

GENUS *ADELPHENALDIS* FISCHER, 2003 (HYMENOPTERA: BRACONIDAE: ALYSIINAE) IN SPAIN, WITH A KEY TO THE WORLD SPECIES

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Abstract.— The Spanish species of the genus *Adelphenaldis* Fischer is reviewed. The description of a new species, *A. maxfischeri* sp. nov., and redescriptions of the recorded for Spain for the first time *A. globipes* (Fischer 1962) (comb. nov.) and *A. spiritalis* (Tobias 1992) (comb. nov.) are proposed. *Synaldis georgica* Fischer 1993 is synonymised with *S. globipes* Fischer 1962 (syn. nov.). The following new combinations are suggested: *Adelphenaldis acutidentata* (Fischer), comb. nov., *A. cultrata* (Belokobylskij), comb. nov., *A. moniliata* (Belokobylskij), comb. nov., *A. pacifica* (Belokobylskij), comb. nov., *A. paraclypealis* (Fischer), comb. nov., *A. parvicornis* (Thomson), comb. nov., *A. ryukyuensis* (Belokobylskij), comb. nov., *A. spasskensis* (Belokobylskij), comb. nov. A key to the world species of the genus *Adelphenaldis* is given.



Key words.— Braconidae, Alysiinae, Alysiini, *Adelphenaldis*, new species, new records, key, Spain.

INTRODUCTION

About 2,000 species distributed worldwide and more than 100 genera have been recorded in the subfamily Alysiinae (Yu *et al.* 2005) which are now separated to two large and polymorphic tribes Alysiini and Dacnusiini (Shenefelt 1974, Yu *et al.* 2005). The members of this subfamily are one of the most common in the natural habitats of temperate and boreal regions of the Holarctic being exclusively koinobiont endoparasitoids of the various families of cyclorrhaphous Diptera.

The generic *Aspilota* group forms quite well differentiated group within the tribe Alysiini (van Achterberg 1988) and includes: *Aspilota* Foerster, 1862, *Dinotrema* Foerster, 1862, *Orthostigma* Ratzeburg,

1844 and *Synaldis* Foerster, 1862. Recently, Fischer (2003) established the genus *Adelphenaldis*, which includes now 25 species from the Old and New World formerly placed mostly into the closely related genus *Synaldis*. The main differences between these genera are keyed below:

1. Paraclypeal (tentorial) area long and reached lower margin of eye. Mesoscutal pit often absent
. *Adelphenaldis* Fischer
- . Paraclypeal (tentorial) areas short and far not reached lower margin of eye. Mesoscutal pit often present
. *Synaldis* Foerster

Our investigation of the braconid parasitoid wasps of the tribe Alysiini (Alysiinae) allowed to reveal for the first time the genus *Adelphenaldis* Fischer with three species in the fauna of Spain. We propose the

description of the new species *A. maxfischeri* sp. nov., the re-descriptions on the base of Spanish material *A. globipes* (Fischer, 1962) (comb. nov.) and *A. spiritalis* (Tobias, 1992) (comb. nov.), and a key for identification of the world species of *Adelphenaldis*. Our study of the types of *Synaldis globipes* Fischer, 1962 and *S. georgica* Fischer, 1993 showed that the last name is a junior synonym of the first one (syn. nov.).

MATERIAL AND METHODS

The specimens for this study were collected by Malaise traps in the Natural Park of Carrascal de la Font Roja (Alicante Province, Spain) and in the forest of Artikutza Estate (Natural Park of Peñas de Aya, Artikutza, Navarra Province, Spain).

The Natural Park of Carrascal de La Font Roja is located at the north of the Alicante Province and extended over 2,298 ha, with a maximum elevation of 1,356 m. Due to high average annual temperatures (15 to 20°C), and low average rainfall, the park is classified as dry and thermo-Mediterranean (Peris-Felipo & Jiménez-Peydró 2011).

The forest of the Artikutza Estate extends over 5 ha at an altitude between 575 and 652 m. This estate is located within the Natural Park Peñas de Aya in the westernmost spurs of the Pyrenees, and is currently populated by two adjacent plant series: mixed and beech forests. The prominent climatic feature of the area is high precipitation, between 1,500 and 2,800 mm per annum, with the highest rainfall in winter. The temperature is moderate, with an average annual between 8 and 17°C (Martínez de Murguía *et al.* 2001).

For the terminology of the morphological features and sculpture, measurements and wing venation nomenclature see Fischer (1973). The following abbreviations are additionally used: POL – postocellar line; OOL – ocular-ocellar line; OD – maximum diameter of lateral ocellus. The studied specimens are deposited with a bar code labels in the Entomological Collection at the University of Valencia (Valencia, Spain; ENV).

TAXONOMY

Adelphenaldis maxfischeri Peris-Felipo, sp. nov.
(Figs 1–9)

Type material. Holotype: female, Spain, Alicante Province, Alcoi, Natural Park of Carrascal de La Font Roja, 25.VI.2007 (F.J. Peris-Felipo leg.) (ENV). Paratype: 1 female, same label, but 2.VII.2007 (ENV).

Description. Female. Head. In dorsal view, 1.85–1.90 times as wide as long, 1.50–1.55 times as wide as

mesoscutum, smooth, with rounded temples behind eyes. Eye in lateral view as high as wide and as wide as temple. POL about 2.0 times OD; OOL 6.5 times OD. Face 0.55 times as high as wide; inner margins of eyes subparallel. Clypeus 2.5 times as wide as high, slightly curved ventrally. Mandible weakly widened towards apex, 1.35–1.40 times as long as its maximum width. Upper tooth small, distinctly shorter than middle tooth. Middle tooth the longest, wide basally, distinctly narrowed towards apex and pointed apically. Lower tooth relatively short, longer than upper tooth, subpointed apically. Antennae thick, with 14 segments, shorter than body. Scape 1.7–1.8 times as long as pedicel. First flagellar segment 1.05–1.10 times as long as its apical width, about 0.7 times as long as second segment; second segment 1.55–1.60 times as long as its maximum width. Third and fourth flagellar segments 1.40–1.45 times, fifth and sixth segments 1.2–1.3 times as long as their width respectively. Flagellar segments from seventh to twelve 1.25–1.35 times as long as their width.

Mesosoma. In lateral view, 1.55–1.60 times as long as high. Mesoscutum 1.1–1.2 times as long as maximum width. Notauli absent for the most part. Mesoscutal pit absent. Prescutellar depression rectangular and smooth, with coarse median carina. Sternaulus (precoxal suture) absent. Posterior mesopleural furrow slightly crenulate below. Propodeum smooth, with short carina and with rugosity in basomedial quarter. Propodeal spiracles relatively small.

Legs. Hind femur 2.6–2.7 times as long as wide. Hind tibia weakly widened to apex, about 5.0 times as long as its maximum subapical width, 0.90–0.95 times as long as hind tarsus. First segment of hind tarsus 1.40–1.45 times as long as second segment.

Wings. Length of fore wing 2.4–2.5 times its maximum width. Vein r1 absent. Radial vein arising from the anterior part of pterostigma. Radial cell reaching to apex of wing, 4.0–4.2 times as long as its maximum width. Brachial cell closed. Nervulus distinctly postfurcal. Brachial cell 4.0 times as long as its maximum width. Hind wing 6.3 times as long as its maximum width.

Metasoma. Distinctly compressed. First tergite weakly widened towards apex, 2.30–2.35 times as long as its apical width, almost entirely smooth. Ovipositor short, its sheath 0.70–0.75 times as long as first tergite, 0.50–0.55 as long as hind femur.

Colour. Body and legs brown to dark brown. Wings hyaline. Pterostigma brown.

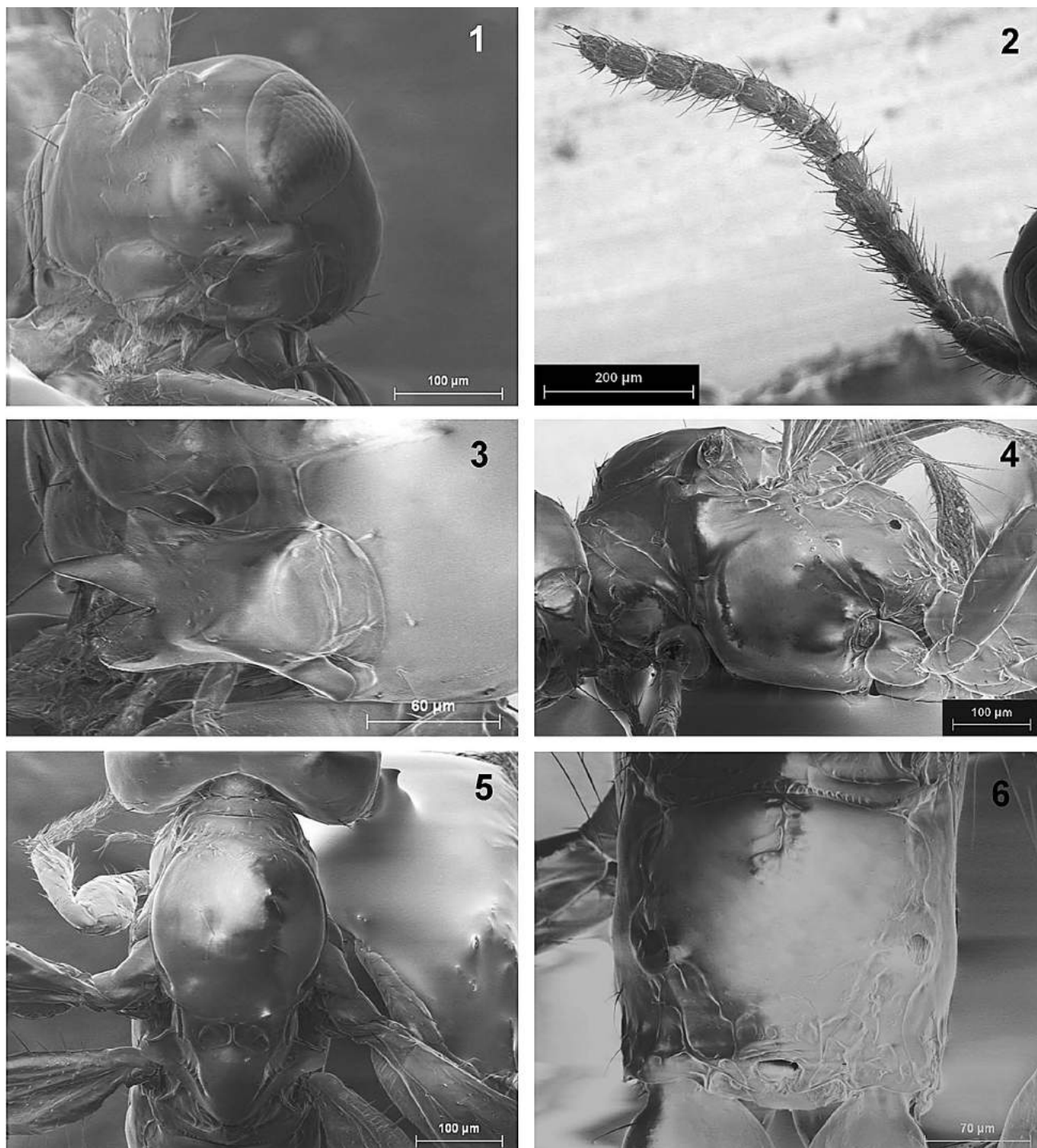
Length. Body 1.3–1.4 mm; fore wing 1.20–1.25 mm.

Male. Unknown.

Etymology. Dedicated to Dr Maximilian Fischer, well-known Austrian hymenopterist, for his great contribution to the study of the World Alysiinae.

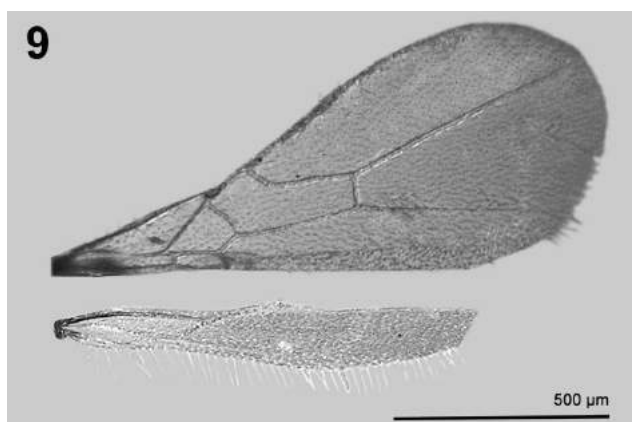
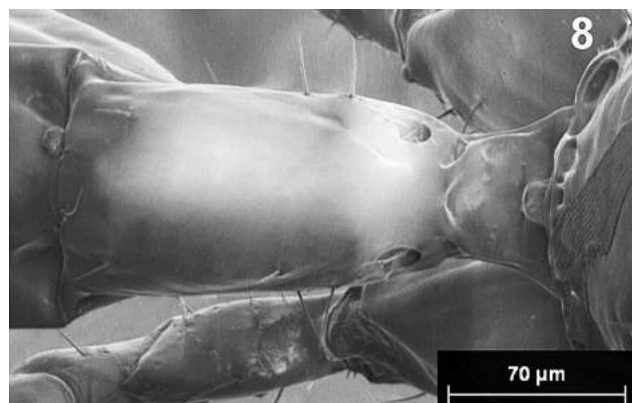
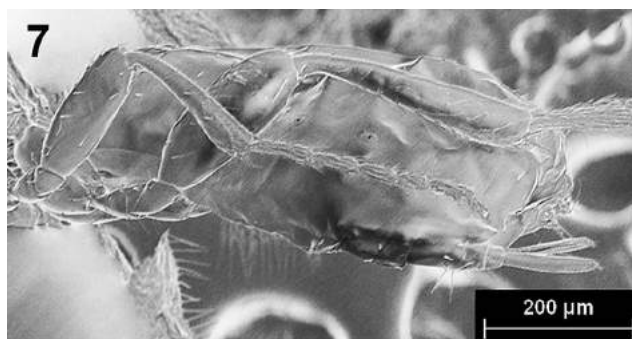
Diagnosis. This new species resembles South African *A. brunicorpus* Fischer, but differs in having the first flagellar segment 1.05–1.1 times as long as wide (3.0 times in *A. brunicorpus*) and the hind femur

2.5 times as long as wide (5.0 times in *A. brunicorpus*). On the other hand, *A. marfischeri* is similar to African (Congo) *A. resurrectionis* Fischer because propodeum has smooth margins, but in the last species



Figures 1–6. *Adelphenaldis marfischeri* sp. nov. (female). (1) Head antero-laterally; (2) Antenna; (3) Mandible; (4) Mesosoma, lateral view; (5) Mesonotum; (6) Propodeum.

the first flagellar segment 2.5 times as long as wide (1.05–1.10 times in *A. maxfischeri*), the middle flagellar segments about twice as long as wide (1.20–1.45 times in *A. maxfischeri*), the mandible 1.25 times its maximum width (1.35–1.40 times in *A. maxfischeri*), the hind femur 3.0–3.5 times longer than maximum width and the ovipositor long. New species differs from the Palearctic *A. globipes* (Fischer) (**comb. nov.**) by propodeum without areola, by short scape, more long and slender first flagellar segment, and long mandible.



Figures 7–9. *Adelphenaldis maxfischeri* sp. nov. (female). (7) Middle and hind legs, metasoma and ovipositor, lateral view; (8) First metasomal tergite; (9) Fore and hind wings.

Adelphenaldis globipes (Fischer, 1962), comb. nov.
(Figs 10–20)

Synaldis globipes Fischer, 1962: 11; Yu *et al.* 2005.

Synaldis georgica Fischer, 1993: 456, **syn. nov.**

Adelphenaldis georgica: Fischer 2003: 42; Yu *et al.* 2005; Papp 2007: 14.

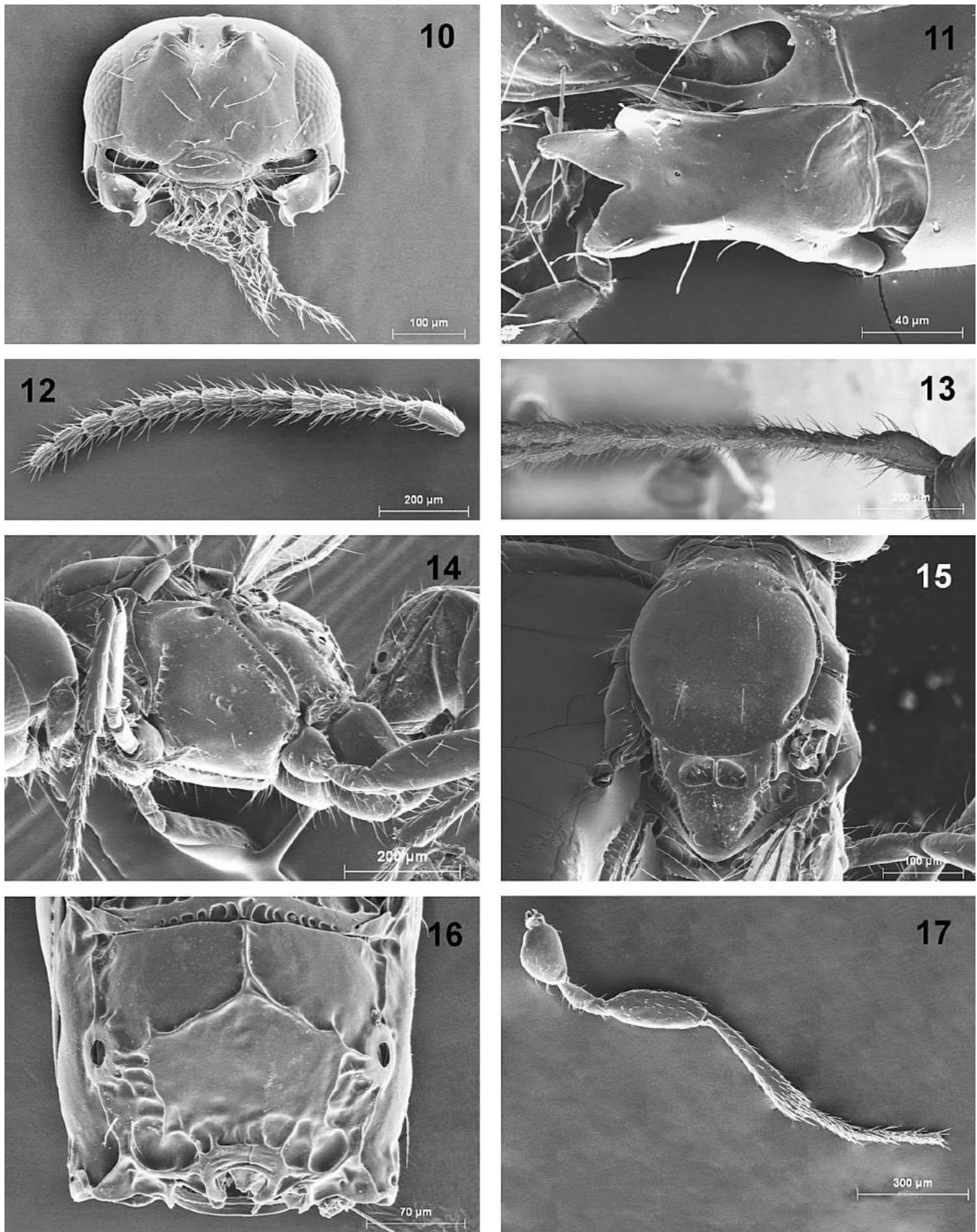
Material examined. Spain: Finca Forestal Artikutza, Navarra, (L. Murguia leg.), 10.VII.1995, 1 female; 24.VII.1995, 3 females; 7.VIII.1995, 1 male; 16.X.1995, 1 female; 9.VI.1996, 1 female; 23.VI.1996, 1 female; 11.VIII.1996, 2 females; 22.IX.1996, 3 females (ENV).

Redescription. Female. Head. In dorsal view, 1.6–1.7 times as wide as long, 1.5 times as wide as mesoscutum, smooth, with rounded temples behind eyes. Eye in lateral view 1.3 times as high as wide and as wide as temple. POL 2.2–2.3 times OD; OOL 1.3 times OD. Face 0.55 times as high as wide; inner margins of eyes subparallel. Clypeus 3.1–3.2 times as wide as high, weakly concave ventrally. Mandible almost not widened towards apex, 1.75–1.85 times as long as its maximum width. Upper tooth small, distinctly shorter than middle tooth. Middle tooth the longest, wide basally, distinctly narrowed towards apex and pointed apically. Lower tooth short, weakly longer than upper tooth, subpointed apically. Antennae with 14–15 segments, longer than body. Scape 1.9–2.1 times as long as pedicel. First flagellar segment 1.45–1.50 times as long as its apical width, 0.85–0.90 times as long as second segment. Second segment 1.4–1.5 times and third segment 1.60–1.65 times as long as their maximum width respectively. Flagellar segments from fourth to tenth 1.3–1.4 times as long as their width; 11th and 12th segments 1.45 times, and 13th 1.7–1.75 times as long as wide respectively.

Mesosoma. In lateral view, 1.4–1.5 times as long as high. Mesoscutum 1.0–1.1 times as long as wide. Notauli distinct in anterior half and absent in posterior half of mesoscutum. Mesoscutal pit absent. Prescutellar depression rectangular and with median carinae. Sternaulus (precoxal suture) short, sparsely crenulate, not reaching with anterior edge of mesopleuron. Posterior mesopleural furrow slightly crenulate below. Propodeum with wide pentagonal areola, its areas smooth. Propodeal spiracles small.

Legs. Hind femur 2.5–2.7 times as long as wide. Hind tibia weakly widened to apex, 4.4–4.5 times as long as its maximum apical width, almost as long as hind tarsus. First segment of hind tarsus 1.35 times as long as second segment.

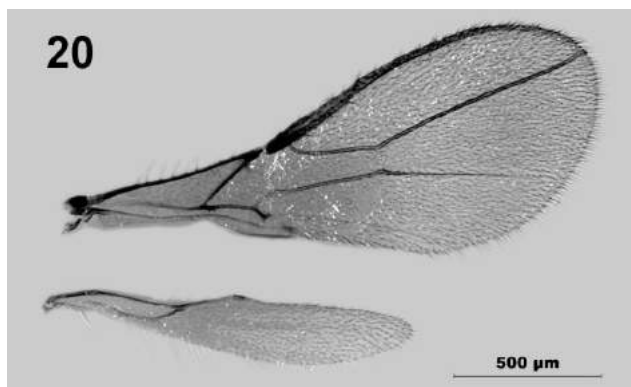
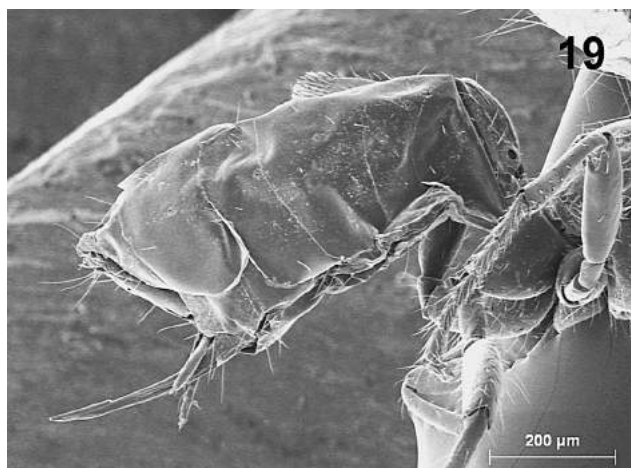
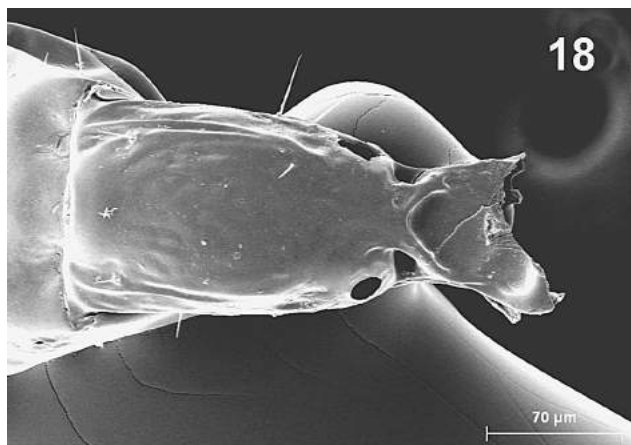
Wings. Length of fore wing 2.3–2.4 times its maximum width. Vein r1 absent. Radial cell reaching to apex, 4.9–5.0 times as long as its maximum width. Brachial cell closed. Nervulus postfurcal, Brachial cell 4.4 times as long as its maximum width. Hind wing 5.8–6.0 times as long as its maximum width.



Figures 10–17. *Adelphenaldis globipes* (Fischer) (11–12, 14–17, female; 13, male). (10) Head, front view; (11) Mandible; (12) Antenna; (13) Basal half of antenna; (14) Mesosoma, lateral view; (15) Mesonotum; (16) Propodeum; (17) Hind leg.

Metasoma. First tergite elongated, 2.0–2.1 times as long as its apical width, mainly smooth, with lateral carina and fine striation in distal part. Ovipositor short, its sheath 1.2–1.4 times as long as first tergite, 1.3–1.4 times as long as hind femur.

Colour. Body and legs brown. Wings hyaline. Pterostigma brown.



Figures 18–20. *Adelphenaldis globipes* (Fischer) (female). (18) First tergite; (19) Metasoma and ovipositor, lateral view; (20) Fore and hind wings.

Length. Body 1.3–1.4 mm; fore wing 1.5–1.6 mm.

Male (**first record**). Head in dorsal view 1.35 times as wide as mesoscutum. Eye in lateral view 1.2 times as high as wide. POL 2.3 times OD; OOL 1.5 times OD. Clypeus 3.0 times as wide as high. Mandible 1.7–1.9 times as long as its maximum width. Scape of antenna 1.6 times as long as pedicel. First flagellar segment 2.3 times as long as its apical width, 0.9 times as long as second segment. Second to eleventh segment about 2.5 times as long as their maximum width. Prescutellar depression of mesosoma with median and two lateral carinae. Hind femur 3.1 times as long as wide. Hind tibia 4.40–4.55 times as long as its maximum apical width, 0.95–1.05 times as long as hind tarsus. First segment of hind tarsus 1.65 times as long as second segment. Length of body 1.35–1.45 mm; length of fore wing 1.50–1.60 mm. Otherwise similar to female.

Remarks. The study of the type material of *Synaldis globipes* Fischer, 1962 from Naturhistorisches Museum (Wien, Austria) and *S. georgica* Fischer, 1993 from Hungarian Natural History Museum (Budapest, Hungary) showed that *S. georgica* is a junior synonym of *S. globipes* (**syn. nov.**). *S. globipes* is here transferred into the genus *Adelphenaldis* Fischer because its paraclypeal area long and reached lower margin of eye (**comb. nov.**).

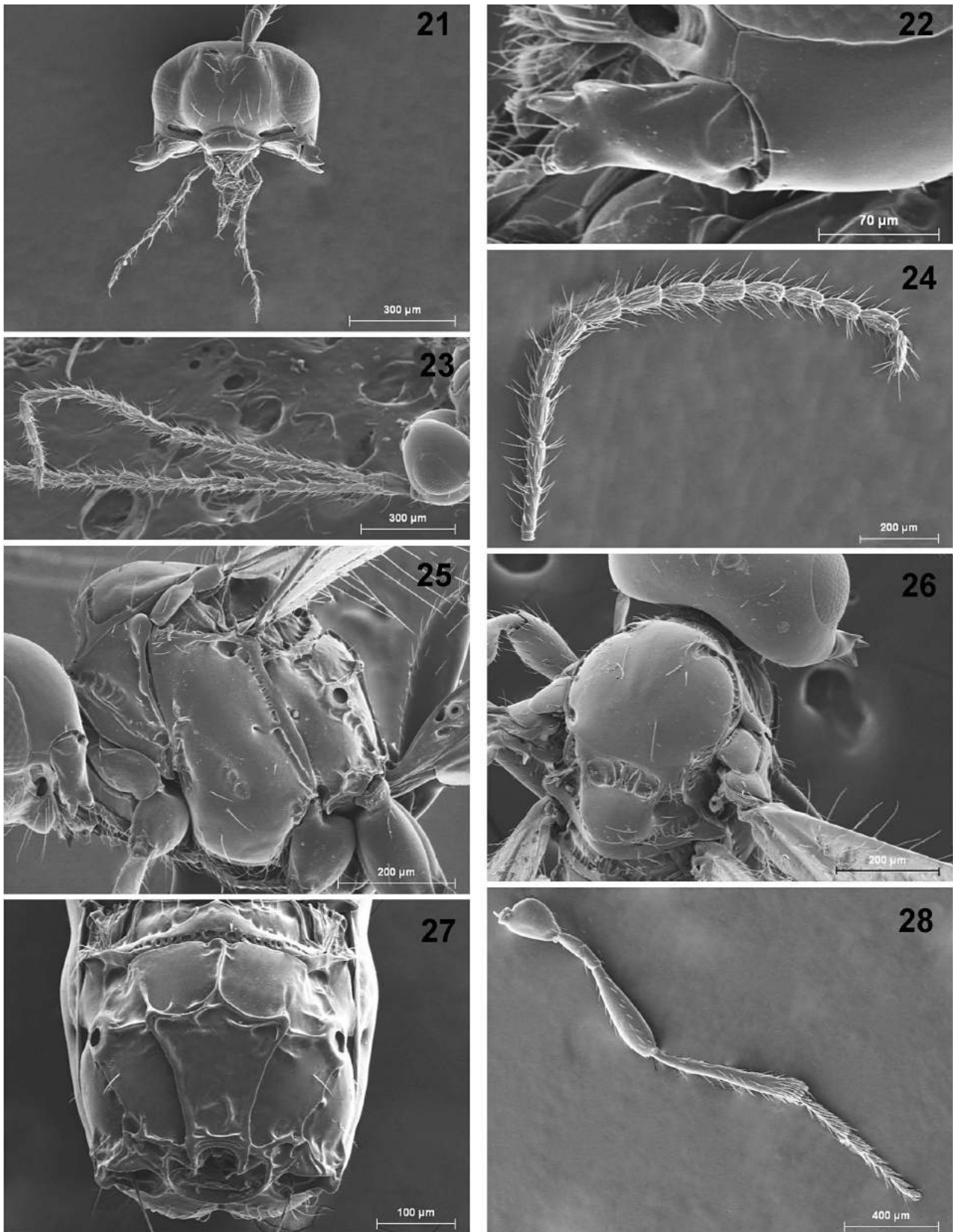
Adelphenaldis spiritalis (Tobias, 1992), comb. nov.
(Figs 21–31)

Aspilota (*Synaldis*) *spiritalis* Tobias, 1992, in Yakovlev & Tobias 1992: 144.

Synaldis spiritalis: Yu *et al.* 2005.

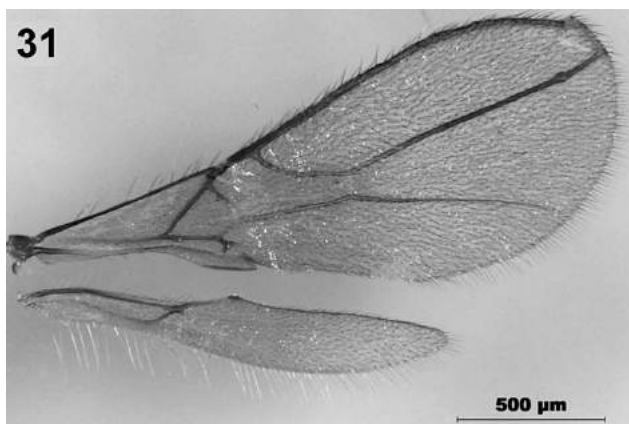
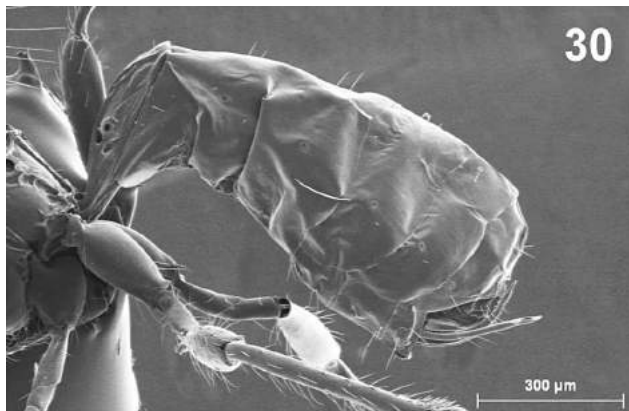
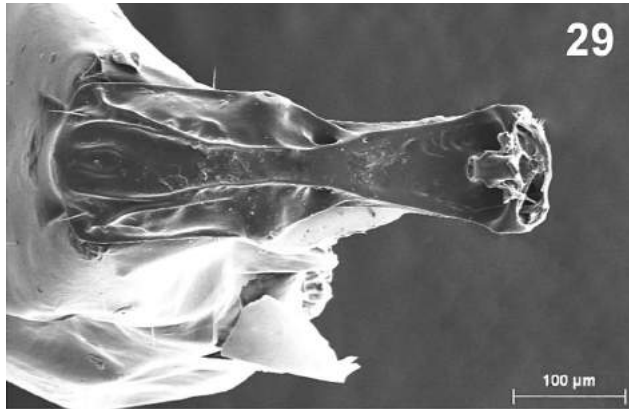
Material examined. Spain: Finca Forestal Artikutza, Navarra (L. Murguía leg.), 26.VI.1995, 1 female; 10.VII.1995, 3 females; 20.VII.1995, 2 females; 24.VII.1995, 2 females, 1 male; 7.VIII.1995, 2 females; 14.VIII.1995, 2 females, 1 male; 18.IX.1995, 2 females, 2 males; 16.X.1995, 1 female, 2 males; 9.VI.1996, 1 male; 23.VI.1996, 1 female; 11.VIII.1996, 1 female; 25.VIII.1996, 1 female, 1 male; 2.X.1996, 1 female; 20.X.1996, 1 female (ENV).

Redescription. Female. Head. In dorsal view, 1.8–2.0 times as wide as long, 1.4–1.5 times as wide as mesoscutum, smooth, with rounded temples behind eyes. Eye in lateral view 1.40–1.45 times as high as wide and 1.0–1.1 times as wide as temple. POL about 2.0 times OD; OOL 3.5–3.8 times OD. Face 0.55 times as high as wide; inner margins of eyes subparallel. Clypeus 2.5–2.6 times as wide as high, slightly concave ventrally. Mandible almost not widened to apex, 1.7–1.8 times as long as its maximum width. Upper tooth small, distinctly shorter than middle tooth. Middle tooth the longest, wide basally, distinctly narrowed towards apex and pointed apically. Lower tooth short, weakly



Figures 21–28. *Adelphenaldis spiritalis* (Tobias) (21, 22, 24–28, female; 23, male). (21) Head, front view; (22) Mandible; (23, 24) Antenna; (25) Mesosoma, lateral view; (26) Mesonotum; (27) Propodeum; (28) Hind leg.

longer than upper tooth, subpointed apically. Antennae with 15–18 segments, longer than body. Scape 1.9–2.0 times as long as wide and 2.4–2.7 times as long as pedicel. First flagellar segment 3.0 times as long as its apical width, as long as second segment. Second segment 2.5–2.6 times as long as its maximum width. Flagellar segments from third to thirteenth 1.9–2.1 times as long as their width; 14th flagellar segment 2.6–2.7 times as long as its width.



Figures 29–31. *Adelphenaldis spiritalis* (Tobias) (female). (29) First metasomal tergite; (30) Metasoma and ovipositor, lateral view; (31) Fore and hind wings.

Mesosoma. In lateral view, 1.05–1.10 times as long as high. Mesoscutum 1.1–1.2 times as long as maximum width. Notauli distinct in anterior half and absent in posterior half of mesoscutum. Mesoscutal pit absent. Prescutellar depression rectangular, with median and two lateral carinae. Sternaulus (precoxal suture) short, wide, crenulate, not reached anterior margin of mesopleuron. Posterior mesopleural furrow slightly crenulate below. Propodeum with wide pentagonal areola, its areas smooth. Propodeal spiracles small.

Legs. Hind femur 3.0–3.5 times as long as wide. Hind tibia weakly widened to apex, 9.0–10.0 times as long as its maximum apical width, 0.95–1.00 times as long as hind tarsus. First segment of hind tarsus 1.6–1.7 times as long as second segment.

Wings. Length of fore wing 2.4–2.5 times its maximum width. Vein r1 absent. Radial cell reached to the apex, 4.2–4.5 times as long as its maximum width. Brachial cell closed. Nervulus strongly postfurcal. Brachial cell 4.5 times as long as its maximum width. Hind wing 6.0–6.5 times as long as its maximum width.

Metasoma. First tergite elongated, with subparallel sides, about 3.0 times as long as apical width, with lateral carinae and smooth surface. Ovipositor short, its sheath 0.6–0.7 times as long as first tergite, 0.75–0.80 as long as hind femur.

Colour. Body brown or dark brown, legs yellow or light brown. First and second flagellar segments yellow or light brown, followings segments brown. Wings hyaline. Pterostigma brown.

Length. Body 1.4–2.2 mm; fore wing 1.7–2.1 mm.

Male. POL 1.5 times OD; OOL 4.5 times OD. Mandible 2.0 times as long as its maximum width. Antennae with 17 segments. Scape 1.5 times as long as wide and 2.0 times as long as pedicel. First flagellar segment 3.4–3.6 times as long as its apical width and as long as second segment. Second segment 3.4–3.5 times as long as its maximum width. Flagellar segments from third to fifteenth 2.25–2.50 times as long as their width. Metasoma in lateral view 1.1–1.2 times as long as high. Hind tibia 8.8–9.2 times as long as its maximum width, 1.0–1.15 times as long as hind tarsus. First segment of hind tarsus 1.5–1.6 times as long as second segment. Body length 1.3–1.6 mm; fore wing length 1.7–1.8 mm. Otherwise similar to female

Key to World species of the genus *Adelphenaldis* Fischer

1. Propodeum with median areola, distinctly delineated by carinae **2**
- . Propodeum without areola **14**
2. Hind wing without medial and submedial cells. [Body length 1.3 mm. India]
. ***A. cellabsentibus*** Fischer & Samuddin
- . Hind wing with medial and submedial cells **3**

3. Propodeal spiracles large, their diameter equal or almost equal to distance from spiracle to base of propodeum 4
 – Propodeal spiracles small, their diameter distinctly less than distance from spiracle to base of propodeum 10
4. First tergite linearly striated 5
 – First tergite smooth or irregularly sculptured, never linearly striated 6
5. First tergite 3.25 times as long as wide. Hind femur 4.0 times as long as broad. Body length 1.5 mm. India *A. gigascapus* (Fischer)
 – First tergite 2.2–2.4 times as long as wide. Hind femur 3.0–3.3 times as long as broad. Body length 2.0–2.3 mm. Russia (Far East)
 *A. moniliata* (Belokobylskij), comb. nov.
6. First flagellar segment long, 2.7–3.5 times as long as its width 7
 – First flagellar segment short, 1.2–2.0 times as long as its width 9
7. First flagellar segment 2.7 times as long as its width. First tergite 2.3 times as long as its apical width. [Body length 1.7 mm. Korea] *A. correcta* Papp
 – First flagellar segment 3.2–3.5 times as long as its width. First tergite 2.6–2.7 times as long as its apical width 8
8. Mandible 1.5 times as long as broad. Mesosoma 1.3 times as long as high. Hind femur 3.6–3.8 times as long as wide. Body length 1.8–2.2 mm. Russia (Far East) *A. spasskensis* (Belokobylskij), comb. nov.
 – Mandible 1.7–2.0 times as long as broad. Mesosoma 1.05–1.10 times as long as high. Hind femur 3.0–3.5 times as long as wide. Body length 1.5–1.7 mm. Russia (North-West of the European part), Spain *A. spiritalis* (Tobias), comb. nov.
9. Scape as long as first flagellar segment. First flagellar segment 2.0 times as long as its width. Mandible 2.0 times as long as its maximum width. Body length 1.8 mm. USA *A. trematosa* (Fischer)
 – Scape about 0.7 times as long as first flagellar segment. First flagellar segment 1.5–1.7 times as long as its width. Mandible 1.50–1.85 times as long as its maximum width. Body length 1.1–1.5 mm. Bulgaria, China, Czech Republic, Georgia, Hungary, Italy, the Netherlands, Poland, Russia (South Urals, Far East), Sweden, Spain (**first record**)
 *A. globipes* (Fischer), comb. nov.
10. First flagellar segment 1.2 times as long as its width. [Body length 1.6–1.8 mm. Austria, Bulgaria, China, Finland, Germany, Hungary, Russia (Far East), Sweden, Switzerland]
 *A. parvicornis* (Thomson), comb. nov.
 – First flagellar segments 2.5–5.0 times as long as its width 11
11. First tergite striate 12
 – First tergite entirely or mostly smooth 13
12. First metasoma tergite long, 4.0–4.5 times as long as its apical width. Length of median antennal segments 3.0–3.3 times their maximum width. Areas of propodeum with irregular sculpture. Body length 2.4–3.0 mm. Japan
 *A. ryukyuensis* (Belokobylskij), comb. nov.
 – First metasoma tergite short, 1.4–1.6 times as long as its apical width. Length of median antennal segments about 2.0 times their maximum width. Areas of propodeum smooth. Body length 1.6–1.9 mm. Russia (Far East), Japan
 *A. pacifica* (Belokobylskij), comb. nov.
13. First flagellar segment 5.0 times as long as its width. Head 1.5 times as long as broad. Body length 1.8 mm. Australia ... *A. magnaerata* (Fischer) (♂)
 – First flagellar segment 3.5 times as long as its width. Head 1.9 times as long as broad. Body length 1.5 mm. USA
 *A. parachypealis* (Fischer) (♂), comb. nov.
14. First tooth of mandible strongly widened towards apex. First tergite 1.5 times as long as wide. [Body length 1.8 mm. Austria, China, Korea]
 *A. acutidentata* (Fischer), comb. nov.
 – First tooth of mandible not or only weakly widened towards apex. First tergite 2.0–4.0 times as long as wide 15
15. Mesoscutum with dorsal pit 16
 – Mesoscutum without dorsal pit 21
16. First tergite striate 17
 – First tergite mostly smooth 18
17. Mandible 1.6 times as long as its maximum width. Propodeum smooth around median carina. Body length 2.0 mm. Republic of South Africa
 *A. striatipeolata* Fischer
 – Mandible 1.2 times as long as its maximum width. Propodeum rugose-reticulate around median carina. Body length 2.0 mm. Republic of South Africa *A. rugipropodeum* Fischer (♂)
18. Vein r3 as long as r1+r2. Middle antennal segments 1.5 times as long as wide. [Body length 1.5 mm. Republic of South Africa] *A. crassimembris* Fischer
 – Vein r3 1.9–2.2 times longer than r1+r2. Middle antennal segments 2.0–2.5 times as long as wide 19
19. Mesoscutum 1.4 times as long as broad. Hind femur 5.0 times as long as wide. First flagellar segment 3.5 times as long as wide. [Body length 1.8 mm. Republic of South Africa] *A. knysnaana* Fischer
 – Mesoscutum 1.20–1.25 times as long as broad. Hind femur 4.0–4.5 times as long as wide. First flagellar segment about 3.0 times as long as wide 20
20. Middle antennal segments 2.5 times as long as wide. Hind femur 4.5 times as long as its maximum width. r3 2.2 times longer than r1+r2. Body length 1.5 mm. Congo *A. claricornis* (Fischer)
 – Middle antennal segments 2.0 times as long as wide.

- Hind femur 4.0 times as long as its maximum width. r3 1.9 times longer than r1+r2. Body length 2.2 mm. Ethiopia *A. propoglabra* (Fischer)
21. First metasomal tergite 3.0–4.0 times as long as its apical width **22**
 –. First metasomal tergite 2.0–2.5 times as long as its apical width **23**
22. First metasomal tergite 4.0 times as long as its apical width. Middle antennal segments 2.0 times as long as wide. Mandible 1.5 times as long as its maximum width. Sternaulus crenulate. Body length 1.7 mm. Republic of South Africa
 *A. crassithorax* Fischer (♂)
 –. First metasomal tergite 3.0–3.2 times as long as its apical width. Middle antennal segments 2.7–3.0 times as long as wide. Mandible 1.7–2.0 times as long as its maximum width. Sternaulus smooth. Body length 1.7–2.4 mm. Russia (Far East)
 *A. cultrata* (Belokobylskij), comb. nov.
23. First flagellar segment 3.0 times as long as wide. Hind femur 5.0 times as long as wide. [Body length 1.2 mm. Republic of South Africa]
 *A. brunicorpus* Fischer
 –. First flagellar segment 1.0–2.5 times as long as wide. Hind femur 2.5–3.5 times as long as wide **24**
24. Hind femur 2.5 times as long as its maximum width. Ovipositor 0.7–0.75 times as long as first tergite. [Body length 1.3–1.4 mm. Spain]
 *A. maxfischeri* Peris-Felipo, sp. nov.
 –. Hind femur 3.0–3.5 times as long as its maximum width. Ovipositor 1.5 times as long as first tergite (unknown for *A. subsurrectionis*) **25**
25. Margins of propodeum smooth. Propodeum spiracles large. Mesosoma 1.3 times as long as high. First tooth of mandible without carinae. Body length 1.1 mm. Congo *A. resurrectionis* (Fischer)
 –. Margins of propodeum with notches. Propodeum spiracles small. Mesosoma 1.4 times as long as high. First tooth of mandible with curved carina. Body length 1.5 mm. Republic of South Africa
 *A. subsurrectionis* Fischer (♂)

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