

A new genus of the subfamily Ecnomiinae van Achterberg (Hymenoptera: Braconidae) from Korea

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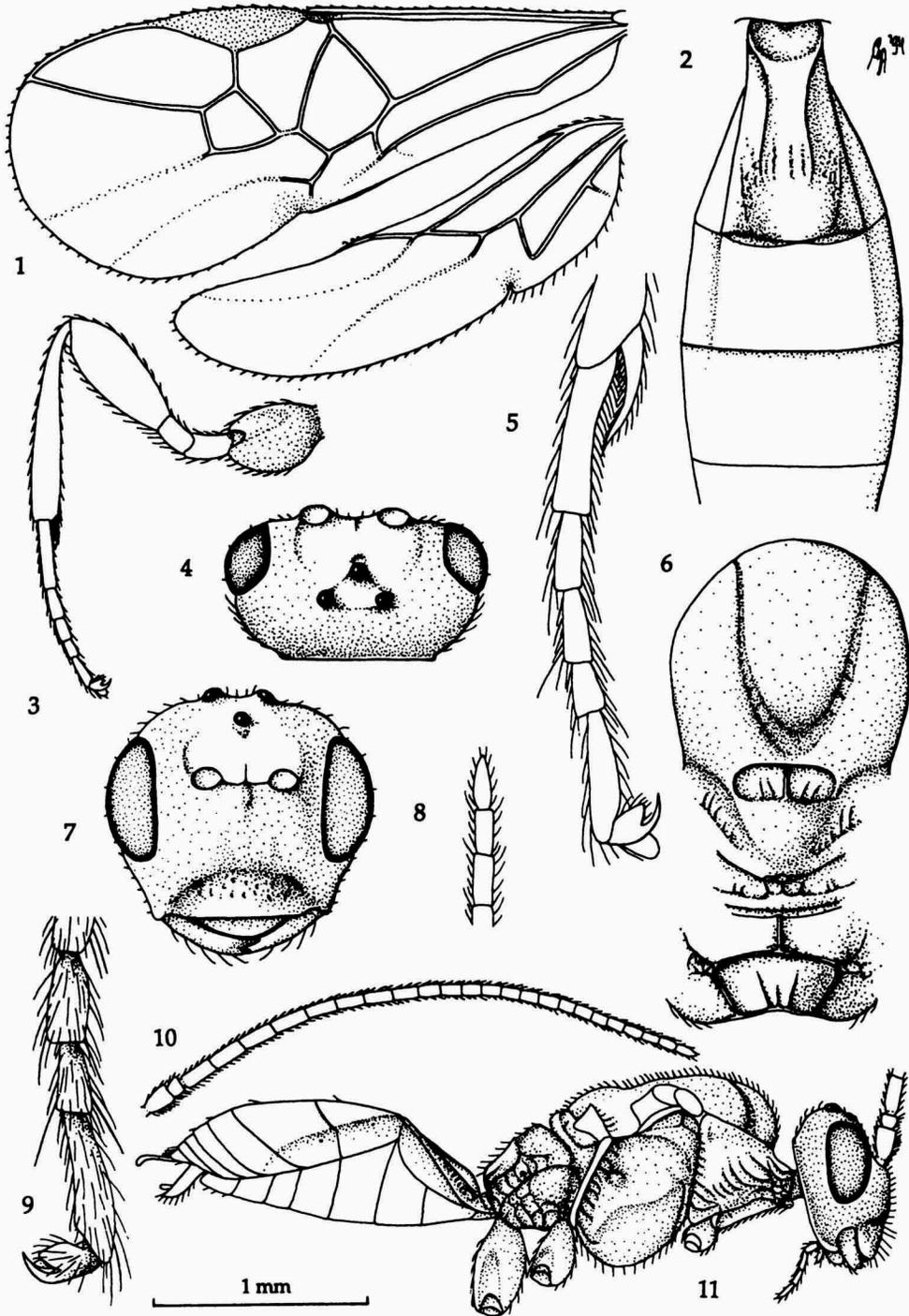
Key words: Hymenoptera; Braconidae; Ecnomiinae; *Korecnomios*; Palaearctic; Korea.

The new genus *Korecnomios* from Korea (type species *Korecnomios glaber* spec. nov.) is described and illustrated.

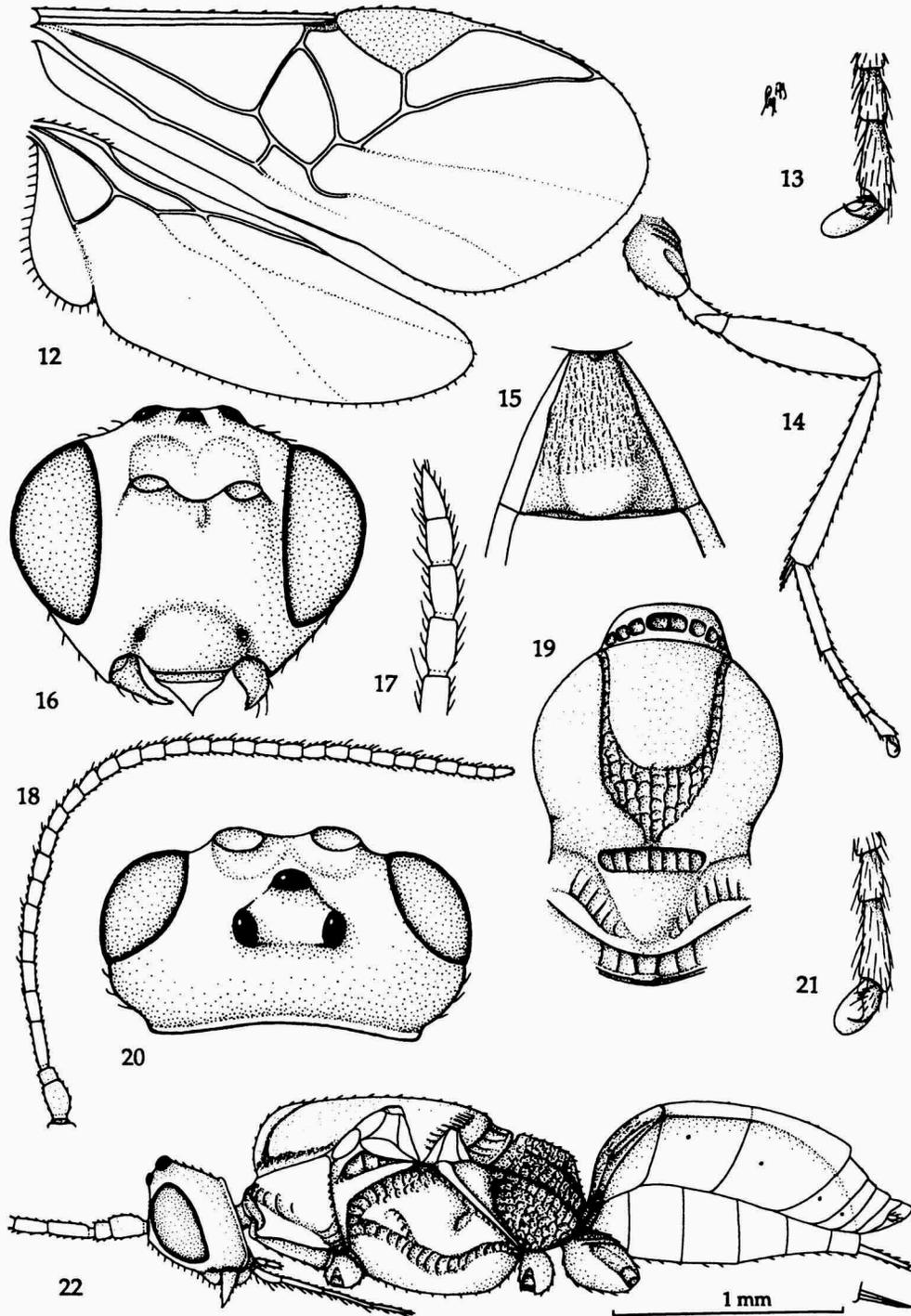
Introduction

The subfamily Ecnomiinae van Achterberg, 1985, contains one genus described from Papua New Guinea, *Ecnomios* Mason, 1979, with as type species *E. papuensis* Mason, 1979. This species is known from a single series from Mt Hagen collected at 1700 m altitude. Recently, two *Ecnomios* species has been described from Vietnam (Belokobylskij, 1993), and one from Australian (Austin & Wharton, 1992). The late Dr W.R.M. Mason informed the junior author that he had seen two species of Ecnomiinae from Africa, and the senior author collected one male in Korea. Obviously the Ecnomiinae have a Palaeotropical distribution, with some extension in the East Palaearctic region.

Mason (1979) placed the genus *Ecnomios* in the tribe Orgilini Foerster, 1962 (now subfamily Orgilinae). Obviously, he was misled by the reduction of the fore wing venation, because there is little doubt that it belongs to the "Microgasteroid lineage" (Quicke & van Achterberg, 1990). Most obvious is the large plical cell of hind wing, with a distinct cleft distally; this large cell is within the Hymenoptera plesiomorphic (Quicke & van Achterberg, 1990), but when the outcome of the phylogenetic analysis of the Braconidae (Quicke & van Achterberg, 1990; Wharton et al., 1992) is used, then it is within the Braconidae a reversal. Other synapomorphies (with at least part of the Microgasteroid lineage) are the shape of the first discal cell of fore wing, the comparatively long fore spur, the absence of the lateral carina of mesoscutum, and the position of vein 1-SR of fore wing (if developed then angled with parastigma). In the re-analysis by Wharton et al. (1992) the position of the Ecnomiinae is variable; in one of the strict consensus-trees (fig. 4, l.c.) the Ecnomiinae are placed between the "cyclostomes" and Aphidiinae plus Microgasteroid and Helconoid lineages. This position denies the importance of the synapomorphies listed above. Within the Microgasteroid lineage the vertical position of vein r of fore wing, the oblique vein 1-CU1 of fore wing, the comparatively slender first discal cell of fore wing and the reduced vein 2-1A of fore wing connects it to the subfamily Dirrhopinae van Achterberg, 1984, and by the long vein 1-SR+M of fore wing pointed to the area near vein 3-CU1



Figs 1-11, *Korecnomios glaber* gen. nov. & spec. nov., ♂, holotype. 1, wings; 2, first-third metasomal tergites, dorsal aspect; 3, hind leg; 4, head, dorsal aspect; 5, fore tarsus; 6, mesosoma, dorsal aspect; 7, head, frontal aspect; 8, apex of antenna; 9, outer hind claw; 10, antenna; 11, habitus, lateral aspect. 1, 3, 10, 11: 1 × scale-line; 2, 4, 6, 7: 1.6 ×; 8: 2.5 ×; 5, 9: 4 ×.



Figs 12-22, *Ecnomios papuensis* Mason, ♀, holotype. 12, wings; 13, inner hind claw; 14, hind leg; 15, first metasomal tergite, dorsal aspect; 16, head, frontal aspect; 17, apex of antenna; 18, antenna; 19, mesosoma, dorsal aspect; 20, head, dorsal aspect; 21, outer hind claw; 22, habitus, lateral aspect (including detail of ovipositor). 12, 14, 18, 22: 1 × scale-line; 13, 17, 21: 2.5 ×; 15, 19: 1.3 ×; 16, 20: 1.4 ×.

to the Dirrhopinae and the Adeliinae Viereck, 1918. Autapomorphies of the Ecnomiinae are the wide pronotum anteriorly, the short labial palp (compared to the maxillary palp), and the sinuate vein 2-M of hind wing. The presence of a laterope is plesiomorphic within the Microgasteroid lineage.

The biology is unknown; the members of the Dirrhopinae and Adeliinae parasitise larvae of microlepidoptera. For the identification of the subfamily Ecnomiinae, see van Achterberg (1990, 1993), and for the terminology used in this paper, see van Achterberg (1988, 1993).

Descriptions

Korecnomios gen. nov.

(figs 1-11)

Type species: *Korecnomios glaber* spec. nov.

Etymology.— Derived from the generic name “*Ecnomios*” (a Greek masculine noun, meaning “marvel”) and the name of the country where this genus has been found. Gender: masculine.

Diagnosis.— Antenna about as long as or somewhat shorter than body and with 25-32 segments (fig. 10); scapus and pedicellus long and densely setose ventrally; maxillary and labial palpi with 6 and 3 segments, respectively, but first and second segments of maxillary palp hardly separated; occipital carina complete, connected to hypostomal carina; occipital flange long; eyes largely glabrous and medium-sized (figs 4, 7, 11); face normal (fig. 7); clypeus nearly as wide as face; malar suture absent; mandible not twisted and with distinct teeth (fig. 7); precoxal sulcus smooth, only impressed (fig. 11); remainder of mesopleuron largely smooth; scutellum with minute transverse depression medio-posteriorly (fig. 6); propodeum with wide areola medio-posteriorly (fig. 6); vein r of fore wing long and vertical (fig. 1); veins r-m and CU1b of fore wing present; vein 2-A of hind wing present, sclerotized basally (fig. 1); vein 1-SR short and subvertical; vein 1-1A of fore wing curved; first subdiscal cell of fore wing closed distally and open posteriorly (fig. 1), because vein 2-1A is largely absent; tarsal claws with large acute lobe (figs 5, 9); first metasomal tergite moderately slender (fig. 2), its dorsal carinae present in basal half of tergite; length of ovipositor sheath unknown.

Distribution.— East Palaearctic: Korea (one species).

Biology.— Unknown.

Key to genera of the subfamily Ecnomiinae

1. Veins r-m and CU1b of fore wing and vein 2A of hind wing present (fig. 1); clypeus about as wide as face (fig. 7); scutellum with minute medio-posterior depression (fig. 6); precoxal sulcus smooth (fig. 11); mandibles with distinct teeth (fig. 7); dorsal carinae of first metasomal tergite distinct (fig. 2); first tergite comparatively slender (fig. 2); East Palaearctic *Korecnomios* gen. nov.
- Veins r-m and CU1b of fore wing and vein 2A of hind wing absent (fig. 12); clypeus distinctly narrower than face (fig. 16); scutellum without medio-posterior depression (fig. 19); precoxal sulcus crenulate (fig. 22); mandibles with minute teeth (fig. 16); dorsal carinae of first tergite absent (fig. 15); first tergite comparatively robust (fig. 15); Indo-Australian *Ecnomios* Mason, 1979

Korecnomios glaber spec. nov.
(figs 1-11)

Material.— Holotype, ♂ (RMNH), "Korea: Gyeongbug-do, Ullong Island [= small island between Korea and Japan], 27.vii.1981, J.-S. Park, RMNH'92".

Holotype, ♂, length of body 3.1 mm, of fore wing 2.8 mm.

Head.— Antennal segments 25, length of third segment 1.3 times fourth segment, length of third, fourth and penultimate segments 3.0, 2.5 and 2.5 times their width, respectively (figs 8, 10); length of maxillary palp 0.5 times height of head; in dorsal view length of eye 1.2 times temple (fig. 7); temple directly narrowed, rounded posteriorly, with rows of punctures; OOL:diameter of ocellus:POL = 9:3:7; medially frons nearly flat and smooth, and laterally convex and setose; face normal, sparsely and finely punctate medially, more densely laterally (fig. 7); clypeus rather flat, and rather coarsely punctate, but smooth ventrally (fig. 7); length of malar space equal to basal width of mandible.

Mesosoma.— Length of mesosoma 1.5 times its height; antescutal depression absent; side of pronotum coarsely crenulate medially, punctate dorsally and ventrally, remainder smooth (fig. 11); prepectal carina complete; mesopleuron sparsely and finely punctate; episternal scrobe large (fig. 11); metapleural flange indistinct; metapleuron largely reticulate-rugose, but smooth dorsally; mesoscutum densely setose, rather densely and finely punctate; notauli complete, rather narrow and sparsely sculptured (fig. 6); scutellar sulcus deep and with one carina; scutellum convex and sparsely punctate; surface of propodeum largely smooth, with medium-sized median carina, and wide medio-posterior areola (fig. 6).

Wings.— Fore wing: r:3-SR:SR1 = 13:12:61; 1-SR+M nearly straight; 2-SR:3-SR:r-m = 21:12:14; m-cu converging to 1-M posteriorly (fig. 1); 2A absent, except for an indistinct impression. Hind wing: M+CU:1-M = 24:7; marginal cell ending before apex of wing (fig. 1), narrow; cu-a slightly inclivous (fig. 1).

Legs.— Length of femur, tibia and basitarsus of hind leg 2.9, 7.0, and 5.5 times their width, respectively; length of hind tibial spurs 0.40 and 0.45 times hind basitarsus; hind tarsus without ventral row of setae; length of fore spur 0.7 times fore basitarsus.

Metasoma.— Length of first tergite 1.4 times its apical width, its surface largely smooth except for some superficial rugae and punctures, its dorsal carinae present in basal 0.7 of tergite, tergite rather flattened medially and concave medio-basally (fig. 2); laterope medium-sized and glymma wide (fig. 11); second and following tergites smooth; second metasomal suture shallow and smooth; posterior half of metasoma depressed; metasoma sparsely setose, setae in one row per tergite.

Colour.— Black; antenna, clypeus ventrally, tegulae, middle and hind coxae, metasoma ventrally, apex of first tergite, second and third tergites (to some degree), dark brown; pterostigma, parastigma, most veins, remainder of legs and palpi, brown; wing membrane hyaline.

Acknowledgements and abbreviations

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Dr A. Polaszek (Amsterdam) for his comments on the first draft. RMNH stands for Nationaal Natuurhistorisch Museum, Leiden.

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