly widened basally, narrowed medially and nearly parallel-sided apically (fig. 376); vein cu-a of hind wing reclivous; vein m-cu of hind wing absent (fig. 376); tarsal claws with a large and acute lobe ventrally (fig. 377); hind tibial spurs straight and setose (fig. 378); apex of hind tibia with distinct comb at inner side (fig. 378); first metasomal tergite narrowed towards its base, slightly widened extremely basally, its dorsopes large, dorsal carinae united (fig. 379); medio-basal area of second tergite absent (fig. 379); second-sixth tergites with sharp lateral crease (fig. 376); hypopygium medium-sized, straight and keeled ventrally, truncate apically (fig. 376); ovipositor sheath slender (fig. 376).

Biology.— Unknown.

Distribution.— Oriental part of China; only type species known.

Note.— This new genus is related to *Rogas* Nees, *Korupia* van Achterberg, 1991, and *Rectivena* van Achterberg, 1991. Its separation from *Rogas* Nees is given in the key to genera in this paper. It differs from *Korupia* van Achterberg by the acute angle between veins 1r-m and 1-SC+R of hind wing, the shallow depression between first and second teeth of mandible, the straight vein 1-M of fore wing, and the flat to slightly convex third-fifth metasomal tergites in lateral view. It can be easily separated from *Rectivena* van Achterberg by the acute angle between veins 1r-m and 1-SC+R of hind wing and the more desclerotized and unpigmented hypopygium of female.

Rogasodes masaicus spec. nov.
(figs 376-379)

Material.— Holotype, ♀(ZAU), "Zhejiang, Mt Gutian Shan, [29°2'N, 118°1'E], 25. vii.1992, Wu Hong, 940231". Paratypes 1♀ + 1♂(FAU): 1♀, "Fujian, Erliping, x.1979, Hung Juchang"' 1♂, "Fujian, Shaowu, [27°3'N, 117°4'E], 5.vi. 1945, Chao Hsiufu, 881200".

Holotpye, ♀, length of body 5.7 mm, of fore wing 4.8 mm.

Head.— Antenna incomplete, with 21 segments, setose, length of third segment 1.5 times fourth segment, length of third and fourth segments 3.7 and 2.7 times their width, respectively; length of maxillary palp 1.4 times height of head; length of eye in dorsal view 3.2 times temple; temple distinctly narrowed posteriorly; occipital carina complete, round dorsally; OOL:OD:POL = 3:3:2; frons flat, coarsely transversely

rugose; vertex and temple smooth, vertex medially slanted posteriorly; face medio-longitudinally slightly convex and rugose, laterally finely transversely rugose; clypeus punctate; length of malar space 0.8 times basal width of mandibles, 0.25 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum shiny, medially and posteriorly crenulate, ventrally finely rugose, remainder nearly smooth; precoxal carina shallow, wide and with few rugae; mesopleuron smooth; metapleuron largely smooth, ventrally and posteriorly rugose; mesoscutum remotely and finely punctulate, nearly smooth; scutellar sulcuswith three carinae; scutellum smooth, basally with lateral carina; propodeum irregularly reticulate-rugose, median carina complete.

Wings.— Fore wing: r:3-SR:SR1 = 7:19:35; 2-SR:3-SR:r-m = 12:19:7; 1-CU1:2-CU1 = 4:18; cu-a curved, vertical; 1-SR+M slightly curved, SR1 slightly ached. Hind wing: 2-SC+R quadrate; marginal cell widened basally, narrowed medially, parallel-sized apically; M+CU:1-M = 21:20; cu-a reclivous; m-cu absent.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.2, 9.2 and 10.0 times their width, respectively; length of hind tarsus 1.1 times hind tibia; length of hind tibial spurs 0.28 and 0.22 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.3 times its apical width, its dorsal carinae united at basal 0.28, enclosing a triangular area, its dorsopes large, median carina distinct; first-sixth tergites distinctly longitudinally rugose; second tergite with median carina; second suture deep and crenulate; length of second tergite 1.9 times third tergite; length of ovipositor sheath 0.06 times fore wing.

Colour.— Pale yellow; pronotum dorsally, middle lobe of mesoscutum anteriorly, scutellum, mesopleuron (except spectrum), mesosternum, metanotum, propodeum, first-third tergites largely (except laterally), fourth-sixth tergites medially (about third), hind coxa posteriorly, and hind femur apically blackish brown; antenna yellow, two basal segments yellowish brown; ovipositor sheath brown; wing membrane hyaline, pterostigma and veins brown, parastigma, extreme apex of pterostigma yellow.

Variation.— Length of body 5.0-5.5 mm, of fore wing 4.2-4.7 mm; antennal segments 40 (♀), or 33 (♂); medio-basal area of second tergite of paratypes more obvious; colour of male paler, only mesonotum anteriorly, mesopleuron dorsally and ventrally, mesosternum, propodeum, first-second tergites medio-basally, medio-longitudinal stripe on third-sixth tergites, hind coxa apically and hind femur apically brown.

Triraphis Ruthe, 1855
(figs 380-411)

Triraphis Ruthe, 1855: 292; Shenefelt, 1975: 1207 (as synonym of *Pelecystoma*); van Achterberg, 1991: 62.
Type-species (by monotypy): *Exothecus discolor* Ruthe, 1855 (= *T. tricolor* (Wesmael, 1838)).
Pelecystoma auct. p.p.; Tobias, 1971: 218 (transl. 1975: 86); Tobias, 1976: 89-90; Marsh, 1979a: 178-179.

Diagnosis.— Antennal segments 33-51(♀) or 23-25(♂), its apical segment with spine; maxillary and labial palpi normal (fig. 380); hypostomal carina not joining occipital carina ventrally (fig. 380); occipital carina incomplete, widely interrupted dorsally, and ventrally absent (figs 380, 390); vertex and frons often smooth; clypeus

flattened, not protruding, and apically thick; malar suture distinct (fig. 380); eyes distinctly emarginate; antescutal depression obsolescent; prepectal carina complete (fig. 380); precoxal sulcus only medially distinct (fig. 380); notauli narrow and connected with short medio-posterior depression; median carina of metanotum short; propodeal areola present, but surrounding carinae weak and irregular; propodeal tubercles absent (fig. 380); vein 1-SR of fore wing long, continuous with vein 1-M (figs 380, 384, 386, 389); vein m-cu of fore wing antefurcal, curved, gradually merging into vein 2-CU1, and converging to vein 1-M posteriorly (figs 380, 384, 386, 389); vein r of fore wing discontinuous with posterior border of pterostigma (figs 380, 384, 386, 389); vein 3-SR of fore wing longer than vein 2-SR (figs 380, 384, 386, 389); first subdiscal cell of fore wing medium-sized, vein 1-CU1 short (figs 380, 384, 386, 389); vein 1-SR+M of fore wing slightly curved (figs 380, 384, 386, 389); vein cu-a of fore wing (sub)vertical, less oblique than vein 3-CU1 (figs 380, 384, 386, 389); vein M+CU1 of fore wing straight (figs 380, 384, 386, 389); marginal cell of hind wing subparallel-sided (figs 380, 384, 386, 389); vein 1r-m of hind wing rather short and oblique (figs 380, 384, 386, 389); wing membrane hyaline to subhyaline; tarsal claws with rather acute lobe (fig. 381); telotarsi normal and slender (fig. 380); tarsi of male normal, similar to tarsi of female; middle and hind tibial spurs setose and straight (fig. 382); apex of hind tibia with distinct comb of specialized setae at inner side (fig. 382); first tergite with medium-sized dorsope, its dorsal carinae usually not united, median carina present and tergite without basal flanges (figs 383, 393, 399); second tergite without a medio-basal triangular area and no medio-longitudinal carina (figs 383, 393); second-sixth tergites with sharp lateral crease (fig. 380); hypopygium of female rather large, ventrally straight and apically truncate (fig. 380); ovipositor sheath slender (fig. 380); ovipositor nearly straight.

Biology.— Endoparasite of Limacodidae and Zygaenidae. Solitary or gregarious (*T. gregarius* (Watanabe, 1970)) parasites .

Distribution.— Medium-sized genus with 11 described species and known from the Palaearctic, Oriental, Nearctic and Neotropical regions. In this paper 15 species of this genus are described, 14 of them are new species.

Key to the Chinese species of the genus *Triraphis* Ruthe

1. Wing membrane blackish brown, subapical and basal parts of fore wing, basal part of hind wing yellow; body yellow, occiput and its adjacent area black. Length of body 5.4 mm. Zhejiang ..... ***T. fuscipennis*** spec. nov.
- Wing membrane hyaline to subhyaline, at most with brownish band or brown medially; colour of body variable 2
2. Body entirely yellow to brownish yellow, with few brownish spots 3
- Body black or yellowish with many brownish spots or parts 5
3. Width of posterior ocellus less than OOL or as long as OOL (fig. 385); in dorsal view length of eye 3-4 times length of temple (fig. 385); length of body 3.0-4.2 mm. Zhejiang and Guangdong ..... ***T. flavus*** spec. nov.
- Width of posterior ocellus more than OOL (figs 387, 390); in dorsal view length of eye 4-5 times length of temple (figs 387, 390) 4
4. Temple linearly constricted behind eyes (fig. 387); first metasomal tergite distinct-

ly narrowed towards its base; antennal segments 40-47; length of hind basitarsus about 10 times its width; tarsal claws with a comparatively large lobe (fig. 388). Length of body 3.7-4.3 mm. Zhejiang, Hubei and Fujian ..... *T. brevis* spec. nov.

- Temple slightly narrowed behind eyes (fig. 390); first tergite slightly narrowed towards its base; antennal segments about 39; length of hind basitarsus about 6.5 times its width; tarsal claws with a smaller lobe (fig. 391). Length of body 3.7 mm. Beijing ..... *T. achterbergi* spec. nov.

5. First metasomal tergite of ♀ slender, its length 1.4-1.5 times its apical width (fig. 393); body reddish yellow to brownish yellow; vertex, temple, hind leg and metasomal tergites brownish; pterostigma and veins brown. Length of body 3.6-5.1 mm. Fujian ..... *T. longitergum* spec. nov.
- First tergite of ♀ comparatively robust, its length 0.8-1.3 times its apical width (figs 399, 401, 405); colour of body and wing variable 6

6. Ocelli small, OD shorter than OOL; eye small, its length in dorsal view 2-3 times length of temple 7
- Ocelli comparatively large, OD as long as or longer than OOL (fig. 407), if OD as long as OOL, then eye relatively large, its length in dorsal view 3-5 times length of temple 9

7. Vein 1-SR+M of fore wing angularly curved medially (fig. 396); vein cu-a of hind wing vertical to vein M+CU (fig. 396); length of body 3.5-3.8 mm. Jiangsu ..... *T. flavobasalis* spec. nov.
- Vein 1-SR+M of fore wing nearly straight (fig. 397); angle between vein cu-a and vein M+CU of hind wing variable 8

8. Frons finely transversely rugose; OD about equal to OOL; vein cu-a of hind wing nearly vertical; parastigma yellow. Length of body 3.4-4.0 mm. Zhejiang, Sichuan and Fujian ..... *T. melanus* spec. nov.
- Frons smooth; OD about 0.7 times OOL; vein cu-a of hind wing reclivous; parastigma brown. Length of body 3.3 mm. Xizhang (Tibet) ..... *T. tibetensis* spec. nov.

9. Propodeum without dark part; angle between vein cu-a and vein M+CU of hind wing distinctly acute (fig. 398). Length of body 5.3 mm. Fujian ..... *T. rufithorax* spec. nov.
- Propodeum dark brown; vein cu-a of hind wing variable. Length of body 3.6-5.6 mm 10

10. Membrane of fore wing with a brown band below pterostigma, veins within this band brown, remainder of veins yellow to yellowish white; body yellow, with mesopleuron dorsally, metanotum, propodeum and first-fourth metasomal tergites or second-fourth tergites blackish brown; length of first metasomal tergite as long as its apical width. Length of body 3.6-3.7 mm. Yunnan ..... *T. bicolor* spec. nov.
- Membrane of fore wing without brown band below pterostigma, veins yellowish; colour of body and length of first tergite variable 11

11. Ovipositor sheath long, its length about 0.37 times length of fore wing (fig. 408); body yellow, but mesosoma (except prothorax) and first-third metasomal tergites brownish; antenna brownish yellow, dark towards its apex. Length of body 4.4 mm. Zhejiang ..... *T. terebrans* Chen & He
- Ovipositor sheath comparatively short, its length 0.10-0.18 times length of fore

wing; colour of body variable 12
12. Ocelli medium-sized, OD about as long as OOL (fig. 411). Length of body 3.8-4.4 mm. Sichuan ..... *T. **sichuanensis*** spec. nov.
- Ocelli large, OD distinctly longer than OOL (fig. 407) 13
13. Antenna of ♀ with about 47 segments; mesoscutum partly dark brown; frons largely smooth. Length of body 3.9 mm. Hubei ..... *T. **rectus*** spec. nov.
- Antenna of ♀ with about 40 segments; mesoscutum entirely yellowish; sculpture of frons variable 14
14. Frons transversely rugose; length of first metasomal tergite about 0.9 times its apical width. Length of body 5.6 mm. Hunan ..... *T. **hunanensis*** spec. nov.
- Frons smooth; length of first tergite about 1.2 times its apical width. Length of body 3.8 mm. Zhejiang ..... *T. **longwangensis*** spec. nov.

Note.— If the first metasomal tergite about as long as apically wide, cf. *T. tricolor* (Wesmael, 1838) (= *Pelecystoma solitarium* Watanabe, 1970).

Triraphis achterbergi spec. nov.
(figs 389-391)

Material.— Holotype, ♀(ZAU), "Beijing, Wang'ershan, [30°2'N, 120°1'E], 20.vii.1983, Zhang Tianming, 871848".

Holotype, ♀, length of body 3.7 mm, of fore wing 3.6 mm.

Head.— Antennal segments 39, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.2, 2.4 and 2.6 times their width, respectively; length of antenna 1.4 times length of body; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 4.2 times temple; temple roundly narrowed posteriorly; OOL:OD:POL = 2:3:2; frons concave, smooth; vertex and temple smooth; face medio-longitudinally slightly convex, with weak and fine median carina, laterally transversely rugose, ventrally nearly smooth; clypeus finely rugose; width of hypoclypeal depression 0.5 times width of face; gena rugose; length of malar space 0.8 times basal width of mandibles, 0.22 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.4 times its height; sides of pronotum medially and posteriorly crenulate, remainder smooth; precoxal sulcus narrow with few crenulate; mesopleuron smooth; metapleuron largely smooth, posteriorly and ventrally rugose; mesoscutum nearly smooth; scutellar sulcus with some carinae; scutellum smooth, basally with lateral carina; propodeum short, distinctly slanted posteriorly, basally with median carina, apically dividing into two, enclosing an areola, its surface along median carina smooth, remainder irregularly rugose.

Wings.— Fore wing: r:3-SR:SR1 = 6:15:30; 2-SR:3-SR:r-m = 10:15:8; 1-CU1:2-CU1 = 3:13; SR1 straight; cu-a inclivous. Hind wing: 2-SC+R quadrate; apical half of SR absent; M+CU:1-M = 18:17.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.0, 9.0 and 6.5 times their width, respectively; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.36 and 0.30 times hind basitarsus; tarsal claws with a small lobe.

Metasoma.— Length of first tergite 0.9 times its apical width, its tergite slightly

narrowed towards its base, dorsal carinae reaching basal 0.36, median carina present apically and weak; first-fifth tergites distinctly longitudinally rugose; second tergite with median carina; length of second tergite 1.4 times third tergite; length of ovipositor sheath 0.11 times fore wing.

Colour.— Yellow to brownish yellow; antenna dark apically; palpi yellowish white; ovipositor sheath yellowish brown; wing membrane hyaline, pterostigma and veins in middle of wing brown, remainder veins yellow.

Triraphis bicolor spec. nov.
(figs 400-401)

Material.— Holotype, ♀(ZAU), "Yunnan, Anning, [24°9'N, 101°4'E], 18-20.vii.1988, Chen Xuexin, 881667". Paratype: 1 ♀(ZAU), same data as holotype, 884894.

Holotype, ♀, length of body 3.6 mm, of fore wing 3.8 mm.

Head.— Antennal segments 38, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 3.1, 2.3 and 3.0 times their width, respectively; length of antenna 1.6 times length of body; length of maxillary palp 1.1 times height of head; length of eye in dorsal view 3.8 times temple; temple roundly narrowed posteriorly; OOL:OD:POL = 2.5:3:3; frons flat and smooth; vertex and temple smooth; vertex distinctly slanted posteriorly; face medio-longitudinally slightly convex, laterally finely transversely rugose, ventrally smooth; clypeus finely rugose; width of hypoclypeal depression 0.5 times width of face; gena rugose; length of malar space 0.7 times basal width of mandibles, 0.18 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum antero-medially crenulate, remainder smooth; precoxal sulcus narrow, with few crenulate; mesopleuron glabrous; metapleuron antero-dorsally smooth, ventrally and posteriorly rugose; mesoscutum smooth; scutellar sulcus with four carinae; scutellum nearly smooth, with few rugae, without lateral carina; propodeum short, distinctly slanted posteriorly, its surface largely glabrous, with some rugae near costula, basal third with median carina, areola medium-sized, costula distinct.

Wings.— Fore wing: r:3-SR:SR1 = 6:14:30; 2-SR:3-SR:r-m = 11:14:7; 1-CU1:2-CU1 = 3:14; SR1 straight; cu-a subvertical. Hind wing: 2-SC+R quadrate; SR apically indistinct; M+CU:1-M = 18:20; cu-a subvertical, curved posteriorly.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 5.3, 10.0 and 8.5 times their width, respectively; length of hind tarsus 0.9 times hid tibia; length of hind tibial spurs 0.30 and 0.21 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.0 times its apical width, its dorsal carinae converging but not united; first-fourth tergites distinctly longitudinally rugose, fifth tergite finely punctate, laterally with obscure rugae, sixth tergite invisible; first-second tergites with weak median carina; length of second tergite 1.5 times third tergite; length of ovipositor sheath 0.18 times fore wing.

Colour.— Yellow; mesopleuron (except ventrally), scutellum laterally, metanotum and metapleuron, propodeum and second-fourth tergites blackish brown; palpi and trochanters yellowish white; antenna yellow, dark towards its apex; claws yel-

lowish brown; ovipositor sheath light brown; wing membrane hyaline, medially brownish, pterostigma, veins 1-M, r, 2-SR, 1-SR+M, CU1 and cu-a of fore wing, veins 1r-m and 2-M of hind wing brown, remainder of veins yellow to yellowish white.

Variation.— Length of body 3.6-3.7 mm, of 3.8-3.9 mm; antennal segments 36-38; first tergite of paratype medially blackish brown, mesopleuron largely (except dorsally) and scutellum laterally yellow to reddish yellow.

Note.— This species has vein M+CU of hind wing shorter than vein 1-M.

Triraphis brevis spec. nov.
(figs 386-388)

Material.— Holotype, ♀(ZAU), "Zhejiang, Hangzhou, [30°2'N, 120°1'E], 13.viii.1958, He Junhua, 65037.23". Paratypes (2♀♀(ZAU)): 1♀, "Hubei, Zhuxi, [32°3'N, 109°7'E], 1982, He Junhua, 833265"; 1♀, "Fujian, Mt. Wuyi Shan, [26°4'N, 116°4'E], 5-10. vii.1989, He Junhua, 894714".

Holotype, ♀, length of body 4.3 mm, of fore wing 4.1 mm.

Head.— Antennal segments 40, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 2.8, 2.2 and 2.8 times their width, respectively; length of antenna 1.2 times length of body; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 5.0 times temple; temple directly narrowed posteriorly; OOL:OD:POL = 3:4:2; frons concave, smooth; vertex distinctly slanted posteriorly; vertex and temple smooth; face medio-longitudinally slightly convex, dorsally with median carina, laterally rugose, ventrally largely smooth; clypeus punctate; width of hypoclypeal depression 0.5 times width of face; gena smooth; length of malar space 0.7 times basal width of mandibles, 0.17 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.4 times its height; sides of pronotum medially and posteriorly crenulate, ventrally smooth; precoxal sulcus narrow and with few crenulate; mesopleuron smooth; metapleuron largely smooth, posteriorly and ventrally rugose; mesoscutum smooth; scutellar sulcus with some carinae; scutellum smooth, without lateral carina; propodeum short, distinctly slanted posteriorly, basally with median carina, areola present, its surface largely irregularly rugose, basally nearly smooth.

Wings.— Fore wing: r:3-SR:SR1 = 8:18:32; 2-SR:3-SR:r-m = 12:18:9; 1-CU1:2-CU1 = 4:16; SR1 straight; cu-a inclivous; 1-CU1 slightly swollen. Hind wing: 2-SC+R quadrate; SR absent apically; marginal cell narrow apically; M+CU:1-M = 24:22.

Legs.— Hind coxa nearly smooth; length of femur, tibia, and basitarsus of hind leg 5.3, 11.2 and 10.0 times their width, respectively; length of hind tarsus 1.0 times hind tibia; length of hind tibial spurs 0.3 and 0.23 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 0.9 times its apical width, its tergite distinctly narrowed basally, dorsal carinae reaching basal 0.4, median carina present apically; first-fifth tergites distinctly longitudinally rugose; apical margin of fourth and fifth tergites, and sixth tergite smooth; length of second tergite 1.4 times third tergite; length of ovipositor sheath 0.15 times fore wing.

Colour.— Yellow to reddish yellow; palp yellowish white; antenna dark apically; prothorax and legs pale yellow; ovipositor sheath and claws light brown; propode-

um and first tergite brownish; wing membrane hyaline, pterostigma and veins in middle of fore wing brown; parastigma and remainder of veins yellow.

Variation.— Length of body 3.7-4.3 mm, of fore wing 3.8-4.1 mm; antennal segments 40-47.

Triraphis flavobasalis spec. nov.
(fig. 396)

Material.— Holotype, ♀(ZAU), "Jiangsu, Nanjing, [32°0'N, 118°7'E], collection date unknown, Peng Chuxian, 6034.5. Host: a limacodid larva". Paratypes: 3♀♀(ZAU, RMNH), same data as holotype.

Holotype, ♀, length of body 3.8 mm, of fore wing 3.5 mm.

Head.— Antenna incomplete, with 23 segments remaining, length of third segment 1.4 times fourth segment, length of third and fourth segments 3.8 and 2.8 times their width, respectively; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 3.0 times temple; temple distinctly narrowed posteriorly; OOL:OD:POL = 4:3:1.5; frons flat, shiny, ventrally obscurely rugose; vertex and temple smooth; face medio-longitudinally slightly convex, laterally finely transverse rugose, ventro-medially smooth; clypeus punctate; width of hypoclypeal depression 0.5 times width of face; gena with few rugae; length of malar space 0.8 times basal width of mandibles, 0.24 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum antero-medially crenulate, remainder smooth; precoxal sulcus and mesopleuron smooth; metapleuron largely smooth, ventrally and posteriorly rugose; mesoscutum smooth; scutellar sulcus with one carina; scutellum smooth, without lateral carina; propodeum short, distinctly slanted posteriorly, basal third with median carina, areola narrow and long, its surface largely smooth.

Wings.— Fore wing: r:3-SR:SR1 = 7:17:44; 2-SR:3-SR:r-m = 12:17:9; 1-CU1:2-CU1 = 5:17; 1-SR+M slightly curved, with a blunt angle; SR1 straight; cu-a inclivous. Hind wing: 2-SC+R transverse; SR apically absent; M+CU:1-M = 22:24; cu-a nearly vertical.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 5.0, 11.0 and 6.8 times their width, respectively; length of hind tibial spurs 0.26 and 0.21 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.0 times its apical width, its dorsal carinae reaching basal 0.38, spiracles slightly protruding; first-fifth tergites distinctly longitudinally rugose, rugae on third tergite medially, fourth and fifth tergites weaker, sixth tergite smooth; first and second tergites with weak median carina; length of second tergite 1.5 times third tergite; length of ovipositor sheath 0.14 times fore wing.

Colour.— Reddish yellow, scutellum laterally, metanotum medially, propodeum, first-fifth tergites (except laterally) brown; antenna light brown; palpi yellowish white; claws and ovipositor sheath yellowish brown; wing membrane hyaline, pterostigma brown, parasitgma and vein C+SC+R apically and outer margin of pterostigma yellow, remainder of veins brown.

Note.— This species have some peculiar character-states, such as vein 1-SR+M of fore wing curved with a blunt angle, and vein M+CU of hind shorter than vein 1-M.

Triraphis flavus spec. nov.
(figs. 123-124)

Material.—Holotype, ♀(ZAU), "Zhejiang, Hangzhou, [30°2'N, 120°1'E], 2-3.vii.1957, Cheng Jinping, 5780.1. Host: a limacodid larva". Paratypes (26♀♀ + 3♂♂(ZAU)): 13♀♀ + 2♂♂ same data as holotype; 4♀♀ + 1♂, "Zhejiang, Hangzhou, 3, 25. viii.1935, 5, 24.ix.1935, Chu Joo-tso"; 7♀♀(ZAU), "Guangdong, Guangzhou, [23°1'N, 113°2'E], v.1982, Wu Jianfen, 821416, host: *Scopelodes* spec."; 2♀♀ (RMNH), "Guangdong, Guangzhou, [23°1'N, 113°2'E], v.1982, Wu Jianfen, 821416, Host: *Scopelodes* spec."

Holotype, ♀, length of body 4.2 mm, of fore wing 3.9 mm.

Head.— Antennal segments 33, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 3.2, 2.6 and 2.7 times their width, respectively; length of antenna 1.1 times length of body; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 3.0 times temple; temple directly narrowed posteriorly; OOL:OD:POL = 3:3:2; frons flat with transverse rugae; vertex distinctly slanted posteriorly, vertex and temple smooth; face medio-longitudinally slightly convex, with median carina, laterally with finely transverse rugose; clypeus finely rugose; width of hypoclypeal depression 0.5 times width of face; gena rugose; length of malar space 0.8 times basal width of mandibles, 0.2 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially and posteriorly crenulate, remainder smooth; precoxal sulcus narrow, with few rugae; mesopleuron smooth; metapleuron largely smooth, posteriorly and ventrally rugose; mesoscutum smooth; scutellar sulcus with some carinae; scutellum smooth, without lateral carina; propodeum short, basally with median carina, areola present, its surface medially nearly smooth, laterally irregularly rugose.

Wings.— Fore wing: r:3-SR:SR1 = 8:18:38; 2-SR:3-SR:r-m = 13:18:10; 1-CU1:2-CU1 = 3:16; SR1 straight; cu-a vertical. Hind wing: 2-SC+R quadrate; SR absent apically; marginal cell narrow apically; M+CU:1-M = 26:20.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.0, 9.1 and 9.5 times their width, respectively; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.29 and 0.23 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 0.9 times its apical width, its dorsal carinae reaching basal 0.4, median carina distinct apically; first-fifth tergites distinctly longitudinally rugose; apical margin of third and fourth tergites, apical half of fifth tergite, and sixth tergite smooth; second tergite with median carina; second suture deep; length of second tergite 1.5 times third tergite; length of ovipositor sheath 0.13 times fore wing.

Colour.— Yellow; palp yellowish white; antenna dark apically; claws brown; scutellum posteriorly brownish; ovipositor sheath yellowish brown; wing membrane hyaline, pterostigma largely and veins in middle of fore wing brown.

Variation.— Length of body 3.0-4.2 mm, of fore wing 3.1-3.9 mm; antennal segments 28-34; sometimes propodeum and first-second tergites basally brownish. The population from Guangzhou (Guangdong) has usually vertex, temple, occiput and frons brownish yellow, scutellum posteriorly, propodeum, first and second tergites slightly brownish, and veins on apical part of wing unpigmented.

Biology.— The holotype and 18 paratypes from Hangzhou of this species was reared from a unidentified limacodid larva, and another nine paratypes from Gunangzhou were reared from *Scopelodes* spec. (Limacodidae) as a gregarious parasite.

Note.— This species is very closely similar to *T. gregarius* (Watanabe, 1970), but differs from the latter by having the frons smooth, the temple slightly narrowed posteriorly, and the length of malar space equal to basal width of mandibles.

Triraphis fuscipennis spec. nov.
(figs 380-383)

Material.— Holotype, ♀(ZAU), "Zhejiang, Changxing, [31°0'N, 119°9'E], vii.1981, Lu Wenliu, 815665. Host: *Artona funeralis* Butler". Paratypes: 2♀♀(ZAU), same data as holotype.

Holotype, ♀, length of body 5.4 mm, of fore wing 4.2 mm.

Head.— Antennal segments 51, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 2.9, 2.0 and 3.0 times their width, respectively; length of antenna 1.4 times length of body; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 3.5 times temple; temple directly narrowed posteriorly; OOL:OD:POL = 2:4:2; frons concave and smooth; vertex and temple smooth, vertex medially distinctly slanted posteriorly; face medio-longitudinally convex, dorsally finely obliquely rugose, remainder smooth; clypeus finely rugose; width of hypoclypeal depression 0.53 times width of face; gena smooth; length of malar space 0.57 times basal width of mandibles, 0.17 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.4 times its height; sides of pronotum medially and posteriorly crenulate, remainder smooth; precoxal sulcus narrow and crenulate; mesopleuron smooth; metapleuron largely smooth, posteriorly and ventrally rugose; mesoscutum smooth; scutellar sulcus wide and deep, with four carinae; scutellum smooth, without lateral carina; basal half of propodeum sparsely punctate, and with median carina, apical half irregularly rugose.

Wings.— Fore wing: r:3-SR:SR1 = 5:17:30; 2-SR:3-SR:r-m = 14:17:9; 1-CU1:2-CU1 = 5:15; SR1 slightly ached; cu-a vertical. Hind wing: 2-SC+R quadrate; SR absent apically; M+CU:1-M = 27:24; cu-a slightly reclivous.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.0, 11.0 and 10.0 times their width, respectively; length of hind tarsus 1.0 times hind tibia; length of hind tibial spurs 0.28 and 0.22 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.3 times its apical width, its dorsopes distinct, dorsal carinae reaching basal 0.3, median carina distinct apically; first-sixth tergites distinctly longitudinally rugose; second suture deep; length of second tergite 1.5 times length of third tergite; length of ovipositor sheath 0.12 times fore wing.

Colour.— Yellow to reddish yellow; antenna yellowish brown to light brown; vertex, temple and occiput black; ovipositor sheath and claws brown; wing membrane blackish brown, basal half of marginal cell, second discal cell medially, area near parastigma of fore wing and wing bases yellow, subhyaline; pterostigma black; veins brown, parastigma and basal half of vein 1-R1 of fore wing yellow.

Biology.— The type series was reared from *Artona funeralis* Butler (Zygaenidae).

Note.— This species, like the New World *T. harrisinae* (Ashmead, 1889), is a parasite of Zygaenidae, but differs from *T. harrisinae* by having the wing membrane hyaline.

Triraphis hunanensis spec. nov.
(fig. 409)

Material.— Holotype, ♀(ZAU), "Hunan, Liuyang, [28°1'N, 113°6'E], 5.x.1985, Tong Xinwang, 864616. Host: a limacodid larva". Paratype: 1♀, "Hunan, [collecting date unknown], Tong Xinwang, 846547".

Holotype, ♀, length of body 5.6 mm, of fore wing 4.8 mm.

Head.— Antennal segments 47, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 2.7, 2.0 and 3.1 times their width, respectively; length of antenna 1.3 times length of body; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 4.7 times temple; temple distinctly narrowed posteriorly; OOL:OD:POL = 3:4:2; frons flat, transversely rugose; vertex and temple smooth; vertex distinctly slanted posteriorly; face medio-longitudinally slightly convex and rugose, laterally weakly rugose; clypeus punctate; width of hypoclypeal depression 0.6 times width of face; gena punctate-rugose; length of malar space 0.7 times basal width of mandibles, 0.2 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially and posteriorly crenulate, rest smooth; precoxal sulcus narrow and crenulate; mesopleuron glabrous; metapleuron largely smooth, posteriorly and ventrally rugose; mesoscutum smooth; scutellar sulcus with some carinae; scutellum smooth, without lateral carina; propodeum short, distinctly slanted posteriorly, its surface medio-basally with median carina, posteriorly sparsely rugose, areola wide.

Wings.— Fore wing: r:3-SR:SR1 = 7:17:33; 2-SR:3-SR:r-m = 12:17:9; 1-CU1:2-CU1 = 3.5:15; SR1 slightly curved; cu-a slightly inclivous. Hind wing: 2-SC+R quadrate; M+CU:1-M = 21:21; cu-a vertical.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 5.1, 10.0 and 10.0 times their width, respectively; length of hind tarsus 1.0 times hid tibia; length of hind tibial spurs 0.25 and 0.20 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 0.9 times its apical width, its dorsal carinae converging apically, and near each other at basal third; first-fifth tergites distinctly longitudinally rugose; first and second tergites with weak median carina; sixth tergite invisible; length of second tergite 1.6 times third tergite; length of ovipositor sheath 0.12 times fore wing.

Colour.— Reddish yellow, prothorax yellow, propodeum and first-third metasomal tergites medially brownish; antenna yellow, dark towards its apex; palpi yellowish white; claws and ovipositor sheath brown; wing membrane hyaline, pterostigma largely and veins in middle of wings brown; base of pterostigma, parastigma and rest veins yellow.

Variation.— Length of body 4.7-5.6 mm, of fore wing 4.5-4.8 mm.

Biology.— The holotype was reared from a limacodid larva.

Triraphis longitergum spec. nov.
(figs 392-393)

Material.— Holotype, ♀(ZAU), "Fujian, Mt Wuyi Shan, [26°4'N, 116°4'E], x.1979, Huang Juchang, 880811. Paratypes (2♀♀(FAU)): 1♀ with same data as holotype; 1♀, "Fujian, Mt Wuyi Shan, 29.ix.1980, Huang Juchang".

Holotype, ♀, length of body 5.1 mm, of fore wing 4.8 mm.

Head.— Antennal segments 39 (incomplete), length of third segment 1.3 times fourth segment, length of third and fourth segments 3.8 and 2.8 times their width, respectively; length of maxillary palp 1.6 times height of head; length of eye in dorsal view 4.0 times temple; temple directly narrowed posteriorly; OOL:OD:POL = 2:3:2; frons concave, smooth; vertex and temple smooth; face medio-longitudinally slightly convex, dorsally with median carina, laterally finely transverse rugose, ventrally nearly smooth; clypeus finely rugose; width of hypoclypeal depression 0.57 times width of face; gena rugose; length of malar space 0.7 times basal width of mandibles, 0.17 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.4 times its height; sides of pronotum medially and posteriorly crenulate, rest smooth; precoxal sulcus narrow and crenulate; mesopleuron glabrous; metapleuron largely smooth, ventrally and posteriorly rugose; mesoscutum glabrous; scutellar sulcus with four carinae; scutellum smooth, without lateral carina; propodeum basally with median carina, petoliar area small, surface along median carina smooth, rest sparsely punctate.

Wings.— Fore wing: r:3-SR:SR1 = 6:17:32; 2-SR:3-SR:r-m = 11:17:5; 1-CU1:2-CU1 = 3:17; SR1 slightly curved; cu-a slightly inclivous. Hind wing: 2-SC+R longitudinal; M+CU:1-M = 1:1.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.3, 10.4 and 9.5 times their width, respectively; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.32 and 0.26 times hind basitarsus; tarsal claws with large acute lobe.

Metasoma.— Length of first tergite 1.5 times its apical width, its dorsal carinae reaching basal 0.4, median carina weak; first-sixth tergites distinctly longitudinally rugose; second tergite with median carina; second suture shallow; length of second tergite 1.7 times third tergite; length of ovipositor sheath 0.13 times fore wing.

Colour.— Head reddish yellow to brownish yellow, vertex, temple and occiput dorsally brown; palpi yellowish while; antenna light brown; mesosoma yellow; metasomal tergites brownish yellow, first to third tergites brownish; metasomal sternites yellowish white; legs yellow, trochanters yellowish white; claws brownish yellow; ovipositor sheath light brown; wing membrane slightly brownish; pterostigma yellow.

Variation.— Length of body 3.6-5.1 mm, of fore wing 3.6-5.1 mm; antennal segments 50, length of penultimate segment 3.3 times its width.

Triraphis longwangensis spec. nov.
(figs 404-405)

Material.— Holotype, ♀(ZAU), "Zhejiang, Anjie, Mt Longwang Shan, [30°3'N, 119°4'E], 31.viii.1993, Ma Yun, 9310432".

Holotype, ♀, length of body 3.8m, of fore wing 3.8 mm.

Head.— Antennal segments 40, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 2.6, 2.1 and 2.8 times their width, respectively; length of antenna 1.4 times length of body; length of maxillary palp 1.4 times height of head; length of eye in dorsal view 4.7 times temple; temple distinctly narrowed posteriorly; OOL:OD:POL = 2:3:2; frons flat and smooth; vertex and temple smooth; vertex distinctly slanted posteriorly; face medio-longitudinally convex, laterally transversely finely rugose, ventrally nearly smooth; clypeus finely punctate; width of hypoclypeal depression 0.5 times width of face; gena smooth; length of malar space 0.7 times basal width of mandibles, 0.19 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.6 times its height; sides of pronotum antero-medially and posteriorly coarsely crenulate, remainder smooth; precoxal sulcus narrow with few crenulate; mesopleuron glabrous; metapleuron largely smooth, posteriorly and ventrally rugose; mesoscutum nearly smooth; scutellar sulcus with some carinae; scutellum smooth, with few punctures posteriorly, without lateral carina; propodeum baso-medially with median carina and smooth, apically transversely rugose, remainder irregularly rugose.

Wings.— Fore wing: r:3-SR:SR1 = 5:17:35; 2-SR:3-SR:r-m = 11:17:8; 1-CU1:2-CU1 = 4:13; cu-a nearly vertical; SR1 straight. Hind wing: 2-SC+R longitudinal; SR unpigmented; M+CU:1-M = 18:17; cu-a reclivous.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 5.1, 10.5 and 11.0 times their width, respectively; length of hind tibial spurs 0.30 and 0.24 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.2 times its apical width, its dorsal carinae nearly united at basal 0.26, enclosing a basal area; first-fifth tergites distinctly longitudinally rugose, rugae on fourth and fifth tergites weaker and finer; sixth tergites coriaceous; first and second tergites with weak and obscure median carina; length of second tergite 1.6 times third tergite; length of ovipositor sheath 0.11 times fore wing.

Colour.— Head and mesosoma brownish yellow, vertex, temple, occiput, mesopleuron dorsally, scutellum laterally, metanotum, metapleuron and propodeum blackish brown to black; metasoma black, sternites and sixth tergite yellow; antenna light brown, dark towards its apex; palpi yellowish white; ovipositor sheath light brown; legs yellow; wing membrane hyaline; pterostigma light brown; parastigma yellowish; veins brown to light brown.

Triraphis melanus spec. nov.
(figs 394-395)

Material.— Holotype, ♀(ZAU), "Zhejiang, Mt W. Tianmu Shan, 30.4N, 119.5E, 2.ix.1987, Chen Xuexin, 877471". Paratypes: 3♀♀(ZAU), "Zhejiang, Mt W Tianmu Shan, 1.viii.1984, 2-3.ix.1987, Chen Xuexin, Qian Ying, 843247, 877470, 876568"; 1♀(ZAU), "Zhejiang, Anjie, Mt Longwan Shan, 31. viii.1993, Chen Xuexin, 939789"; 1♀ + 1♂(ZRI), "Sichuan, Mt Emei, 1800-1900m, 13.viii.1957, Huang Zhong-Yuan, 871750, 871752"; 1♀, "Fujian, Mt Huanggang Shan, 13.vii.1985, Tang Yuqing, 880788"; 1♀ (RMNH), "Zhejiang, M W Tianmu Shan, 3.ix.1987, Wang Xinggen, 876766".

Holotype, ♀, length of body 4.0 mm, of fore wing 3.8 mm.

Head.— Antennal segments 38, length of third segment 1.4 times fourth segment,

length of third, fourth and penultimate segments 3.6, 2.7 and 4.0 times their width, respectively; length of antenna 1.5 times length of body; length of maxillary palp 1.4 times height of head; length of eye in dorsal view 3.0 times temple; temple distinctly narrowed posteriorly; OOL:OD:POL = 2.5:2.5:2; frons flat, shiny, finely transversely rugose; vertex and temple smooth; face medio-longitudinally slightly convex, laterally finely transversely rugose, ventro-medially smooth; clypeus finely punctate-rugose; width of hypoclypeal depression 0.55 times width of face; gena smooth; length of malar space 0.8 times basal width of mandibles, 0.22 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.6 times its height; sides of pronotum medially coarsely crenulate, remainder smooth; precoxal sulcus narrow with few rugae; mesopleuron smooth dorsally with some coarse rugose; metapleuron largely smooth, posteriorly and ventrally rugose; mesoscutum remotely punctulate, nearly smooth; scutellar sulcus with some carinae; scutellum smooth, without lateral carina; propodeum basally with median carina, petoliar area small, its surface largely smooth with few rugae posteriorly.

Wings.— Fore wing: r:3-SR:SR1 = 5:13:30; 2-SR:3-SR:r-m = 10:17:7; 1-CU1:2-CU1 = 3:14; SR1 straight; cu-a nearly vertical. Hind wing: 2-SC+R longitudinal; M+CU:1-M = 17:17; cu-a near vertical.

Legs.— Hind coxa smooth; length of femur, tibia, and basitarsus of hind leg 5.2, 11.0 and 9.0 times their width, respectively; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.27 and 0.22 times hind basitarsus; tarsal claws with large acute lobe.

Metasoma.— Length of first tergite 1.1 times its apical width, its dorsal carinae reaching basal 0.3; first-second tergites with weak median carina; first-fifth tergites longitudinally rugose; sixth tergite nearly smooth; length of second tergite 1.4 times third tergite; length of ovipositor sheath 0.14 times fore wing.

Colour.— Black; head (except blackish brown vertex, temple and occiput) reddish yellow; palpi yellowish white; antenna brown, basal two segments reddish brown; prosternite, metasomal sternites yellow, pronotum, mesopleuron ventrally and mesosternum reddish brown; legs brownish yellow, coxa and trochanters yellowish white, claws yellowish brown; ovipositor sheath brown; wing membrane hyaline; pterostigma and veins brown; parastigma yellow.

Variation.— Length of body 3.4-4.0 mm, of fore wing 3.1-3.8 mm; antennal segments 38-40 (♀) or 25 (♂); sometimes head except ventrally blackish brown, mesoscutum posteriorly, pronotum, mesopleuron, and fifth-sixth tergites reddish yellow to reddish brown.

Triraphis rectus spec. nov.
(figs 141-142)

Material.— Holotype, ♀(ZAU), "Hubei, Shengnongjia, [31°7'N, 110°6'E], 29.viii. 1985, Mao Xiaoyuan, 870213".

Holotype, ♀, length of body 3.9 mm, of fore wing 4.1 mm.

Head.— Antennal segments 40, length of third segment 1.4 times fourth segment, length of third, fourth and penultimate segments 3.1, 2.3 and 3.0 times their width, respectively; length of antenna 1.4 times length of body; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 4.0 times temple; temple distinctly

narrowed posteriorly; OOL:OD:POL = 3:4:3; frons largely smooth with few fine rugose near antennal sockets; vertex and temple smooth; vertex distinctly slanted posteriorly; face medio-longitudinally slightly convex, laterally finely transversely rugose, ventrally smooth; clypeus finely rugose; width of hypoclypeal depression 0.59 times width of face; gena rugo-punctate; length of malar space 0.7 times basal width of mandibles, 0.17 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially sparsely crenulate, rest rugose; precoxal sulcus narrow and crenulate; mesopleuron glabrous; metapleuron largely smooth, ventrally and posteriorly rugose; mesoscutum smooth and shiny; scutellar sulcus with carinae; scutellum smooth, without lateral carina; propodeum basally glabrous and with median carina, posteriorly transversely finely rugose and areola obsolescent.

Wings.— Fore wing: r:3-SR:SR1 = 6:15:38; 2-SR:3-SR:r-m = 12:15:9; 1-CU1:2-CU1 = 3:15; cu-a slightly reclivous; SR1 straight. Hind wing: 2-SC+R quadrate; SR unpigmented; M+CU:1-M = 19:20; cu-a vertical.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 4.6, 9.5 and 10.0 times their width, respectively; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.25 and 0.18 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.1 times its apical width, its dorsal carinae converging and near each other at basal 0.35, median carina weak; first-fifth tergites distinctly longitudinally rugose, rugae on fifth tergite weaker, sixth tergite invisible; length of second tergite 1.6 times third tergite; length of ovipositor sheath 0.10 times fore wing.

Colour.—Head brownish yellow, occiput brownish; mesosoma and metasoma blackish brown, prothorax yellow, mesopleuron ventrally and mesosternum, mesoscutum posteriorly reddish brown, metasomal sternites and fifth tergite apically yellow to reddish yellow; palpi yellowish white; antenna brown; legs yellowish white; tibia and tarsus darker, claws yellow; wing membrane hyaline; pterostigma brown; parastigma and vein C+SC+R of fore wing apically yellow, remainder veins brown to light brown.

Note.— This species has vein M+CU of hind wing slightly shorter than vein 1-M. Close to *T. tricolor* (Wesmael), which has vein C+SC+R of fore wing nearly completely yellow.

Triraphis rufithorax spec. nov.
(figs 398-399)

Material.— Holotype, ♀(FAU), "Fujian, Mt Wuyi Shan, [26°4'N, 116°4'E], 23.vi. 1980, Liu Yihua, 880810".

Holotype, ♀, length of body 5.4 mm, of fore wing 4.6 mm.

Head.— Antennal segments 46, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.2, 2.4 and 3.0 times their width, respectively; length of antenna 1.4 times length of body; length of maxillary palp 1.3 times height of head; length of eye in dorsal view 2.8 times temple; temple roundly narrowed posteriorly; OOL:OD:POL = 4:3:3; frons slightly concave, nearly smooth; vertex and temple smooth; vertex medially slanted posteriorly; face medio-longitudi-

nally slightly convex, laterally transversely rugose; clypeus finely rugose; width of hypoclypeal depression 0.51 times width of face; gena finely rugose; length of malar space 0.8 times basal width of mandibles, 0.25 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.4 times its height; sides of pronotum medially and posteriorly coarsely crenulate, ventro-medially smooth, rest rugose; precoxal sulcus narrow, with few crenulate; mesopleuron glabrous; metapleuron largely smooth, anteriorly and ventrally rugose; mesoscutum smooth; scutellar sulcus with several carinae; scutellum smooth, without lateral carina; propodeum largely weakly rugulose, nearly smooth, only laterally irregularly rugose, basally with median carina, areola medium-sized.

Wings.— Fore wing: r:3-SR:SR1 = 6:16:33; 2-SR:3-SR:r-m = 12:16:9; 1-CU1:2-CU1 = 3.5:16; SR1 slightly curved; cu-a nearly vertical. Hind wing: 2-SC+R quadrate; SR unpigmented; M+CU:1-M = 23:19; cu-a reclivous.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 4.4, 9.1 and 8.8 times their width, respectively; length of hind tarsus 1.0 times hind tibia; length of hind tibial spurs 0.33 and 0.24 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.1 times its apical width, its dorsal carinae reaching basal third; first-sixth tergites longitudinally weakly rugose, basal third tergites shiny, fourth-fifth tergites nearly weakly reticulate; first-second tergites without distinct median carina; length of second tergite 1.5 times third tergite; length of ovipositor sheath 0.11 times fore wing.

Colour.— Reddish yellow; vertex, temple, occiput dorsally and first-fourth tergites medially blackish brown; antenna (except basal two segments), ovipositor sheath and claws brown; palpi yellowish white; wing membrane slightly brownish; veins and pterostigma brown; veins 1-SR and C+SC+R apically of fore wing yellow.

Triraphis sichuanensis spec. nov.
(figs 410-411)

Material.— Holotype, ♀(ZAU), "Sichuan, Chendu, [30°6'N, 104°1'E], 20-31.vii.1980, Forestry Institute of Sichuan Province, 801912, Host: *Euproctis bipunctapex* (Hampson)". Paratypes: 8♀♀(ZAU), 1♀ (RMNH), same data as holotype.

Holotype, ♀, length of body 4.4 mm, of fore wing 4.2 mm.

Head.— Antennal segments 35, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.3, 2.6 and 3.0 times their width, respectively; length of antenna 1.1 times length of body; length of maxillary palp 1.5 times height of head; length of eye in dorsal view 3.1 times temple; temple distinctly narrowed posteriorly; OOL:OD:POL = 3:3:3; frons flat and smooth; vertex and temple smooth; vertex distinctly slanted posteriorly; face irregularly rugose, latero-ventrally nearly smooth; clypeus punctate; width of hypoclypeal depression 0.5 times width of face; gena rugose; length of malar space 0.8 times basal width of mandibles, 0.20 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially and posteriorly crenulate, rest glabrous; precoxal sulcus narrow and crenulate; mesopleuron glabrous; metapleuron largely smooth, posteriorly and ventrally

rugose; mesoscutum smooth; scutellar sulcus with some rugae; scutellum smooth, without lateral carina; propodeum short, distinctly slanted posteriorly, its surface medially irregularly rugose, basally and apically smooth, basal third with median carina, areola large.

Wings.— Fore wing: r:3-SR:SR1 = 8:16:31; 2-SR:3-SR:r-m = 12:16:8; 1-CU1:2-CU1 = 2:15; SR1 straight; cu-a subvertical. Hind wing: 2-SC+R quadrate; SR absent; M+CU:1-M = 18:18; cu-a distinctly reclivous.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 4.6, 9.3 and 7.5 times their width, respectively; length of hind tarsus 1.0 times hind tibia; length of hind tibial spurs 0.33 and 0.27 times hind basitarsus; tarsal claws with medium-sized lobe.

Metasoma.— Length of first tergite 0.9 times its apical width, its dorsal carinae reading basal third; first-fifth tergites distinctly longitudinally rugose, rugae on fourth and fifth tergite weaker, sixth tergite invisible; first and second tergites with median carina; length of second tergite 1.4 times third tergite; length of ovipositor sheath 0.17 times fore wing.

Colour.— Brownish yellow, scutellum posteriorly, metanotum, propodeum and first-fourth tergites (except laterally and apically) brown; antenna yellow, dark apically; palpi yellowish white; claws and ovipositor sheath brownish yellow; wing membrane hyaline; pterostigma and veins in middle of wings brown; base and apex of pterostigma, parastigma and remainder of veins yellow.

Variation.— Length of body 3.8-4.4 mm, of fore wing 3.6-4.2 mm; antennal segments 33-35.

Biology.— The type series has labelled to be reared from the lymantriid *Euproctis bipunctapex* (Hampson), but this needs confirmation, because generally *Triraphis* species are parasites of Limacodidae.

Note.— This species is closely related *T. tricolor* (Wesmael, 1838; = *T. solitarius* (Watanabe, 1970)), but differs in the latter having the OOL much shorter than OD, the malar space longer than basal width of mandible, the second tergite without median carina, and its length 2.0 times third tergite. It runs in the key by Papp (1995) to *T. pullus* Papp, 1995, from N Korea, but *T. pullus* has the length of the first tergite 1.3 times its apical width, the length of the malar space 0.5 times basal width of mandible and the face punctulate.

Triraphis terebrans Chen & He, 1995
(figs 406-408)

Triraphis terebrans Chen & He, 1995: 256.

Material.— Holotype, ♀(ZAU), "Zhejiang, Mt Gutian Shan, [29°2'N, 118°1'E], 1.viii.1990, Ma Yun, 906147".

Holotype, ♀, length of body 4.5 mm, of fore wing 4.2 mm.

Head.— Antennal segments 45, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 2.4, 1.9 and 3.0 times their width, respectively; length of antenna 1.5 times length of body; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 4.1 times temple; temple distinctly narrowed posteriorly; OOL:OD:POL = 3:4:2; frons smooth with few rugae; vertex

and temple smooth; vertex distinctly slanted posteriorly; face medio-longitudinally slightly convex, laterally transversely finely rugose; clypeus punctate; width of hypoclypeal depression 0.57 times width of face; gena punctate-rugose; length of malar space 0.4 times basal width of mandibles, 0.12 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially and posteriorly sparsely crenulate, rest glabrous; precoxal sulcus narrow, with few rugae; mesopleuron glabrous; metapleuron largely smooth, posteriorly and ventrally rugose; mesoscutum smooth; scutellar sulcus with carinae; scutellum smooth, without lateral carina; propodeum short, slanted posteriorly, largely irregularly rugose, extremely basally smooth, median carina present extremely basally, areola narrow.

Wings.— Fore wing: r:3-SR:SR1 = 8:22:42; 2-SR:3-SR:r-m = 15:22:10; 1-CU1:2-CU1 = 4:20; SR1 straight; cu-a subvertical. Hind wing: 2-SC+R subquadrate; M+CU:1-M = 20:19; cu-a vertical.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 4.6, 9.0 and 7.4 times their width, respectively; length of hind tarsus 0.9 times hid tibia; length of hind tibial spurs 0.36 and 0.27 times hind basitarsus; tarsal claws with large and acute lobe.

Metasoma.— Length of first tergite 1.0 times its apical width, its dorsal carinae reaching basal 0.4, median carina weak; first-fifth tergites distinctly longitudinally rugose, rugae on fourth-fifth tergites weaker, sixth tergite nearly smooth; length of second tergite 1.4 times third tergite; length of ovipositor sheath 0.37 times fore wing.

Colour.—Yellow, vertex, temple, mesosoma (except prothorax), a median spot on first tergite, second tergite medially and third tergite largely brown; antenna brownish yellow, dark towards its apex; ovipositor sheath light brown; claws yellow; wing membrane hyaline; pterostigma, veins r, 2-SR, 1-SR+M, 1-M, m-cu, CU1, M+CU1 apically, 1A and cu-a of fore wing, veins 1r-m and 1-M of hind wing blackish brown; extreme base of pterostigma and remainder of veins yellow.

Note.— This species possesses a comparatively long ovipositor sheath (0.37 times fore wing).

Triraphis tibetensis spec. nov.
(fig. 397)

Material.— Holotype, ♀(BAU), "Xizhang (Tibet), Zayu, Shagong, 1700 m, [28°4'N, 97°0'E, 16.vi.1978, Li Fashen, 871853".

Holotype, ♀, length of body 3.3 mm, of fore wing 3.4 mm.

Head.— Antennal segments 28 (incomplete), length of third segment 1.3 times fourth segment, length of third and fourth segments 3.2 and 2.4 times their width, respectively; antenna much longer than length of body; length of maxillary palp 1.2 times height of head; length of eye in dorsal view 2.5 times temple; temple distinctly narrowed posteriorly; OOL:OD:POL = 3:2:2; frons flat and smooth; vertex and temple smooth; vertex medially slanted posteriorly; face medio-longitudinally slightly convex, dorsally with few rugae, rest largely smooth; clypeus smooth; width of hypoclypeal depression 0.5 times width of face; gena nearly smooth; length of malar space 0.8 times basal width of mandibles, 0.25 times height of eye in lateral view.

Mesosoma.— Length of mesosoma 1.5 times its height; sides of pronotum medially crenulate, ventrally with few rugae, rest glabrous; precoxal sulcus narrow, with few rugae; mesopleuron smooth; metapleuron largely smooth, ventrally and posteriorly rugose; mesoscutum remotely finely punctulate, nearly smooth; scutellar sulcus with carinae; scutellum nearly smooth, without lateral carina; propodeum basally with median carina, areola small, its surface largely smooth, but posteriorly rugose.

Wings.— Fore wing: r:3-SR:SR1 = 7:16:28; 2-SR:3-SR:r-m = 12:16:8; 1-CU1:2-CU1 = 4:17; SR1 straight; cu-a vertical. Hind wing: 2-SC+R subquadrate; SR unpigmented apically; M+CU:1-M = 19:21; cu-a reclivous; m-cu absent.

Legs.— Hind coxa glabrous; length of femur, tibia, and basitarsus of hind leg 5.2, 11.0 and 9.0 times their width, respectively; length of hind tarsus 0.9 times hind tibia; length of hind tibial spurs 0.27 and 0.22 times hind basitarsus; tarsal claws with large acute lobe.

Metasoma.— Length of first tergite 1.2 times its apical width, its dorsal carinae united at basal 0.4, enclosing a rugose medio-basal area, median carina weak; first-fifth tergites distinctly longitudinally rugose, fifth tergite abnormal; sixth tergite smooth; length of second tergite 1.5 times third tergite; length of ovipositor sheath 0.16 times fore wing.

Colour.— Head and mesosoma reddish yellow to light reddish brown; prothorax paler; occiput brownish; palpi yellowish white; antenna except scapus brown; propodeum and metanotum brownish; metasomal tergites blackish brown, sternites light reddish brown; ovipositor sheath light brown; legs yellow, hind femur, tibia and tarsus darker; claws yellowish brown; wing membrane hyaline; pterostigma and veins brown.

Note.—This species has vein M+CU of hind wing shorter than vein 1-M.

Chinese species of Rogadinae not seen

The following species were reported from China but no specimens from China were available for this study.

Aleiodes bicolor (Spinola, 1808)

Bracon bicolor Spinola, 1808: 128.
Rogas bicolor; Nees, 1818: 307.
Aleiodes bicolor; Wesmael, 1838: 116; Shenefelt, 1975: 1167.
Rogas tener ab. *brunnea* Fahringer, 1929: 88.

Distribution.— Jiangsu province (Fahringer, 1929).

Aleiodes lateralis (Baker, 1917)

Rhogas (Aleiodes) lateralis Baker, 1917a: 391.
R(h)ogas lateralis; Watanabe, 1937a: 64; Shenefelt, 1975: 1236; Chou, 1981: 74.

Distribution.— Taiwan province (Watanabe, 1937).

Aleiodes przewalskii (Kokujev, 1898)

R(h)ogas przewalskii Kokujev, 1898: 297; Shenefelt, 1975: 1245.

Distribution.— Jiangsu province (Kokujev, 1898).

Aleiodes tristis Wesmael, 1838

Aleiodes tristis Wesmael, 1838: 114; Shenefelt, 1975: 1183.
Rhogas tristis var. *kolthoffi* Fahringer, 1929: 88.

Distribution.— Jiangsu province (Fahringer, 1929, as var. *kolthoffi*).

Clinocentrus umbratilis Haliday, 1833

Clinocentrus umbratilis Haliday, 1833: 266; Shenefelt, 1975: 1192.
Clinocentrus umbratilis ssp. *disruptus* Belokobylskij, 1995: 810.

Distribution.— Taiwan province (Belokobylskij, 1995 as ssp. *disruptus).*

Tebennotoma (Eorhyssalus) aciculatus (Belokobylskij, 1989)

Eorhyssalus aciculatus Belokobylskij, 1989: 147.

Distribution.— Taiwan province (Belokobylskij, 1989).

Tebennotoma (Eorhyssalus) occipitalis (Belokobylskij, 1989)

Eorhyssalus occipitalis Belokobylskij, 1989: 148.

Distribution.— Taiwan province (Belokobylskij, 1989).

Coeloreuteus formosanus Watanabe, 1934

Coeloreuteus formosanus Watanabe, 1934: 188; Chou, 1981: 74.

Distribution.— Taiwan province (Watanabe, 1934).
Note.— Previously included in the Rogadinae, but probably belonging to another subfamily.

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Abbreviations

BAU = Beijing Agricultural University, Beijing.
FAU = Fujian Agricultural University, Fuzhou.
IRRI = International Rice Research Institute, Manila.
NAU = Nanjing Agricultural University, Nanjing.
NU = Nankai University, Tianjing.
NWAU = Northwestern Agricultural University, Xi'an.
RMNH = Nationaal Natuurhistorisch Museum, Leiden.
SIE = Shanghai Institute of Entomology, Academia Sinica, Shanghai.
ZAU = Institute of Applied Entomology, Zhejiang Agricultural University, Hangzhou, Zhejiang.
ZRI = Zoological Research Institute, Academia Sinica, Beijing.
ZSU = Zhongshan University, Guangzhou.

References

Achterberg, C. van, 1975. Een merkwaardige vondst in Voorne's duinen (Hymenoptera: Braconidae).— Ent. Ber., Amst. 35: 15-16, figs 1-4.

Achterberg, C.van, 1976. A preliminary key to the subfamilies of the Braconidae (Hymenoptera).— Tijdschr. Ent. 119(3): 33-78.

Achterberg, C. van, 1979. A revision of the subfamily Zelinae auct. (Hymenoptera: Braconidae).— Tijdschr. Ent. 122: 241-479.

Achterberg, C. van, 1980. Three new Palaearctic genera of Braconidae (Hymenoptera).— Ent. Ber., Amst. 40: 72-80, figs 1-33.

Achterberg, C. van, 1982. Notes on some type-species described by Fabricius of the subfamilies Braconinae, Rogadinae, Microgastrinae and Agathidinae (Hymenoptera: Braconidae).— Ent. Ber., Amst. 42(1): 133-139.

Achterberg, C. van, 1984. Essay on the phylogeny of Braconidae (Hymenoptera: Ichneumonidea).— Ent. Tidskr. 105: 41-58.

Achterberg, C. van, 1985. Notes on Braconidae I-IV.— Zool. Med. 59(15): 163-187.

Achterberg, C. van, 1988a. Revision of the subfamily Blacinae Foerster (Hymenoptera: Braconidae).— Zool. Verh. Leiden 249: 1-324, figs 1-1250.

Achterberg, C. van, 1988b. Parallelisms in the Braconidae (Hymenoptera), with special reference to the biology.— Advances Par. Hym. Res.:85-115, figs 1-101.

Achterberg, C. van, 1989. Four new genera of Braconinae and Rogadinae from the Oriental region (Hymenoptera: Braconidae).— Zool. Med. Leiden 63(9): 79-95, figs 1-49.

Achterberg, C. van, 1990. Illustrated key to the subfamilies of the Holarctic Braconidae (Hymenoptera: Ichneumonidae).— Zool. Med. Leiden 64: 1-20, figs 1-26.

Achterberg, C. van, 1991. Revision of the genera of the Afrotropical and W. Palaearctic Rogadinae Foerster (Hymenoptera: Braconidae).— Zool. Verh. Leiden, 273: 1-102, figs 1-390.

Achterberg, C. van, 1993. Illustrated key to the subfamilies of the Braconidae (Hymenoptera: Ichneumonoidea).— Zool Verh. Leiden 283: 1-189.

Achterberg, C. van, 1995. Generic revision of the subfamily Betylobraconinae (Hymenoptera: Braconidae) and other groups with modified fore tarsus.— Zool. Verh. Leiden 298: 1-242, figs 1-857.

Achterberg, C. van & X. Chen, 1996. *Canalirogas*, a new genus of the subfamily Rogadinae (Hymenoptera: Braconidae) from the Indo-Australian region.— Zool. Med. Leiden 70(3): 63-92, figs 1-66.

Achterberg, C. van & M.R. Shaw, in prep. A revision of the West Palaearctic species of the genus *Aleiodes* Wesmael (Hymenoptera: Braconidae: Rogadinae), with special reference to the faunas of Great Britain and The Netherlands.— Zool. Verh. Leiden.

Agassiz, L.J.R., 1846. Nomenclator Zoologicus Index Universalis. II. Nomina Systematica Generum Hymenopterorum: i-viii, 1-360.

Ashmead, W.H., 1905. New Hymenoptera from the Philippine Islands.— Can. Ent. 37: 3-8.

Ashmead, W. H., 1906. Descriptions of new Hymenoptera from Japan.— Proc. U. S. nat. Mus. 30: 169-201.

Baker, C. F., 1917a. Ichneumonoid parasites of the Philippines. I. Rhogadinae.— Philipp. J. Sci. 12D: 281-327.

Baker, C. F., 1917b. Ichneumonoid parasites of the Philippines. II. Rhogadinae, (Braconidae). ii. the genus *Rhogas*.— Philipp. J. Sci. 12D: 383-422.

Baltazar, C.R., 1961. New generic synonyms in parasitic Hymenoptera.— Philipp. J. Sci. 90: 391-395.

Belokobylskij, S.A. & V.I. Tobias, 1986. Doryctinae: p.21-72. In: Medvedev, G.S. (ed.). Opredelitel Nasekomych Evrospeiskoi Tsasti SSSR 3, Peredpontdatokrylye 4.— Opr. Faune SSSR 145: 1-501, figs 1-263.

Belokobylskij, S.A. 1989. Novyi rod brakonid iz podsemeistva Doryctinae (Hymenoptera, Braconidae) s ostrova Taiwan.— Zool. Zhurnal 68: 145-148, figs 1-10.

Belokobylskij, S.A., 1993a. New taxonomic data on the braconid fauna (Hymenoptera: Braconidae) of Vietnam.— Russian ent. J. 2(2): 37-67, figs 1-124.

Belokobyskij, S.A. 1993b. Contribution to the taxonomy of Braconidae (Hymenoptera) of the Russian

Far East. — Russian ent. J. 2(3-4): 87-103, figs 1-69.
Belokobylskij, S.A., 1995. Revision of the Palaearctic species of the genus *Clinocentrus* (Hymenoptera: Braconidae).— J. nat. Hist. 29: 803-836, figs 1-95.
Belokobylskij, S.A., 1996. Contribution to the knowledge of braconid fauna of the subfamily Rogadinae (Hymenoptera: Braconidae) of Russian Far East and Eastern Siberia. Part 1 & 2.— Far East Entomologist 27-28: 1-36, figs 1-72.
Brues, C. T., 1912. Brazilian Ichneumonidae and Braconidae obtained by the Stanford expedition to Brazil. 1911.— Ann. Ent. Soc. Am. 5: 193-228.
Brullé, A., 1846. Histoire naturelle des insects: Hymenoptera 4: 1-689.— Paris.
Cameron, P., 1887. Hymenoptera (Families Tenthredinidae-Chrysididae).— Biologia cent -am. 1: 312-419.
Cameron, P., 1897. Hymenoptera orientalia, or contribution to a knowledge of the Hymenoptera of the Oriental zoological region, 5.— Mem. Manchr lit. phil. Soc. 41(4): 1-144.
Cameron, P., 1899. Hymenoptera orientalia, or contributions to the knowledge of the Hymenoptera of the Oriental Zoological region. Part 8. the Hymenoptera of the Khasia Hills. first paper.— Mem. Manchr lit. phil. Soc. 43(3): 1-220.
Cameron, P., 1903. Descriptions of new genera and species of Hymenoptera taken by Mr. Bobert Shelford at Sarawak, Borneo.— J. Straits Brch Asiat. Soc. 39: 89-181.
Cameron, P., 1905a. On some new genera and species of Hymenoptera from Cape Colony and Transvaal.— Trans. S. Afr. phil. Soc. 15: 195-257.
Cameron, P., 1905b. On the phytophagous and parasitic Hymenoptera collected by Mr. E. Emest Green in Ceylon.— Spolia Zeylan. 3: 67-97.
Cameron, P., 1910a. On some Asiatic species of the Braconid subfamilies Rhogadinae, Agathinae and Microgastrinae and of the Alysiidae.— Wien. ent. Ztg. 29: 1-10.
Cameron, P., 1910b. On some Asiatic species of the subfamilies Spathiinae, Dorctytinae, Rhogadinae, Cardiochilinae and Macroncentrinae in the Royal Berlin Zoological Museum.— Wien. ent. Ztg 29: 93-100.
Cameron, P., 1911a. On the Hymenoptera of the Georgetown Museum, British Guiana.— Timehri 3(1): 306-330.
Cameron, P., 1911b. Hymenoptera (except Anthopila and Formicidae).— Nova Guinea 9: 185-248.
Chao, Hsiufu, 1982. A catalogue of Insects from Fujian Province, China: 1-658.— Fujian Science and Technology Press (in Chinese).
Chao, Hsiufu & Chinchen Chen, 1947. Observation of two important insect pests (aphids and armyworm) found on wheat and their natural enemies.— Fukien Agricultural Journal. 9(1-2): 23-32 (in Chinese, with English summary).
Chao, Hsiufu & Chaoming Lin, 1948. On the epidemic of the pine-caterpillar, *Dendrolimus spectabilis* (Lasiocampidae, Lepidoptera) in the year 1947-1948, Foochow.— Fukien Agricultural Journal. 9(3-4):148-162 (in Chinese,with English summary).
Chen, Changming & Huiying Song, 1982. Natural enemies of rice insect pests: 24-100.— Hunan Science and Technology Press (in Chinese).
Chen, Changming, Huiying Song & Tieguang Xiao, 1980. Natural enemies of rice insect pests in Hunan province.— J. Hunan Agr. Coll. (1):35-46 (in Chinese).
Chen, Xuexin & Junhua He, 1991. Seven new species of the genus *Aleiodes* Wesmael with pale antennal segments from China (Hymenoptera: Braconidae: Rogadinae).— Entomotax. 13(1): 29-38 (in Chinese, with English summary).
Chen, Xuexin & Junhua He, 1992a. New records of *Aleiodes* Wesmael from China (Hymenoptera: Braconidae: Rogadinae).— Acta Zootax. Sinica, 17(1): 125 (in Chinese, with English summary).
Chen, Xuexin & Junhua He, 1992b. Braconidae: 1250-1253. In: Iconography of forest insects in Hunan, China: 1-1473.— Hunan Science and Technology Press (in Chinese with English summary).
Chen, Xuexin, Junhua He & Yun Ma, 1992. New records of *Aleiodes* Wesmael from China (Hymenoptera: Braconidae: Rogadinae).— Acta Zootax. Sinica 17(4): 495-496 (in Chinese with English summary).
Chen, Xuexin, Junhua He & Yun Ma, 1995. Hymenoptera: Braconidae, p.256-263. In: Insects and mushrooms of Gutian Shan Nature Reserve of Zhejiang, China: 1-327.— Zhejiang Scientific and

Technological Publishing House, Hangzhou (in Chinese with English summary).
Chou, L.Y., 1981. A preliminary list of Braconidae (Hymenoptera) of Taiwan.— J. Agric. Res. China 30(1): 71-88.
Chu, Joo-tso, 1933. An investigation on the life history of mulbery geometrid (*Phthonandria atrilineata* (Butler)).— Bur. Ent. Hangchow, Special 10: 8-42 (in Chinese with English summary).
Chu, Joo-tso, 1934. Preliminary notes on the Ichneumon-flies in Kiangsu and Ckekiang Provinces, China.— Yb. Bur. Ent. Hangchow [= Hangzhou], China 1934: 7-35.
Chu, Joo-tso, 1937. Notes on the Hymenopterus parasites of the pine caterpillar *Dendrolimus punctatus* Walker in China.— Ent. Phytopath. 5(4-6): 56-103.
Chu, Joo-tso, 1952. Mulbery pests in China: 1-51.— Shanghai Yongxiang Press (in Chinese).
Chu, Joo-tso, Junhua He & Jingxian Yun, 1976. Parasitic Hymenopterous wasps of *Naranga aenescens* Moore. I. Braconidae.— Kunchong Zhishi (Insect Knowledge) 13(5): 145-147 (in Chinese).
Chu, Joo-tso, &. al., 1978. Braconidae: 49-60. In: Atlas of Natural Enemies of Insects.: 1-300 + pls 1-50.— Science Press (in Chinese).
Cresson, E. T., 1872. Hymenoptera Texana.— Trans. Am. ent. Soc. 4: 153-292.
Curtis, J., 1834. British Entomology. 3. Hymenoptera: 1-512.
Dang, Xingde & Buxian Jin, 1982. Records of parasitic waps of forest pests from Shaanxi province.— Entomotax. 4(1-2): 139-142 (in Chinese).
Enderlein, G., 1905. Neue Braconiden aus dem indischen und afrikanischen Gebiet.— Stettin. Ent. Ztg. 66: 227-236.
Enderlein, G., 1912a. Neue Gattungen und Arten von Braconiden.— Arch. Naturgesch. 78A(6): 94-100.
Enderlein, G., 1912b. H. Sauter's Formosa-Ausbeute. Braconidae, Proctotrupidae und Evaniidae (Hymenoptera).— Ent. Mitt. 1: 257-267.
Enderlein, G., 1920. Zur kenntnis aussereuropaischer Braconiden.— Arch. Naturgesch. 84A(11): 51-224.
Fabricius, J.C., 1798. Supplementum Entomologiae Systematicae: 1-572.— Hafniae.
Fabricius, J.C., 1804. Systema Piezatorum: 1-439.— Brunsvigae.
Fahringer, J., 1929. Beiträge zur Kenntnis der Braconiden Fauna Chinas.— Ent. Tidskr. 50: 82-88.
Fahringer, J., 1932. Opuscula braconologica. 3. Palaearktische Region 3-4: 161-320.
Fahringer, J., 1941. In: Schimitschek, E. Die Massenvermehrung des *Ips sexdentatus* Börner im Gebiete der orientalischen Fichte.— Z. angew. Ent. 27: 84-108.
Fischer, M., 1961. Zwei neue Opiinen-Gattungen (Hymenoptera: Braconidae).— Annln naturh. Mus. Wien 64: 154-158.
Foerster, A., 1862. Synopsis der Familien und Gattungen der Braconiden.— Verh. naturh. Ver. preuss. Rheinl. 19: 225-288.
Fullaway, D.T., 1919. New genera and species of Braconidae, mostly Malayan.— J. Straits Brch Asiat. Soc. 80: 39-59.
Gauld, I.D. & Bolton, B. (eds), 1988. The Hymenoptera: 1-332.— London.
Granger, C., 1949. Braconides de Madagascar.— Mem. Inst. Sci. Madagscar 2(A): 1-428.
Guérin-Méneville, F.E., 1830. In: Duperry, L.I. Voyage de la coquille. Vol. 2, part 2, div. 1. Crustacés, Arachnides et Insectes: 1-319.— Paris.
Haliday, A. E., 1833. An essay on the classification of the parasitic Hymenoptera of Britain, which correspond with the Ichneumones minuti of Linnaeus.— Ent. Mag. 1: 259-276, 480-491.
Harris, R.A., 1979. A glossary of surface sculpturing.— Occasional Papers in Entomology, California Department of Food and Agriculture 28: 1-31.
Hartig, T., 1838. Ueber den Raupenfrass im Königl, Charlottenburger Förste unfern Berlin, wahrend des So mmers 1837.— Jber. Fortschr. Forstwiss. forstl. Naturk 1: 246-274.
He, Junhua, 1984. Six new records of braconid-flies from China (Hymenoptera: Braconidae).— Acta Agr. Univ. Zhejiangensis 10(2): 199-205 (in Chinese with English summary).
He, Junhua & Xuexin Chen, 1988. Eight species of *Aleiodes* Wesmael parasitic on rice and wheat insect pests from China.— Acta Agric. Univ. Zhejiangensis 14(4): 353-363 (in Chinese, with English summary).
He, Junhua & Xuexin Chen, 1990. Studies on ten species of *Aleiodes* Wesmael parasitic on the forest insect pests from China (Hymenoptera: Braconidae).— Acta Zootax. Sinica 15(2): 201-208 (in

Chinese, with English summary).
He, Junhua & Xuexin Chen, 1992. Braconidae: 1253. In: Iconography of forest insects in Hunan China.: 1-1473.— Hunan Science and Technology Press (in Chinese, with English summary).
He, Junhua, Zhangfu Chen, et al., 1979. Atlas of natural enemies of rice insect pests in China: 1-176.— Shanghai Science and Technology Publishing House (in Chinese).
He, Junhua, Xiongfei Pang &, et al., 1986. Natural enemies of rice insect pests in China: 53-76.— Shanghai Science and Technology Publishing House (in Chinese).
He, Junhua & Jinyan Wang, 1986. Braconidae: 401-423. In: Agricultural Insects of China 2: 1-992.— Agricultural Publishing House (in Chinese).
He, Junhua, et al., 1991. A checklist of natural enemies of rice insect pests from China: 1-244.— Science Press (in Chinese).
Hellén, W., 1927. Zur kenntnis der Braconiden (Hymenoptera) Finnlands. I. Subfam. Braconinae (part.), Rhogadinae und Spathiinae.— Acta Soc. Fauna Flora Fenn. 56(12): 1 -59.
Herrich-Schäffer, G.A.W., 1838. (Die Fortsetzung von) Panzer, Faunae Insectorum Germanicae initia oder Deutchlands Insecten. (1828-1844): 111-190.
[Hubei Agricultural Academy (Institute of Plant Protection)], 1982. Investigations on natural enemies of some insects pests infesting rice and cotton.— J. C. China Teachers Coll. (suppl.): 1-64 (in Chinese, with English summary).
Ishii, T., 1935. Insects of Jehol (vii). Family Braconidae.— Rep. First sci. Exped. Manchoukuo, Tokyo (5) 1, pt. 11, Art. 58: 1-5.
Kokujev, N., 1898. Fragments Braconologiques VI. Sur quelques especes du genre *Vipio*.— Horae Soc. ent. ross. 32: 291-317.
Kokujev, N., 1901. *Gyroneuron mirum*, gen. et sp. nov. (Hymenoptera, Braconidae).— Ent. Obozr. 1: 231-233.
Kriechbaumer, J., 1894. Hymenoptera ichneumonidea a medico nautico Dr Joh. Brauns in itinere adoras Africae occidentalis Iecta.— Berl. ent. Z. 39: 43-68.
Malác, A., 1941. *Heterogamus (Jirunia) farmakena* n. subgen. & n. sp. (Braconidae: Hymenoptera).— Ent. Listy 4: 136-139, figs 1-7.
Marsh, P. M., 1979a. Braconidae, Aphididae. In: Krombein, K.V., et al. (eds). Catalog of Hymenoptera in America North of Mexico 1: 144-313. Washington.
Marsh, P. M., 1979b. The braconid (Hymenoptera) parasites of the gypsy moth, *Lymantria dispar* (Lepidoptera: Lymantriidae).— Ann. Ent. Soc. Am. 72(6): 794-810.
Marshall, T.A., 1872. A catalogue of British Hymenoptera: Chrysididae, Ichneumonidae, Braconidae and Evaniidae. 4, Braconidae..— Ent. Soc. Lond. A.: 96-132.
Matsumura, S., 1926a. On the three species of *Dendrolimus* (Lepidoptera) which attack spruce and fir trees in Japan, with their parasites and predaceous insects.— Ezheg. zool. Muz. 26: 27-50.
Matsumura, S., 1926b. On the five species of *Dendrolimus* injurious to conifers in Japan, with their parasites and predaceous insects.— J. Coll. Agric. Sapporo 18: 1-42.
Muesebeck, C. F. W., 1928. List of the insects of New York.— Cornell Univ. Agric. exp. Stn. Mem. 101: 895-920.
Muesebeck, C. F. W., 1931. Descriptions of a new genus and eight new species of Ichneumon-flies with taxonomic notes.— Proc. U. S. nat. Mus. 79, 16(2882): 1-16.
Muesebeck, C.F.W., 1935. On the genus *Oncophanes* Foerster, with descriptions of two new related genera (Hymenoptera: Braconidae). —Ann. ent. Soc. Am. 28: 241-250.
Nees von Esenbeck, C.G., 1818. Appendiox ad J. L. C. Gravenhorst conspectum generum & familiarum Ichneumonidum, genera & familias Ichneumonidum adscitorum exhibens.— Nova Acta Acad. Caesar. Leop. Carol. 9: 299-310.
Nees von Esenbeck, C.G., 1834. Hymenopterorum Ichneumonibus affinium monographiae, genera Europaca & species illustrantes 1: 1-320 & 2: 1-448.
[Northwestern Agricultural University], 1981. Agricultural Entomology: 268-270.— Agricultural Publishing House (in Chinese)
Papp, J., 1977a. Braconidae (Hymenoptera) from Mongolia. VI.— Folia Ent. hung. 30(1) (ser. n.): 105-118.
Papp, J., 1977b. Contribution to the Braconid fauna of Yugoslavia. III.— Folia Ent. hung. 30(1) (ser. n.):

105-117.

Papp. J., 1985a. Contribution to the Braconid fauna of Hungary. VII. Rogadinae (Hymenoptera: Braconidae).— Folia Ent. hung. 46(1): 143-164.

Papp. J., 1985b. Braconidae (Hymenoptera) from Korea. VII.— Acta zool. hung. 31(4): 341-365.

Papp, J., 1991. New braconid wasps (Hymenoptera: Braconidae) in the Hungarian Natural History Museum 2.— Annls hist.-nat. Mus. natn. hung. 83: 145-167.

Papp. J., 1992. New braconide wasps (Hymenoptera: Braconidae) in Hungarian Natural History Museum, 3.— Annls hist.-nat. Mus. natn. hung. 84: 129-160.

Papp, J. 1995. Braconidae (Hymenoptera) from Korea, XVII.— Annls hist.-nat. Mus. natn. hung. 87: 123-127, figs 1-13.

Quicke, D.L.J. & C. van Achterberg, 1990. Phylogeny of the subfamilies of the family Braconidae (Hymenoptera: Ichneumonoidea).— Zool. Verh. Leiden 258: 1-95, figs 1-180.

Quicke, D.L.J. & R.A. Kruft, 1995. Species of *Yelicones* (Hymenoptera: Braconidae: Rogadinae) in North Ameria with descriptions of two new species.— Annls ent. Soc. Am. 88: 129-138, figs 1-25.

Quicke, D.L.J. M.J.K. Chishti & H.H. Basibuyuk, 1996. A revision of the *Yelicones* (Hymenoptera: Braconidae: Rogadinae) from Central Ameria, with descriptions of sixteen new species.— Zool. Med. Leiden 70(2): 17-61, figs 1-119.

Quicke, D.L.J. M.J.K. Chishti, X. Chen & R.A. Kruft, (in press). Revision of *Yelicones* (Hymenoptera: Braconidae: Rogadinae) from East Palaearctic and Oriental regions, with descriptions of four new species.— J. nat. Hist. 31.

Reinhard, H., 1863. Beitrage zur Kenntnis einiger Braconiden-Gattungen. IV. Die Gattung *Rogas*.— Berl. ent. Z. (7):248-274.

Rohwer, S. A., 1934. Descriptions of five parasitic Hymenoptera.— Proc. ent. Soc. Wash. 36: 43-48.

Roman, A., 1912. Die Ichneumonidentypen C.P. Thunbergs..— Zool. Bidr. Upps. 1: 229-293.

Roman, A., 1913. Philippinesche Schlupfwespen aus dem Schwedischen Reichsmuseum 1.— Ark. Zool. 8(15): 1-51.

Ruthe, J.F., 1855. Beitrage zur Kenntnis der Braconiden (*Exothecus, Ascogaster*).— Stett. ent. Ztg 16: 291-294.

Schaefer, P.W., Jingjun Yan, Xilin Sun, W.G. Wallner, R.M. Weseloh, 1984. Natural Enemies of the gypsy moth, *Lymantria dispar* (L.) (Lepidoptera: Lymantridae) in China.— Scientia Silvae Sinicae 20(4): 434-440 (In Chinese, with English summary).

Schulz, W.A.., 1906. Die Hymenopteren der Insel Fernando Po.— Spolia Hym. :1-356.

Shaw, M.R. & T. Huddleston, 1991. Classification and biology of braconid wasps (Hymenoptea: Braconidae).— Handbk Ident. Br. Ins. 7(11): 1-126, figs 1-126.

Shaw, S.R., 1993. Systematic status of *Eucystomastax* Brues and characterization of the Neotropical species (Hymenoptera: Braconidae: Rogadinae).— J. Hym. Res. 2(1): 1-31.

Shenefelt, R. D., 1969. Notes on some Rogadinae genera (Hymenoptera: Braconidae).— Proc. ent. Soc. Wash. 71(3): 428-444.

Shenefelt, R. D., 1975. Braconidae 8. Exothecinae and Rogadinae.— Hym. Cat. (nov. ed.) 12: 1115-1262.

Shenefelt, R.D., 1978. Braconidae 10 Braconinae, Gnathobraconinae, Mesostoinae, Pseudodicrogeninae, Telengainae, Ypisistocerinae & Braconidae in general, major groups, unplaced genera and species.— Hym. Cat. (nov. ed.) 15: 1425-1872.

Sheng, Jinkun & Zhiqi Yang, 1981. Parasitic wasps of natural enemies of main rice insect pests in Jiangxi province, China.— Acta Agric. Uni. Jiangxi. (2): 27-38 (in Chinese).

Shestakov, A. , 1940. Zur Kenntnis der Braconden Ostsibiriens.— Ark. Zool. 32A: 1-21.

Sonan, T., 1940. M. Yanagihara's collection from Daito-Islands, Okinawa: Hymenoptera.— Trans. nat. Hist. Soc. Formosa 30: 369-375.

Sonan, J., 1943. Notes on the parsitic Hymenoptera of *Naranga aenescens* Moore (Lep.: Noctuidae).— Trans. nat. Hist. Soc. Taiwan. 33(239): 221-228.

Sonan, J., 1944. A catalogue of parasictic Hymenoptera and their hosts in Taiwan.— Bull. Govt. Agric. Res. Inst. Formosa 222: 1-77.

Spinola, M., 1808. Insectorum Liguriae species novae aut rariores, quas in agro Ligustico nuper detexit, descripsit & iconibus illustravit (Hymenoptera) 2: 1-222.

Szépligeti, G.V., 1900. Braconiden aus Neu-Guinea in der Sammlung des Ungarischen National-

Museum.— Természetr. Füz. 23: 49-65.
Szépligeti, G.V., 1902. Tropische Cenocoelioniden und Braconiden aus der Sammlung des Ungarischen National-Museum.— Természetr. Füz. 25: 39-84.
Szépligeti, G.V., 1904. Hymenoptera Fam. Braconidae (Premiere Partie).— Genera Insect. 22-23: 1-253.
Szépligeti, G.V., 1905. Exotische Braconiden aus den aethiopischen, orientalischen und australischen Regione.— Annls hist. nat. Mus. natn. hung. 3: 25-55.
Szépligeti, G.V., 1906. Braconiden aus der Sa mmlung des ungarischen National Museums. I.— Annls hist. nat. Mus. natn. hung. 4: 547-618.
Tao, Shaolin, Luzhe Wang, &. et al., 1982. An investigation of natural enemies of rice insect pests in Yunnan, China.— Special Issue Yunnan Agricultural Science and Technology: 4-30 (in Chinese).
Telenga, N.A., 1941. Insects Hymenoptera. Fam. Braconidae: subfam. Braconinae (cont.) and Sigalphinae.— Fauna SSR 5(3): 1-466 (in Russian with German summary and key).
Thomson, C. G., 1892. XLIV. Bidrag till Braconidernas Kannedom.— Opusc. Ent. 16: 1659-1751.
Thunberg, C.P., 1822. Ichneumonidea, insecta Hymenoptera, illustrata.— Mem. Akad. St. Petersburg 8: 249-281.
Tobias, V.I., 1971. Obzor naezdnikov-brakonid (Hymenoptera) fauny SSR.— Trudy vses. ent. Obshch. 54: 156-268, figs 1-112. Translation (1975): A review of the Braconidae (Hymenoptera) of the USSR: 1-164, figs 1-112.— New Delhi.
Tobias, V.I., 1976. Brakonidy Kavkaza (Hymenoptera, Braconidae).— Opred. Faune SSSR 110: 1-287, pls 1-67.
Tobias, V.I., 1986. Rogadinae, p.72-85. In: Medvedev, G.S. (ed.). Opredelitel Nasekomych Evrospeiskoi Tsasti SSSR 3, Peredpontdatokrylye 4.— Opred. Faune SSSR 145: 11-501, figs 1-263.
Togashi, I., 1980. Discovery of the genus *Yelicones* Cameron (Hymenoptera: Braconidae) from Japan.— Kontyû 48(4): 517-520.
Uchida, T., 1931. Eine neue Art und eine neue form der Ichneumoniden aus China.— Ins. Mats. 5(4): 158.
Viereck, H.L., 1911. Descriptions of one new genus and three new species of Ichneumon-flies.— Proc. U. S. nat. Mus. 41: 293-295.
Viereck, H. L., 1914. Type species of the genera of ichneumonflies.— Proc. U.S. nat. Mus. 83: 1-186.
Viereck, H. L., 1918. A list of families and subfamilies of Ichneumon-flies of the superfamily Ichneumonoidea (Hymenoptera).— Proc. biol. Soc. Wash. 31: 69-74.
Walker, F., 1860. Characters of some apparently undescribed Ceylon insects.— Ann. Mag. nat. Hist. (3)5: 304-311.
Watanabe, C., 1932. Descriptiono of new species of genera *Megarhogas, Cystomastax* and *Stantonia* (Braconidae) from Formosa.— Ins. Mats. 6: 184-189.
Watanabe, C., 1934. H. Sauter's Formosa-collection: Braconidae.— Ins. Mats. 8: 182-205.
Watanabe, C., 1935. On some species of Braconidae from North China and Korea.— Ins. Mats. 10: 43-51.
Watanabe, C., 1937a. A contribution to the knowledge of the Braconid fauna of the empire of Japan.— J. Fac. Agric. Hokkaido Imp. Univ. 42: i-iv + 1-188.
Watanabe, C., 1937b. A preliminary revision of the genus *Spinaria* Brullé (Hymenoptera: Braconidae).— Ins. Mats. 10: 106-117.
Watanabe, C., 1938. A revision of the genus *Batotheca* Enderlein, with description of a new species (Hymenoptera: Braconidae).— Mushi 11: 170-175.
Watanabe, C., 1950. Braconidae of Shanxi, China (Hymenoptera).— Mushi 21(2): 19-27.
Watanabe, C., 1957a. Notes on Ashmead's Japanese Braconidae.— Ins. Mats. 21: 1-5.
Watanabe, C., 1957b. A revision of *Rogas pallidinervis* Cameron (Hymenoptera: Braconidae).— Ins. Mats. 21(1-2): 46-47.
Watanabe, C., 1958. Further Revisions of *Spinaria* Brullé and *Batotheca* Enderlein, with description of a new genus (Hymenoptera: Braconidae).— Acta Hymenopterologica 1(1): 51-53.
Watanabe, C., 1970. Descriptions of two new species of the genus *Pelecystoma* Wesmael (Hymenoptera: Braconidae).— Mushi 43: 117-120.
Wesmael. C., 1838. Monographie des Braconides de Belgique 4.— Nouv. Mem. Acad. sci. R. Bruxelles 11: 1-166.

Wharton, R.A., 1993. Review of the Hormimi (Hymenoptera: Braconidae) with description of new taxa.— J. nat. Hist. 27: 107-171.

Wharton, R.A, S.R. Shaw, M.J. Sharkey, D.B. Wahl, J.B. Woolley, J. Whitfield, P.M. Marsh and W. Johnson, 1992. Phylogeny of the subfamilies of the family Braconidae (Hymenoptera: Ichneumonoidea): a reassessment.— Cladistics 8: 199-235.

Wilkinson, D.S., 1930. New Braconidae and other notes.— Bull. ent. Res. 21: 275-285.

Wu, Huifeng, Yuan Guo, Xinhua Zhou, 1980. An investigation of natural enemies of rice insect pests in Qi Xian County, Hunan.— Hunan Agricultural Science and Technology (3): 52-55 (in Chinese).

Xia, Songyun, 1957. A preliminary report on parasitic wasps of main riceinsect pests in Hunan province.— Acta Ent. Sinica, 7(3): 295-319 (in Chinese, with Russian summary).

Yan, Jingjun, 1985. A preliminary list of parasites and predators of *Lymantria dispar* Moore in China.— Forest Pests and Diseases (1): 21-25 (in Chinese).

You, Lanshao, 1992. Braconidae: 1253.— Iconography of forest insects in Hunan, China: 1-1473 (in Chinese, with English summary).

Zhang, Shimei, 1973. Biology and geographpy of major insect pests of agricultural and forestry importance: 1-680.— Jiangxi People's Press (in Chinese).

[Zhejiang Agricultural University], 1962. Agricultural Entomology. I: 163-166.— Shanghai Science and Technology Publishing House (in Chinese).

[Zhejiang Agricultural University], 1963. Agricultural Entomology. II: 508-510.— Shanghai Science and Technology Publishing House (in Chinese).

[Zhejiang Agricultural University], 1982. Agricultural Entomology. I. (2nd ed.): 184-186. Shanghai Science and Technology Publishing House (in Chinese).

Zhu, Wenbin & Yongyi Zhang, 1986. A prelimirany investigation of natural enemies of insect pests in Sichuan-Ichneumonidae, Braconidae and Aphididae.— Acta Coll. Sept. Occ. Agr. (2): 47-58 (in Chinese).

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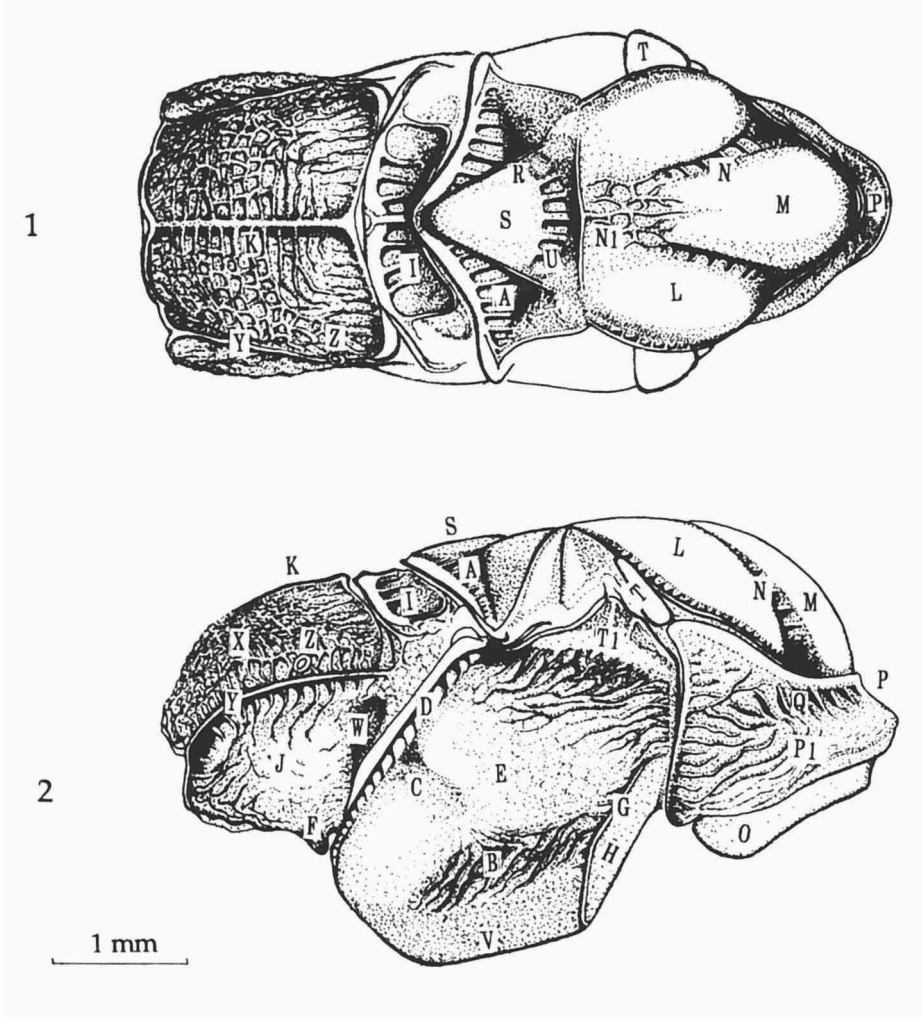
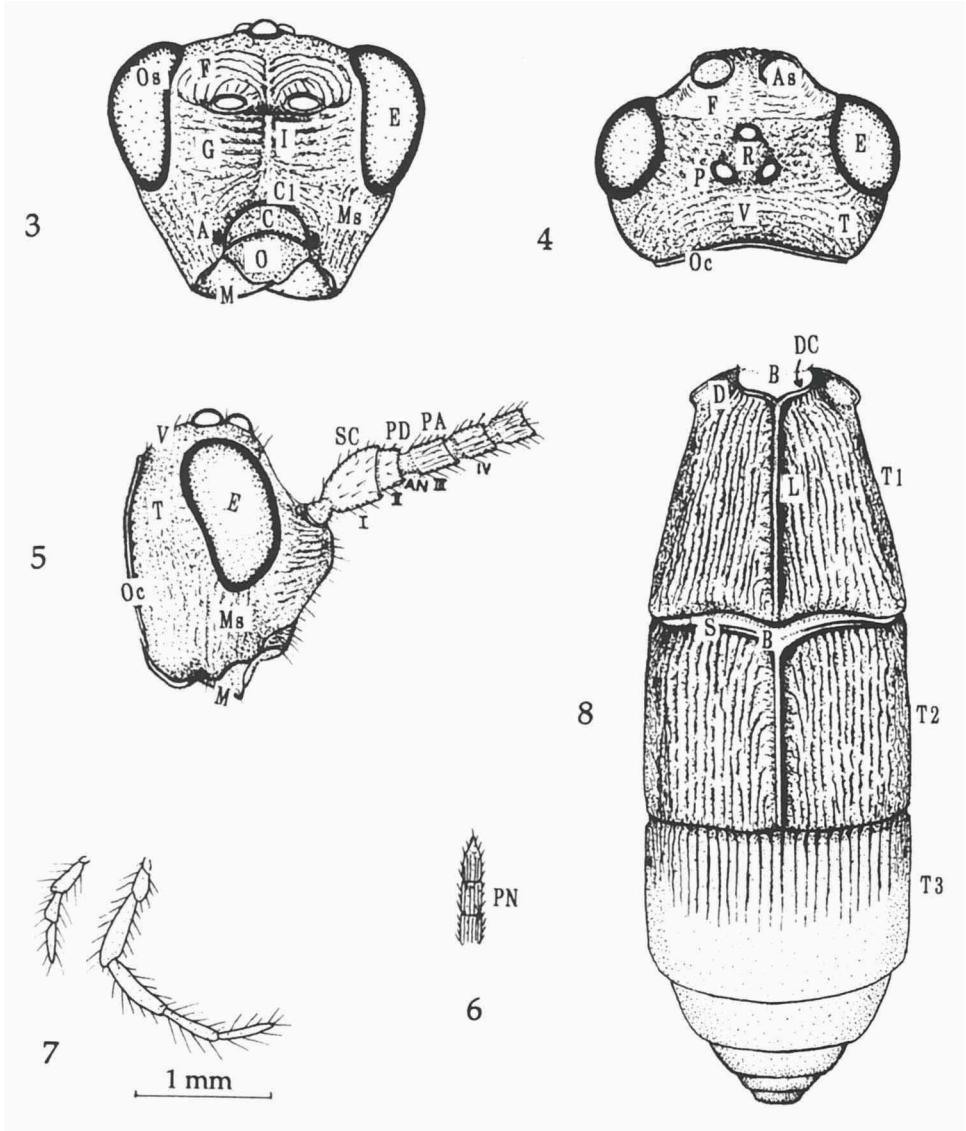
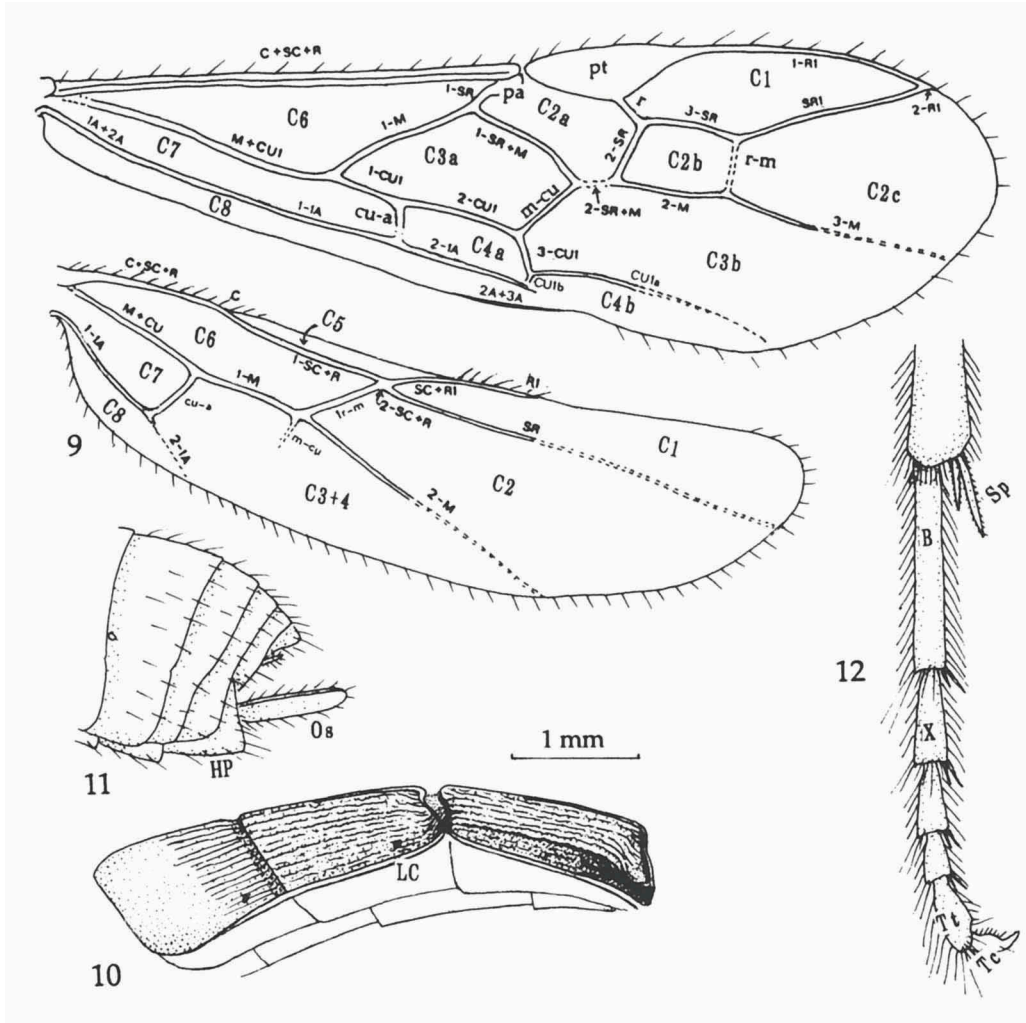


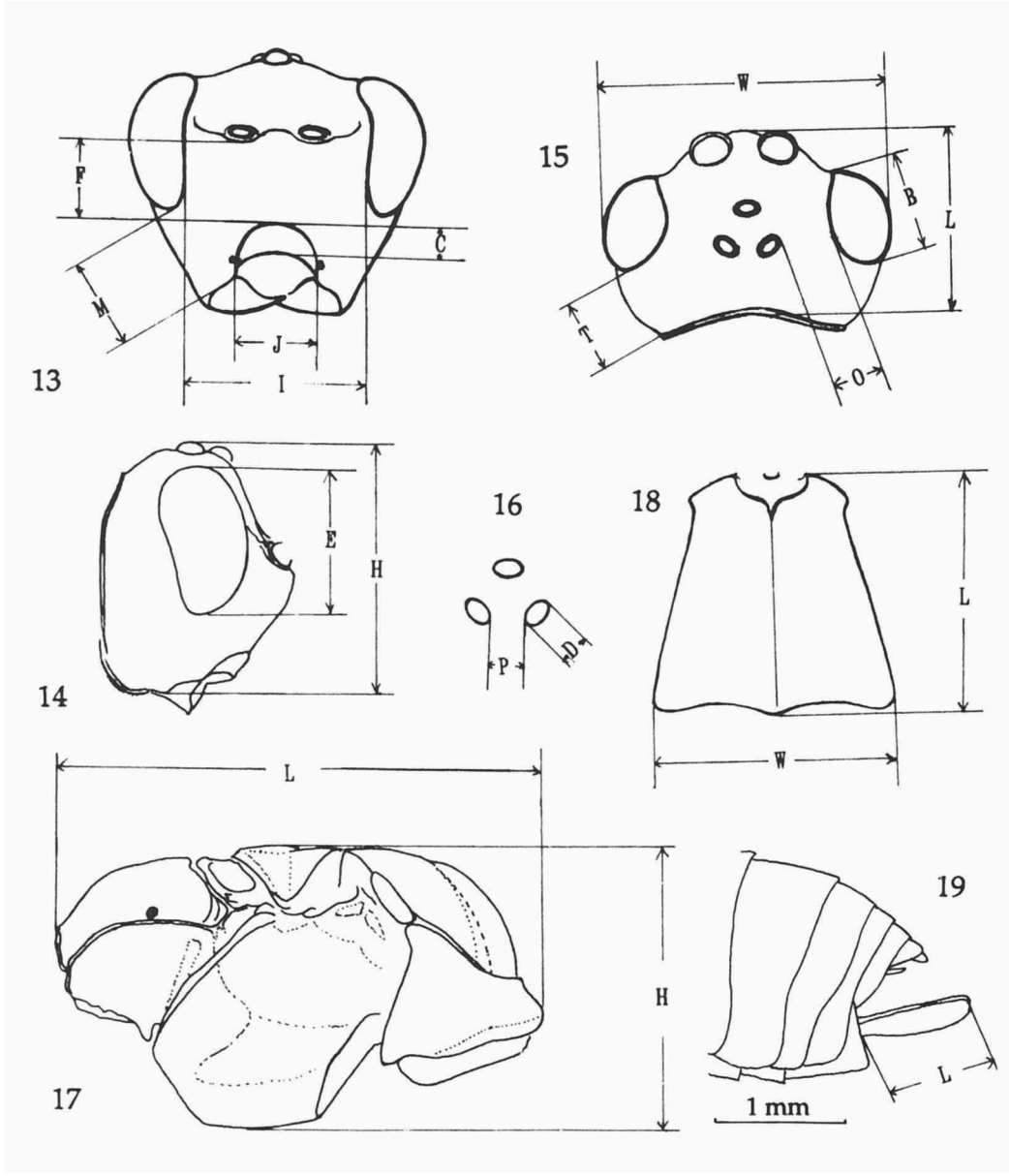
Figs 1-2, Mesosoma of *Aleiodes ruficornis* (Herrich-Schäffer). 1, dorsal view; 2, lateral view. A, side of scutellum and axilla; B, precoxal sulcus; C, episternal scrobe; D, pleural suture; E, mesopleuron; F, metapleural flange; G, prepectal carina; H, prepectus; I, metanotum; J, metapleuron; K, median carina of propodeum; L, lateral lobe of mesoscutum; M, middle lobe of mesoscutum; N, notauli; O, propleuron; P, pronotum; Q, pronotal trough; R, lateral carina of scutellum; S, scutellum; T, tegula; U, scutellar sulcus; V, mesosternum; W, metapleural furrow; X, propodeum; Y, dorsal metapleural carina; Z, propodeal spiracle; N1, posterior depression of mesoscutum; P1, lateral part of pronotum; T1, subtegular ridge. 1-2: 2.3 × scale-line.



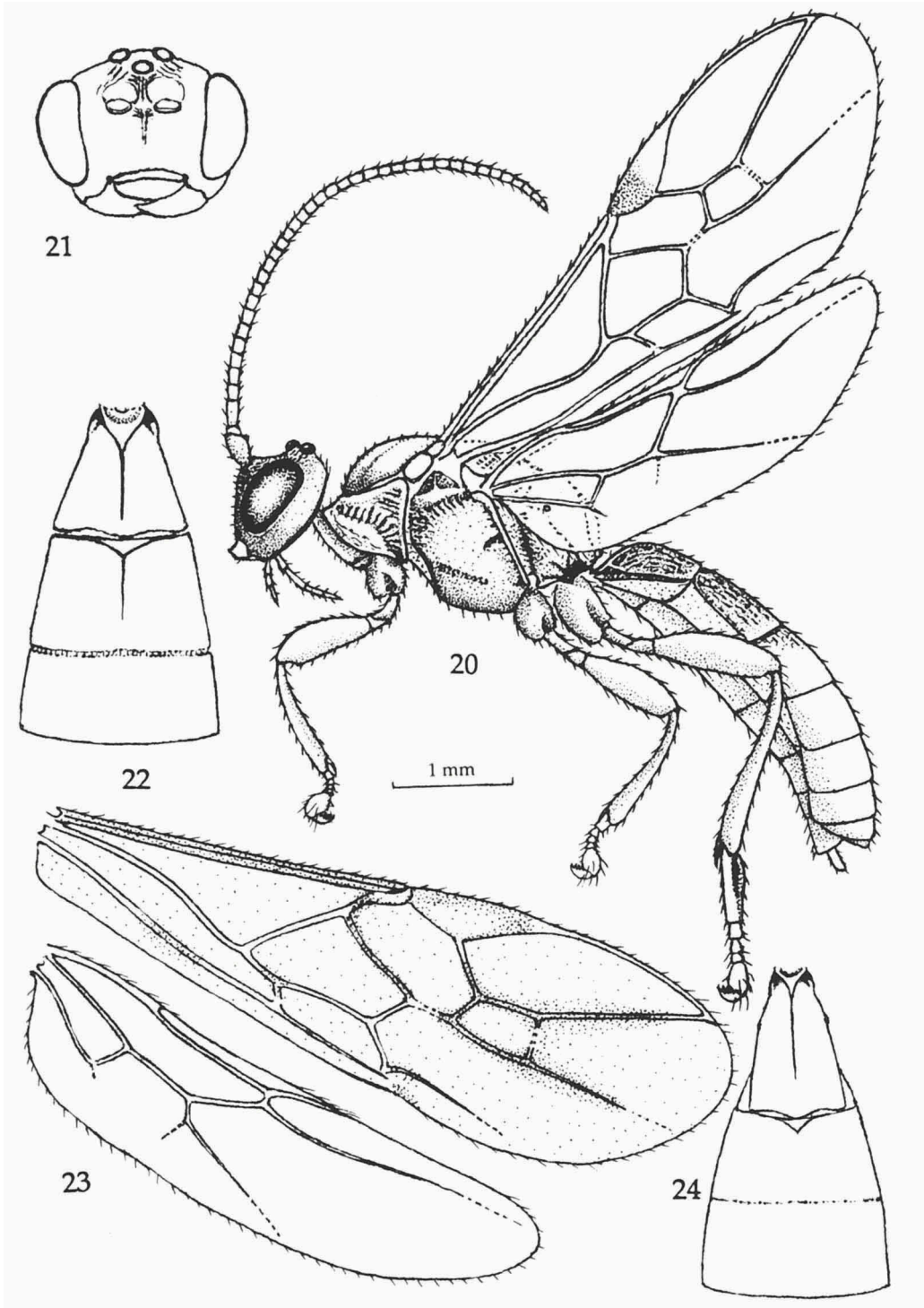
Figs 3-8, *Aleiodes ruficornis* (Herrich-Schäffer). 3, frontal view of head; 4, dorsal view of head; 5, lateral view of head; 6, apex of antenna; 7, palpi, lateral view; 8, metasoma, dorsal view. A, anterior tentorial pit; B, medio-basal area; C, clypeus; D, dorsope; DC, dorsal carina of first tergite; E, eye; F, frons; G, face; I, median carina; L, median carina of metasomal tergites; M, mandible; N, hypoclypeal depression; P, posterior ocellus; R, ste mmaticum; T, temple; V, vertex; AN, annellus; As, antennal socket; C1, epistomal sulcus; S, first metasomal suture; Ms, malar space; Oc, occipital carina; Os, ocular sinus; PA, postannellus or third antennal segment; PD, pedicellus or second antennal segment; PN, penultimate segment; SC, scapus or first antennal segment; T1, first metasomal tergite; T2, second metasomal tergite; T3, third metasomal tergite. 3-6: 2.0 × scale-line; 7: 2.5 ×; 8: 1.25 ×.



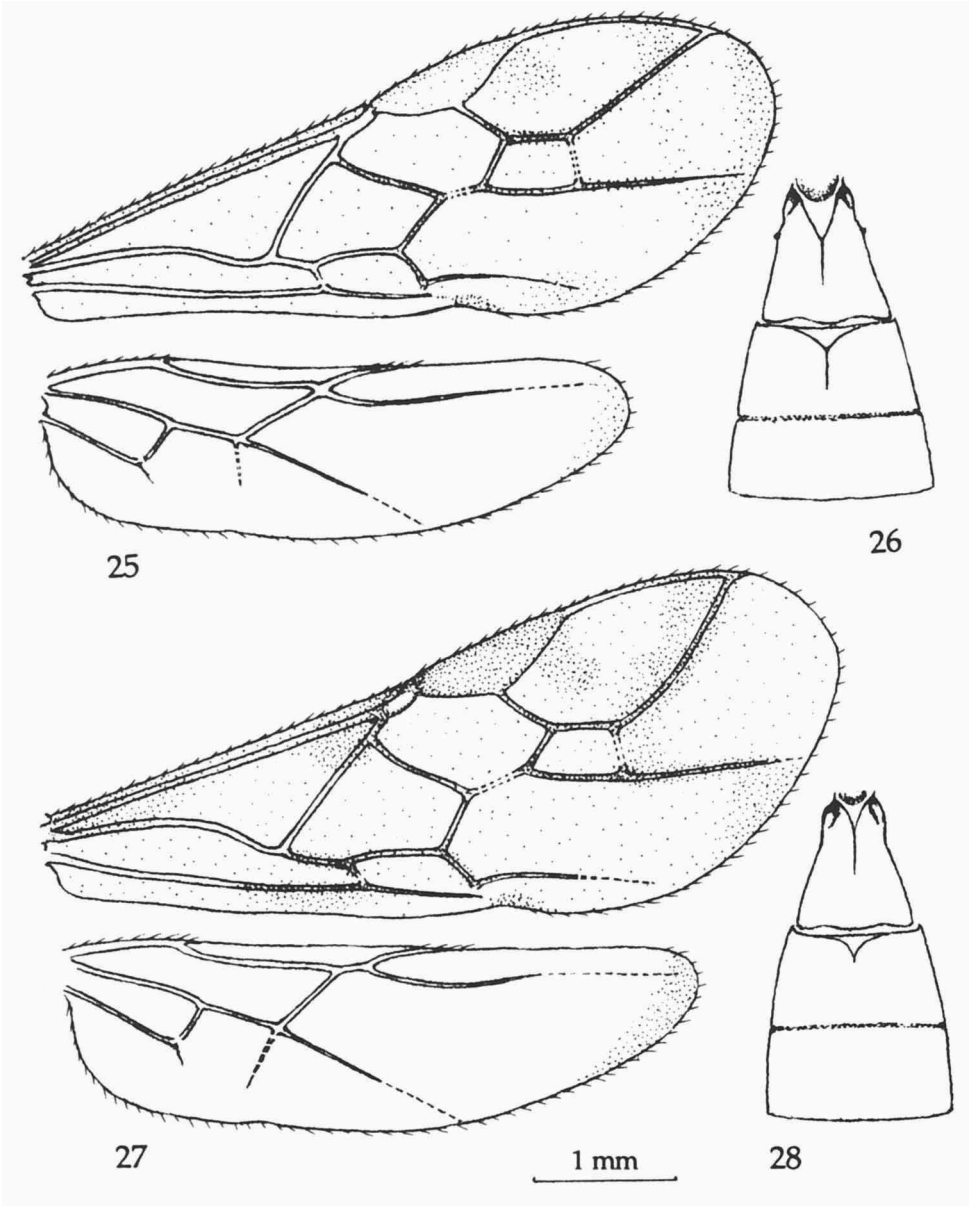
Figs 9-12, *Aleiodes ruficornis* (Herrich-Schäffer). 9, wings (= fore and hind wings); 10, three basal segments of metasoma, lateral view; 11, apex of metasoma, lateral view; 12, hind tarsus, lateral view. Veins: A, analis; C, costa; CU, cubitus; M, media; R, radius; Sc, subcosta; SR, sectio radii or radial sector; a, transverse anal vein; cu-a, transverse cubito-anal vein; m-cu, transverse medio-cubital vein; r, transverse radial vein; r-m, transverse radio-medial vein; pa, parastigma; pt, pterostigma. Cells: C1, marginal cell; C2, submarginal cell; C3, discal cell; C4, subdiscal cell; C5, costal cell; C6, basal cell; C7, subbasal cell; C8, plical lobe or plical cell; a, b and c indicate first, second and third cell, respectively; HP, hypopygium; LC, lateral crease; Os, ovipositor sheath; B, hind basitarsus; Sp, hind tibial spurs; X, second hind tarsal segment; Tc, hind tarsal claw; Tt, hind telotarsus. 9, 12: 1.6 × scale-line; 10-11: 1.25 ×.



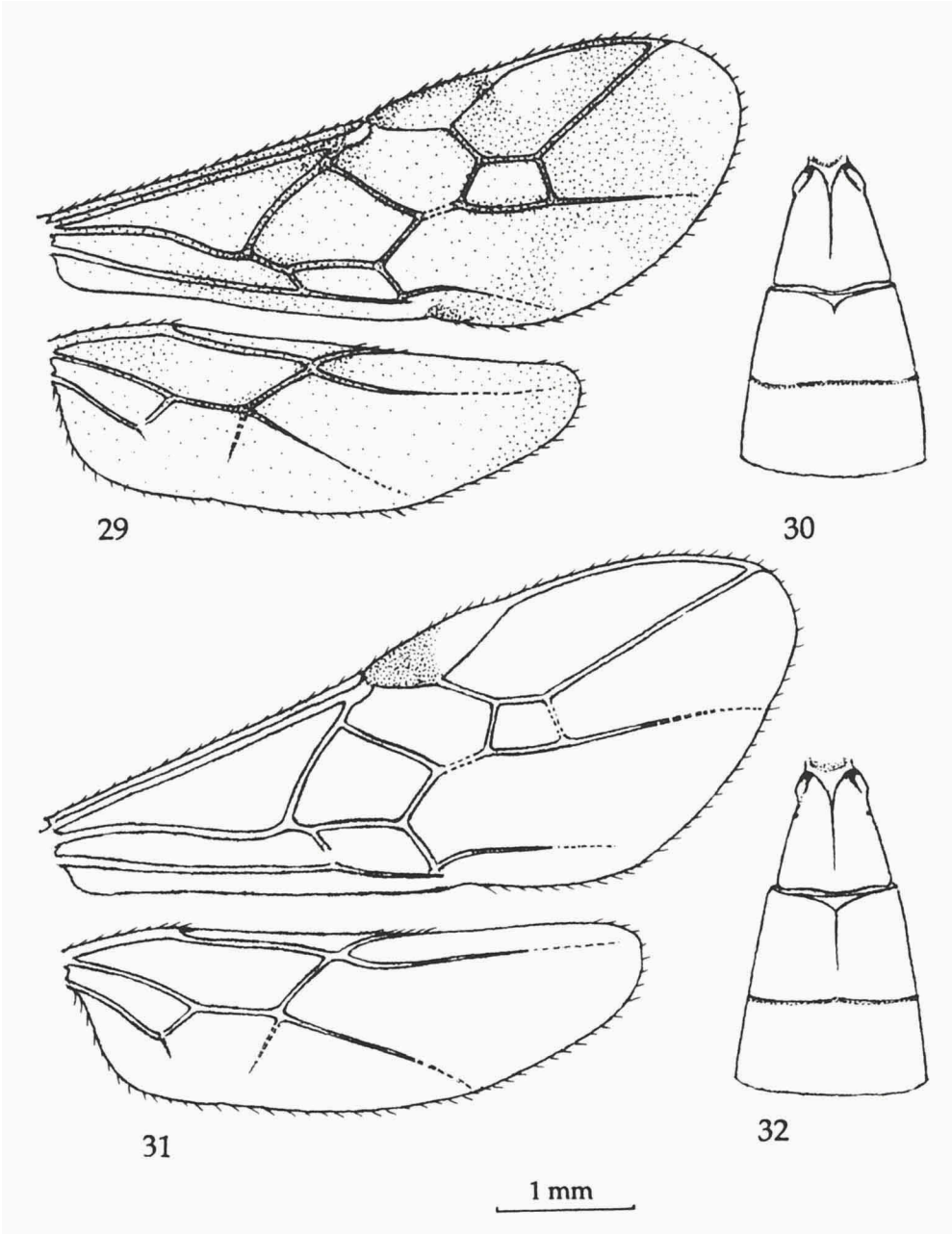
Figs 13-19, *Aleiodes ruficornis* (Herrich-Schäffer). 13, head, frontal view; 14, head, lateral view; 15, head, dorsal view; 16, stemmaticum; 17, mesosoma, lateral view; 18, first metasomal tergite; 19, apex of metasoma, lateral view; B, length of eye; C, height of clypeus; D, diameter of posterior ocellus, or OD; E, height of eye; F, height of face; H, height; I, width of face; J, width of hypoclypeal depression; L, length; M, malar space; O, ocular-ocellar line, or OOL; P, postocellar line, or POL; T, length of temple; W, width. 13-15: 2.0 × scale-line; 17: 1.6 ×; 18-19: 1.25 ×.



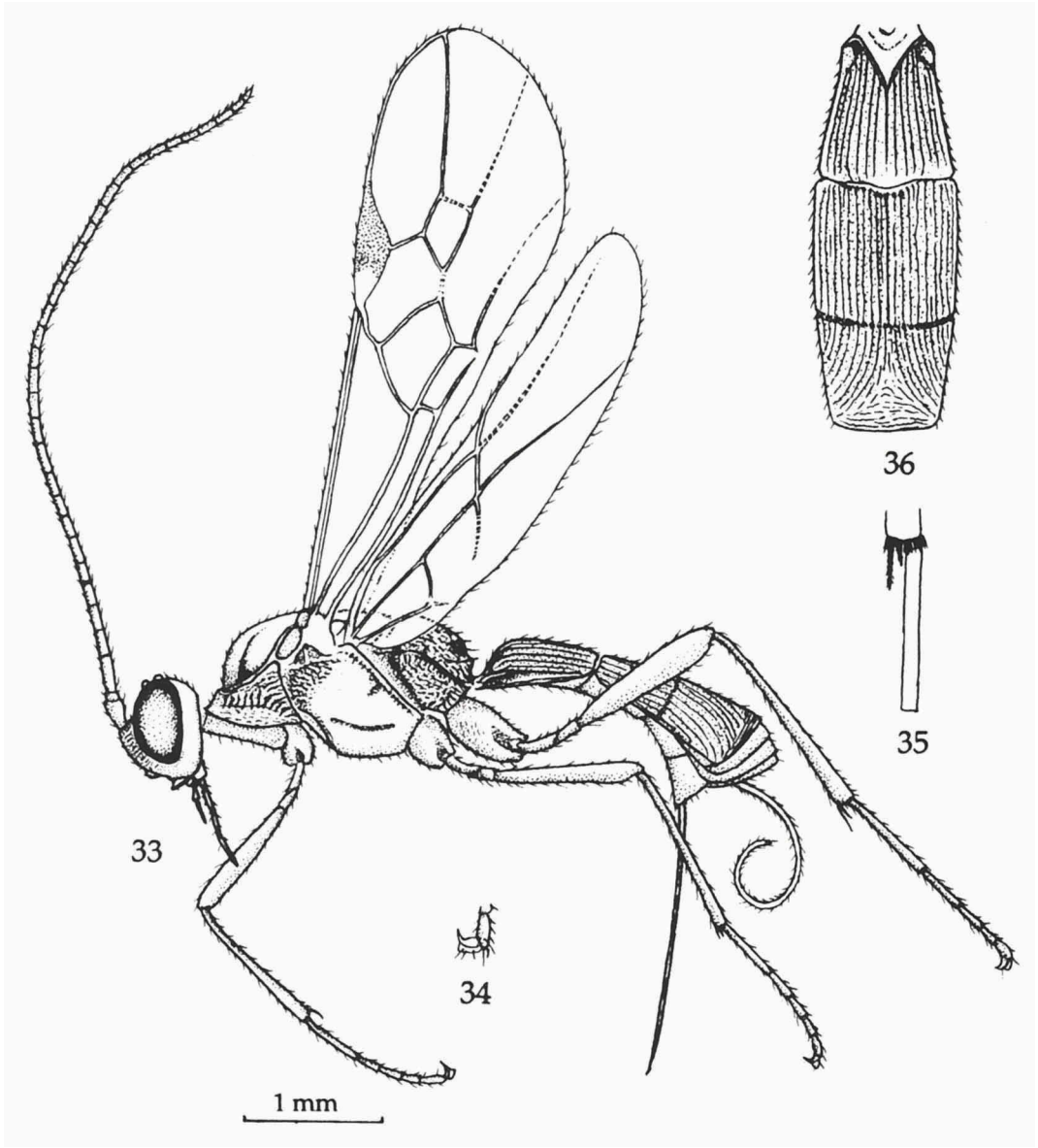
Figs 20-22, *Yelicones* spec. B nov. Quicke, Jamil & Chen, MS, paratype; 23-24, *Y. maculatus* Papp. 20, habitus, lateral view; 21, head, frontal view; 22, 24, first-third metasomal tergites; 23, wings. 20: 0.9 × scale-line; 21-22: 1.1 ×; 23-24: 1.4 ×.



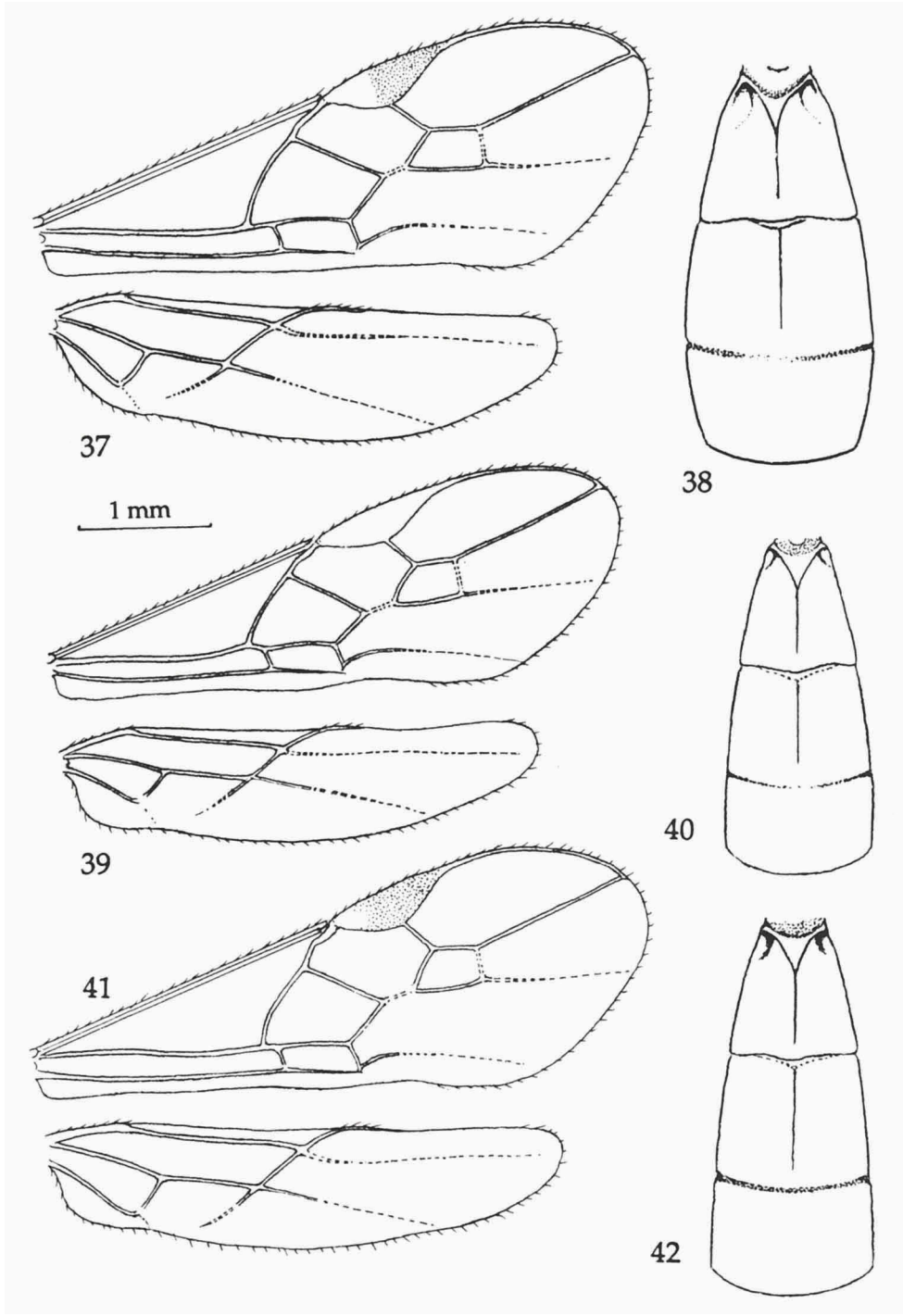
Figs 25-26, *Yelicones* spec. F nov. Chen & Quicke, MS, holotype; 27-28, *Y.* spec. L nov. Quicke, Jamil & Chen, MS, paratype. 25, 27, wings; 26, 28, first-third metasomal tergites. 25-26: 1.4 × scale-line; 27-28: 1.1 ×.



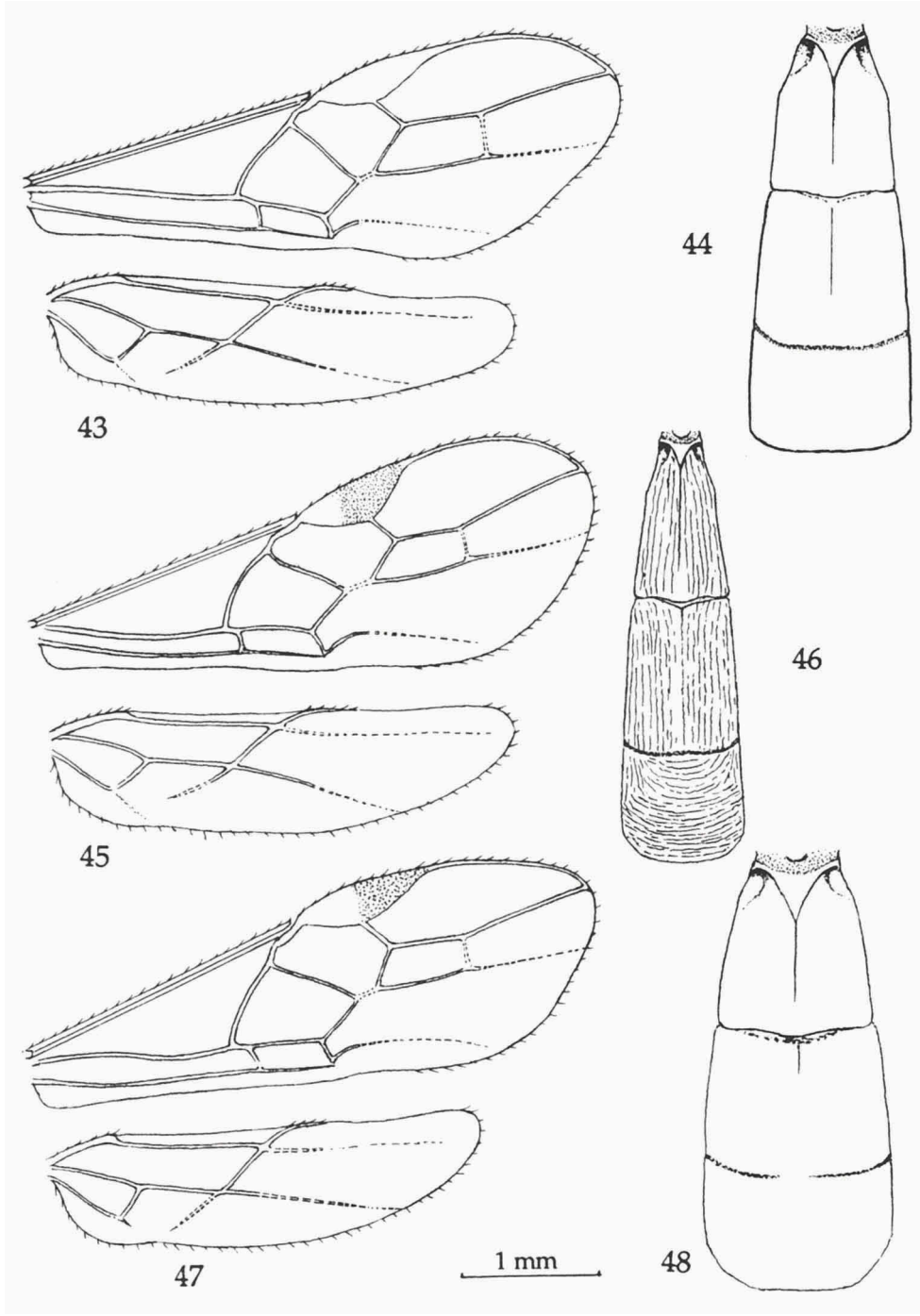
Figs 29-30, *Yelicones koreanus* Papp; 31-32, *Y. nipponensis* Togashi. 29, 31, wings; 30, 32, first-third metasomal tergites. 29-30: 1.4 × scale-line; 31-32: 0.9 ×.



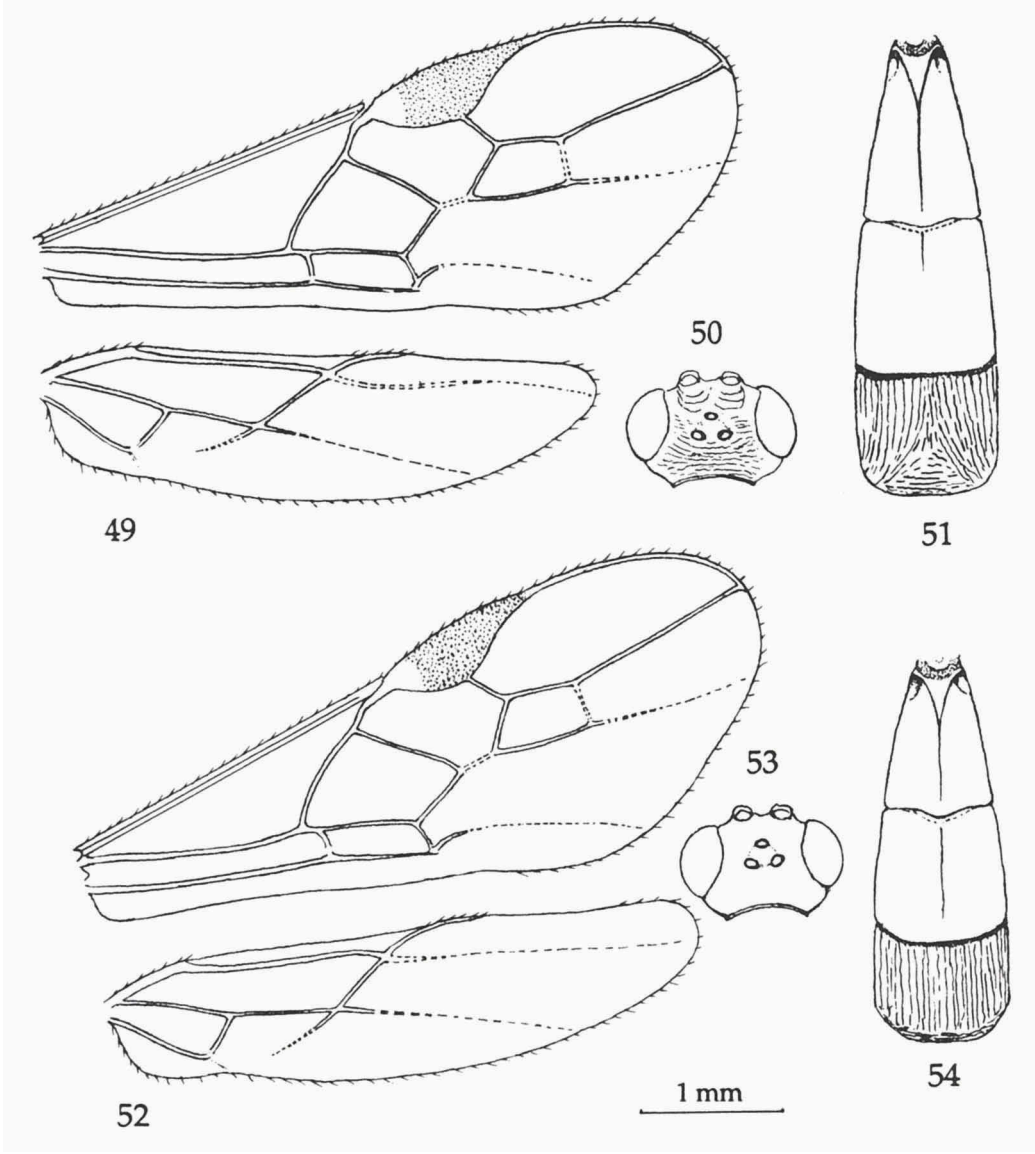
Figs 33-36, *Clinocentrus nigricans* spec. nov., holotype. 33, habitus, lateral view; 34, hind tarsal claw; 35, hind tibial spurs and basitarsus; 36, first-third metasomal tergites. 33: 1.4 × scale-line; 34-35: 2.3 ×; 36: 1.8 ×.



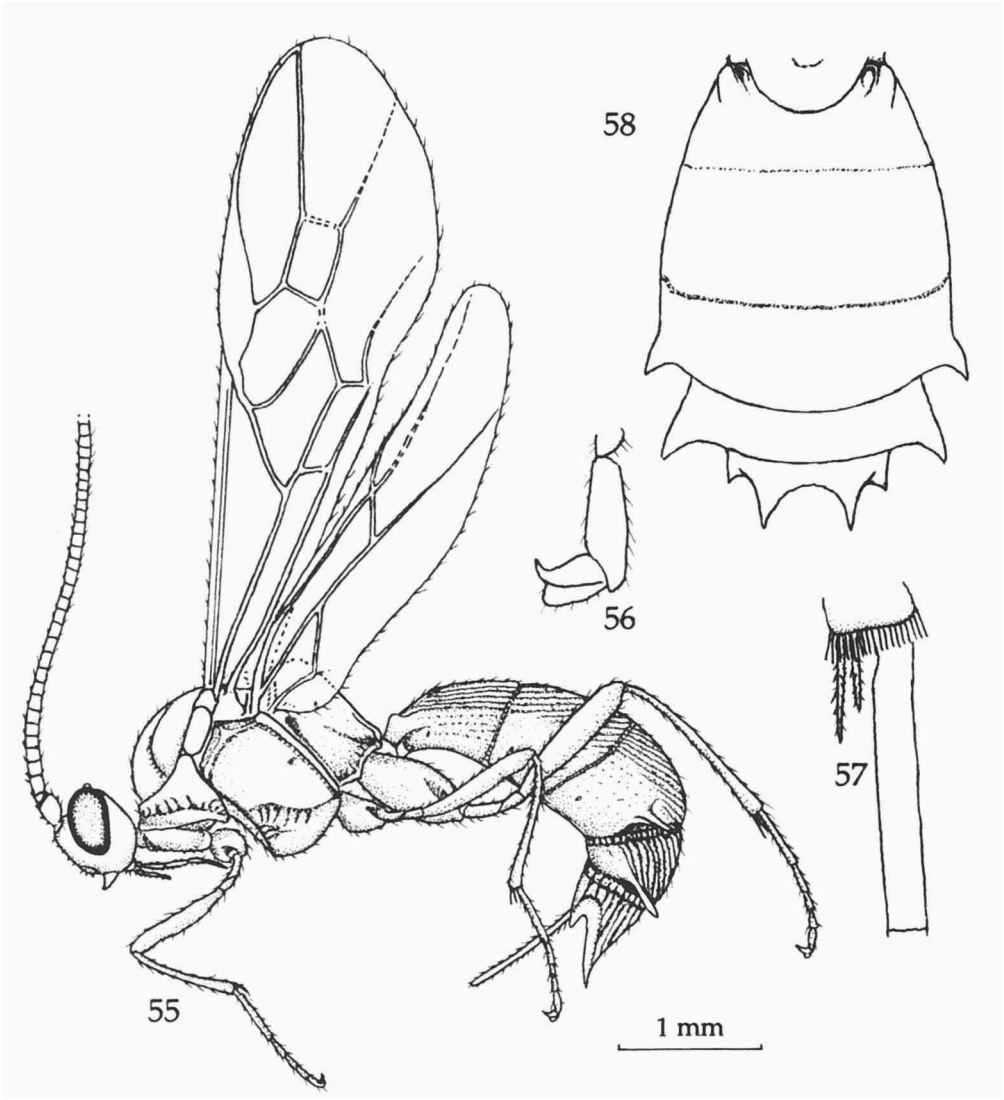
Figs 37-38, *Clinocentrus xinjiangensis* spec. nov., holotype; 39-40, *C. hubeiensis* spec. nov., holotype; 41-42, *C. cephalus* spec. nov., holotype. 37, 39, 41, wings; 38, 40, 42, first-third metasomal tergites. 37, 39, 41: 1.4 × scale-line; 38, 40, 42: 1.8 ×.



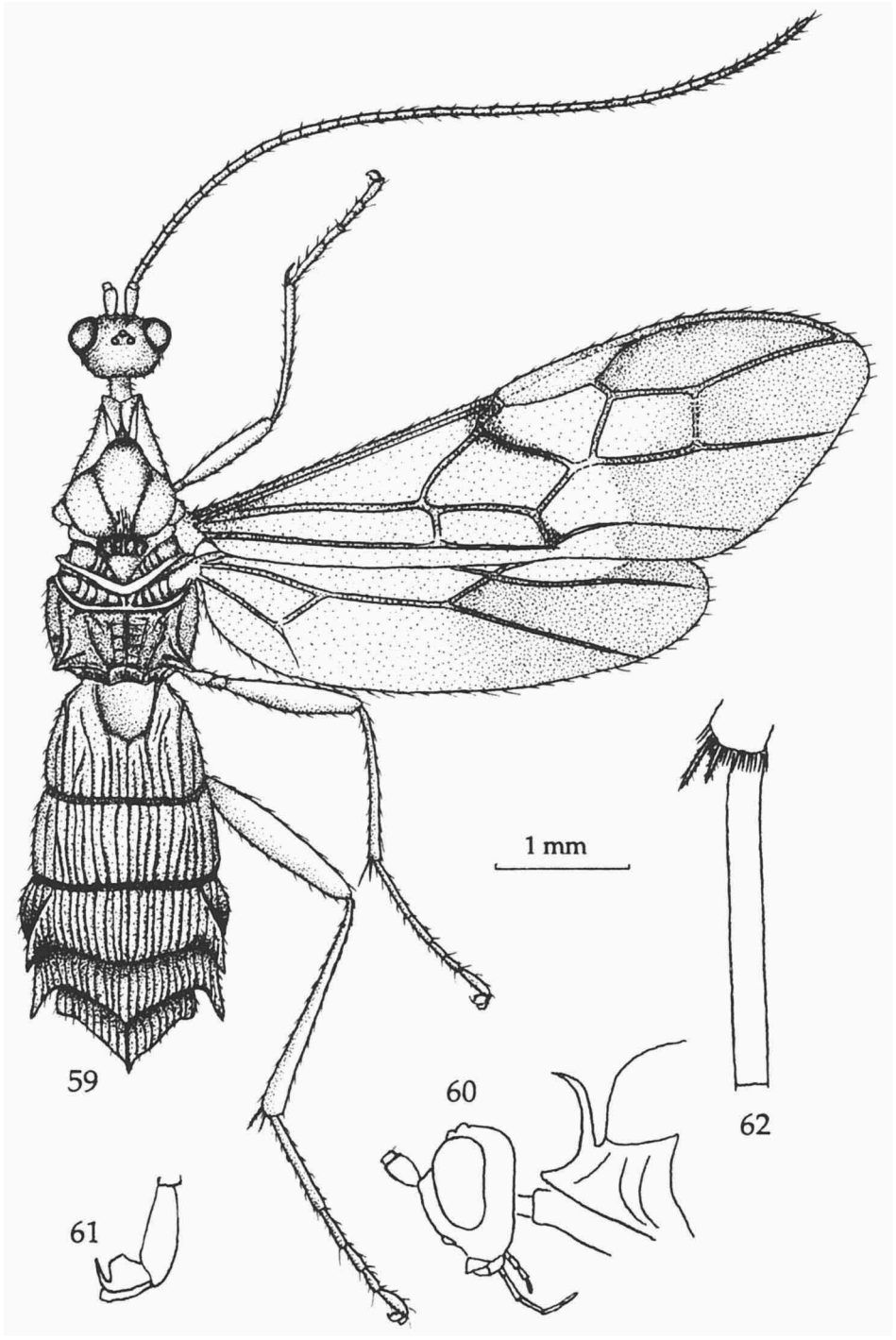
Figs 43-44, *Clinocentrus pallidistigmus* spec. nov., holotype; 45-46, *C. zebripes* spec. nov., holotype; 47-48, *C. cornalus* spec. nov., holotype. 43, 45, 47, wings; 44, 46, 348, first-third metasomal tergites. 43: 0.9 × scale-line; 44: 1.4 ×; 45, 47: 1.1 ×; 46, 48: 1.8 ×.



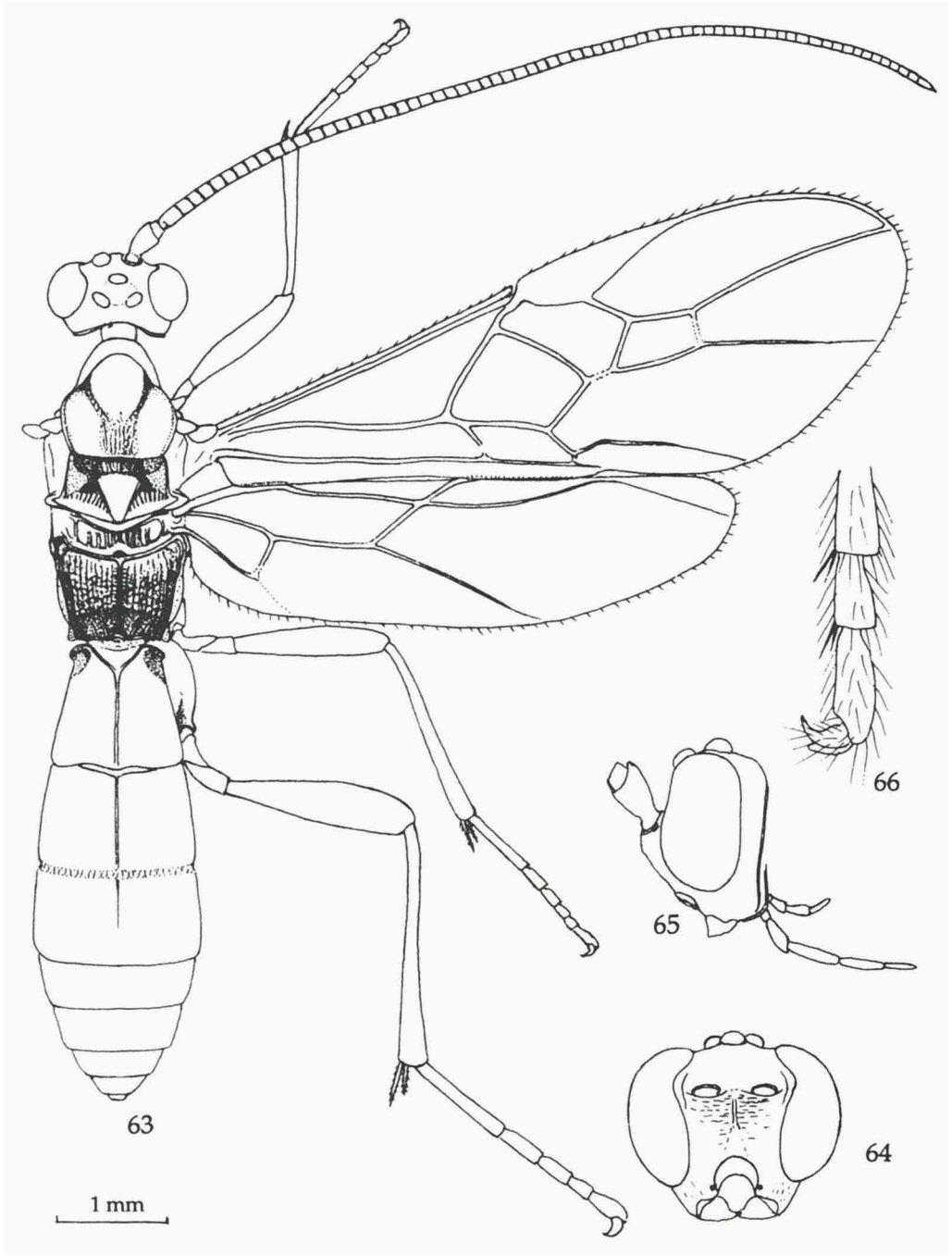
Figs 49-51, *Clinocentrus rugifrons* spec. nov., holotype; 52-54, *C. politus* spec. nov., holotype. 49, 52, wings; 50, 53, head, dorsal view; 51, 54, first-third metasomal tergites. 49-54: 1.4 × scale-line.



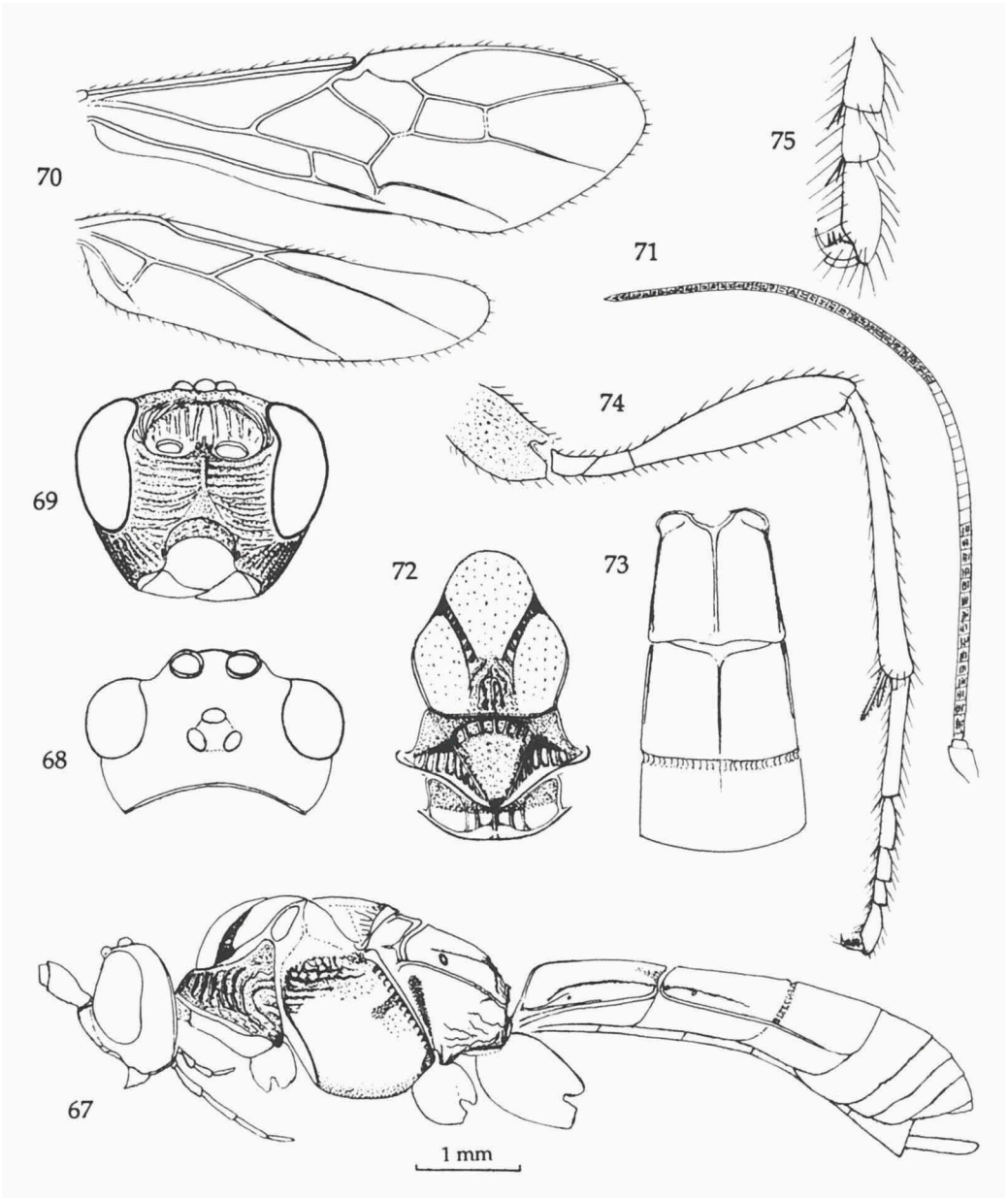
Figs 55-58, *Batotheca nigriceps* (Cameron). 55, habitus, lateral view; 56, hind tarsal claw; 57, hind tibial spurs and basitarsus; 58, metasoma, dorsal view. 55: 0.5 × scale-line; 56-57: 2.3 ×; 58: 0.6 ×.



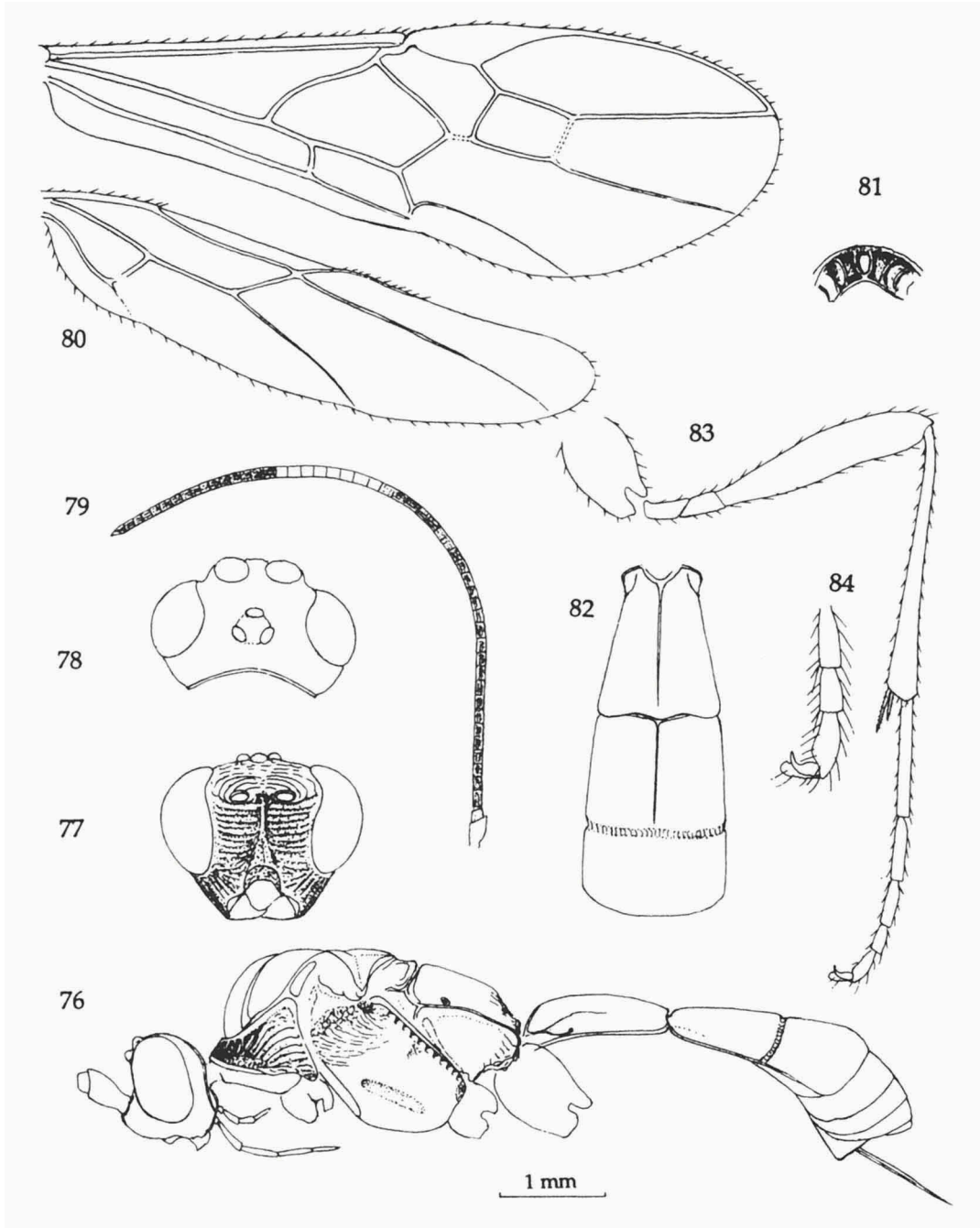
Figs 59-62, *Spinaria armator* (Fabricius). 59, habitus, dorsal view; 60, head and prothorax, lateral view; 61, hind tarsal claw; 62, hind tibial spurs and basitarsus. 59-60: 0.5 × scale-line; 61-62: 1.4 ×.



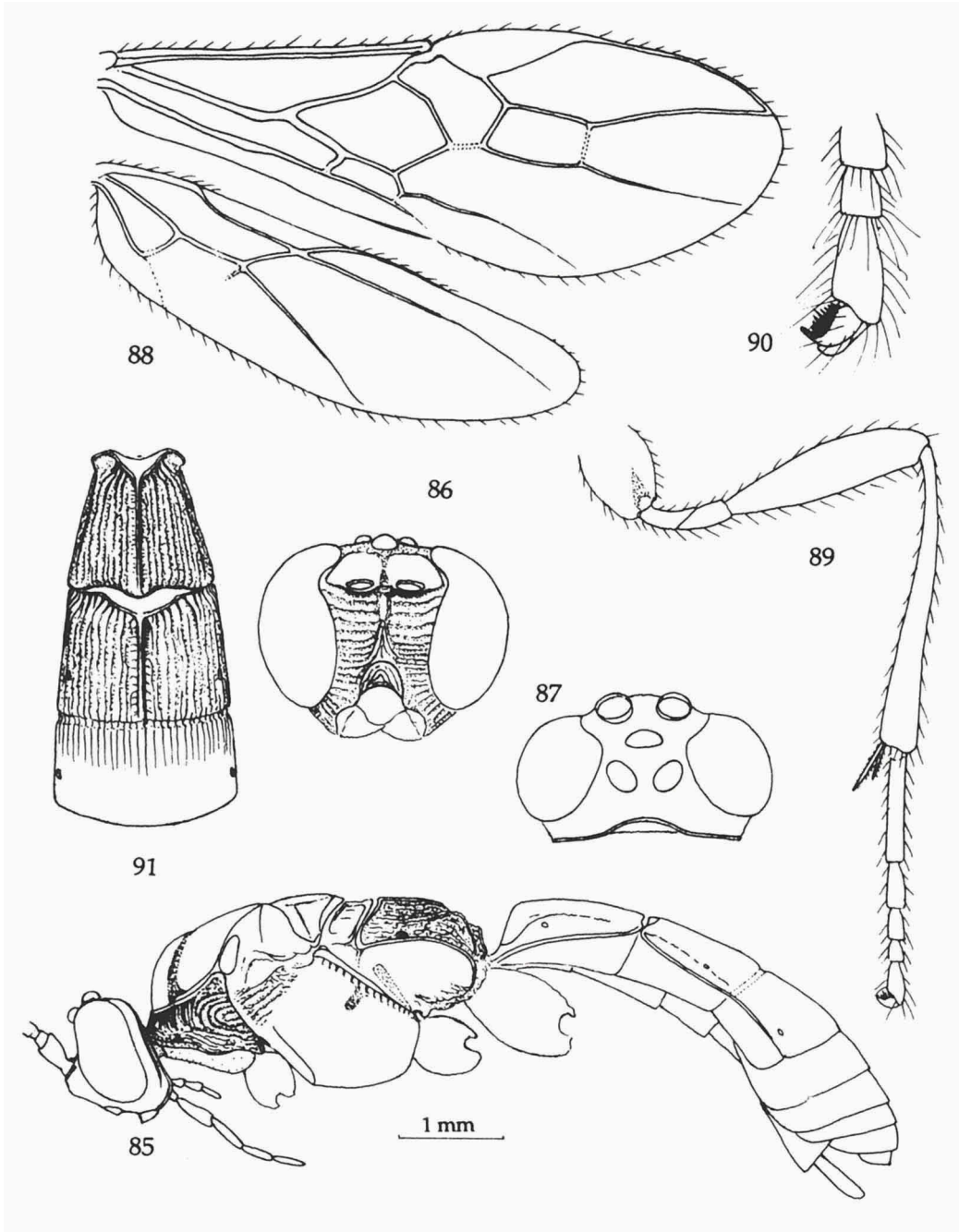
Figs 63-66, *Aleiodes praetor* (Reinhard). 63, habitus, dorsal view; 64, head, frontal view; 65, head, dorsal view; 66, hind tarsal claw. 63: 0.8 × scale-line; 64-65: 1.25 ×; 66: 2.5 ×.



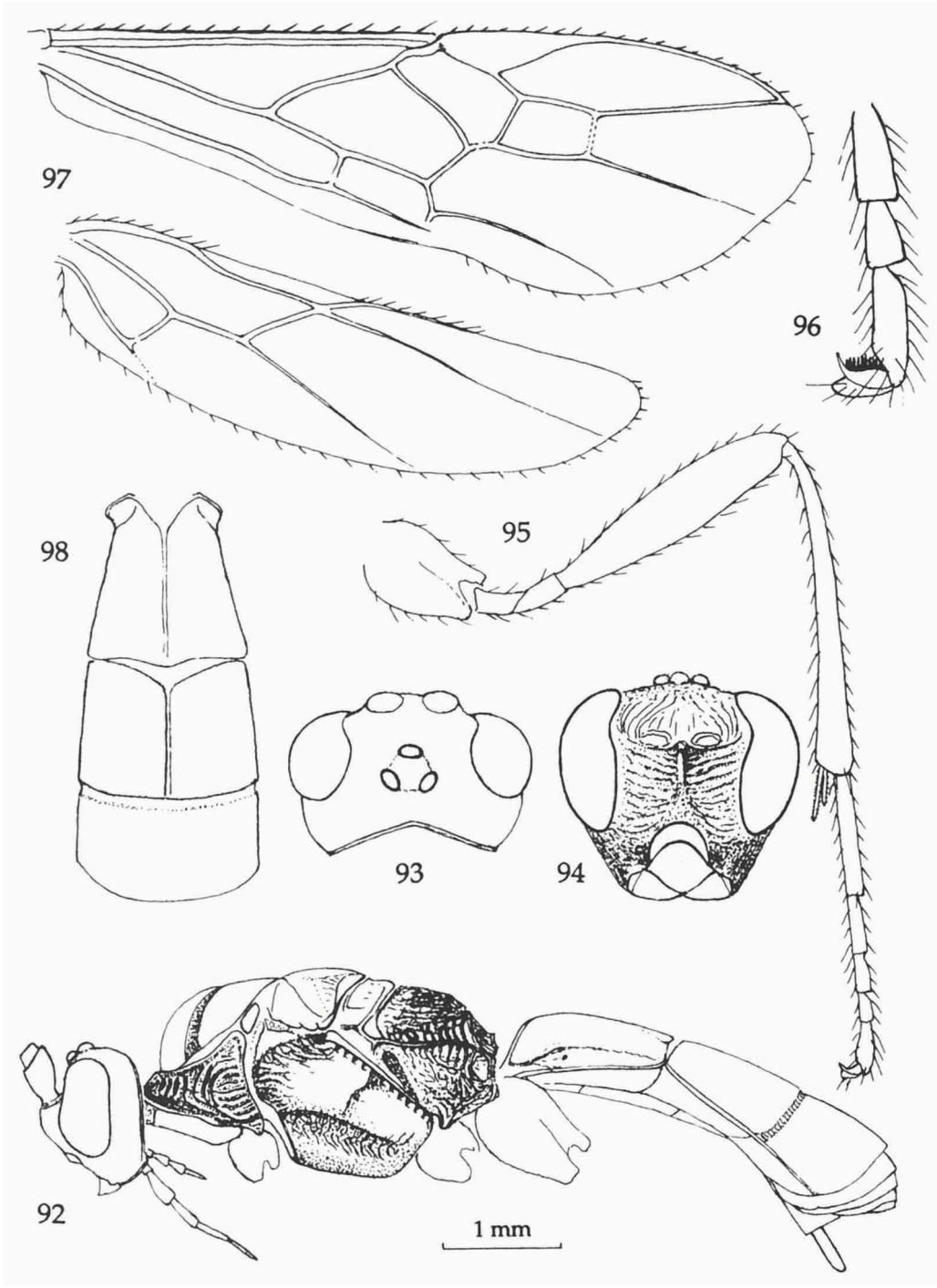
Figs 67-75, *Aleiodes lateralicarinis* Chen & He, holotype. 67, habitus, lateral view; 68, head, dorsal view; 69, head, frontal view; 70, wings; 71, antenna; 72, mesonotum and metanotum, dorsal view; 73, first-third metasomal tergites, dorsal view; 74, hind leg; 75, hind tarsal claw. 70-71: 0.8 × scale-line; 67, 72-74: 1.0 ×; 68-69: 1.6 ×; 75: 2.5 ×.



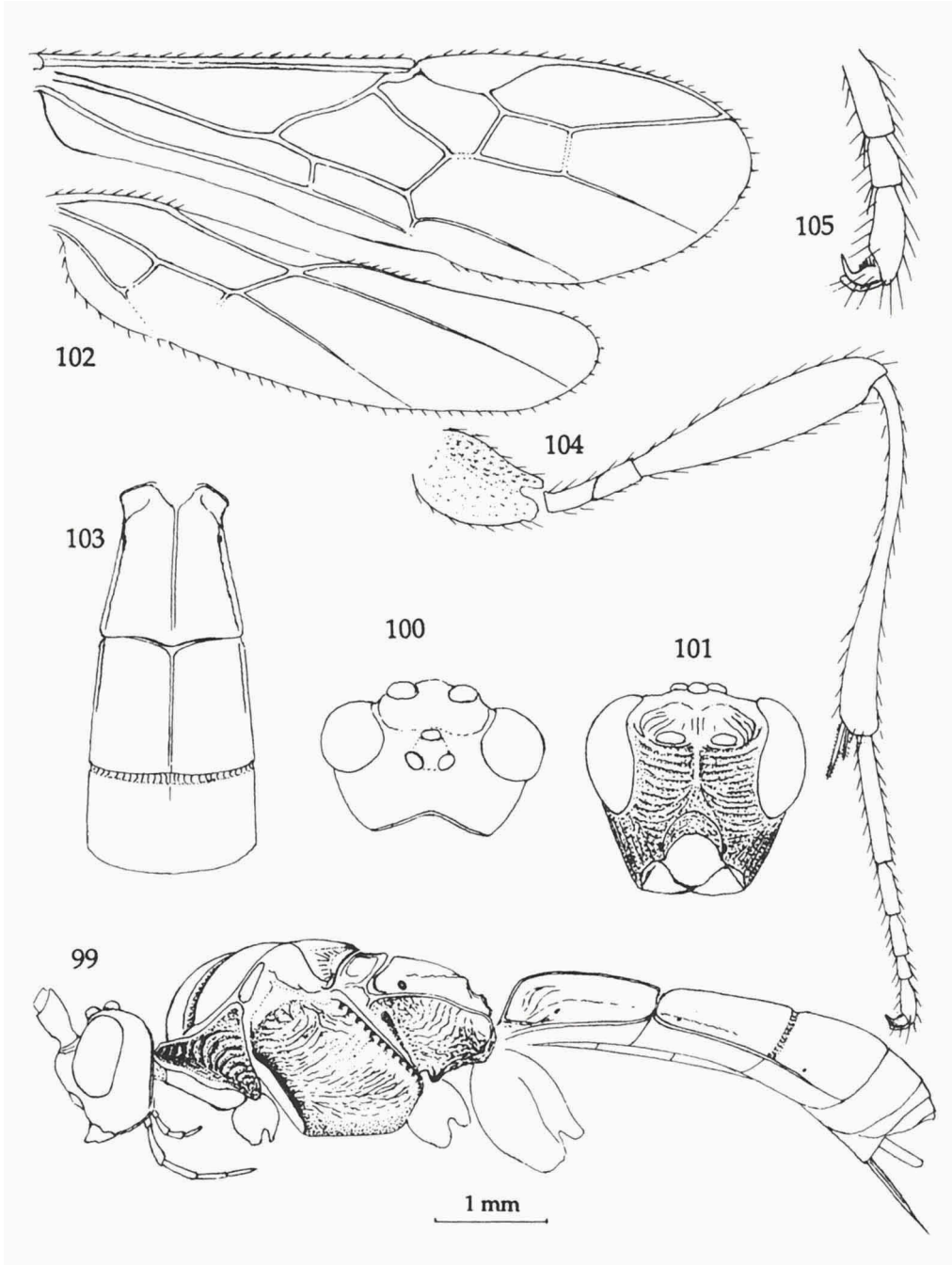
Figs 76-84, *Aleiodes coronarius* Chen & He, holotype. 76, habitus, lateral view; 77, head, frontal view; 78, head, dorsal view; 79, antenna; 80, wings; 81, pronotum, dorsal, view; 82, first-third metasomal tergites, dorsal view; 83, hind leg; 84, hind tarsal claw. 79: 1.0 × scale-line; 76, 80, 82-83: 1.6 ×; 77-78, 2.0 ×; 81, 84: 2.5 ×.



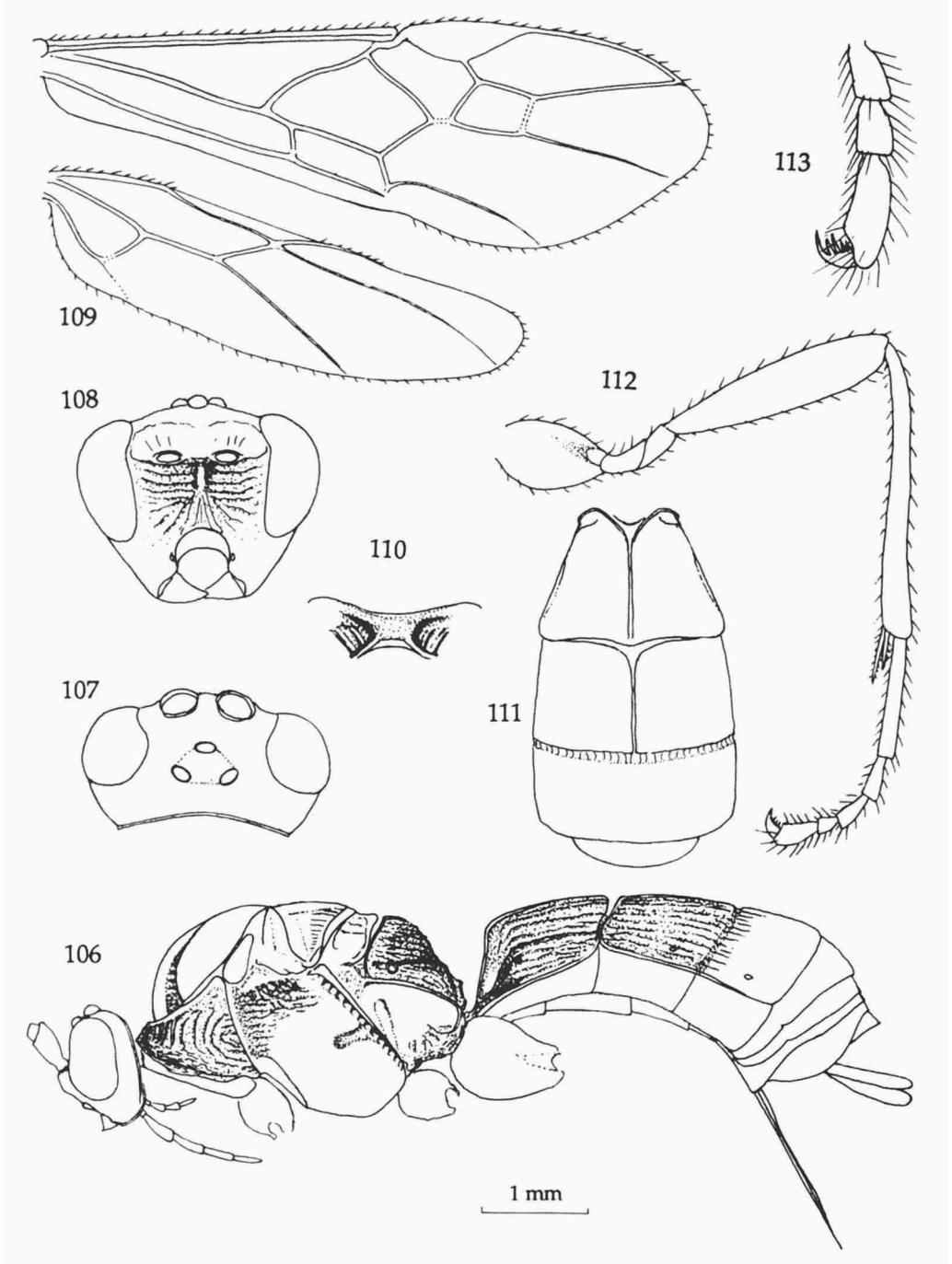
Figs 85-91, *Aleiodes angulinervis* He & Chen, holotype. 85, habitus, lateralview; 86, head, frontal view; 87, head, dorsal view; 88, wings; 89, hind leg; 90, hind tarsal claw; 91, first-third metasomal tergites. 85, 89, 91: 1.0 × scale-line; 86-87: 1.6 ×; 88: 0.8 ×; 90: 2.5 ×.



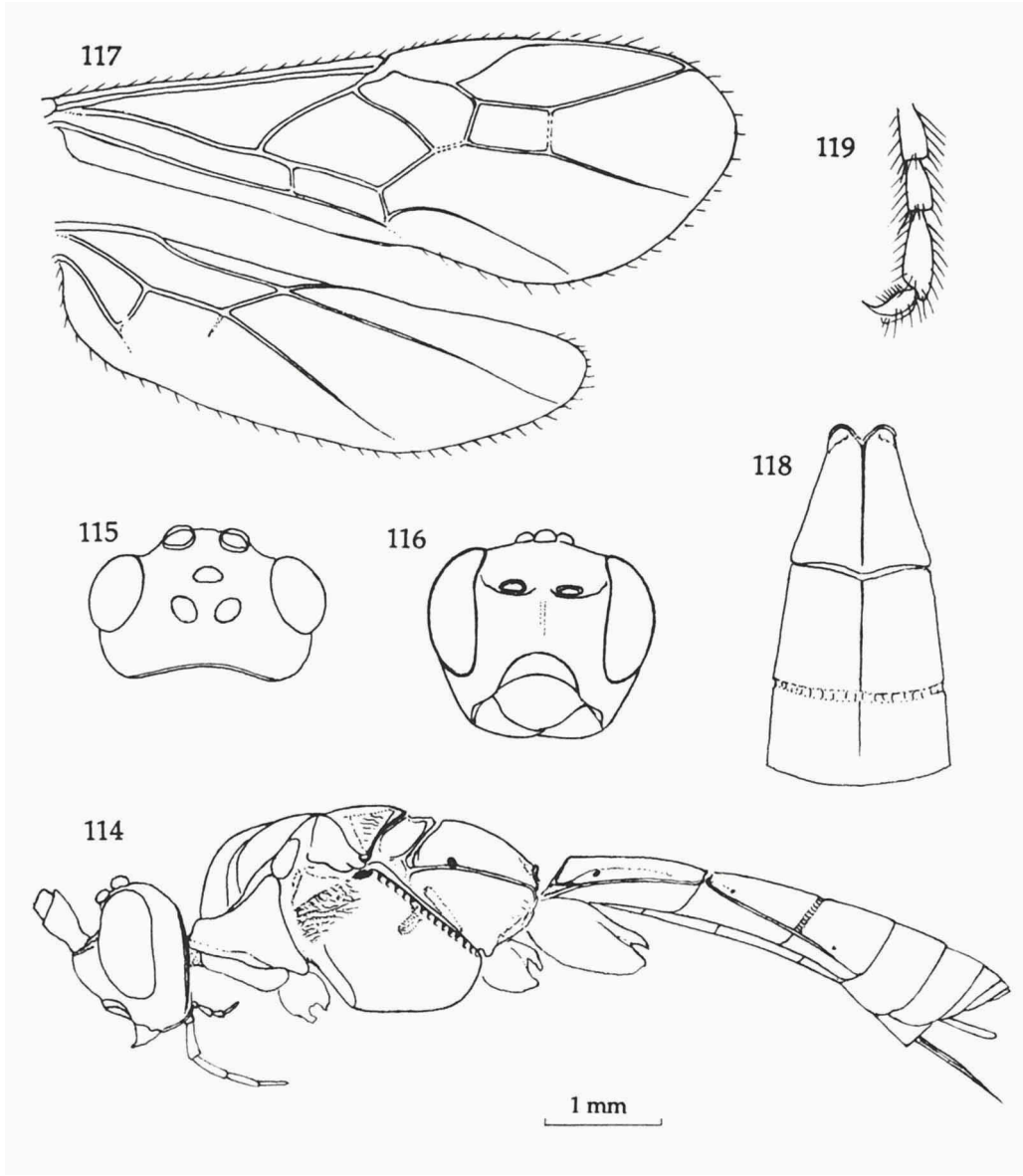
Figs 92-98, *Aleiodes shestakovi* (Shenefelt). 92, habitus, lateral view; 93, head, dorsal view; 94, head, frontal view; 95, hind leg; 96, hind tarsal claw; 97, wings; 98, first-third metasomal tergites. 92, 95, 97, 98: 1.0 × scale-line; 93-94: 1.6 ×; 96: 2.5 ×.



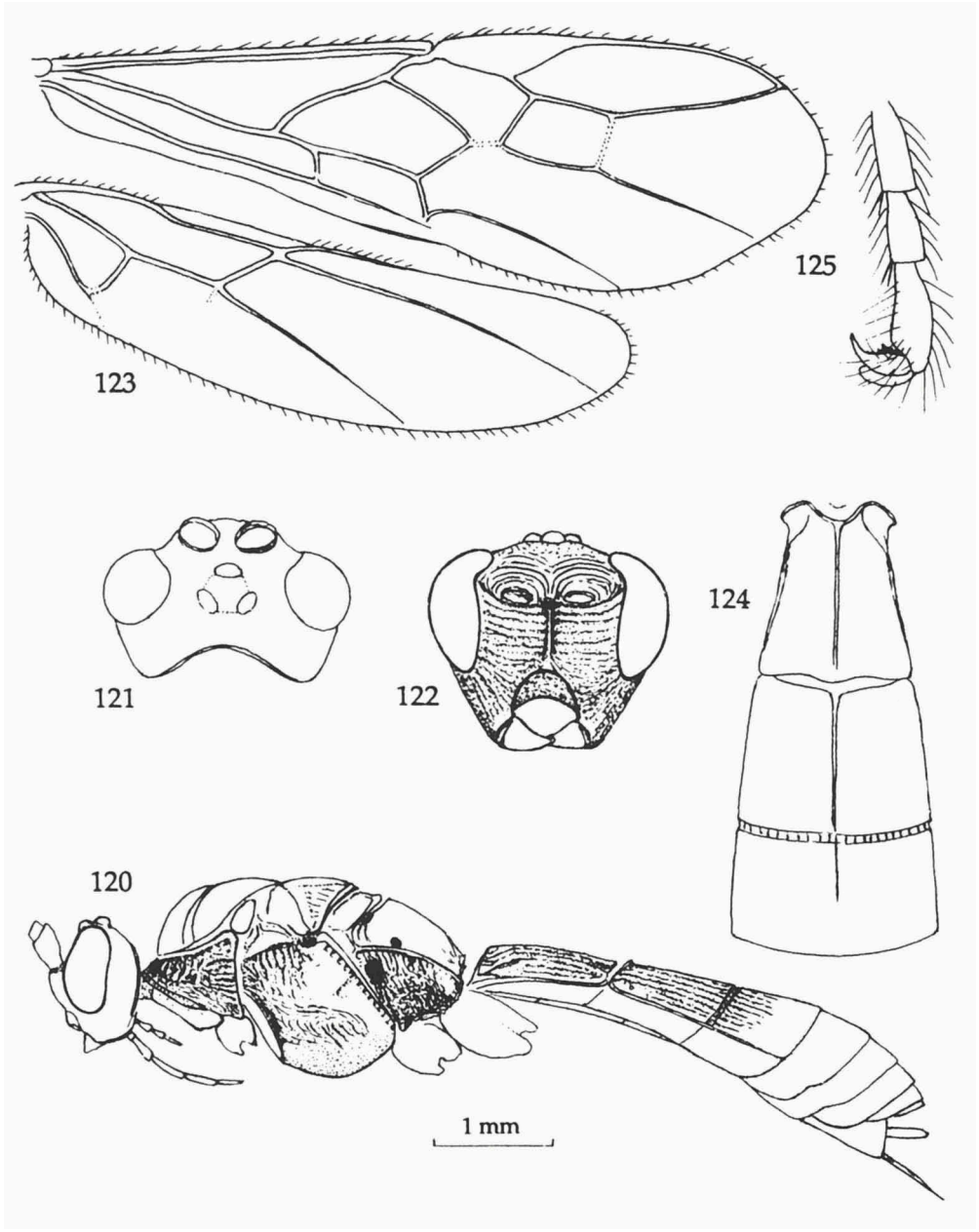
Figs 99-105, *Aleiodes microculatus* (Watanabe). 99, habitus, lateral view; 100, head, dorsal view; 101, head, frontal view; 102, wings; 103, first-third metasomal tergites, dorsal view; 104, hind leg; 105, hind tarsal claw. 99, 102-104: 1.0 × scale-line; 100-101: 1.6 ×; 105: 2.5 ×.



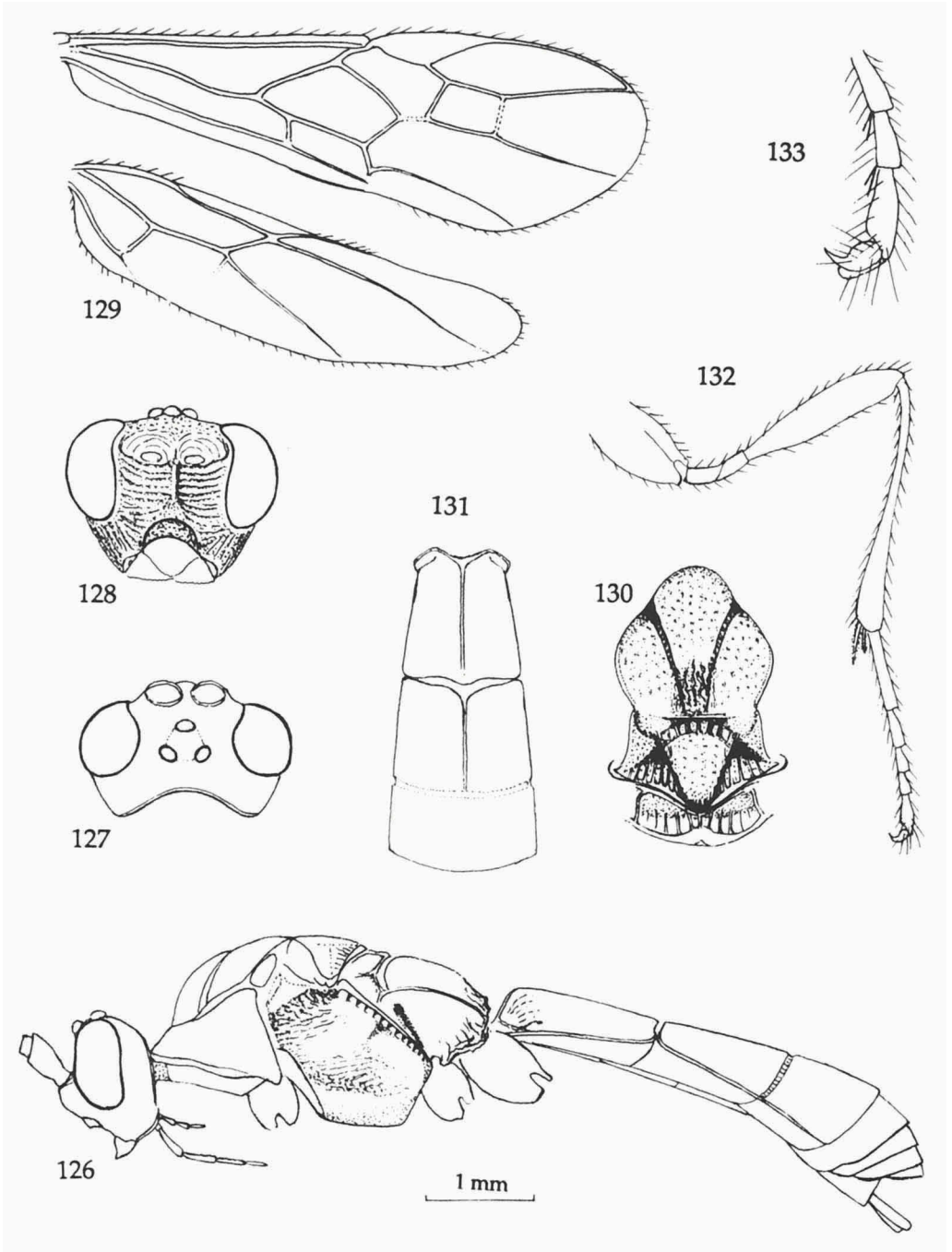
Figs 106-113, *Aleiodes cariniventris* (Enderlein). 106, habitus, lateral view; 107, head, dorsal view; 108, head, frontal view; 109, wings; 110, pronotum, dorsal view; 111, first-third metasomal tergites, dorsal view; 112, hind leg; 113, hind tarsal claw. 106, 109, 111-112: 1.0 × scale-line; 107-108: 1.6 ×; 110, 113: 2.5 ×.



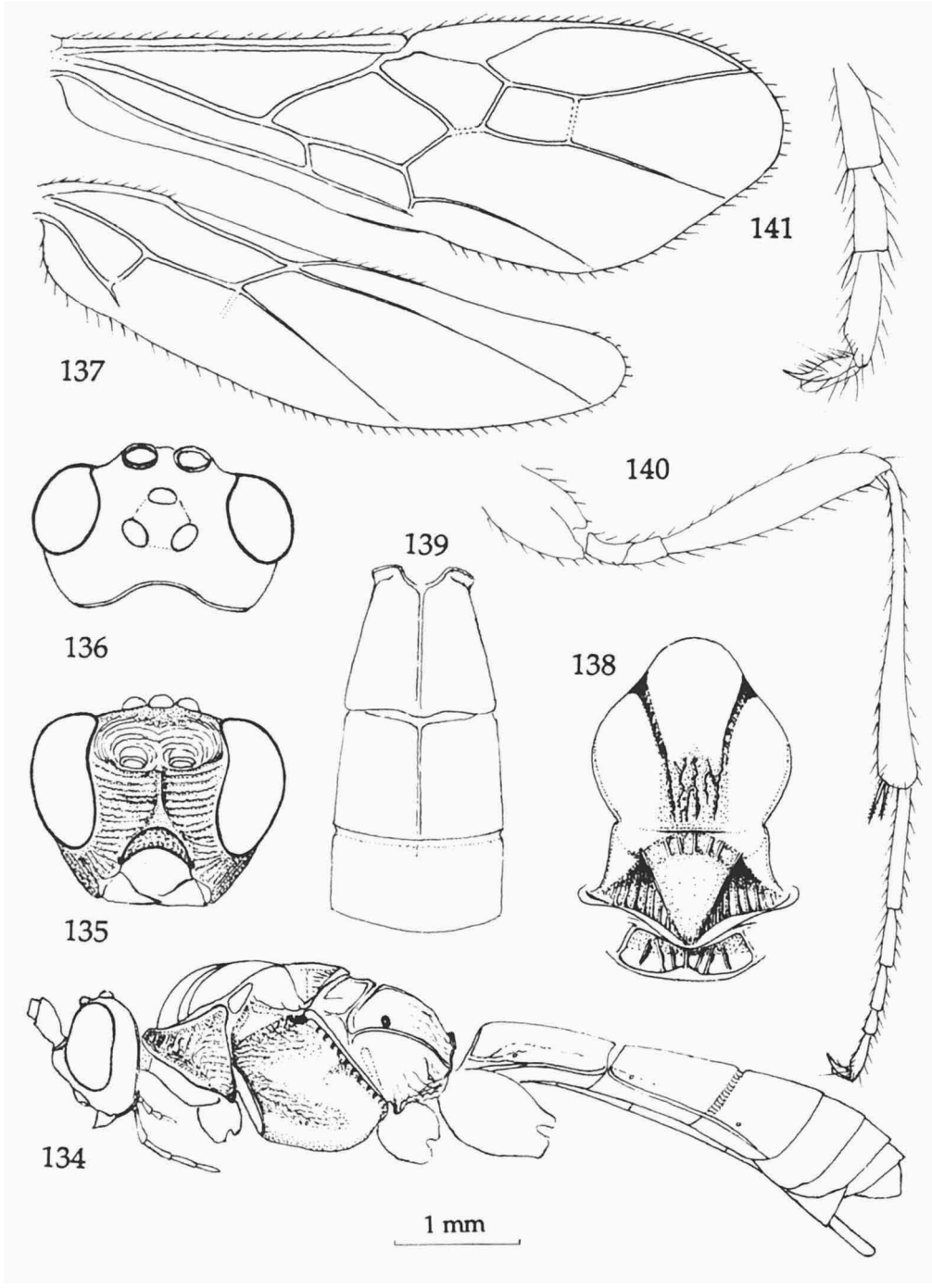
Figs 114-119, *Aleiodes fahringeri* (Telenga). 114, habitus, lateral view; 115, head, dorsal view; 116, head, frontal view; 117, wings; 118, first-third metasomal tergites, dorsal view; 119, hind tarsal claw. 117: 1.0 × scale-line; 114, 118: 1.25 ×; 115-116: 1.6 ×; 119: 2.5 ×.



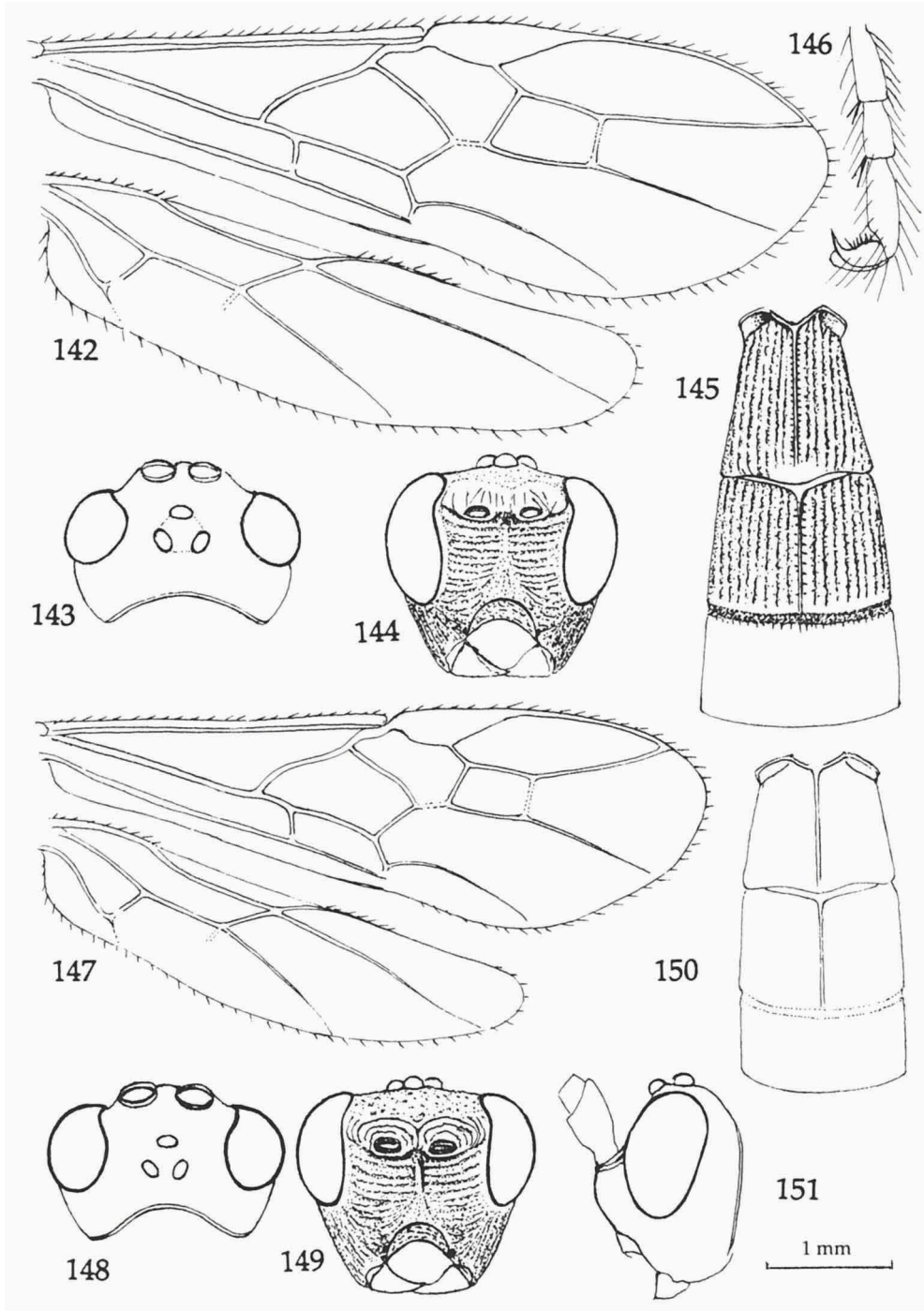
Figs 120-125, *Aleiodes eurinus* (Telenga). 120, habitus, lateral view; 121, head, dorsal view; 122, head, frontal view; 123, wings; 124, first-third metasomal tergites, dorsal view; 125, hind tarsal claw. 120, 123: 1.0 × scale-line; 121-122: 1.6 ×; 124: 1.25 ×; 125: 2.5 ×.



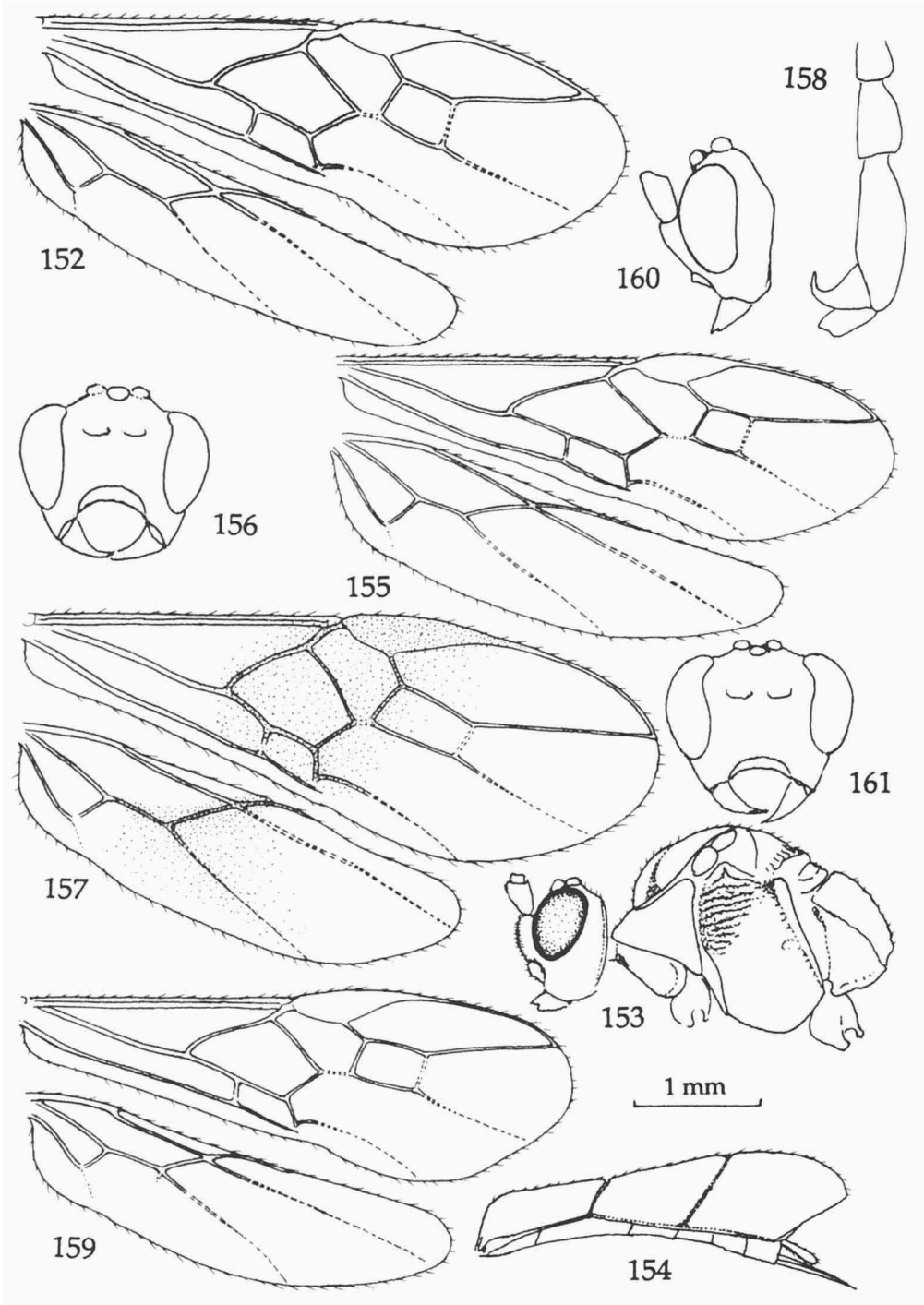
Figs 126-133, *Aleiodes pallidistigma* (Telenga). 126, habitus, lateral view; 127, head, dorsal view; 128, head, frontal view; 129, wings; 130, mesonotum and metanotum, dorsal view; 131, first-third metasomal tergites, dorsal view; 132, hind leg; 133, hind tarsal claw. 129, 131-132: 1.0 × scale-line; 127-128, 130: 1.6 ×; 126: 1.25 ×; 133: 2.5 ×.



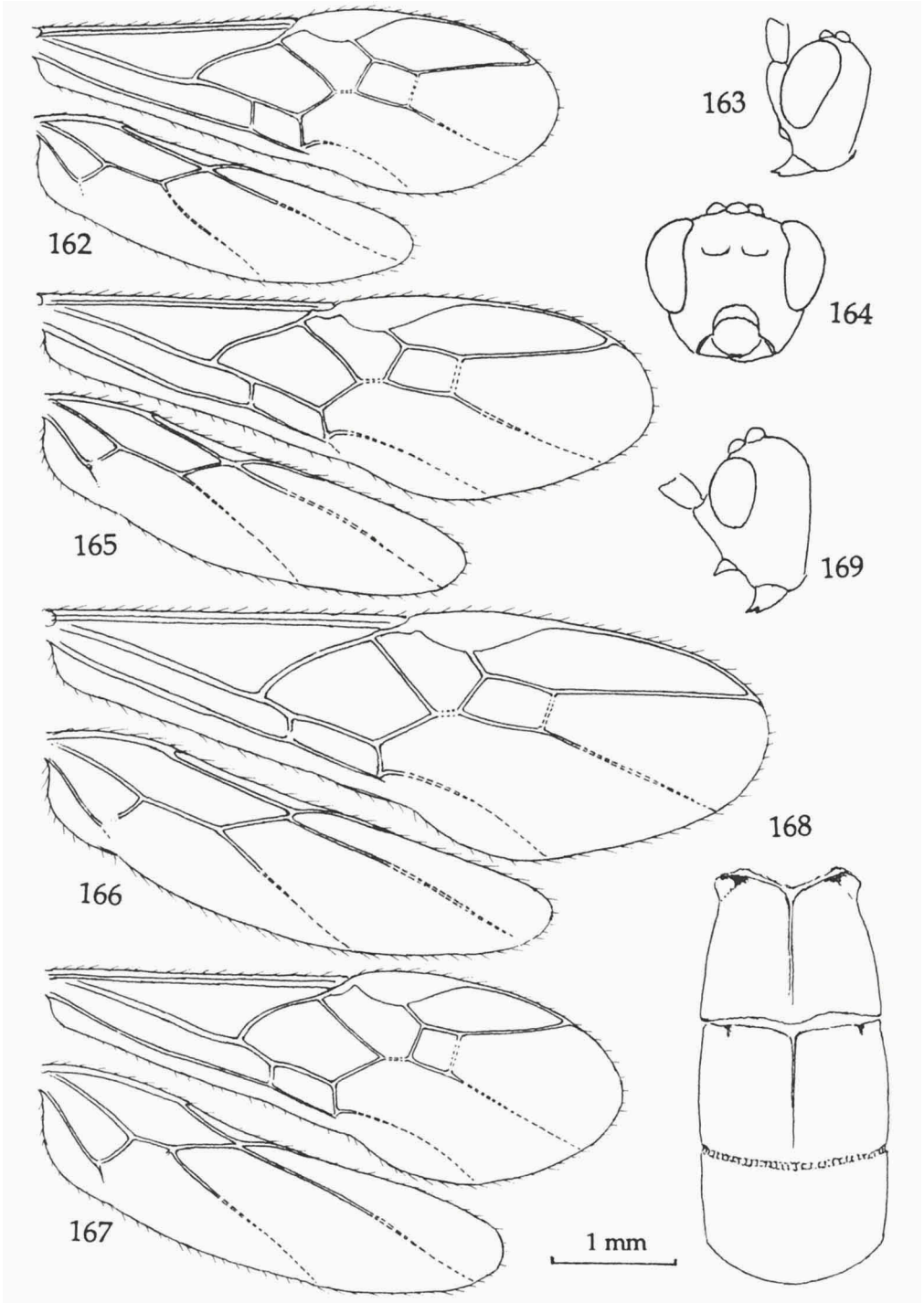
Figs 134-141, *Aleiodes ferrugiteli* (Shenefelt). 134, habitus, lateral view; 135, head, frontal view; 136, head, dorsal view; 137, wings; 138, mesonotum and metanotum, dorsal view; 139, first-third metasomal tergites, dorsal view; 140, hind leg; 141, hind tarsal claw. 134, 137, 139-140: 1.0 × scale-line; 135-136, 138: 1.6 ×; 141: 2.5 ×.



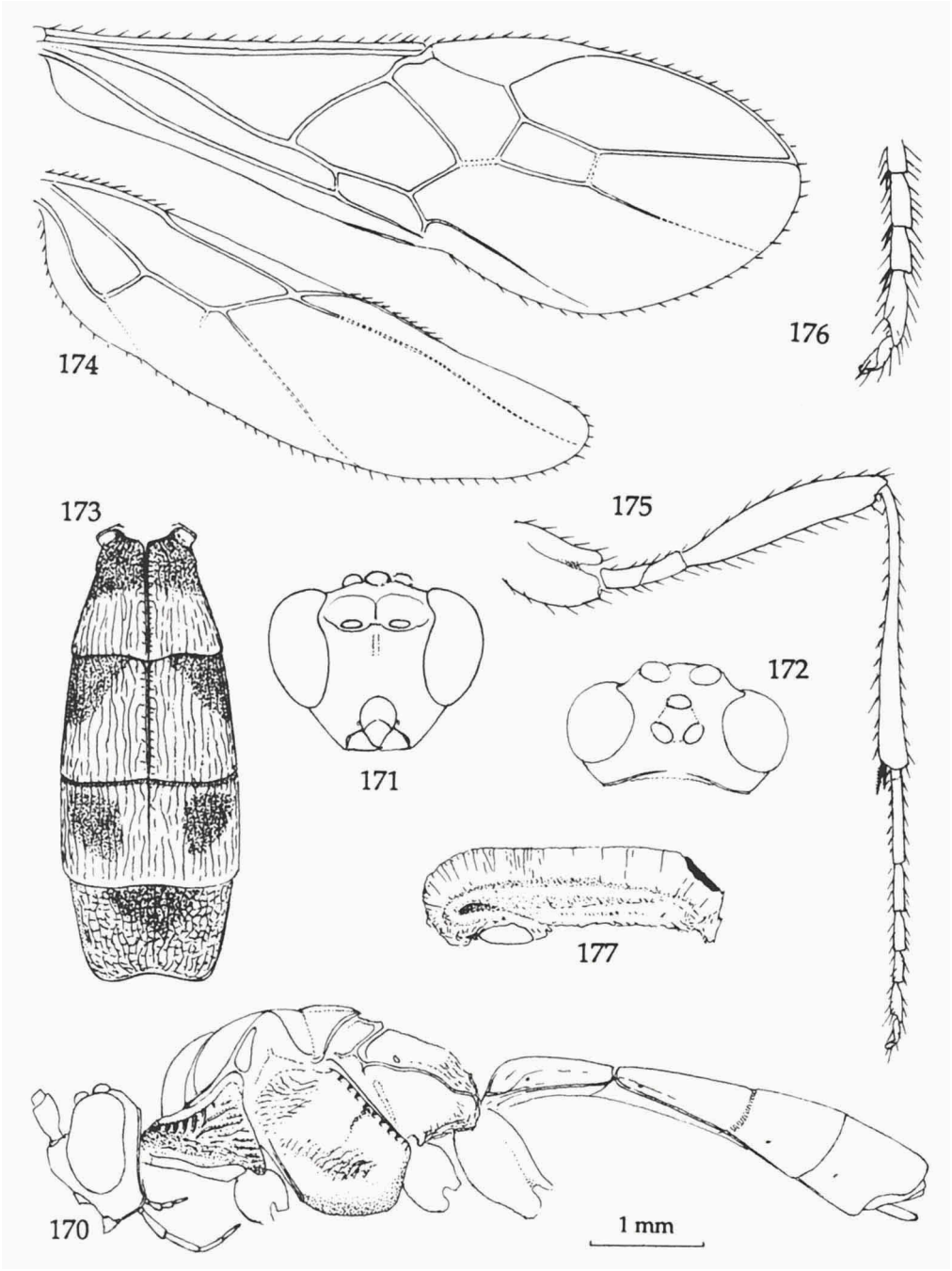
Figs 142-146, *Aleiodes unipunctator* (Thunberg); 147-151, *A. spretus* (Telenga). 142, 147, wings; 143, 148, head, dorsal view; 144, 149, head, frontal view; 145, 150, first-third metasomal tergites, dorsal view; 146, hind tarsal claw; 151, head, lateral view. 142, 147, 150: 1.0 × scale-line; 143-144, 148-149, 151: 1.6 ×; 145: 1.25 ×; 146: 2.5 ×.



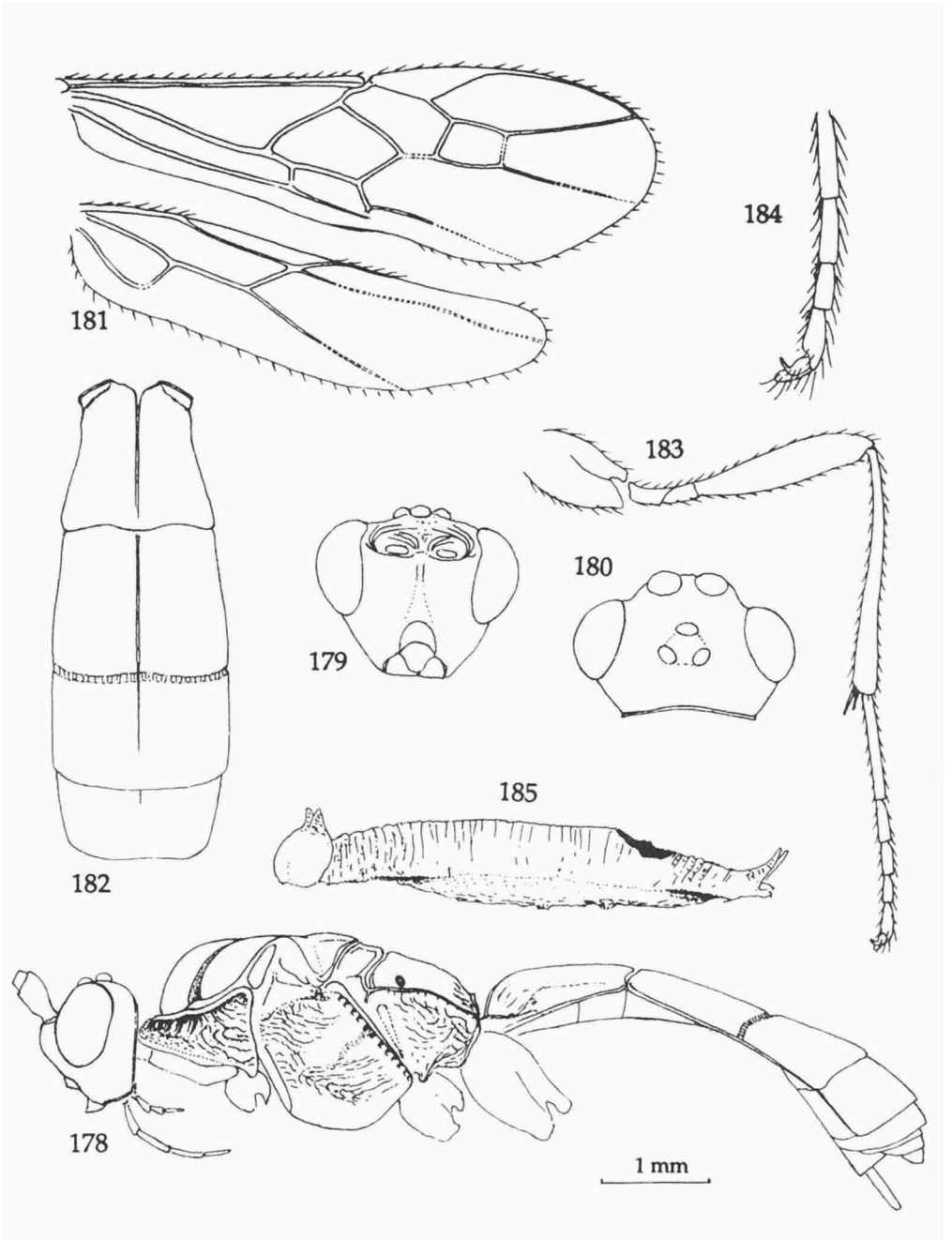
Figs 152-154, *Aleiodes convexus* van Achterberg; 155-156, *A. krulikowskii* (Kokujev); 157-158, *A. aestuosus* (Reinhard); 159-161, *A. cruentus* (Nees). 152, 155, 157, 159, wings; 153, head and mesosoma, lateral view; 154, metasoma, lateral view; 156, 161, head, frontal view; 158, hind tarsal claw; 160, head, lateral view. 152-154: 1.0 × scale-line; 155, 157, 159: 0.6 ×; 156, 160-161, 0.9 ×; 158: 2.0 ×.



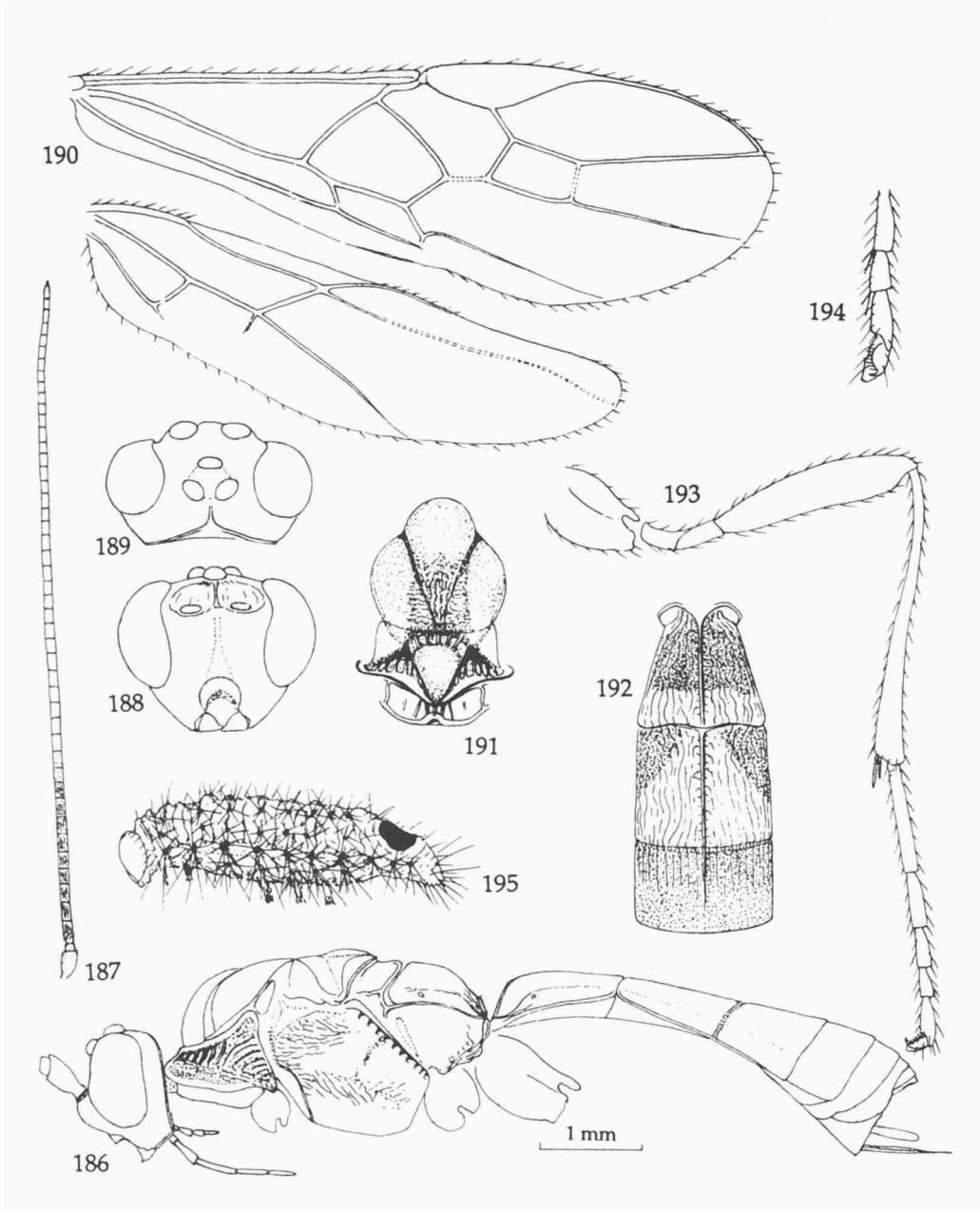
Figs 162-164, *Aleiodes schirjajewi* (Kokujev); 165, *A. rufipes* (Thomson); 166, *A. sapporensis* (Watanabe); 167-169, *A. mongolicus* (Telenga). 162, 165-167, wings; 163, 169, head, lateral view; 164, head, frontal view; 168, first-third metasomal tergites, dorsal view. 162, 165, 167, 169: 0.7 × scale-line; 163-164: 1.0 ×; 166: 0.6 ×; 168: 0.9 ×.



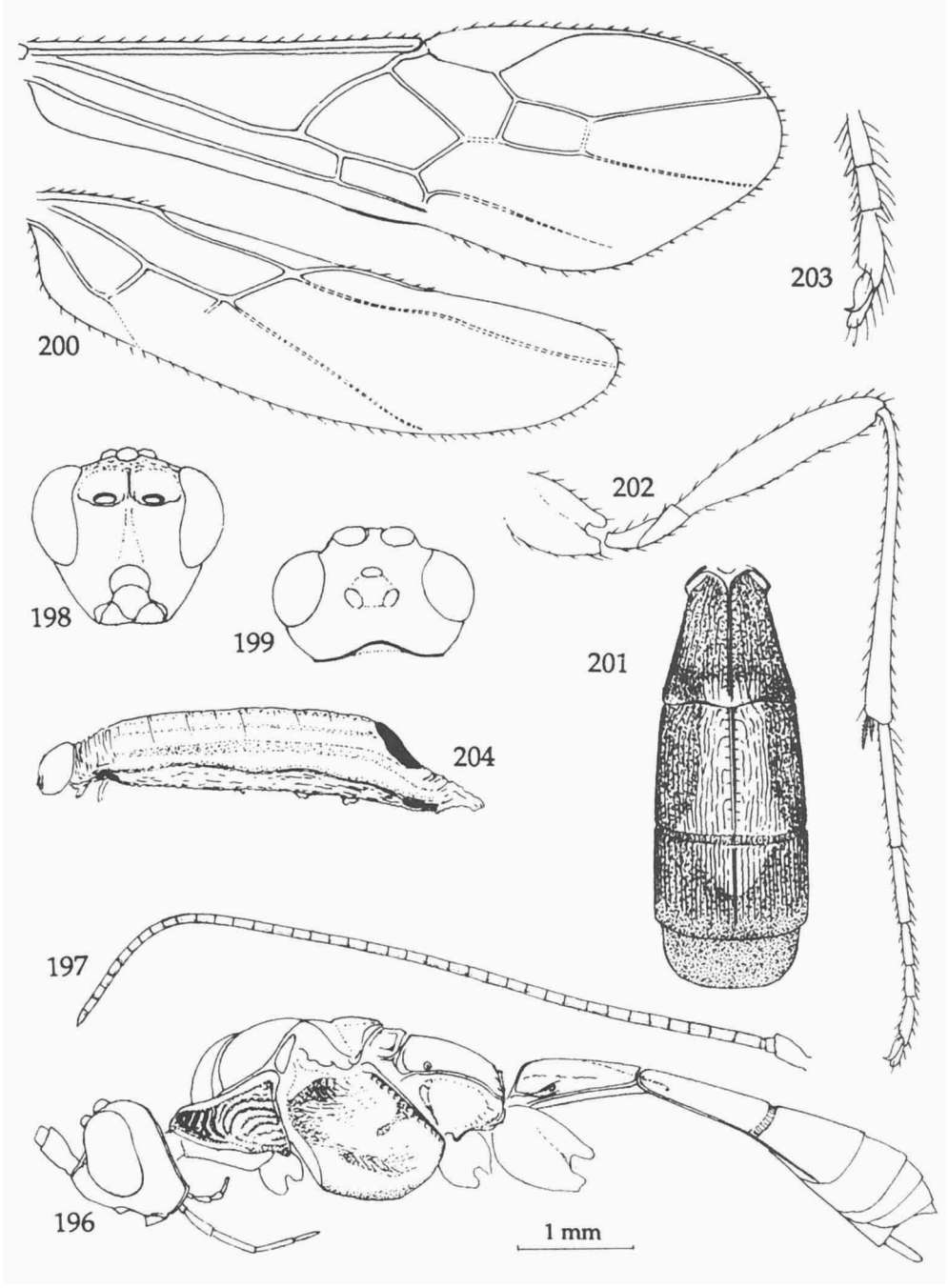
Figs 170-177, *Aleiodes buzurae* He & Chen, holotype. 170, habitus, lateral view; 171, head, frontal view; 172, head, dorsal view; 173, first-fourth metasomal tergites, dorsal view; 174, wings; 175, hind leg; 176, hind tarsal claw; 177, parasitized host larva. 170, 173-175: 1.6 × scale-line; 171-172: 2.0 ×; 176: 2.5 ×; 177: 0.5 ×.



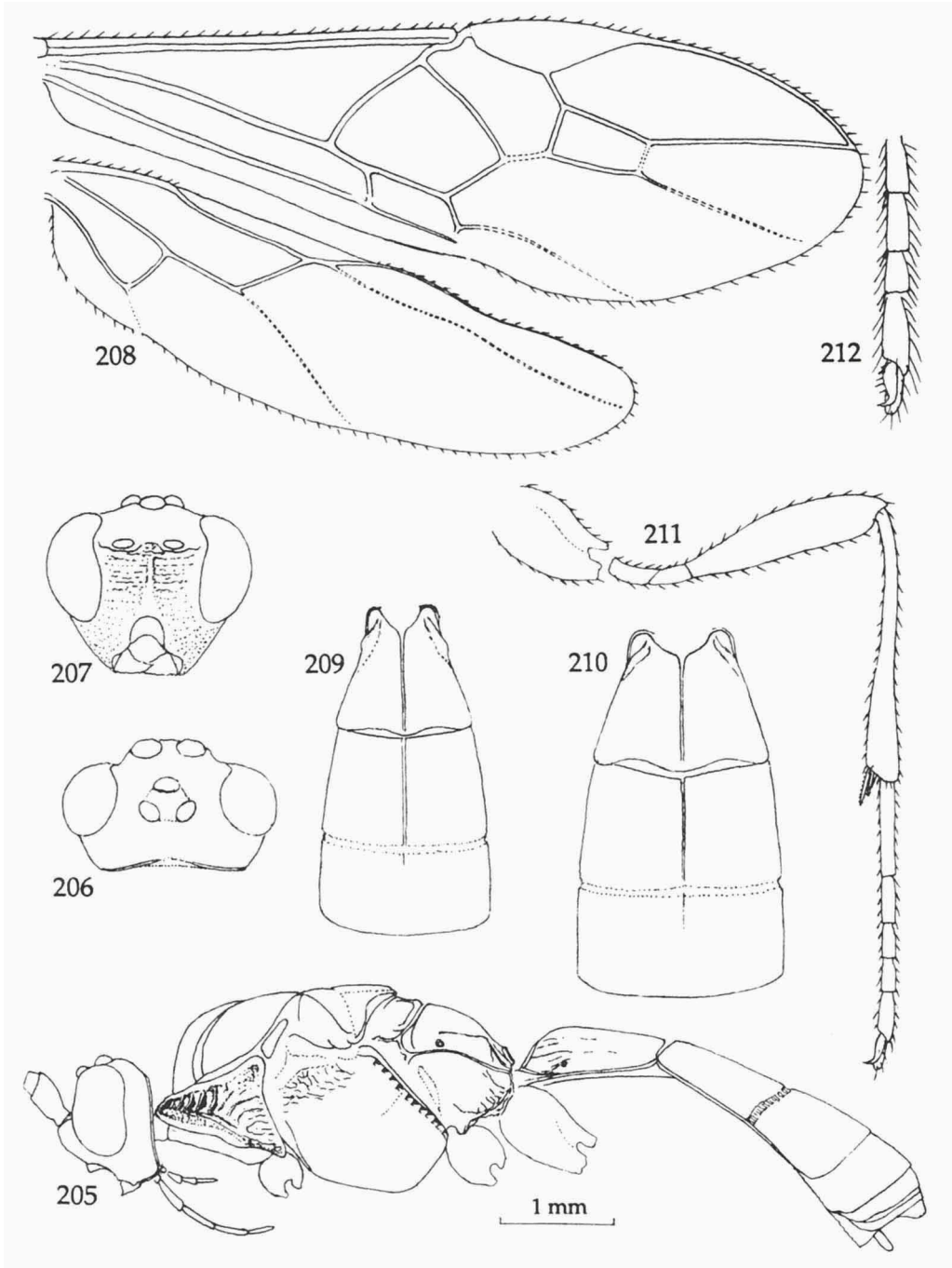
Figs 178-185, *Aleiodes coxalis* (Spinola). 178, habitus, lateral view; 179, head, frontal view; 180, head, dorsal view; 181, wings; 182, first-fourth metasomal tergites, dorsal view; 183, hind leg; 184, hind tarsal claw; 185, parasitized host larva. 178, 181, 183: 1.25 × scale-line; 182: 1.6 ×; 179-180: 2.0 ×; 184: 2.5 ×; 185: 0.5 ×.



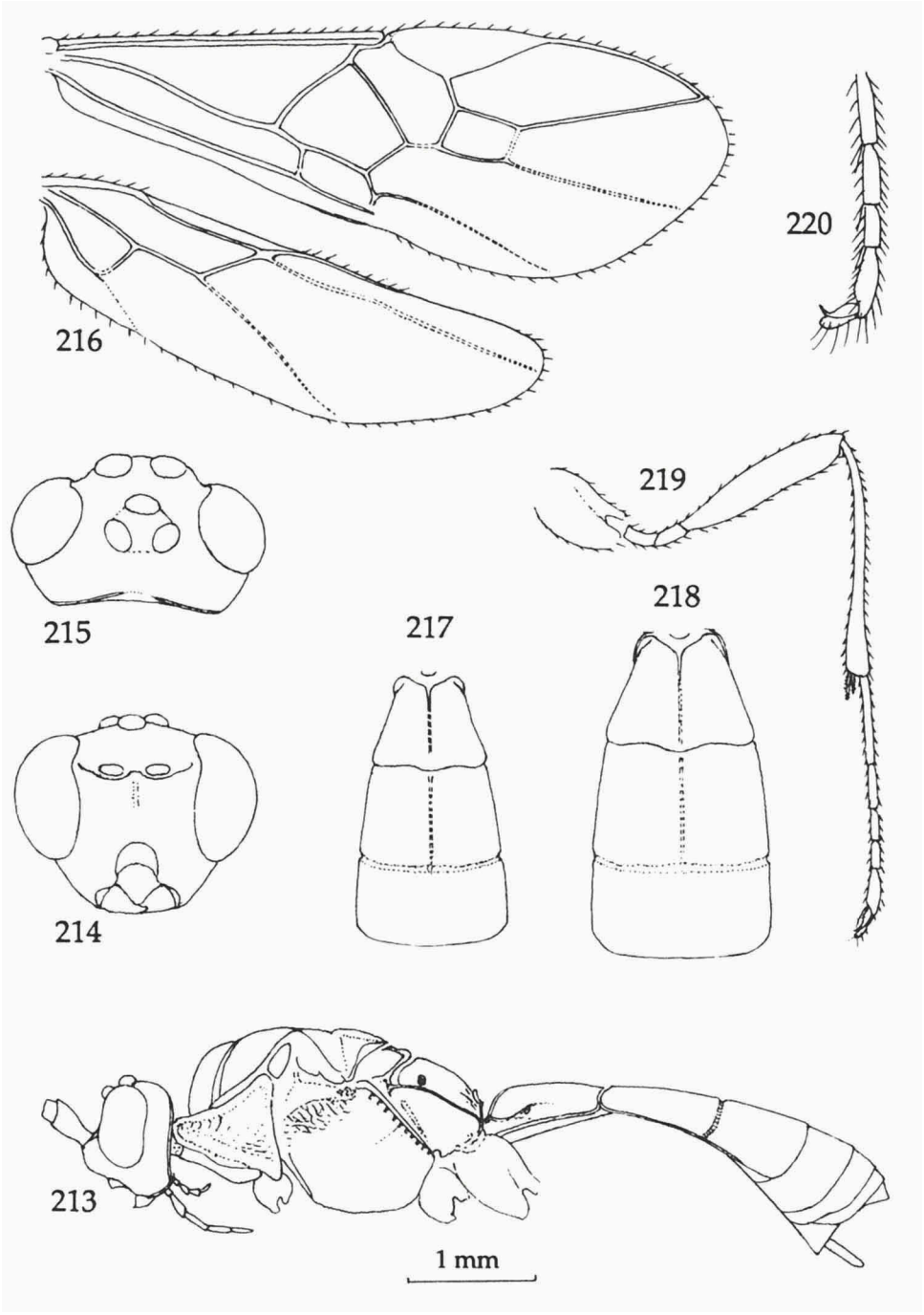
Figs 186-195, *Aleiodes euproctis* He & Chen, holotype. 186, habitus, lateral view; 187, antenna; 188, head, frontal view; 189, head, dorsal view; 190, wings; 191, mesonotum and metanotum, dorsal view; 192, first-third meta-somal tergites, dorsal view; 193, hind leg; 194, hind tarsal claw; 195, parasitized host larva. 187: 1.0 × scale-line; 186, 190-193: 1.6 ×; 188-189: 2.0 ×; 194: 2.5 ×; 195: 0.5 ×.



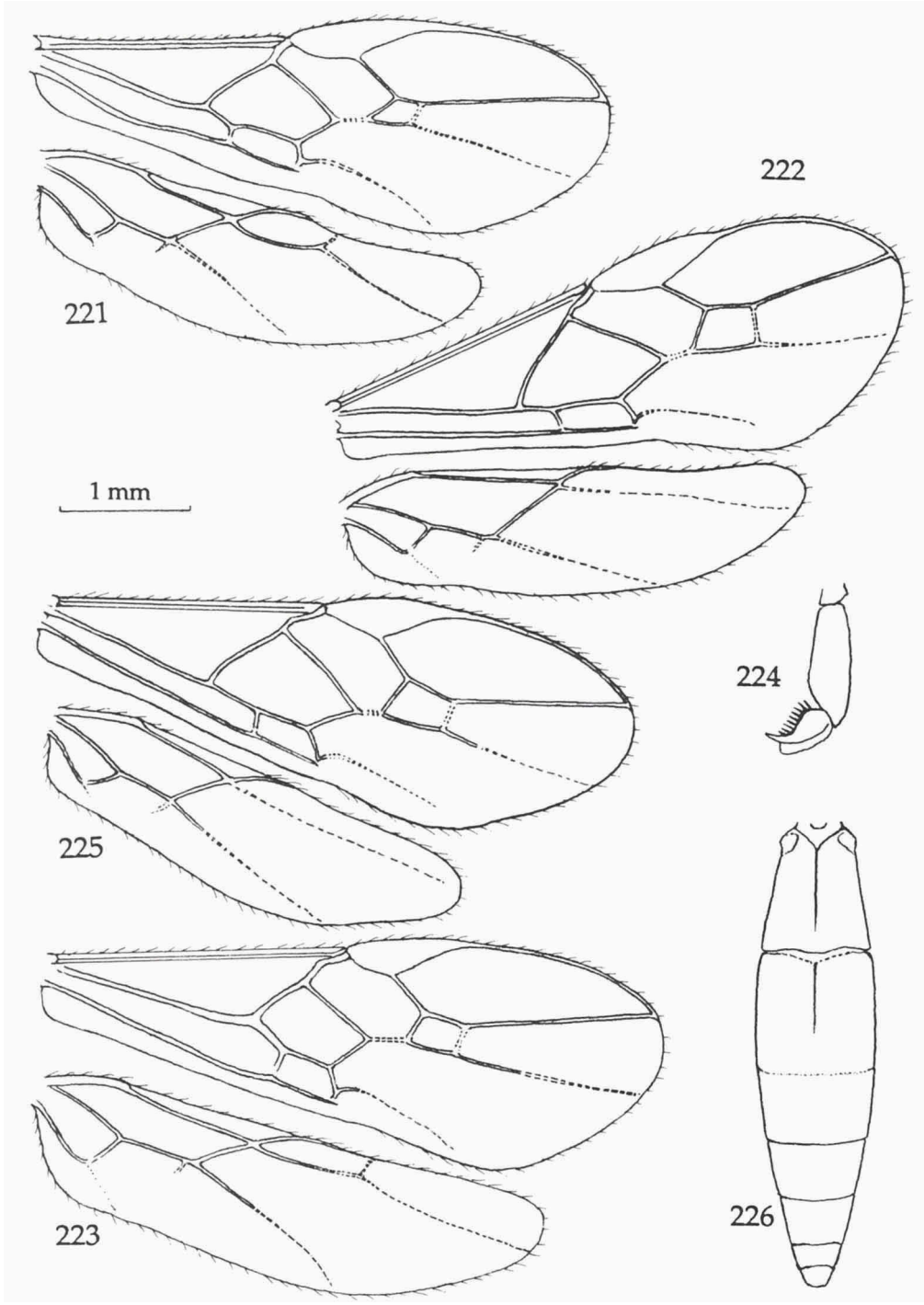
Figs 196-204, *Aleiodes mythimnae* He & Chen, holotype. 196, habitus, lateral view; 197, antenna; 198, head, frontal view; 199, head, dorsal view; 200, wings; 201, first-fourth metasomal tergites; 202, hind leg; 203, hind tarsal claw; 204, parasitized host larva. 197: 1.25 × scale-line; 196, 200-202: 1.6 ×; 198-199: 2.0 ×; 203: 2.5 ×; 204: 0.4 ×.



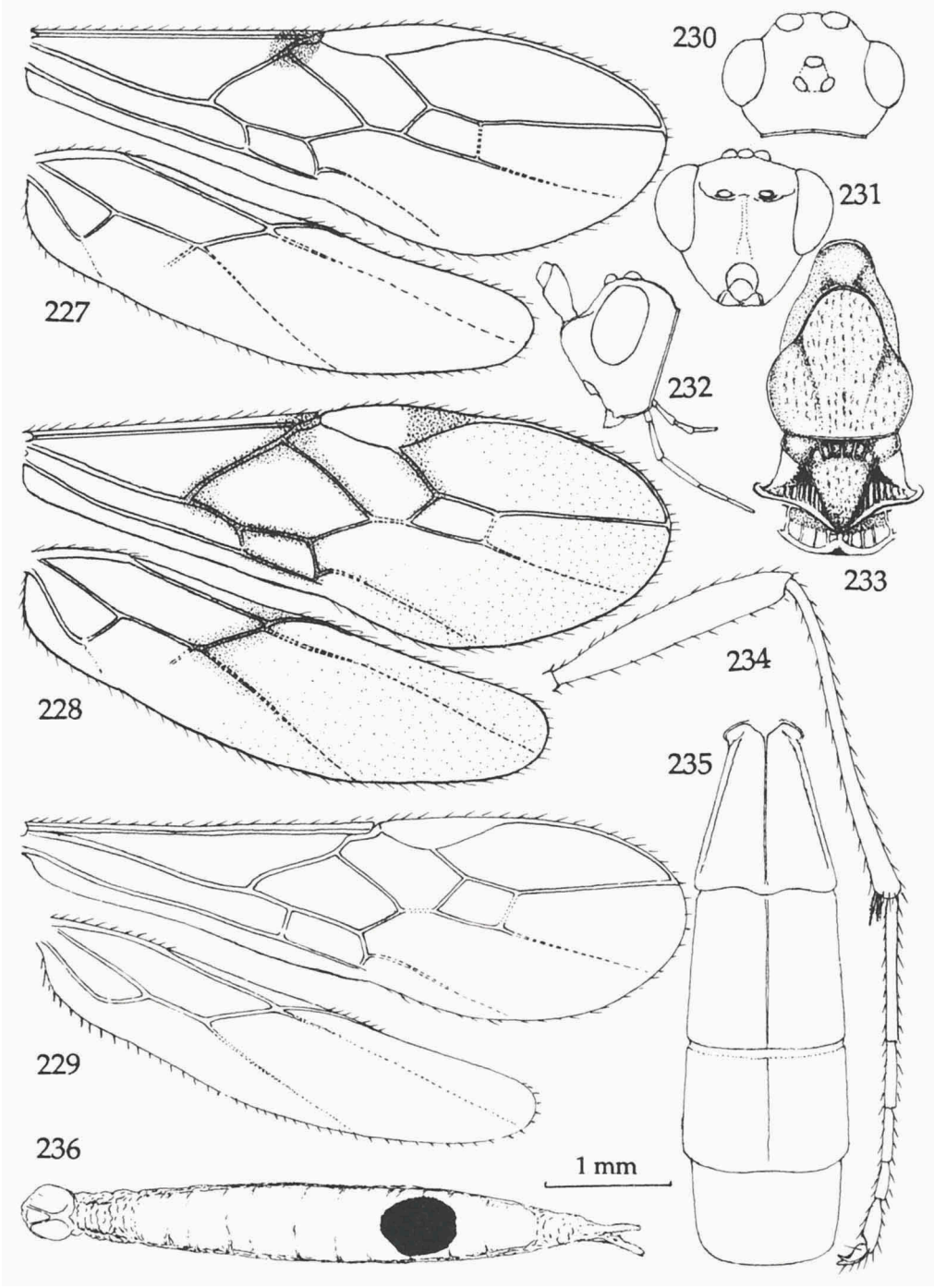
Figs 205-212, *Aleiodes drymoniae* (Watanabe). 205, habitus, lateral view; 206, head, dorsal view; 207, head, frontal view; 208, wings; 209, first-third meta-somal tergites (male), dorsal view; 210, first-third metasomal tergites (female), dorsal view; 211, hind leg; 212, hind tarsal claw. 205, 208-211: 1.6 × scale-line; 206-207: 2.0 ×; 212: 2.5 ×.



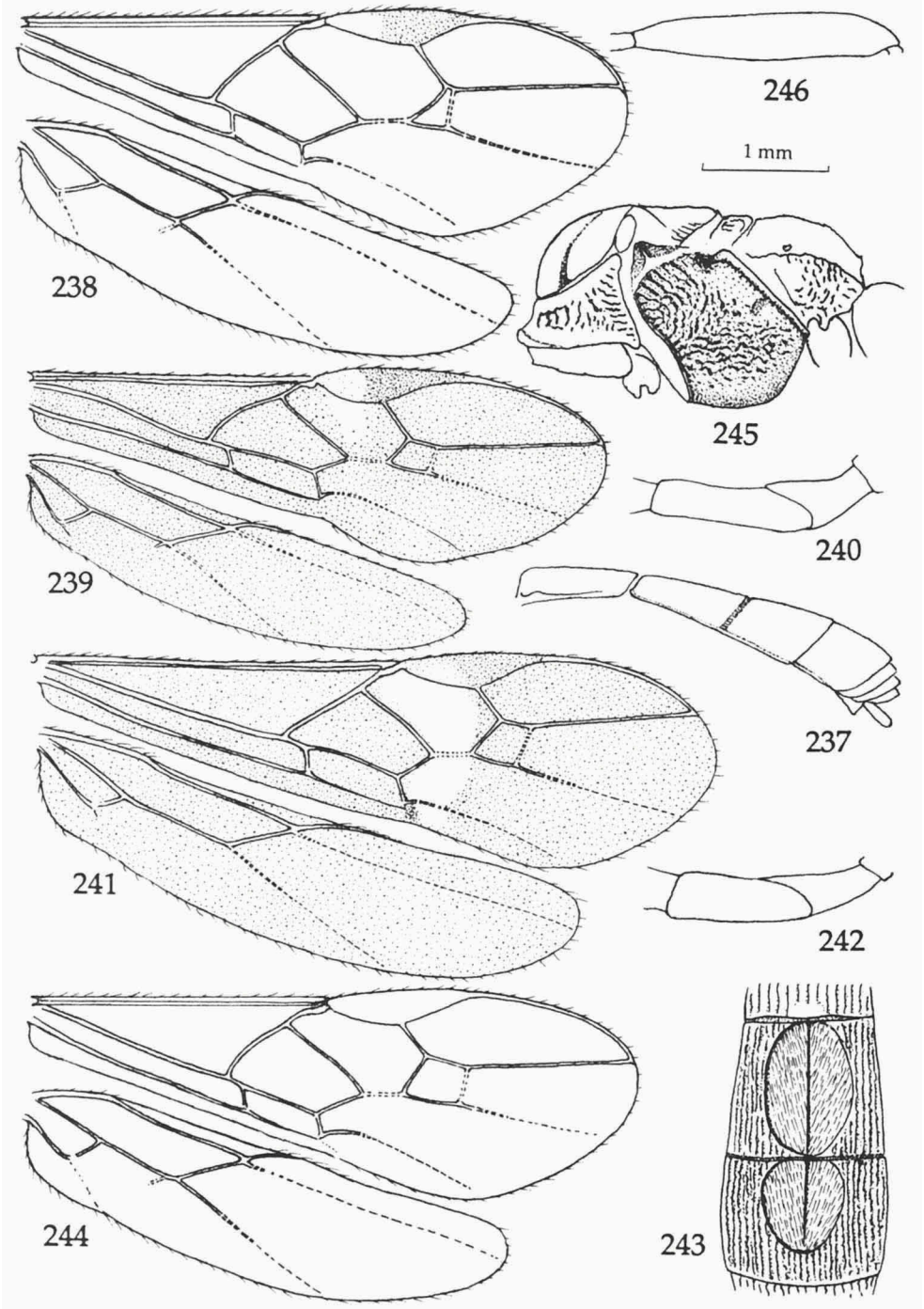
Figs 213-220, *Aleiodes pallescens* (Hellén). 213, habitus, lateral view; 214, head, frontal view; 215, head, dorsal view; 216, wings; 217, first-third metasomal tergites (male), dorsal view; 218, first-third metasomal tergites (female), dorsal view; 219, hind leg; 220, hind tarsal claw. 213, 216-219: 1.25 × scale-line; 214-215: 2.0 ×; 220: 2.5 ×; 177: 0.5 ×.



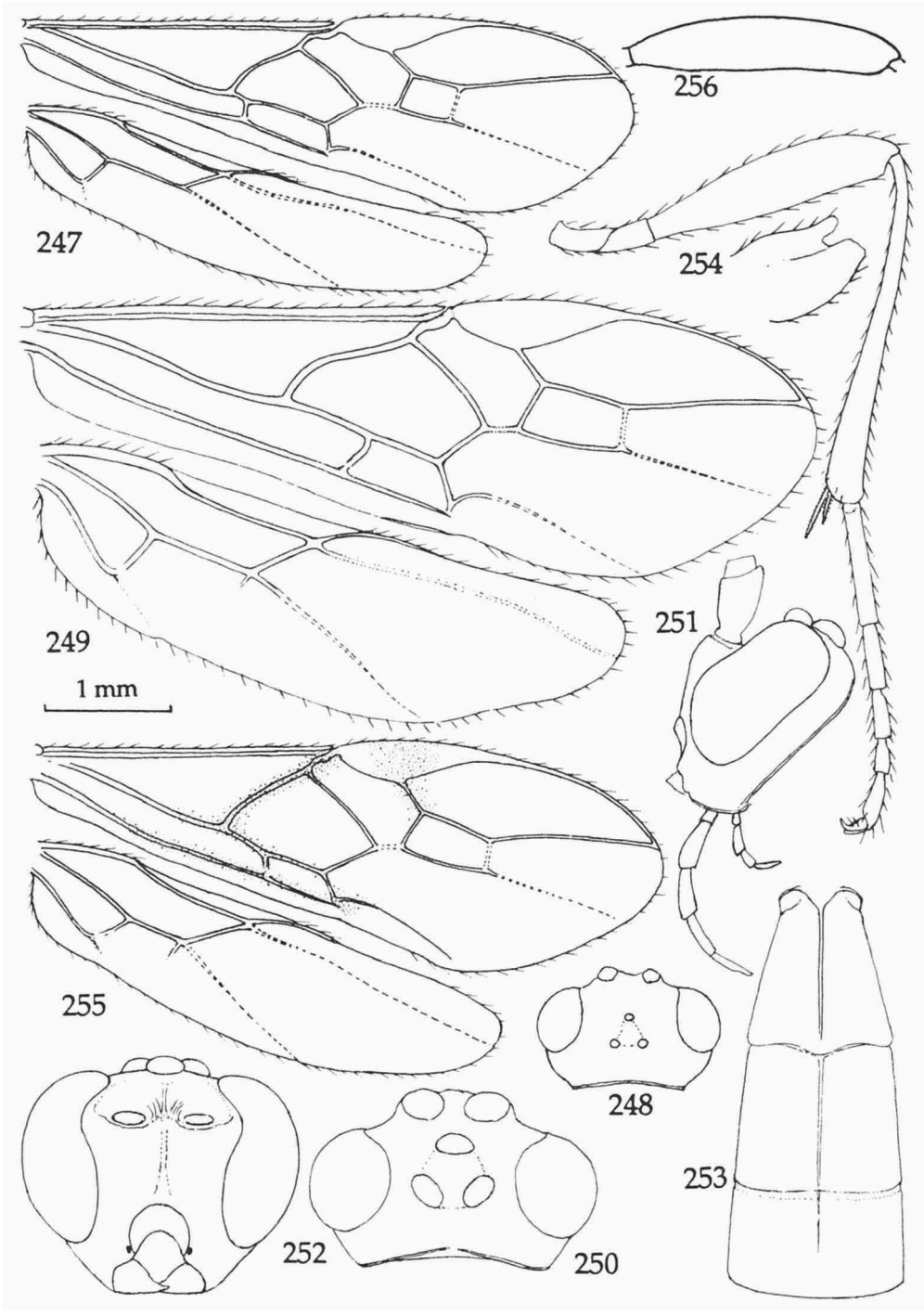
Figs 221, *Aleiodes pallidinervis* (Cameron); 222, *A. albigenus* spec. nov., holotype; 223-224, *A. crassinervis* spec. nov., holotype; 225-226, *A. equalis* spec. nov., holotype. 221-223, 225, wings; 224, hind tarsal claw; 226, metasoma, dorsal view. 221-223: 0.7 × scale-line; 224-226: 1.4 ×.



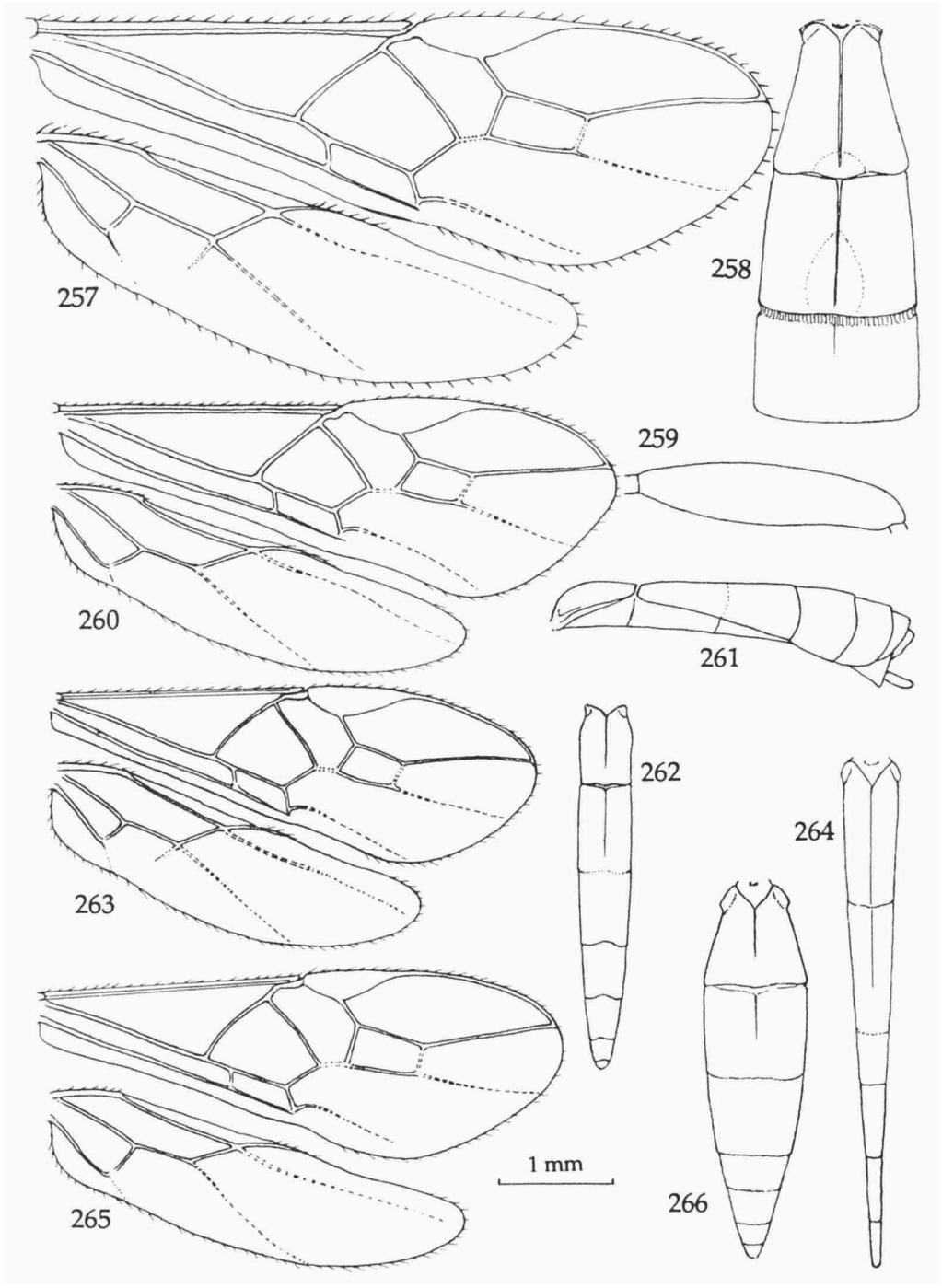
Figs 227, *Aleiodes naevius* spec. nov., holotype; 228, *A. aethris* spec. nov., holotype; 229-236, *A. narangae* (Rohwer). 227-229, wings; 230, head, dorsal view; 231, head, frontal view; 232, head, lateral view; 233, mesosoma (except propodeum), dorsal view; 234, hind leg; 235, first-fourth metasomal tergites, dorsal view; 236, parasitized host larva. 227: 0.6 × scale-line; 228: 0.7 ×; 229: 1.0 ×; 230-235: 2.0 ×; 236: 0.4 ×.



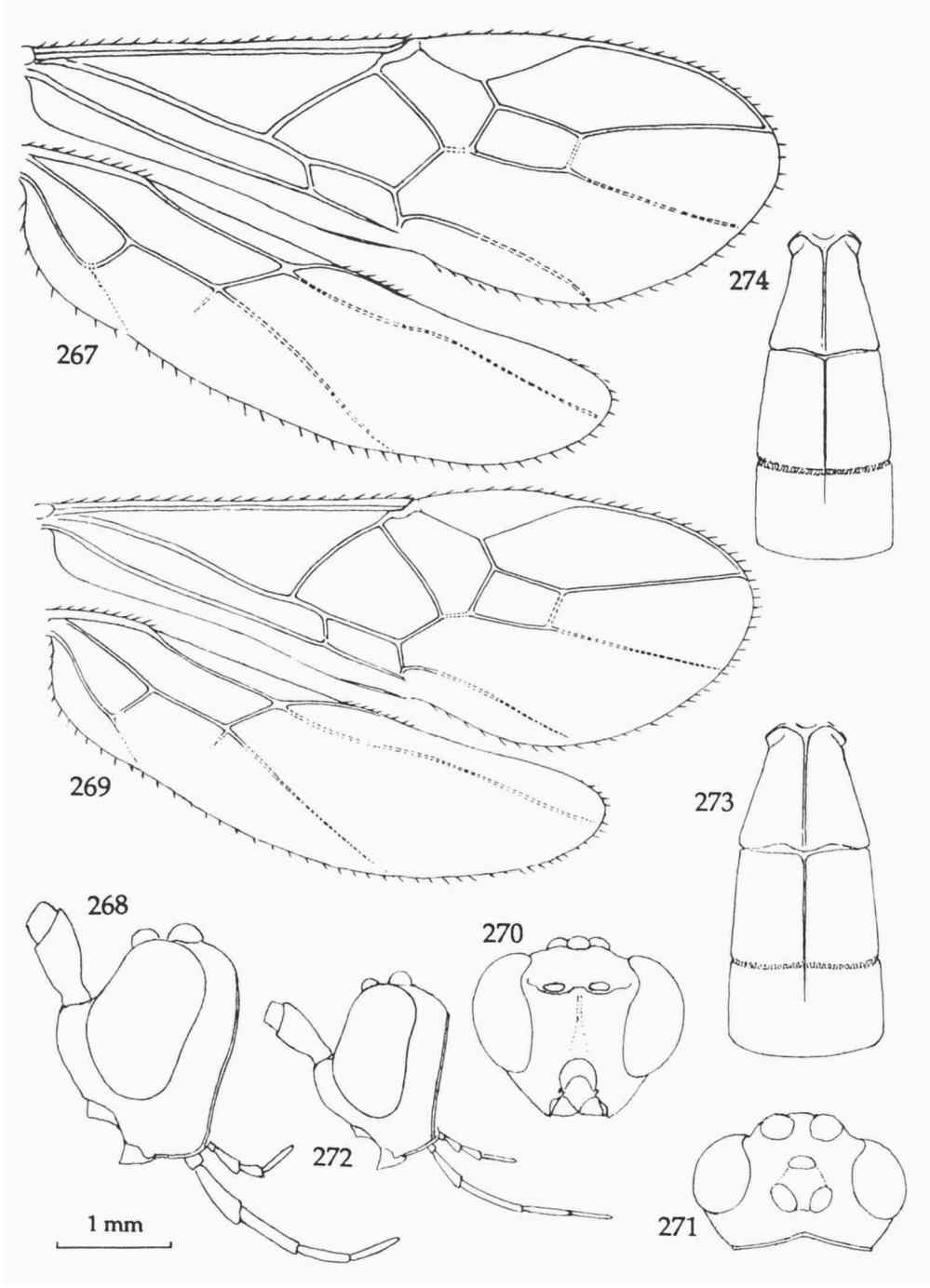
Figs 237, *Aleiodes narangae* (Rohwer); 238, *A. triangularis* spec. nov., holotype; 239-240, *A. dispar* (Haliday); 241-243, *A. excavatus* (Telenga); 244, *A. kytos* spec. nov., holotype; 245-246, *A. gracilipes* (Telenga). 237, metasoma, lateral view; 238-239, 241, 244, wings; 240, 242, trochantor and trochantellus; 243, second-third metasomal tergites, dorsal view; 245, mesosoma, lateral view; 346, hind femur. 237, 239: 1.1 × scale-line; 238, 244: 1.4 ×; 240, 242: 2.3 ×; 241, 243: 1.2 ×; 245, 246: 0.9 ×.



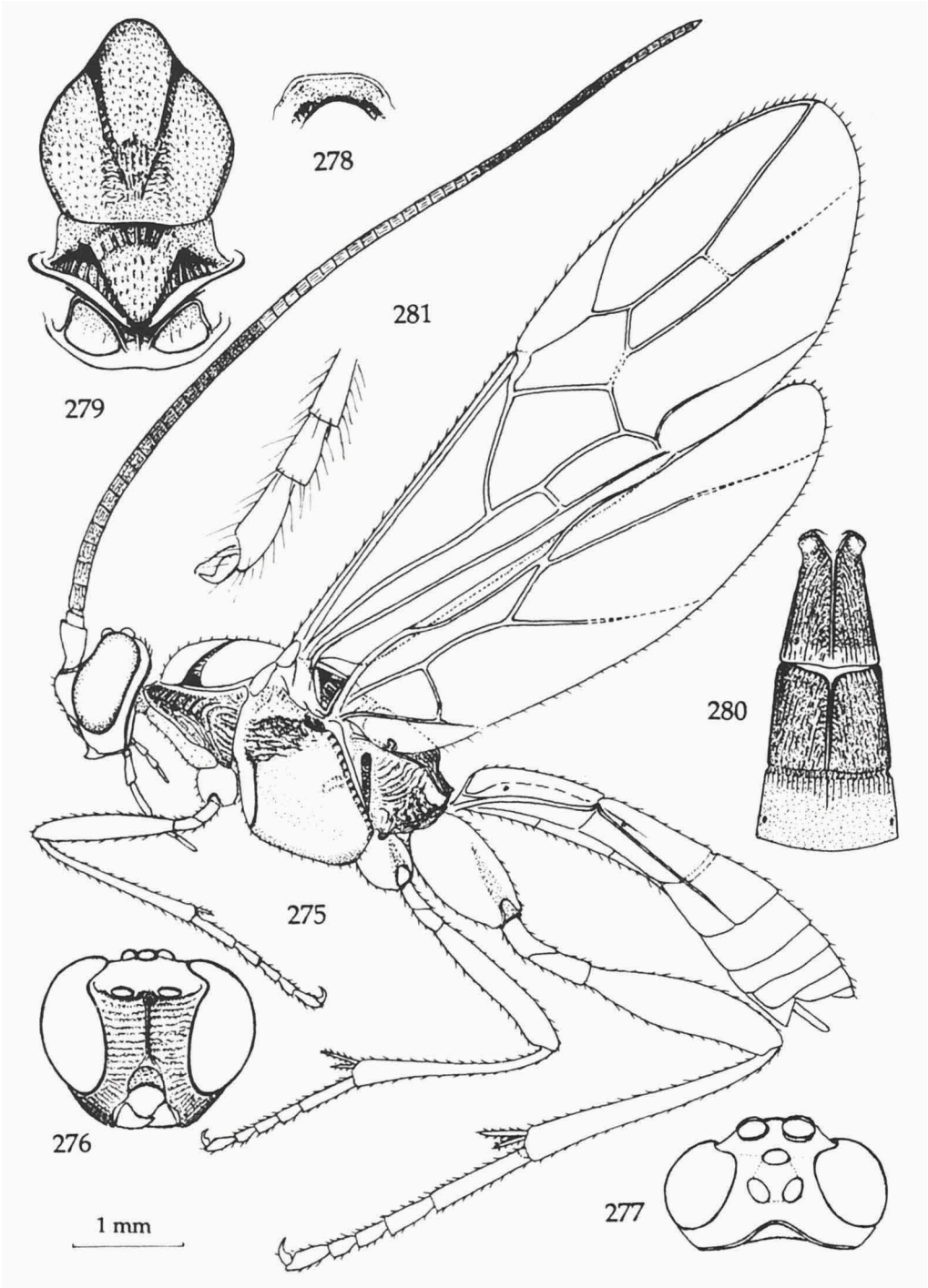
Figs 247-248, *Aleiodes oryzatora* He & Chen, holotype; 249-254, *A. esenbeckii* (Hartig); 255-256, *A. seriatus* (Herrich-Schäffer). 247, 249, 255, wings; 248, 250, head, dorsal view; 251, head, lateral view; 252, head, frontal view; 253, first-third metasomal tergites, dorsal view; 254, hind leg; 256, hind femur. 249, 253-254: 1.0 × scale-line; 247, 256: 1.4 ×; 255: 1.1 ×; 248: 1.8 ×; 250-252: 1.6 ×.



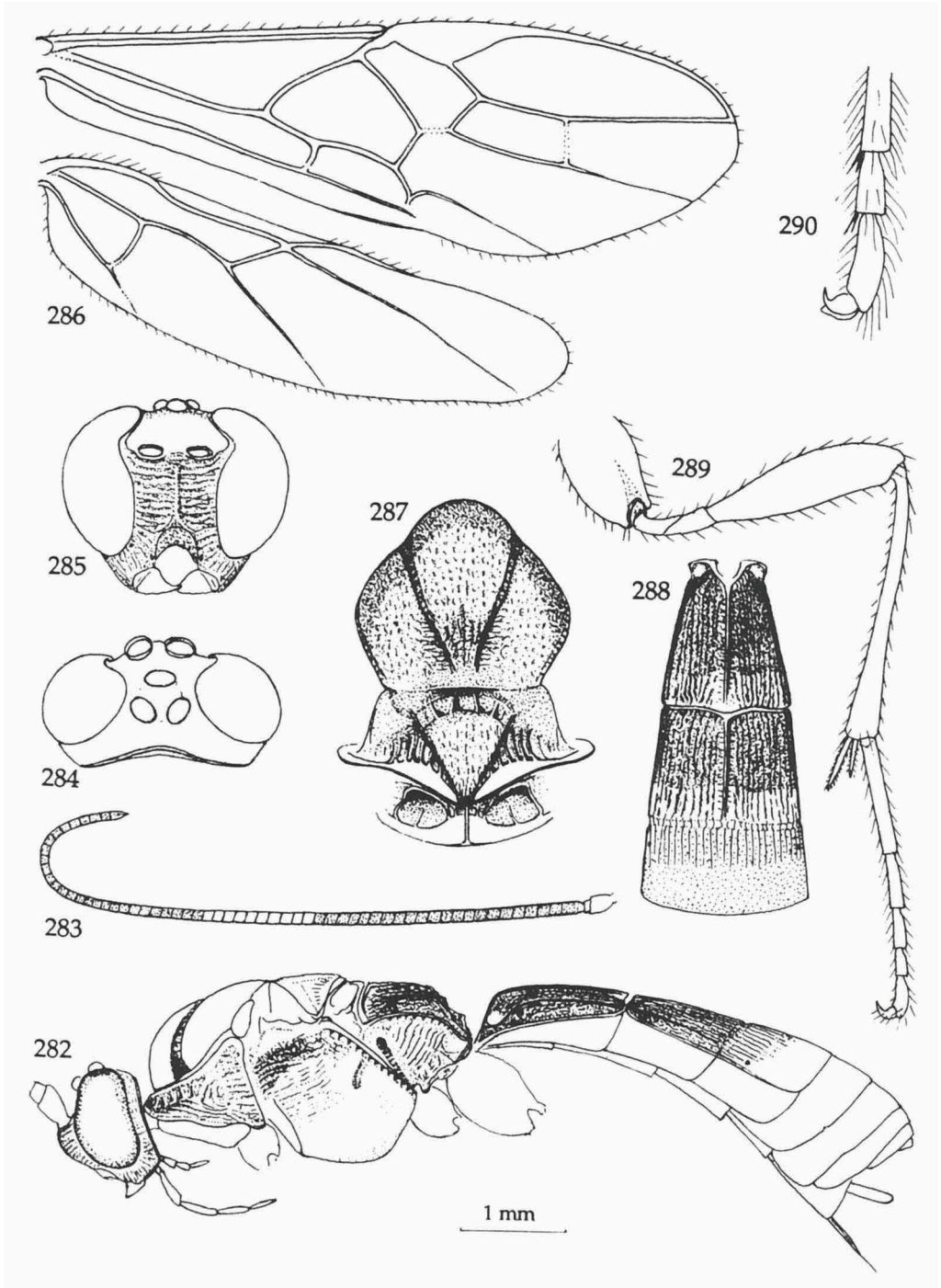
Figs 257-259, *Aleiodes lymantrinae* (Watanabe); 260-262, *A. compressor* (Herrich-Schäffer); 263-264, *A. petalus* spec. nov., holotype; 265-266, *A. earias* spec. nov., holotype. 257, 260, 263, 265, wings; 258, 262, 264, 266, metasoma, dorsal view; 261, metasoma, lateral view; 359, hind femur. 257: 1.0 × scale-line; 258: 1.25 ×; 259, 264-266: 1.1 ×; 260, 263: 0.9 ×; 261-262: 0.7 ×.



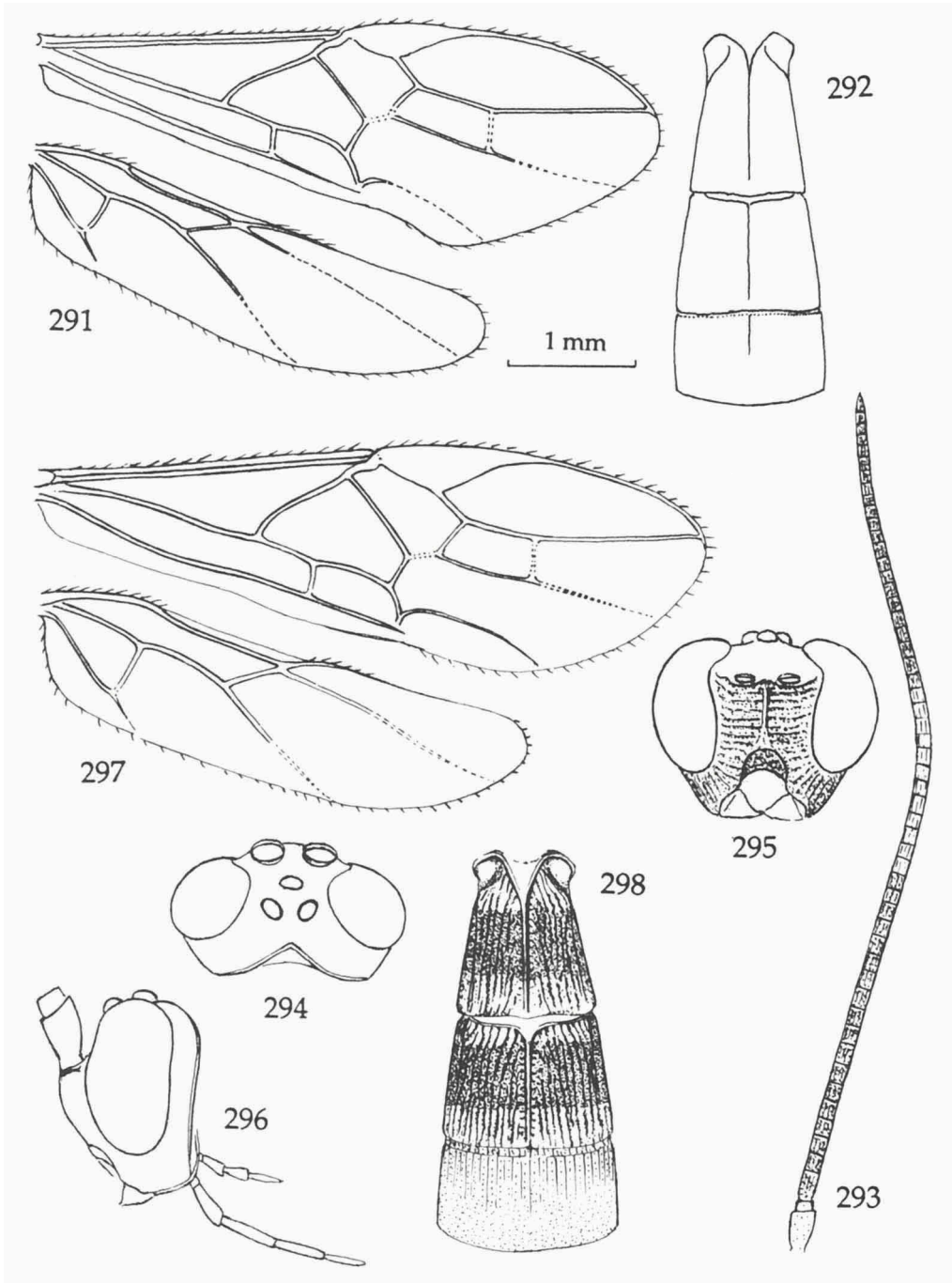
Figs 267-268, *Aleiodes pallidator* (Thunberg); 269-274, *A. gastritor* (Thunberg). 267, 269: wings; 268, 272, head, lateral view; 270, head, frontal view; 271, head, dorsal view; 273, first-third metasomal tergites (female), dorsal view; 274, first-third metasomal tergites (male), dorsal view. 267: 1.25 × scale-line; 268: 2.0 ×; 269, 273-274: 1.6 ×; 270-272: 2.5 ×.



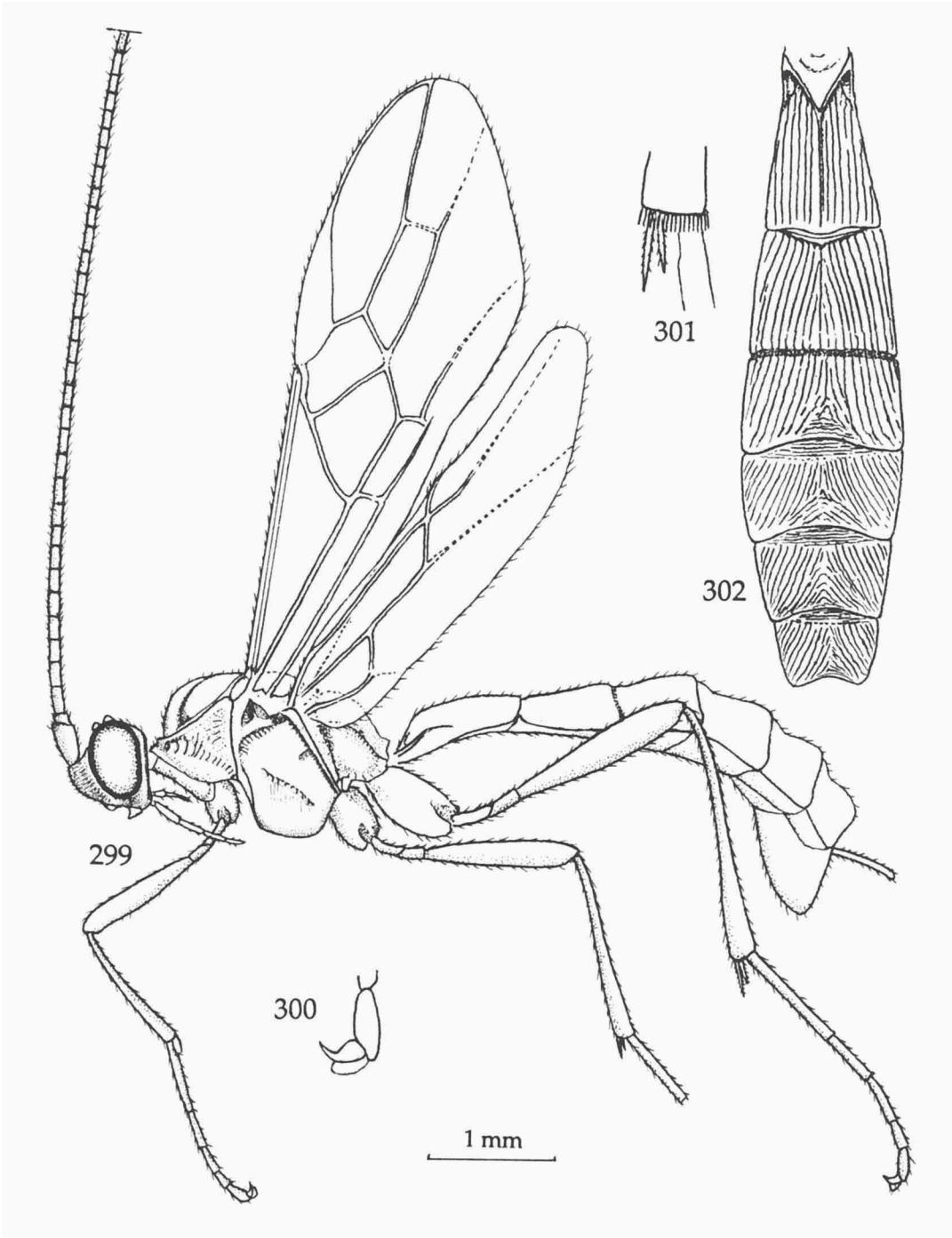
Figs 275-281, *Arcaleiodes unifasciata* (Chen & He), holotype. 275, habitus, lateral view; 276, head, frontal view; 277, head, dorsal view; 278, pronotum, dorsal view; 279, mesonotum and metanotum, dorsal view; 280, first-third metasomal tergites, dorsal view; 281, hind tarsal claw. 275, 278, 280: 1.0 × scale-line; 276-277, 279: 1.6 ×; 281: 2.5 ×.



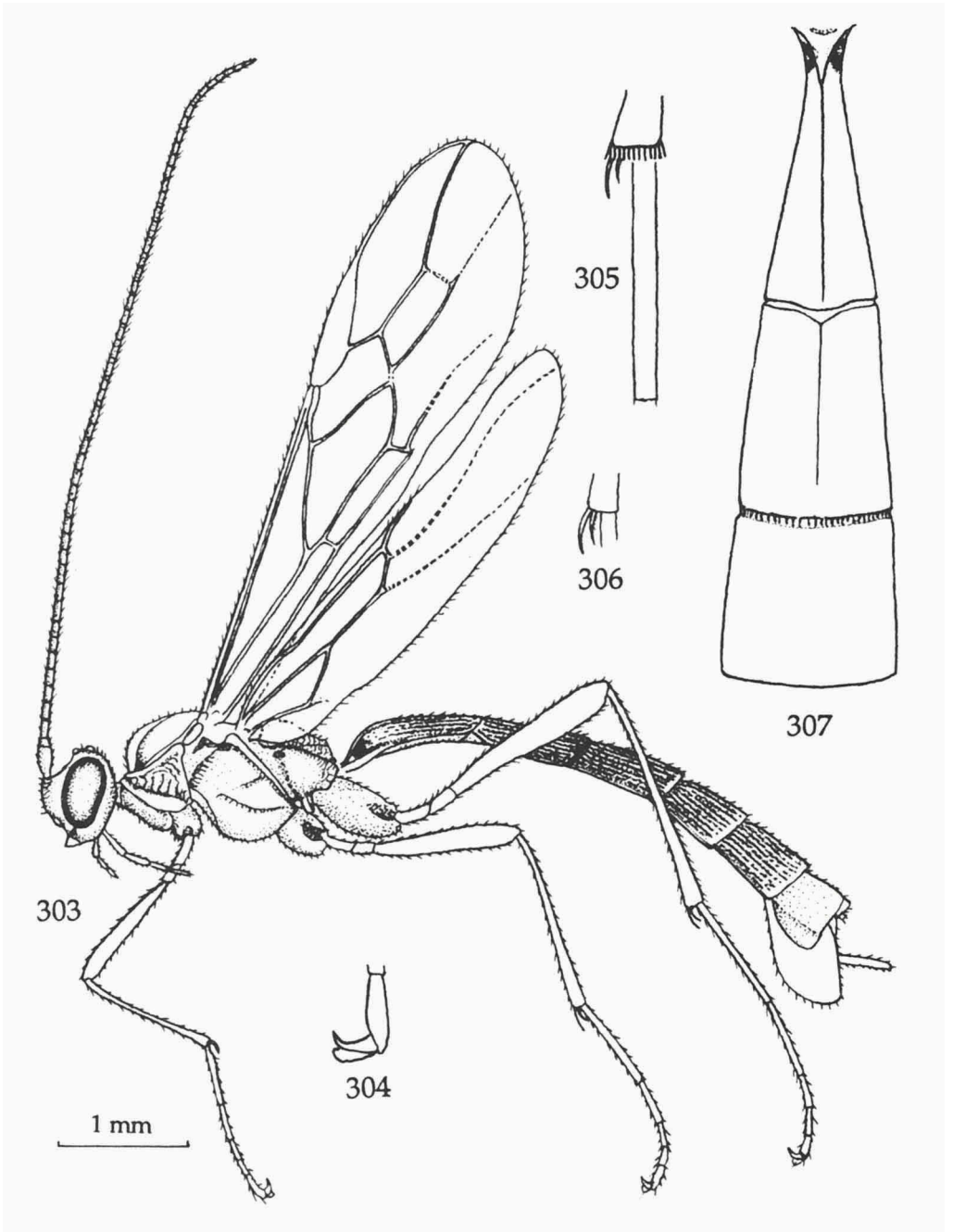
Figs 282-290, *Arcaleiodes pulchricorpus* (Chen & He), holotype. 282, habitus, lateral view; 283, antenna; 284, head, dorsal view; 285, head, frontal view; 286, wings; 287, mesonotum and metanotum, dorsal view; 288, first-third metasomal tergites, dorsal view; 289, hind leg; 290, hind tarsal claw. 282, 288, 289: 1.0 × scale-line; 283, 286: 0.8 ×; 284-285, 287: 1.6 ×; 290: 2.5 ×.



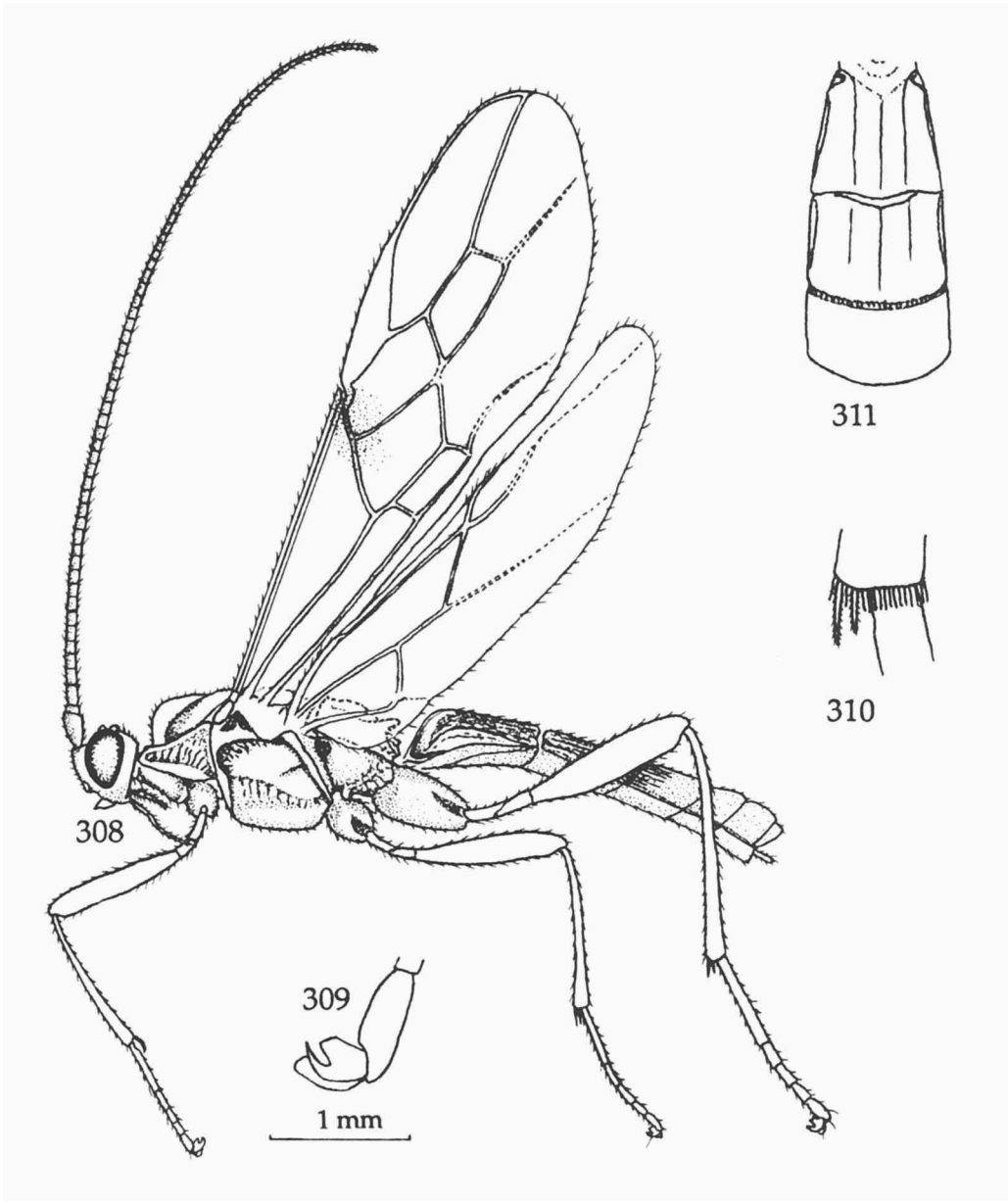
Figs 291-292 *Arcaleiodes nitidus* (Chen & He), holotype; 293-298, *A. aglaurus* (Chen & He), holotype. 291, 297, wings; 292, 298, first-third metasomal tergites, dorsal view; 293, antenna; 294, head, dorsal view; 295, head, frontal view; 296, head, lateral view. 291: 0.7 × scale-line; 292: 0.9 ×; 293, 297-298: 1.0 ×; 294-96: 1.6 ×.



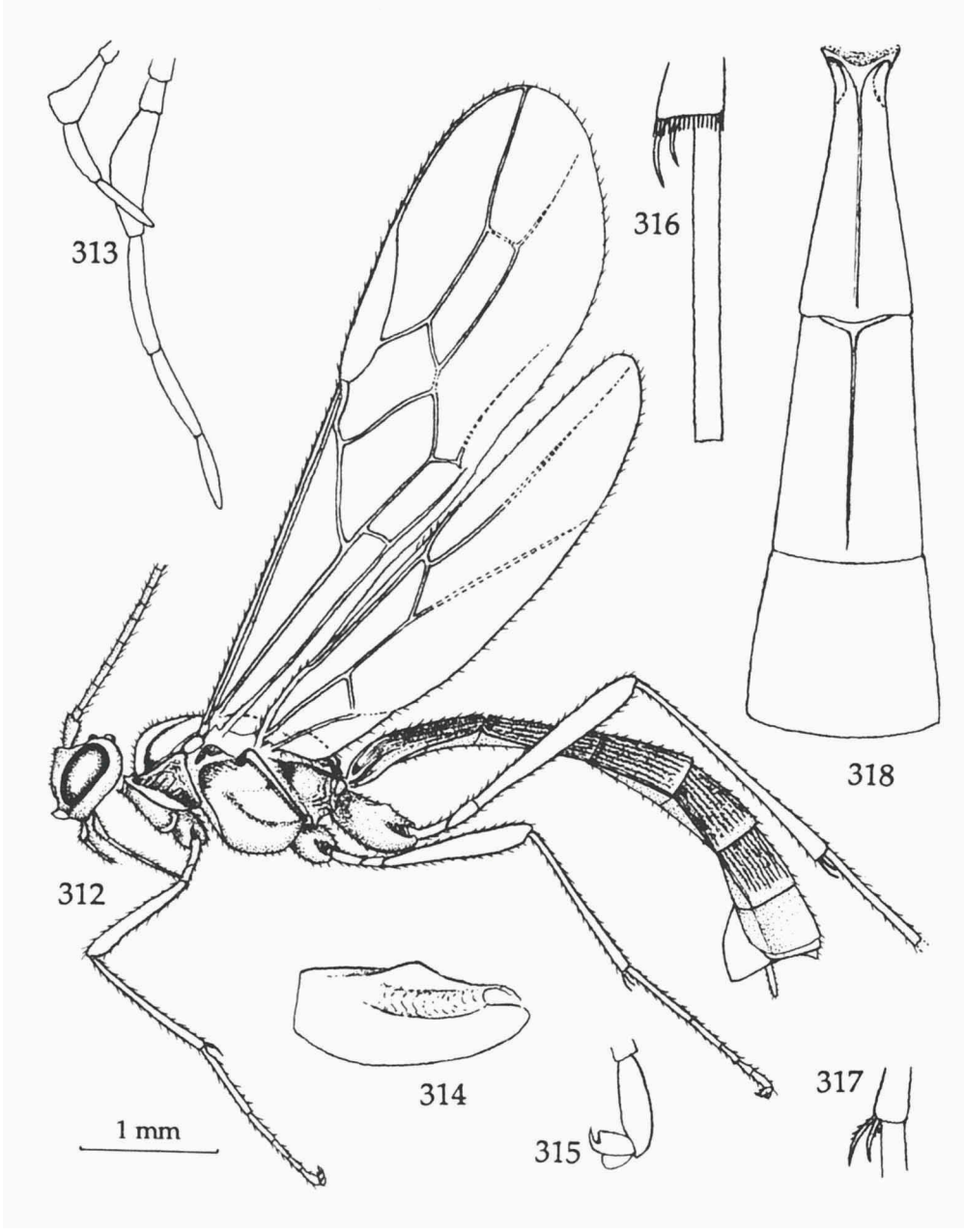
Figs 299-302, *Canalirogas balgooyi* van Achterberg & Chen, paratype. 299, habitus, lateral view; 300, hind tarsal claw; 301, hind tibial spurs; 302, metasoma, dorsal view. 299: 0.9 × scale-line; 300-301: 2.3 ×; 302: 1.1 ×.



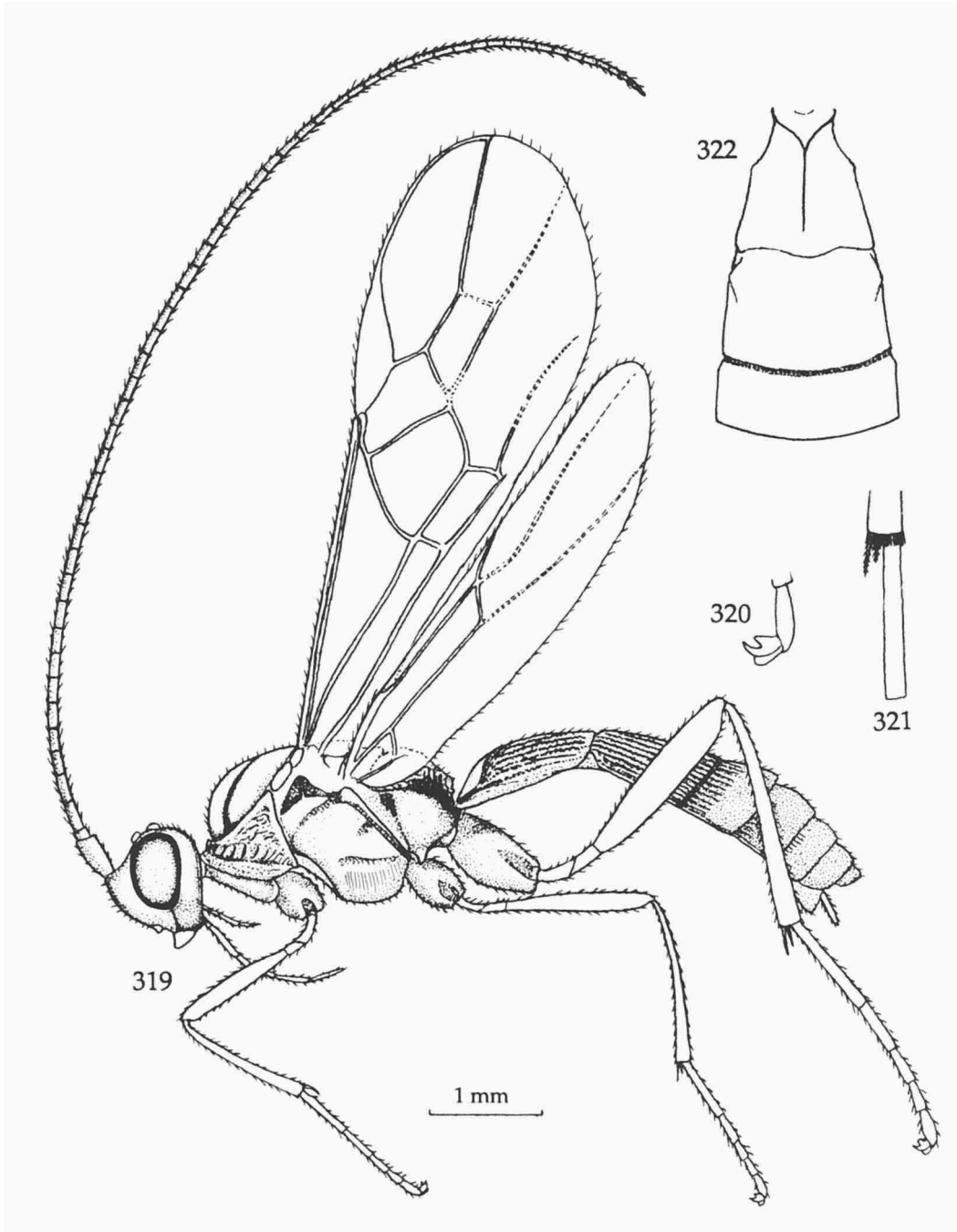
Figs 303-307, *Colastomion formosona* (Watanabe). 303, habitus, lateral view; 304, hind tarsal claw; 305, hind tibial spurs and basitarsus; 306, middle tibial spurs; 307, first-third metasomal tergites, dorsal view. 303: 0.7 × scale-line; 304: 2.3 ×; 305-306: 1.8 ×; 307: 1.4 ×.



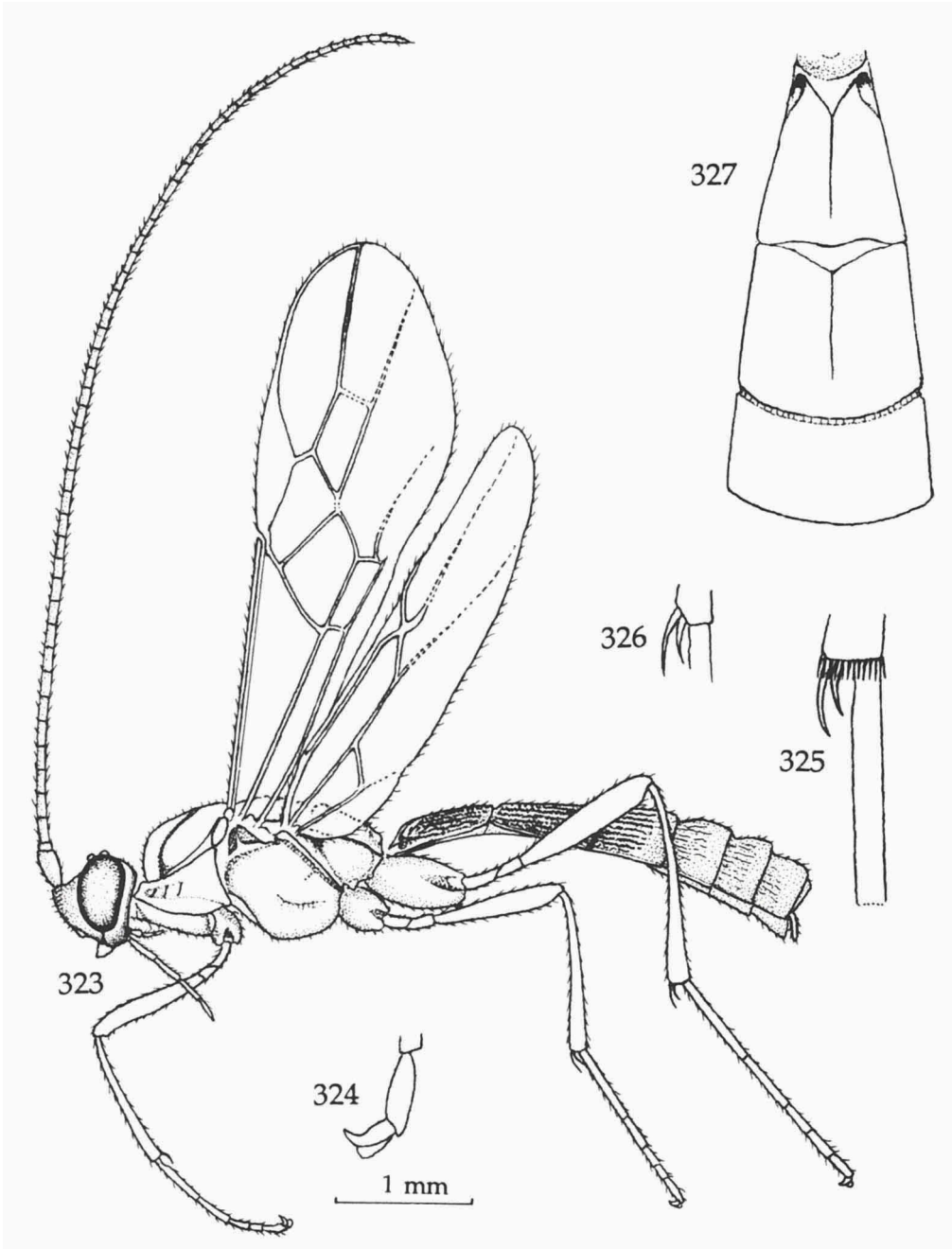
Figs 308-311, *Conspinaria flava* (Enderlein). 308, habitus, lateral view; 309, hind tarsal claw; 310, hind tibial spurs; 311, first-third metasomal tergites, dorsal view. 308, 311: 0.4 × scale-line; 309-310: 1.4 ×.



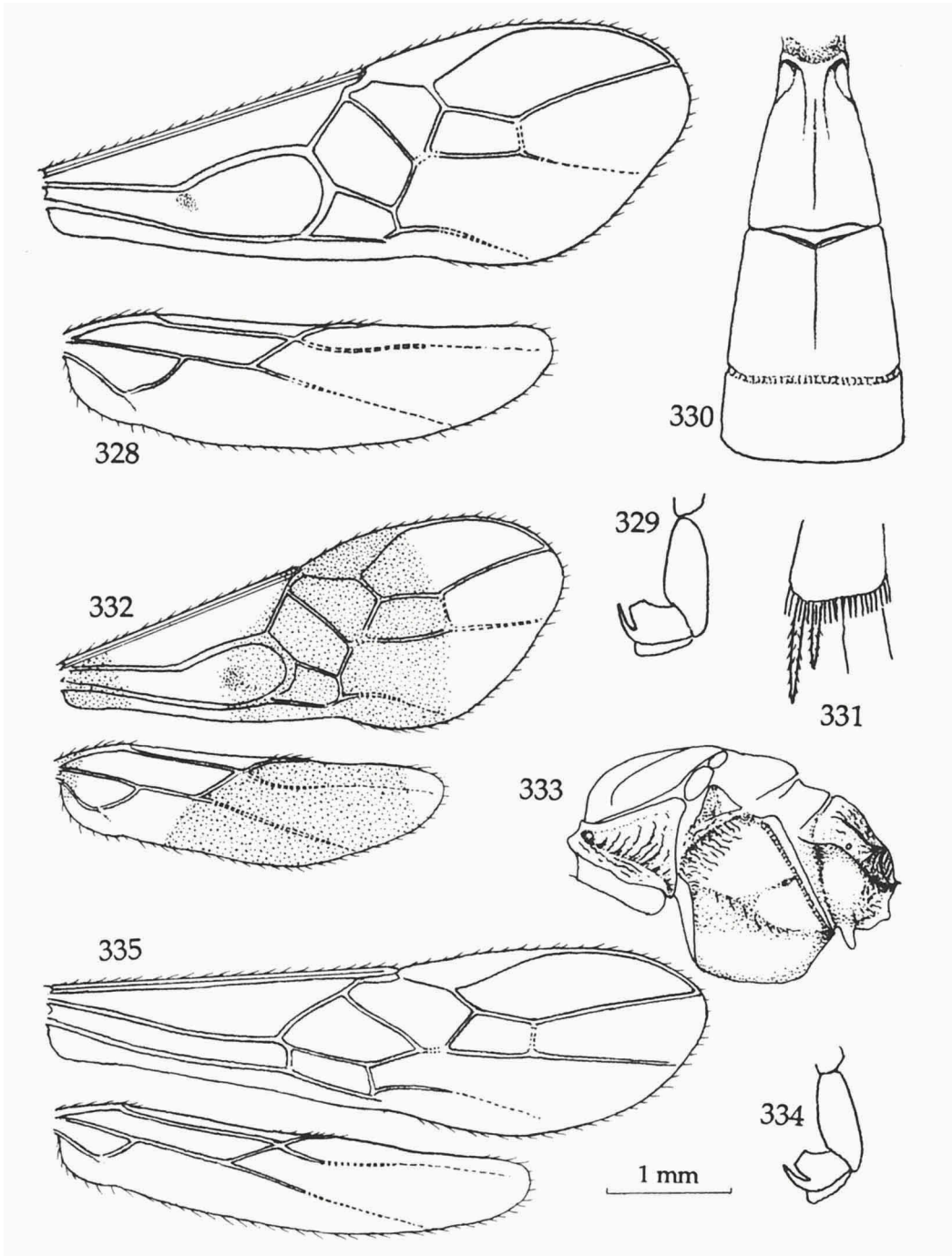
Figs 312-318, *Cystomastacoides coxalis* spec. nov., holotype. 312, habitus, lateral view; 313, palpi; 314, hind coxa; 315, hind tarsal claw; 316, hind tibial spurs and basitarsus; 317, middle tibial spurs; 318, first-third metasomal tergites, dorsal view. 312: 0.5 × scale-line; 313, 315: 1.8 ×; 314, 316-317: 1.1 ×; 318: 0. 8 ×.



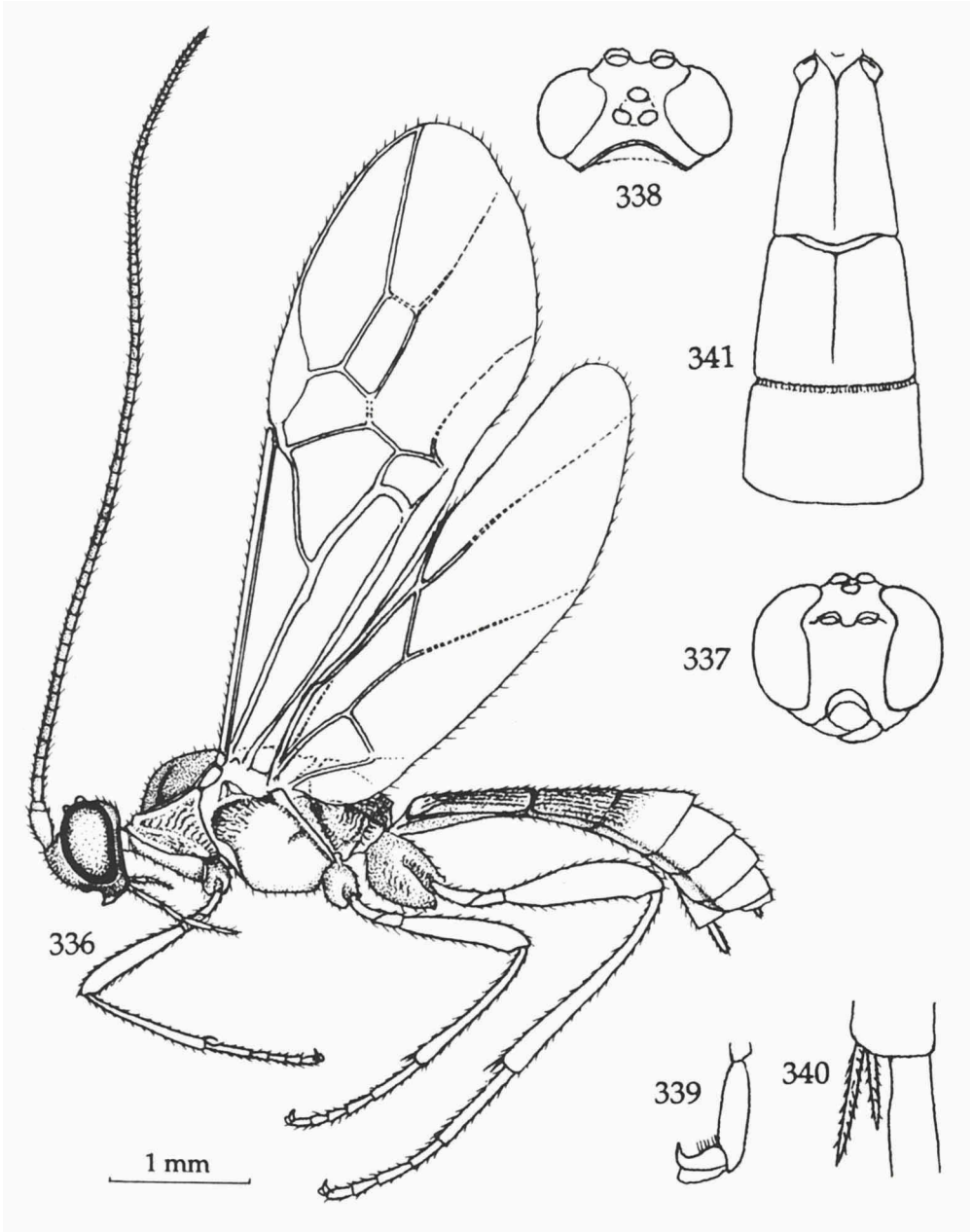
Figs 319-322, *Darnilia chinensis* spec. nov., holotype. 319, habitus, lateral view; 320, hind tarsal claw; 321, hind tibial spurs and basitarsus; 322, first-third metasomal tergites, dorsal view. 319, 322: 1.4 × scale-line; 320-321: 2.3 ×.



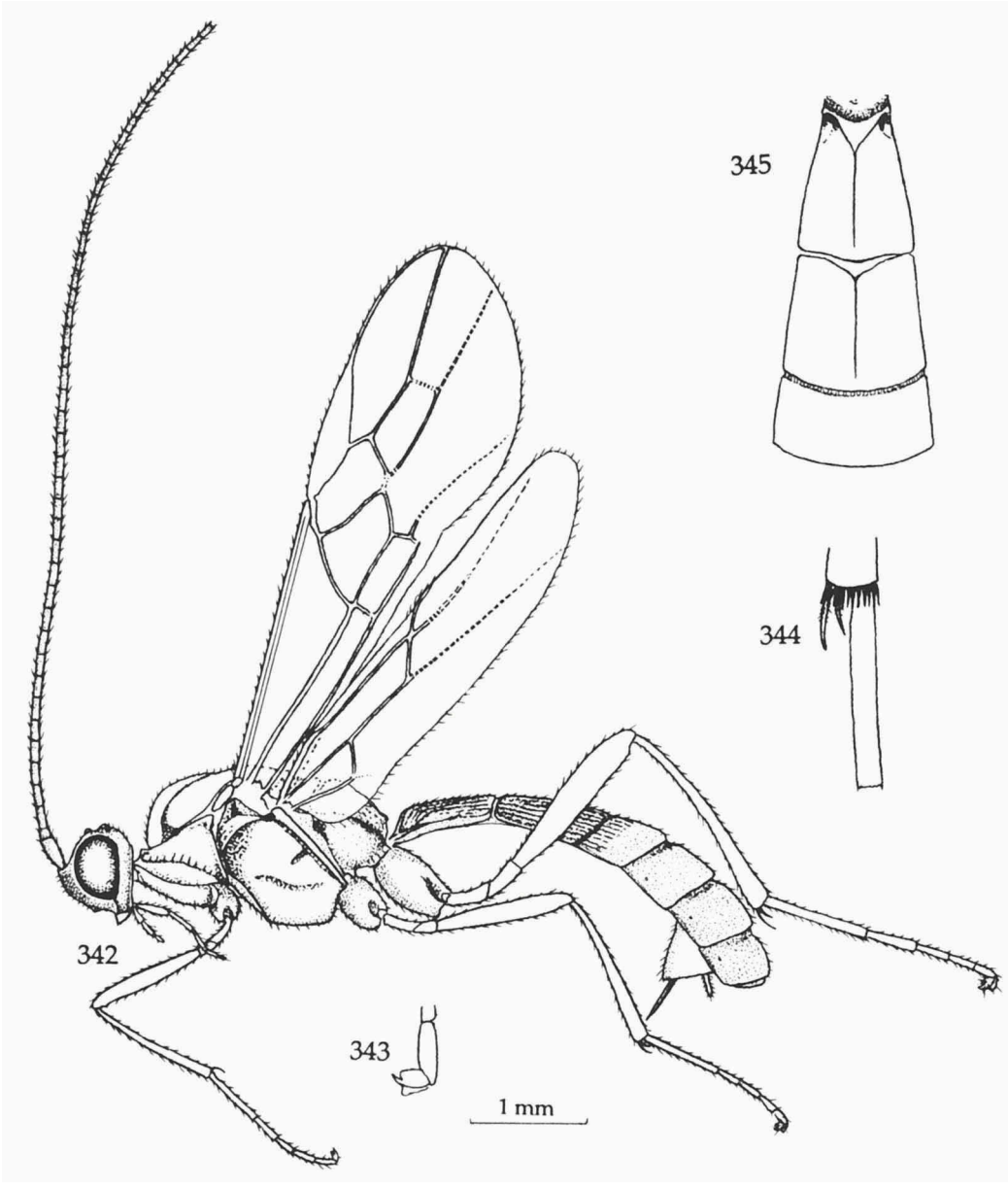
Figs 323-327, *Iporhogas guangxiensis* spec. nov., holotype. 323, habitus, lateral view; 324, hind tarsal claw; 325, hind tibial spurs and basitarsus; 326, middle tibial spurs; 327, first-third metasomal tergites, dorsal view. 323: 0.9 × scale-line; 324-326: 2.3 ×; 327: 1.4 ×.



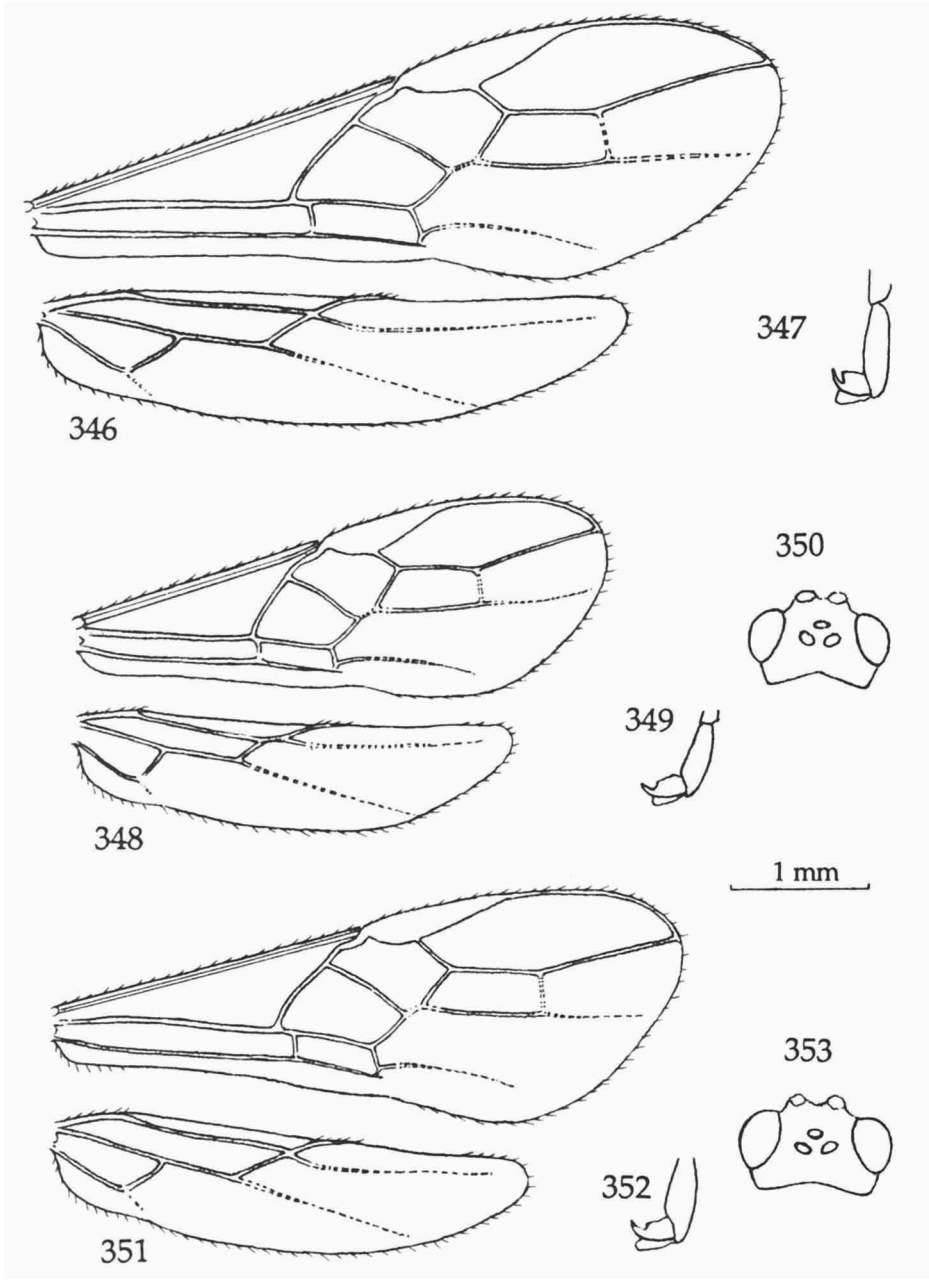
Figs 328-331, *Gyroneuron testaceator* Watanabe; 332-334, *G. mirum* Kokujev; 335, *Macrostomion fuscinervum* spec. nov., holotype. 328, 332, 335, wings; 329, 334, hind tarsal claw; 330, first-third metasomal tergites, dorsal view; 331, hind tibial spurs; 333, mesosoma, lateral view. 328, 332: 0.6 × scale-line; 329, 331, 334: 2.3 ×; 330: 0.9 ×; 333: 0.7 ×; 335: 1.1 ×.



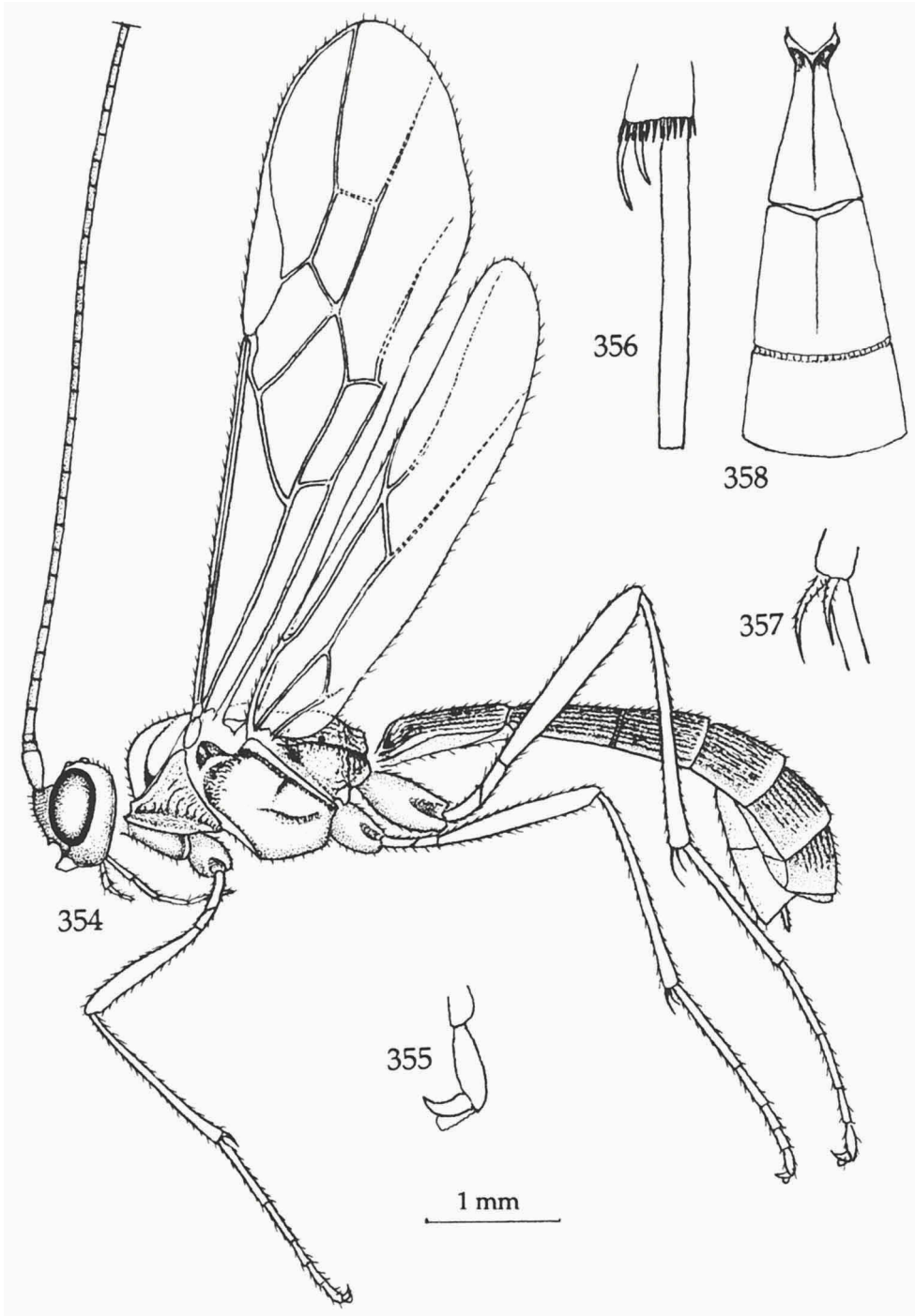
Figs 336-341, *Hemigyroneuron nigricans* spec. nov. holotype. 336, habitus, lateral view; 337, head, front view; 338, head, dorsal view; 339, hind tarsal claw; 340, hind tibial spurs and basitarsus; 341, first-third metasomal tergites, dorsal view. 336: 0.6 × scale-line; 337-338, 341: 0.9 ×; 339-340: 2.3 ×.



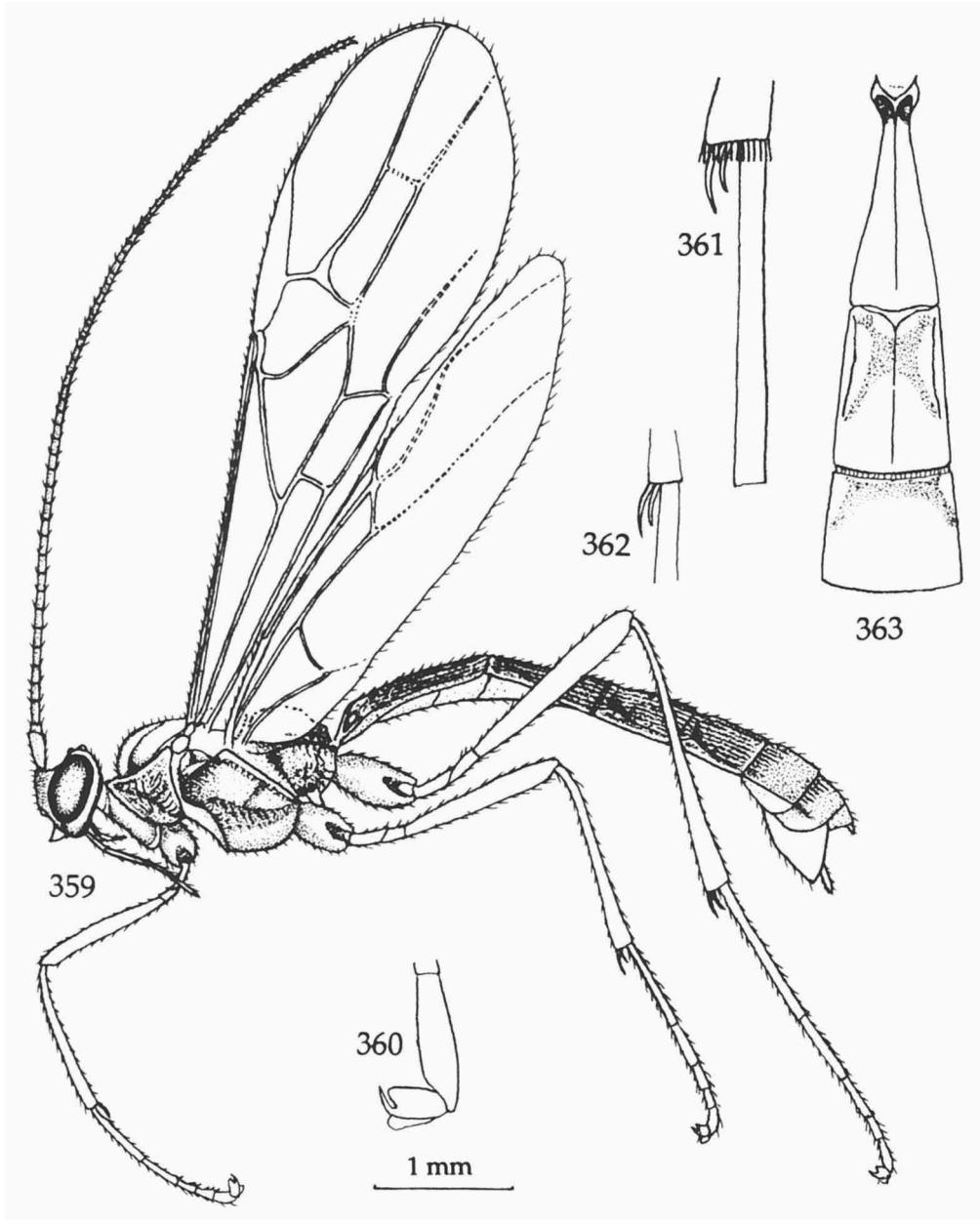
Figs 342-345, *Iporhogas chinensis* spec. nov., holotype. 342, habitus, lateral view; 343, hind tarsal claw; 344, hind tibial spurs and basitarsus; 345, first-third metasomal tergites, dorsal view. 342: 1.1 × scale-line; 343-344: 2.3 ×; 345: 1.4 ×.



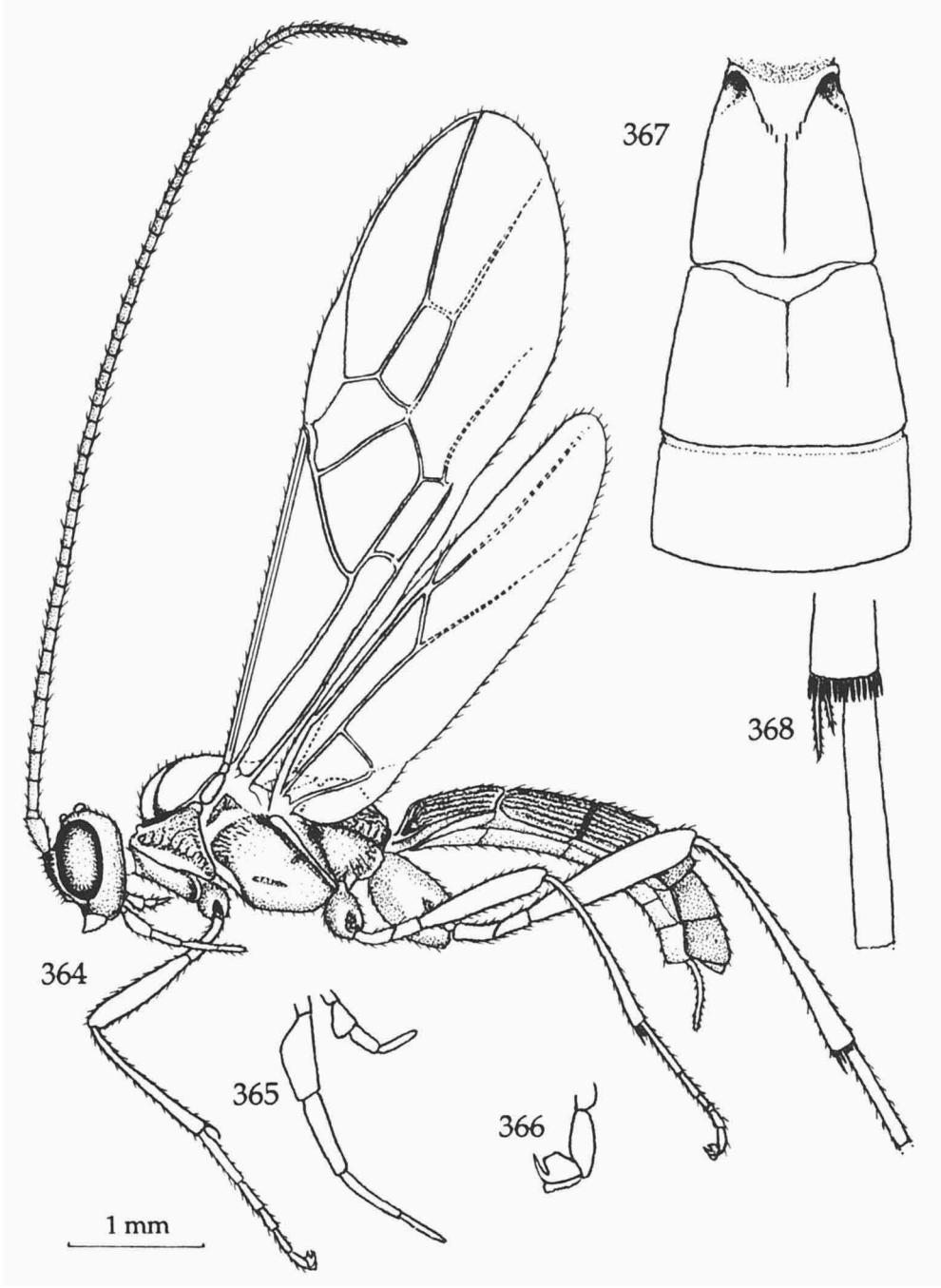
Figs 346-347, *Iporhogas flavistigma* spec. nov., holotype; 348-350, *I. unicolor* spec. nov., holotype; 351-353, *I. rugivertex* spec. nov., holotype. 346, 348, 351, wings; 347, 349, 352, hind tarsal claw; 350, 353, head, dorsal view. 346, 348, 351: 0.9 × scale-line; 347, 349, 352: 2.3 ×; 350, 353: 1.1 ×.



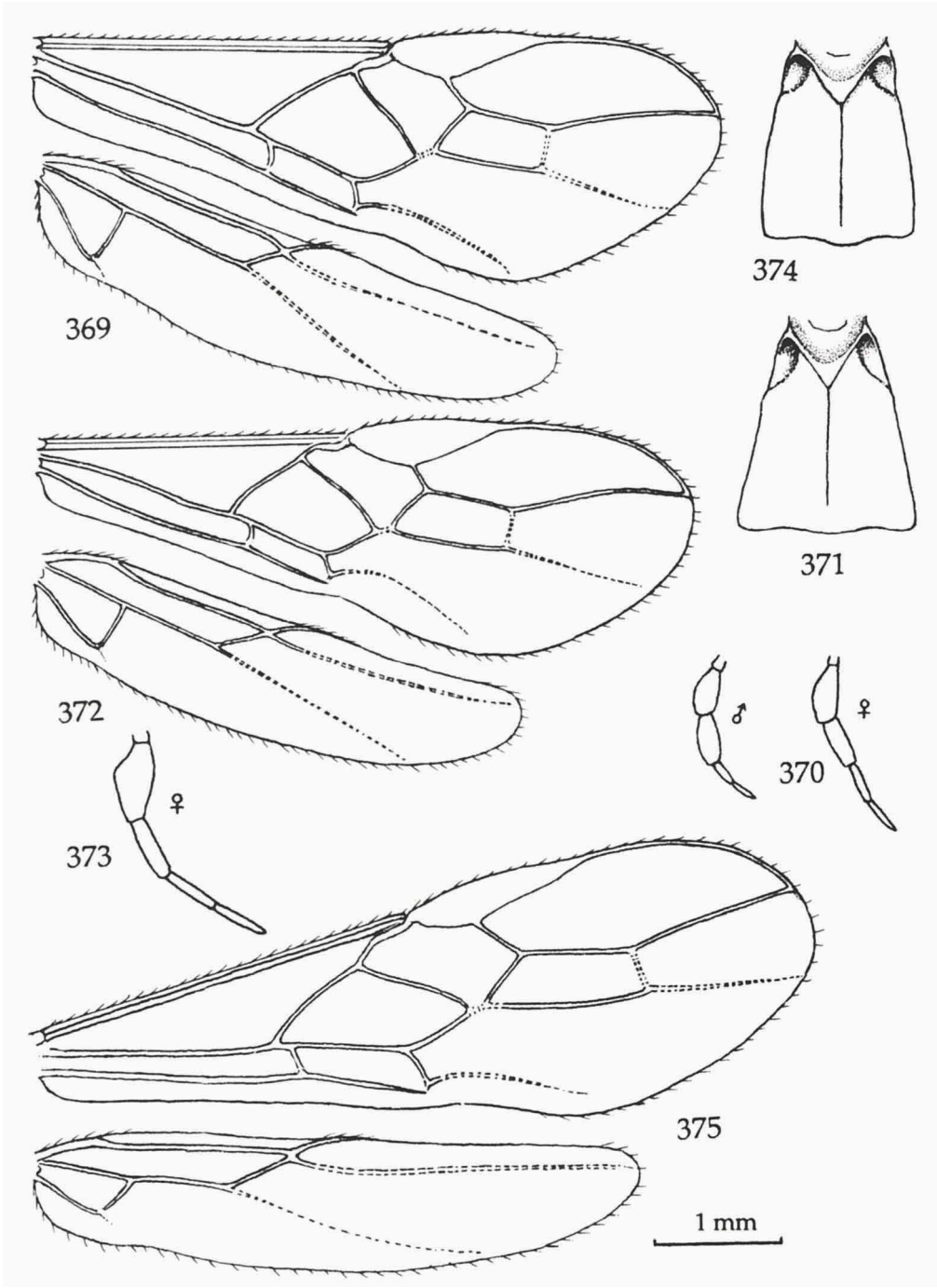
Figs 354-358, *Macrostomion nadanum* spec. nov., holotype. 354, habitus, lateral view; 355, hind tarsal claw; 356, hind tibial spurs and basitarsus;357, middle tibial spurs; 358, first-third metasomal tergites, dorsal view. 354: 0.9 × scale-line; 355-357: 2.3 ×; 358: 1.1 ×.



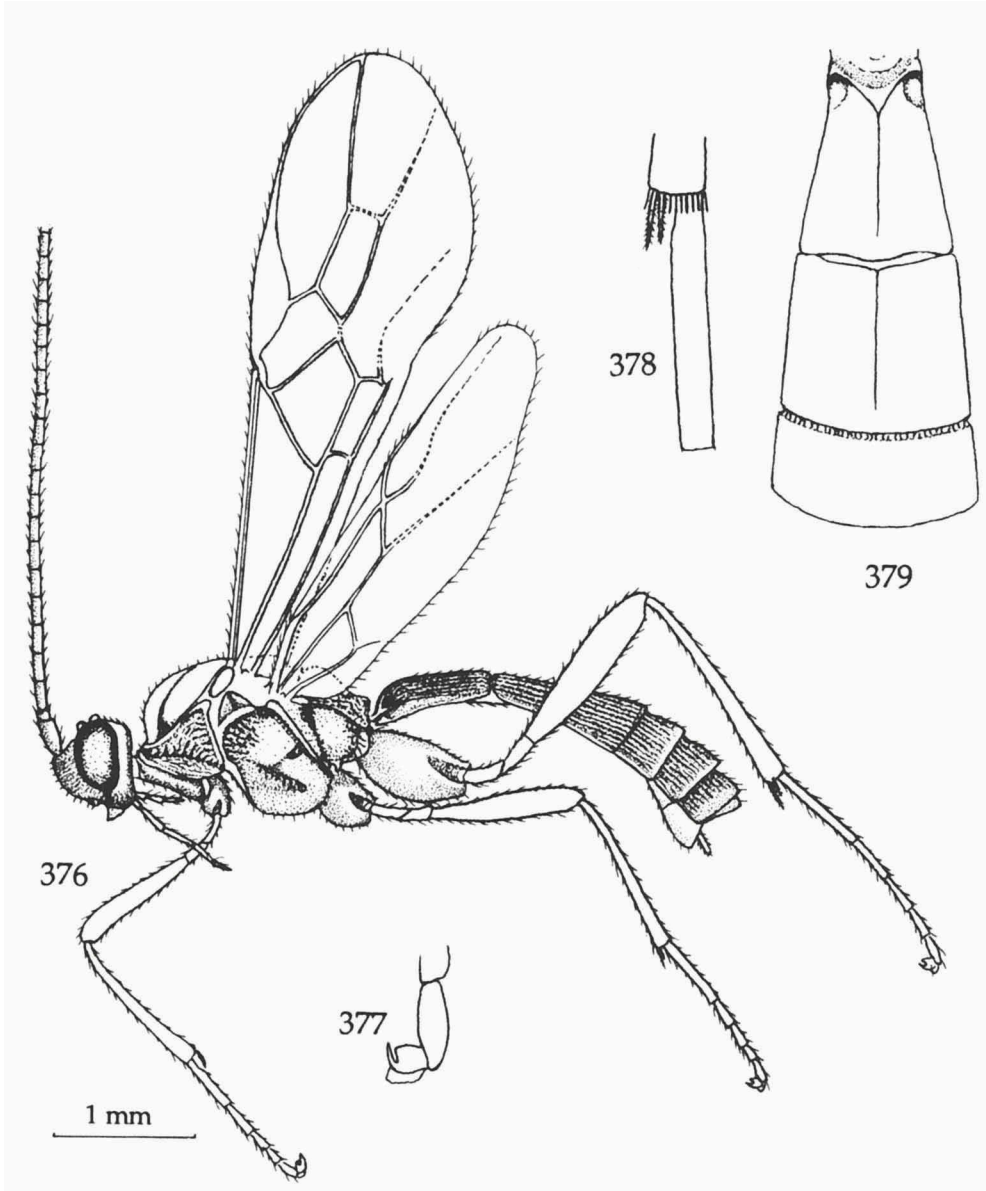
Figs 359-363, *Megarhogas maculipennis* spec. nov., holotype. 359, habitus, lateral view; 360, hind tarsal claw; 361, hind tibial spurs and basitarsus; 362, middle tibial spurs; 363, first-third metasomal tergites, dorsal view. 359: 0.5 × scale-line; 360: 1.8 ×; 361-362: 1.1 ×; 363: 0.6 ×.



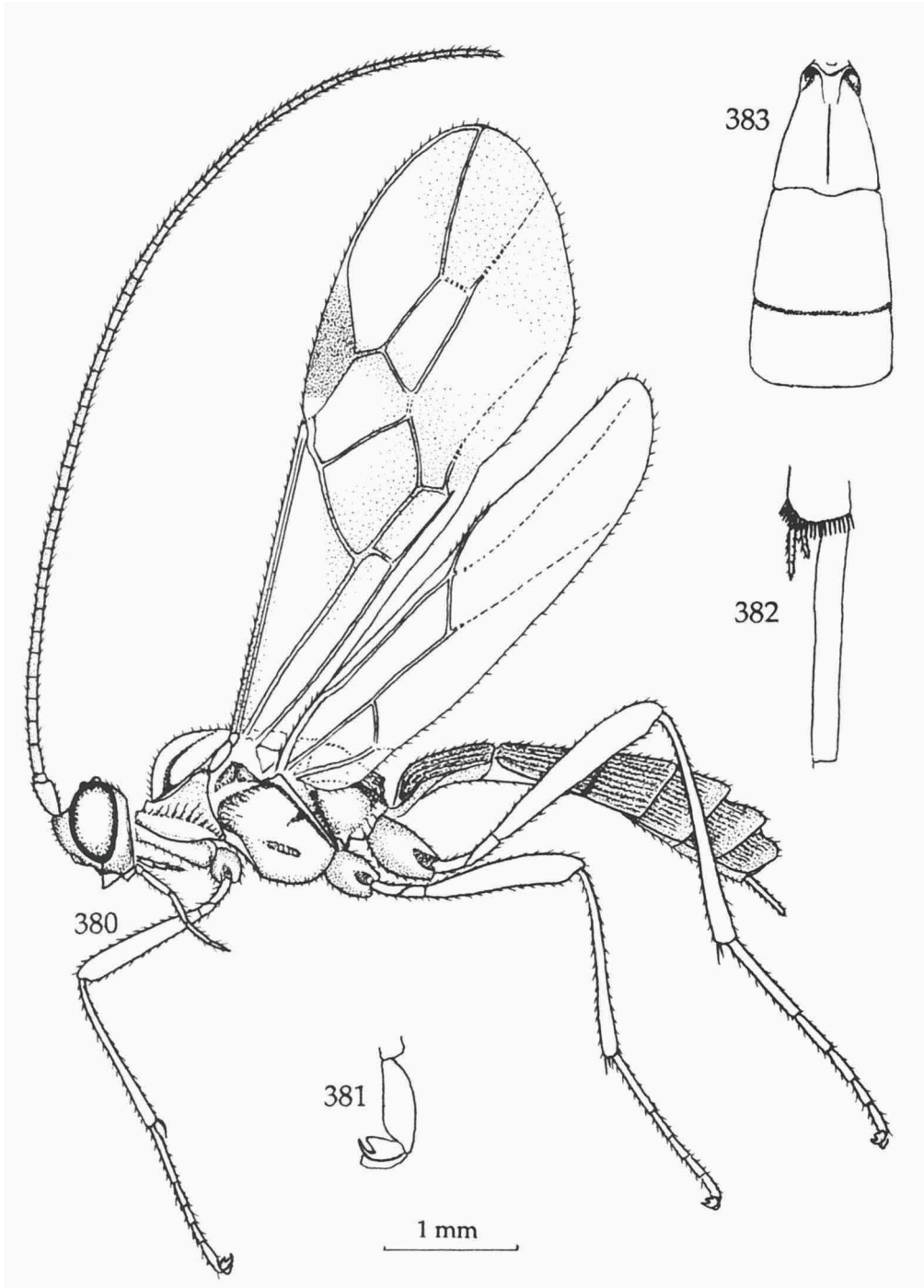
Figs 364-368, *Rogas nigricans* spec. nov., holotype. 364, habitus, lateral view; 365, palpi; 366, hind tarsal claw; 367, first-third metasomal tergites, dorsal view; 368, hind tibial spurs and basitarsus. 364: 0.7 × scale-line; 365, 367: 1.4 ×; 366, 368: 1.8 ×.



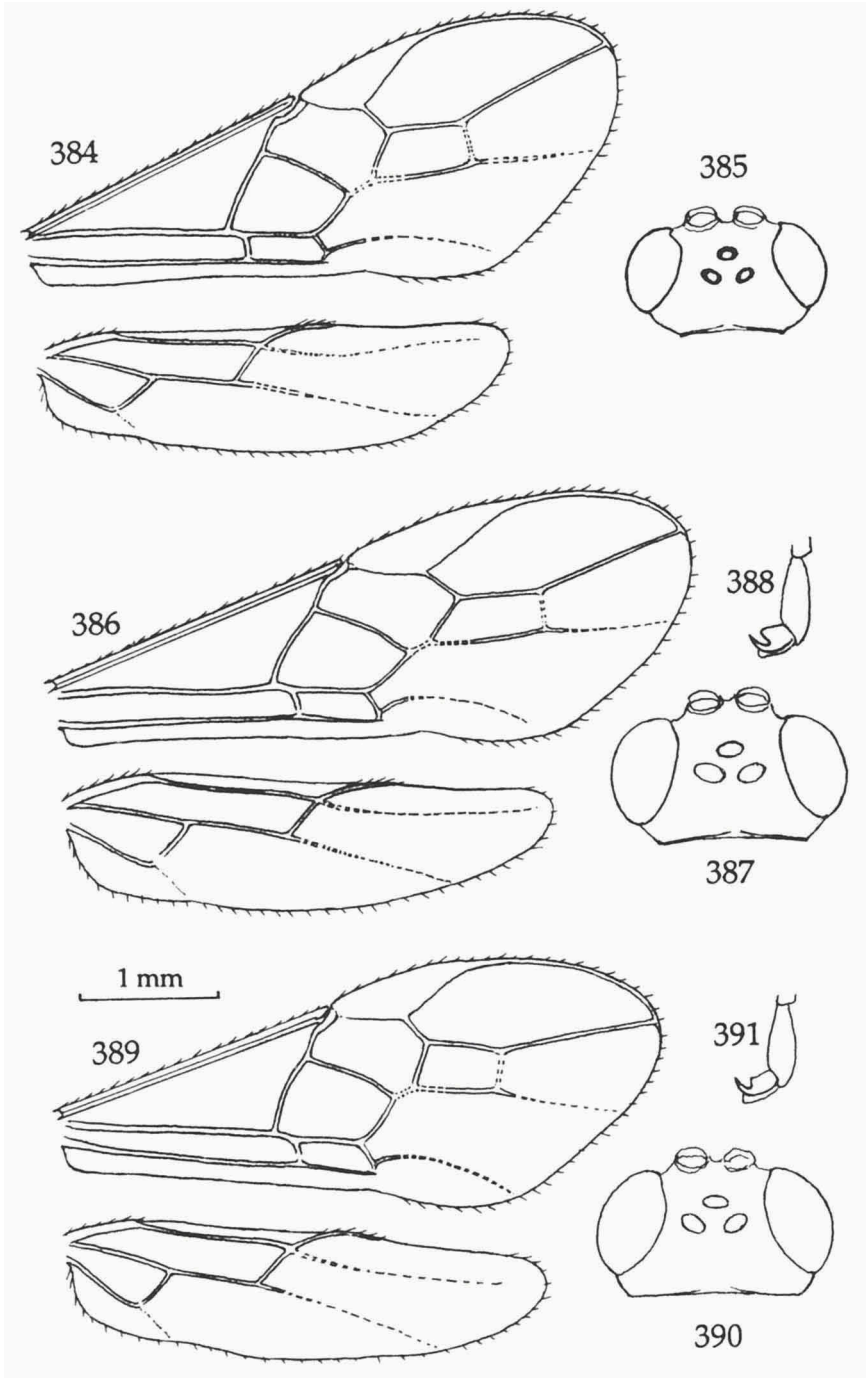
Figs 369-371, *Rogas flavus* spec. nov., holotype; 372-374, *Rogas nigristigma* spec. nov. holotype; 375, *Macrostomion sumatranum* (Enderlein). 369, 372, 375, wings; 370, 373, maxillary palpi; 371, 374, first metasomal tergite, dorsal view. 369, 372: 0.7 × scale-line; 370-371: 1.1 ×; 373-374: 1.4 ×; 375: 0.9 ×.



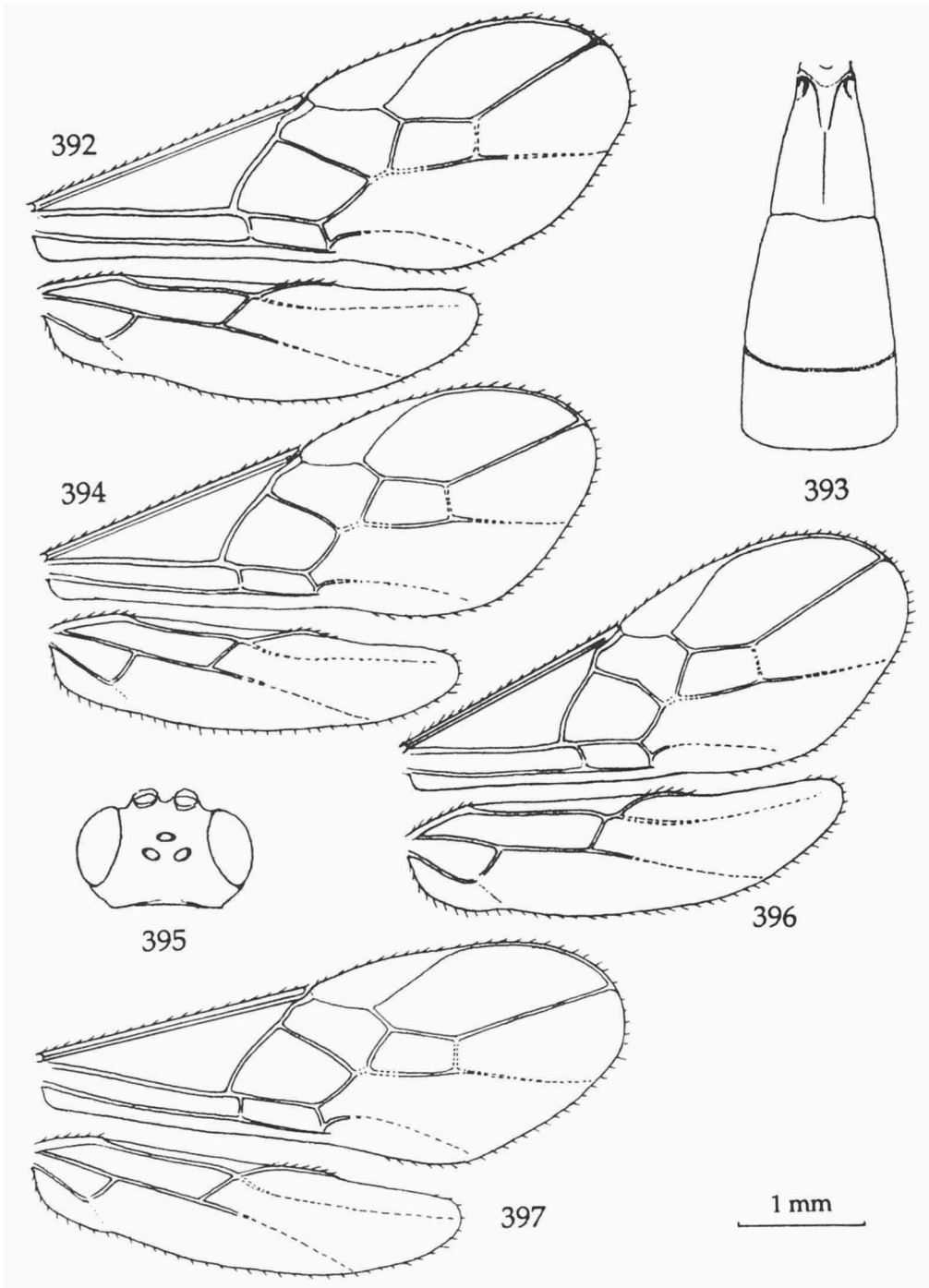
Figs 376-379, *Rogasodes masaicus* gen. & spec. nov., holotype. 376, habitus, lateral view; 377, hind tarsal claw; 378, hind tibial spurs and basitarsus; 379, first-third metasomal tergites, dorsal view. 376: 0.9 × scale-line; 377-378: 2.3 ×; 379: 1.4 ×.



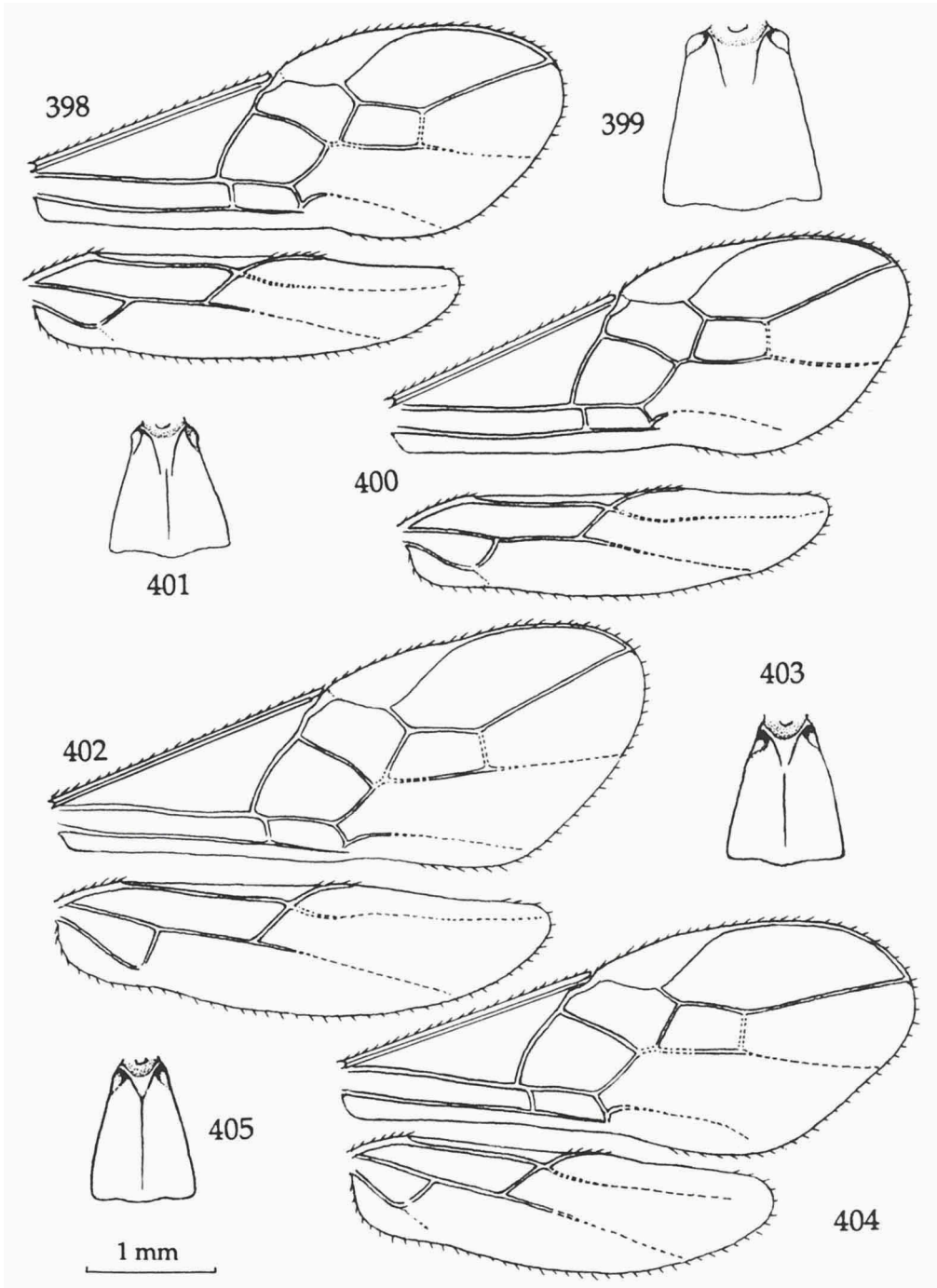
Figs 380-383, *Triraphis fuscipennis* spec. nov., holotype. 380, habitus, lateral view; 381, hind tarsal claw; 382, hind tibial spurs and basitarsus; 383, first-third metasomal tergites, dorsal view. 380: 0.9 × scale-line; 381-382: 2.3 ×; 383: 1.1 ×.



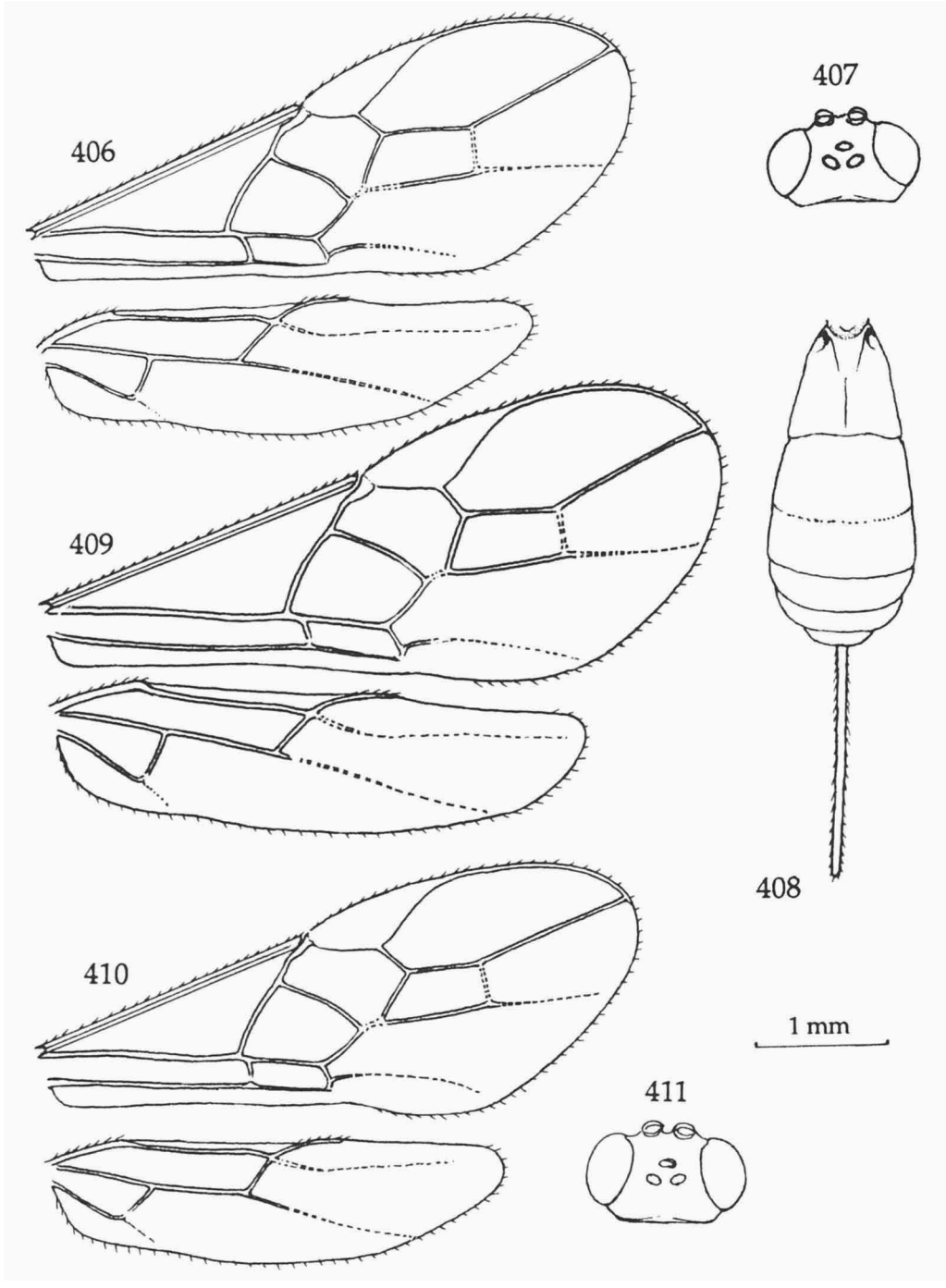
Figs 384-385, *Triraphis flavus* spec. nov., holotype; 386-388, *T. brevis* spec. nov., holotype; 389-391, *T. achterbergi* spec. nov., holotype. 384, 386, 389, wings; 385, 387, 390, head, dorsal view; 388, 391, hind tarsal claw. 384, 386, 389: 1.1 × scale-line; 385, 387, 390: 1.8 ×; 388, 391: 2.3 ×.



Figs 392-393, *Triraphis longitergum* spec. nov., holotype; 394-395, *T. melanus* spec. nov., holotype; 396, *T. flavobasalis* spec. nov., holotype; 397, *T. tibetensis* spec. nov., holotype. 392, 394, 396, 397, wings; 393, first-third metasomal tergites, dorsal view; 395, head, dorsal view. 392: 0.9 × scale-line; 393, 397: 1.4 ×; 394, 396: 1.1 ×; 395: 1.8 ×.



Figs 398-399, *Triraphis rufithorax* spec. nov., holotype; 400-401, *T. bicolor* spec. nov., holotype; 402-403, *T. rectus* spec. nov., holotype; 404-405, *T. longwangensis* spec. nov., holotype. 398, 400, 402, 404, wings; 399, 401, 403, 405: first metasomal tergite, dorsal view. 399, 401, 403, 405: 1.4 × scale-line; 398: 0.9 ×; 400, 402, 404: 1.1 ×.



Figs 406-408, *Triraphis terebrans* Chen & He, holotype; 409, *T. hunanensis* spec. nov., holotype; 410-411, *T. sichuanensis* spec. nov., holotype. 406, 409, 410, wings; 407, 411, head, dorsal view; 408, metasoma and ovipositor sheath, dorsal view. 406-409: 1.1 × scale-line; 410-411: 1.4 ×.

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