

# Additions to the fauna of Braconidae from Madeira and Selvagens Islands, with the description of five new species (Hymenoptera: Braconidae: Homolobinae, Alysiinae, Opiinae)

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Achterberg, C. van & A.M. Franquinho Aguiar. Additions to the fauna of Braconidae from Madeira and Selvagens Islands, with the description of five new species (Hymenoptera: Braconidae: Homolobinae, Alysiinae, Opiinae).

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Twenty-one species of the family Braconidae (Hymenoptera) are added to the checklist of Braconidae from Madeira, resulting in 113 species, of which 17 species are endemic to Madeira Islands and 4 species are only known from Madeira and Canary Islands. Five species are reported new for the Selvagens Islands. Five new species are described and illustrated: *Homolobus (Apatia) madeirensis* spec. nov. (Homolobinae), *Dinotrema glabriscutum* spec. nov., *D. brunneicornis* spec. nov. and *Orthostigma minusculum* spec. nov. (Alysiinae: Alysiini) and *Phaedrotoma flaveola* spec. nov. (Opiinae: Opiini). *Meteorus pendulus* (Müller, 1776) is considered to be a Holarctic species, with as junior synonyms the Nearctic *Perilitus communis* Cresson, 1872 (**syn. nov.**) and the Palaearctic *Ichneumon gyrator* Thunberg, 1822.

## Introduction

The Braconidae (Hymenoptera) of Madeira and Selvagens Islands are still imperfectly known despite some pioneering work for Madeira by the late Dr. M.W.R. de Vere Graham (*e.g.*, Graham, 1986). The first idea to improve the knowledge of the Braconidae of Madeira arose between the authors during the second Fauna Europaea meeting in Funchal (Madeira) in November 2003. During the following years when the second author became involved in a survey of parasitic Hymenoptera near chestnut trees (*Castanea sativa* Linnaeus) on Madeira there was the opportunity to sort out Braconidae collected in light traps and later in yellow pan (or Moericke) traps with water plus detergent. At Curral das Freiras the trap was in an orchard characterised by very tall chestnut trees on the North side of a sloped peak at 800 m with much shade. Besides the chestnut trees there is only a continuous cover of small Poaceae, and this extends for dozens of metres around. At Jardim da Serra at nearly 1300 m, the chestnuts are much further apart resulting in more light at the ground level. The under storey consists of grasses, brooms (*Cytisus scoparius* Linnaeus) and bracken (*Pteridium aquilinum* Linnaeus). At Serra de Água at 400 m, the chestnut trees are near arable land, mainly used for cultivating potato, cabbage and beans.

It resulted in twenty-one new species for the fauna of Madeira Islands (*Pauesia picta* (Haliday, 1834); *Trioxys pallidus* Haliday, 1833; *Dacnusa sibirica* Telenga, 1935; *Dinotrema brunneicornis* spec. nov.; *D. glabriscutum* spec. nov.; *D. lineolum* (Thomson, 1895); *D. tenerifensis* (Fischer, 2003); *Orthostigma minusculum* spec. nov.; *Blacus ruficornis* (Nees, 1811); *Ascogaster quadridentata* Wesmael, 1835; *Chrysopophthorus petiolus* Chou, 1986; *Meteorus affinis* (Wesmael, 1835); *Homolobus madeirensis* spec. nov.; *Spathius erythrocephalus* Wesmael, 1838; *Apanteles laevigatoides* Nixon, 1972; *A. tedellae* Nixon, 1961; *A. brunnistigma* Abdinbekova, 1969; *Protapanteles luciana* (Nixon, 1973); *P. mygdonia* (Nixon, 1973); *Phaerotoma exigua* (Wesmael, 1835); *Aleiodes gastritor* (Thunberg, 1822) and *A. testaceus* (Telenga, 1941)). Five species new to science are described below; one in the genus *Homolobus* Foerster, 1862 (Homolobinae), two in the genus *Dinotrema* Foerster, 1862 and one in the genus *Orthostigma* Ratzeburg, 1844 (Alysiinae: Alysiini), and one in the genus *Phaerotoma* Foerster, 1862 (Opiinae). The total number of Braconidae known is 114 species (= + 22 %), of which 17 species are endemic to Madeira Islands (= 15 %) and four species (= 4 %) are only known from Madeira and Canary Islands (table 1). Two species have a Nearctic distribution with extension to Azores and Madeira. The much smaller Selvagens Islands are much less known; here we report six new species for these islands. The following species are new to the fauna of the Selvagens Islands: *Blacus pappianus* Haeselbarth, 1973; *Apanteles appellator* Telenga, 1949; *Microplitis aduncus* (Ruthe, 1860); *Phaerotoma flaveola* spec. nov. and *P. nitidulator* (Nees, 1834). Many additional species and several genera are likely to occur on the Madeira and Selvagens Islands and still need to be discovered. For a complete overview of the fauna and flora of Madeira and Selvagens Islands, see Borges et al. (2008) and for Braconidae of Madeira and Selvagens Islands, see van Achterberg & Aguiar (2008).

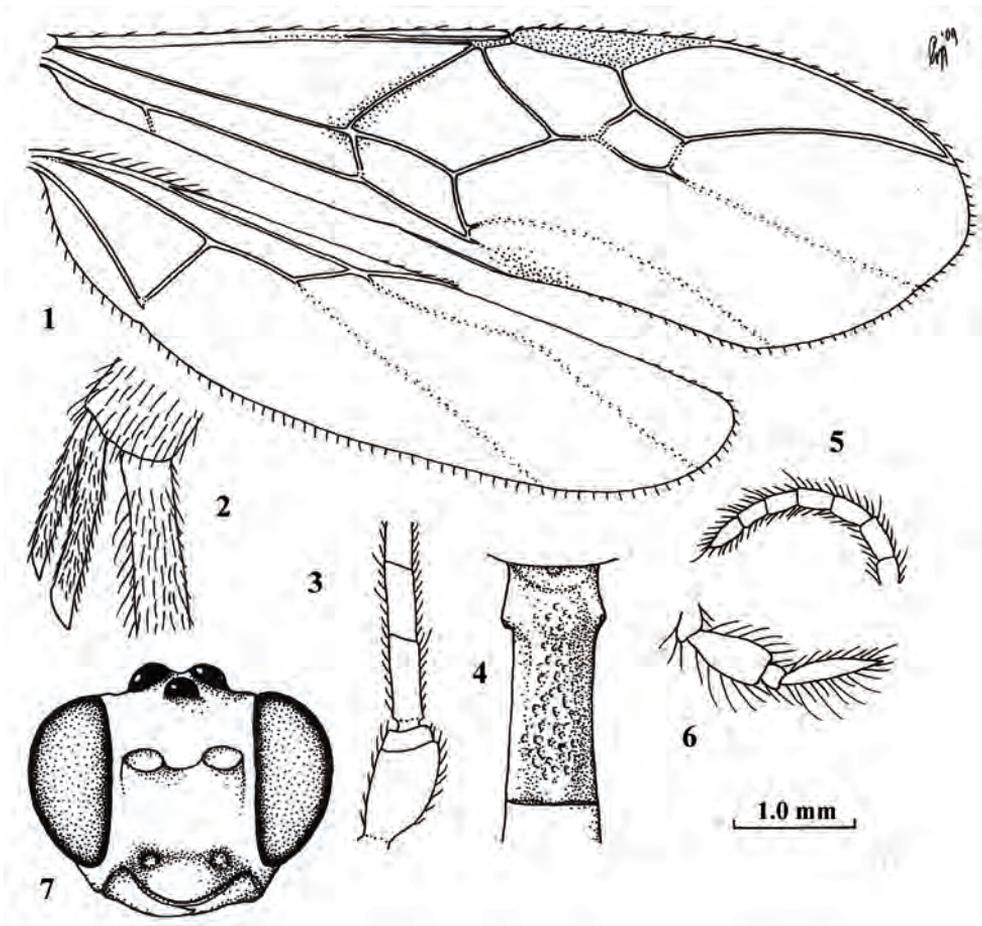
For the terminology used in this paper, see van Achterberg (1988, 1993), for the identification of *Homolobus* species, see van Achterberg (1979), of *Dinotrema* species, see Fischer (1976, if vein 2-SR of fore wing is sclerotised and 2003, if vein 2-SR of fore wing is unsclerotised or absent ("*Synaldis*")) and of *Orthostigma* species, see Fischer (1995).

### Descriptions of new species

#### *Homolobus (Apatia) madeirensis* spec. nov.

(figs 1-7)

Material.— Holotype, ♀ (RMNH), "Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 14, light trap 2, 12-16.viii.2004, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar". Paratypes (3 ♀♀ + 9 ♂♂): 2 ♂♂ (RMNH), id.; 2 ♂♂ (RMNH), id., but no. 18, 26-31.viii.2004; 1 ♂ (UMa), id., but no. 16, 16-19.viii.2004; 1 ♂ (UMa), id., but no. 10, light trap 1, 26-29.vii.2004; 1 ♀ (UMa), "Portugal: Madeira, Curral das Freiras, near Fajã Escura, 678 m, no. 3, light trap 1, 16-23.ix.2004, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar"; 1 ♂ (RMNH), "Portugal: Madeira, Curral das Freiras, Colmeal, 730 m, light trap, no. 55, v-vii.1998, T. Pontes"; 1 ♂ (UMa), "Portugal: Madeira, Curral das Freiras, near Fajã Escura, 678 m, no. 2, light trap 1, 23-30.ix.2004, T. Pontes"; 1 ♀ (UMa), id., but no. 6, 7-14.x.2004; 1 ♀ (RMNH), "Portugal: Madeira, Curral das Freiras, near Levada do Curral, 490 m, no. 8, light trap 2, 26-31.viii.2004, T. Pontes"; 1 ♂ (ICLAM), "Portugal: Madeira, Serra de Água, Pinheiro, 400 m, no. 12, yellow pan trap, 2.viii.2005, J. Jesus, C. Brazão & A. Aguiar".



Figs 1-7. *Homolobus madeirensis* spec. nov., holotype, ♀, but 2 of ♂ paratype. 1, wings; 2, hind tibial spurs; 3, base of antenna; 4, first metasomal tergite, dorsal aspect; 5, apex of antenna; 6, labial palp; 7, head, frontal aspect. 1: 1.0 × scale-line; 2: 4.5 ×; 3, 5, 6: 3.0 ×; 4, 7: 2.0 ×.

Holotype, ♀, length of body 8.0 mm, of fore wing 7.5 mm.

Head.— Antenna with 47 segments, length of third segment 1.2 times fourth segment, third, fourth and both penultimate segments 3.5, 3.0, 1.7 and 1.4 times their maximum width (figs 3, 5); length of fourth segment of labial palp 4.0 times its third segment (fig. 6), with several long setae; length of maxillary palp 1.1 times height of head; eyes slightly emarginate; in dorsal view length of eye 1.7 times length of temple; temples gradually narrowed behind eyes; stemmaticum strongly protruding; OOL:diameter of posterior ocellus:POL = 3:5:3, OOL punctulate; frons flattened and coarsely rugose; vertex nearly flat and punctulate; face flattened, finely punctate, medio-dorsally with oblique striae; clypeus smooth except a few punctures medio-ventrally and rather flat, without distinct ventral lamella; mandibular sockets reaching lower level of eyes (fig. 7);

length of malar space 0.4 times basal width of mandible; length of eye 10.5 times length of malar space.

Mesosoma.— Length of mesosoma 1.5 times its height; side of pronotum largely coarsely punctate-crenulate medially and posteriorly, antero-ventrally reticulate-punctate and remainder largely smooth; epicnemial area coarsely punctate dorsally; precoxal sulcus widely coarsely reticulate-punctate; below speculum punctate and remainder of mesopleuron largely smooth; metapleural flange rather large, obtuse; ventral half of metapleuron coarsely punctate-reticulate, remainder smooth; mesosternal sulcus narrow, finely crenulate; notauli rather deep, wide, posterior half obliquely crenulate; mesoscutum setose and punctulate; medio-posterior depression of scutellum wide and crenulate; propodeum mainly smooth anteriorly, with short median carina and remainder rugose, with a few coarse transverse rugae.

Wings.— Fore wing (fig. 1): r slightly shorter than width of pterostigma; SR1 weakly curved; r:3-SR:SR1 = 10:14:67; 2-SR:3-SR:r-m = 14:14:9; vein m-cu antefurcal by length of r-m; cu-a inclivous, interstitial (left wing) or shortly postfurcal, 1-CU1:2-CU1 = 1:26 (right wing) and 1-CU1 distinctly widened; 2A straight, inclivous, and basally sclerotized; area basally of 2A mainly glabrous. Hind wing: SR sinuate, maximum apical width of marginal cell of fore wing 3.3 times its minimum width (fig. 1); r absent; SC+R1 weakly curved; 1-M twice as long as 1r-m.

Legs.— Hind coxa largely smooth, but punctulate and medio-dorsally coarsely and densely punctate-rugose; tarsal claws simple, setose; fore femur 5.2 times longer than wide; length of femur, tibia and basitarsus of hind leg 8.3, 10.2 and 8.4 times their maximum width; hind tibial spurs 0.45 and 0.60 times as long as hind basitarsus.

Metasoma.— First tergite subparallel-sided, its length 3.1 times its apical width, posterior half of its surface moderately coarsely irregularly rugose (but apically narrowly smooth) and remainder smooth (fig. 4), dorsal carinae absent; ovipositor sheath wide, obtuse apically, hardly protruding (retracted), 0.03 times as long as fore wing (in paratypes fully visible and 0.07 times as long).

Colour.— Yellowish-brown; basal half of antenna (except scapus ventrally), stemmaticum, lateral lobes of mesoscutum, scutellum posteriorly, metanotum posteriorly, pterostigma and veins largely dark brown; head largely, middle lobe of mesoscutum, apex of metasoma, hind trochantellus, femur, tibia and tarsus infusate; wing membrane weakly infusate, but distinctly so near veins 1-M and 1-CU1.

Male.— Similar to female but hind tibial spurs obtuse and sclerotized apically (fig. 2).

Variation.— Antenna of ♀ with 46 (1) or 47 (1) segments, and of ♂ 45 (4) or 46 (3) segments; length of fore wing 5.5-7.8 mm, and of body 6.3-8.0 mm; length of hind femur of ♀ 6.1-8.3 times its width; head often largely yellowish; first tergite largely to only subapically rugose; clypeus usually completely smooth; pterostigma brown to dark brown; first and second tergites yellowish-brown to dark brown.

Notes.— Runs in the key by van Achterberg (1979) to *H. truncator* (Say, 1828) because of the short third segment of the labial palp, but it differs by having the lateral lobes of the mesoscutum largely dark brown (yellowish-brown in *H. truncator*), vein cu-a of fore wing oblique (subvertical), frons distinctly rugose (largely smooth), scapus dorsally similarly coloured as third antennal segment (distinctly paler), hind femur infusate or brown (yellowish-brown), pterostigma and veins of both wings largely dark

brown or brown (pale brown or brownish-yellow) and wing membrane of ♀ infuscate, especially near veins 1-M and 1-CU1 of fore wing (subhyaline).

*Dinotrema brunneicornis* spec. nov.  
(figs 8-17)

Material.— Holotype, ♀ (RMNH), "Portugal: Madeira, Curral das Freiras, North side of Pico da Ginda, 800 m, no. 23, yellow pan trap, 31.x.2005, A. Aguiar, C. Brazão & J. Jesus".

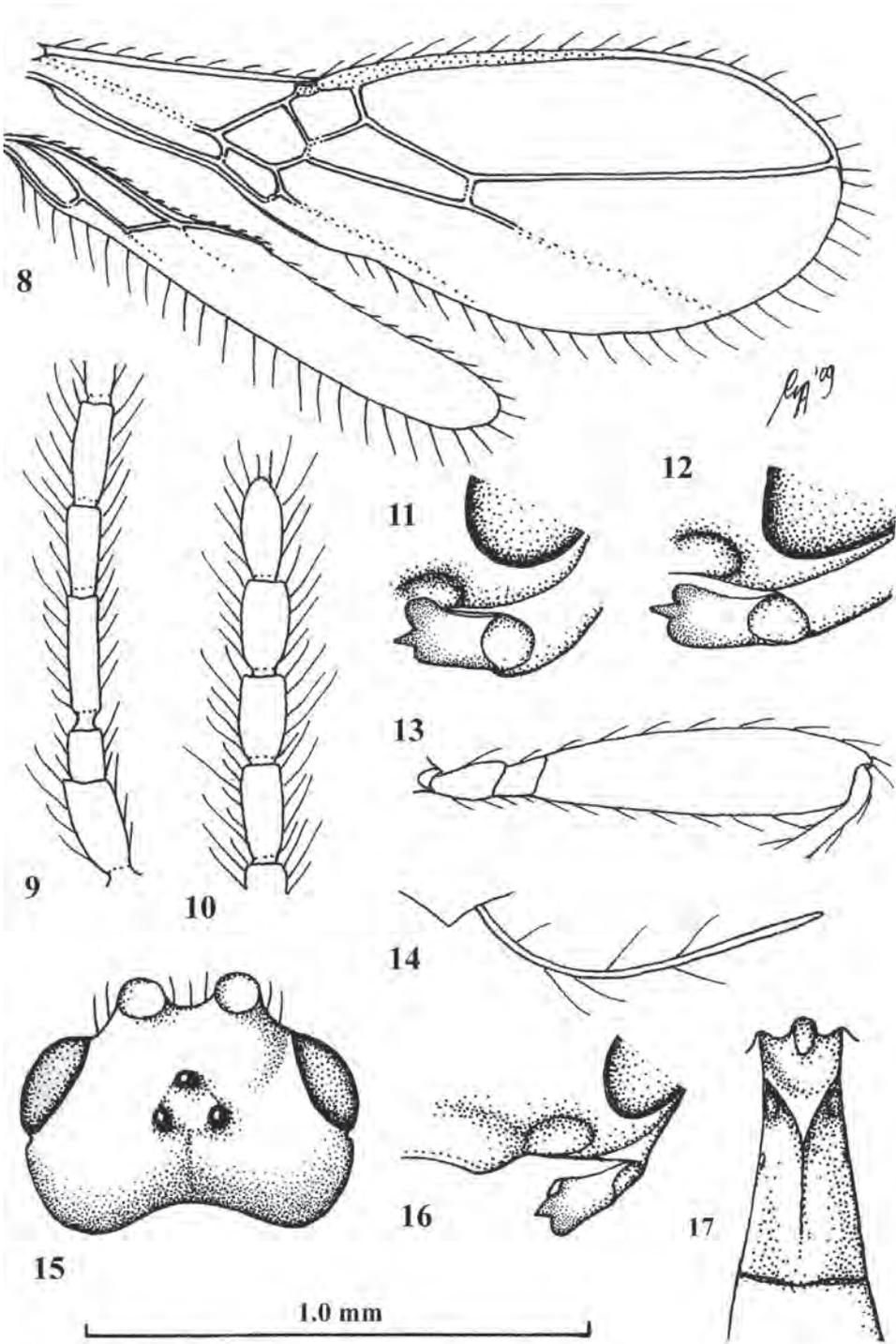
Holotype, ♀, length of fore wing 1.5 mm, and of body 1.3 mm.

Head.— Head 1.6 times wider than long medially in dorsal view and subparallel-sided behind eyes (fig. 15), 1.4 times as wide as mesoscutum; antenna with 16 segments, 0.8 times as long as fore wing, its bristly and erect setae slightly longer than width of segments (figs 9, 10), third segment distinctly narrower than middle segments and 1.5 times longer than fourth segment, third, fourth and penultimate segments 4.0, 2.3 and 2.0 times as long as wide, respectively; maxillary and labial palp with 5 and 3 segments, respectively; length of maxillary palp 0.6 times height of head; face smooth, strongly convex, medially with indistinct elevation and with many erect upward directed long setae; clypeus convex and smooth, with several long setae; distance between eye and anterior tentorial pit 0.5 times diameter of pit, pit large elliptical (fig. 16); frons rather flat, smooth; vertex convex, smooth and largely glabrous; eye as long as temple in dorsal view; OOL: diameter of posterior ocellus: POL = 11:4:4; length of malar space 0.5 times basal width of mandible, malar space with distinct oblique depression; mandible 1.4 times longer medially than its maximum width, with a slender medium-sized middle tooth, dorsal tooth rather up curved and obtuse and ventral tooth medium-sized and lobe-shaped (figs 11, 12).

Mesosoma.— Length of mesosoma 1.3 times as long as high; pronotal side smooth except distinctly crenulate oblique sulcus and some crenulae posteriorly; mesopleuron smooth except for a short crenulate precoxal sulcus medially; pleural sulcus smooth; metapleuron largely smooth except few rugae postero-ventrally and largely glabrous; mesoscutum smooth, largely setose (except sublaterally) and with a distinct linear medio-posterior depression; notauli absent on mesoscutal disc, laterally only with a weak carina and crenulae; scutellum distinctly convex, smooth and largely glabrous; propodeum with somewhat protuberant medium-sized spiracle, with a short indistinct median carina connected to two curved branches, medially between branches largely smooth and weakly rugulose sublaterally.

Wings.— Fore wing: pterostigma linear, twice as wide as 1-R1 and not well separated, part of pterostigma in front of r as long as r (fig. 8); SR1 straight and nearly to apex of wing; r:3-SR:SR1 = 5:17:51; cu-a short, just postfurcal; 1-CU1:2-CU1 = 2:7; 2-SR:3-SR:r-m = 5:10:2; 2-SR slightly pigmented but rather sclerotised; m-cu distinctly postfurcal and strongly converging to 1-M posteriorly; first subdiscal cell medium-sized (fig. 8). Hind wing: M+CU:1-M:r-m = 10:7:4; cu-a short.

Legs.— Hind coxa smooth and largely glabrous; tarsal claws simple and slightly curved; fore tarsal segments medium-sized; length of femur (fig. 13), tibia and basitarsus of hind leg 4.2, 9.4 and 5.5 times as long as wide, respectively; hind tibial spurs 0.2 times as long as hind basitarsus.



**Metasoma.**— First tergite rather convex, glabrous, largely smooth, with weak dorsal carinae united submedially and tergite 2.2 times as long as wide apically (fig. 17); dorsope rather small; second and following tergites smooth and only with a subapical row of setae; length of sparsely setose part of ovipositor sheath 0.17 times fore wing (and 0.20 times pigmented part, about 1.5 times as long as first tergite), sheath rather slender and with few long setae (fig. 14).

**Colour.**— Dark chestnut brown; antenna, metasoma, pterostigma and most veins brown; palpi, annellus, tegulae, fore and middle coxae, trochanters and trochantelli and base of tibiae pale yellowish; remainder of legs brownish-yellow, but telotarsi and base and apex of hind tibia slightly darkened; wing membrane subhyaline.

**Notes.**— Does not fit to any species in the key by Fischer (1976). The colour of the antenna and of the metasoma is singling this species out among West Palaearctic species, in addition to the low number of antennal segments and the slender shape of the antennal segments.

*Dinotrema glabriscutum* spec. nov.  
(figs 18-27)

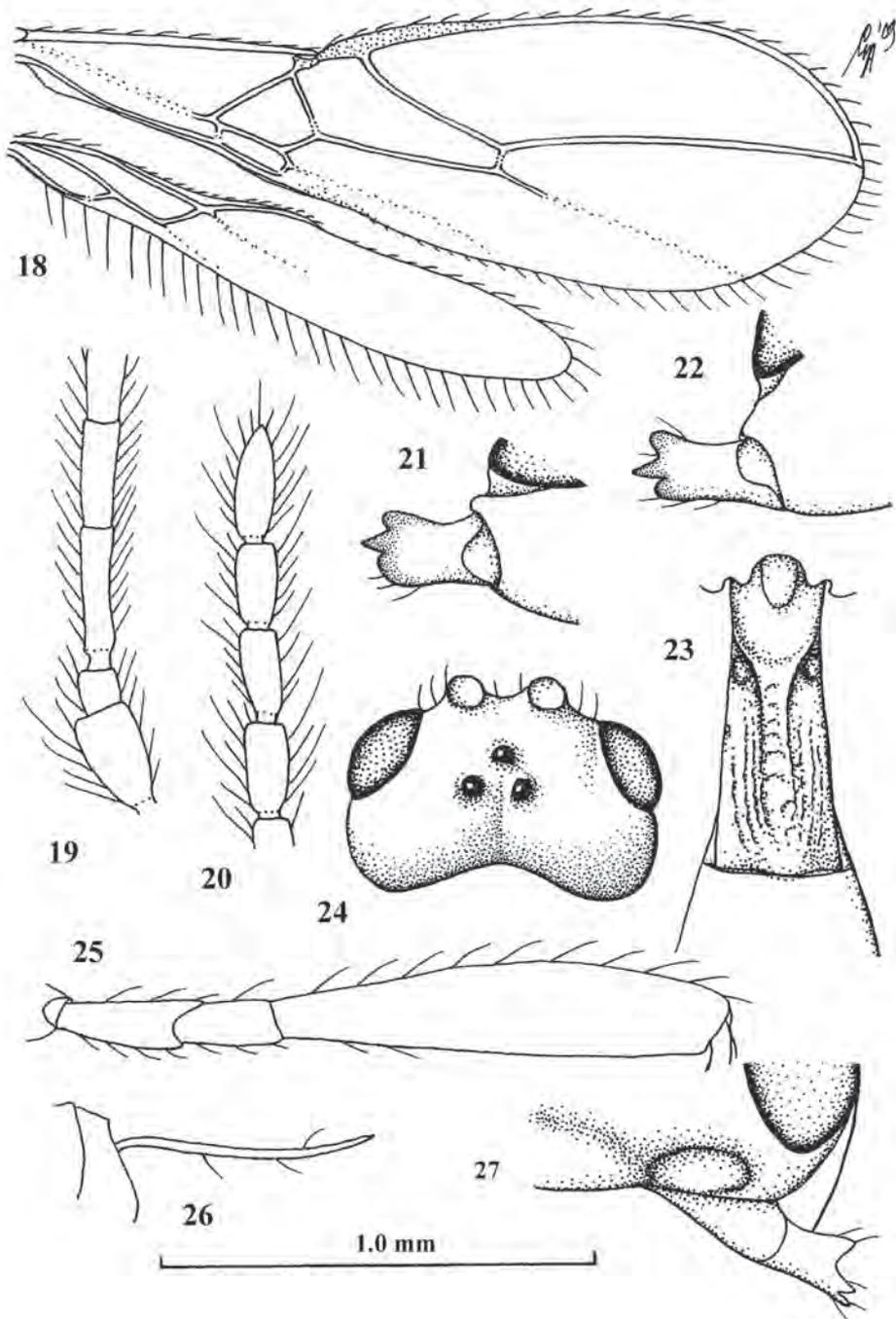
**Material.**— Holotype, ♀ (RMNH), "Portugal: Madeira, Serra de Água, Pinheiro, 400 m, no. 10, yellow pan trap, 11.x.2005, A. Aguiar, C. Brazão & J. Jesus".

Holotype, ♀, length of fore wing 1.9 mm, and of body 1.8 mm.

**Head.**— Head 1.7 times wider than long medially in dorsal view and slightly widened behind eyes (fig. 24), 1.5 times as wide as mesoscutum; antenna with 17 segments, 0.8 times as long as fore wing, its bristly and erect setae about as long as width of segments (figs 19, 20), third segment distinctly narrower than middle segments and 1.3 times longer than fourth segment, third, fourth and penultimate segments 3.3, 2.7 and 2.1 times as long as wide, respectively; maxillary and labial palp with 5 and 4 segments, respectively; length of maxillary palp 0.8 times height of head; face smooth, strongly convex, medially with indistinct elevation and with many erect upward directed long setae; clypeus convex and smooth, with several long setae; distance between eye and anterior tentorial pit 0.3 times diameter of pit, pit large elliptical (fig. 27); frons rather flat, smooth; vertex convex, smooth and largely glabrous; eye 1.1 times as long as temple in dorsal view; OOL:diameter of posterior ocellus:POL = 6:2:3; length of malar space 0.9 times basal width of mandible, malar space with distinct oblique depression; mandible 1.4 times longer medially than its maximum width, distinctly widened subapically, completely smooth and shiny, with a slender medium-sized middle teeth, dorsal tooth gradually up curved and rather acute, ventral tooth medium-sized and lobe-shaped (figs 21, 22).

**Mesosoma.**— Length of mesosoma 1.2 times as long as high; pronotal side smooth except a short carina anteriorly and some crenulae posteriorly; mesopleuron smooth

◀ Figs 8-17. *Dinotrema brunneicornis* spec. nov., holotype, ♀. 8, wings; 9, base of antenna; 10, apex of antenna; 11, mandible, full sight on first tooth; 12, mandible, full sight on third tooth; 13, hind femur, lateral aspect; 14, ovipositor sheath; 15, head, dorsal aspect; 16, anterior tentorial pit; 17, first metasomal tergite, dorsal aspect. 8: 1.0 × scale-line; 9-14, 16, 17: 2.5 ×; 15: 1.9 ×.



Figs 18-27. *Dinotrema glabriscutum* spec. nov., holotype, ♀. 18, wings; 19, base of antenna; 20, apex of antenna; 21, mandible, full sight on third tooth; 22, mandible, full sight on first tooth; 23, first metasomal tergite, dorsal aspect; 24, head, dorsal aspect; 25, hind femur, lateral aspect; 26, ovipositor sheath; 27, anterior tentorial pit. 18: 1.0 × scale-line; 19-23, 25, 27: 2.5 ×; 24, 26: 1.5 ×.

except for a medium-sized crenulate precoxal sulcus medially, sulcus absent anteriorly and posteriorly; pleural sulcus smooth; metapleuron largely smooth except few rugae postero-ventrally and largely glabrous; mesosternal sulcus wide and coarsely crenulate; mesoscutum smooth, largely glabrous, except some long setae near notaulic courses and with a distinct linear medio-posterior depression; notauli absent on mesoscutal disc, laterally only with a weak carina and crenulae; scutellar sulcus with one distinct vertical carina; scutellum distinctly convex, smooth and largely glabrous; propodeum with somewhat protuberant medium-sized spiracle, anteriorly with a distinct medium-sized median carina connected to complete costulae, medio-posteriorly with a weak and irregular carina, remainder of posterior face partly smooth and with irregular rugulae.

Wings.— Fore wing: pterostigma linear, twice as wide as 1-R1 and not well separated, r not differentiated because of total absence of 2-SR (fig. 18); SR1 straight and to apex of wing; r+3-SR:SR1:r-m = 15:30:2; cu-a short and just postfurcal; 1-CU1:2-CU1 = 1:9; m-cu probably postfurcal and strongly converging to 1-M posteriorly; first subdiscal cell rather large (fig. 18); 1-M straight. Hind wing: M+CU:1-M:r-m = 4:3:2; cu-a short.

Legs.— Hind coxa smooth and outer side with long setae; tarsal claws simple and slightly curved; fore tarsal segments medium-sized; length of femur (fig. 25), tibia and basitarsus of hind leg 4.3, 10.3 and 8.0 times as long as wide, respectively; comb at inner apex of hind tibia large; hind tibial spurs 0.3 times as long as hind basitarsus.

Metasoma.— First tergite rather convex, glabrous, posterior half largely coarsely rugose, with dorsal carinae up to middle of tergite and tergite 2.2 times as long as wide apically (fig. 23); dorsope large; second and following tergites smooth and only with a subapical row of setae; length of very sparsely setose part of ovipositor sheath 0.17 times fore wing (and 0.21 times pigmented part, which is about 1.5 times as long as first tergite) and sheath rather slender (fig. 26).

Colour.— Dark brown or blackish (including first metasomal tergite); scapus and pedicellus brown, remainder of antenna, propleuron, clypeus, pterostigma and most veins rather dark brown; palpi, trochanters and trochantelli pale yellowish; tegulae and remainder of legs (but telotarsi infuscate) brownish-yellow; wing membrane subhyaline.

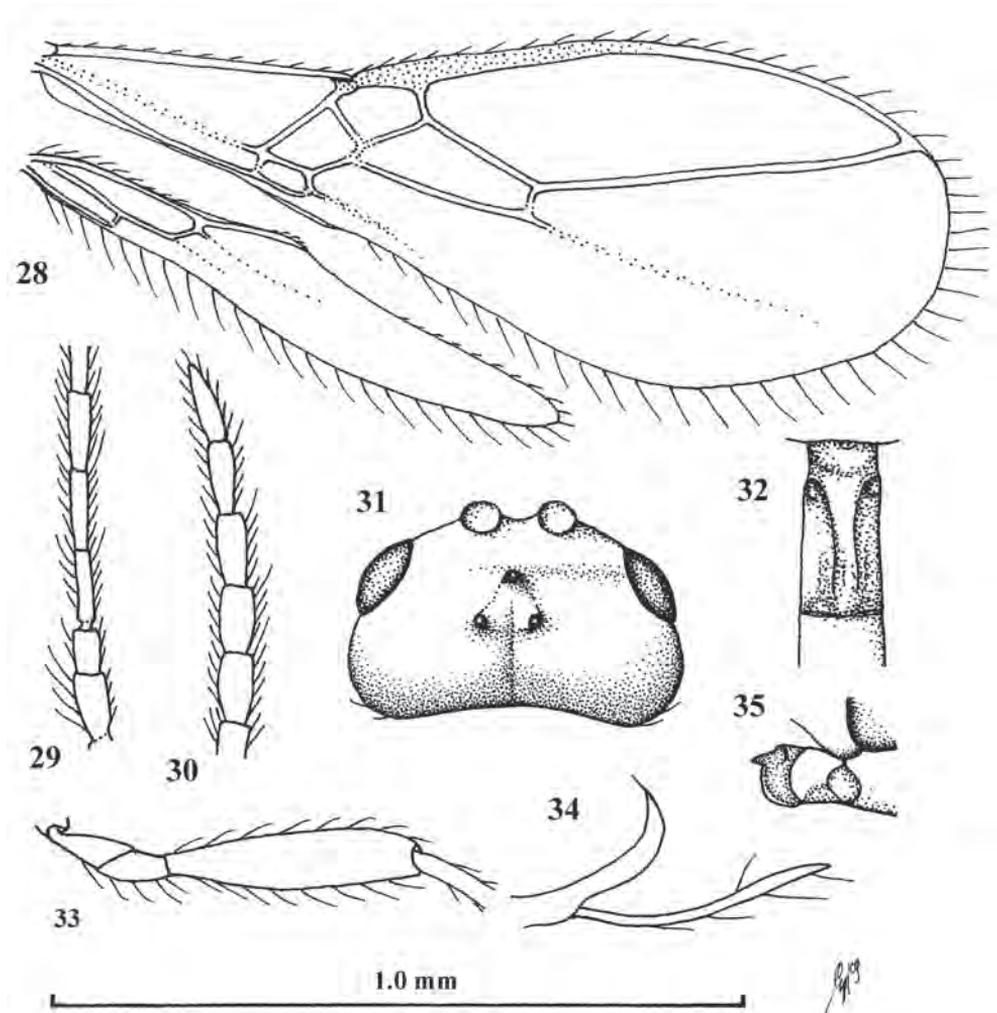
Notes.— Runs in the key by Fischer (2003) to "*Synaldis*" *tothi* Fischer, 1993, from Georgia. However, this species has the mesoscutum setose anteriorly, the propodeum more slender and largely smooth (only a regular median carina and costulae), the head parallel-sided laterally, the mandible about as wide as long medially, the antenna (of ♂!) with about 21 segments, the first metasomal tergite smooth, vein 1-M of the fore wing curved, vein cu-a of the fore wing long and the marginal cell of the fore wing wider.

*Orthostigma minusculum* spec. nov.  
(figs 28-35)

Material.— Holotype, ♀ (RMNH), "Portugal: Madeira, Curral das Freiras, North side of Pico da Ginda, 800 m, no. 21, yellow pan trap, 9.viii.2005, A. Aguiar, C. Brazão & J. Jesus". Paratype, 1 ♀ (RMNH), "Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 66, Moericke trap, 7.viii.2006, A. Aguiar, C. Brazão & J. Jesus".

Holotype, ♀, length of fore wing 1.1 mm, and of body 1.0 mm.

Head.— Head 1.5 times wider than long medially in dorsal view and somewhat



Figs 28-35. *Orthostigma minusculum* spec. nov., holotype, ♀. 28, wings; 29, base of antenna; 30, apex of antenna; 31, head, dorsal aspect; 32, first metasomal tergite, dorsal aspect; 33, hind femur, lateral aspect; 34, ovipositor sheath; 35, mandible. 28: 1.0 × scale-line; 29-35: 1.5 ×.

widened behind eyes (fig. 31), 1.6 times as wide as mesoscutum; antenna with 14 moderately setose segments, 0.9 times as long as fore wing, third segment distinctly narrower than middle segments and as long as fourth segment, third, fourth and penultimate segments 3.7, 3.7 and 2.2 times as long as wide, respectively (figs 29, 30); maxillary and labial palp with 6 and 4 segments, respectively; length of maxillary palp 0.7 times height of head; face smooth, strongly convex, medially with small elevation and with few upwards directed setae; oblique groove between antennal socket and eye distinct; clypeus convex and smooth, with few rather long setae; distance between eye and anterior tentorial pit 1.5 times diameter of pit; frons rather flat, smooth; vertex convex, smooth and largely glabrous; eye as long as temple in dorsal view; OOL:diameter of

posterior ocellus:POL = 7:2:3; length of malar space 0.6 times basal width of mandible, malar space with short vertical suture; mandible 1.7 times longer medially than its maximum width, with 2 slender medium-sized teeth, ventral tooth about as wide as both teeth together and convex apically (fig. 35).

Mesosoma.— Length of mesosoma 1.2 times as long as high; pronotal side smooth except for some short crenulae; mesopleuron smooth except for subvertical crenulate narrow groove anteriorly and medially with narrow crenulate precoxal sulcus; pleural sulcus smooth; metapleuron largely smooth except few rugae postero-ventrally and largely glabrous; mesoscutum smooth, largely glabrous and with an obsolescent medio-posterior round depression; notauli absent on mesoscutal disc, laterally only with a weak carina; scutellum distinctly convex, smooth and setose; propodeum weakly rugulose and with a curved transverse carina subbasally.

Wings.— Fore wing: 1-SR short; pterostigma linear, twice as wide as 1-R1, part of pterostigma in front of r as long as r, pterostigma 0.9 times as long as 1-R1; SR1 straight and nearly to apex of wing (fig. 28); r: 3-SR:SR1 = 3:10:29; cu-a obsolescent, subinterstitial; 2-SR: 3-SR:r-m = 5:10:2; m-cu distinctly postfurcal and weakly converging to 1-M posteriorly; first subdiscal cell long (fig. 28). Hind wing: M+CU:1-M:r-m = 5:3:2; cu-a short.

Legs.— Hind coxa smooth and largely glabrous; tarsal claws simple and nearly straight; fore tarsal segments medium-sized; length of femur (fig. 33), tibia and basitarsus of hind leg 3.6, 9.0 and 6.5 times as long as wide, respectively; hind tibial spurs 0.2 times as long as hind basitarsus.

Metasoma.— First tergite rather flat, largely smooth, with nearly complete dorsal carinae and tergite 2.1 times as long as wide apically (fig. 32); dorsope rather small; second and following tergites smooth and only with a subapical row of setae; length of very sparsely setose part of ovipositor sheath 0.15 times fore wing (and 0.20 times pigmented part of sheath, about 1.5 times as long as first tergite), sheath rather slender and with few long setae (fig. 34).

Colour.— Rather dark brown (including palpi, antenna, but pedicellus partly yellowish and most of legs); metasoma (including first tergite) brown; humeral plate, trochantelli, base of femora and of tibiae and three basal segments of hind tarsus brownish-yellow; pterostigma and most veins brown; wing membrane subhyaline.

Variation.— Paratype has 16 antennal segments, its fourth segment 3.1 times as long as wide, length of fore wing 1.4 mm and of body 1.5 mm, head 1.5 times wider than mesoscutum, first metasomal tergite 2.0 times as long as its apical width, length of setose part of ovipositor sheath 0.20 times fore wing and 1.7 times as long as first tergite and the medio-posterior depression of the mesoscutum distinct, narrow elliptical.

Notes.— Similar to *O. maculipes* (Haliday, 1838) but it has the hind tibia largely yellowish, the antenna of ♀ with 15-19 segments and the pterostigma somewhat wider. It runs in the key by Fischer (1995) to *O. robusticeps* Fischer, 1995, from Asian Turkey. However, *O. robusticeps* has the scutellar sulcus crenulate beside the median carina, the head 1.3 times wider than the mesoscutum, the antenna of the ♀ with about 18 segments, its fourth segment about 2.8 times as long as wide, the scapus and legs yellowish and the ovipositor sheath about as long as the first metasomal tergite. Similar to *O. impunctatum* Fischer, 1995, from Asian and European Turkey because of the reduced medio-posterior depression, but unfortunately the female is unknown. *O. impunctatum* differs by the yellowish scapus, legs and first metasomal tergite, the

more robust second submarginal cell of the fore wing, the lack of the medio-posterior depression of the mesoscutum, the anteriorly crenulate precoxal sulcus, the slightly curved vein SR1 of fore wing, the more transverse stemmaticum and the strongly converging vein m-cu to vein 1-M.

*Phaedrotoma flaveola* spec. nov.  
(figs 36-43)

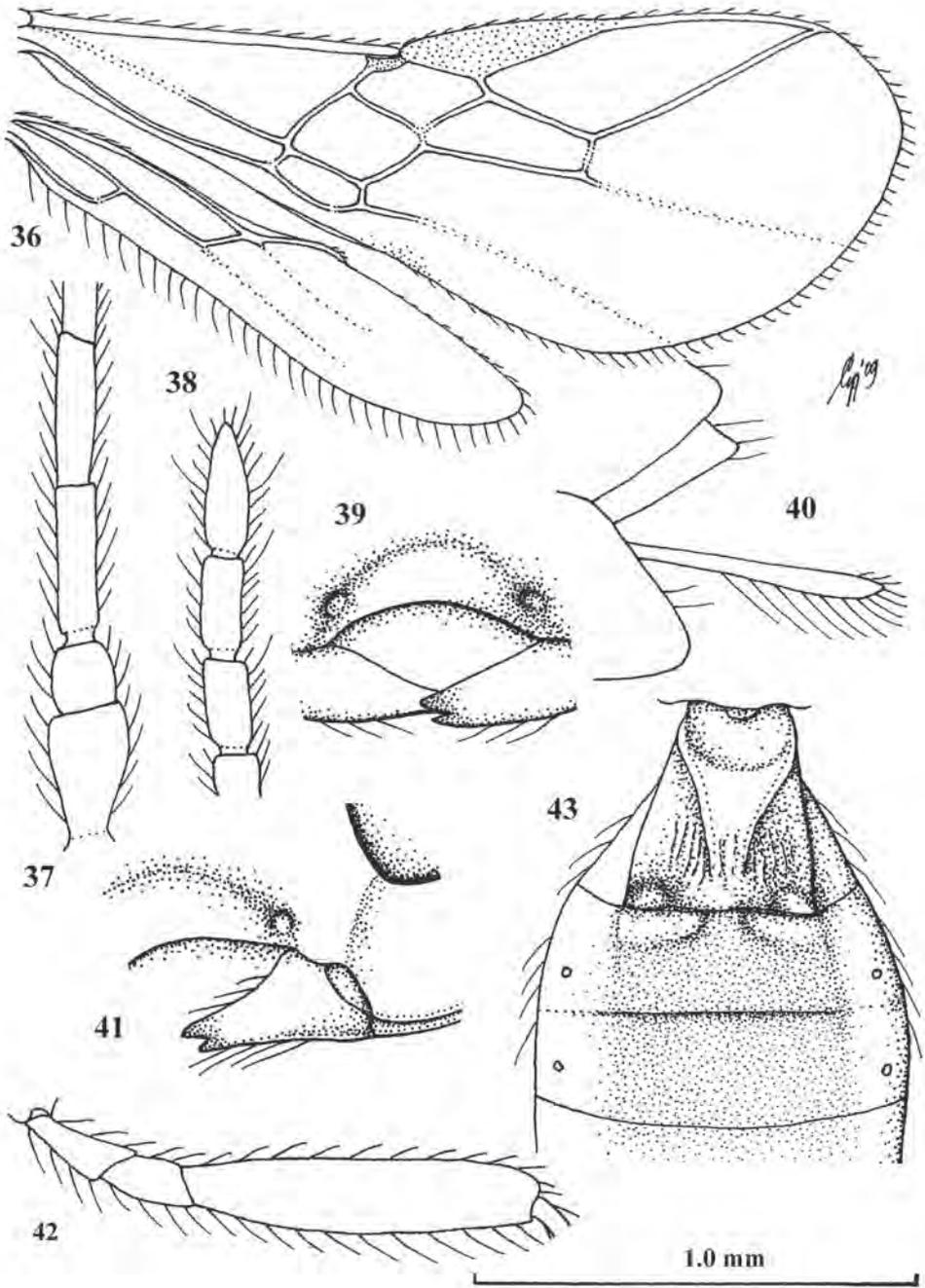
Material.— Holotype, ♀ (RMNH), "Portugal: Selvagens Isl., Selvagem Grande, 27.ii.2004, no. 81, I. Silva, Madeira Nature Park Service".

Holotype, ♀, length of body 2.1 mm, of fore wing 2.0 mm.

Head.— Antenna with segments 20 and 1.1 times as long as fore wing and about as long as body, segments densely and rather adpressed setose, length of third segment 1.1 times fourth segment, length of third, fourth and penultimate segments 2.7, 2.5 and 2.0 times their width, respectively (figs 37, 38); length of maxillary palp 0.7 times height of head; occipital carina remain far removed hypostomal carina near mandibular base; occipital carina completely absent dorsally and rather weakly developed laterally; length of eye in dorsal view 2.4 times temple, temples roundly narrowed behind eyes; OOL:diameter of ocellus: POL = 5:2:6; frons smooth, with shallow triangular depression in front of anterior ocellus; vertex smooth, convex, sparsely setose; face rather sparsely long setose, smooth, distinctly convex medially; clypeus moderately convex, largely smooth; width of clypeus 3.2 times its maximum height, and 0.65 times width of face, its ventral margin not differentiated, thin (fig. 39); hypoclypeal depression wide; malar suture slightly developed; length of malar space 0.8 times basal width of mandible; mandible hardly twisted apically, with two large teeth and with a weak ventral carina (fig. 41).

Mesosoma.— Length of mesosoma 1.2 times its height; pronope medium-sized but rather shallow, round; pronotal sides smooth, with medial and posterior grooves; mesosternal suture deep and narrow, smooth; mesosternum mainly glabrous except for medio-posterior triangular area; epicnemial area smooth; precoxal sulcus shallowly impressed but smooth, mesopleuron smooth and only laterally with some setae; pleural sulcus mainly smooth; episternal scrobe distinct, sublinear; metapleuron smooth, with long setae; notauli distinctly developed on anterior third of mesoscutum only and smooth; mesoscutum smooth and no medio-posterior depression, largely glabrous except for some setae near imaginary notaulic courses, in front of tegulae no lateral carina; scutellar sulcus medium-sized and distinctly crenulate; scutellum flat and glabrous, with a narrow and shallow transverse depression subposteriorly and area behind it smooth and convex; side of scutellum largely smooth; surface of propodeum largely smooth except some short crenulae posteriorly.

Wings.— Fore wing: pterostigma slender triangular, and gradually narrowed apically and 1.2 times as long as 1-R1 (fig. 36); distance from apex of 1-R1 to apex of fore wing about 0.5 times 1-R1; r widened and linearly connected to 3-SR; r: 3-SR:SR1 = 2:13:39; 2-SR:3-SR:r-m = 13:19:6; 1-M straight; SR1 nearly straight; m-cu just postfurcal; basal half of M+CU1 unsclerotized; cu-a postfurcal by about diameter of vein; first subdiscal cell closed, 3-CU1:CU1b = 3:2. Hind wing: M+CU:1-M:1r-m = 20:16:7; cu-a weakly curved; m-cu absent.



Figs 36-43. *Phaedrotoma flaveola* spec. nov., holotype, ♀. 36, wings; 37, base of antenna; 38, apex of antenna; 39, clypeus, anterior aspect; 40, ovipositor sheath; 41, mandible; 42, hind femur, lateral aspect; 43, first-third metasomal tergites, dorsal aspect. 36: 1.0 × scale-line; 37-39, 41: 2.5 ×; 40, 42, 43: 1.5 ×.

Legs.— Hind coxa smooth and long setose; femur, tibia and basitarsus of hind leg 4.8, 10.4 and 5.3 times as long as wide, respectively; hind trochanter slightly longer than trochantellus (fig. 42); hind femur smooth and with long setae (fig. 42); hind tibia adpressed setose; tarsal claws simple, setose and apically slightly curved; tibial spurs 0.3 times hind basitarsus.

Metasoma.— Length of first tergite equal to its apical width, its surface mainly smooth, laterally and posteriorly partly depressed, largely glabrous and dorso-lateral carinae distinctly developed, dorsal carina connected to short rugae, converging and nearly up to apex of tergite (fig. 43), basally flat, medially elevated but rather flattened, its spiracles submedially and not protruding; dorsope absent; laterope present; second and third tergites very superficially granulate (fig. 43), shiny and without lateral crease; second suture distinct but rather shallow; setae more or less in one row per tergite; length of setose part of ovipositor sheath 0.14 times fore wing, slightly protruding beyond apex of metasoma (fig. 40).

Colour.— Yellowish-brown; scapus and pedicellus dorsally, remainder of antenna (except base of third tergite), scutellum laterally and posteriorly, wide ventral band of mesopleuron, anterior subalar depression dark brown; palpi and tegulae pale yellowish; face, clypeus and legs brownish-yellow; pterostigma, most veins, mesopleuron posteriorly, propodeum and metasoma brown; wing membrane subhyaline.

Biology.— Unknown.

Distribution.— Selvagens Islands.

Notes.— Runs to *P. gafaensis* (Fischer, 1964), but this species has the body black and about 1.3 mm long, the first subdiscal cell widely open apically, the marginal cell of fore wing elliptical, the first tergite smooth, vein r of fore wing more basally issued from the pterostigma and slender, and vein m-cu of fore wing slightly postfurcal.

#### *Meteorus pendulus* (Müller, 1776)

Notes.— This species has been reported before as *Meteorus gyrator* (Thunberg, 1822) from Madeira and we have seen it mainly from Jardim da Serra (Boca da Corrida, 1205 m), with one female from Serra de Água (Pinheiro, 400 m). It is a junior synonym of *M. pendulus* (Müller, 1776) and *M. pendulator* (Latreille, 1799) is an invalid emendation of the latter (Yu et al., 2005). It is a common Holarctic species, known from Nearctic region and from the Azores in the Palaearctic region as *Meteorus communis* (Cresson, 1872), which is considered to be a synonym of *M. pendulus* (Müller, 1776) **syn. nov.**

### Species new for Madeira Islands

#### *Dacnusa sibirica* Telenga, 1935

Material.— 1 ♀ (RMNH), "Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 67, Moericke [= yellow pan] trap, 22.viii.2006, A. Aguiar, C. Brazão & J. Jesus".

Notes.— Widespread Palaearctic and Oriental species and used for biocontrol of *Liriomyza* species in greenhouses.

*Dinotrema lineolum* (Thomson, 1895)

Material.— 1 ♀ + 1 ♂ (RMNH, UMa), “Portugal: Madeira, Serra de Água, Achada, 550 m, no. 50 & 52, light trap, v-vii.1998, T. Pontes”.

Notes.— Widespread but rarely collected in Europe. New for Portugal and Madeira.

*Dinotrema tenerifense* (Fischer, 2003)

Material.— 1 ♀ (ICLAM), “Portugal: Madeira, Serra de Água, Pinheiro, 400 m, no. 9, yellow pan trap, 11.x.2005, A. Aguiar, C. Brazão & J. Jesus”; 1 ♀ (RMNH), “Portugal: Madeira, Curral das Freiras, North side of Pico da Ginda, 800 m, no. 23, yellow pan trap, 31.x.2005, A. Aguiar, C. Brazão & J. Jesus”.

Notes.— Endemic to the Canary and Madeira Islands. Conspicuous because of the erect setae of the antennal segments (about as long as width of segments), the widened mandible with slender second tooth and the rather large propodeal spiracle.

*Pauesia picta* (Haliday, 1834)

Material.— 1 ♀ + 1 ♂ (RMNH, UMa), “Portugal: Madeira, Serra de Água, Achada, 550 m, no. 47 & 51, light trap, v-vii.1998, T. Pontes”.

Notes.— Widespread in Europe and in addition reported from India. New for Portugal and Madeira.

*Trioxys pallidus* Haliday, 1833

Material.— 3 ♀ ♀ (RMNH, ICLAM), “Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 33 (19.vii.2005) & 25 (30.viii.2005), yellow pan trap, A. Aguiar, C. Brazão & J. Jesus”; 1 ♀ (RMNH), “Portugal: Madeira, Curral das Freiras, North side of Pico da Ginda, 800 m, no. 56, Moericke trap, 7.viii.2006, A. Aguiar, C. Brazão & J. Jesus”; 1 ♀ (ICLAM), “Portugal: Madeira, Serra de Água, Pinheiro, 400 m, no. 50, Moericke trap, 17.x.2006, A. Aguiar, C. Brazão & J. Jesus”.

Notes.— Widespread in Europe and reported from Asian, Oriental (India) and Nearctic regions. New for Portugal and Madeira.

*Blacus ruficornis* (Nees, 1811)

Material.— 1 ♀ (ICLAM), “Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 11, light trap 2, 26-29.vii.2004, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar”; 1 ♀ (RMNH), id., but no. 71, Moericke trap, 29.viii.2006, A. Aguiar, C. Brazão & J. Jesus.

Notes.— Known from the Holarctic region (including North Africa and Nepal), where it is the most common species of the genus; it comes rather frequently to light.

*Ascogaster quadridentata* Wesmael, 1835

Material.— 1 ♀ (RMNH), “Portugal: Madeira, Serra de Água, Pinheiro, 400 m, Moericke traps, no. 48, 19.ix.2006, A. Aguiar, C. Brazão & J. Jesus”.

Notes.— Common Palaearctic species that has been introduced in the Nearctic, Neotropical, Australian, Oceanic and Oriental regions. New for the fauna of Madeira and of Portugal.

*Chrysopophthorus petiolus* Chou, 1986

Material.— 1 ♀ (RMNH), "Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 11, light trap 2, 26-29.vii.2004, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar"; 2 ♀♀ (RMNH, UMa), "Portugal: Madeira, Serra de Água, Achada, 550 m,, at light, no. 48, v-vii.1998, T. Pontes".

Notes.— Described from China (Taiwan) and later reported from S. France; Madeira is a further extension west.

*Meteorus affinis* (Wesmael, 1835)

Material.— 1 ♀ (UMa), "Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 11, light trap 2, 26-29.vii.2004, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar"; 1 ♀ (RMNH), "Portugal: Madeira, Jardim da Serra, Boca da Corrida, 1205 m, light trap 1, no 10, 26-29.vii.2004, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar"; 1 ♀ (ICLAM), "Portugal: Madeira, Serra de Água, Achada, 550 m, at light, no. 49, v-vii.1998, T. Pontes"; 1 ♀ (RMNH), "Portugal: Madeira, Serra de Água, Pinheiro, 400 m, no. 52, Moericke trap, 24.x.2006, A. Aguiar, C. Brazão & J. Jesus".

Notes.— Known from Europe, Central and East Palaearctic, with an extension to Oriental China (Fujian).

*Spathius erythrocephalus* Wesmael, 1838

Material.— 1 ♀ (RMNH), "Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 44, yellow pan trap, 25.x.2005, A. Aguiar, C. Brazão & J. Jesus".

Notes.— New for Portugal and Madeira. Known from Europe (Austria, Azerbaijan, Belgium, \*Bulgaria (RMNH), Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy (including Sardinia and Sicily), Latvia, \*Netherlands (RMNH), Norway, Poland, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Ukraine and United Kingdom), Israel, Tunisia and Turkey (including European part).

*Apanteles xanthostigma* (Haliday, 1834)

Material.— 1 ♀ (RMNH), "Portugal: Madeira, Curral das Freiras, North side of Pico da Ginda, 800 m, no. 17, yellow pan trap, 9.viii.2005, A. Aguiar, C. Brazão & J. Jesus".

Notes.— Widespread species, known from Europe, N. Africa and Asia. The specimen belongs to the southern form with a very transverse second metasomal tergite and with extensively developed and very fine confluent sculpture on the mesoscutum. The latter is often absent in typical *A. xanthostigma*, but sometimes less extensively present in North European specimens.

*Apanteles tedellae* Nixon, 1961

Material.— 1 ♀ (RMNH), [see coll.]; 1 ♂ (RMNH), “Portugal: Madeira, Curral das Freiras, Colmeal, 730 m, at light, no. 54, 24-31.v.1998, T. Pontes, A. Arraiol & A. Aguiar”; 1 ♂ (RMNH), “Portugal: Madeira, Serra de Água, Pinheiro, 400 m, Moericke trap, no. 54, 16.xi.2006, A. Aguiar, C. Brazão & J. Jesus”.

Notes.— Widespread European species.

*Protapanteles luciana* (Nixon, 1973)

Material.— 1 ♀ (RMNH), “Portugal: Madeira, Serra de Água, Pinheiro, 400 m, no. 2, yellow pan trap, 9.viii.2005, A. Aguiar, C. Brazão & J. Jesus”; 1 ♀ + 2 ♂ ♂ (RMNH, UMa), “Portugal: Madeira, Curral das Freiras, Colmeal, 730 m, at light, no. 54, 55 & 57, v-vii.1998, T. Pontes”.

Notes.— Widespread European species but comparatively rarely collected.

*Protapanteles mygdonia* (Nixon, 1973)

Material.— 1 ♀ (RMNH), “Portugal: Madeira, Curral das Freiras, Colmeal, 730 m, at light, no. 57, 6-13.vi.1998, T. Pontes”.

Notes.— Widespread species in Europe but comparatively rarely collected.

*Aleiodes gastritor* (Thunberg, 1822)

Material.— 1 ♀ (RMNH), “Portugal: Madeira, Serra de Água, Achada, 550 m, at light, no. 46, v-vii.1998, T. Pontes, A. Arraiol & A. Aguiar”; 1 ♂ (UMa), “Portugal: Madeira, Curral das Freiras, Colmeal, 730 m, at light, no. 53, v-vii.1998, T. Pontes”.

Notes.— Widespread species in Europe, and one of the most common species of the genus.

*Aleiodes testaceus* (Telenga, 1941)

Material.— 5 ♂ ♂ + 4 ♀ ♀ (RMNH, UMa), “Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 11, light trap 2, 26-29.vii.2004, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar”; 1 ♀ (ICLAM), id., but no. 77, Moericke trap, 24.x.2006, A. Aguiar, C. Brazão & J. Jesus; 6 ♀ ♀ (RMNH), “Portugal: Madeira, Jardim da Serra, Boca da Corrida, 1205 m, no. 10, trap 1, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar”; 1 ♂ (RMNH), id., but no. 16, light trap 2, 16-19.viii.2004; 3 ♂ ♂ + 2 ♀ ♀ (RMNH, UMa), “Portugal: Madeira, Serra de Água, Pinheiro, 400 m, no. 22, light trap 1, 23-26.viii.2004, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar”; 1 ♀ (UMa), id., but no. 23 and 26-31.viii.2004; 1 ♂ + 1 ♀ (UMa), id., but no. 26, trap 16-23.ix.2004; 1 ♂ (RMNH), id., but no. 13, yellow pan trap, 15.xi.2005, A. Aguiar, C. Brazão & J. Jesus; 1 ♀ (RMNH), id., but 30.xi.2006; 1 ♀ + 1 ♂ (RMNH, UMa), “Portugal: Madeira, Serra de Água, Achada, 550 m, light trap, no. 46, v-vii.1998, T. Pontes”; 1 ♂ (RMNH), id., but no. 49; 1 ♂ (RMNH), id., but no. 52; 1 ♂ + 1 ♀ (RMNH, UMa), “Portugal: Madeira, Curral das Freiras, near Fajã Escura, 678 m, no. 1, light trap 1, 26-31.viii.2004, A. Arraiol, E. Freitas, J. Jesus & A. Aguiar”; 1 ♂ (RMNH), id., but no. 2, 23-30.ix.2004; 1 ♀ + 1 ♂ (RMNH, UMa), id., but no. 3, 16-23.ix.2004; 2 ♀ ♀ (RMNH, UMa), “Portugal: Madeira, Curral das Freiras, Colmeal, 730 m, light trap, no. 55, v-vii.1998, T. Pontes”; 1 ♀ (UMa), id., but no. 56.

Notes.— Known from South Europe and C. Asia, but also reported from Hungary, Switzerland and now from Madeira. The number of antennal segments of the females from Madeira varies from 30-32 and of the males from 34-37. This species was originally described in the genus *Heterogamus* Wesmael, 1838, but it does not belong there because of the robust hind trochantellus and shape of the body, the mainly smooth mesopleuron (except dorsally) and the diverging lateral striae of the third metasomal tergite.

*Phaedrotoma exigua* (Wesmael, 1835)

Material.— 2 ♀♀ (RMNH, ICLAM), “Portugal: Madeira, Jardim da Serra, near Eira do Ribeiro, 1292 m, no. 36, yellow pan trap, 26.vii.2005 and 9.viii.2005, A. Aguiar, C. Brazão & J. Jesus”; 1 ♀ (RMNH), id., but 1.viii.2006, Moericke traps, no. 68.

Notes.— New for Madeira and for Portugal. Widespread and common species in the Palaearctic region.

### Checklist of Braconidae from Madeira

Table 1. Checklist of Braconidae known from Madeira Islands. \* = new to fauna of Madeira Islands; + = endemic to Madeira Islands; & = endemic to Madeira and Canary Islands.

#### Alysiinae Stephens, 1829 (39)

*Alysia alticola* Ashmead, 1890  
*Alysia atra* Haliday, 1838  
*Alysia manducator* (Panzer, 1799)  
*Aphaereta minuta* (Nees, 1811)  
*Asobara tabida* (Nees, 1834)  
*Aspilota fuscicornis* (Haliday, 1838)  
 & *Chorebus canariensis* Griffiths, 1967  
*Chorebus cubocephalus* (Telenga, 1934)  
*Chorebus longicornis* (Nees, 1811)  
 + *Chorebus norae* Graham, 1986  
*Dacnusa faeroensis* (Roman, 1917)  
*Dacnusa flavicoxa* Thomson, 1895  
*Dacnusa plantaginis* Griffiths, 1966  
*Dacnusa pubescens* (Curtis, 1826)  
 \* *Dacnusa sibirica* Telenga, 1935  
 + *Dinotrema aplicatum* Fischer, 2003  
 \*+ *Dinotrema brunneicornis* spec. nov.  
*Dinotrema caudatum* (Thomson, 1895)  
*Dinotrema concinnum* (Haliday, 1838)  
*Dinotrema concolor* (Nees, 1812)  
*Dinotrema distractum* (Nees, 1834)  
 \*+ *Dinotrema glabriscutum* spec. nov.  
*Dinotrema lacessivum* (Fischer, 1975)  
 \* *Dinotrema lineolum* (Thomson, 1895)  
 + *Dinotrema madeiracola* (Fischer, 2003)

*Dinotrema mesocaudatum* van Achterberg, 1988  
 \* & *Dinotrema tenerifense* (Fischer, 2003)  
*Dinotrema tuberculatum* van Achterberg, 1988  
*Dinotrema ultimum* (Fischer, 1970)  
*Grammospila rufiventris* (Nees, 1812)  
 + *Orthostigma funchalense* Fischer, 1995  
*Orthostigma maculipes* (Haliday, 1838)  
 & *Orthostigma madeirense* Fischer, 1995  
 \*+ *Orthostigma minusculum* spec. nov.  
*Orthostigma pumila* (Nees, 1834)  
*Pentapleura pumilio* (Nees, 1812)  
*Phaenocarpa ruficeps* (Nees, 1812)  
*Pseudopezomachus bituberculatus* (Marshall, 1905)  
*Tanycarpa bicolor* (Nees, 1812)

#### Aphidiinae Haliday, 1833 (15)

*Aphidius avenae* Haliday, 1834  
*Aphidius ervi* Haliday, 1834  
*Aphidius matricariae* Haliday, 1834  
*Aphidius rhopalosiphii* de Stefani-Perez, 1902  
*Aphidius ribis* Haliday, 1834  
*Aphidius smithi* Sharma & Subba Rao, 1959  
*Aphidius urticae* Haliday, 1834  
*Diaeretiella rapae* (McIntosh, 1855)  
*Ephedrus plagiator* (Nees, 1811)  
*Lysiphlebus fabarum* (Marshall, 1896)  
*Lysiphlebus testaceipes* (Cresson, 1880)  
*Binodoxus angelicae* (Haliday, 1833)  
 \* *Pauesia picta* (Haliday, 1834)  
*Praon volucre* (Haliday, 1833)  
 \* *Trioxys pallidus* Haliday, 1833

**Blacinae Foerster, 1862 (4)***Blacus armatulus* Ruthe, 1861*Blacus exilis* (Nees, 1811)*Blacus humilis* (Nees, 1811)\* *Blacus ruficornis* (Nees, 1811)**Braconinae Nees, 1811 (3)**+ *Bracon chiloecus* Graham, 1986+ *Bracon ericeti* Graham, 1986*Bracon hebetor* Say, 1836**Cheloninae Nees, 1816 (2)**+ *Phanerotoma maculata* (Wollaston, 1858)\* *Ascogaster quadridentata* Wesmael, 1835**Doryctinae Foerster, 1862 (6)***Ephylus caudatus* Ruschka, 1916*Heterospilus divivus* (Wollaston, 1858)*Ontsira antica* (Wollaston, 1858)\* *Spathius erythrocephalus* Wesmael, 1838& *Spathius moderabilis* Wilkinson, 1931*Spathius pedestris* Wesmael, 1838**Euphorinae Foerster, 1862 (14)***Aridelus rufotestaceus* Tobias, 1986*Centistes edentatus* (Haliday, 1835)*Chrysopophthorus hungaricus* (Zilahi-Kiss, 1927)\* *Chrysopophthorus petiolus* Chou, 1986*Dinocampus coccinellae* (Schrank, 1802)\* *Meteorus affinis* (Wesmael, 1835)*Meteorus cinctellus* (Spinola, 1808)*Meteorus pendulus* (Müller, 1776)*Meteorus versicolor* (Wesmael, 1835)*Perilitus debilis* Wollaston, 1858+ *Peristenus maderae* (Graham, 1986)*Pygostolus falcatus* (Nees, 1834)*Syntretus idalius* (Haliday, 1833)*Wesmaelia petiolata* (Wollaston, 1858)**Helconinae Foerster, 1862 (1)**+ *Diospilus rubricollis* Graham, 1986**Homolobinae van Achterberg, 1979 (1)**\*+ *Homolobus madeirensis* spec. nov.**Hormiinae Foerster, 1862 (3)**+ *Hormius maderae* Graham, 1986+ *Hormius oreas* Graham, 1986+ *Hormius tenuicornis* Graham, 1986**Macrocentrinae Foerster, 1862 (2)***Macrocentrus collaris* (Spinola, 1808)+ *Macrocentrus madeirensis* van Achterberg, 1993**Microgastrinae Nees, 1812 (14)***Apanteles circumscriptus* (Nees, 1834)*Apanteles dorsalis* (Spinola, 1808)*Apanteles halidayi* Marshall, 1872*Apanteles phaloniae* Wilkinson, 1940*Apanteles propinquus* Papp, 1975\* *Apanteles tedellae* Nixon, 1961\* *Apanteles xanthostigma* (Haliday, 1834)*Deuterixys carbonaria* (Wesmael, 1837)*Microplitis spectabilis* (Haliday, 1834)*Protapanteles lateralis* (Haliday, 1834)\* *Protapanteles luciana* (Nixon, 1973)*Protapanteles militaris* (Walsh, 1861)\* *Protapanteles mygdonia* (Nixon, 1973)*Protapanteles pinicola* (Lyle, 1917)**Miracinae Viereck, 1918 (1)***Mirax rufilabris* Haliday, 1833**Opiinae Foerster, 1862 (3)***Biosteres wesmaelii* (Haliday, 1837)\* *Phaedrotoma exigua* (Wesmael, 1835)*Phaedrotoma rudis* (Wesmael, 1835)**Rogadinae Foerster, 1862 (5)***Aleiodes apicalis* (Brullé, 1832) (= *A. ductor* auctt. p.p.)*Aleiodes coxalis* (Spinola, 1808)*Aleiodes gasterator* (Jurine, 1807)\* *Aleiodes gastritor* (Thunberg, 1822)\* *Aleiodes testaceus* (Telenga, 1941)**Species new for Selvagens Islands***Blacus pappianus* Haeselbarth, 1973

Material.— 1 ♂ (RMNH), "Portugal: Selvagens Isl., Selvagem Grande, 27.ii.2004, no. 83, I. Silva, Madeira Nature Park Service".

Notes.— Known from South and Central Europe (including Canary Islands); sparsely collected. The specimens from Canary and Selvagen Islands have the first dis-

cal cell of the fore wing anteriorly nearly acute in one wing and subtruncate in the other wing.

*Apanteles appellator* Telenga, 1949

Material.— 1 ♀ (RMNH), “Portugal: Selvagens Isl., Selvagem Grande, 22.ii.2004, no. 24, I. Silva, Madeira Nature Park Service”; 1 ♂ (ICLAM), “Portugal: Selvagens Isl., Selvagem Grande, 27.ii.2004, no. 82, I. Silva, Madeira Nature Park Service”.

Notes.— Wide spread in South and Central Palaearctic; also reported from Cape Verde Islands. Swept from *Suaeda vera* Forsskål (Chenopodiaceae).

*Microplitis aduncus* (Ruthe, 1860)

Material.— 1 ♀ (RMNH), “Portugal: Selvagens Isl., Selvagem Grande, iii.2004, no. 85, I. Silva, Madeira Nature Park Service”.

Notes.— New for Selvagens Islands and for Portugal. Widespread but rather uncommon species in the Palaearctic region.

*Phaerotoma nitidulator* (Nees, 1834)

Material.— 2 ♀♀ + 3 ♂♂ (RMNH, ICLAM), “Portugal: Selvagens Isl., Selvagem Grande, 26.ii.2004, no. 86, I. Silva, Madeira Nature Park Service”.

Notes.— New for Selvagens Islands and for Portugal. Widespread but rather uncommon species in the West Palaearctic region. Swept from *Salva* spec.

### Checklist of Braconidae from Selvagens Islands

Table 1. Checklist of Braconidae known from Selvagens Islands. \* = new to fauna of Selvagens Islands; + = endemic to Selvagens Islands; & = endemic to Selvagens Islands, Madeira and Canary Islands.

<b>Blacinae Foerster, 1862 (1)</b>	* <i>Blacus pappianus</i> Haeselbarth, 1973
<b>Macrocentrinae Foerster, 1862 (1)</b>	<i>Macrocentrus collaris</i> (Spinola, 1808)
<b>Microgastrinae Nees, 1812 (2)</b>	* <i>Apanteles appellator</i> Telenga, 1949 * <i>Microplitis aduncus</i> (Ruthe, 1860)
<b>Opiinae Foerster, 1862 (2)</b>	* <i>Phaerotoma nitidulator</i> (Nees, 1834) *+ <i>Phaerotoma flaveola</i> spec. nov.
<b>Pambolinae Marshall, 1885 (1)</b>	<i>Chremylus elaphus</i> (Haliday, 1833)

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ratório Agrícola da Madeira, Regional Secretary of the Environment and Natural Resources, Madeira Island, Portugal; UMa stands for University of Madeira, Madeira Island, Portugal; and RMNH for the National Museum of Natural History, Leiden, Netherlands.

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