Six new genera of Braconidae (Hymenoptera) from China

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Six new genera of the family Braconidae (Hymenoptera) from China are described and illustrated: two genera of the subfamily Agathidinae: *Facilagathis* gen. nov. (type species: *F. spinulata* spec. nov.) and *Cremnoptoides* gen. nov. (type species: *Cremnops pappi* Sharkey, 1994); one genus of the subfamily Helconinae: *Mangshia* gen. nov. (type species: *M. elongata* spec. nov.); two genera of the subfamily Pambolinae: *Plesiocedria* gen. nov. (type species: *P. intermediata* spec. nov.) and *Apocedria* gen. nov. (type species: *A. nodifer* spec. nov.) and one genus belonging to the subfamily Opiinae: *Opiolastes* gen. nov. (type species: *O. hei* spec. nov.). In addition two new species are described: *Facilagathis macrocentroides* spec. nov. from Zhejiang and *Cremnoptoides furcatus* spec. nov. from Jilin.

Introduction

The knowledge of the members of the family Braconidae Nees, 1812 (Hymenoptera) in China is still limited (He et al., 2000). We are just starting to understand the diversity of the family in this area. During some recent visits of the first author to the Zhejiang University at Hangzhou several new genera were found in the collection of the Institute of Applied Entomology, of which six are described in this paper. The biology of the new genera is unknown, but members of the subfamily Agathidinae Haliday, 1833, are koinobiont endoparasitoids of larvae of Lepidoptera. Members of the subfamily Helconinae Foerster, 1862, are koinobiont endoparasitoids of larvae of Coleoptera; of the subfamily Pambolinae Marshall, 1885, are idiobiont ectoparasitoids of larvae of Coleoptera and Lepidoptera and of the subfamily Opiinae Blanchard, 1845, are koinobiont endoparasitoids of larvae of cyclorraphous Diptera.

For the identification of the subfamilies, see van Achterberg (1990, 1993, 1995, 1997) and for the terminology used in this paper, see van Achterberg (1988, 1993). The abbreviation CASB stands for Chinese Academy of Sciences, Beijing; RMNH for the Nationaal Natuurhistorisch Museum (formerly Rijksmuseum van Natuurlijke Historie), Leiden; TMA for the Hungarian Museum of Natural History, Budapest and ZJUH for the Insect Collection of the Zhejiang University, Hangzhou.

Descriptions

Agathidinae Haliday, 1833
Facilagathis gen. nov.
(figs 1-18)

Type species: *Facilagathis spinulata* spec. nov.

Etymology.— From "facilis" (Latin for "easy") and the generic name *Agathis* Latreille, 1805, because it belongs to the *Agathis*-group, but is easily separable by the spiny pegs of the hind basitarsus, the very slender first metasomal tergite and the reduction of vein 2-CU of the hind wing. Gender: feminine.

Diagnosis.— Length of fore wing 4.7-5.2 mm; head distinctly narrowed but not elongate ventrally, its malar space distinctly longer than basal width of mandible (figs 6, 14, 16); antenna somewhat shorter than body, with 38-40 segments, its apex acute and without apical spine (fig. 8); labio-maxillary complex not enlarged (fig. 14); area between antennal sockets without a pair of crests (fig. 6); area behind antennal sockets slightly depressed (fig. 7); frons without lateral carinae (fig. 7); temple in lateral view straight medio-posteriorly (fig. 14); mandible extremely twisted and plate-like in anterior view (fig. 6); prepectal carina lamelliform ventrally and incised medially; precoxal sulcus present (except anteriorly) and (largely) crenulate or costate (fig. 14); notauli complete (fig. 4); scutellum without crest-like elevation subposteriorly and with distinct depression medio-posteriorly (fig. 4); propodeal spiracle medium-sized and round (fig. 14); propodeum mainly rugose-reticulate, areola and costulae absent (fig. 4); vein 2-R1 of fore wing longer than vein 1-R1 or subequal (fig. 1); vein M+CU of hind wing shorter than vein 1-M (fig. 1); vein 2-CU of hind wing absent or nearly so; hind wing with 3 hamuli; hind coxa elongate, nearly as long as hind femur (figs 2, 17); all tarsal claws simple, and with acute lobe (fig. 8); fore tibial spur about 0.4 times fore basitarsus, without long glabrous apical spine; length of inner middle spur about 0.3 times middle basitarsus; outer face of middle tibia without submedial pegs; hind trochantellus with its lower edges rounded, without ventral carina; hind basitarsus with numerous spiny pegs latero-ventrally (figs 2, 3, 17, 18); first metasomal tergite very slender (5-6 times longer than wide apically) and largely longitudinally striate, without lateral depressions (figs 5, 15) and laterope large (fig. 14); second tergite striate and third tergite smooth; second metasomal suture wide, rather shallow and more or less striate (figs 5, 15); ovipositor narrow, without teeth and straight (fig. 13); ovipositor sheath 1.5-1.8 times as long as fore wing, subparallel-sided, apically with short spine and ventrally, and much longer than apical height of metasoma (figs 13, 14).

Distribution.— North Oriental; two species.

Biology.— Unknown.

Notes.— The genus is superficially similar to a very slender member of the genus *Bassus* Fabricius, 1804, but can be separated by the numerous spiny pegs of the hind basitarsus ventrally, the very slender first metasomal tergite and hind coxa, and the absence of a distinct trace of vein 2-CU of the hind wing.

Key to species of the genus *Facilagathis* nov.

1. Body largely black dorsally; epistomal suture present laterally (fig. 6); first metasomal tergite of ♀ 3.2-3.8 times as long as wide apically (fig. 5); hind tarsus (except basally) dark brown (fig. 2); prepectal carina moderately incised medio-ventrally; third antennal segment of ♀ about 4 times as long as wide (fig. 11); length of ovipositor sheath 1.5-1.7 times as long as fore wing ..... ***F. spinulata*** spec. nov.
- Body yellowish-brown dorsally; epistomal suture absent (fig. 16); first tergite of ♀ about 2.7 times as long as wide apically (fig. 15); hind tarsus yellowish; prepectal carina deeply incised medio-ventrally; third antennal segment of ♀ about 2.5 times as long as wide; length of ovipositor sheath about 1.8 times as long as fore wing ..... ***F. macrocentroides*** spec. nov.

Facilagathis spinulata spec. nov.
(figs 1-14)

Material.— Holotype, ♀ (ZJUH), "**China**: Sichuan, Emei Mt, 8.viii.1980, no. 802 158, He Junhua". Paratypes (4 ♀♀ + 1 ♂, ZJUH, RMNH): 2 ♀♀, topotypic, 12.viii.1980, no. 802 551; 1 ♀, "China: Sichuan, Qingcheng Mt., 18.vii.1980, no. 801 670, Zhu Wengbing"; 1 ♀ + 1 ♂, "China: Zhejiang, Fatou, Deqing, 27.v.1995, no. 954 743 (♂) or 954 707/21, Chen Xuexin".

Holotype, ♀, length of body 6.9 mm, of fore wing 4.9 mm.

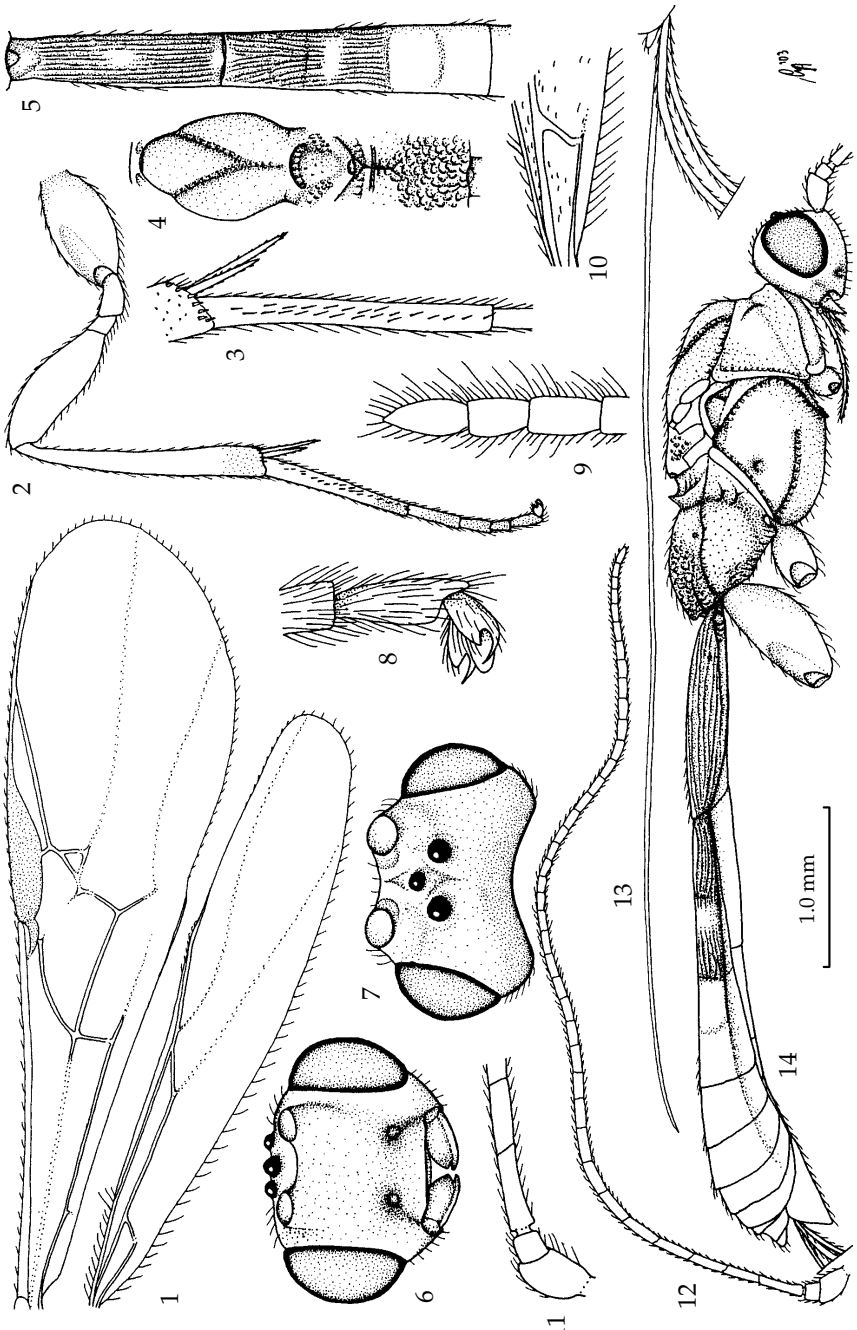
Head.— Antenna with 40 segments; length of third antennal segment 1.3 times fourth segment; length of third, fourth and penultimate segments 4.2, 3.2 and 1.5 times their width, respectively; length of maxillary palp 1.1 times height of head, palpi slender (fig. 14); length of eye in dorsal view 3.4 times temple; temples weakly concave dorsally and distinctly narrowed (fig. 7); OOL:diameter of ocellus:POL = 10:5:8; face rather densely punctulate, and dorsally slightly micro-sculptured; vertex punctulate; occipital flange medium-sized, vertical (fig. 14); length of malar space 1.5 times basal width of mandible.

Mesosoma.— Length of mesosoma 2.1 times its height; laterally pronotum largely punctulate, but medially smooth and anteriorly with a curved carina (fig. 14); subpronope shallow; mesoscutum punctulate, medio-posteriorly with shallow narrow groove and its lobes moderately convex, middle lobe without pair of shallow grooves anteriorly (fig. 4); notauli distinctly impressed, crenulate; scutellum convex, punctulate; mesopleuron above and below precoxal sulcus punctulate; precoxal sulcus with short crenulae, rather deep (fig. 14); metapleuron finely punctate, with some rugae ventrally; propodeum largely smooth anteriorly and remainder rugose-reticulate (fig. 4).

Wings.— Fore wing: second submarginal cell triangular, petiolate anteriorly, without ramellus (fig. 1); r:3-SR+SR1:r-m = 2:34:7. Hind wing: M+CU:1-M = 20:37; surroundings of cu-a mainly glabrous (fig. 10).

Legs.— Length of hind femur, tibia and basitarsus 2.9, 8.1 and 9.4 times their width, respectively; length of outer and inner spur of hind tibia 0.25 and 0.35 times hind basitarsus, respectively, slender (fig. 3).

Metasoma.— Very slender; length of first tergite 3.8 times its apical width (fig. 5); length of ovipositor sheath 1.47 times fore wing, sheath moderately long setose.



Figs 1-14, *Facilagathis spinulata* gen. nov. & spec. nov., ♀, holotype. 1, wings; 2, hind leg; 3, hind basitarsus; 4, mesosoma, dorsal aspect; 5, first-third metasomal tergites, dorsal aspect; 6, head, anterior aspect; 7, head, dorsal aspect; 8, hind claws (upper = inner); 9, apex of antenna; 10, base of hind wing; 11, basal segments of antenna; 12, antenna; 13, ovipositor; 14, habitus, lateral aspect. 1, 2, 4, 5, 12-14: 1.0 × scale-line; 3, 6, 7, 10, 11: 2.0 ×; 8, 9: 5.0 ×.

Colour.— Black; clypeus mainly, face laterally, antenna, pronotum dorsally, mesosternum, second tergite, basal half of third tergite, ovipositor sheath, small dorsal patch near apex of hind femur, subbasal patch of hind tibia, apical quarter of hind tibia and hind tarsus (except basally) dark brown; remainder of hind tibia pale yellowish; palpi, remainder of pronotum and legs, tegulae and metasomal ventrally pale brownish-yellow; pterostigma, parastigma and veins brown; wing membrane subhyaline.

Variation.— Length of fore wing of ♀ 4.7-5.2 mm (of ♂: 4.1 mm), and of body of ♀ 6.5-7.0 mm (of ♂: 5.1 mm), antennal segments of ♀ 39 (1), 40 (2) or 41 (1) (of ♂: 38 (1)), length of first tergite of ♀ 3.2-3.8 times (♂: 2.7 times) its apical width; length of ovipositor sheath 1.47-1.70 times fore wing; second submarginal cell of fore wing sometimes subsessile; second tergite may be completely coarsely costate-like striate; scutellum, metanotum and propodeum may be largely dark brown; precoxal sulcus may be nearly complete; mesosoma may be nearly completely yellowish-brown ventrally and laterally.

Distribution.— Oriental China (Sichuan; Zhejiang).

Facilagathis macrocentroides spec. nov.
(figs 15-18)

Material.— Holotype, ♀ (ZJUH), "**China**: Zhejiang, Anji, 1981, no. 820 190, Shao Bao".

Holotype, ♀, length of body 7.1 mm, of fore wing 4.6 mm.

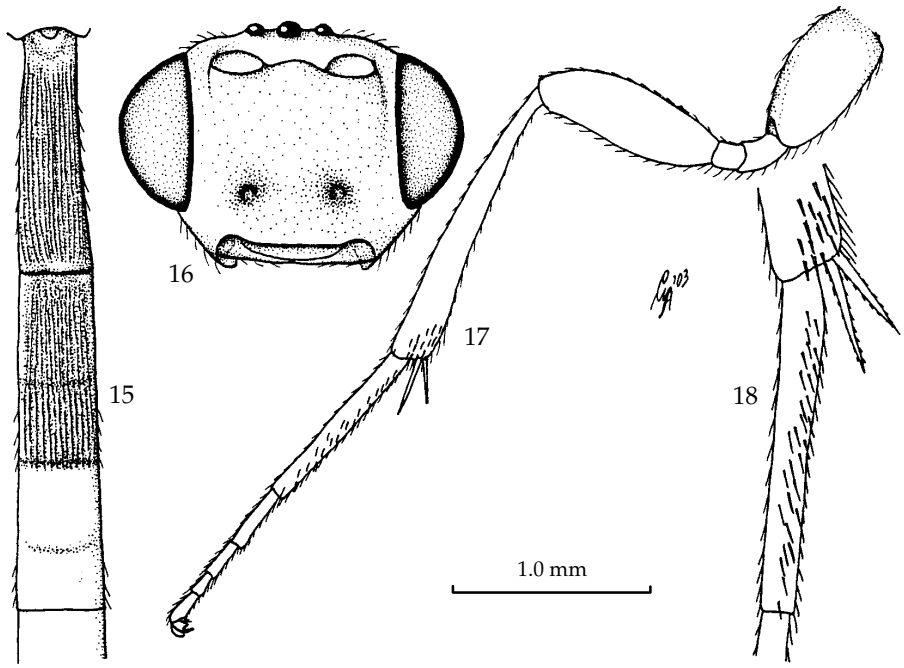
Head.— Antenna with 40 segments; length of third antennal segment 1.2 times fourth segment; length of third, fourth and penultimate segments 2.3, 1.9 and 1.8 times their width, respectively; length of maxillary palp 1.1 times height of head, palpi slender; length of eye in dorsal view 3.5 times temple; temples weakly concave dorsally and distinctly narrowed; OOL:diameter of ocellus:POL = 10:5:9; face rather densely punctate (fig. 16); vertex sparsely punctate; occipital flange rather large, vertical; length of malar space 1.7 times basal width of mandible.

Mesosoma.— Length of mesosoma 2.0 times its height; laterally pronotum largely smooth, but antero-ventrally rugose-punctate with and posteriorly densely punctate; subpronope absent; mesoscutum punctate, with interspaces about equal to diameter of punctures, medio-posteriorly without groove but distinctly depressed and its lobes moderately convex, middle lobe without pair of shallow grooves anteriorly; notauli completely impressed, distinctly crenulate; scutellum weakly convex, punctulate, with indistinct subposterior transverse elevation; mesopleuron above and below precoxal sulcus finely punctate; precoxal sulcus with short crenulae, rather deep; metapleuron finely punctate; propodeum largely smooth antero-laterally and remainder reticulate-rugose.

Wings.— Fore wing: second submarginal cell triangular, without ramellus; r:3-SR+SR1:r-m = 5:66:10; 1-CU1:2-CU1 = 1:52. Hind wing: M+CU:1-M = 33:53; surroundings of cu-a sparsely setose.

Legs.— Length of hind femur, tibia and basitarsus 2.7, 7.2 and 9.2 times their width, respectively (fig. 17); length of outer and inner spur of hind tibia 0.25 and 0.30 times hind basitarsus, respectively, slender (fig. 18).

Metasoma.— Very slender; length of first tergite 2.7 times its apical width (fig. 15),



Figs 15-18, *Facilagathis macrocentroides* gen. nov. & spec. nov., ♀, holotype. 15, first-third metasomal tergites, dorsal aspect; 16, head, anterior aspect; 17, hind leg; 18, hind basitarsus. 15, 17: 1.0 × scale-line; 16, 18: 2.0 ×.

its surface rather finely longitudinally striate; second tergite rather coarsely longitudinally striate; length of ovipositor sheath 1.78 times fore wing, sheath rather long (but not densely) setose.

Colour.— Yellowish-brown; streak on outer side of scapus, stemmaticum partly and ovipositor sheath blackish; pterostigma, parastigma and veins brown; wing membrane subhyaline; palpi, tegulae, fore and middle legs, hind tibia (except its darkened apex), hind basitarsus (except darkened apical part) and tibial spurs pale yellowish.

Distribution.— Oriental China (Zhejiang).

Cremnoptoides gen. nov.
(figs 19-37)

Type species: *Cremnops pappi* Sharkey, 1996.

Etymology.— From the generic name *Cremnops* Foerster, 1862 and "oides" (Latin for "similar"), because it resembles the genus *Cremnops*, but is separable by having the outer and inner hind tarsal claws similar (figs 29, 32); the hind trochantellus more or less carinate ventrally and the mesosternal sulcus deep and coarsely crenulate. Gender: masculine.

Diagnosis.— Length of fore wing 6-10 mm; head distinctly narrowed and elongate ventrally, its malar space distinctly longer than basal width of mandible (figs 22, 26);

antenna about as long as body, with 49-50 segments, its apex acute and without apical spine (fig. 24); labio-maxillary complex not enlarged (fig. 26); area between antennal sockets with one crest (fig. 22); area behind antennal sockets slightly depressed (fig. 28); frons with sinuate lateral crest (fig. 28); temple in lateral view widened near lower level of eye (fig. 26); mandible distinctly twisted and slender in anterior view (fig. 22); prepectal carina coarse and complete (fig. 26); precoxal sulcus nearly complete (except anteriorly) and coarsely crenulate and punctate (fig. 26); notauli complete (figs 21, 37); scutellum without crest-like elevation subposteriorly and without depression medioposteriorly (except a weakly drepressed crenulate area: fig. 21); propodeal spiracle medium-sized and elliptical (fig. 21); propodeum coarsely areolate, areola and costulae present (fig. 21); vein 2-R1 of fore wing shorter than vein 1-R1 (figs 19, 33); vein M+CU of hind wing shorter than vein 1-M (fig. 19); vein 2-CU of hind wing present; hind wing with 3 hamuli; hind coxa robust, distinctly shorter than hind femur (fig. 20); fore and middle tarsal claws bifurcate and with a comparatively large inner tooth (fig. 23), inner and outer hind claws similar and with large acute lobe (figs 29, 32); fore tibial spur about 0.7 times fore basitarsus, without long glabrous apical spine; length of inner middle spur 0.6-0.7 times middle basitarsus; third and fourth segments of fore and middle tarsus robust (fig. 23); outer face of middle tibia without submedial pegs; hind trochantellus with its lower edges more or less carinate (fig. 31), but sometimes nearly rounded; hind basitarsus without slender pegs latero-ventrally; first metasomal tergite rather robust (about twice as long as wide apically: figs 30, 36) and smooth, without or with lateral depressions (figs 30, 36) and laterope rather large; second tergite smooth and with transverse depression (fig. 30); second metasomal suture medium-sized, rather shallow (fig. 30); ovipositor narrow, without teeth and somewhat curved (fig. 27); ovipositor sheath 0.6-0.9 times as long as fore wing, subparallel-sided, apically acute, and much longer than apical height of metasoma (figs 26, 27).

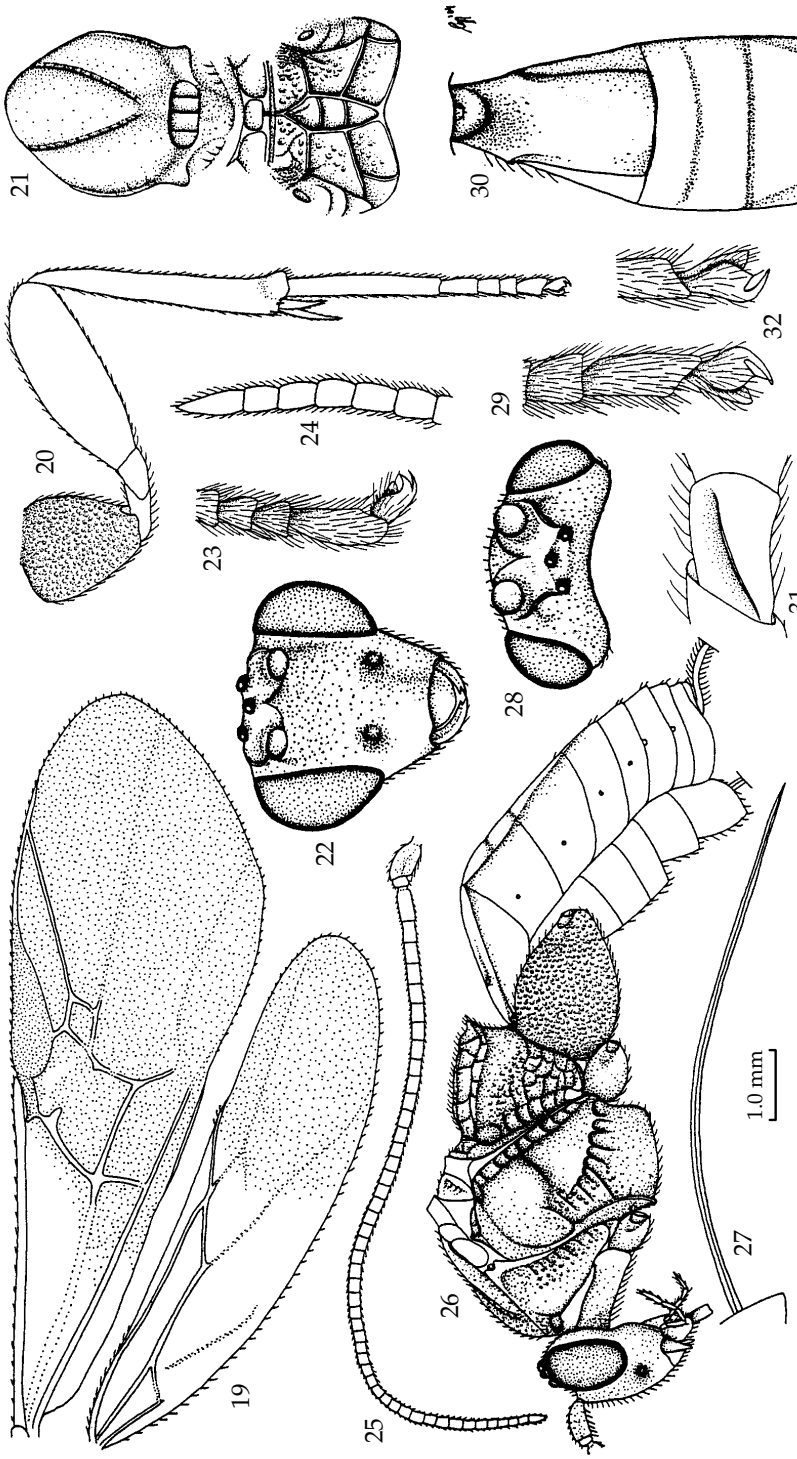
Distribution.— East Palaearctic; two species.

Biology.— Unknown.

Notes.— The genus is superficially similar to a robust member of the genus *Cremnops* Foerster, 1862, but can be separated by having the outer and inner hind tarsal claws similar (figs 29, 32); the hind trochantellus more or less carinate ventrally (but may be rounded or nearly so), the comparatively slender marignal cell of the fore wing (figs 19, 33), the distinct precoxal sulcus and the mesosternal sulcus deep and coarsely crenulate.

Key to species of the genus *Cremnoptoides* nov.

1. Precoxal sulcus complete or nearly so, widely sculptured (fig. 26); malar space similarly coloured as clypeus; head somewhat more slender in anterior view (fig. 22); face sparsely to moderately densely punctate; middle lobe of mesoscutum smooth medially or nearly so (fig. 21); area behind antennal sockets shallowly depressed (fig. 28) ..... ***C. pappi*** (Sharkey, 1996)
- Precoxal sulcus largely absent; malar space bownish, contrasting with blackish clypeus; head somewhat more robust in anterior view (fig. 35); face densely punctate (fig. 35); middle lobe of mesoscutum with a wide punctate groove medially (fig. 37); area behind antennal sockets deeply depressed (fig. 35) ..... ***C. furcatus*** spec. nov.



Figs 19-32, *Cremnoptoides pappi* (Sharkey), ♀, China, Henan, but 31 from paratype from Korea. 19, wings; 20, hind leg; 21, mesosoma, dorsal aspect; 22, head, anterior aspect; 23, outer fore claw; 24, apex of antenna; 25, antenna; 26, habitus, lateral aspect; 27, ovipositor; 28, head, dorsal aspect; 29, outer hind claw; 30, first-second metasomal tergites, dorsal aspect; 31, hind trochantellus, ventro-lateral aspect; 32, inner hind claw. 19, 20, 25-27: 1.0 × scale-line; 21: 1.2 ×; 22, 28: 1.5 ×; 24: 4.0 ×; 23, 29, 31, 32: 3.0 ×; 30: 1.4 ×.

Cremnoptoides pappi (Sharkey, 1996) comb. nov.
(figs 19-32)

Cremnops pappi Sharkey, 1996: 15-16, 1998: 530; Papp, 2003: 123.

Material.— Paratype, ♀ (TMA), "**Korea**, Prov. South Pyongan: Lyong-ak San, 14 km W from Pyongyan", "No. 299, 30.vii.1975, J. Papp & A. Vojnits", "Paratype ♀ *Cremnops pappi* Sharkey, 1994"; 1 ♀ (RMNH), "**China**: Henan, Neiziang, 11.viii.1998, no. 98 5981, Chen Xuexin, RMNH'99".

Figured specimen from Henan compared with paratype, ♀, length of body 10.6 mm, of fore wing 9.3 mm.

Head.— Antenna with 49 segments; length of third antennal segment 1.4 times fourth segment; length of third, fourth and penultimate segments 2.4, 1.7 and 1.2 times their width, respectively; length of maxillary palp 0.6 times height of head, palpi slender; length of eye in dorsal view 5.0 times temple; area behind antennal sockets shallowly depressed (fig. 28); temples weakly concave dorsally and distinctly narrowed (fig. 28); OOL:diameter of ocellus:POL = 9:4:8; face moderately punctate (fig. 22); vertex sparsely punctate; occipital flange narrow, vertical (fig. 26); length of malar space twice basal width of mandible.

Mesosoma.— Length of mesosoma 1.4 times its height; laterally pronotum largely smooth ventrally, punctate dorsally and crenulate postero-ventrally; subpronope deep; mesoscutum sparsely punctate or nearly smooth (fig. 21), medio-posteriorly without groove or distinct depression and its lobes moderately convex, middle lobe without pair of shallow grooves anteriorly; notauli completely impressed, distinctly crenulate and narrow (fig. 21); scutellum weakly convex, punctulate, with indistinct subposterior transverse elevation; mesopleuron above and below precoxal sulcus finely punctate; precoxal sulcus with short crenulae, rather deep; metapleuron finely punctate; propodeum largely punctate between carinae (fig. 21).

Wings.— Fore wing: second submarginal cell subquadrate, without ramellus (fig. 19); r:3-SR:SR1:r-m = 3:7:48:6; cu-a interstitial. Hind wing: M+CU:1-M = 11:14; surroundings of cu-a sparsely setose.

Legs.— Length of hind femur, tibia and basitarsus 3.0, 6.2 and 8.2 times their width, respectively; lengths of outer and inner spur of hind tibia 0.25 and 0.45 times hind basitarsus, respectively, rather robust (fig. 20); hind trochantellus with its lower edge carinate (fig. 31), but sometimes reduced and ventral side of trochantellus rounded.

Metasoma.— Length of first tergite 1.9 times its apical width (fig. 30), its surface smooth except for some fine punctures; length of ovipositor sheath 0.65 times fore wing, sheath moderately long and densely setose.

Colour.— Black; palpi, mandible and other mouthparts, fore leg (except dark brown coxa and trochanter), middle tibia (but spurs brown) and tarsus brownish-yellow; clypeus and largely propleuron orange-brown; middle trochanter and trochantellus and femur dark brown; pterostigma, veins and membrane of fore wing (except basally) and of hind wing apically dark brown.

Variation.— Mesoscutum, head anteriorly, temples and malar space, pronotum and propleuron, and mesopleuron may be chestnut brown; membrane of fore wing often distinctly infuscate but weakly so in small specimens. Large specimens often have the

basal third of the fore wing weakly infuscate but sometimes this part is as dark as remainder of the fore wing.

Distribution.— East Palaearctic: China (Henan), Japan and Korea.

Cremnoptoides furcatus spec. nov.
(figs 33-37)

Material.— Holotype, ♀ (ZJUH), "**China**: Jilin, Donglao, 22-31.vii.1988, no. 88 8100, Lou Xiaomin".

Holotype, ♀, length of body 6.5 mm, of fore wing 5.8 mm.

Head.— Antenna with 41 segments; length of third antennal segment 1.3 times fourth segment; length of third, fourth and penultimate segments 2.7, 2.1 and 1.3 times their width, respectively; length of maxillary palp 0.7 times height of head, palpi slender; length of eye in dorsal view 2.2 times temple; area behind antennal sockets deeply depressed (fig. 35); temples weakly concave dorsally and distinctly narrowed; OOL: diameter of ocellus:POL = 10:5:11; stemmaticum deeply concave medially and punctate; face largely coarsely and densely punctate, with interspaces shorter than diameter of punctures (fig. 35); vertex distinctly punctate; occipital flange strong, distinctly protruding; length of malar space 1.8 times basal width of mandible.

Mesosoma.— Length of mesosoma 1.3 times its height; laterally pronotum largely punctate, posteriorly coarsely crenulate and medially partly smooth; subpronope obsolescent; mesoscutum densely punctate, with interspaces mostly less than diameter of punctures (fig. 37), medially with distinct punctate groove and its lobes moderately convex, middle lobe with groove anteriorly; notauli completely impressed, distinctly crenulate and narrow (fig. 37); scutellum flat, coarsely punctate, with indistinct subposterior transverse elevation; mesopleuron above and below precoxal sulcus mainly rather sparsely punctate; precoxal sulcus densely punctate anteriorly and more sparsely punctate posteriorly, hardly impressed; metapleuron coarsely reticulate ventrally and remainder coarsely punctate; propodeum coarsely areolate, largely smooth between carinae.

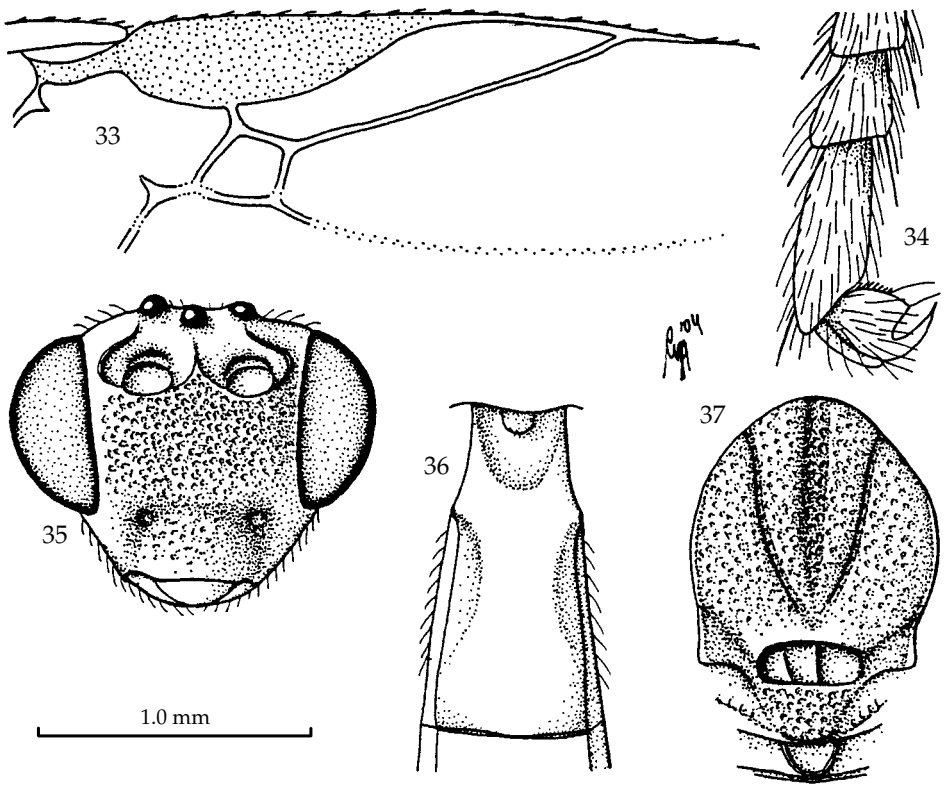
Wings.— Fore wing: second submarginal cell subquadrate, without ramellus (fig. 33); r:3-SR:SR1:r-m = 5:11:90:14; cu-a postfurcal, 1-CU1:2-CU2 = 1:16. Hind wing: M+CU:1-M = 30:46; surroundings of cu-a sparsely setose.

Legs.— Length of hind femur, tibia and basitarsus 3.1, 5.4 and 8.2 times their width, respectively; lengths of outer and inner spur of hind tibia 0.3 and 0.5 times hind basitarsus, respectively; hind trochantellus with its lower edge carinate; hind femur coarsely and densely punctate; fore tarsus more robust than middle tarsus.

Metasoma.— Length of first tergite 2.1 times its apical width (fig. 36), its surface smooth except for some fine punctures; length of ovipositor sheath 0.88 times fore wing, sheath moderately long and densely bristly setose.

Colour.— Black; antenna, temple, malar space (but ventrally yellowish), metanotum, scutellum laterally, metasoma baso-ventrally, fore and middle coxae, trochanters, middle trochantellus, dorsal 0.7 of middle femur, hind tibia ventrally largely, parastigma, pterostigma, and veins largely dark brown; palpi, remainder of fore and middle legs brownish-yellow; wing membrane rather infuscate, but below base of pterostigma with hyaline patch.

Distribution.— East Palaearctic: China (Jilin).



Figs 33-37, *Cremnoptoides furcatus* gen. nov. & spec. nov., ♀, holotype. 33, detail of fore wing; 34, outer hind claw; 35, head, anterior aspect; 36, first metasomal tergite, dorsal aspect; 37, mesonotum, dorsal aspect. 33, 35, 36: 1.0 × scale-line; 34: 2.5 ×; 37: 0.7 ×.

Helconinae Foerster, 1862
Mangshia gen. nov.
(figs 38-48)

Type species: *Mangshia elongata* spec. nov.

Etymology.— Derived from the name of its type locality (Mangshi). Gender: feminine.

Diagnosis.— Length of fore wing 5-6 mm; antenna somewhat longer than fore wing (figs 38, 46), with about 37 segments, apical segment without apical spine (fig. 45); apex of scapus somewhat oblique, and pedicellus cylindrical (fig. 47); antennal sockets situated near middle level of eyes (fig. 47) and their outer sides not protruding; maxillary and labial palpi with 6 and 4 segments, respectively and basal segments obsolescent (fig. 47); occipital carina complete, joining hypostomal carina; occipital flange somewhat protruding, rather narrow (fig. 47); frons without distinct horn or median carina and no parallel-sided depression (fig. 43); face with pair of

shallow and dorsally crenulate longitudinal grooves submedially (fig. 42); malar suture wide (fig. 42); hypoclypeal depression absent but with some space below clypeus; antescutal depression absent; pronope large, deep and submedially situated (fig. 39); prepectal carina medium-sized, complete, reaching ventral third of side of pronotum (fig. 47); precoxal sulcus complete, coarsely and densely punctate (fig. 47); mesosternal sulcus complete, rather wide and crenulate; mesoscutum with notauli only anteriorly impressed and area very coarsely rugose-reticulate and no medio-posterior depression (fig. 39); scutellum with narrow posterior crenulate depression (fig. 39); median carina of metanotum complete, hardly protruding dorsally; propodeal carinae (except for short median carina anteriorly) absent (fig. 39); propodeum without pile of reflective setae; propodeal tubercles absent; veins 1-SR and r-m of fore wing present (fig. 38); vein 2-SR of fore wing straight; vein m-cu of fore wing far antefurcal, angled with vein 2-CU1 and converging to vein 1-M posteriorly (fig. 38); veins 2A and a of fore wing present, but largely unsclerotized (fig. 38); vein 3-SR of fore wing slightly shorter than vein 2-M; vein CU1b of fore wing present; vein cu-a strongly inclivous (fig. 38); vein 2A of hind wing nearly completely sclerotized (fig. 38); hind wing with 3 hamuli; marginal cell of hind wing rather widened apically (fig. 38); vein SR of hind wing straight basally and unsclerotized; vein 1r-m of hind wing rather long and oblique; vein M+CU of hind wing much longer than vein 1-M; tarsal claws without lobe (fig. 44); fore and middle tibiae without short pegs; femora medium-sized and tibiae very slender (fig. 40); hind femur smooth ventrally and much shorter than tibia (fig. 40); fore tarsus about 1.5 times as long as fore tibia and fore tibia about as long as fore femur; fore tibia without apical tubercle; inner hind tarsal spur robust and as long as outer spur; first metasomal tergite inserted somewhat above insertion of coxae (fig. 47), not inflated basally and rather slender, movably joined to second tergite, without dorsope (fig. 41), its dorsal carina present largely absent; second tergite distinctly sculptured and without transverse rim; third and following tergites movably joined; second tergite and base of third tergite with sharp lateral crease; fourth and fifth tergites normal, smooth (fig. 47); hypopygium rather large, subtruncate apically (fig. 47); length of ovipositor sheath about 2.5 times fore wing, its sheath long and densely setose, setea becoming shorter towards apex of sheath (fig. 48).

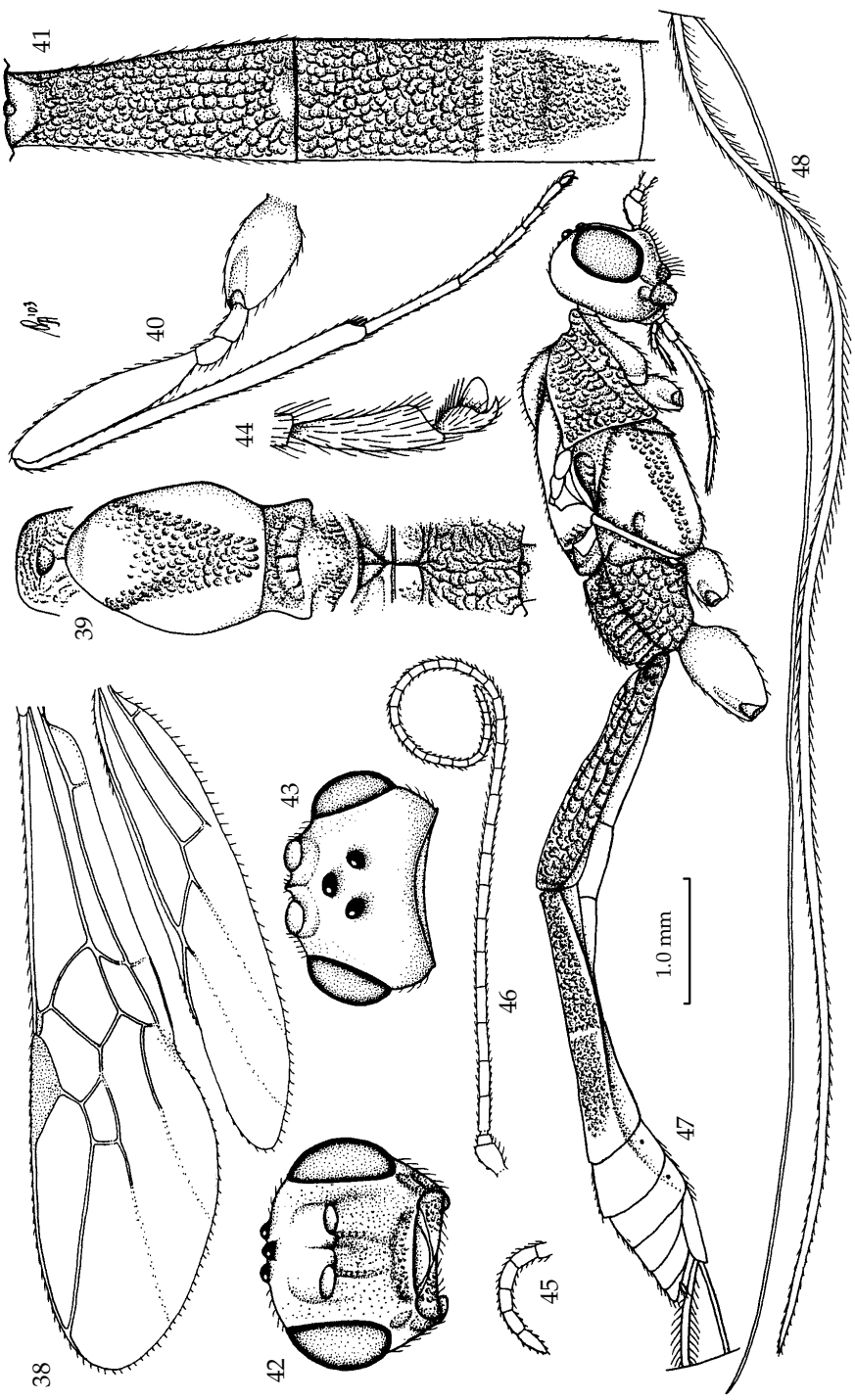
Distribution.— Oriental China (only the type species).

Biology.— Unknown.

Notes.— Runs in existing keys to the aberrant Nearctic genus *Eumacrocentrus* Ashmead, 1900, and can be separated as follows:

1. Frons with distinct median lamella; face without a pair of crenulate longitudinal grooves; vein r of fore wing much shorter than vein 2-SR; vein cu-a of fore wing vertical; marginal cell of hind wing narrowed apically; (Nearctic) ..... ***Eumacrocentrus*** Ashmead, 1900

- Frons with indistinct median elevation (figs 42, 43); face with a pair of shallow and dorsally crenulate longitudinal grooves submedially (fig. 42); vein r of fore wing slightly shorter than vein 2-SR (fig. 38); vein cu-a of fore wing strongly inclivous (fig. 38); marginal cell of hind wing widened apically (fig. 38); (Oriental) ..... ***Mangshia*** gen. nov.



Figs 38-48, *Mangshia elongata* gen. nov. & spec. nov., ♀, holotype. 38, wings; 39, mesosoma, dorsal aspect; 40, hind leg; 41, first-third metasomal tergites, dorsal aspect; 42, head, anterior aspect; 43, head, dorsal aspect; 44, inner middle claw; 45, apex of antenna; 46, antenna; 47, habitus, lateral aspect; 48, ovipositor and its sheath. 38, 40, 46-48: 1.0 × scale-line; 42, 43: 1.6 ×; 39, 41: 1.3 ×; 44: 3.0 ×; 45: 1.2 ×.

Mangshia elongata spec. nov.
(figs 38-48)

Material.— Holotype, ♀ (ZJUH), "**China**: Yunnan, Mangshi, ii.v.1983, no. 844 257, Liao Yicang".

Holotype, ♀, length of body 8.5 mm, of fore wing 5.3 mm.

Head.— Antenna with 37 segments, third segment 1.1 times as long as fourth segment, length of third, fourth and penultimate segments 3.2, 2.9 and 1.6 times their width, respectively (fig. 46); length of maxillary palp 1.4 times height of head; occipital carina very fine medio-dorsally; length of eye in dorsal view 2.1 times temple (fig. 43); OOL:diameter of ocellus:POL = 9:5:7; frons smooth and shallowly concave medially, with indistinct median elevation (fig. 43); vertex convex, largely glabrous and smooth; face finely punctate (fig. 42); clypeus wide, dorsally irregularly rugose and ventrally smooth (fig. 42); length of malar space 0.7 times basal width of mandible; mandible distinctly twisted apically, punctate-rugose basally and dorsal tooth much longer than small ventral tooth.

Mesosoma.— Length of mesosoma 2.5 times its height; side of pronotum coarsely punctate-rugose, antero-medially widely crenulate (fig. 47); epicnemial area narrowly crenulate dorsally; precoxal sulcus punctate and remainder of mesopleuron smooth (fig. 47); pleural sulcus rather crenulate but ventrally reduced; metapleuron coarsely rugose-reticulate; mesoscutum smooth except for reticulate area and largely setose and middle lobe distinctly protruding in lateral view (fig. 37); scutellum largely smooth medially but laterally coarsely punctate-rugose (fig. 39); side of scutellum punctate-crenulate; surface of propodeum largely irregularly rugose but anteriorly partly nearly smooth (fig. 39).

Wings.— Fore wing: r:3-SR:SR1 = 5:8:41; 2-SR:3-SR:r-m = 7:8:5; 1-CU1:2-CU1 = 2:13; 1-CU1 widened (fig. 38). Hind wing: M+CU:1-M = 37:7; cu-a straight.

Legs.— Hind coxa smooth; tarsal claws rather slender, simple (fig. 44); length of femur, tibia and basitarsus of hind leg 5.5, 13.6 and 9.8 times their width, respectively (fig. 40); length of hind tibial spurs 0.4 times basitarsus, subequal.

Metasoma.— Length of first tergite 2.3 times its apical width, its surface coarsely rugose-reticulate, its dorso-lateral carinae largely absent and tergite basally flat (fig. 41); second tergite coarsely vermiculate; length of ovipositor sheath 0.71 times fore wing, densely setose.

Colour.— Black(ish); tegulae, three basal antennal segments (remainder dark brown), palpi, and legs (but hind tibia (except basal third) and hind tarsus dark brown) brownish-yellow; veins M+CU1, 1A (up to level of vein cu-a) and posterior half of vein 1-M yellowish; veins C+SC+R (except basally), parastigma, pterostigma (but basally pale brown) and 1-R1 dark brown; remainder of veins brown; wing membrane subhyaline.

Distribution.— Oriental China (Yunnan).

Pambolinae Marshall, 1885
Plesiocedria gen. nov.
(figs 49-59)

Type species: *Plesiocedria intermediata* spec. nov.

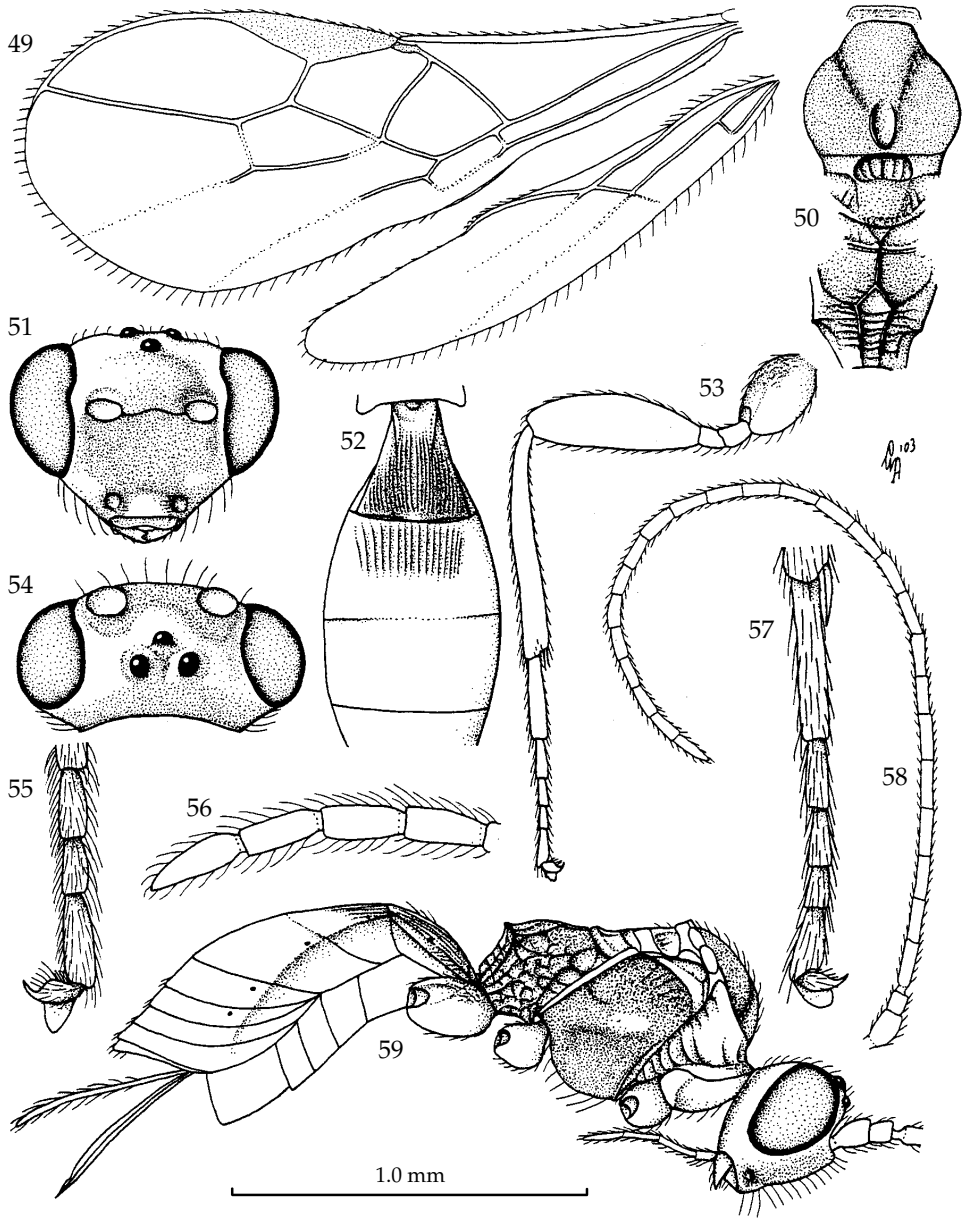
Etymology.— From "plesios" (Greek for "near") and the generic name *Cedria* Wilkinson, 1934, because it is similar to the genus *Cedria* but less derived in several aspects and nearer to the ancestral group. Gender: feminine.

Diagnosis.— Length of fore wing 2.0-2.3 mm; antenna distinctly longer than fore wing (figs 49, 58), with 27-30 segments, apical segment without apical spine (fig. 56); apex of scapus truncate (fig. 59); antennal sockets situated closer to eyes than to each other (fig. 51); head very transverse in dorsal view (fig. 54) and distinctly triangular in anterior view (fig. 51); anterior tentorial pits large and situated near level of lower margin of clypeus (fig. 51); maxillary and labial palp with 6 and 4 segments, respectively and basal segments obsolescent (fig. 59); occipital carina only laterally present and absent near hypostomal carina; occipital flange narrow; frons largely convex (fig. 54), without median carina; malar suture absent; hypoclypeal depression small, shallow (fig. 51); antescutal depression and pronope absent; prepectal carina medium-sized, complete, not reaching side of pronotum (fig. 59); precoxal sulcus superficially impressed and sculptured; mesosternal sulcus complete, rather deep and largely smooth; mesoscutum with notauli rather narrowly impressed and medio-posteriorly reduced and ending in a U-shaped curved carina enclosing a smooth area (fig. 50); scutellar sulcus normal (fig. 50); scutellum without posterior depression; median carina of metanotum short, hardly protruding dorsally; propodeal areolation present, median carina medium-sized (fig. 50); propodeal tubercles absent, but carinae tuberculate protruding laterally (figs 50, 59); veins 1-SR, 2-SR and r-m of fore wing present (fig. 49); vein m-cu of fore wing subinterstitial, rather angled with vein 2-CU1 and converging to vein 1-M posteriorly (fig. 49); vein M+CU1 of fore wing nearly straight; vein 3-SR of fore wing distinctly shorter than vein 2-M (fig. 49); vein CU1b of fore wing present; vein cu-a short, vertical (fig. 49); vein cu-a of hind wing present, short (fig. 49); hind wing with 3 hamuli; marginal cell of hind wing absent apically; vein 1r-m of hind wing medium-sized and oblique; vein M+CU of hind wing shorter than vein 1-M; tarsal claws without lobe (fig. 55); femora robust (fig. 53); first metasomal tergite gradually widened apically (fig. 52), its dorsal carina straight basally and spiracles distinctly behind middle of tergite; second tergite antero-medially distinctly striate; second metasomal suture only laterally weakly impressed (fig. 52); third and following tergites smooth; base of second tergite with sharp lateral crease; hypopygium rather large, truncate apically (fig. 59); length of ovipositor sheath about 0.5 times fore wing, sheath rather long and densely setose, ovipositor with subapical notch and no ventral teeth (fig. 59).

Distribution.— Oriental China (only the type species).

Biology.— Unknown.

Notes.— The new genus is similar to the subgenus *Phaenodus* Foerster, 1862, of the genus *Pambolus* Haliday, 1836 (tribe Pambolini Marshall, 1885). However, it has a much more transverse head with the antennal sockets close to the eyes (fig. 51), the propodeal protuberances are smaller and the second metasomal suture is partly weak-



Figs 49-59, *Plesiocedria intermediata* gen. nov. & spec. nov., ♀, holotype. 49, wings; 50, mesosoma, dorsal aspect; 51, head, anterior aspect; 52, first-third metasomal tergites, dorsal aspect; 53, hind leg; 54, head, dorsal aspect; 55, inner hind claw; 56, apex of antenna; 57, fore tarsus, lateral aspect; 58, antenna; 59, habitus, lateral aspect. 49, 50, 52, 53, 58, 59: 1.0 × scale-line; 55-57: 2.5 ×; 51, 54: 1.2 ×.

ly impressed. The aberrant position of the antennal sockets is also present in the tribe Cedriini Belokobylskij, 1993. However, the new genus is not included in this tribe because of the high number of antennal segments, the lack of the antero-lateral depressions of the second tergite and of the median groove or carina of the mesoscutum and the third tergite has no lateral crease or flange.

Plesiocedria intermediata spec. nov.
(figs 49-59)

Material.— Holotype, ♀ (ZJUH), "**China**: Fujian, Nanjin, 6.vi.1991, no. 969 573, Pan Shen". Paratype: 1 ♂ (ZJUH), id.

Holotype, ♀, length of body 2.4 mm, of fore wing 2.0 mm.

Head.— Antenna with 27 segments, third segment 1.2 times as long as fourth segment, length of third, fourth and penultimate segments 2.8, 2.3 and 2.5 times their width, respectively (figs 56, 58); length of maxillary palp equal to height of head; occipital carina widely absent medio-dorsally; length of eye in dorsal view 4.6 times temple (fig. 54); eyes rather emarginate at inner side (fig. 51); OOL:diameter of ocellus: POL = 18:11:8; frons convex medially, smooth but granulate anteriorly (fig. 54); vertex rather flat, largely glabrous and smooth; face flattened and granulate (fig. 51); clypeus flattened, small (fig. 51), largely smooth and with some setae laterally; length of malar space 0.6 times basal width of mandible; mandible strongly twisted apically, smooth basally and dorsal tooth much longer than ventral tooth.

Mesosoma.— Length of mesosoma 1.5 times its height; side of pronotum medially widely crenulate (fig. 59); epicnemial area reticulate dorsally; mesopleuron mainly granulate; precoxal sulcus superficial and incomplete, with some rugulae; pleural sulcus rather crenulate but ventrally reduced; metapleuron reticulate; mesoscutum granulate (except for smooth enclosed area; fig. 50) and long setose; scutellar sulcus wide and crenulate (fig. 50); scutellum granulate and posteriorly rugose (fig. 50); surface of propodeum distinctly areolate, antero-dorsally somewhat granulate, with rather short median carina, and with a long and moderately wide areola (fig. 50).

Wings.— Fore wing: 1-SR distinct; r:3-SR:SR1 = 9:10:40; 2-SR:3-SR:r-m = 18:10:9; 1-CU1:2-CU1 = 1:7; 1-CU1 slender (fig. 49); CU1b much shorter than oblique vein 3-CU1; first subdiscal cell open because of unsclerotized vein 2-1A (fig. 49). Hind wing: M+CU:1-M = 14:27; cu-a straight.

Legs.— Hind coxa smooth, but antero-dorsally rugulose; tarsal claws simple (fig. 55); length of femur, tibia and basitarsus of hind leg 3.1, 8.4 and 5.2 times their width, respectively (fig. 53); length of hind tibial spurs 0.25 times basitarsus, subequal.

Metasoma.— Length of first tergite equal to its apical width, its surface longitudinally striate, its dorso-lateral carinae nearly complete; second tergite striate antero-medially; length of ovipositor sheath 0.50 times fore wing, rather long setose.

Colour.— Chestnut brown; palpi and tegulae pale yellowish; antenna (but apical third dark brown), legs, first metasomal tergite, apex of third tergite, fourth and following tergites, metasoma and metasoma ventrally brownish-yellow; pterostigma and veins r, 3-SR, 2-SR and 2-M of fore wing yellowish-brown; wing membrane subhyaline.

Variation.— Male paratype has antenna with 30 segments, length of fore wing 2.3 mm and of body 2.4 mm; second tergite is completely striate and third tergite narrowly striate basally; second tergite medio-basally with small smooth triangle connected to a median carina; posterior rugosity of scutellum indistinctly developed.
Distribution.— Oriental China (Fujian).

Apocedria gen. nov.
(figs 60-71)

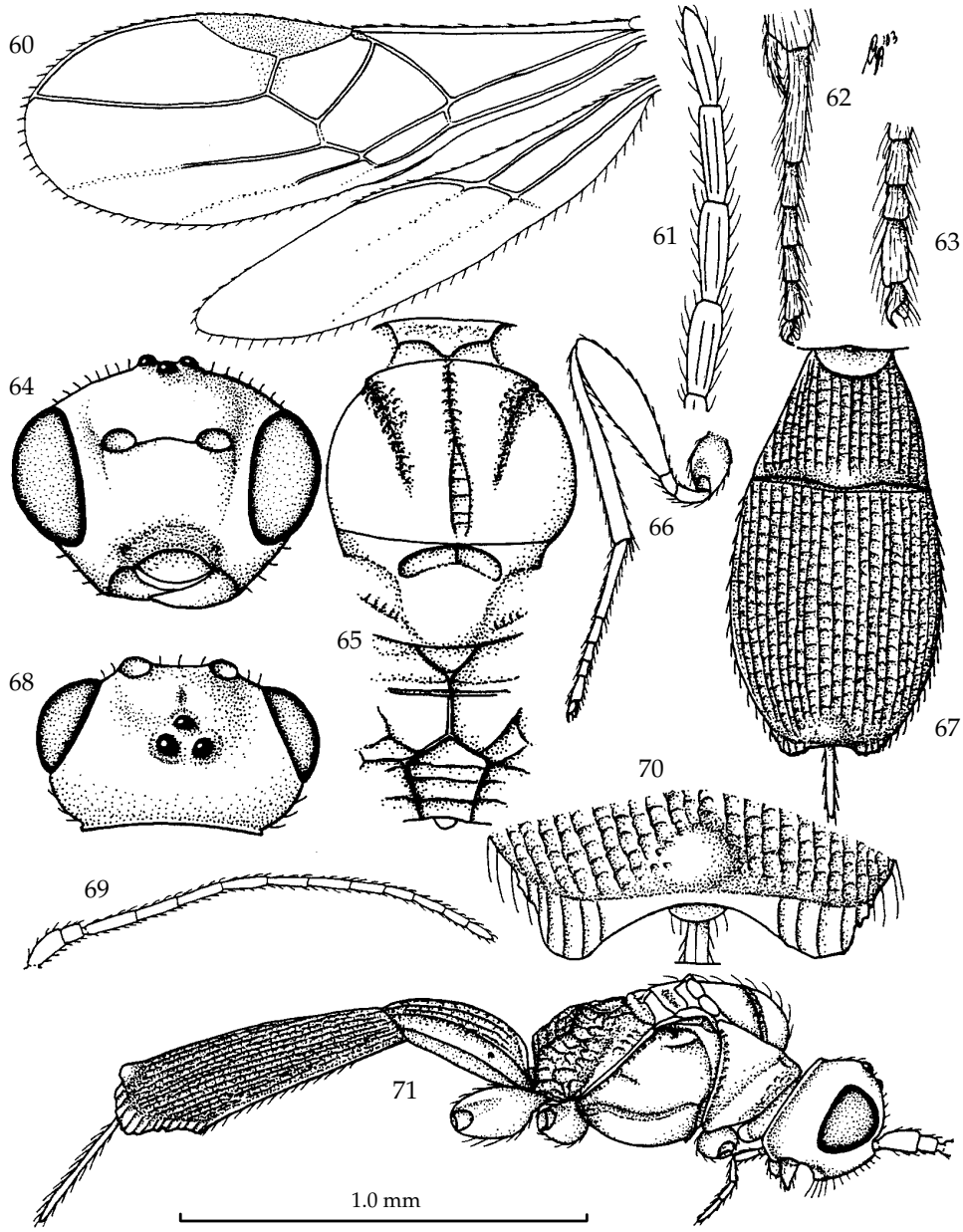
Type species: *Apocedria nodifer* spec. nov.

Etymology.— From "apo" (Greek for "away, separate") and the generic name *Cedria* Wilkinson, 1934, because it is similar to the genus *Cedria* but is more derived in several aspects. Gender: feminine.

Diagnosis.— Length of fore wing 1.4-2.1 mm; antenna distinctly shorter than fore wing (figs 60, 69), with 13 segments, apical segment without apical spine (fig. 61); apex of scapus truncate (fig. 71); antennal sockets situated closer to eyes than to each other (fig. 64); head moderately transverse in dorsal view (fig. 69) and rather transverse in anterior view (fig. 64); anterior tentorial pits medium-sized and situated near level of lower margin of clypeus (fig. 64); maxillary and labial palp with 6 and 3 segments, respectively and basal segments obsolescent (fig. 71); occipital carina complete and meeting hypostomal carina; occipital flange medium-sized (fig. 71); frons convex and setose (fig. 68), without median carina; malar suture absent; hypoclypeal depression medium-sized, deep (fig. 64); antescutal depression and pronope absent; prepectal carina fine, complete, about reaching side of pronotum (fig. 71); precoxal sulcus complete and narrow (fig. 71); mesosternal sulcus complete, narrow and shallow; mesoscutum with notauli shallowly impressed anteriorly and medio-posteriorly absent, with median carina connected medio-posteriorly with a wide and crenulate groove (fig. 65); scutellar sulcus narrow (fig. 65); scutellum without posterior depression; median carina of metanotum short, hardly protruding dorsally; propodeal areolation present, median carina medium-sized (fig. 65); propodeal tubercles absent, no tuberculate carinae laterally (fig. 71); veins 1-SR and r-m of fore wing absent (fig. 60); vein 2-SR of fore wing present; vein m-cu of fore wing postfurcal, angled with vein 2-CU1 and strongly converging to vein 1-M posteriorly (fig. 60); vein M+CU1 of fore wing nearly straight; vein CU1b of fore wing present, longer than 3-CU1; vein cu-a of fore wing short, vertical (fig. 60); vein cu-a of hind wing absent; hind wing with 3 hamuli; marginal cell of hind wing absent apically; vein 1r-m of hind wing medium-sized and oblique; tarsal claws without lobe, rather slender (fig. 63); femora moderately robust (fig. 66); first metasomal tergite gradually widened apically (fig. 67) and movably joined to second tergite, its dorsal carina united basally and spiracles situated distinctly before middle of tergite; second and third tergites nearly completely striate; second metasomal suture absent; third tergite with large apical lamella and with medio-apical tubercle (figs 70, 71); fourth and following tergites retracted; second and third tergites with sharp lateral crease; hypopygium medium-sized, truncate apically; length of ovipositor sheath about 0.2 times fore wing, sheath rather long and densely setose.

Distribution.— Oriental China (only the type species).

Biology.— Unknown, but paratypes from Yuanjiang are reared from flattened



Figs 60-71, *Apocedria nodifer* gen. nov. & spec. nov., ♀, holotype. 60, wings; 61, apex of antenna; 62, fore tarsus, lateral aspect; 63, outer hind claw; 64, head, anterior aspect; 65, mesosoma, dorsal aspect; 66, hind leg; 67, first-third metasomal tergites, dorsal aspect; 68, head, dorsal aspect; 69, antenna; 70, apex of third metasomal tergite, dorso-apical aspect; 71, habitus, lateral aspect. 60, 66, 67, 69, 71: 1.0 × scale-line; 64, 65, 68: 2.0 ×; 61-63, 70: 3.0 ×.

cocoons, which are more or less radially arranged. We have seen specimens of *Cedria paradoxa* Wilkinson, 1934, reared from *Diaphania pyloalis* (Walker, 1859) (Lepidoptera: Pyralidae: Pyraustinae) with similar flattened cocoons and the cocoons arranged in a similar way.

Notes.— The new genus is near the genus *Cedria* because of the low number of antennal segments, the reduced vein cu-a of hind wing and the widely separated antennal sockets. Differs by the complete absence of the second metasomal suture, the presence of the medio-posterior tubercle and the wide apical lamella of the third tergite, the reduced notauli posteriorly, the united dorsal carina of the first tergite, the narrow scutellar sulcus, and the medium-sized median carina of the propodeum.

Apocedria nodifer spec. nov.
(figs 60-71)

Holotype, ♀ (ZJUH), "**China**: Yunnan, Ruili, vii.1980, no. 814 943, Tao Shaolin". Paratypes (12 ♀♀): 9 ♀♀ (ZJUH, RMNH) with same data; 2 ♀♀ (ZJUH), "China: Yunnan, Yuanjiang, 19.vi.1979, no. 893 913, Zhen Weijun"; 1 ♀ (ZJUH), "China: Guangxi, Debao, 15.x.1980, no. 821 366, Huang Shaoqun".

Holotype, ♀, length of body 2.1 mm, of fore wing 1.5 mm.

Head.— Antenna with 13 segments, third segment 1.2 times as long as fourth segment, length of third, fourth and penultimate segments 3.8, 3.3 and 3.0 times their width, respectively (figs 61, 69); length of maxillary palp 1.1 times height of head; length of eye in dorsal view 1.9 times temple (fig. 68); eyes not emarginate at inner side (fig. 64); OOL:diameter of ocellus: POL = 11:4:2; frons smooth, with indistinct groove posteriorly, (fig. 68); vertex convex, setose and smooth; face convex and smooth (fig. 64); clypeus flattened, micro-sculptured; length of malar space 0.8 times basal width of mandible; mandible distinctly twisted apically, smooth and with ventral carina basally and both teeth robust and short.

Mesosoma.— Length of mesosoma 1.6 times its height; side of pronotum largely smooth, but ventrally rugulose and posteriorly crenulate (fig. 71); epicnemial area smooth except for an oblique carina; mesopleuron smooth; precoxal sulcus smooth; pleural sulcus finely crenulate; metapleuron rugose; mesoscutum smooth, except for some sculpture near notauli, median carina and groove (fig. 65) and long setose; scutellar sulcus curved (fig. 65); scutellum smooth; surface of propodeum antero-dorsally mainly smooth and posteriorly rugose, its areola large (fig. 65).

Wings.— Fore wing: 1-SR absent or nearly so (fig. 60); r:3-SR+SR1:2-SR = 7:42:10; 1-CU1:2-CU1 = 1:15; 1-CU1 slender (fig. 60); first subdiscal cell closed and with sclerotized vein 2-1A (fig. 60).

Legs.— Hind coxa smooth; tarsal claws simple (fig. 63); length of femur, tibia and basitarsus of hind leg 5.0, 10.7 and 5.0 times their width, respectively (fig. 66); length of hind tibial spurs 0.1 and 0.3 times basitarsus.

Metasoma.— Length of first tergite 0.8 times its apical width; first-third tergite longitudinally striate, with fine transverse sculpture and punctation between striae (figs 67, 70); length of ovipositor sheath 0.23 times fore wing.

Colour.— Yellowish-brown; palpi, tegulae and legs pale yellowish; apical half of antenna and ovipositor sheath dark brown; transverse medial band of second and

third metasomal tergites largely darkened; pterostigma (but basally narrowly and apically pale yellowish) and veins brown; wing membrane subhyaline.

Variation.— Antenna with 13 (3 ♀♀) segments; length of fore wing 1.4-1.6 mm and of body 1.6-2.1 mm; length of ovipositor sheath 0.20-0.23 times fore wing; medio-posterior tubercle of third tergite may be weakly developed.

Distribution.— Oriental China (Yunnan; Guangxi).

Opiinae Blanchard, 1845

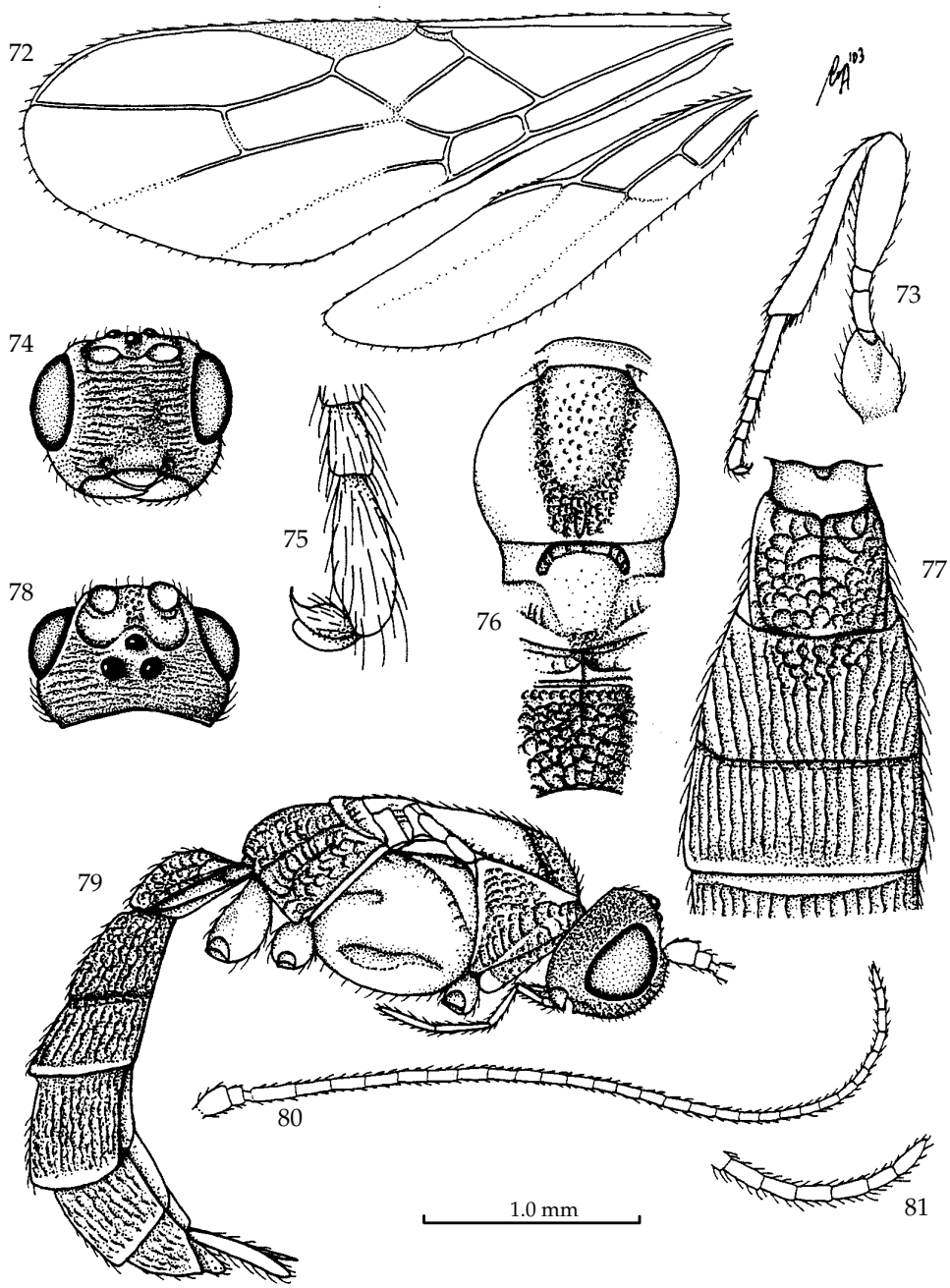
Opiolastes gen. nov.

(figs 72-81)

Type species: *Opiolastes hei* spec. nov.

Etymology.— From a combination of the generic names *Opius* Wesmael, 1835 and *Colastes* Haliday, 1833, because it is similar to both genera. Gender: feminine.

Diagnosis.— Length of fore wing 3-4 mm; antenna longer than fore wing (figs 72, 80), with 31 segments, apical segment without apical spine (fig. 81); apex of scapus truncate (fig. 79); head moderately transverse in dorsal view (fig. 78) and transverse in anterior view (fig. 74); anterior tentorial pits medium-sized and situated near level of lower margin of clypeus (fig. 74); maxillary and labial palpi with 6 and 4 segments, respectively (fig. 79); occipital carina widely interrupted dorsally and weakly developed ventrally, remaining far removed from hypostomal carina; occipital flange absent (fig. 79); frons rather depressed behind antennal sockets, anteriorly with punctate band and posteriorly with a pair of shallow curved grooves (fig. 78); malar suture absent; hypoclypeal depression medium-sized, deep (fig. 74); antescutal depression and pronope absent; prepectal and postpectal carinae absent (fig. 79); precoxal sulcus medially impressed and partly rather wide (fig. 79); mesosternal sulcus complete, distinct, crenulate; mesoscutum with notauli rather shallowly impressed and coarsely punctate, medio-posteriorly widely punctate and with small pit (fig. 76); scutellar sulcus narrow, curved (fig. 76); scutellum without posterior depression, finely rugulose posteriorly; median carina of metanotum complete, weakly protruding dorsally; propodeum coarsely reticulate, without areolation, median carina short (fig. 76); propodeal tubercles absent; veins 1-SR, 2-SR and r-m of fore wing present (fig. 72); vein m-cu of fore wing just postfurcal, not angled with vein 2-CU1 and strongly converging to vein 1-M posteriorly (fig. 72); vein M+CU1 of fore wing straight; vein CU1b of fore wing present, shorter than 3-CU1; vein cu-a of fore wing medium-sized, vertical (fig. 72); vein cu-a of hind wing medium-sized; vein M+CU of hind wing slightly longer than vein 1-M (fig. 72); hind wing with 3-4 hamuli; marginal cell of hind wing narrowed subapically; vein 1r-m of hind wing long and oblique; tarsal claws without lobe, robust (fig. 75); femora moderately robust (fig. 73); first metasomal tergite subparallel-sided posteriorly and movably joined to second tergite, its dorsal carina united basally and connected to median carina (fig. 77), laterope wide (fig. 79) and spiracles situated before middle of tergite; spiracle of second tergite in notum of tergite; second tergite coarsely vermiculate-rugose, somewhat longer than third tergite; second metasomal suture distinct, crenulate; second-seventh tergites with sharp lateral crease; third-sixth tergites coarsely longitudinally rugose (figs 77, 79); hypopygium medium-sized, truncate apically; length of ovipositor sheath about 0.2 times fore wing, sheath



Figs 72-81, *Opiolastes hei* gen. nov. & spec. nov., ♀, holotype. 72, wings; 73, hind leg; 74, head, anterior aspect; 75, outer fore claw; 76, mesosoma, dorsal aspect; 77, first-third metasomal tergites, dorsal aspect; 78, head, dorsal aspect; 79, habitus, lateral aspect; 80, antenna; 81, apex of antenna. 72, 73, 79, 80: 1.0 × scale-line; 74, 76-78: 1.3 ×; 75: 5.0 ×; 81: 2.0 ×.

rather long and densely setose; ovipositor narrow, without nodus or ventral teeth.

Distribution.— Oriental China (only the type species).

Biology.— Unknown.

Notes.— The new genus resembles members of the subfamily Exothecinae Foerster, 1862, with heavily sculptured metasoma (e.g. the genus *Vietcolastes* Belokobylskij, 1994), but differs by having the head densely rugulose, the sixth metasomal tergite exposed and distinctly sculptured, and the precoxal sulcus elongate and distinctly impressed. It is included in the subfamily Opiinae Blanchard, 1845, because of the present of a distinct laterope (fig. 79) and the weakly concave ventral margin of the clypeus (fig. 74). In the Opiinae it can be separated from all known genera by having the fourth-sixth metasomal tergites well exposed, sculptured and with a sharp lateral crease (fig. 79), the temples and vertex largely transversely rugulose (fig. 78), and the scutellar sulcus curved and narrow (fig. 76).

Opiolastes hei spec. nov.
(figs 72-81)

Holotype, ♀ (ZJUH), "**China**: Zhejiang, Longwang Mt., Anji, 25.vi.1996, no. 962 919, He Junhua".

Holotype, ♀, length of body 4.9 mm, of fore wing 3.3 mm.

Head.— Antenna with 31 segments, third segment 1.6 times as long as fourth segment, length of third, fourth and penultimate segments 4.3, 2.8 and 1.8 times their width, respectively (figs 80, 81); length of maxillary palp 1.1 times height of head; length of eye in dorsal view 1.8 times temple (fig. 78); eyes not emarginate at inner side (fig. 74); OOL:diameter of ocellus:POL = 5:4:2; frons laterally narrowly setose and rugulose (fig. 68); vertex convex, setose, and densely and finely rugose; temple rugulose but ventrally granulate; face rather convex (especially medially), densely and rather finely rugose (fig. 74); clypeus triangular, rugulose dorsally and ventrally largely smooth; length of malar space 1.4 times basal width of mandible; mandible distinctly twisted apically, and smooth basally.

Mesosoma.— Length of mesosoma 1.7 times its height; side of pronotum crenulate medially and remainder punctate-rugose (fig. 79); epicnemial area sparsely crenulate; mesopleuron, precoxal sulcus and pleural sulcus smooth; metapleuron reticulate; lateral lobes of mesoscutum smooth and glabrous, middle lobe punctate and setose (also notauli distinctly setose; fig. 76); scutellar sulcus with 7 short carinae (fig. 76); scutellum largely smooth, with some punctulation medially and rugulosity posteriorly; surface of propodeum coarsely reticulate (fig. 76).

Wings.— Fore wing: 1-SR present (fig. 72); r:3-SR:SR1 = 2:18:30; 2-SR:3-SR:r-m = 11:18:7; 1-CU1:2-CU1 = 1:6; 1-CU1 slender (fig. 72); first subdiscal cell closed and with sclerotized vein 2-1A (fig. 72).

Legs.— Hind coxa smooth; tarsal claws simple (fig. 75); length of femur, tibia and basitarsus of hind leg 3.3, 6.6 and 4.7 times their width, respectively (fig. 73); length of inner hind tibial spur 0.2 times basitarsus, outer spur invisible at 80 ×.

Metasoma.— Length of first tergite 1.1 times its apical width its dorsal carinae united at basal 0.4 of tergite, medially convex; all exposed tergites rugose (fig. 79); length of ovipositor sheath 0.18 times fore wing.

Colour.— Black; basal half of antenna more or less brown and its apical half dark brown; palpi and legs (but telotarsi dark brown) brownish-yellow; tegulae, pterostigma and veins dark brown; second tergite with U-shaped brownish pattern, connected to median stripe of third-fifth tergites, sixth tergite largely dark brown; wing membrane slightly infuscate.

Distribution.— Oriental China (Zhejiang).

Notes.— It is a pleasure to name this species after its collector, the hymenopterist Prof. Dr Junhua He (Zhejiang University, Hangzhou) in recognition of his important contribution to our knowledge of the fauna of China.

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