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NOTES ON BRACONIDAE I-IV

by

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I. *Kerorgilus* gen. nov., a new genus of the Orgilinae (Hymenoptera: Braconidae) from the Palaeartic region

Achterberg, C. van: Notes on Braconidae I. *Kerorgilus* gen. nov., a new genus of the Orgilinae (Hymenoptera: Braconidae) from the Palaeartic region.

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Key words: Braconidae; Orgilinae; *Kerorgilus longicaudis*; *Orgilus zonator*; key; distribution; Palaeartic.

Kerorgilus gen. nov. and its type-species: *Kerorgilus longicaudis* spec. nov. from Turkey are described and figured. *Kerorgilus zonator* (Szépligeti, 1896) comb. nov. is included and keyed.

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INTRODUCTION

Among specimens sent for identification by Dr. E. Haeselbarth (München) I found a new genus of the subfamily Orgilinae. It can be separated easily from the genus *Orgilus* Nees by the peculiar shape of the clypeus (figs. 5, 7, 11) and the short and robust antenna of the female (in male of *Kerorgilus zonator* (Szépligeti) long and slender). According the notes kindly supplied by Dipl. Biol. A. Taeger (Eberswalde), who is preparing a revision of the Palaeartic *Orgilus* spp., the new genus, *Kerorgilus* gen. nov., may be related to the *Orgilus hungaricus*-group. They share the reduction of vein 2-M of fore wing, the long ovipositor and the slender body. Because the latter two are correlated and the reduction of vein 2-M may easily be a parallelism, further research is needed to establish the relationships of the new genus.

The biology of the both included spp. of *Kerorgilus* gen. nov. is unknown, but the spp. of the closely related genus *Orgilus* Nees are larval endoparasites of Gelechiidae, Oecophoridae, Pyralidae, Coleophoridae, Gracillariidae, and

Tortricidae. For the terminology used in this paper, see Van Achterberg, 1979: 242-249.

Kerorgilus gen. nov.

Type-species: *Kerorgilus longicaudis* spec. nov.

Etymologie. – From “keros” (Greek for “horn”) and the genus name “Orgilus”, because it is closely related to the genus *Orgilus* from which it differs by the small horns on the clypeus. Gender: masculine.

Diagnosis. – Antenna of ♀ robust and comparatively short (fig. 3); scapus robust and truncate apically (fig. 3); clypeus with pair of upwards directing horns (figs. 3, 5, 7, 11); ventral margin of clypeus straight; occipital carina present upto dorsal level of eyes and medio-dorsally absent; malar suture absent; length of mesosoma 1.6-1.9 times its height; prepectal carina complete and irregular, not reaching anterior margin of mesopleuron (fig. 3); precoxal sulcus complete, sinuate and distinctly crenulate (fig. 3); metapleuron projecting forwards ventrally (fig. 3); notauli complete and crenulate (fig. 9); mesoscutum punctate and evenly short setose (figs. 3, 9); propodeum convex and completely smooth; veins 1-SR and r-m of fore wing absent; vein 1-M of fore wing evenly curved (fig. 2); vein cu-a of fore wing strongly oblique (fig. 2); vein 1-M of fore wing minute (fig. 2); vein SR1 of fore wing slightly sinuate (fig. 2); vein cu-a of hind wing straight; vein M+CU of hind wing longer than vein 1-M of hind wing; basal cell of hind wing medium-sized (fig. 2); posterior margin of hind wing straight basally; tarsal claws large, very slender, without lobe, with a few brownish bristles and rest setose (fig. 1, 8); hind tarsus slender and with several long bristly setae between short setosity; apex of hind tibia with cluster of slender pegs (fig. 8); hind tarsus without ventral row of setae; length of first tergite 1.3-1.8 times its apical width, and its dorsal carinae absent (fig. 12); second metasomal tergite smooth, without depressions, and only segment behind first tergite with sharp lateral crease (fig. 3); length of ovipositor sheath 1.2-1.8 times fore wing.

The genus contains two (both Palaearctic) species, and belongs to the tribe Orgilini Ashmead of the subfamily Orgilinae.

KEY TO THE SPECIES OF *KERORGILUS* GEN. NOV.

1. Length of ovipositor sheath 1.7-1.8 times fore wing; length of first metasomal tergite about 1.6-1.7 times its apical width (fig. 12); length of mesosoma

- 1.8-1.9 times its height (fig. 3) *longicaudis* spec. nov.
 – Length of ovipositor sheath 1.2-1.3 times fore wing; length of first tergite about 1.3 times its apical width; length of mesosoma 1.6-1.7 times its height *zonator* (Szépligeti)

***Kerorgilus longicaudis* spec. nov.**

(figs. 1-12)

Holotype. – ♀ in the Haeselbarth Collection, München: "TK (= Turkey)-Hakkari, 2300 m, Suvári-Halil Pass, östl. Beytüşşebap, 3.8.82, K. Warncke". Paratype in the Rijksmuseum van Natuurlijke Historie, Leiden: 1♀, "Turkey. Hakkari, Suvári-Halil Pas, S.E. Beytisebab, 2300 m, 2.viii.1982, W. Schacht".

Holotype, ♀, length of body 4.1 mm, of fore wing 3.9 mm.

Head. – Antennal segments 28, length of third segment 1.2 times fourth segment; length of third, fourth and penultimate segments 2.8, 2.3 and 1.1 times their width, respectively (figs. 3, 10); length of maxillary palp 0.9 times height of head; length of eye in dorsal view 1.3 times temple (fig. 6); POL: diameter of ocellus: OOL = 9 : 4 : 7; frons shallowly concave medially and largely smooth, laterally convex and rugulose-punctate (fig. 6), vertex convex and finely punctate (fig. 6); face largely punctate (fig. 7); clypeus sparsely punctulate and horns distinctly punctate (figs. 5, 11); length of malar space 0.8 times basal width of mandible; mandible strongly twisted apically and first somewhat longer than the robust, somewhat downwards bent, second tooth (figs. 7, 11).

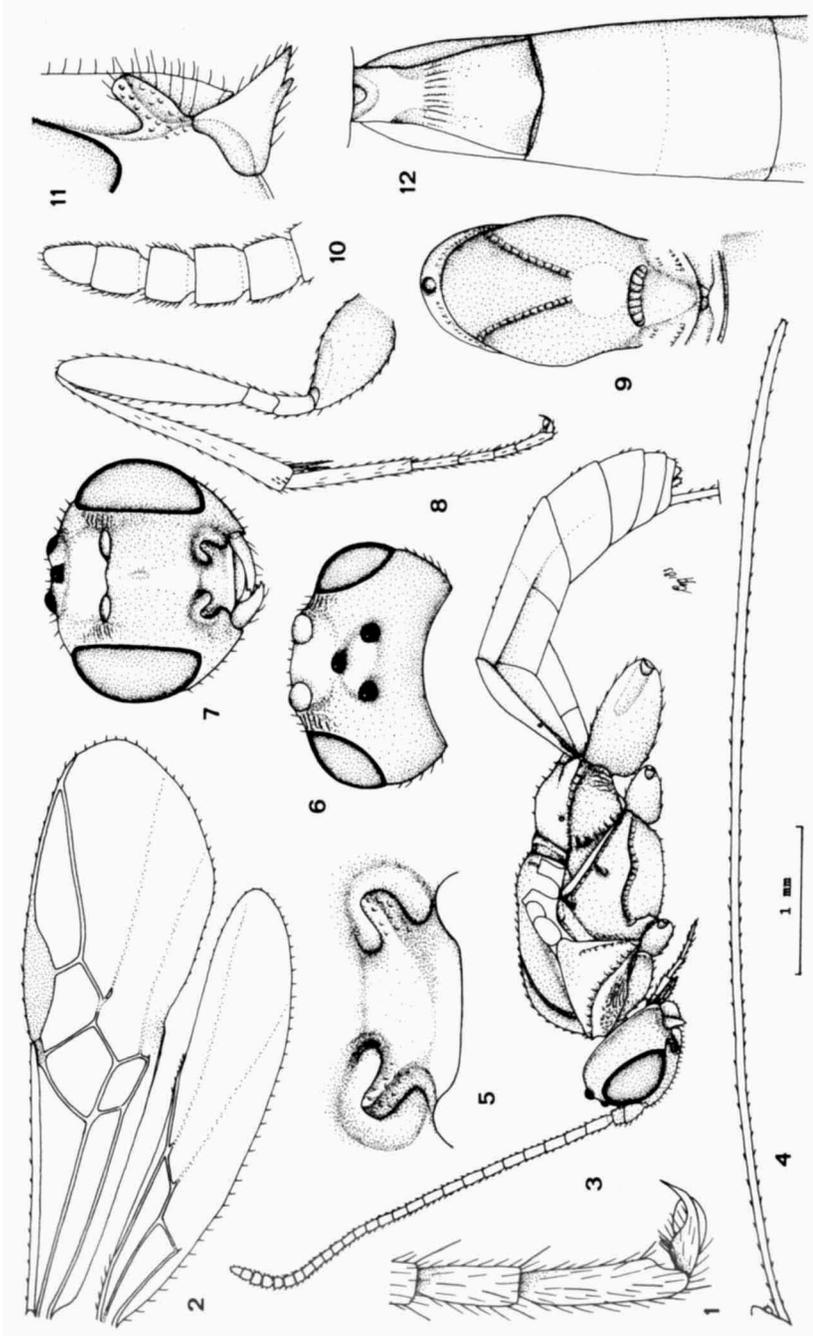
Mesosoma. – Length of mesosoma 1.8 times its height; pronope large, deep and round (fig. 9); mesopleuron (except precoxal sulcus) largely punctulate; pleural sulcus crenulate; episternal scrobe deep and punctiform (fig. 3); metapleural flange narrow, cariniform (fig. 3); metapleuron punctulate, with deep pit and groove (fig. 3); scutellum sparsely punctulate (fig. 9).

Wings. – Fore wing: r : 3-SR+SR1 : 2-SR = 6 : 9 : 38; cu-a parallel to 3-CU1 (fig. 2); 1-CU1 : 2-CU1 = 2 : 11; m-cu converging to 1-M posteriorly (fig. 2).

Legs. – Hind coxa punctulate; length of femur, tibia, and basitarsus of hind leg. 4.4, 8.7 and 8 times their width, respectively; length of hind tibial spurs 0.35 and 0.4 times hind basitarsus.

Metasoma. – Length of first tergite 1.6 times its apical width, its surface largely smooth and rather flat, only submedially with superficial sculpture (fig. 12); glymma indistinct; laterope distinct (fig. 3); length of ovipositor sheath 1.67 times for wing.

Colour. – Blackish or dark brown (including palpi, tegulae and antenna);



Figs. 1-12. *Kerorgilus longicaudis* gen. et. spec. nov., ♀ holotype. 1, hind claw; 2, wings; 3, habitus, lateral aspect; 4, ovipositor sheath; 5, clypeus, frontal aspect; 6, head, dorsal aspect; 7, head, frontal aspect; 8, thorax, dorsal aspect; 9, hind leg, dorsal aspect; 10, apex of antenna; 11, clypeus, lateral aspect; 12, first-third metasomal tergites, dorsal aspect. 2-4, 8, scale-line (= 1 ×), 1, 5, 10, 11: 5 ×; 6, 7, 9, 12: 1.5 ×

first to fourth metasomal segments, and legs largely, yellowish; apex of hind femur, hind trochanter and trochantellus, hind tibia and tarsi, infuscated; coxae dark brown; wing membrane hyaline; pterostigma, parastigma and veins, dark brown.

Etymology. – The name refers to the long ovipositor sheath, by which it is differentiated from related species.

Note. – The paratype is very similar to the holotype, but has the length of the ovipositor sheath 1.80 times fore wing, length of fore wing 4.0 mm, of body 5.6 mm, length of first tergite 1.7 times its apical width, first tergite (except apex), apex of third tergite and whole fourth tergite dark brown.

***Kerorgilus zonator* (Szépligeti) comb. nov.**

Orgilus zonator Szépligeti, 1896: 182, 241; Shenefelt, 1970: 263; Tobias, 1971: 231 (translation, 1975: 106); Tobias, 1976: 133 (as *O. zonator* Foerster).

A seldomly collected species, described from Hungary (Budapest) and according to Tobias (1971) also occurring in the Western Caucasus. The reports from Corfu and Mongolia need to be confirmed.

ACKNOWLEDGEMENTS

I wish to thank Dr. E. Haeselbarth (München) who kindly allowed me to describe the new genus, and Dipl. Biol. A. Taeger (Eberswalde) who provided very useful additional information.

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II. *Pigeria* gen. nov., a new Palaearctic genus of the Braconinae (Hymenoptera: Braconidae)

Achterberg, C. van: Notes on Braconidae II. *Pigeria* gen. nov., a new Palaearctic genus of the Braconinae (Hymenoptera: Braconidae).

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Key words: Braconidae; Braconinae; Braconini; *Pigeria piger*; *Pigeria wolschrijni*; key; distribution; Palaearctic.

Pigeria gen. nov. (Braconidae: Braconinae-Braconini; type-species *Braco piger* Wesmael, 1838) and *P. wolschrijni* spec. nov. (from The Netherlands) are described and figured.

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INTRODUCTION

In the course of my generic revision of the Braconidae, I discovered that a wide-spread and fairly well-known species, *Bracon piger* (Wesmael, 1838), does not really belong to the vast genus *Bracon* Fabricius. The propleura are concave with a sublateral cariniform elevation posteriorly (figs. 1, 10, 12), the fore coxae are widened and flattened apically (figs. 10, 16), and vein cu-a of the fore wing is shortly postfurcal (figs. 7, 15). Later I discovered among several undescribed species of *Bracon*, a small series of a species from the Netherlands with the same set of characters. Both species are described and illustrated in this paper and a key is given. The type-species has been reared as an ectoparasite of leafrolling caterpillars belonging to the Tortricidae, Cochylidae, and Pyralidae.

Pigeria gen. nov.

Type-species: *Braco piger* Wesmael, 1838.

Etymology. — Fantasy name based on the epitheton of the type-species. Gender: feminine.

Diagnosis. — Head gradually narrowed posteriorly (figs. 5, 14); scapus truncated apically and robust (figs. 1, 12); eyes glabrous or inconspicuously short setose, and not emarginate (figs. 8, 20); ventral margin of clypeus upcurved, thin, and differentiated (figs. 1, 12); clypeus without dorsal carina; malar suture absent (figs. 1, 8); occipital flange completely absent (figs. 1, 8); propleuron concave, with sublateral cariniform elevation posteriorly (figs. 1, 10, 12, 16), and without posterior flange; fore coxae widened and flattened apically (figs. 10, 16); anterior height of pronotum less than height of meso-

scutum anteriorly (figs. 1, 12); notauli shallow, complete and smooth (fig. 9); pleural sulcus (nearly) smooth; mesoscutum largely glabrous; scutellar sulcus narrow (figs. 9, 21); metanotum without carina; propodeum without tubercles and medial carina; propodeal spiracle small, round and submedially situated (*piger*) or just behind middle (*wolschrijni*) situated (figs. 1, 12); angle between veins 1-SR and C+SC+R 70°-80° (figs. 4, 19); vein cu-a of fore wing shortly postfurcal (figs. 3, 15), exceptionally interstitial; vein 1-SR+M of fore wing straight; vein SC+R1 of hind wing long, straight, and much longer than vein 1r-m (fig. 15); vein 1r-m of hind wing distinctly oblique (figs. 3, 15); vein 2-M of hind wing rather sinuate (figs. 3, 15); posterior margin of hind wing slightly convex (fig. 13); tarsal claws with lobe (figs. 2, 22); hind coxae rather compressed; hind tibia rather compressed and finely aciculate (figs. 7, 18); hind tarsus with distinct ventral row of setae; first tergite without dorsal carinae (figs. 11, 17), and dorso-lateral carinae obsolescent (figs. 1, 12); second tergite smooth and without antero-lateral depressions; second metasomal suture rather deep, smooth and curved medially (figs. 11, 17); second to sixth segments without lateral crease (figs. 1, 12); fourth tergite straight posteriorly, subequal to fifth tergite; length of ovipositor sheath 0.4-0.7 times fore wing; apex of ovipositor normal (fig. 6); hypopygium medium-sized and acute apically (figs. 1, 12).

KEY TO THE SPECIES OF *PIGERIA* GEN. NOV.

1. Length of ovipositor sheath 0.4-0.5 times (usually about 0.4 times) fore wing; basal half of fore wing membrane dark brown, exceptionally rather light brown; length of vein 3-SR of fore wing 2-2.3 times vein r-m (fig. 3); length of fore wing 2.5-4.1 mm; antennal segments 28-33 *piger* (Wesmael)
- Length of ovipositor sheath about 0.65 times fore wing; basal half of fore wing slightly brownish; length of vein 3-SR of fore wing 2.5-3 times vein r-m (fig. 15); length of fore wing 2.2-2.6 mm; antennal segments about 23 *wolschrijni* spec. nov.

***Pigeria piger* (Wesmael, 1838) comb. nov.**
(figs. 1-11)

Braco piger Wesmael, 1838: 48.

Bracon piger; Shenefelt, 1978: 1580.

Material. – ♀ in Rijksmuseum van Natuurlijke Historie, Leiden ("Bergen op Zoom, 20.7.1973, B. v. Aartsen") compared with ♀ lectotype of *P. piger* selected by J. Papp in 1982. The

second specimen in the Wesmael Collection (Brussels) is a paralectotype, ♀, and only somewhat smaller than the lectotype. Specimens have been examined from The Netherlands (Kunrade, Breda, Bergen op Zoom, Meijendel (Kijfhoek), and Bergen aan Zee), Belgium (types from the surroundings of Brussels), France (Fleury les Aubrais (near Orleans), ex *Laspeyresia nigricana* (F.); Entrechaux (Vaucluse), Dentelles de Montmirall (id.), Presqu'île de Rhuys (Bretagne)), S. Italy (no locality) and Yugoslavia (Gorica, near Ohrid, Makedonija).

Redescribed from a ♀ (The Netherlands, Bergen op Zoom) compared with the lectotype; length of body 3.7 mm, of fore wing 4.1 mm.

Head. – Antenna incomplete (according the original description 32 or 33 segments), remaining segments 28; length of third antennal segments 1.2 times fourth segment, length of third and fourth segments 2.1 and 1.8 times their width, respectively; length of maxillary palp 0.7 times height of head; length of eye in dorsal view equal to temple (fig. 5); POL : diameter of ocellus : OOL = 10 : 6 : 11; frons shallowly concave and with medial depression (fig. 8); face rather flat and smooth; clypeus flattened and smooth; length of malar space 0.7 times basal width of mandible.

Mesosoma. – Length of mesosoma 1.5 times its height; side of pronotum and mesopleuron smooth; episternal scrobe small, shallow and pit-shaped; metapleuron punctulate; scutellar sulcus narrow and distinctly crenulate (fig. 9); scutellum rather convex and with some setiferous punctures; surface of propodeum smooth, but laterally with setiferous punctures.

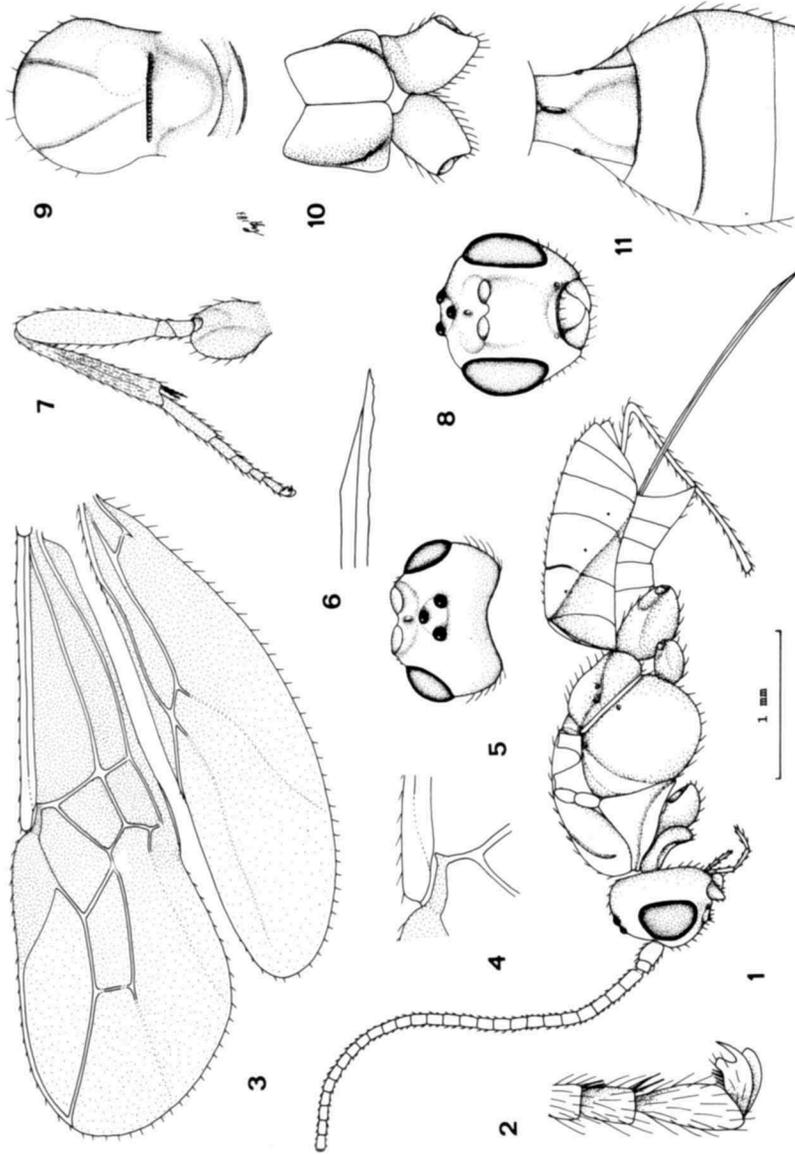
Wings. – Fore wing: angle between 1-SR and C+SC+R = 78° (fig. 4); r : 3-SR : SR1 = 9 : 17 : 30; 1-CU1 : 2-CU1 = 1 : 14; 2-SR : 3-SR : r-m = 13 : 17 : 8.

Legs. – Hind coxa almost smooth; tarsal claws finely pectinate basally and with truncated lobe (fig. 2); length of femur, tibia and basitarsus of hind leg 3.9, 7.5, and 4.2 times their width, respectively; length of hind tibial spurs 0.4 and 0.5 times hind basitarsus.

Metasoma. – Length of first tergite equal to its apical width, smooth, with deep medio-basal groove (fig. 11) and dorso-lateral carinae weak but distinct behind spiracles (fig. 1); length of ovipositor sheath 0.42 times fore wing.

Colour. – Black(ish), including palpi; mandible, patch above malar space, part of margins of eye, metasoma (but middle of first tergite dark brown), and hind tibia basally largely yellowish-brown; extreme base of hind tibia blackish; wing membrane and pterostigma, dark brown, but apical third less infuscated than rest of wing and with hyaline patch below vein 2-SR+M (fig. 3).

Variation. – Antennal segments of ♀ 28(3), 30(1), 31(2), and upto 33 according to original description, of ♂ about 31 (1); length of fore wing 2.5-4.1 mm, of body 2.3-3.7 mm; length of eye in dorsal view 0.9-1.1 times temple; length of vein 3-SR 2-2.3 times vein r-m; tarsal claws of small specimens similar to *P. wolschrijni*; metasoma completely yellowish-brown, only first and third



Figs. 1-11. *Pigeria piger* (Wesmael), ♀, Netherlands, Bergen op Zoom. 1, habitus, lateral aspect; 2, middle claw; 3, wings; 4, detail of vein 1-SR of fore wing; 5, head, dorsal aspect; 6, apex of ovipositor; 7, hind leg; 8, head, frontal aspect; 9, thorax, dorsal aspect; 10, propleura and fore coxae, ventral aspect; 11, first-third metasomal tergites. 1, 3, 7: scale-line (= 1 ×); 2, 6: 5 ×; 4, 10: 2 ×; 5, 8, 9, 11: 1.3 ×

tergites, third to fifth tergites medially, or largely, dark brown, except apex; length of ovipositor sheath 0.36-0.53 times fore wing.

***Pigeria wolschrijni* spec. nov.**
(figs. 12-22)

Holotype. – ♀ in Rijksmuseum van Natuurlijke Historie, Leiden: “52°19’N-5°07’E, Muiderberg (= The Netherlands), 10.VIII.1969, J. B. Wolschrijn”. Paratypes: 2 ♂, same locality and date.

Holotype, ♀, length of body 2.4 mm, length of fore wing 2.6 mm.

Head. – Antennal segments 23, length of third segment 1.1 times fourth segment, length of third, fourth, and penultimate segments 1.8, 1.7, and 1.9 times their width, respectively, apical segment with distinct spine (fig. 13); length of maxillary palp 0.6 times height of head; length of eye in dorsal view 1.3 times temple (fig. 14); POL: diameter of ocellus: OOL = 5 : 2 : 5; frons shallowly concave, without medial depression and laterally setose (fig. 20); face smooth, but coriaceous near antennae (fig. 20); clypeus flat and smooth; length of malar space 0.5 times basal width of mandible.

Mesosoma. – Length of mesosoma 1.5 times its height; side of propleuron and mesopleuron smooth; episternal scrobe indistinct (fig. 12); metapleuron indistinctly pimply, rest smooth; scutellar sulcus narrow and smooth (fig. 21); surface of scutellum and propodeum smooth.

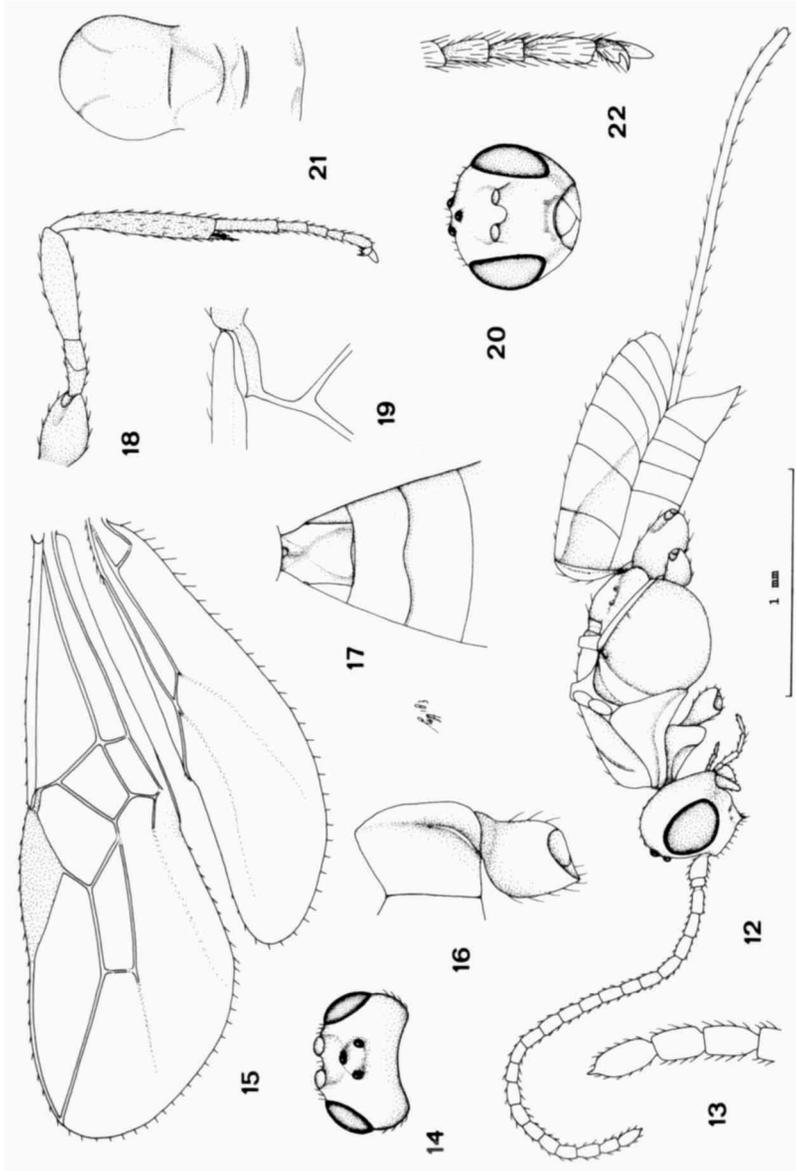
Wings. – Fore wing: angle between 1-SR and C+SC+R = 73° (fig. 19); r : 3-SR : SR1 = 7 : 19 : 36; 1-CU1 : 2-CU1 = 1 : 14; 2-SR : 3-SR : r-m = 12 : 19 : 7.

Legs. – Hind coxa smooth; tarsal claws setose and with normal acute lobe (fig. 22); length of femur, tibia and basitarsus of hind leg 3.4, 7.9, and 5.3 times their width, respectively; length of hind tibial spurs 0.25-0.35 times hind basitarsus.

Metasoma. – Length of first tergite equal to its apical width, smooth, shallowly depressed basally (fig. 17), and dorso-lateral carinae virtually absent (fig. 12); length of ovipositor sheath 0.65 times fore wing.

Colour. – Dark brown (including palpi and tegulae); head black; tarsi (except telotarsi), pronotal sides, mesopleuron, second to fourth metasomal tergites, brown; first to fourth tergites laterally, metasoma ventrally, base of tibiae narrowly, annellus and apex of pedicellus, yellowish; basal 0.6 of wing membrane slightly brownish, patch near vein 2-SR+M and rest of fore wing subhyaline; wing veins and pterostigma, brown.

Etymology. – This species is named in honour of its ardent collector, Mr. J. B. Wolschrijn (Apeldoorn).



Figs. 12-22. *Pigeria wolschrijni* gen. et. spec. nov., ♀, holotype. 12, habitus, lateral aspect; 13, apex of antenna; 14, head, dorsal aspect; 15, wings; 16, propleuron and fore coxa, ventral aspect; 17, first-third metasomal tergites; 18, hind leg; detail of vein 1-SR of fore wing; 20, head, dorsal aspect; 21, metasoma, dorsal aspect; 22, hind claw. 12, 15, 18: scale-line (= 1×); 13, 16, 19, 22: 2.5×; 14, 17, 20, 21: 1.1×

Variation. – Length of fore wing 2.2-2.6 mm, of body 2.6 mm; length of eye in dorsal view 1.0-1.2 times temple; length of vein 3-SR of fore wing 2.5-3 times vein r-m.

Note. – Small specimens of *P. piger* with brownish metasoma may be confused with *wolschrijni*, but *piger* can be separated by the more robust second submarginal and first subdiscal of fore wing (fig. 3 versus fig. 15), and by the higher number of antennal segments.

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III. *Psilolobus* gen. nov. from Sarawak (Hymenoptera: Braconidae)

Achterberg, C. van: Notes on Braconidae III. *Psilolobus* gen. nov. from Sarawak (Hymenoptera: Braconidae).

Zool. Med. Leiden 59 (15), 23-x-1985: 174-178, figs. 1-11 – ISSN 0024-0672.

Key words: Braconidae; Braconinae; Braconini; *Psilolobus* gen. nov.; Sarawak.

Psilolobus gen. nov. (Braconidae: Braconinae-Braconini) and its type-species, *Psilolobus interstitialis* spec. nov. from Sarawak are described and figured.

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INTRODUCTION

Dr. D. Quicke (Nottingham) kindly allowed me to describe a new genus, related to the *Plesiobracon*-group, as defined by Van Achterberg (1983: 185). *Psilolobus* gen. nov. differs from the genera of the *Plesiobracon*-group by the largely glabrous anterior half of mesoscutum, the elevation above the spiracle (fig. 3), the deep medio-basal groove of the first metasomal tergite (fig. 11), the curved vein 2-M of the fore wing (fig. 1), and the interstitial vein cu-a of the

fore wing. Sometimes the mesoscutum is similarly setose posteriorly in the genus *Bracon* Fabricius; however, the grooves of the second and third tergites (fig. 3, 11), the deep medio-basal groove of first tergite (fig. 11), the elevation above the propodeal spiracle (fig. 3), and the curved vein 2-M of the fore wing (fig. 1) allow an easy separation. The biology of the new genus is unknown; related genera are ectoparasites of larvae of holometabolous insects. For the terminology used in this paper, see Van Achterberg, 1979: 242-249.

***Psilolobus* gen. nov.**

Type-species: *Psilolobus interstitialis* spec. nov.

Etymology. – From “*psilos*” (Greek for “bare”) and “*lobos*” (Greek for “lobe”) because the lateral mesoscutal lobes are largely glabrous. Gender: masculine.

Diagnosis. – Head strongly constricted behind eyes (fig. 6); scapus truncated apically and rather robust (fig. 4); eyes glabrous, not emarginate and with medium-sized subocular depression posteriorly (fig. 3); ventral margin of clypeus depressed, thick and not differentiated (fig. 9); propleuron without distinct posterior flange (fig. 3); notauli complete and smooth (fig. 8); mesoscutum largely glabrous and smooth, but posteriorly largely conspicuously and long pubescent and finely punctate (figs. 3, 8); scutellar sulcus deep, wide and crenulate (fig. 8); metanotum with medial carina and only slightly protruding (fig. 3); propodeum with strong and complete medio-longitudinal carina; propodeal spiracle medium-sized, round and submedially situated below an obtuse elevation (fig. 3); angle between veins 1-SR and C+SC+R of fore wing about 60° (fig. 7); veins 2-SR and 1-SR+M of fore wing straight (fig. 1); vein cu-a of fore wing interstitial; vein 2-M of fore wing distinctly curved (fig. 1); vein cu-a of hind wing reclivous (fig. 5); posterior margin of hind wing somewhat concave and long setose basally (fig. 5); tarsal claw with large obtuse lobe (fig. 2); hind tibia without subapical row of spiny setae; hind tarsus with rather distinct ventral row of setae; dorsal carinae of first tergite developed only in posterior half, strong and united medio-posteriorly and with very deep groove medio-basally (fig. 11); second tergite with indistinctly differentiated, smooth medio-basal area and with slightly converging sublateral depressions (fig. 11); second suture deep, crenulate and slightly sinuate (fig. 11); second to sixth tergites with sharp lateral crease (fig. 3); fourth tergite somewhat protruding medio-posteriorly (fig. 3); medial length of fifth tergite behind basal depression nearly equal to medial length of fourth tergite (fig. 3); fifth tergite straight laterally; length of ovipositor sheath about 0.4 times fore

wing; apex of ovipositor normal; hypopygium large and rather acute apically (fig. 3).

***Psilolobus interstitialis* spec. nov.**
(figs. 1-11)

Holotype. — ♀ in British Museum (Natural History), London: "Sarawak: fourth Div., Gn. Mulu, RGS Exp., 27.vi-19.viii.1978, H. Vallack".

Holotype, ♀, length of body 4.0 mm, of fore wing 3.5 mm.

Head. — Remaining antennal segments 37 (apical part of antenna missing), length of third segment 1.2 times fourth segment, length of third and fourth segments 2.0 and 1.7 times their width, respectively; length of maxillary palp 0.7 times height of head; length of eye in dorsal view 4.2 times temple (fig. 6); POL : diameter of ocellus : OOL = 9 : 8 : 10 (at level of stemmaticum, fig. 6); frons almost flat, coriaceous and with medial groove; face rather flat, medially smooth, sublaterally coriaceous and laterally punctulate (fig. 9); length of malar space equal to basal width of mandible; malar suture absent, but area coriaceous (fig. 3).

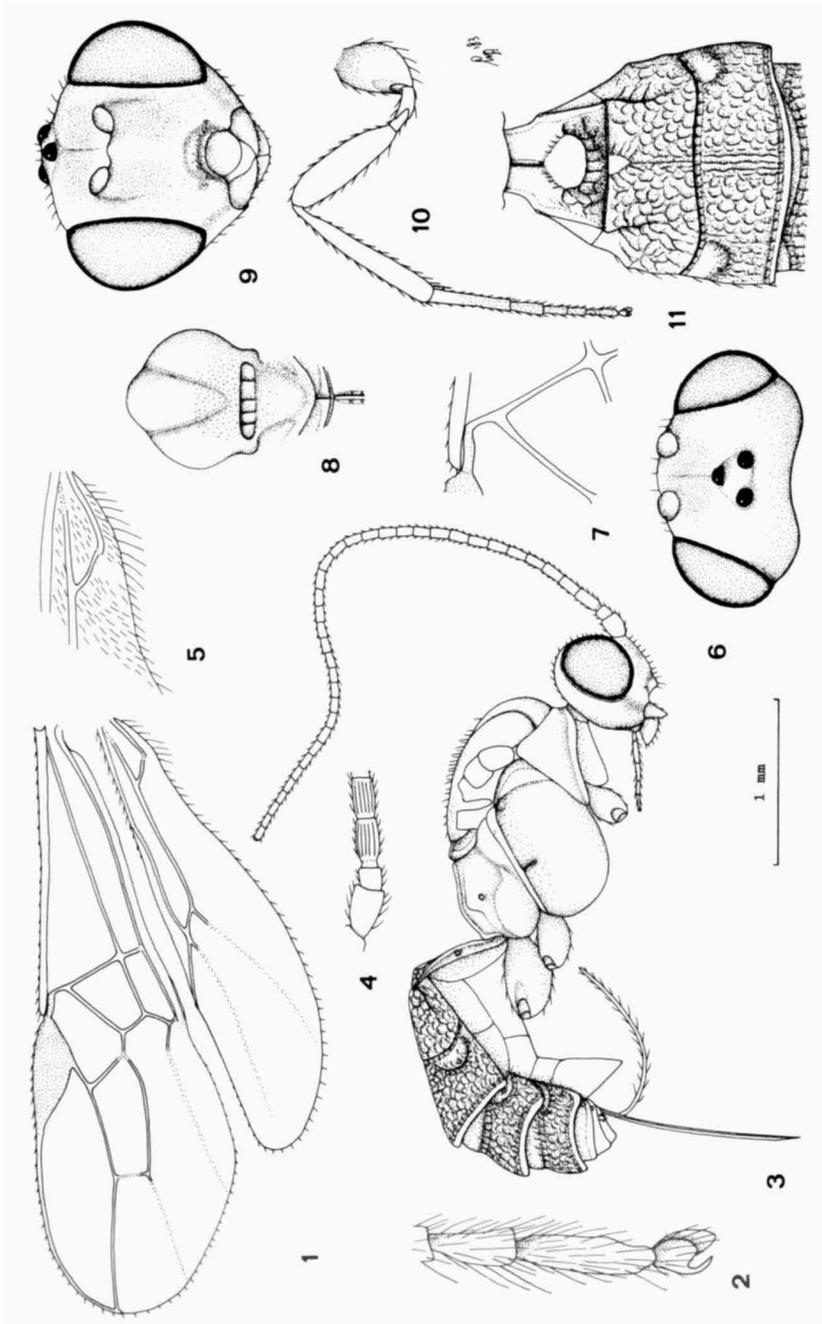
Mesosoma. — Length of mesosoma 1.2 times its height; side of propleuron and mesopleuron smooth, but mesopleuron distinctly setose and punctulate posteriorly (fig. 3); episternal scrobe distinct and narrow (fig. 3); scutellum rather flat, with sparse fine punctures, and distinctly setose, especially laterally; surface of propodeum largely smooth, with some punctulation and setae laterally.

Wings. — Fore wing: angle between 1-SR and C+SC+R = 58° (fig. 7); r : 3-SR : SR1 = 11 : 39 : 57; 2-SR : 3 - SR : r-m = 14 : 39 : 21.

Legs. — Hind coxae smooth; length of femur, tibia and basitarsus of hind leg 3.8, 8.8, and 6.3 times their width, respectively; length of hind tibial spurs both 0.35 times hind basitarsus.

Metasoma. — Length of first tergite 0.8 times its apical width, its surface largely smooth (fig. 11), with dorso-lateral carinae strong, complete and lamelliform (figs. 3, 11); second tergite rugose-reticulate; third tergite with some longitudinal rugae medially (fig. 11); third to fifth tergites with narrow smooth apical margin, shallowly depressed in front, rest reticulate-rugose, and with distinct antero-lateral grooves (fig. 3); rest of metasoma smooth; length of ovipositor sheath 0.37 times fore wing.

Colour. — Yellowish-brown; antenna (but scapus and pedicellus largely yellowish and its outer aspect dark brown), third and fourth tergites (but laterally widely and medially narrowly yellowish), and ovipositor sheath,



Figs. 1-11. *Psilolobus interstitialis* gen. et. spec. nov., ♀, holotype. 1, wings; 2, hind claw; 3, habitus, lateral aspect; 4, four basal antennal segments, outer aspect; 5, detail of base of hind wing; 6, head, dorsal aspect; 7, detail of vein 1-SR of fore wing; 8, mesosoma, dorsal aspect; 9, head, frontal aspect; 10, hind leg; 11, first-third metasomal tergites, dorsal aspect. 1, 3, 10: scale line (= 1 ×); 2: 5 ×; 4-7, 9: 2 ×; 8, 11: 1.1 ×

blackish; hind tarsus largely infuscated; palpi yellowish; wing membrane subhyaline; pterostigma (but base with subhyaline patch), parastigma, and most veins, dark brown.

Etymology. – The name refers to the interstitial vein cu-a of fore wing; one of the differences with the genus *Carinibracon* Van Achterberg.

Note. – Closely resembling the Indo-Australian genus *Plesiobracon* Cameron because of concave posterior margin of hind wing, reclivous vein cu-a of hind wing, strongly constricted head behind eyes, robust third antennal segment, and absence of antescutal depression. *Plesiobracon* differs from *Psilolobus* by the straight vein 2-M of fore wing, the postfurcal vein cu-a of fore wing, the narrower scutellar sulcus, absence of distinct dorsal carinae of first tergite, no antero-lateral grooves third to fifth tergites, and ventral margin of clypeus cariniform and protruding. In the key to the genera of the *Plesiobracon*-group (Van Achterberg, 1983) *Psilolobus* runs to the Afrotropical genus *Carinibracon* Van Achterberg; *Psilolobus* differs by the curved vein 2-M of fore wing, interstitial vein cu-a of fore wing, the strongly reclivous vein cu-a of hind wing, mesoscutum only posteriorly setose, wider scutellar sulcus, concave posterior margin of base of hind wing, very deep medio-basal groove of first tergite, absence of antescutal depression, the protuberance above the propodeal spiracle, and the presence of the antero-lateral grooves of third to fifth tergites.

ACKNOWLEDGEMENTS

I wish to thank Dr. D. Quicke (Nottingham) and Mr. T. Huddleston (London) for the possibility to describe this new genus.

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IV. The *Aleiodes dispar*-group of the Palaearctic region (Hymenoptera: Braconidae: Rogadinae)

- Achterberg, C. van: Notes on Braconidae IV. The *Aleiodes dispar*-group of the Palaearctic region (Hymenoptera: Braconidae: Rogadinae).
Zool. Med. Leiden 59 (15), 23-x-1985: 178-187, figs. 1-20 – ISSN 0024-0672.

Key words: Braconidae; Rogadinae; *Aleiodes dispar*; key; description; distribution; Palaearctic; biology.

The *Aleiodes dispar*-group (Braconidae: Rogadinae-Rogadini) is defined and a key is given to the Palaearctic species. The female of *Aleiodes excavatus* (Telenga, 1941) comb. nov. is described for the first time. *Aleiodes fasciatipennis* (Ashmead, 1906) comb. nov. is recognized as a valid species and briefly characterized. A lectotype is designated for *Rogas dispar* Curtis, 1834; *Aleiodes takasuae* spec. nov. is described from Japan.

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INTRODUCTION

The discovery of the peculiar male of *Aleiodes excavatus* (Telenga, 1941) in The Netherlands (in the dunes of Oostvoorne (Van Achterberg, 1975), but later also in other sandy areas (Nunspeet, Wijster) and in Belgium (Buzenol, fauna spec. nov.)) left a major problem. Of this species only males have been known since the description in 1941 from Kazakhstan. The female of *Aleiodes tatariana* (Telenga, 1941) comb. nov. from the surroundings of Vladivostok and referred to this species by Haeselbarth (1970), does not belong here because of the differences in colour and venation.

It was therefore a surprise to receive both female and male of *Aleiodes excavatus* captured at the same date (14.VIII.1976) on the estate of Dr. R. T. Simon Thomas at Nunspeet (The Netherlands). The female is very similar to both the male of *excavatus* (except for typical sexual differences, normal in the species group, and without the metasomal depressions) and the female of *A. dispar* (Curtis, 1834) comb. nov. From Japan a synonym was known of *A. dispar*, *Heterogamus fasciatipennis* Ashmead, 1906, which might be the same as the discovered female of *excavatus*. However, examination of the holotype of *A. fasciatipennis* proved that this was not true and that *A. fasciatipennis* is a valid species, easily separable from the other Palaearctic species, of which *A. dispar* also occurs in Japan.

The species of the *Aleiodes dispar* group have been scarcely reared; only two host records are known for *A. dispar*: *Agrotis segetum* Schiff. (Noctuidae) and *Melitaea aurinia* Rott. (Nymphalidae); it indicates that the hosts are searched for in lower parts of the vegetation. Other species of *Aleiodes* (= *Rogas* auct. p.p.) are endoparasites of caterpillars of many families of Lepidoptera (especially Noctuidae, Geometridae, and Lasiocampidae); the caterpillar is mummified in a characteristic manner.

The *Aleiodes dispar* group (= *Heterogamus* Wesmael p.p.) can be characterized within the genus *Aleiodes* Wesmael as follows:

Antennal segments of ♀ 39-45, of ♀ 41-50; scapus robust and short (figs. 1,

2); antenna of ♀ with white band (figs. 1, 9), if absent (*takasui* sp. nov.) then hind trochantellus very slender (cf. fig. 5); antenna of ♂ unicolorous yellowish or dark brown (fig. 2); third and fourth segments of maxillary palp of ♀ rather swollen (figs. 14, 20); clypeus depressed ventrally (figs. 15, 17); vertex and mesoscutum (rather) coarsely and densely rugose (fig. 8); ocelli rather small (figs. 8, 15); mesoscutum low and oblique anteriorly in Palearctic species; mesopleuron with precoxal sulcus crenulate-rugose, its surroundings at least partly smooth and shiny, not coriaceous; propodeum rugose, in ♀ with minute tubercle laterally; hind coxa extensively sculptured ventrally; membrane of fore wing of ♀ largely dark brown (figs. 4, 10), subhyaline in ♂; vein r of fore wing 1.0-1.3 times (males upto 3.9 times) vein 3-SR (figs. 4, 10, 16); second submarginal cell of fore wing short (figs. 4, 10, 16); first tergite rather slender and apically widened (fig. 3); second suture deep (fig. 12); second and third tergites with acute lamelliform lateral crease (figs. 13, 19), absent at fourth tergite; fourth tergite of ♂ sculptured, largely smooth in ♀; body and legs predominantly yellowish with dark brown pattern usually; if white antennal ring of ♀ is present, body black, and vein r of fore wing 1.5 times vein 3-SR cf. *A. tatiana*e (Telenga), or if as *tatiana*e but second submarginal cell of fore wing rather long and membrane of fore wing subhyaline cf. *A. jakovlevi* (Kokujev, 1898). Only *A. tatiana*e may belong to the *dispar* group, but is excluded from the key because I have not seen a specimen of this species.

KEY TO THE PALAEARCTIC SPECIES OF THE *ALEIODES DISPAR*-GROUP

1. Hind trochantellus of both sexes very slender, its maximum length 3.5-4.5 times its width, in ♀ 1.8-2.0 times maximum length of hind trochanter ventrally measured (figs. 5, 6); subhyaline area of fore wing restricted to patch below pterostigma of ♀ (fig. 4) or absent; palpi of ♀ largely yellowish or whitish; ♂ without metasomal depressions (unknown of *takasuae* sp. nov.); antenna of ♀ dorsally blackish or dark brown basad of white band (exceptionally brown) or completely yellowish; antennal segments of ♀ 39-41 (*dispar*) or about 45 (*takasuae*), of ♂ 41-43 (*dispar*, unknown of *takasuae*); lateral carina of scutellum of ♀ strong; anterior ocellus of ♂ much larger than lateral ocellus (unknown of *takasuae*) 2
- Hind trochantellus normal, its maximum length 2.4-2.8 times its width, in ♀ about 1.5 times maximum length of hind trochanter (figs. 11, 18); subhyaline area below pterostigma reaching posterior margin of fore wing or nearly so (figs. 10, 16); palpi of ♀ largely dark brown; second and third metasomal tergites of ♂ (unknown of *fasciatipennis*) with pubescent de-

- pressions medially (fig. 12); antennal segments of ♀ 44-45 (unknown of *fasciatipennis*), of ♂ 45-50; lateral carina of scutellum of ♀ weakly developed; anterior ocellus of ♂ subequal to lateral ocellus (fig. 8) 3
2. Antenna of ♀ tricolorous, basad and apicad of white band dorsally blackish or dark brown, and subbasally yellowish (fig. 1); length of hind trochantellus of ♀ about two times hind trochanter ventrally measured (fig. 5); fore wing of ♀ with small subhyaline patch below pterostigma (fig. 4); antennal segments of ♀ 39-41 *dispar* (Curtis)
- Antenna of ♀ unicolorous yellowish; length of hind trochantellus of ♀ about 1.8 times hind trochanter ventrally measured; forewing of ♀ without subhyaline patch below pterostigma; antenna of ♀ with about 45 segments *takasuae* spec. nov.
3. Third metasomal tergite of ♀ smooth posteriorly, rest superficially coriaceous-punctulate, and comparatively convex in lateral view (fig. 19); third and fourth segments of maxillary palp of ♀ comparatively swollen (fig. 20); head of ♀ in frontal view subtriangular (fig. 17); vein cu-a fore wing rather short and (nearly) straight (fig. 16); vein r of fore wing gradually merging in vein 3-SR (fig. 16); second tergite finely and densely rugose; hyaline area below pterostigma of ♀ comparatively narrow (fig. 16) *fasciatipennis* (Ashmead)
- Third metasomal tergite of ♀ (and ♂) extensively sculptured posteriorly, similar to rest of tergite, and nearly flat (fig. 13); third and fourth segments of maxillary palp of ♀ less swollen (fig. 14); head in ♀ in frontal view less narrowed ventrally, trapezoidal (fig. 15); vein cu-a of fore wing rather long and oblique (fig. 10); vein r of fore wing angled with vein 3-SR (fig. 10); second tergite spaced and coarsely longitudinally rugose; hyaline area below pterostigma of ♀ somewhat wider (fig. 10) . . *excavatus* (Telenga)

***Aleiodes dispar* (Curtis, 1834) comb. nov.**

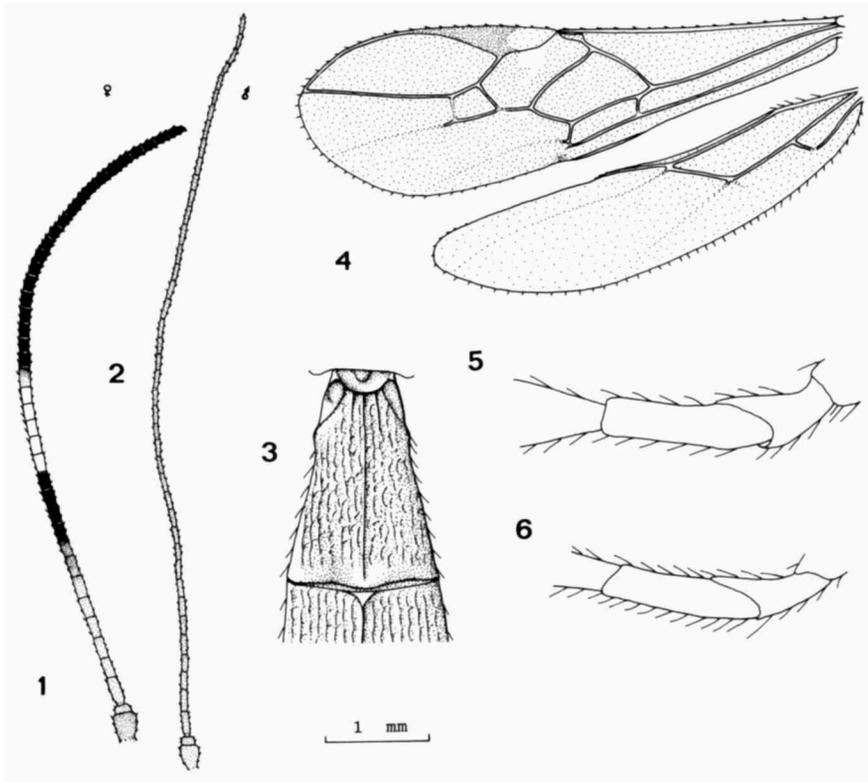
(figs. 1-6)

Rogas dispar Curtis, 1834: no. 512-10.

Heterogamus dispar; Van Achterberg, 1975: 15; Shenefelt, 1975: 1201.

Aleiodes (Heterogamus) crypticornis Wesmael, 1838: 150.

Material. – In the Curtis Collection (Melbourne) are 3 specimens under this species: 1 ♀ glued on a card (probably an Irish specimen from Haliday), 1 ♀ and 1 ♂ pinned in the manner preferred by Curtis. The pinned ♀ is here designated as the lectotype. The palpi are missing; antennal segments 41; propodeum with minute propodeal tubercles distinct (nearly absent in ♂-paralectotype); lateral carina of scutellum distinct in ♀, less in ♂; hind trochantellus very slender, twice hind trochanter (fig. 5); vein cu-a of fore wing short and straight (fig. 4); vein r of fore wing 1.1 times vein 3-SR (as ♀-paralectotype); length of first tergite 1.3 times its apical width (fig. 3); medial



Figs. 1-6. *Aleiodes dispar* (Curtis), ♀, lectotype (but 2 and 6 of ♂, paralectotype). 1, antenna of ♀; 2, id. of ♂; 3, first metasomal tergite, dorsal aspect; 4, wings; 5, hind trochanter and trochantellus of ♀, lateral aspect; 6, id. of ♂. 1, 2, 4: scale-line (= 1 ×); 3: 2 ×; 5, 6: 3 ×

length of second tergite of ♀ 1.0 times its apical width and 1.2 times its basal width.

In the Wesmael Collection (Brussels) is a lectotype of *Aleiodes crypticornis* Wesmael, designated by Shenefelt (1969). Further are present 2 ♀ and 5 ♂-paralectotypes. The lectotype (♀) has 39 antennal segments, and the antenna darkened below the white band; it agrees fully with the lectotype of *dispar*.

Specimens seen from The Netherlands (Wijster, Oostvoorne, Oostkapelle, Melissant, Waarder, Brummen (Voorstonden), and Caestert Bos (nr. St. Pietersberg, at light between 22-23 hr), Belgium (type-series of *crypticornis*), England (type series of *dispar*), Ireland (id.), France (St. Cloud), and Japan (Kusakai, Baba spa).

Description. — Length of fore wing 4.1-4.4 mm, of body 4.8-5.3 mm; antennal segments of ♀ 39 (3), 40(5), 41(1), of ♂ 41(3), 43(2); antenna of ♀ with dark band basad of white band, exceptionally indistinct, rest of antenna yellowish (basally) and blackish (apically, fig. 1); antenna of ♂ (almost) unicolorous yellowish or dark brown (except scapus and pedicellus) and more

slender (fig. 2); palpi of ♀ largely yellowish (but whitish in Japanese specimens); lateral carina of scutellum of ♀ strong, of ♂ weaker; hind trochantellus of both sexes very slender, 3.5-4.5 times its width, in ♀ 1.7-2 times hind trochanter (figs. 5, 6); subhyaline area of fore wing of ♀ restricted to patch below pterostigma (fig. 4); length of vein r 1.0-1.3 times (males upto 3.9 times) vein 3-SR (fig. 4); ♂ without metasomal depressions. The ♀-specimens from Japan (Kusakai, Kawai V., Iwate and Baba spa, Fukushima Pref.) have head, mesosoma (except mesopleuron and -sternum posteriorly), third (and fourth in one ♀) tergite, and all femora (except base and apex) dark brown. Collected in the last week of July and (mainly) in August.

***Aleiodes takasuae* spec. nov.**

Holotype. — ♀ in the Rijksmuseum van Natuurlijke Historie, Leiden: "Museum Leiden, Japan, Anegasaki, Miyako C., Iwate", "1-2.VIII. 1981, A. Takasu, RMNH'82".

Holotype, ♀, length of body 5.4 mm, of fore wing 3.7 mm.

Head. — Antennal segments 45, length of third segment 1.2 times fourth segment, length of third, fourth and penultimate segments 2.6, 2.2, and 2.0 times their width, respectively; apical segment without spine; width of hypoclypeal depression 0.3 times minimum width of face; clypeus convex and with obtuse ventral margin; face and clypeus coarsely transversely rugose; occipital carina strong and complete; length of eye in dorsal view 2.7 times temple; vertex coarsely and densely rugose; OOL : diameter of ocellus : POL = 9 : 8 : 9; length of maxillary palp 1.4 times height of head; length of malar space two times basal width of mandible.

Mesosoma. — Length of mesosoma 1.8 times its height; mesoscutum low anteriorly; pronotal sides, mesoscutum, scutellum, metapleuron, and propodeum coarsely and densely rugose; precoxal sulcus (but apical quarter absent) and epicnemial area vermiculate rugose; lateral carina of scutellum rather strong; propodeum long, with medial carina slightly stronger than surrounding rugae and with minute tubercle apico-laterally.

Wings. — Fore wing: r : 3-SR : SR1 = 10 : 9 : 40; 2-SR : 3-SR : r-m = 9 : 9 : 8; 1-CU1 : 2-CU1 = 4 : 23; rest of venation similar to fig. 4.

Legs. — Hind coxa rather coarsely rugose, also ventrally; length of femur, tibia and basitarsus of hind leg 5.1, 15 and 8 times their width, respectively; length of hind spurs 0.15 and 0.25 times hind basitarsus; hind trochantellus 3.5 times its width, 1.8 times ventral length of hind trochanter.

Metasoma. — Only three basal segments completely visible, coarsely granulate-rugose; length of first tergite 1.5 times its apical width; medial length of

second tergite 1.2 times medial length of third tergite; length of ovipositor sheath 0.07 times fore wing.

Colour. — Yellowish-brown; scapus and ovipositor sheath, black; pedicellus, frons, and vertex near eyes, tegulae, fore and middle coxae, all trochanters and trochantelli, pale yellowish; mesoscutum laterally, propodeum, and hind femur, more or less dark brown; wing membrane brown, without subhyaline area; basal half of pterostigma yellowish, rest of pterostigma and most veins, dark brown.

Etymology. — This species is named in honour of Miss A. Takasu (Tokyo) who made a valuable collection of Braconidae in Japan.

***Aleiodes excavatus* (Telenga, 1941) comb. nov.**

(figs. 7-15)

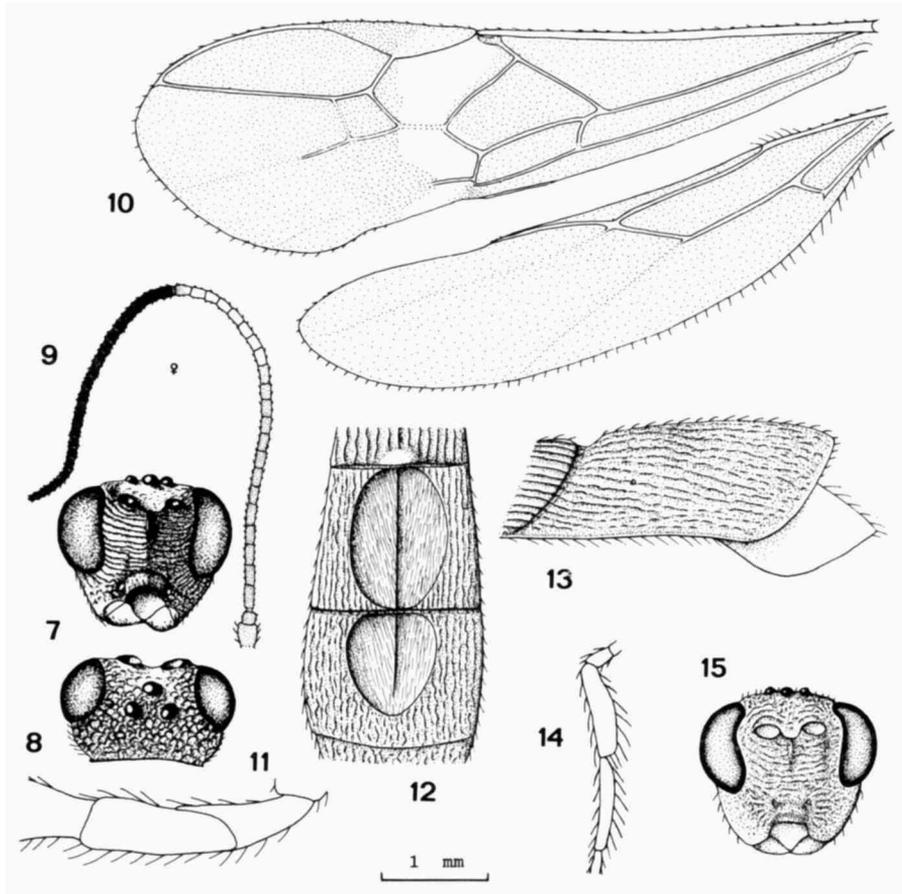
Heterogamus excavatus Telenga, 1941: 132-133, 402, fig. 53; Van Achterberg, 1975: 15; Shenefelt, 1975: 1201.

Heterogamus (Jirunia) farmakena Maláč, 1941: 137-139, figs. 1-7.

Material. — Specimens seen from The Netherlands (Nunspeet (♀♂), 't Harde, Wijster, and Oostvoorne), France (Maisons-Laffitte, Seine et Oise; Paris) and Belgium (Buzenol, in Betuletum). Collected mainly in July, with few specimens in early August.

The male of this species is easily recognized by the metasomal depressions (fig. 12); the female is reported here for the first time; it is similar to *A. dispar*. Known from Kazakhstan, Czechoslovakia, Italy, France, Belgium (both first reports), and The Netherlands.

Description. — Length of fore wing 4.0-4.5 mm, of body 5.2.-5.7 mm; antennal segments of ♀ 44 (1) or 45 (1), of ♂ 45(1), 48(2), 49(2), 50(1); antenna of ♀ without dark band below white segments (fig. 9), rest of antenna yellowish (basally) and blackish (apically); antenna of ♂ apically dark brown, rest yellowish or largely dark brown; palpi of ♀ rather dark brown, less swollen than of *A. fasciatipennis* (fig. 14); head of both sexes less narrowed in frontal view (figs. 7, 15); lateral carina of scutellum of ♀ weakly developed; hind trochantellus normal, its maximum length 2.4-2.8 times its width and in ♀ about 1.5 times maximum length of hind trochanter (fig. 11); fore wing of ♀ with subhyaline patch below pterostigma reaching posterior margin of wing, or nearly and rather wide (fig. 10); length of vein r 1.0-1.3 times vein 3-SR and angled with 3-SR (fig. 10); vein cu-a of fore wing rather long and oblique (fig. 10); second and third tergites of ♂ with pubescent depressions medially (fig. 12); second tergite coarsely and spaced longitudinally rugose; third metasomal tergite of both sexes extensively sculptured, posteriorly similar to rest of tergite, and nearly flat (fig. 13).



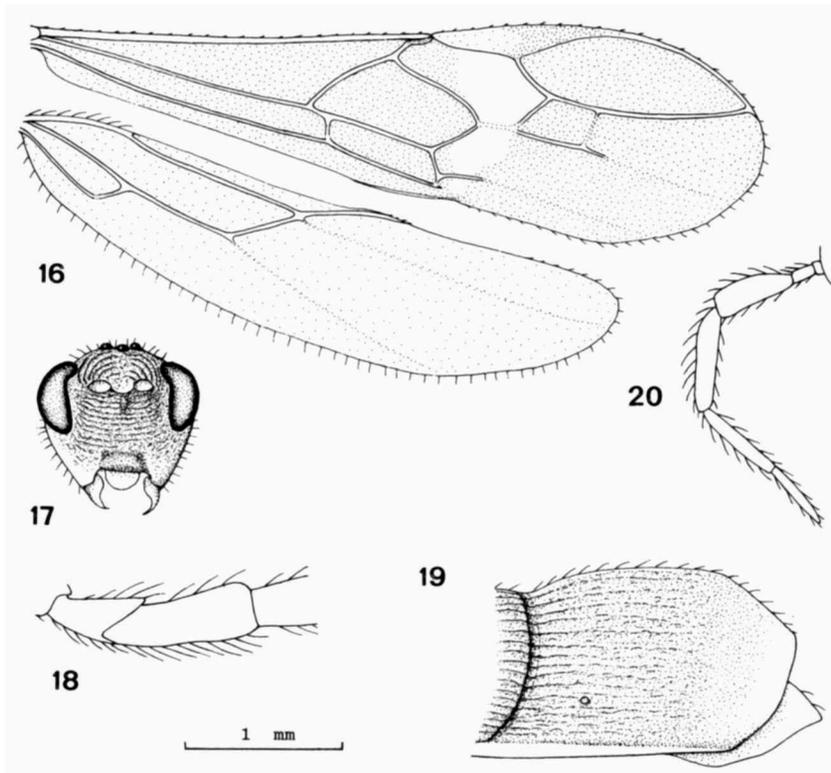
Figs. 7-15. *Aleiodes excavatus* (Telenga), ♀, Netherlands, Nunspect (but 12 of ♂ from same locality, and 7 & 8 of ♂, Italy, Riva s. Garda). 7, head of ♂, anterior aspect; 8, id., dorsal aspect; 9, antenna of ♀; 10, wings; 11, hind trochanter and trochantellus of ♀, lateral outer aspect; 12, second and third metasomal tergites of ♂, dorsal aspect; 13, third metasomal tergite of ♀, lateral aspect; 14, third and fourth segments of maxillary palp; 15, head of ♀, anterior aspect. 7, 8, 9: scale-line (= 1×); 10, 12, 15: 1.5 × 11, 13, 14: 3 ×

Note. – In the Rijksmuseum van Natuurlijke Historie is a male from Sumatra (Mt. Bandahara, ca. 1430 m, in submontane, multistratal evergreen forest, J. Krikken) with slender hind trochantellus (its length 4 times its width and its ventral length 2.5 times ventral length of hind trochanter) and depressions in second and third metasomal tergites present as in *excavatus*. However, the depression of the third tergite is nearly as long as the depression of the second tergite and vein r of fore wing is only 0.6 times vein 3-SR.

***Aleiodes fasciatipennis* (Ashmead, 1906) comb. & stat. nov.**
(figs. 16-20)

Heterogamus fasciatipennis Ashmead, 1906: 198; Shenefelt, 1975: 1201 (as synonym of *dispar*).

Through the courtesy of Dr. P. M. Marsh (Washington) I could examine the holotype (and only known specimen) of *A. fasciatipennis*: "16", "Type No. 7294 U.S.N.M.". "*Heterogamus fasciatipennis* Ashm., ♀". The type-locality is Sapporo (Japan). The antenna are missing, except for the scapus; length of hind trochantellus 2.8 times its maximum width; maximum length of hind trochantellus 1.5 times maximum length of hind trochanter (fig. 18); head in frontal view subtriangular (fig. 17); maxillary palp rather long, dark, and its



Figs. 16-20. *Aleiodes fasciatipennis* (Ashmead). ♀, holotype. 16, wings; 17, head, anterior aspect; 18, hind trochanter and trochantellus, lateral outer aspect; 19, third metasomal tergite, lateral aspect; 20, maxillary palp. 16, 17: scale-line (= 1 ×); 18-20: 2 ×.

third and fourth segments rather swollen (fig. 20); fore wing with subhyaline area below pterostigma reaching posterior margin of wing or nearly so, and somewhat narrower than in *excavatus* (fig. 16); second tergite densely rugose; third metasomal tergite of ♀ smooth posteriorly, rest superficially coriaceous-punctate and comparatively convex in lateral view (fig. 19); vein cu-a of fore wing rather short and nearly straight (fig. 16); vein r of fore wing gradually merging into vein 3-SR (fig. 16).

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