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Afrotropical species of *Diaparsis* Förster, 1869 (Hymenoptera: Ichneumonidae: Tersilochinae)

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ABSTRACT

Thirteen Afrotropical species of the ichneumonid genus *Diaparsis* are recognised (including one species from Seychelles and one species from Reunion). Eleven new species are described from Gabon, Tanzania, South Africa and Uganda: *D. abstata* sp. n., *D. aneucliformis* sp. n., *D. interstitialis* sp. n., *D. inusitata* sp. n., *D. kolyadai* sp. n., *D. minuscula* sp. n., *D. mostovskii* sp. n., *D. probleformis* sp. n., *D. robusta* sp. n., *D. voluptuosa* sp. n. and *D. vulgaris* sp. n. Two previously known species, *D. evanescens* (Morley, 1912) and *D. moesta* (Holmgren, 1868), are re-described following re-examination of their types. The latter species is found to belong to the genus *Tersilochus* Holmgren, 1859 (subgenus *Tersilochus* s. str.), in which it was originally described. An identification key to 13 Afrotropical species of *Diaparsis* is provided.

KEY WORDS: Hymenoptera, Ichneumonidae, Tersilochinae, *Diaparsis*, Afrotropical, biocontrol, identification key, new species, parasitic wasps.

INTRODUCTION

Diaparsis is one of the largest genera in the subfamily Tersilochinae. This genus comprises about 65 described and many undescribed species (Horstmann 1971, 1981; Gauld 1984; Khalaim 2005, 2008, 2011; Khalaim & Sheng 2009), and it is known from all parts of the world except South America. In some regions, *Diaparsis* includes almost half of the species of the whole tersilochine fauna (Khalaim 2011). The genus was mentioned in my first paper on Afrotropical Tersilochinae (Khalaim 2007), in which a key to tersilochine genera was provided. Only three species, *D. evanescens* (Morley) from Seychelles, *D. ramassamy* Rousse et Villemant from Reunion and *D. moesta* (Holmgren) from South Africa, were known in this region until now (Townes & Townes 1973: 167; Rousse & Villemant 2012).

The first metasomal segment of *Diaparsis* does not have a glymma or there is an isolated glymma, and a propodeum with basal keel is present (rarely with basal groove). These are characteristics of the "*Diaparsis*" genus group, which also includes the genera *Aneuclis* Förster and *Sathropterus* Förster. *Diaparsis* may be distinguished from both of these genera by the fore wing, which has the posterior section of the postnervulus developed (thus the brachial cell is closed) and from *Sathropterus* also by the presence of a second recurrent vein. Most species of *Diaparsis* are conspicuously larger than *Aneuclis* and *Sathropterus* species, often have a deep and strongly oblique foveate groove in the anterior part of the mesopleuron (this groove, if present, is usually weak in *Aneuclis* and *Sathropterus*) and they frequently have a densely and coarsely punctate head and mesosoma (impunctate or finely punctate in *Aneuclis* and *Sathropterus*).

Species of *Diaparsis* are known as parasitoids of the beetle families Buprestidae, Cerambycidae, Chrysomelidae, Curculionidae and Scolytidae, but *D. stramineipes* (Brischke, 1880) was reared in Europe from the sawflies *Pontania* spp. (Hymenoptera: Tenthredinidae) that form galls on willows (Al-Saffar & Aldrich 1997; Kopelke 1994).

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Diaparsis temporalis Horstmann, 1979 and *D. carinifer* (Thomson, 1889) parasitise the cereal leaf beetle *Oulema melanopus* L. (Chrysomelidae), an important pest of grain crops in Europe, and were introduced to the USA for control of this pest (Dysart *et al*. 1973; Montgomery & DeWitt 1975; Horstmann 1979). Nothing is known about the host preferences of Afrotropical species.

MATERIAL AND METHODS

The specimens examined in this study were borrowed from or deposited in the following collections: Iziko South African Museum, Cape Town, South Africa (SAMC); Zoological Institute of the Russian Academy of Sciences, St Petersburg, Russia (ZISP); Natural History Museum, London, UK (BMNH); Royal Museum of Natural History, Stockholm, Sweden (NHRS); Zoologische Staatsammlung, Munich, Germany (ZSM); Muséum National d'Histoire Naturelle, Paris, France (MNHN); and Zoological Museum of the University of Turku, Turku, Finland (ZMUT). The holotypes of two previously known Afrotropical species of *Diaparsis*, viz. *Thersilochus evanescens* Morley, 1912 (BMNH) and *Thersilochus moestus* Holmgren, 1868 (NHRS), were examined and redescribed. The recently described *D. ramassamy* from Reunion is known to me only from its original description.

Terminology for morphological structures mainly follows Townes (1969, 1971), with changes according to Khalaim (2011). Photographs were taken at ZISP with a DFC 290 digital camera attached to a Leica MZ16 stereomicroscope, except for the photos of *D. evanescens* (Figs 13, 14), which were taken by Dr Gavin Broad at BMNH. The images were assembled with Helicon Focus software.

TAXONOMY

Genus *Diaparsis* Förster, 1869

Type species: *Porizon nutritor* (Fabricius, 1804) *sensu* Gravenhorst, 1829 (= *Porizon truncatus* Gravenhorst).

Key to Afrotropical species of *Diaparsis*

1 Basal keel of propodeum about as long as apical area (Fig. 5). Apical area very broadly rounded anteriorly (Fig. 5). Propodeal spiracle very small, separated from pleural carina by 4.0–5.0 diameters of spiracle (Fig. 4). Ovipositor very short, conspicuously thickened at apex (Fig. 6), sheath much shorter than first tergite. Legs entirely yellow (Fig. 1). Flagellum filiform, with 26 segments in female (Fig. 3) and 24 segments in male ..... **abstata** sp. n., ♀♂

– Basal keel of propodeum distinctly shorter than apical area. Apical area not especially broad, pointed or narrowly rounded anteriorly. Distance between propodeal spiracle and pleural carina usually shorter. Ovipositor usually much longer, its apex usually not as above. Legs yellow to brown, hind coxa often fuscous. Flagellum sometimes clavate, usually with fewer segments 2

2 First tergite white in basal 0.7, blackish in apical 0.3 (Fig. 47). Clypeus almost entirely densely and evenly punctate with only extreme lower margin impunctate. Ovipositor short and robust (Fig. 43), its sheath about 0.6× as long as first tergite ..... **mostovskii** sp. n., ♀♂

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– First tergite entirely dark brown or black. Clypeus usually sparsely punctate in its upper part and impunctate in lower part. Ovipositor sheath at least as long as first tergite.....3

3 Second recurrent vein interstitial (Figs 19, 26). Face, frons, mesoscutum, mesopleuron and dorsolateral area of propodeum with coarse and dense punctures (Figs 17, 20, 23); distance between punctures mostly shorter than one diameter of puncture ...4

– Second recurrent vein postfurcal. Face, frons, mesoscutum, mesopleuron and dorsolateral area of propodeum often impunctate or with fine and sparse punctures 5

4 Metacarp almost reaching apex of fore wing (Fig. 19). Malar space short, about 0.4× as long as basal width of mandible. Anterior margin of pronotum broadly yellowish or reddish brown (Fig. 15). Flagellum of female with conspicuous median pale band (Fig. 16).....**interstitialis** sp. n., ♀♂

– Metacarp ending far short of fore wing apex (Fig. 26). Malar space as long as basal width of mandible. Pronotum entirely black. Flagellum without pale band..... ..... **inusitata** sp. n., ♀

5 Ovipositor distinctly sinuate at apex, sheath more than 3.0× as long as first tergite. Flagellum filiform and slender, with 18–20 segments. Head and mesosoma granulate, impunctate. Malar space 1.2× as long as basal width of mandible. Propodeal spiracle separated from pleural carina by 2.5× diameter of spiracle. Small species with body length 3.0–3.4 mm ..... **ramassamy** Rousse et Villemant, ♀♂

– Ovipositor more or less evenly upcurved, not sinuate at apex; sheath usually much shorter. Other characters varied 6

6 Flagellum of female with 15–18 segments, filiform or narrowed towards apex (Figs 7, 13, 35, 59). Male unknown 7

– Flagellum with 19–27 segments, in female distinctly clavate at apex (Figs 31, 50, 75) (except *D. voluptuosa*, which has flagellum filiform but 22–23-segmented).... 10

7 Basal keel of propodeum very short, about 0.1× as long as apical area (Fig. 14). Tergite 2 of metasoma more than twice as long as broad anteriorly. Foveate groove of mesopleuron very weak, virtually absent. Hind wing with nervellus strongly reclivous, slanted at about 45°. Seychelles .....**evanescens** (Morley), ♀

– Basal keel of propodeum longer, at least 0.3× as long as apical area. Tergite 2 of metasoma shorter, 1.3–2.0× as long as broad anteriorly. Foveate groove of mesopleuron well developed. Hind wing with nervellus less reclivous, at most slanted at 10°. Continental Africa.....8

8 Metacarp very short, its distal section 0.4× as long as distance between distal end of radius and apex of fore wing (Fig. 10). Pterostigma in dorsal view conspicuously white-marked proximally and distally (Fig. 10). Malar space 1.2× as long as basal width of mandible (Fig. 9). Mesopleuron conspicuously inflated dorsally and ventroposteriorly. Mouthparts unusually long (Fig. 9) .....**aneuclifformis** sp. n., ♀

– Metacarp longer, its distal section 0.7–0.8× as long as distance between distal end of radius and apex of fore wing (Figs 37, 58). Pterostigma entirely brown (Fig. 37). Malar space equal to or shorter than basal width of mandible. Mesopleuron not strongly inflated. Mouth parts not unusually long 9

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9 Ovipositor long and slender, sheath about 2.4× as long as tergite 1 (Fig. 35). Metasoma entirely dark brown. Flagellum with 15 segments (Fig. 35). Very small, with body length 2.5 mm and fore wing length 2.15 mm ..... **minuscula** sp. n., ♀

– Ovipositor short and robust, sheath about as long as tergite 1 (Fig. 66). Metasoma behind tergite 1 ventrally and laterally yellow (Fig. 66). Flagellum with 17–18 segments (Fig. 59). Body length usually about 4.0 mm and fore wing length about 3.0 mm ..... **robusta** sp. n., ♀

10 Flagellum yellow or brownish yellow with apical 4 or 5 flagellomeres black, strongly contrasting with other segments (Fig. 68). Head very strongly narrowed behind eyes in dorsal view (Fig. 69). Frons, mesoscutum and dorsolateral area of propodeum very densely punctate. Flagellum filiform, short, 0.7× as long as fore wing (Fig. 68); mid flagellomeres 1.2–1.3× as long as broad. Malar space short, half as long as basal width of mandible (Fig. 68). Tergite 2 of metasoma 1.37–1.39× as long as broad anteriorly (Fig. 71) ..... **voluptuosa** sp. n., ♀

– Flagellum more or less entirely black or gradually darkening towards apex. Head not so strongly narrowed behind eyes in dorsal view (Figs 29, 52, 74). Frons, mesoscutum and dorsolateral area of propodeum finely and sparsely punctate. ♀: Flagellum clavate, 0.75–1.0× as long as fore wing (Figs 28, 50, 72); mid flagellomeres 1.4–1.8× as long as broad. Malar space longer, 0.7–1.0× as long as basal width of mandible. Tergite 2 of metasoma 1.45–1.8× as long as broad anteriorly.. 11

11 Metacarp ending far short of fore wing apex. ♀: Antenna almost as long as fore wing, flagellum very slender (Fig. 50). Tergite 2 of metasoma 1.45× as long as broad anteriorly (Fig. 56). Clypeus, in lateral view, strongly convex dorsally. Propodeum with apical area widely rounded anteriorly (Fig. 54)..... **probleformis** sp. n., ♀♂

– Metacarp almost reaching apex of fore wing (Fig. 72). ♀: Antenna about 0.75× as long as fore wing, flagellum less slender (Figs 31, 75). Tergite 2 of metasoma 1.6–1.8× as long as broad anteriorly. Clypeus, in lateral view, flat or weakly convex. Propodeum with apical area pointed or roundly pointed anteriorly (Figs 33, 76)... 12

12 Clypeus small, about 2.1× as long as broad (Fig. 30). Malar space 0.9–1.0× as long as basal width of mandible. Flagellum with 19 or 20 segments .... **kolyadai** sp. n., ♀

– Clypeus about 2.9× as long as broad (Fig. 73). Malar space of female 0.7–0.8× as long as basal width of mandible. Flagellum with 20–23 segments in female and 25–27 segments in male..... **vulgaris** sp. n., ♀♂

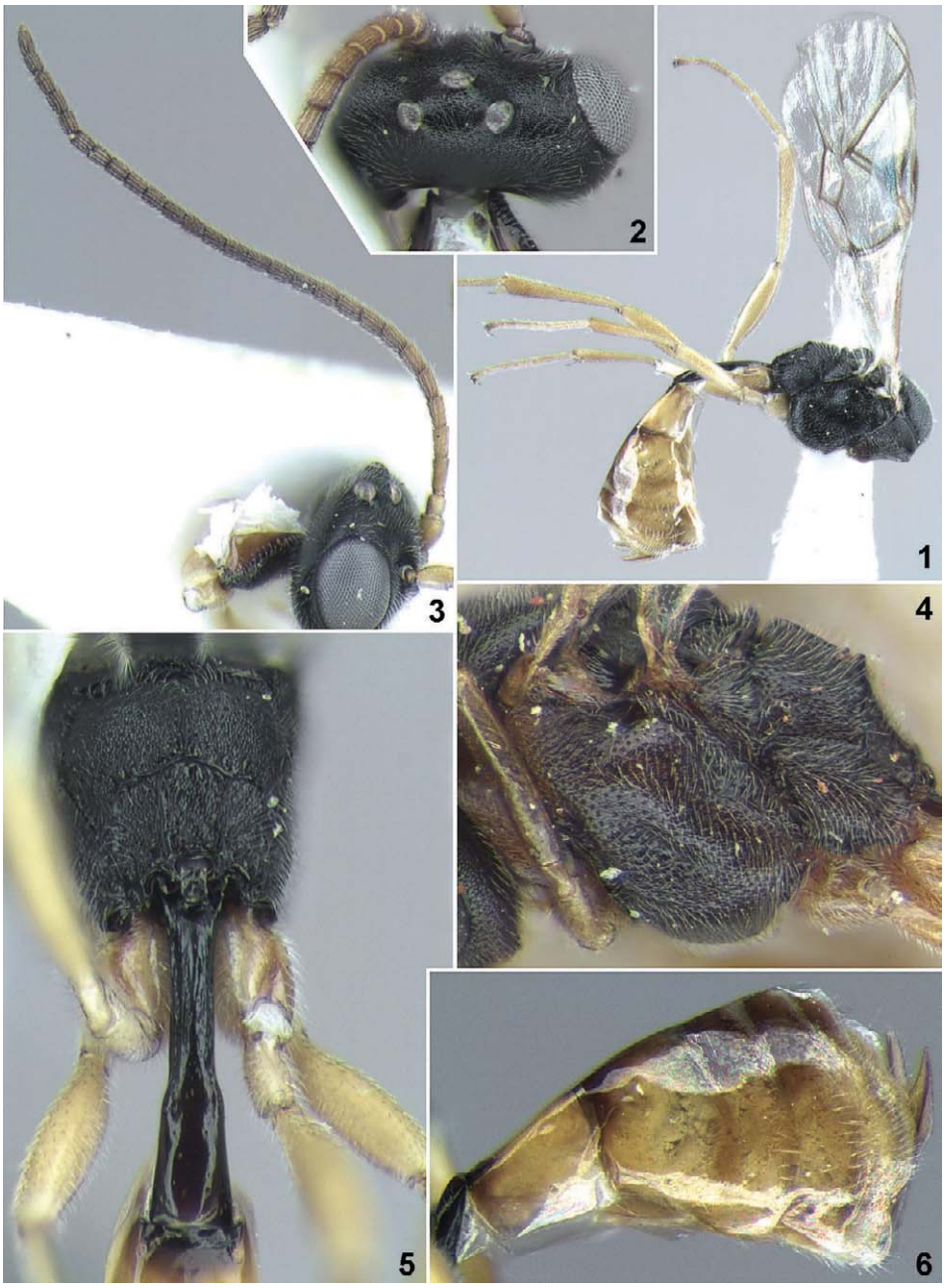
Diaparsis (Diaparsis) abstata sp. n.

Figs 1–6

Etymology: From the Latin *abstatus* (armed with a spear), after the spear-shaped apex of its ovipositor.

Diagnosis: The new species is readily distinguished from other Afrotropical species of the genus as it has a propodeum with basal keel equal to the apical area in length, widely rounded anterior apical area (similar to that in the subgenus *Nanodiaparsis* Horstmann,

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Figs 1–6. *Diaparsis abstata* sp. n.: (1–3, 5, 6) ♀ holotype: (1) habitus, lateral view, (2) head, dorsal view, (3) antenna, lateral view, (5) propodeum and tergite 1, dorsal view, (6) apex of metasoma with ovipositor, lateral view; (4) ♂ paratype, mesosoma, lateral view.

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1971) and very long distance between propodeal spiracle and pleural carina. It also possesses a hypostomal carina, which is absent in most (probably all) other Afrotropical species of the genus.

Description:

Female.

Body length 3.8 mm.

Head very strongly and roundly narrowed behind eyes in dorsal view; temple 0.75× as long as eye width. Flagellum of antenna weakly tapered towards apex, with 26 segments; flagellomeres 2 and 3 about 1.6, mid- and subapical flagellomeres 1.2–1.3× as long as broad. Mandible slender, rather strongly tapered towards apex, with upper tooth much longer than lower tooth. Malar space 0.8× as long as basal width of mandible. Clypeus 2.3× as broad as long, convex in lateral view, mostly smooth, finely punctate in upper half and very finely granulate in upper 0.3. Face, frons, vertex and temple granulate, dull, with very indistinct, fine punctures. Occipital carina complete. Hypostomal carina present, not evident near its junction with occipital carina.

Mesosoma with mesoscutum granulate, dull, with fine punctures (mostly indistinct). Notaulus substituted by a short tubercle or wrinkle somewhat distad of anterolateral margin of mesoscutum. Mesopleuron granulate (granulation is shallower centrally), dull, finely punctate centrally (punctures are stronger in the female paratype). Foveate groove more or less in centre of mesopleuron, weakly upcurved anteriorly, wide and with transverse wrinkles. Propodeal spiracle very small, separated from pleural carina by 4.0–5.0 diameters of spiracle. Propodeum with basal keel almost as long as apical area; dorsolateral area finely granulate, dull, finely and sparsely punctate; apical area widely rounded anteriorly, granulate or uneven, impunctate; apical longitudinal carinae anteriorly reaching transverse carina.

Fore wing length 3.1 mm. First abscissa of radius straight, longer than width of pterostigma. Metacarp ending somewhat before apex of fore wing. Second recurrent vein postfurcal. Intercubitus longer than abscissa of cubitus between intercubitus and second recurrent vein in holotype, and subequal to or slightly shorter in paratype. Hind wing with nervellus reclivous, slanted at 10–15°.

Legs slender. Hind femur 4.5× as long as broad and 0.84× as long as tibia. Spurs of hind tibia straight. Tarsal claws weakly curved, not pectinate.

Tergite 1 of metasoma slender, round in cross-section, 3.9× as long as broad posteriorly, with petiole striate dorsally and laterally in holotype and only laterally in paratype; glymma situated near centre of the tergite in holotype and in apical 0.6 of the tergite in paratype. Second tergite about 1.8× as long as anteriorly broad; thyridial depression 1.6–1.8× as long as broad. Ovipositor very short, very weakly upcurved, conspicuously thickened at apex (spear-shaped in holotype); sheath 0.19× as long as hind tibia (0.45× in paratype) and 0.24× as long as first tergite (0.55× in paratype).

Head, mesosoma and tergite 1 of metasoma black. Palpi, mandible (except for blackish teeth), scape and pedicel of antenna, lower half of clypeus, tegula and legs yellow. Flagellum brownish yellow basally to fuscous apically. Pterostigma brown. Metasoma behind tergite 1 yellow, dorsal surface of tergites 2+ anteriorly brownish.

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Male. Similar to female but flagellum somewhat more slender, with 24 segments, mesopleuron rather densely punctate, nervellus of hind wing slanted at about 20° and metasomal tergites longer. Malar space 0.8× as long as basal width of mandible. Mesosoma dark brown to black. Metasoma dark brown.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: Louwsberg, iGwala-Gwala private nature reserve, 27°34'S 31°17.9'E, 1090 m, 2–3.vi.2005, M. Mostovski, yellow pan trap (SAMC).

Paratypes: GABON: *Ogoové-Maritime Prov.*: 1♀ Réserve de la Moukalaba-Dougoua, 12.2 km 305° Doussala, 2°17.00'S 10°29.83'E, 110 m, coastal lowland rainforest, forest margin in large clearing, 1–2.iii.2000, S. van Noort, Malaise trap, GA00-M27, SAM-HYM-P0024919 (head absent; ZISP). UGANDA: *Central Region*: 1♂ Mulange, xi.1922, R. Dummet, SAM-HYM-P006177 (SAMC).

Diaparsis (Diaparsis) aneucliformis sp. n.

Figs 7–12

Etymology: Named after its similarity to the genus *Aneuclis* Förster.

Diagnosis: *Diaparsis aneucliformis* resembles species of *Aneuclis* by having the fore wing with the posterior abscissa of nervulus short and pale as well as a short, filiform, 16-segmented flagellum. Differs from known Afrotropical species of *Aneuclis* because of the longer malar space, and from its Afrotropical congeners in having a long malar space, short flagellum, unusually long mouthparts, pterostigma white-marked proximally and distally, short metacarp and mesopleuron conspicuously inflated dorsally and ventroposteriorly.

Description:

Female.

Body length 4.7 mm.

Head rounded behind eyes in dorsal view; temple 0.7× as long as eye width. Flagellum of antenna filiform, unusually short, about 0.55× as long as fore wing, with 16 segments; all flagellomeres, except the basal and the apical ones, about 1.3× as long as broad. Mandible slender, with upper tooth distinctly longer than lower tooth. Malar space 1.2× as long as basal width of mandible. Clypeus 2.4× as broad as long, almost flat in lower 0.7, mostly smooth, finely punctate in upper 0.6 and very finely granulate near upper margin. Face, frons and vertex finely granulate, dull, finely punctate. Temple finely and sparsely punctate, mostly smooth between punctures, very finely granulate dorsally and ventrally. Occipital carina complete.

Mesosoma with mesoscutum finely granulate, dull, finely and densely punctate (laterally punctures sometimes indistinct). Notaulus with longitudinal wrinkle. Mesopleuron conspicuously inflated dorsally and ventroposteriorly, densely punctate, smooth between punctures centrally and finely granulate peripherally. Foveate groove in anterior 0.6 of mesopleuron, moderately deep, oblique, not reaching anterior margin of mesopleuron, with transverse wrinkles. Propodeal spiracle separated from pleural carina by almost 4.0 diameters of spiracle. Propodeum with basal keel 0.31× as long as apical area; dorsolateral area granulate, dull, finely and densely punctate (punctures sometimes indistinct); apical area rounded or roundly pointed anteriorly, granulate, without distinct punctures; apical longitudinal carinae anteriorly weak, reaching or not reaching transverse carina.

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Figs 7–12. *Diaparsis aneucliformis* sp. n., ♀: (7, 9–11) holotype: (7) antenna and mesoscutum, dorsolateral view, (9) head and anterior part of mesosoma, lateral view, (10) apex of fore wing, dorsal view, (11) mid and hind legs, lateral view; (8, 12) paratype: (8) head, dorsal view, (12) apex of metasoma with ovipositor, lateral view.

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Fore wing length 3.2 mm. First abscissa of radius straight, longer than width of pterostigma. Metacarp very short, its distal section about 0.4× as long as distance between distal end of radius and apex of fore wing. Second recurrent vein postfurcal. Intercubitus somewhat shorter than abscissa of cubitus between intercubitus and second recurrent vein. Posterior abscissa of nervulus short and pale, thus the brachial cell seems to be rather widely open posteriorly. Hind wing with nervellus slightly reclivous.

Legs slender. Hind femur 3.9× as long as broad and 0.8× as long as tibia. Spurs of hind tibia straight. Tarsal claws weakly curved, not pectinate.

Tergite 1 of metasoma slender (petiole very thin), smooth, round in cross-section, 3.6× as long as broad posteriorly, without any vestiges of glymma. Second tergite almost 1.4× as long as broad anteriorly (1.3× in paratype); thyridial depression long, very shallow and indistinct. Ovipositor slender, upcurved, with very shallow dorsal subapical depression; sheath 2.3× as long as hind tibia and 2.1× (1.8× in paratype) as long as first tergite.

Head, mesosoma and tergite 1 of metasoma black. Antenna black, scape and pedicel brownish black. Palpi brownish. Mandible (except for blackish teeth) and lower 0.4 of clypeus brownish yellow. Tegula fuscous. Pterostigma in dorsal view brown, with conspicuous white marks proximally and distally, and in ventral view yellow peripherally and brownish centrally. Legs brownish yellow, fore coxa blackish basally, mid coxa blackish and hind coxa black, trochanters infuscate and apical one or two tarsomeres of all tarsi fuscous. Metasoma behind tergite 1 dark brown.

Male. Unknown.

Holotype: ♀ SOUTH AFRICA: *Western Cape*: Elandsfontein farm, Site E4, 32°17.69'S 23°00.57'E, Nama Karoo on dolerite soils, 21.iv.2001, S. van Noort & H.G. Robertson, Malaise trap, BW01-E4-M03, SAM-HYM-P0024894 (SAMC).

Paratype: SOUTH AFRICA: *Western Cape*: 1♀ Elandsfontein farm, Site E5, 32°18.14'S 22°56.85'E, Nama Karoo on dolerite soils, 27.iv.2001, S. van Noort & H.G. Robertson, Malaise trap, BW01-E5-M36, SAM-HYM-P0024893 (ZISP).

Diaparsis (*Diaparsis*) *evanescens* (Morley, 1912)

Figs 13, 14

Thersilochus evanescens: Morley 1912: 178.
Diaparsis evanescens: Townes & Townes 1973: 167.

Diagnosis: *Diaparsis evanescens* is very similar to *D. minuscula* sp. n. and *D. moesta* in respect of its small size as well as densely granulate, impunctate head and mesosoma, but differs from these and other Afrotropical species of the genus because of the very short basal keel of propodeum, weak foveate groove of mesopleuron and hind wing with nervellus strongly reclivous.

Description:

Female (based on holotype).

Small species with body length 3.0 mm and fore wing length 2.2 mm. Resembles species of *Aneuclis* but posterior abscissa of postnervulus developed. Head and mesosoma dark reddish brown, predominantly finely granulate and impunctate, but with shining, almost smooth temple and fine indistinct punctures on mesopleuron. Head rounded and moderately narrowed behind eyes in dorsal view; temple half as long as eye width. Antenna yellowish basally to fuscous apically. Flagellum 17-segmented,

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Fig. 13. *Diaparsis evanescens* (Morley), ♀ holotype, habitus, lateral view.

all flagellomeres 1.4–1.6× as long as broad. Malar space 0.72× as long as basal width of mandible. Mandible rather strongly narrowed, upper tooth longer than lower tooth. Clypeus small, smooth. Notaulus with longitudinal wrinkle anteriorly. Foveate groove of mesopleuron virtually absent, there being a very weakly impressed area with very weak, indistinct wrinkles. Distance between propodeal spiracle and pleural carina equal to almost one diameter of spiracle. Basal keel of propodeum very short, 0.1× as long as apical area. Apical area pointed anteriorly, almost flat, with apical longitudinal carinae developed in its posterior half, absent anteriorly. Fore wing with second recurrent vein postfurcal. Metacarp not reaching apex of fore wing. Pterostigma pale brown. Hind wing with nervellus strongly reclivous, slanted at about 45°. Legs slender, yellow, with hind coxa slightly brownish basally. Tergite 1 of metasoma very slender, with petiole round in cross-section; glymma situated near middle of the tergite, weak. Tergite 2 more than twice longer than broad anteriorly. Thyridial depression twice as long as broad. Ovipositor very long, upcurved, without obvious dorsal notch or depression, its sheath somewhat shorter than body.

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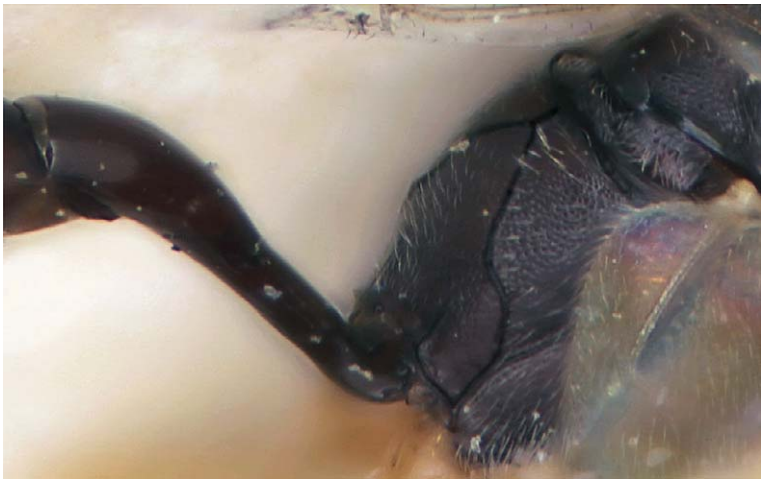


Fig. 14. *Diaparsis evanescens* (Morley), ♀ holotype, propodeum and tergite 1, dorsolateral view (carinae of propodeum marked with black).

Holotype (examined): ♀ "Named by Claude Morley [printed text; further text is hand-written] Thersilochus evanescens, Morl. sp.n. TYPE ... [illegible word] vii 1911", "Seychelles Islands. Pres. by Committee of the Percy Sladen Trust Fund. 1911–22. [printed label]", "103a bred together with many Anobiid & other beetles (labelled also 103a) from a fungus found in damp jungle about 2000 feet, Silhouette 29.VII.1908 H.S. [hand-written label]", "B.M. TYPE HYM. 3.b.1439." (BMNH).

Distribution: Seychelles.

Diaparsis (Diaparsis) interstitialis sp. n.

Figs 15–20

Etymology: Named after its interstitial second recurrent vein.

Diagnosis: It is the only species of the genus in which the flagellum of the female has a conspicuous pale band. The new species also differs from other Afrotropical species of *Diaparsis* in having the second recurrent vein interstitial, dorsolateral area of propodeum densely punctate over finely granulate, dull surface (a similar densely punctate propodeum is present only in *D. mostovskii* sp. n.), and short malar space.

Description:

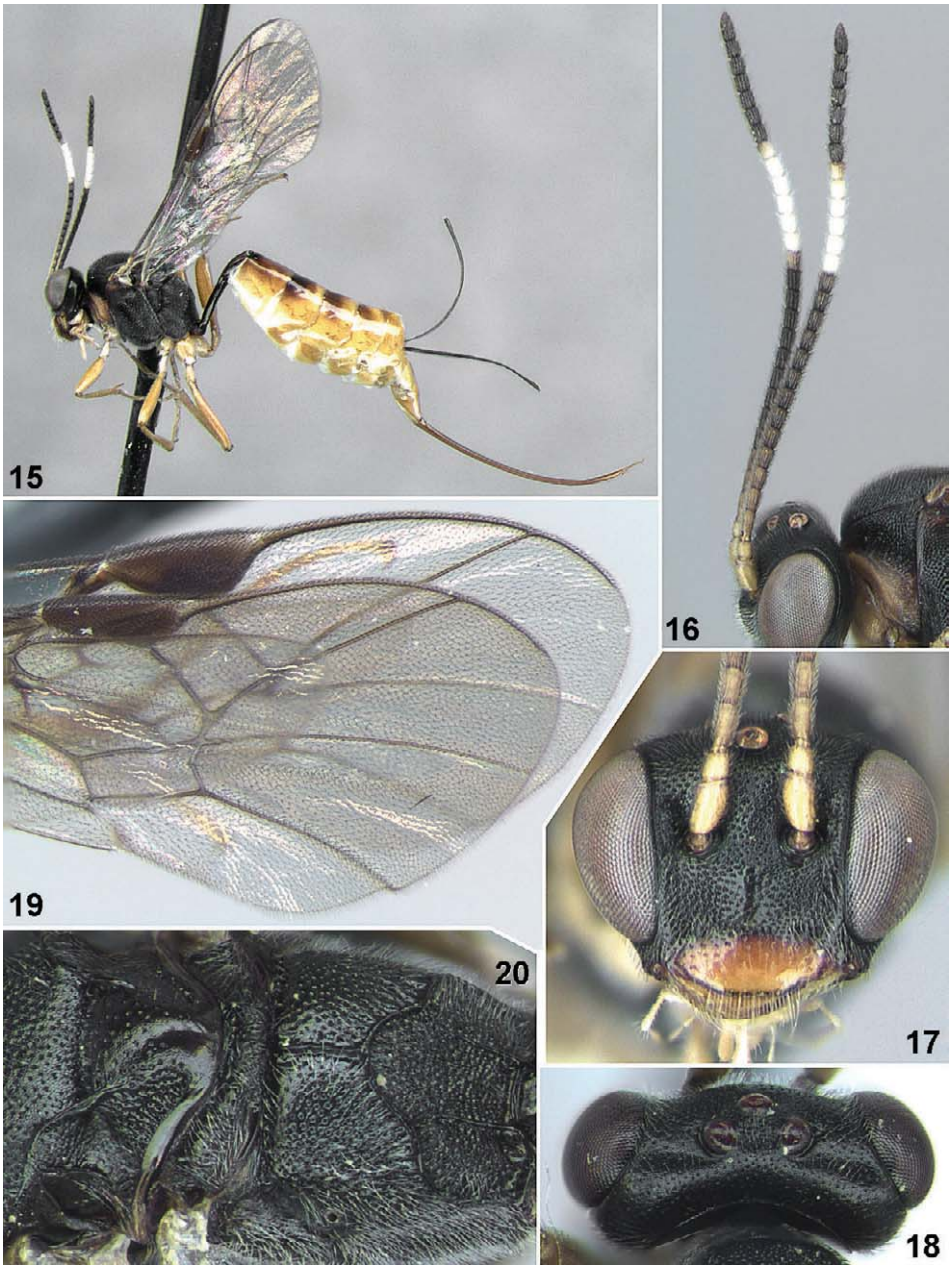
Female.

Body length about 6.0 mm.

Head strongly rounded behind eyes in dorsal view; temple half as long as eye width. Flagellum of antenna filiform, with 25–27 segments (26 segments in holotype); subbasal and mid flagellomeres about 1.2–1.5× as long as broad, subapical flagellomeres slightly elongate or quadrate. Mandible slender, with upper tooth much longer than lower tooth. Malar space short, about 0.4× as long as basal width of mandible. Clypeus lenticular, 2.6× as broad as long, smooth in lower half, punctate in upper half. Face and frons with very dense, sharp punctures, dull. Vertex finely and densely punctate, dull. Temple weakly shining, with fine and moderately dense punctures. Occipital carina complete. Hypostomal carina absent, surface polished.

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Mesosoma with mesoscutum very densely punctate, dull. Notaulus substituted by a short wrinkle. Mesopleuron very densely punctate, centrally weakly shining between punctures, peripherally dull. Foveate groove in anterior part of mesopleuron, strongly



Figs 15–20. *Diaparsis interstitialis* sp. n., ♀: (15–17, 19) holotype: (15) habitus, lateral view, (16) antenna, lateral view, (17) head, frontal view, (19) apex of fore wing; (18, 20) paratype: (18) head, dorsal view, (20) scutellum and propodeum, dorsolateral view.

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oblique, moderately impressed, with transverse wrinkles. Propodeal spiracle separated from pleural carina by about 1.5 diameters of spiracle. Propodeum with distinct basal keel which is 0.57× as long as apical area; dorsolateral area very densely punctate, dull; apical area rounded anteriorly, uneven, without distinct punctures; apical longitudinal carinae weak anteriorly and usually not reaching transverse carina.

Fore wing length 4.1 mm. First abscissa of radius curved, longer than width of pterostigma. Metacarp reaching apex of fore wing. Second recurrent vein interstitial. Intercubitus rather long. Hind wing with nervellus somewhat reclivous.

Legs slender. Hind femur 4.6× as long as broad and 0.88× as long as tibia. Spurs of hind tibia slender, almost straight. Tarsal claws long and slender, rather strongly curved, not pectinate.

Tergite 1 of metasoma slender, entirely smooth, 3.7× as long as broad posteriorly, with small but distinct glymma in its apical 0.5–0.55. Second tergite 1.8× as long as broad anteriorly; thyridial depression more than 3.0× as long as broad. Ovipositor upcurved, with very shallow dorsal subapical depression; sheath 1.8× as long as hind tibia and first tergite.

Head and mesosoma predominantly black. Flagellum blackish, basally yellowish and with median 6 to 7 flagellomeres white. Palpi, mandible (except for blackish teeth), scape and pedicel of antenna, lower 0.8–0.9 of clypeus, tegula and legs yellow or brownish yellow. Propleuron and anterior margin of pronotum brownish yellow to reddish brown. Pterostigma brown. Tergite 1 of metasoma black or brownish black. Metasoma behind tergite 1 yellow to brownish yellow, tergites 2–4 dorsally more or less brown.

Male. Flagellum black, without pale band, distinctly narrowed towards apex, with 32 flagellomeres; all flagellomeres, except the basal and apical ones, about 1.3× as long as broad. Malar space very short. Otherwise, similar to female.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: Eshowe, garden, 28°54'S 31°28'E, 21–23.iii.2005, V. Kolyada, yellow pan trap (SAMC).

Paratypes: SOUTH AFRICA: *KwaZulu-Natal*: 5♀ 1♂ Ramsgate, Butterfly Sanctuary, 30°53.3'S 30°20.4'E, 1.xi–2.xii.2004, M. Mostovski, Malaise trap (2♀ SAMC, 3♀ 1♂ ZISP); 6♀ same data, but 8.i.2005 (2♀ BMNH, 2♀ ZSM, 2♀ ZISP); 1♀ Ngoye Forest, Malaise trap, ix.2005–i.2006, G. Davies (SAMC).

Diaparsis (Diaparsis) inusitata sp. n.

Figs 21–27

Etymology: From the Latin *inusitata* (unusual, uncommon, strange).

Diagnosis: The new species differs from other Afrotropical species of the genus by virtue of the combination of interstitial second recurrent vein and entirely black flagellum of antenna and first tergite of metasoma.

Description:

Female.

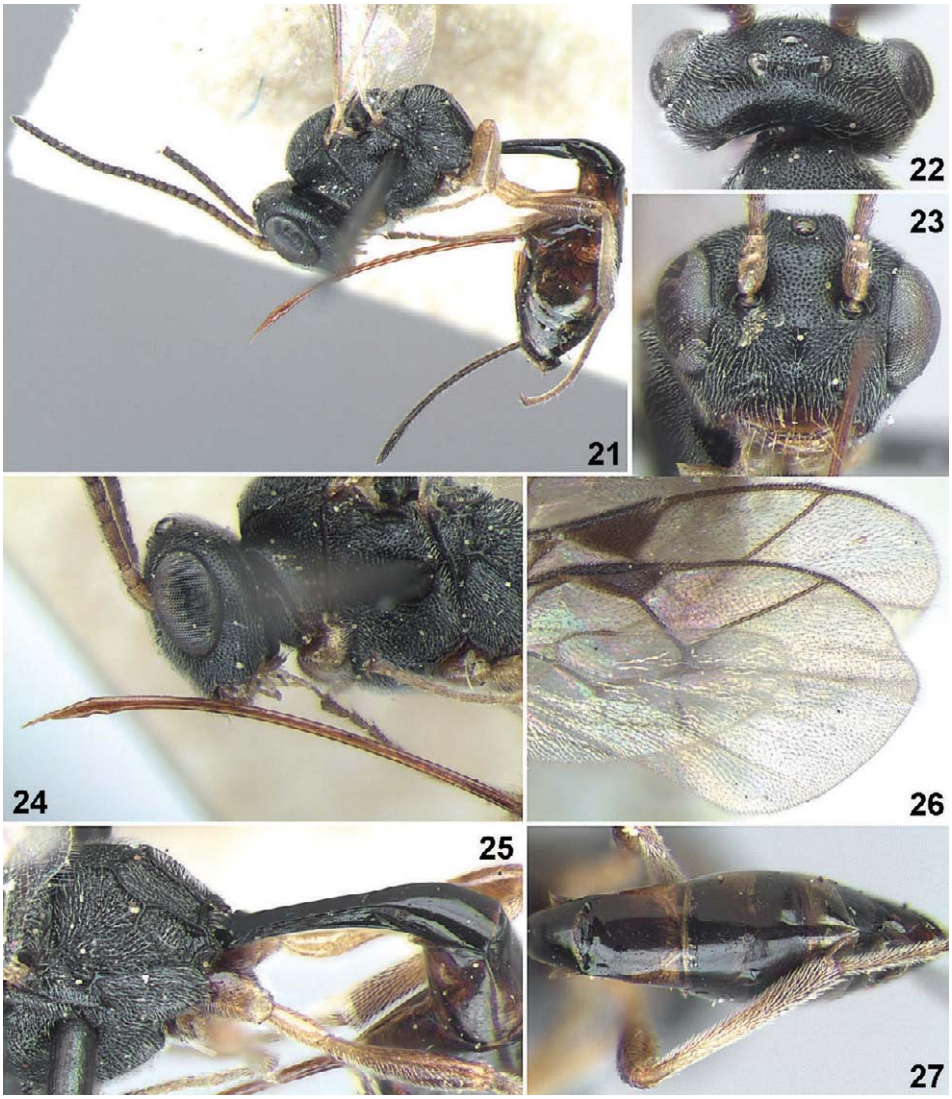
Body length 4.2 mm.

Head rounded behind eyes in dorsal view; temple 0.74× as long as eye width. Flagellum of antenna tapered towards apex, with 24 segments; sub-basal flagellomeres about 1.3× as long as broad, subapical flagellomeres subsquare. Mandible slender, with upper tooth

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much longer than lower tooth. Malar space as long as basal width of mandible. Clypeus 2.4× as broad as long, weakly separated from face, almost flat in lateral view, distinctly and densely punctate in upper 0.7, smooth between punctures and ventrally. Face and frons very densely punctate (distance between punctures shorter than one diameter of puncture) on granulate background. Vertex and temple finely and rather densely punctate on finely granulate background, dull. Occipital carina complete.

Mesosoma with mesoscutum, mesopleuron and dorsolateral area of propodeum granulate and very densely punctate (distance between punctures shorter than one diameter of



Figs 21–27. *Diaparsis inusitata* sp. n., ♀ holotype: (21) habitus, lateral view; (22) head, dorsal view; (23) head, frontal view; (24) head, mesosoma and ovipositor, lateral view; (25) propodeum and tergite 1, dorsolateral view; (26) apex of fore wing; (27) hind tibia and apex of metasoma, dorsal view.

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puncture), mesopleuron centrally between punctures almost smooth, punctures on propodeum partly indistinct because of granulation. Notaulus with irregular wrinkles. Foveate groove in anterior 0.6 of mesopleuron, moderately deep, wide, oblique, with transverse wrinkles. Propodeal spiracle small, separated from pleural carina by about 2.0 diameters of spiracle. Propodeum with basal keel 0.55× as long as apical area; apical area flat, rounded anteriorly, impunctate, granulate, with fine transverse wrinkles; apical longitudinal carinae strong, reaching transverse carina.

Fore wing length 2.9 mm. First abscissa of radius straight, longer than width of pterostigma. Metacarp ending far from apex of fore wing. Second recurrent vein interstitial. Intercubitus long. Hind wing with nervellus slightly reclivous.

Legs slender. Hind femur 4.5× as long as broad and 0.82× as long as tibia. Spurs of hind tibia straight. Tarsal claws not pectinate.

Tergite 1 of metasoma 3.5× as long as broad posteriorly, trapeziform in cross-section (dorsolateral carina distinct), smooth dorsally and with petiole partly striate laterally, with small glymma. Second tergite almost 1.4× as long as broad anteriorly; thyridial depression shallow, elongate. Ovipositor robust, upcurved, with two rounded dorsal subapical teeth; sheath 1.62× as long as hind tibia and almost 1.4× as long as first tergite.

Head, mesosoma and tergite 1 of metasoma black. Antenna with scape and pedicel brownish yellow, flagellum brownish basally to black apically. Palpi, mandible (except for reddish teeth), lower 0.3 of clypeus, tegula and legs yellow-brown; hind leg with coxa and femur predominantly brown, tibia fuscous basally and apically, with broad and pale sub-basal band, tarsus infuscate. Pterostigma brown. Metasoma behind tergite 1 dark brown.

Male. Unknown.

Holotype: ♀ UGANDA: *Central Region*: Mulange [0°30'35"N 33°02'43"E], xi.1922, R. Dummet, SAM-HYM-P006177 (SAMC).

Diaparsis (Diaparsis) kolyadai sp. n.

Figs 28–33

Etymology: Named in honour of the expert on Proctotrupoidea, who has collected a large number of Hymenoptera in South Africa, Viktor Kolyada (Paleontological Institute of the Russian Academy of Sciences, Moscow, Russia).

Diagnosis: The new species is very similar to *D. vulgaris* sp. n., but differs by having a small clypeus and longer malar space.

Description:

Female.

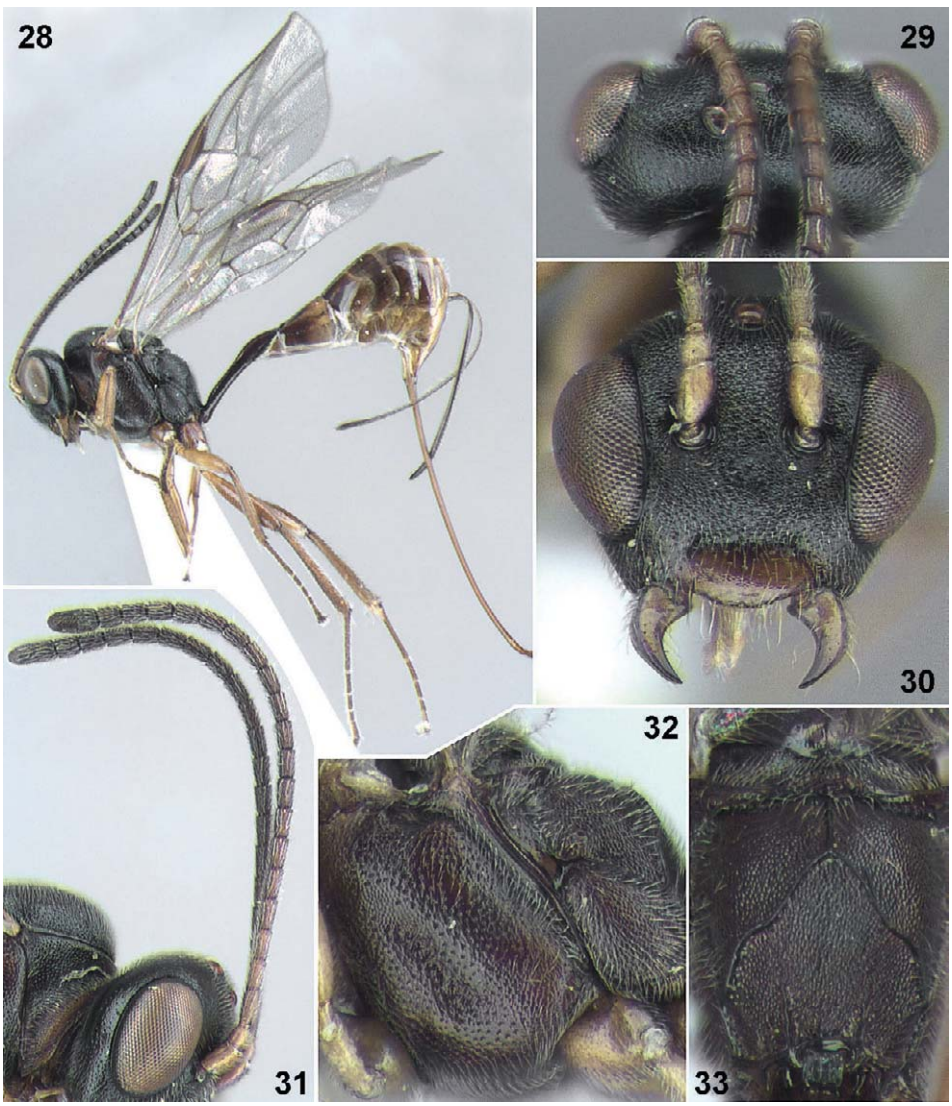
Body length 4.0 mm.

Head rounded behind eyes in dorsal view; temple 0.72× as long as eye width. Flagellum of antenna slightly clavate at apex, with 19–20 segments; sub-basal flagellomeres about 1.8× and subapical flagellomeres 1.2–1.3× as long as broad. Mandible slender, rather strongly tapered apically, with upper tooth distinctly longer than lower tooth. Malar space 0.9–1.0× as long as basal width of mandible. Clypeus 2.1× as broad as long, slightly

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convex in lateral view, sparsely punctate and very finely coriaceous in upper 0.6, smooth in lower 0.4. Face and frons finely and densely punctate on granulate background. Vertex finely granulate and very indistinctly punctate. Temple finely granulate, almost smooth centrally, with fine but distinct punctures. Occipital carina complete.

Mesosoma with mesoscutum finely and densely punctate on granulate background. Notaulus with short wrinkle. Mesopleuron granulate (very finely granulate centrally), with rather distinct dense punctures (punctures mostly indistinct peripherally). Foveate groove in anterior half of mesopleuron, moderately deep to rather shallow, strongly ob-



Figs 28–33. *Diaparsis kolyadai* sp. n., ♀: (28, 29) holotype: (28) habitus, lateral view, (29) head, dorsal view; (30–33) paratype: (30) head, frontal view, (31) antenna, lateral view, (32) posterior part of mesosoma, lateral view, (33) propodeum, dorsal view.

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lique, with transverse wrinkles. Propodeal spiracle small, separated from pleural carina usually by 1.5–2.0 (3.0 in one paratype) diameters of spiracle. Propodeum with basal keel 0.37× as long as apical area; dorsolateral area granulate, with very fine (sometimes indistinct) punctures. Apical area flat, pointed or roundly pointed anteriorly, granulate, impunctate; apical longitudinal carinae very weak anteriorly, usually not reaching transverse carina.

Fore wing length 3.25 mm. First abscissa of radius straight, longer than width of pterostigma. Metacarp almost reaching apex of fore wing. Second recurrent vein postfurcal. Intercubitus somewhat longer than abscissa of cubitus between intercubitus and second recurrent vein (except one paratype with intercubitus slightly shorter). Hind wing with nervellus slightly reclivous.

Legs slender. Hind femur 4.75× as long as broad and 0.88× as long as tibia. Spurs of hind tibia slightly curved at apex. Tarsal claws not pectinate, strongly curved.

Tergite 1 of metasoma very slender, 4.5× as long as broad posteriorly, smooth, petiole round in cross-section, with small glymma, short and shallow groove before glymma and more or less distinct vestige of groove from glymma to ventral part of postpetiole. Second tergite 1.75× as long as broad anteriorly; thyridial depression distinct, about 1.5× as long as broad. Ovipositor slender, rather strongly upcurved, with shallow, dorsal subapical depression; sheath about 2.3× as long as hind tibia and first tergite.

Head, mesosoma and tergite 1 of metasoma black; pronotum anteriorly yellowish red, upper part of mesopleuron sometimes reddish brown. Scape and pedicel of antenna, palpi, mandible (except for blackish teeth), lower 0.3 of clypeus and tegula brownish yellow. Flagellum brownish basally to fuscous apically. Pterostigma brown. Legs yellow-brown to brown. Metasoma behind tergite 1 predominantly brown, yellowish ventrally.

Male. Unknown.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: Cathedral Peak Nature Reserve, Rainbow Gorge, 28°57.60'S 29°13.61'E, 1480 m, 18.xi.2006–26.ii.2007, M. Mostovski, Malaise trap (SAMC).

Paratypes: 4♀ same data as holotype (2♀ ZISP, 1♀ BMNH, 1♀ ZSM).

Diaparsis (Diaparsis) minuscula sp. n.

Figs 34–37

Etymology: From the Latin *minusculus* (small, minor), after its small body size.

Diagnosis: Differs from other Afrotropical species of the genus by having a combination of long ovipositor, filiform 15-segmented flagellum, impunctate head and mesosoma and dark brown metasoma.

Description:

Female.

Very small species with body length 2.5 mm.

Head roundly narrowed behind eyes in dorsal view; temple 0.6× as long as eye width. Flagellum of antenna filiform, with 15 segments; sub-basal and middle flagellomeres about 1.5× and subapical flagellomeres about 1.2–1.3× as long as broad. Mandible slender, with upper tooth much longer than lower tooth. Malar space about 0.8× as long as basal width of mandible. Clypeus lenticular, 3.2× as broad as long, finely granulate and

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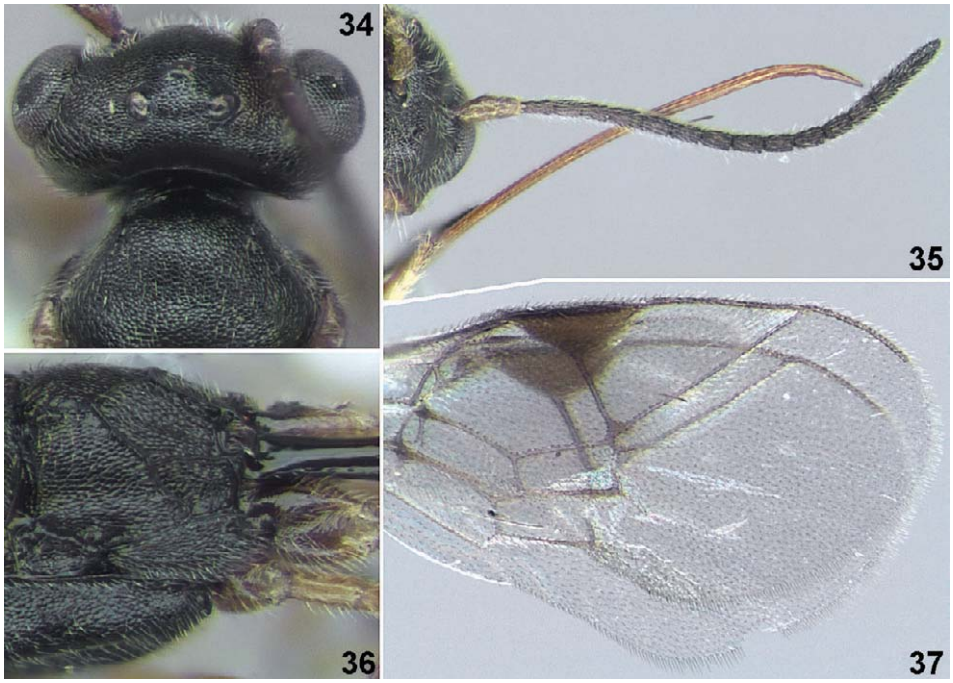
finely punctate in upper half and smooth in lower half. Face, frons and vertex granulate, dull, impunctate. Temple finely granulate, centrally almost smooth, impunctate. Occipital carina complete.

Mesosoma almost entirely granulate, dull, impunctate; mesoscutum and mesopleuron centrally (above foveate groove) with very fine, indistinct punctures; mesopleuron almost smooth centrally. Notaulus substituted by a short and sharp wrinkle. Foveate groove in anterior half of mesopleuron, strongly oblique, moderately impressed, with distinct transverse wrinkles. Propodeal spiracle separated from pleural carina by about 1.7 diameters of spiracle. Propodeum with basal keel 0.4× as long as apical area (anteriorly indistinct, with fine longitudinal wrinkles); apical area roundly pointed anteriorly, slightly impressed along midline; apical longitudinal carinae complete, reaching transverse carina.

Fore wing length 2.15 mm. First abscissa of radius straight, longer than width of pterostigma. Metacarp not reaching apex of fore wing. Second recurrent vein postfurcal. Intercubitus slightly thickened, about as long as abscissa of cubitus between intercubitus and second recurrent vein. Hind wing with nervellus somewhat reclivous.

Legs slender. Hind femur 4.0× as long as broad and 0.84× as long as tibia. Spurs of hind tibia spurs slightly curved. Tarsal claws not pectinate.

Tergite 1 of metasoma slender, entirely smooth, 3.9× as long as broad posteriorly, without distinct glymma. Second tergite 1.5× as long as broad anteriorly; thyridial depression 1.3–1.5× as long as broad. Ovipositor very weakly upcurved in basal 0.9 and strongly



Figs 34–37. *Diaparsis minuscula* sp. n., ♀ holotype: (34) head, dorsal view; (35) antenna and ovipositor, lateral view; (36) propodeum, dorsolateral view; (37) apex of fore wing.

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upcurved in apical 0.1, with very shallow dorsal subapical depression and two weak, rounded dorsal teeth in front of and behind this depression; sheath about 2.25× as long as hind tibia and 2.4× as long as first tergite.

Head and mesosoma black. Antenna with scape and pedicel yellowish brown, flagellum blackish. Palpi, mandible (except for reddish teeth), lower half of clypeus and tegula brownish yellow. Legs brownish yellow, coxae (especially hind coxa) brownish, hind femur slightly brownish centrally. Pterostigma brown. Tergite 1 of metasoma black with brownish hue. Metasoma behind tergite 1 dark brown to black.

Male. Unknown.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: Cathedral Peak Nature Reserve, Rainbow Gorge, 28°57.60'S 29°13.61'E, 1480 m, 30.i–28.v.2006, M. Mostovski, Malaise trap (SAMC).

Diaparsis moesta (Holmgren, 1868)

Figs 38–42

Thersilochus moestus: Holmgren 1868: 419.
Diaparsis moesta (Holmgren): Townes & Townes 1973: 167.

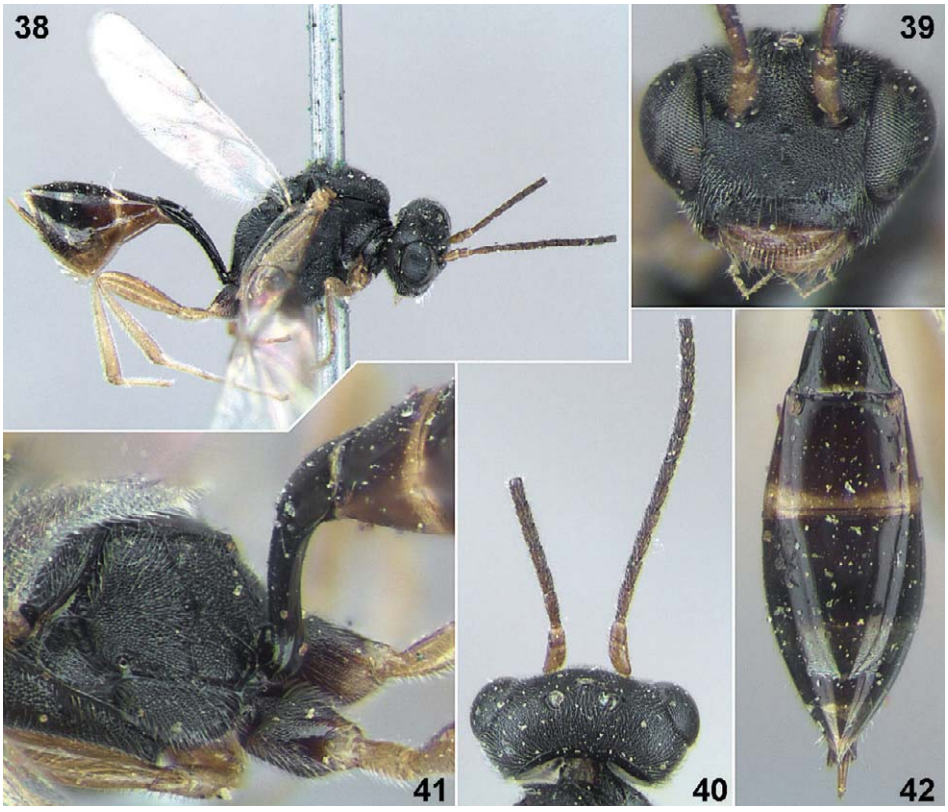
Description:

Female.

Body length 3.5 mm, fore wing length 2.6 mm.

Head and mesosoma black (lower half of clypeus and tegula yellowish), entirely (including temple and mesopleuron) densely granulate and impunctate. Head rounded and moderately narrowed behind eyes in dorsal view; temple 0.71× as long as eye width. Antenna with scape and pedicel yellowish, flagellum pale brown basally to blackish medially. Flagellum with more than 12 segments (tips of both antennae absent in holotype), slender basally, probably filiform, flagellomere 2 about 1.8–2.0× as long as broad, mid flagellomeres 1.4–1.5× as long as broad. Malar space slightly shorter than basal width of mandible. Mandible yellow (but teeth reddish), slender, with upper tooth longer than lower tooth. Clypeus almost flat in lateral view, finely and sparsely punctate on very finely granulate background in upper 0.6, more or less smooth in lower 0.4. Notaulus as irregularly rugulose area. Foveate groove of mesopleuron moderately deep, long (extending almost entire length of mesopleuron), S-curved, wider anteriorly and narrow posteriorly, transversely wrinkled. Distance between propodeal spiracle and pleural carina equal to 1.8 diameters of spiracle. Basal keel of propodeum 0.37× as long as apical area. Apical area roundly pointed anteriorly, flat; apical longitudinal carinae reaching transverse carina anteriorly. Fore wing with second recurrent vein postfurcal, intercubitus thick and very short. Metacarp not reaching apex of fore wing. Pterostigma brown. Hind wing with nervellus moderately reclivous, slanted at about 20°. Legs slender and yellow, with hind coxa blackish; hind femur 4.7× as long as broad and 0.88× as long as tibia. Hind tarsus very slender. Tarsal claws not pectinate. Tergite 1 of metasoma black with brownish hue, 3.2× as long as broad posteriorly, with petiole round in cross-section, dorsal surface of postpetiole finely granulate anteriorly; glymma small and indistinct, situated far behind middle of tergite, joining by means of fine groove to ventral part of postpetiole. Metasoma behind tergite 1 dark brown, tergite 1 with narrow yellow band posteriorly. Tergite 2 long and broad anteriorly. Thyridial depression slightly elongate. Ovipositor probably not especially long (apex absent in holotype), weakly upcurved.

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Figs 38–42. *Tersilochus moestus* Holmgren, ♀ holotype: (38) habitus, lateral view; (39) head, frontal view; (40) head with antenna, dorsal view; (41) propodeum and base of metasoma, dorsolateral view; (42) posterior part of mesosoma, dorsal view.

Holotype (examined): ♀ SOUTH AFRICA: *Western Cape*: "Cape B Spei. [= Cape of Good Hope]", "*Victorin*.", "Type.", "Typus [red paper]", "Thersilochus moestus Hg... . [hand-written label with illegible last word]", "92 55", "327 72" (NHRS).

Note: The holotype is a moderately well preserved specimen with tips of both antennae (flagella contain 6 and 12 segments, respectively), one fore leg, tarsi behind basitarsus of one mid and one hind leg, and apices of ovipositor and sheath absent; mesosoma slightly deformed.

Distribution: South Africa (Western Cape).

Remarks: This is clearly a member of the genus *Tersilochus* Holmgren, 1859 (subgenus *Tersilochus* s. str.), where it was originally described, because it has the first metasomal segment with glymma joining by means of a fine groove to the ventral part of the post-petiole, and has a weakly elongate thyridial depression and simple tarsal claws.

Valid name: *Tersilochus* (*Tersilochus*) *moestus* Holmgren, 1859, **comb. n.**

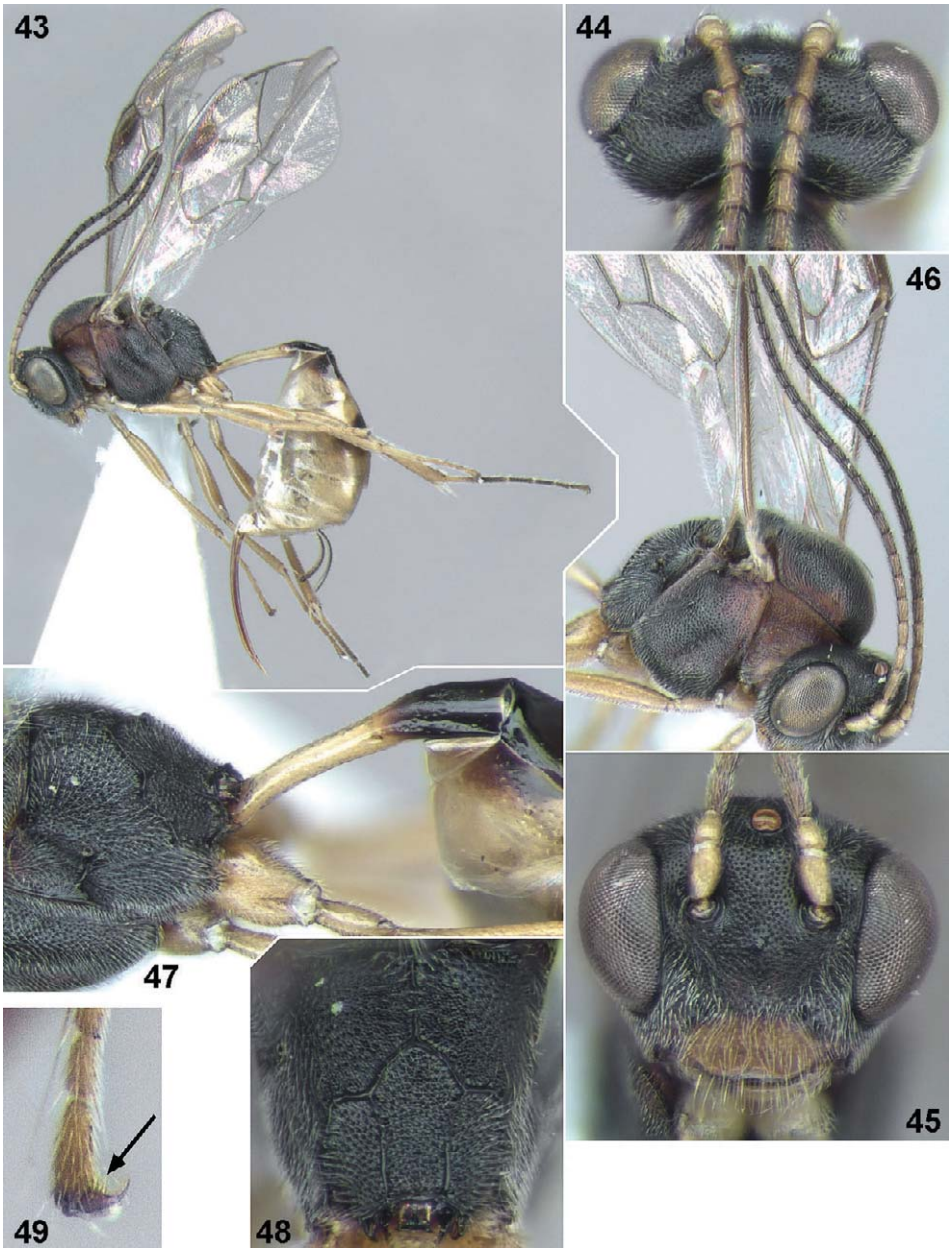
Diaparsis (Diaparsis) mostovskii sp. n.

Figs 43–49

Etymology: Named in honour of the collector of the type material, Dr Mike Mostovski (KwaZulu-Natal Museum, Pietermaritzburg, South Africa).

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Diagnosis: It is the only species of the genus that has the basal 0.7 of tergite 1 white, strongly contrasting with the black apical 0.3. Like *D. interstitialis* sp. n., it has a dorsolateral area of the propodeum densely punctate, but unlike the latter species, it has



Figs 43–49. *Diaparsis mostovskii* sp. n., ♀ holotype: (43) habitus, lateral view; (44) head, dorsal view; (45) head, frontal view; (46) antenna and mesosoma, anterolateral view; (47) posterior part of mesosoma and tergite 1, dorsolateral view; (48) propodeum, dorsal view; (49) tarsal claw.

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a second recurrent vein postfurcal. The new species also has conspicuous tarsal claws that are finely pectinate basally; within the genus, pectinate tarsal claws are otherwise present only in the East Palaearctic *D. improvisator* Khalaim, but unlike *D. mostovskii* sp. n., that species possesses tarsal claws with very strong and dense teeth.

Description:

Female.

Body length 4.7 mm.

Head strongly rounded behind eyes in dorsal view; temple 0.73× as long as eye width. Flagellum of antenna weakly tapered towards apex, slender, with 19–28 segments (23 in holotype); flagellomere 2 almost twice, mid and subapical flagellomeres 1.2–1.5× as long as broad. Mandible slender, with upper tooth much longer than lower tooth. Malar space 0.7–0.8× as long as basal width of mandible. Clypeus about twice as broad as long, densely and evenly punctate except at extreme lower margin. Face and frons very densely punctate, dull. Vertex and temple finely and densely punctate, finely granulate, dull. Occipital carina complete. Hypostomal carina absent, surface polished.

Mesosoma with mesoscutum densely punctate, dull. Notaulus substituted by a short wrinkle. Mesopleuron very densely punctate, dull. Foveate groove in anterior part of mesopleuron, strongly oblique, moderately impressed, with more or less distinct transverse wrinkles. Propodeal spiracle very small, separated from pleural carina by 2.0–4.0 diameters of spiracle (2.0 diameters in holotype). Propodeum with distinct basal keel which is 0.5–0.7× (0.63× in holotype) as long as apical area; dorsolateral area densely granulate, dull, very densely punctate (sometimes, especially in small specimens, punctures are indistinct); apical area rounded or roundly pointed anteriorly, densely granulate, uneven, usually without distinct punctures; apical longitudinal carinae weak anteriorly, generally not reaching transverse carina.

Fore wing length 3.3 mm. First abscissa of radius curved, longer than width of pterostigma. Metacarp not reaching apex of fore wing. Second recurrent vein almost interstitial (in holotype) to distinctly postfurcal. Intercubitus moderately long. Hind wing with nervellus vertical to slightly reclivous.

Legs slender. Hind femur 5.0× as long as broad and 0.88× as long as tibia. Spurs of hind tibia slender, inner spur 1.5–1.8× as long as outer spur. Tarsal claws small, finely pectinate at extreme base.

Tergite 1 of metasoma very slender, round in cross-section, entirely smooth, 4.4× as long as broad posteriorly, without glymma. Second tergite 1.7× as long as broad anteriorly; thyridial depression very shallow, more than 2.0× as long as broad. Ovipositor short and robust, weakly upcurved, without teeth, with very shallow dorsal subapical depression; sheath about 0.65× as long as hind tibia and 0.6× as long as first tergite.

Head and mesosoma predominantly black. Flagellum blackish, basally yellowish brown. Palpi, mandible (except for blackish teeth), scape and pedicel of antenna, clypeus (sometimes blackish in upper part), tegula and legs (hind and sometimes mid tarsus more or less infuscate) brownish yellow. Propleuron, pronotum, lateral margin of mesoscutum and anterodorsal part of mesopleuron usually reddish brown. Pterostigma brown. Tergite 1 of metasoma white in basal 0.7, blackish in apical 0.3. Metasoma behind tergite 1

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predominantly yellow to brownish yellow, dorsally and dorsolaterally brown to dark brown (usually only tergite 2 conspicuously brown-marked dorsally).

Male. Flagellum with 21–24 segments, basally less slender than in female. Malar space shorter. Metasomal tergites 2+ generally more extensively brown-marked. Otherwise similar to female.

Variation: The size varies rather markedly, with body length 3.8–5.8 mm and fore wing length 2.6–3.9 mm. Flagellum usually with 23–28 segments, in small specimens with 19 segments. Mesosoma entirely black (in smallest specimen) to black with varying amounts of reddish brown. Propodeum distinctly to rather weakly punctate. Second recurrent vein almost interstitial to strongly postfurcal.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: Cathedral Peak Nature Reserve, Rainbow Gorge, 28°57.60'S 29°13.61'E, 1480 m, 30.i–28.v.2006, M. Mostovski, Malaise trap (SAMC).

Paratypes: SOUTH AFRICA: *KwaZulu-Natal*: 1♀ 1♂ same data as holotype but 29.v–21.ix.2006 (ZISP); 1♀ Cathedral Peak, Education Camp, 28°57.4'S 29°14.4'E, 1420 m, 11–12.ix.2004, M. Mostovski, yellow pan trap (ZISP); 1♀ Vernon Crookes Nature Reserve, 30°17.4'S 30°36.9'E, 250 m, 24.i–10.v.2006, M. Mostovski, Malaise trap (ZISP); 1♀ Ramsgate, Butterfly Sanctuary, 30°53.3'S 30°20.4'E, 3–30.x.2004, M. Mostovski, Malaise trap (BMNH). *Western Cape*: 2♂ 'Mossel Bay SA Museum [South African Museum]', 'R. Turner 28-11-41 [28.xi.1941]' [underside of label; both sides contain handwritten illegible text], SAM-HYM-P001296 (SAMC); 1♂ Witte River, Wellington, 1500 ft (= 460 m), xi.1922, K.H. Barnard, SAM-HYM-P006178 (SAMC); 1♀ Table Mountain National Park, Silvermine, 34°04.665'S 18°24.501'E, 440 m, rocky area, 10.x.2006, J.G.H. Londt (SAMC). UGANDA: 1♀ Central Region, Mulange, xi.1922, R. Dummet, SAM-HYM-P006175 (SAMC); 1♀ Kibale National Park, Kanyawara Biological Station, 0°33'55.6"N 30°21'29.0"E, 15 m, 13–21.iii.2010, S. Katusabe *et al*., Malaise trap (ZMUT).

Diaparsis (Diaparsis) probleformis sp. n.

Figs 50–57

Etymology: Named after its similarity to the genus *Probles* Förster.

Diagnosis: Differs from other Afrotropical species of the genus because of a combination of the following features: long, slender and clavate antenna, long ovipositor, finely and sparsely punctate head and mesosoma and fore wing with short metacarp.

Description:

Female.

Body length 4.9 mm.

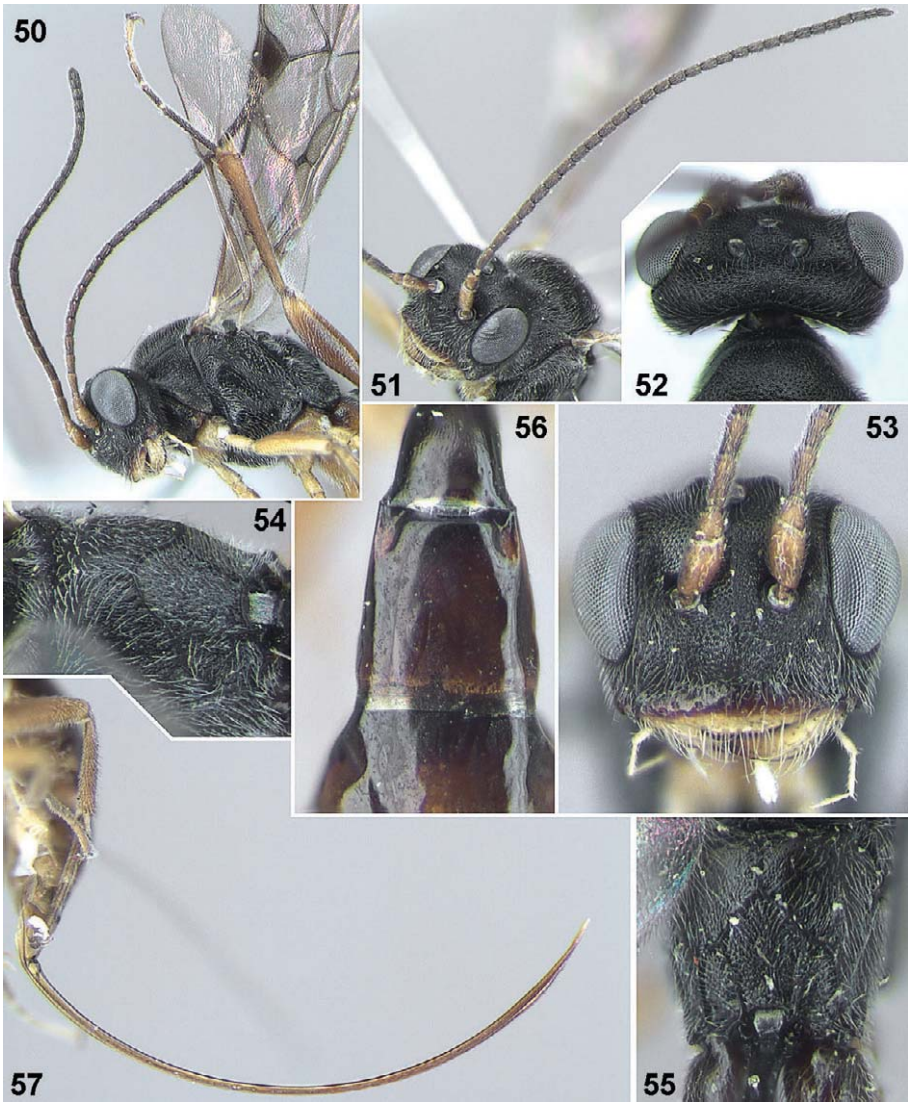
Head rounded behind eyes in dorsal view; temple 0.7× as long as eye width. Flagellum of antenna almost as long as fore wing, slender, distinctly clavate at apex, with 24 segments; basal and mid flagellomeres 1.8–2.0× as long as broad, subapical flagellomere square. Mandible with upper tooth much longer than lower tooth. Malar space 0.85× as long as basal width of mandible. Clypeus wide, about 3.0× as broad as long, rather strongly convex dorsally in lateral view, smooth and distinctly punctate in upper half. Face and frons finely and densely punctate on granulate background (punctures on face mostly indistinct). Vertex with very shallow punctures on finely granulate background. Temple finely granulate, finely and sparsely punctate. Occipital carina complete.

Mesosoma with mesoscutum granulate, finely and densely punctate. Notaulus with short and weak longitudinal wrinkle. Mesopleuron finely punctate (punctures distinct centrally and indistinct peripherally) or very finely granulate, dull background. Foveate groove in anterior 0.6 of mesopleuron, moderately broad, oblique, not reaching anterior

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margin of mesopleuron, with fine transverse wrinkles. Propodeal spiracle separated from pleural carina by about one diameter of spiracle. Propodeum with basal keel vanishing, 0.6× as long as apical area; dorsolateral area granulate, with very fine and indistinct punctures; apical area widely rounded anteriorly, flat, evenly granulate, impunctate; apical longitudinal carinae reaching transverse carina anteriorly.

Fore wing length 3.5 mm. First abscissa of radius straight, longer than width of pterostigma. Metacarp far short of apex of fore wing. Second recurrent vein postfurcal.



Figs 50–57. *Diaparsis probleformis* sp. n.: (50, 52–54, 56, 57) ♀ holotype: (50) head with antenna, mesosoma and hind leg, lateral view, (52) head, dorsal view, (53) head, frontal view, (54) propodeum, dorsolateral view, (56) metasomal tergite 2, dorsal view, (57) apex of metasoma with ovipositor, lateral view; (51, 55) ♂ paratype: (51) head with antenna, anterolateral view, (55) propodeum, dorsal view.

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Intercubitus slightly longer than abscissa of cubitus between intercubitus and second recurrent vein. Hind wing with nervellus slightly reclivous.

Legs robust. Hind femur 3.7× as long as broad and almost as long as tibia. Spurs of hind tibia almost straight. Tarsal claws strongly curved, not pectinate.

Tergite 1 of metasoma smooth, 3.8× as long as broad posteriorly, with isolated glymma in basal 0.45, and petiole round in cross-section. Second tergite 1.45× as long as broad anteriorly; thyridial depression about 1.7× as long as broad. Ovipositor long, rather strongly upcurved, with very shallow dorsal subapical depression; sheath 2.8× as long as hind tibia and first tergite.

Head, mesosoma and tergite 1 black. Antenna with scape and pedicel brownish yellow, flagellum brown basally to blackish apically. Clypeus yellow in lower 0.4 and dark brown in upper 0.6. Palpi and mandible (except for blackish teeth) yellow. Tegula brownish. Pterostigma brown. Wings infused with brown. Legs mainly brownish yellow with mid tibia and tarsus infuscate, hind leg with coxa brown, femur brown with apical 0.2 yellowish, tibia infuscate and tarsomeres 1–4 fuscous. Metasoma behind tergite 1 mainly dark brown, ventrally yellow.

Male. Very similar to female but flagellum distinctly tapered towards apex, with 27–29 segments, malar space shorter, propodeal spiracle separated from pleural carina by about 2.0 diameters of spiracle, apical area of propodeum pointed anteriorly, fore wing with intercubitus slightly shorter than abscissa of cubitus between intercubitus and second recurrent vein, tergite 2 longer and thyridial depression twice as long as broad.

Holotype: ♀ SOUTH AFRICA: *Western Cape*: Avondale farm, Site A4, 32°14.31'S 22°58.59'E, Nama Karoo on dolerite soils, 25.iv.2001, S. van Noort & H.G. Robertson, Malaise trap, BW01-A4-M27, SAM-HYM-P0024884 (SAMC).

Paratypes: SOUTH AFRICA: *KwaZulu-Natal*: 1♂ Royal Natal Nature Reserve, Gudu Forest, 28°40.9'S 28°55.78'E, 1680–1730 m, 18.xi.2006–27.ii.2007, M. Mostovski, Malaise trap (SAMC). *Western Cape*: 1♂ Kamferskraal farm, Site K4, 32°16.92'S 23°01.13'E, Nama Karoo on dolerite soils, 29.iv.2001, S. van Noort & H.G. Robertson, Malaise trap, BW01-K4-M47 (ZISP).

Diaparsis (*Diaparsis*) *ramassamy* Rousse & Villemant, 2012

Diaparsis ramassamy: Rousse & Villemant 2012: 51 [holotype ♀ (MNHN), Reunion, Bras Panon / La Caroline, 230 m, 03/05, leg. Rousse].

Diagnosis (based on the original description and illustrations):

Small species with fore wing length 2.2–2.5 mm and body length about 3.0–3.4 mm. Head and mesosoma granulate, probably impunctate. Flagellum filiform, basally slender, with 18–19 segments in female and 20 segments in male. Malar space 1.2× as long as basal width of mandible. Foveate groove of mesopleuron present, strongly oblique. Propodeal spiracle separated from pleural carina by 2.5 diameters of spiracle. Fore wing with second recurrent vein distinctly postfurcal. Metacarp probably ending far short of fore wing apex. First tergite slender, round in cross-section, with glymma situated behind middle. Legs slender. Ovipositor slender and very long, more than 3.0× as long as first tergite, strongly sinuate at apex. Head (lower part of clypeus, mandible and palpi yellowish), mesosoma and first metasomal segment reddish black. Antenna fuscous, without pale band, basally brownish. Metasoma behind first tergite brown. Pterostigma pale brown. Legs yellow, hind coxa slightly infuscate.

Distribution: Reunion.

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Diaparsis (Diaparsis) robusta sp. n.

Figs 58–66

Etymology: From the Latin *robustus* (hard, firm, solid, robust); named after its short and robust ovipositor.

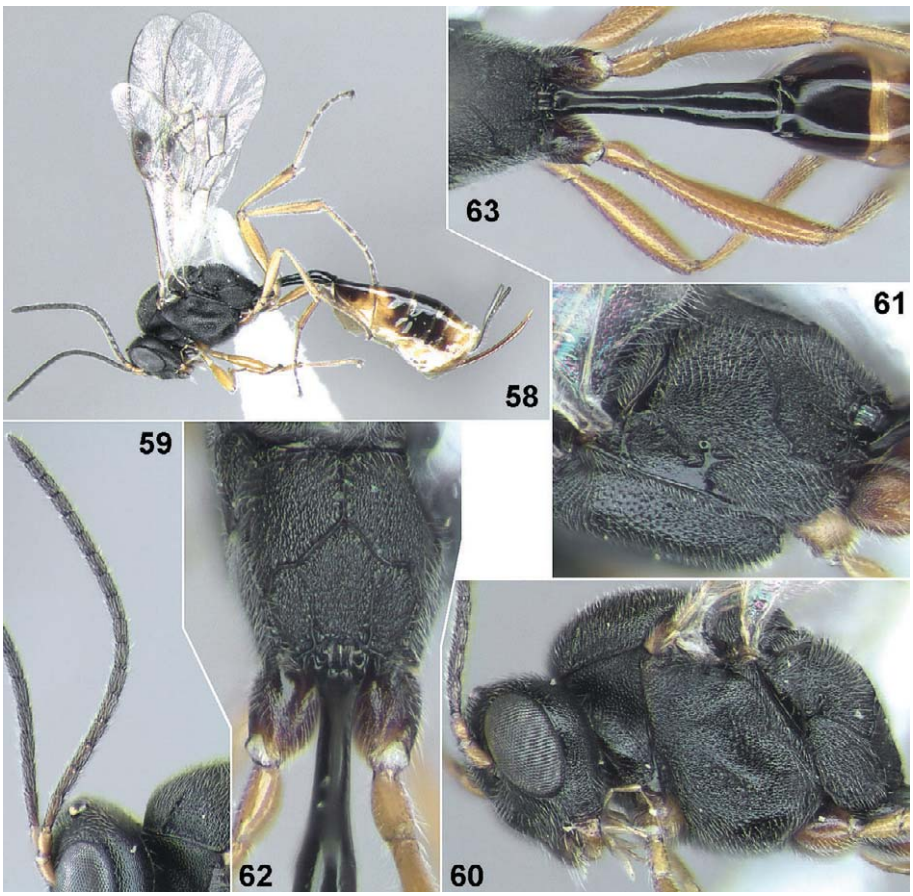
Diagnosis: Differs from other Afrotropical species of the genus by a combination of the following characteristics: short and robust ovipositor, impunctate or very indistinctly punctate dorsolateral area of propodeum and filiform flagellum with 17 or 18 segments.

Description:

Female.

Body length 4.0 mm.

Head strongly and roundly narrowed behind eyes in dorsal view; temple 0.75× as long as eye width. Flagellum of antenna filiform, slender, usually with 17 segments (18



Figs 58–63. *Diaparsis robusta* sp. n., ♀: (58–60) holotype: (58) habitus, lateral view, (59) antenna, lateral view, (60) head and mesosoma, lateral view; (61–63) paratype: (61) propodeum, dorsolateral view, (62) propodeum and tergite 1, dorsal view, (63) base of metasoma, dorsal view.

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segments in one paratype); sub-basal flagellomeres about 1.8, mid flagellomeres about 1.5× and subapical flagellomeres 1.2–1.3× as long as broad. Mandible slender, with upper tooth much longer than lower tooth. Malar space 0.9–1.0× as long as basal width of mandible. Clypeus lenticular, 2.6× as broad as long, almost entirely smooth (very finely granulate near upper margin), distinctly punctate in upper half. Face and frons granulate, dull, finely and densely punctate (punctures mostly indistinct because of granulation). Vertex and temple granulate, with very sparse, indistinct punctures. Occipital carina complete.

Mesosoma with mesoscutum granulate, finely and densely punctate (punctures mostly indistinct because of granulation). Notaulus substituted by a strong wrinkle. Mesopleuron granulate (granulation weaker centrally), finely but distinctly punctate centrally and rather indistinctly punctate peripherally. Foveate groove in anterior 0.6 of mesopleuron, not reaching anterior margin of mesopleuron, strongly oblique, not especially deep, transversely wrinkled. Propodeal spiracle separated from pleural carina usually by 1.5–2.0 diameters of spiracle (almost 4.0 diameters in one paratype). Propodeum with distinct basal keel which is 0.5–0.7× (0.55× in holotype) as long as apical area; dorsolateral area granulate, very indistinctly punctate, dull; apical area flat, rounded or roundly pointed anteriorly, granulate, impunctate; apical longitudinal carinae usually reaching transverse carina anteriorly (in one paratype apical longitudinal carinae incomplete, developed only posteriorly).

Fore wing length 3.0 mm. First abscissa of radius straight, longer than width of pterostigma. Metacarp not reaching apex of fore wing. Second recurrent vein postfurcal. Intercubitus equal to or sometimes somewhat longer than abscissa of cubitus between intercubitus and second recurrent vein. Hind wing with nervellus vertical or slightly reclivous.

Legs slender. Hind femur slightly clavate, 4.7× as long as broad and 0.86× as long as tibia. Spurs of hind tibia almost straight. Tarsal claws not pectinate.

Tergite 1 of metasoma slender, entirely smooth, almost 4.0× as long as broad posteriorly, without glymma and with petiole round in cross-section. Second tergite usually 1.8–2.0×



Figs 64–66. *Diaparsis robusta* sp. n., ♀ holotype: (64) head, frontal view; (65) head, dorsal view; (66) apex of metasoma with ovipositor, lateral view.

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(1.9× in holotype) as long as broad anteriorly (1.6× in one small paratype); thyridial depression 1.5–2.0× as long as broad. Ovipositor short and robust, weakly upcurved, with very shallow dorsal subapical depression; sheath as long as hind tibia and almost as long as first tergite (0.95× in holotype).

Head, mesosoma and tergite 1 of metasoma black. Antenna with scape and pedicel brownish yellow to brown, flagellum brownish basally to blackish apically. Palpi, mandible (except for reddish black teeth), lower 0.3 of clypeus and tegula yellow or brownish yellow. Pterostigma brown. Legs brownish yellow, mid coxa brownish, hind coxa dark brown, mid and hind tarsi infuscate. Metasoma behind tergite 1 predominantly brown to dark brown dorsally and yellow to brownish yellow ventrally, hind margin of tergite 2 (and often anterior margin of tergite 3) yellow dorsally.

Male. Unknown.

Variation: One paratype is rather small (body length 2.8 mm, fore wing length 2.1 mm), and flagellomeres somewhat shorter than in other specimens.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: Louwsberg, iGwala-Gwala private nature reserve, 27°34.0'S 31°17.9'E, 1090 m, 2–3.vi.2005, M. Mostovski, yellow pan trap (SAMC).

Paratypes: SOUTH AFRICA: *KwaZulu-Natal*: 3♀ same data as holotype (2♀ ZISP, 1♀ ZSM); 1♀ Louwsberg, Sanyati farm [= iGwala-Gwala private nature reserve], 27°34.0'S 31°17.9'E, 1090 m, 19–31.viii.2005, M. Mostovski, Malaise trap (ZISP); 1♀ Royal Natal Nature Reserve, Gudu Forest, 28°40.9'S 28°55.78'E, 1680–1730 m, 29.v–21.ix.2006, M. Mostovski, Malaise trap (ZISP); 1♀ same data but 29.i–28.v.2006, Malaise trap (BMNH); 1♀ Cathedral Peak Nature Reserve, Rainbow Gorge, 28°57.60'S 29°13.61'E, 1480 m, 30.i–28.v.2006, M. Mostovski, Malaise trap (ZISP); 1♀ Karkloof, 29°19.1'S 30°15.5'E, 1325 m, 25.vii–25.ix.2005, M. Mostovski, Malaise trap (SAMC).

Diaparsis (Diaparsis) voluptuosa sp. n.

Figs 67–71

Etymology: From the Latin *voluptuosus* (delightful).

Diagnosis: Differs from other Afrotropical species of the genus in having the flagellum short, with 22 or 23 segments, and yellow in colour, with apical 4 or 5 flagellomeres black.

Description:

Female.

Body length 5.2 mm.

Head very strongly and roundly narrowed behind eyes in dorsal view; temple 0.56× as long as eye width. Antenna short, about 0.7× as long as fore wing; flagellum filiform, with 22 segments in paratype and 23 segments in holotype; flagellomeres 3 and 4 about 1.4×, mid flagellomeres 1.2–1.3× as long as broad, subapical flagellomeres slightly elongate. Mandible with upper tooth much longer than lower tooth. Malar space half as long as basal width of mandible. Clypeus lenticular, wide, about 3.0× as broad as long, smooth, punctate in upper 0.6. Face and frons distinctly and densely punctate on granulate background. Vertex and temple finely granulate (temple almost smooth), with fine and sparse punctures. Occipital carina complete.

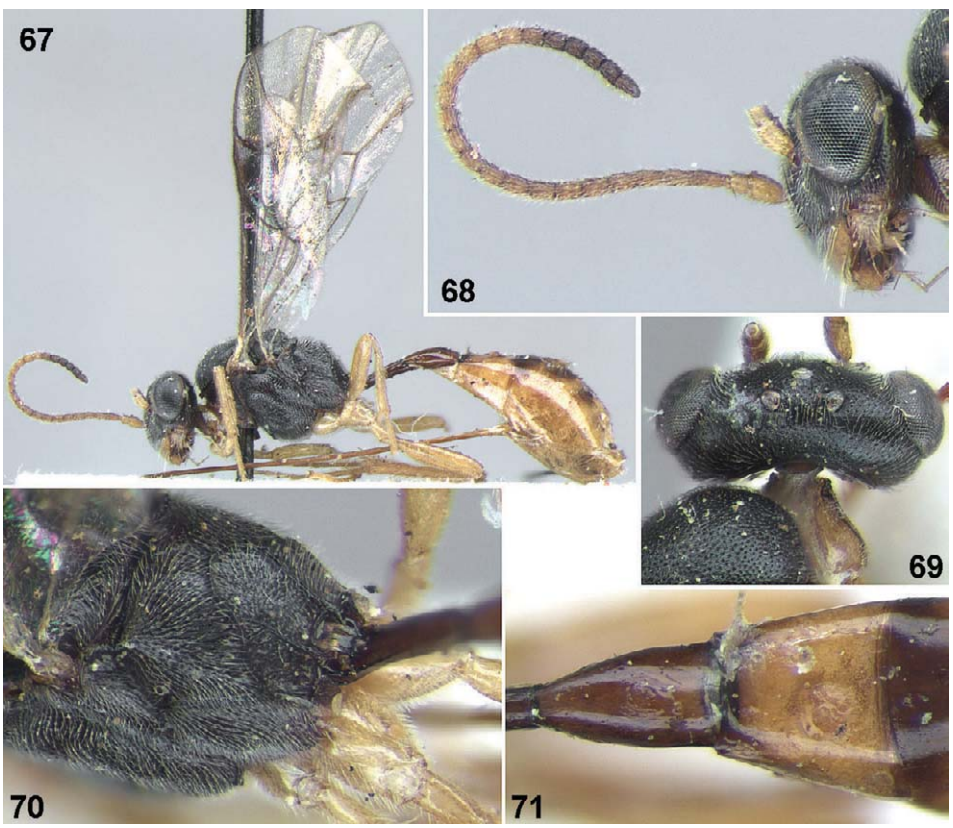
Mesosoma with mesoscutum distinctly and densely punctate on granulate background. Notaulus substituted by a strong wrinkle. Mesopleuron with coarse and dense punctu-

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res (distance between punctures mostly shorter than one diameter of puncture), more or less smooth between punctures centrally and finely granulate peripherally. Foveate groove in anterior 0.6 of mesopleuron, not reaching anterior margin of mesopleuron, strongly oblique, deep, with strong transverse wrinkles. Propodeal spiracle rather big, separated from pleural carina by 1.5–2.0 diameters of spiracle. Propodeum with basal keel (indistinct in holotype and weak in paratype) half as long as apical area, with short longitudinal wrinkles extending anteriorly from transverse carina; dorsolateral area granulate, distinctly and densely punctate; apical area widely rounded anteriorly, flat, uneven, partly granulate, impunctate, with fine transverse wrinkles; apical longitudinal carinae strong, reaching transverse carina anteriorly.

Fore wing length 3.8 mm. First abscissa of radius straight, longer than width of pterostigma. Metacarp not reaching apex of fore wing. Second recurrent vein postfurcal. Intercubitus distinctly longer than abscissa of cubitus between intercubitus and second recurrent vein. Hind wing with nervellus slightly reclivous.

Legs slender. Hind femur 4.5× as long as broad and 0.8× as long as tibia. Spurs of hind tibia slightly curved at apex. Tarsal claws not pectinate.



Figs 67–71. *Diaparsis voluptuosa* sp. n., ♀ holotype: (67) habitus, lateral view; (68) head with antenna, lateral view; (69) head, dorsal view; (70) propodeum, dorsolateral view; (71) petiole and tergite 2 of metasoma, dorsal view.

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Tergite 1 of metasoma smooth, 3.5× as long as broad posteriorly, with small, isolated glymma and short, shallow groove before glymma, with petiole round or slightly trapeziform in cross-section. Second tergite 1.37–1.39× as long as broad anteriorly; thyridial depression 1.5× as long as broad. Ovipositor long, upcurved, with very shallow dorsal subapical depression; sheath 2.6× as long as hind tibia and 2.8× as long as first tergite.

Head and mesosoma black. Antenna with scape and pedicel yellow, flagellum brownish yellow basally to yellow apically, with apical 4 or 5 flagellomeres black. Clypeus brownish yellow in lower 0.3 and brownish in upper 0.3. Palpi, mandible (except for blackish teeth), tegula and legs yellowish. Pterostigma brown. Metasoma behind tergite 1 yellow to brownish yellow, dorsal sides of tergites 3+ brown anteriorly.

Male. Unknown.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: "M'fongosi Zululand" [?28°42'36"S 30°50'03"E], "W E. Jones Apr.-May 1934", "Diaparsis sp.2 Tow[nes]. 1970", "SAM-HYM-P001298" (SAMC).

Paratype: TANZANIA: ♀ Mkomazi Game Reserve, Dindera Dam, 3.56°S 37.48°E, open bushland on dam wall, 22–23.iv.1996, S. van Noort, yellow pan trap (ZISP).

Diaparsis (Diaparsis) vulgaris sp. n.

Figs 72–76

Etymology: From the Latin *vulgaris* (usual, common), because it is the most abundant species of *Diaparsis* in the Afrotropical region.

Diagnosis: Differs from Afrotropical congeners in having the following combination of features: long ovipositor, finely and sparsely punctate mesopleuron and dorsolateral area of propodeum, broad clypeus and clavate flagellum of female with 20–23 segments.

Description:

Female.

Body length 4.8 mm.

Head rounded behind eyes in dorsal view; temple 0.7× as long as eye width. Flagellum of antenna slightly clavate at apex, with 20–23 segments (21 in holotype); sub-basal flagellomeres about 1.8 and subapical flagellomeres 1.0–1.2× as long as broad. Mandible slender, with upper tooth distinctly longer than lower tooth. Malar space 0.7–0.8× as long as basal width of mandible. Clypeus 2.9× as broad as long, slightly convex or flat in lateral view, smooth, sparsely punctate in upper half. Face and frons finely and densely punctate on granulate background. Vertex finely granulate and very indistinctly punctate. Temple finely granulate (almost smooth centrally), with fine punctures. Occipital carina complete.

Mesosoma with mesoscutum finely and densely punctate on granulate background. Notaulus with short wrinkle. Mesopleuron finely punctate, granulate peripherally and almost smooth centrally. Foveate groove in anterior half of mesopleuron, moderately deep, strongly oblique, with transverse wrinkles. Propodeal spiracle separated from pleural carina by 1.5–2.5 diameters of spiracle. Propodeum with basal keel 0.36× as long as apical area; dorsolateral area granulate, with very fine (sometimes indistinct) punctures. Apical area flat, pointed or roundly pointed anteriorly, granulate, impunctate; apical longitudinal carinae weak, usually not reaching transverse carina anteriorly.

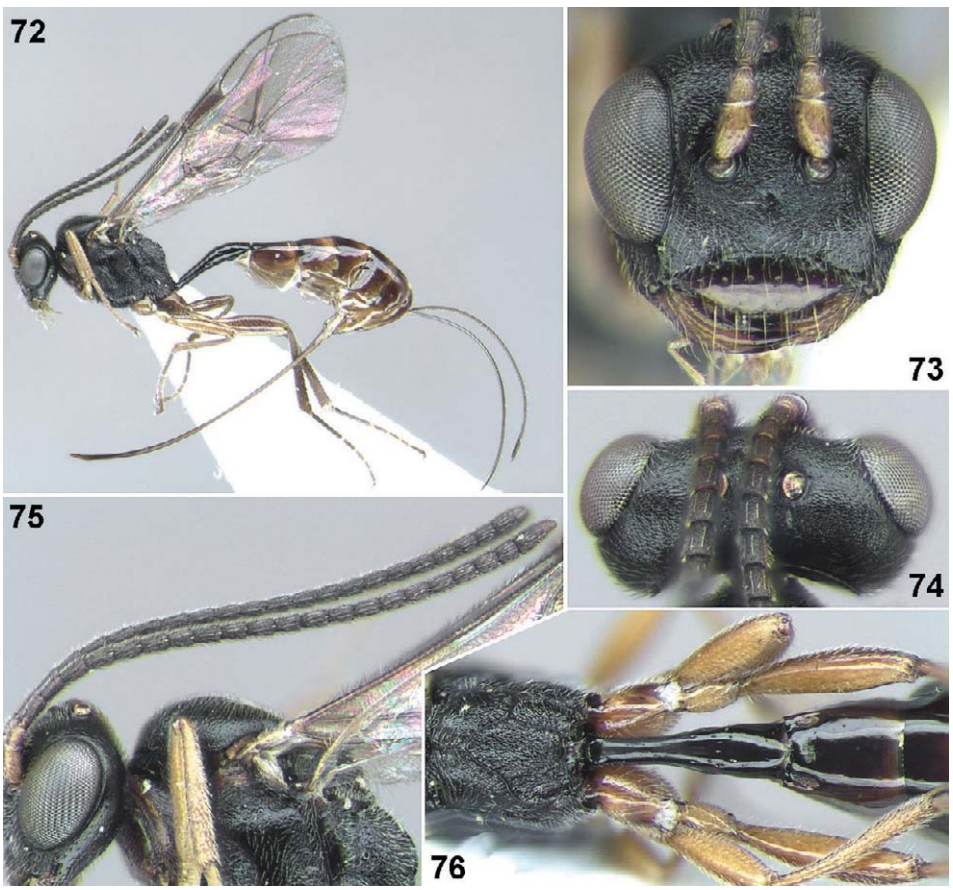
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Fore wing length 3.55 mm. First abscissa of radius straight, longer than width of pterostigma. Metacarp almost reaching apex of fore wing. Second recurrent vein postfurcal. Intercubitus usually about as long as abscissa of cubitus between intercubitus and second recurrent vein. Hind wing with nervellus slightly reclivous, slanted at 10–15°.

Legs slender. Hind femur 4.45× as long as broad and 0.82× as long as tibia. Spurs of hind tibia almost straight. Tarsal claws not pectinate, strongly curved.

Tergite 1 of metasoma very slender, 4.4× as long as broad posteriorly, smooth, with small glymma and petiole round in cross-section. Second tergite 1.65× as long as broad anteriorly; thyridial depression distinct, 1.5–2.5× as long as broad. Ovipositor upcurved, with shallow dorsal subapical depression; sheath about 2.8× as long as hind tibia and 3.0× as long as first tergite.

Head, mesosoma and tergite 1 of metasoma black; pronotum anteriorly and upper part of mesopleuron sometimes reddish brown. Scape and pedicel of antenna, palpi, mandible (except for blackish teeth), lower half of clypeus and tegula brownish yellow. Flagellum



Figs 72–76. *Diaparsis vulgaris* sp. n., ♀: (72–75) holotype: (72) habitus, lateral view, (73) head, frontal view, (74) head, dorsal view, (75) head with antenna and dorsal part of mesosoma, lateral view; (76) paratype, propodeum and base of metasoma, dorsal view.

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brownish basally to fuscous apically, or more or less entirely black. Pterostigma brown. Legs yellow-brown to brown. Metasoma behind tergite 1 predominantly brown, ventrally yellowish; tergites 2+ with hind margin more or less yellowish.

Male. Similar to female but flagellum distinctly tapered towards apex, with 25–27 segments, malar space shorter, tergite 2 and thyridial depression longer.

Holotype: ♀ SOUTH AFRICA: *KwaZulu-Natal*: Royal Natal Nature Reserve, Gudu Forest, 28°40.9'S 28°55.78'E, 1680–1730 m, 18.xi.2006–27.ii.2007, M. Mostovski, Malaise trap (SAMC).

Paratypes: SOUTH AFRICA: *KwaZulu-Natal*: 12♀ 1♂ same data as holotype (6♀ SAMC, 6♀ 1♂ ZISP); 4♀ same data but 28.xi–8.xii.2005 (2♀ SAMC, 2♀ ZISP); 6♀ 3♂ same data but 13.xii.2005–28.i.2006 (1♂ SAMC, 3♀ 1♂ ZISP, 3♀ 1♂ BMNH); 1♀ 1♂ same data but 29.i–28.v.2006 (SAMC); 1♀ same data but 29.v–21.ix.2006 (ZISP); 2♀ 1♂ same data but 22.ix–17.xi.2006 (2♀ ZISP, 1♂ SAMC); 1♀ Royal Natal Nature Reserve, Mahai Camp, 28°41.4'S 28°56.3'E, 1450 m, 20–22.ix.2006, M. Mostovski, yellow pan traps (ZISP); 4♀ 2♂ Cathedral Peak Nature Reserve, Rainbow Gorge, 28°57.6'S 29°13.61'E, 1480 m, 25.xi–12.xii.2005, M. Mostovski, Malaise trap (1♀ 1♂ ZISP, 3♀ 1♂ ZSM); 6♀ same data but 3–15.xii.2005 (2♀ ZISP, 2♀ BMNH, 2♀ ZSM); 2♀ same data but 29.v–21.ix.2006 (ZISP); 4♀ same data but 22.ix–17.xi.2006 (1♀ ZISP, 3♀ SAMC); 2♀ same data but 18.xi–26.ii.2007 (SAMC); 1♀ Cathedral Peak Nature Reserve, Education Camp, 28°57.4'S 29°14.4'E, 1420 m, 11–12.ix.2004, M. Mostovski, yellow pan traps (BMNH); 1♀ Cathedral Peak Nature Reserve, 28°57.4'S 29°14.4'E, 1420 m, 8–11.ii.2004, V. Kolyada, yellow pan traps (SAMC); 1♀ Ngoye Forest, i–ii.2006, G. Davies, Malaise trap (SAMC); 1♀ Pietermaritzburg, Cumberland private nature reserve, 29°30.8'S 30°30.3'E, 640 m, 21–22.ii.2005, V. Kolyada, on light (SAMC); 2♀ Pietermaritzburg, Winterskloof, 29°34.56'S 30°17.40'E, 1085 m, 3.iii–20.iv.2007, M. Mostovski, Malaise trap (ZISP); 2♀ same data but 20.iv–1.ix.2007 (SAMC); 3♀ Vernon Crookes Nature Reserve, 30°17.4'S 30°36.9'E, 250 m, 26.vii–29.ix.2005, M. Mostovski, Malaise trap (SAMC); 2♀ same data but 23.x–19.xii.2005 (SAMC, ZISP); 1♀ same locality, [date absent], G. Davies, yellow pan traps (SAMC). *Eastern Cape*: 1♀ East London, 32°58.9'S 27°53.2'E, 115 m, 24–29.xii.2004, M. Mostovski, Malaise trap (ZISP).

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