© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

Entomofauna

ZEITSCHRIFT FÜR ENTOMOLOGIE

Band 23, Heft 26: 309-332 ISSN 0250-4413 Ansfelden, 31. Dezember 2002

Contributions to the platygastrid fauna of Panama
(Hymenoptera, Platygastridae)

Peter Neerup BUHL

Abstract

56 platygastrid species are recognized from Isla de Coiba, Panama, 17 of which are described as new to science, viz. *Acerotella aldrovandii*, *Allotropa muesebecki*, *A. pallidicornis*, *A. transversiceps*, *Inostemma striaticornu*, *Leptacis brevifuniculus*, *L. coiba*, *L. inaequalis*, *L. lucidiventris*, *Platygaster laevifrons*, *P. panamaensis*, *Synopeas fontali*, *S. hastatus*, *S. longifuniculus*, *S. nievesaldreyi*, *S. panamaensis*, and *S. reticulatifrons*. A key to New World *Allotropa* is provided, and some known species are commented upon. The work is illustrated by 55 text-figures.

Zusammenfassung

56 Arten von Platygastridae werden von Isla de Coiba, Panama, nachgewiesen. 17 neue Arten werden beschrieben: *Acerotella aldrovandii*, *Allotropa muesebecki*, *A. pallidicornis*, *A. transversiceps*, *Inostemma striaticornu*, *Leptacis brevifuniculus*, *L. coiba*, *L. inaequalis*, *L. lucidiventris*, *Platygaster laevifrons*, *P. panamaensis*, *Synopeas fontali*, *S. hastatus*, *S. longifuniculus*, *S. nievesaldreyi*, *S. panamaensis*, und *S. reticulatifrons*. Eine Bestimmungstabelle für *Allotropa* aus der Neuen Welt wird gegeben, und bereits bekannte Arten werden kommentiert. Die Arbeit ist mit 55 Abbildungen versehen.

Introduction

In the summer of 2001 José Luis NIEVES-ALDREY (Madrid) kindly offered me a loan of about 550 alcohol preserved platygastrid specimens collected with Malaise trap at the

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

national park (off the Pacific coast of Panama) Isla de Coiba, Panama, in the years 1994 (January-May), 1998 (July) and 1999 (August), by J.L. NIEVES-ALDREY and Félix M. FONTAL CAZALLA (both Museo Nacional de Ciencias Naturales, Madrid, cf. also NIEVES-ALDREY & FONTAL (1997)). I mounted the specimens on card points, and my sorting of the material revealed about 56 species belonging to 12 genera. 17 of these species are described below as new to science, but several species which are unnamed here are no doubt also hitherto undescribed. To my knowledge, hitherto no platygastrid species at all have been recorded from Panama, though certain genera have been mentioned from this country, e.g. by MASNER (1976).

All types are preserved in the Museo Nacional de Ciencias Naturales, Madrid, except (where possible) a paratype in the Zoological Museum, University of Copenhagen, and a paratype in Zoologische Staatssammlung München.

Genus *Acerotella* MASNER, 1964

Apart from the new species described below, a further specimen belonging to this genus was present, but being somewhat damaged it could not be placed at the species level.

***Acerotella aldrovandii* sp. nov.** (figs 1-2)

Material examined: Holotype ♀ "Panama, Coiba, Estación Biol., T. Malaise (1), 27-29/1.1994, J.L. NIEVES leg."

Description. ♀: Length 0.8 mm. Colour blackish; antennae dark brown, A1 lighter; legs brown, most of tibiae and segments 1-4 of tarsi light brown.

Head from above 1.7 x as wide as long, wider than thorax (10:9), uniformly and rather strongly reticulate-coriaceous; lateral ocelli almost touching eye margin. Head from front 1.25 x as wide as high. Antenna (fig. 1) with A1 0.8 x as long as height of head; A2-A3 of equal length and width, each about 1.75 x as long as wide; A4 as long as wide; A8-A10 forming club, with segments hard to separate.

Mesosoma 1.4 x as long as wide, 1.3 x as wide as high. Sides of pronotum smooth, reticulate-coriaceous along upper margin. Mesoscutum finely reticulate-coriaceous, smooth in front of scutellum; notauli distinct in anterior 0.7, absent posteriorly, smooth and hardly widened. Mesopleura smooth. Scutellum distinctly above mesoscutum, with same sculpture, and as this hardly hairy. Propodeal carinae in lateral view dark, slightly protruding.

Fore wing with faint yellowish tint, hardly surpassing tip of metasoma, moderately hairy and with short marginal cilia.

Metasoma (fig. 2) about as long as head and thorax combined, fully 0.8 as wide as thorax. T1 finely crenulated; T2 with two short basal foveae with a few striae reaching to hardly 0.2 of tergite; rest of tergite almost smooth; T3-T6 reticulate-coriaceous, dull, especially T6 which is nearly 1.2 x as wide as long.

This species belongs to the *boter* species-group sensu MASNER (1980) due to shape of antenna. *A. aldrovandii* differs from Palaearctic *A. boter* (WALKER, 1838) and from *A. nearctica* MASNER, 1980 in sculpture of mesoscutum and in less pointed metasoma, cf. MASNER (1980). Named to commemorate Ulysse ALDROVANDI (1522-1605), known as the founder of the science of entomology as he published the first book entirely devoted

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

to insects in 1602, four hundred years ago when this is written.

Genus *Allotropa* FÖRSTER, 1856

Hitherto eight species known from the New World, two of them Neotropical. In the present paper three further species are described; they can be separated from the other species by use of the key below. The key is based on the descriptions in BRÈTHES (1913), KIEFFER (1926), and MUESEBECK (1939, 1942, 1954).

Key to New World species of *Allotropa*

1 Antenna short, with 3-segmented club, with only short hairs (females) 2
- Antenna long, filiform, with long hairs (males) 11
2 Scutellum smooth and shiny 3
- Scutellum at least sculptured laterally 6
3 Scutellum strongly convex (USA) ..... *burrelli* MUESEBECK, 1942
- Scutellum rather flat 4
4 Frons smooth (USA) ..... *convexifrons* MUESEBECK, 1942
- Frons at least partly sculptured 5
5 A3 about 1.75 x as long as wide (China, introduced to USA) ..... *citri* MUESEBECK, 1954
- A3 about 1.33 x as long as wide (Panama) ..... *muesebecki* sp. nov.
6 A3 fully twice as long as wide 7
- A3 hardly twice as long as wide 10
7 Scutellum medially smooth (Canada) ..... *utilis* MUESEBECK, 1939
- Scutellum sculptured all over 8
8 Frons mostly smooth (Brazil) ..... *scutellata* MUESEBECK, 1954
- Frons coriaceous except a small median area 9
9 Mesoscutum somewhat shiny; scutellum rather flat (USA) ..... *ashmeadi* MUESEBECK, 1939
- Mesoscutum dull; scutellum convex (USA) ..... *merrilli* MUESEBECK, 1954
10 Basal flagellar segments relatively slender (fig. 5); legs pale yellow (Panama) ..... *pallidicornis* sp. nov.
- Basal flagellar segments relatively short (fig. 7); legs partly brownish (Panama) ..... *transversiceps* sp. nov.
11 Preapical antennal segments hardly longer than wide ... *burrelli* MUESEBECK, 1942
- Preapical antennal segments distinctly longer than wide 12
12 Scutellum entirely or partly smooth 13
- Scutellum sculptured all over 16
13 Hairs of basal flagellar segments about 5 x as long as length of segments ..... *convexifrons* MUESEBECK, 1942
- Hairs of basal flagellar segments at most about 2 x as long as length of segments 14
14 Hairs of basal flagellar segments about 2 x as long as length of segments; A8 about 4 x as long as wide ..... *muesebecki* sp. nov.
- Hairs of basal flagellar segments less than twice as long as length of segments; A8 at

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

most about 3 x as long as wide 15
15 Scutellum entirely smooth ..... *citri* MUESEBECK, 1954
- Scutellum reticulate laterally ..... *utilis* MUESEBECK, 1939
16 Hairs of basal flagellar segments less than twice as long as length of segments .. 17
- Hairs of basal flagellar segments at least twice as long as length of segments ... 18
17 Body length 0.6 mm ..... *ashmeadi* MUESEBECK, 1939
- Body length 0.95 mm (Brazil) ..... *meridionalis* BRÈTHES, 1913
18 Legs pale yellow; scutellum hardly convex ..... *pallidicornis* sp. nov.
- Legs darker; scutellum convex 19
19 Frons mostly smooth; legs brownish yellow ..... *scutellata* MUESEBECK, 1954
- Frons coriaceous except a small median area; legs piceous.....
..... *merrilli* MUESEBECK, 1954

***Allotropa muesebecki* sp. nov.** (figs 3-4)

Material examined: Holotype ♂ "Panama, Coiba, Estación Biológica 10 m, T. Malaise 28/8-1/9.1999, leg. NIEVES & FONTAL". Paratypes 1♀ 1♂: 1♂ same data as holotype; 1♀ Coiba, Cerro de la Torre(cima) 400 m, Malaise trap, 18-22.VII.1998, leg. NIEVES & FONTAL.

Description. ♂: Length 0.70-0.85 mm. Colour blackish; metapleura, propodeum and metasoma brown; antennae and legs yellowish brown, thickened parts somewhat infuscated.

Head from above 2.1 x as wide as long, slightly wider than thorax (15:14), reticulate, strongest so behind, almost smooth medially on frons. Lateral ocelli separated from eye by about one-third their diameter. Head from front almost 1.5 x as wide as high. Antenna (fig. 3) with A1 0.8 x as long as height of head.

Mesosoma 1.3 x as long as wide, 1.4 x as wide as high, flattened dorsally. Sides of pronotum finely and somewhat longitudinally reticulate. Mesoscutum weakly reticulate-coriaceous, rather densely hairy. Mesopleura smooth, longitudinally striated in upper half, faintly sculptured below. Scutellum flat, smooth, laterally with scattered hairs. Propodeum dull, with low fused medial carinae.

Fore wing almost clear, 3.1 x as long as wide, rather densely and distinctly hairy, subcostal vein brownish; marginal cilia one-fourth the width of wing. Hind wing 8.5 x as long as wide; marginal cilia half the width of wing.

Metasoma 0.9 x as long as head and mesosoma combined, 0.8 x as wide as thorax. T1 with weak crenulation, 1.7 x as wide as long, medially with a transverse impression. T2 basally with some very short and weak furrows; apical tergites smooth, with some rather long and sparse, superficially implanted hairs.

♀: Length 0.80 mm. Metasoma as dark as head and mesosoma. Head from above 1.95 x as wide as long; antenna (fig. 4) pale yellow, with blackish club. Scutellum with a few hairs also medially. Fore wing well surpassing tip of metasoma. Metasoma hardly 1.1 x as long as head and mesosoma combined, 2.5 x as long as wide. T2 almost 1.5 x as long as wide, twice as long as the smooth T3-T6 combined.

Named after the late authority of *Allotropa*, Dr. C.F.W. MUESEBECK. I am not quite certain if the female is conspecific with the males.

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

Allotropa pallidicornis **sp. nov.** (figs 5-6)

Material examined: Holotype ♀ "Panama, Coiba, Estación Biol., T. Malaise (2), 29/1-5/2.1994, leg. J.L. NIEVES". Paratypes 3♀♀ 3♂♂: 2♀♀ same data as holotype; 1♂ same data but 23-25.I.1994; 1♀ 1♂ same data but 5-12.II.1994; 1♂ same data but 30.IV.-9.V. 1994.

Description. ♀: Length 0.75-0.90 mm (holotype 0.75 mm). Colour brown, antennae and legs pale yellow, A7-A9 slightly darker; propodeum and petiole yellowish brown.

Head from above 2.3 x as wide as long, 1.1 x as wide as thorax; frons finely reticulate-coriaceous, smooth medially in lower half, with faint transverse striation above antennae; vertex and occiput distinctly reticulate-coriaceous. Lateral ocelli separated from eye by less than half their diameter. Head from front 1.3 x as wide as high. Antenna (fig. 5) with A1 two-thirds as long as height of head.

Mesosoma hardly 1.2 x as long as wide, 1.25 x as wide as high. Sides of pronotum reticulate-coriaceous, smoother in lower half and along hind margin. Mesoscutum dull, evenly reticulate-coriaceous, moderately hairy. Mesopleura smooth, with longitudinal striae in upper 0.4 and with microsculpture on lower edge. Scutellum at level of mesoscutum, sculptured and hairy as this, hardly convex. Metapleura with pilosity all over. Propodeum dull, with low semitransparent fused medial carinae.

Fore wing clear, slightly surpassing tip of metasoma, 2.8 x as long as wide, inconspicuously and rather sparsely hairy; marginal cilia at most 0.15 width of wing. Hind wing 6.7 x as long as wide; marginal cilia almost 0.4 width of wing.

Metasoma as long as head and mesosoma combined, 0.8 x as wide as thorax. T1 1.7 x as wide as long, crenulated, medially with a transverse impression. T2 1.2 x as long as wide, with some short furrows at extreme base, 2.4 x as long as T3-T6 combined; apical tergites smooth with a few hairs laterally.

♂: Length 0.55-0.95 mm. Antenna (fig. 6).

Allotropa transversiceps **sp. nov.** (fig. 7)

Material examined: Holotype ♀ Panama, Coiba, Estación Biol., Malaise trap (2), 19-21.I.1994, leg. J.L. NIEVES.

Description. ♀: Length 0.80 mm. Colour blackish, metasoma dark brown; A1, A7-A9, most of femora, and tibiae more or less brown, A2-A6 and rest of legs yellowish brown.

Head from above 2.3 x as wide as long, wider than thorax (8:7), finely reticulate-coriaceous all over, strongest so behind, transversely so above antennae. Lateral ocelli separated from eye by about half their diameter. Head from front 1.3 x as wide as high. Antenna (fig. 7) with A1 hardly two-thirds as long as height of head.

Mesosoma 1.2 x as long as wide, wider than high (7:6). Sides of pronotum reticulate-coriaceous in upper third and in lower corner, rest smooth. Mesoscutum evenly and finely reticulate-coriaceous, with sparse hairs. Mesopleura smooth, longitudinally striated in upper half. Scutellum at level of mesoscutum, sculptured and hairy as this. Metapleura dull, with short pilosity. Propodeal carinae in lateral view forming a slightly semitransparent blunt protuberance.

Fore wing almost clear, reaching about tip of metasoma, 2.7 x as long as wide, with somewhat sparse and inconspicuous hairs, subcostal vein light brown, marginal cilia short. Hind wing 5.7 x as long as wide; marginal cilia two-fifths the width of wing. (Wings rather destroyed, the description is a reconstruction).

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

Metasoma as long as head and mesosoma combined, hardly twice as long as wide, narrower than thorax (6:7). T1 about twice as wide as long, crenulated, with a slight transverse depression medially. T2 1.25 x as long as wide, 2.5 x as long as T3-T6 combined, basally with very short furrows. Apical tergites smooth, with a few superficially implanted long hairs, T6 1.7 x as wide as long.

Genus *Amblyaspis* FÖRSTER, 1856

A single unidentified species recorded of this genus of which seven Neotropical species have been described.

***Amblyaspis* sp.**

Material examined: 2♀♀ Coiba, Estación Biol. 10 m, Malaise trap, 28.VIII.-1.IX.1999, leg. NIEVES & FONTAL.

Genus *Euxestonotus* FOUTS, 1925

Only the two species mentioned below were present.

***Euxestonotus achilles* BUHL, 1998**

Hitherto only known in female holotype from Trinidad, W. Indies (BUHL 1998).

Additional material 9♀♀ 4♂♂: 4♀♀ 4♂♂ Coiba, Estación Biol., Malaise trap (2), 19.I.-5.II.1994, J.L. NIEVES leg.; 5♀♀ same data but 30.IV.-9.V.1994.

The females measure 0.90-1.05 mm. The male (hitherto unknown) has A6-A9 each about 1.7 x as long as wide with flagellar pubescence fully half the width of segments.

***Euxestonotus ganymedes* BUHL, 1998**

Hitherto known from Belize, Mexico, Surinam, West Indies, Costa Rica, Ecuador, and Venezuela (BUHL, 1998).

Additional material 2♀♀: 1♀ Coiba, Estación Biol., Malaise trap (2), 25.-27.I.1994, leg. J.L. NIEVES; 1♀ same locality but "10 m, T. Malaise, 28-08/1-9.1999, leg. NIEVES & FONTAL".

Genus *Fidiobia* ASHMEAD, 1894

Three Neotropical species of this genus have been described, but the single species recorded here is Holarctic.

***Fidiobia rugosifrons* CRAWFORD, 1916**

Holarctic; hitherto known from USA and Western Europe (VLUG 1995).

Additional material: 1♀ Coiba, Cerro de la Torre(cima), 400 m, Malaise trap, 18-22.VII.1998, leg. NIEVES & FONTAL.

Genus *Gastrotrypes* BRUES, 1922

Two species of this genus is known from the New World; the one recorded is very widespread.

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

Gastrotrypes spatulatus BRUES, 1922

This species is known from Guyana and well as from Western Europe (HUGGERT, 1980).

Additional material: 48♀♀ Coiba, localities Estación Biol., Cerro de la Torre(cima), 400 m, Playa Rosario, Ranchería, and La Falla, Malaise traps, I-II, VII, VIII-IX, leg. NIEVES & FONTAL.

Genus *Inostemma* HALIDAY, 1833

The five known Neotropical species of this genus are insufficiently described, so two of the three species recorded below could only be tentatively associated with known species.

Inostemma cf. *mendozanum* BRÈTHES, 1910

The material recorded below can hardly be separated from the short description by BRÈTHES (type material from Argentina unknown), cf. KIEFFER (1926).

Material examined: 4♀♀ Coiba, Estación Biol., Malaise traps (1+2), 23.I.-5.II.1994, leg. J.L. NIEVES.

Inostemma cf. *microcerum* (KIEFFER & JÖRGENSEN, 1910)

Between the material recorded below and KIEFFER's (1926) description (type material from Argentina unknown) I can only find insubstantial differences; the specimens recorded here are dull not shiny, hardly 1 mm, and the females have A3-A4 slightly more elongate and equal than in KIEFFER's (1926) fig. 235 (b).

Material examined: 6♀♀ 1♂ Coiba, Estación Biol., Malaise trap (2), 21.I.-5.II.1994, leg. J.L. NIEVES.

Inostemma striaticornu **sp. nov.** (figs 8-9)

Material examined: Holotype ♀ "Panama, Coiba, Estación Biol., T. Malaise (1), 21-23.I. 1994, leg. J.L. NIEVES". Paratypes 2♀♀ 2♂♂: same locality, Malaise trap (2), 19-29.I. 1994, leg. J.L. NIEVES.

Description. ♀: Length 0.9-1.4 mm (holotype largest). Colour black; antennae and legs dark brown to blackish; both ends of fore tibiae, mid and hind tibiae basally, and segments 1-4 of all tarsi light brown.

Head from above (fig. 8) 1.9 x as wide as long, as wide as thorax, uniformly reticulate-coriaceous; frons slightly biconvex; vertex without notch, but occiput slightly concave medially. Lateral ocelli separated from eye by their shorter diameter, ocellocular space distinctly excavated, OOL:POL:LOL = 1:8:3. Head from front 1.25 x as wide as high. Antenna (fig. 9) with A1 0.75 x as long as height of head.

Mesosoma 1.1 x as long as wide, almost 1.2 x as wide as high. Sides of pronotum reticulate-coriaceous, smoother anteriorly and below. Mesoscutum reticulate-coriaceous, mid lobe smoother posteriorly, not depressed; lateral lobes with a longitudinal impression posteriorly; notauli complete, strong and smooth. Mesopleura with longitudinal striae below tegulae, smooth medially and behind, reticulate-coriaceous below. Scutellum slightly convex, reticulate-coriaceous, weakly excavated along middle. Metapleura reticulate-coriaceous and with pilosity all over.

Fore wing clear, reaching base of T6, about 2.1 x as long as wide, rather densely but

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

inconspicuously hairy; subcostal vein brown, 0.4 x as long as vein; marginal cilia short. Hind wing 5.1 x as long as wide; marginal cilia hardly 0.2 width of wing.

Metasoma about as long as head and mesosoma combined, hardly as wide as thorax. T1 with a horn reaching to anterior margin of mesoscutum; horn longitudinally striated, slightly widened at apex. T2 1.1 x as long as wide, laterally striated to hardly half of length. T3-T6 combined two-thirds as long as T2, weakly reticulate-coriaceous; T3-T5 each with a transverse row of superficially implanted hairs; T6 with scattered hairs, 0.8 x as long as basally wide, as long as T4-T5 combined.

♂: Length 1.0 mm approx. Preapical antennal segments as long as wide, flagellar pubescence about one-third the width of segments. Wings slightly overreaching tip of metasoma which is about 0.9 x as long as head and mesosoma combined.

I. striaticornu differs from Chilean *I. porteri* BRÈTHES, 1919 and from Nearctic *I. packardi* ASHMEAD, 1887 in length of horn, from Nearctic *I. leguminicolae* FOUTS, 1923 in sculpture and shape of horn, and in shape of T6, and from *I. simillimum* ASHMEAD, 1894 (W. Indies) in colour of wings and legs, and in having slightly shorter horn, cf. BRÈTHES (1919), FOUTS (1923), and KIEFFER (1926).

Genus *Iphitrachelus* HALIDAY, 1835

Two described species are known from the Neotropical region, one of them recorded below.

***Iphitrachelus foutsi* JACKSON, 1966**

A rare species but widely spread, known from USA, Colombia, Ecuador, and Brazil. (MASNER 1976).

Additional material 1♀ 2♂♂: 1♀ Coiba, Cerro de la Torre(cima), 400 m, Malaise trap, 18-22.VII.1998, leg. NIEVES & FONTAL; 1♂ Coiba, Ranchería, Malaise trap, 19-25.VII. 1998, leg. NIEVES & FONTAL; 1♂ Coiba, Estación Biol., 10 m, T. Malaise, 28.VIII.-1.IX. 1999, leg. NIEVES & FONTAL.

Genus *Isostasius* FÖRSTER, 1856

The species recorded below is the only member of this genus described from the Neotropical region.

***Isostasius crassus* BRUES, 1922**

This species was well described from British Guyana by BRUES (1922).

Additional material 5♀♀: 1♀ Coiba, Estación Biol., Malaise trap (1), 21-23.I.1994, leg. J.L. NIEVES; 4♀♀ Coiba, Estación Biol., Malaise trap (2), 5-12.II.1994, leg. J.L. NIEVES.

Genus *Leptacis* FÖRSTER, 1856

About 16 species of this large genus present in the material, most of them only in a few specimens. However, a new species described below, *L. coiba*, seems to be rather common and variable, and another species that could not be named was represented by nearly 80 specimens.

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

Leptacis brevifuniculus **sp. nov.** (figs 10-13)

Material examined: Holotype ♀ "Panama, I. Coiba, Cerro de la Torre(cima) 400 m, T. Malaise, 18-22.VII.1998, leg. NIEVES & FONTAL". Paratypes 3♀♀ 1♂: 1♀ same data as holotype; 2♀♀ Coiba, Ranchería, Malaise trap, 19-25.VII.1998; 1♂ Coiba, Estación Biol. 10 m., Malaise trap, 28.VIII.-1.IX.1999, all leg. NIEVES & FONTAL.

Description. ♀: Length 0.80-0.85 mm. Colour black; A1-A6 and legs almost uniformly brownish yellow, petiole brownish.

Head shiny, from above (fig. 10) hardly 1.7 x as wide as long, slightly wider than thorax; frons faintly transversely reticulate; vertex and occiput with reticulation distinct and hardly transverse; occiput convex, rather sharply angled. Lateral ocelli separated from eye margin by hardly half their diameter. Head from front 1.1 x as wide as high. Antenna (fig. 11) with A1 hardly 0.9 x as long as height of head.

Mesosoma 1.5 x as long as wide; 1.2 x as high as wide. Sides of pronotum smooth, in upper half with scattered hairs. Mesoscutum weakly reticulate-coriaceous, uniformly and rather densely hairy, without notauli; hind margin slightly convex, narrowly semitransparent. Mesopleura smooth. Scutellum (fig. 12) sculptured and hairy as mesoscutum, with semitransparent needle-shaped spine which reaches posterior margin of petiole, hardly with lamella below. Metapleura smooth and bare except for a few long setae in upper half and short dense pilosity posteriorly. Propodeal carinae semitransparent, high, fused and curved.

Fore wing about as long as body, 2.6 x as long as wide, faintly yellowish, densely hairy except at extreme base; marginal cilia fully 0.25 x the width of wing. Hind wing 8.1 x as long as wide; marginal cilia about equal to width of wing.

Metasoma (fig. 13) very slightly shorter than head and mesosoma combined, 1.1 x as wide as thorax. T1 almost smooth, laterally with dense hairs. T2 as wide as long, basally with two dense tufts of whitish pubescence; hind margin of T2 and T3-T6 with a transverse strip of faint microsculpture, apical tergites hardly hairy.

♂: Length 0.70 mm. A2 as long as A3-A4 combined; A4 widened towards apex, about 1.25 x as long as apical width; preapical flagellar segments each 1.8-1.9 x as long as wide, flagellar pubescence slightly shorter than width of segments.

Similar to Nearctic *L. longispina* FOUTS, 1927 but this species is larger, it has mesosoma 1.75 x as long as wide, T2 1.4 x as long as wide, and female apical tergite more pointed than in *L. brevifuniculus*, cf. FOUTS (1927).

Leptacis brevipetiolata **BUHL, 2002**

Hitherto known only from Honduras (BUHL 2002).

Additional material 9♀♀ 1♂: 6♀♀ 1♂ Coiba, Cerro de la Torre(cima), 400 m, Malaise trap, 18-22.VII.1998, leg. NIEVES & FONTAL; 2♀♀ Coiba, La Falla, 20-26.VII.1998, leg. NIEVES & FONTAL; 1♀ Coiba, Estación Biol., 10 m, Malaise trap, 28.VIII.-1.IX.1999, leg. NIEVES & FONTAL.

The hitherto unknown male is 1.3 mm; A4 triangularly dilated, 1.4 x as long as A3, A7-A9 each about 2.5 x as long as wide.

Leptacis coiba **sp. nov.** (figs 14-17)

Material examined: Holotype ♀ "Panama, I. Coiba, Cerro de la Torre(cima) 400 m, T. Malaise, 18-22.VII.1998, leg. NIEVES & FONTAL". Paratypes: 7♀♀ same data. Additional

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

material 26♀♀: 6♀♀ same data as types; 6♀♀ Estación Biol., Malaise trap, 29.I.-12.II. 1994 (3♀♀), 30.IV.-9.V.1994 (1♀), 28.VIII.-1.IX.1999 (2♀♀); 14♀♀ La Falla, Malaise trap, 20-26.VII.1998, leg. NIEVES & FONTAL.

Description. ♀: Length 0.7-1.1 mm (holotype 0.75 mm). Colour black; scape, scutellar spine and legs yellowish brown; A2-A10, apex of hind femur and tibia, and petiole somewhat darker brown.

Head shiny, from above (fig. 14) 1.7 x as wide as long, very slightly wider than thorax, finely transversely reticulate; occiput rounded, without (e.g. holotype) or with a weak carina. Lateral ocelli separated from eye by less than their diameter. Head from front almost circular, hardly 1.1 x as wide as high. Antenna (fig. 15) with A1 0.9 x as long as height of head, pubescence of club distinct.

Mesosoma 1.6 x as long as wide, slightly higher than wide. Sides of pronotum smooth, in upper half with sparse hairs. Mesoscutum shiny, faintly reticulate-coriaceous, sparsely hairy; notauli hardly indicated posteriorly; hind margin medially with a short, blunt and semitransparent prolongation, laterally with a few long hairs. Mesopleura smooth, with a few faint lines below tegulae. Scutellum (fig. 16) reaching base of T1, sculptured almost as mesoscutum, hairy especially laterally, spine and vertical lamella below semitransparent, sometimes (not holotype) also with horisontal lamella along lower side of spine, which in that case appears rather thick. Metapleura smooth and bare in anterior 0.6. Propodeal carinae rather high, semitransparent, curved and fused.

Fore wing 0.95 x as long as body, fully 3 x as long as wide, almost clear, densely hairy except basally; marginal cilia one-third the width of wing. Hind wing 11.3 x as long as wide; marginal cilia 1.3 x width of wing.

Metasoma (fig. 17) as long as mesosoma, hardly as wide as this. T1 slightly transverse, smooth, with sparse long hairs except medially. T2 with two small tufts of hairs basally, rest of tergite smooth and bare. T3-T6 short, hardly hairy, with faint microsculpture, except reticulate T6.

Differs from *L. xanthopus* (ASHMEAD, 1894) from the W. Indies in having less slender antennae and petiole transverse, cf. KIEFFER (1926).

I am a little in doubt if specimens with occipital carina, more transverse occipital sculpture, and scutellar spine widened by lamella also belongs to *L. coiba*, but there appears to be not sharp limits in morphology.

***Leptacis dorsalis* BUHL, 2002**

Described by BUHL (2002) on the basis of three females from Honduras.

Additional material: 9♀♀ Panama, Coiba, Estación Biol., Malaise trap (2), 30.IV.-9.V. 1994, leg. J.L. NIEVES.

Some of the new specimens have body almost entirely black, and the smallest specimens (0.85 mm) have basal flagellar segments shorter than in types (e.g. A4 hardly 3 x as long as wide), and they are smoother.

***Leptacis inaequalis* sp. nov.** (figs 18-21)

Material examined: Holotype ♀ "Panama, Coiba, Estacion Biologica 10 m, T. Malaise, 28-08/1-09.1999, leg. NIEVES & FONTAL".

Description. ♀: Length 1.3 mm. Colour black; A1, scutellar spine, and legs reddish yellow; A1 and hind femur and tibia darkened towards apex; A2-A6 brown; A7-A10 and

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

petiole dark brown.

Head from above (fig. 18) 1.8 x as wide as long, very slightly wider than thorax, finely reticulate, transversely so in front and behind, occiput with inconspicuous carina. Lateral ocelli separated from eye by less than half their diameter. Head from front 1.3 x as wide as high. Antenna (fig. 19) with A1 1.2 x as long as height of head.

Mesosoma 1.6 x as long as wide, 1.1 x as high as wide. Sides of pronotum smooth, especially in upper 0.4 with scattered hairs. Mesoscutum rather uniformly finely reticulate-coriaceous, sparsely and uniformly hairy, notauli hardly indicated posteriorly; hind margin medially very slightly semitransparently prolonged, laterally with numerous distinct hairs. Mesopleura smooth. Scutellum (fig. 20) sculptured and hairy as mesoscutum, spine with a rather narrow vertical lamella below. Metapleura smooth and bare in anterior 0.6. Propodeal carinae low, slightly semitransparent and curved.

Fore wing 0.95 x as long as body, fully 3.0 x as long as wide, with faint brownish tint, densely hairy except basally; marginal cilia hardly one-fourth the width of wing. Hind wing 8.0 x as long as wide; marginal cilia two-thirds the width of wing.

Metasoma (fig. 21) only slightly longer than mesosoma (17:16), slightly wider than this. T1 with two longitudinal carinae, smooth and bare between carinae, laterally with long and dense pilosity. T2 basally with two large tufts of pubescence, rest of T2 as well as apical tergites virtually bare, and smooth except for weak microsculpture along hind margins.

Rather similar to *L. brevipetiolata* BUHL, 2002 from Honduras, but this species has no occipital carina, more equal basal flagellar segments, and shorter fringe on fore wings than in *L. inaequalis*, cf. BUHL (2002).

***Leptacis lucidiventris* sp. nov.** (figs 22-25)

Material examined: Holotype ♀ "Panama, I. Coiba, Estación Biológica 10 m, T. Malaise, 28-08/1-09.1999, leg. NIEVES & FONTAL". Paratype: 1♀ same data.

Description. ♀: Length 1.0-1.1 mm. Colour shiny black, A1-A6 and legs reddish yellow; A7-A10, apex of hind tibia, and petiole darker brownish.

Head from above (fig. 22) 1.7 x as wide as long, very slightly wider than thorax, finely reticulate, occiput with distinct but low carina. Lateral ocelli separated from eye by about one-third their diameter. Head from front wider than high (8:7). Antenna (fig. 23) with A1 shorter than height of head (6:7).

Mesosoma 1.7 x as long as wide, almost 1.2 x as high as wide. Sides of pronotum smooth, with sparse hairs in upper half. Mesoscutum with weak reticulation, rather sparsely and uniformly hairy, without notauli; hind margin slightly prolonged medially, laterally with numerous long hairs. Mesopleura smooth, with a few fine wrinkles below tegula. Scutellum (fig. 24) with rather dense raised hair-implantations; spine semitransparent, reaching end of propodeum, with a distinct vertical lamella below. Metapleura smooth and bare except at posterior margin. Propodeal carinae fused, low, semitransparent, almost straight.

Fore wing 3.0 x as long as wide, 0.8 x as long as body, faintly yellowish, densely hairy in apical 0.6; marginal cilia one-third the width of wing. Hind wing 9.1 x as long as wide; marginal cilia about equal to width of wing.

Metasoma (fig. 25) about as long as head and mesosoma combined, hardly as wide as thorax. T1 smooth and bare medially, with two long carinae, lateral of carinae with short

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

pubescence. T2 with a few hairs at extreme base, rest of tergite bare and smooth except for faint traces of microsculpture at hind margin; apical tergites bare, T3-T5 with faint traces of microsculpture and some fine punctures, T6 smooth, only with a few fine punctures.

Similar to *L. yoroensis* BUHL, 2001 (from Honduras) in shape of metasoma, but differs from this species in shape of head, antenna, and scutellum, cf. BUHL (2001b).

Genus *Platygaster* LATREILLE, 1809

Nine species of this very large genus present in the material, five could not be named. The most common of these was represented by 19 specimens.

***Platygaster dentata* BUHL, 2001**

Hitherto known only in the holotype from Honduras (BUHL 2001a).

Additional material 4♀♀: 2♀♀ Coiba, Estación Biol., Malaise trap (2), 29.I.-12.II.1994, leg. J.L. NIEVES; 2♀♀ Coiba, Estación Biol. 10 m, T. Malaise, 28.VIII.-1.IX. 1999, leg. NIEVES & FONTAL.

***Platygaster laevifrons* sp. nov.** (figs 26-29)

Material examined: Holotype ♀ "Panama, I. Coiba, Ranchería, T. Malaise, 19-25/VII. 1998, leg. NIEVES & FONTAL". Paratypes 5♀♀: 3♀♀ same data as holotype; 2♀♀ Coiba, Cerro de la Torre(cima) 400 m, Malaise trap, 18-22.VII.1998, leg. NIEVES & FONTAL.

Description. ♀: Length 0.80-1.15 mm. Colour black; antennae and legs medium brown; base of scape, trochanters, entire tibiae (except distal half of hind tibia), and segments 1-4 of all tarsi yellowish brown.

Head from above (fig. 26) hardly 1.9 x as wide as long, 1.25 x as wide as thorax; frons smooth, in larger specimens with faint fan-like microsculpture; vertex with a few fine transverse striae between ocelli, laterally with some wrinkles; occiput distinctly transversely striated, slightly angled. OOL and LOL about equal. Head from front 1.25 x as wide as high. Antenna (fig. 27) with A1 0.8 x as long as height of head; A9 from hardly longer than wide to 1.6 x as long as wide.

Mesosoma 1.4 x as long as wide, slightly higher than wide. Sides of pronotum smooth, in upper anterior corner with weak reticulation. Mesoscutum smooth except for weak reticulation anteriorly, evenly and sparsely hairy; notauli finely indicated in posterior half, rather close together; mid lobe prolonged to base of scutellum; scuto-scutellar grooves narrow, with rather dense or just a few hairs. Mesopleura smooth. Scutellum (fig. 28) evenly rounded, smooth, with some raised hair-implantations. Metapleura with pilosity all over. Propodeal carinae short, slightly diverging; area in between smooth and transverse.

Fore wing reaching middle or end of T6, with yellowish tint, 2.6 x as long as wide, disc bare except in distal 0.4; marginal cilia 0.15 width of wing.

Metasoma (fig. 29) 1.1-1.2 x as long as head and mesosoma combined, about 0.8 x as wide as thorax. T1 evenly crenulated; T2 medially with very short striae, in basal foveae with a few weak striae to 0.4-0.7 of length; T3-T6 smooth, T3-T5 each with a transverse row of deeply implanted hairs. Sternite 2 anteriorly with a tiny hump.

This is a rather variable species even in the limited material available. Not only metasoma looks widely different depending on if the apical segments are telescoped or not, but

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

flagellar segments are more or less elongate, and density of hairs above scuto-scutellar grooves varies. *P. laevifrons* is similar to Palaearctic *P. galenus* WALKER, 1835, but this species has T5 rugolose, and temples longer than in *laevifrons*, cf. VLUG (1985). Runs (with some difficulty) in MACGOWN's unpublished key to *Platygaster* of the United States to *P. vernoniae* (ASHMEAD, 1893) and *P. variabilis* FOUTS, 1924, but these species have conformation of antennae and notauli different than in *laevifrons*, scutellum more convex, and wings clear, cf. FOUTS (1924).

***Platygaster panamaensis* sp. nov.** (figs 30-32)

Material examined: Holotype ♀ "Panama, I. Coiba, Estacion Biol., T. Malaise (2), 21-23.I.1994, leg. J.L. NIEVES".

Description. ♀: Length 0.9 mm. Colour shiny black; A1-A2 and legs yellow; A3-A10 and last segment of tarsi brown.

Head from above (fig. 30) about 1.9 x as wide as long, 1.3 x as wide as thorax; frons with transverse wrinkles below, sculpture becoming more faint and fan-like towards middle of frons, upper half of frons hardly with sculpture; vertex smooth; occiput strongly striated, anteriorly transversely so, postero-laterally longitudinally so, postero-medially with oblique striation. OOL and LOL equal. Head from front 1.25 x as wide as high. Antenna (fig. 31) with A1 shorter than height of head (6:7).

Mesosoma 1.5 x as long as wide, fully 1.1 x as high as wide. Sides of pronotum smooth, with scattered hairs. Mesoscutum smooth, with a few hairs; notauli nearly complete but weak, ending in fine reticulation shortly before reaching anterior margin of disc; mid lobe posteriorly slightly prolonged and semitransparent, moderately wide; scuto-scutellar grooves with numerous hairs. Mesopleura smooth. Scutellum evenly and slightly convex, at level of mesoscutum, smooth as this but with somewhat denser hairs. Metapleura with rather sparse pilosity all over. Propodeal carinae hardly diverging, area in between smooth and very slightly transverse.

Fore wing with faint yellowish tint, 0.9 x as long as body, 2.8 x as long as wide, rather densely hairy except basally; marginal cilia short. Hind wing 6.5 x as long as wide, with two frenal hooks; marginal cilia one-third the width of wing.

Metasoma (fig. 32) as long as head and mesosoma combined, about as wide as thorax. T1 evenly crenulated. T2 smooth except for a few faint striae in basal foveae, these reach about one-fifth the length of tergite. T3-T6 smooth, with some rather superficially implanted hairs.

Difficult to separate from the short description of *P. pallidicoxalis* (ASHMEAD, 1894) (W. Indies), the female and type material of which are unknown. According to ASHMEAD (1894) the *P. pallidicoxalis* male has notauli only indicated posteriorly, and hind coxae are partially darkened.

***Platygaster tubulosa* BRUES, 1922**

This species seems to have a world wide distribution, cf. VLUG (1995).

Additional material: 1♀ Coiba, Cerro de la Torre(cima), 400 m, Malaise trap, 18-22.VII.1998, leg. NIEVES & FONTAL.

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

Genus *Synopeas* FÖRSTER, 1856

About 16 species present in the material; two that could not be named were most numerous, represented by about 50 specimens each. Two other unnamed species belong to subgenus *Sactogaster*.

***Synopeas fontali* sp. nov.** (figs 33-36)

Material examined: Holotype ♀ "Panama, I. Coiba, Estación Biológica 10 m, T. Malaise, 28-08/1-09.1999, leg. NIEVES & FONTAL". Paratypes 16♀♀ 6♂♂: 14♀♀ 3♂♂ same data as holotype; 3♂♂ Estación Biol., Malaise trap (2), 19.I.-5.II.1994, leg. J.L. NIEVES; 2♀♀ Coiba, Cerro de la Torre(cima), 400 m, Malaise trap, 18-22.VII.1998, leg. NIEVES & FONTAL.

Description. ♀: Length 1.4-2.1 mm. Colour black, scape and legs bright reddish brown; most of hind femur, distal half of hind tibia, most of hind tarsus, and last segment of anterior tarsi darkened; A2-A10 blackish brown.

Head from above (fig. 33) 1.6 x as wide as long, 1.1 x as wide as thorax; frons and vertex roughly and irregularly reticulate-coriaceous; reticulation of occiput rough but very regular, occiput bluntly angled. Posterior ocelli separated from eye by slightly less than their diameter; LOL = 1.7 x OOL. Head from front hardly more than 1.1 x as wide as high. Antenna (fig. 34) with A1 0.8 x as long as height of head.

Mesosoma 1.6 x as long as wide, almost 1.2 x as high as wide. Sides of pronotum smooth and bare, in upper half strongly reticulate-coriaceous in anterior half. Mesoscutum distinctly reticulate-coriaceous, virtually bare, with complete notauli; mid lobe posteriorly rather narrow, slightly prolonged; scuto-scutellar grooves wide, almost bare. Mesopleura smooth. Scutellum (fig. 35) more roughly reticulate-coriaceous than mesoscutum, bare as this, with strong dark spine, without lamella. Metapleura smooth in slightly less than anterior half, rest with sparse pilosity. Propodeal carinae dark, fused, slightly rounded.

Fore wing reaching base of T6, with yellowish tint, 2.7 x as long as wide, almost bare (with only sparse and small microtrichia); marginal cilia short. Hind wing 7.6 x as long as wide; marginal cilia hardly 0.4 width of wing.

Metasoma (fig. 36) 1.4-1.9 x as long as head and mesosoma combined, 0.8 x as wide as thorax, 1.2 x as wide as high. T2 in posterior two-fifths, and T3-T6 all over (except on narrow fore and hind margins) with fine and dense punctation.

♂: Length 1.2-1.6 mm. Antenna with A4 triangulary dilated, twice as long as wide, 1.1 x as long as pedicel; preapical segments each 1.5-2.0 x as long as wide; flagellar pubescence distinct, almost three-fourths the width of segments. Metasoma 0.9 x as long as head and mesosoma combined, pointed at apex; T3-T7 combined 0.9 x as long as T2.

Named after one of the collectors. This species seems to be most similar to *Synopeas insularis* (ASHMEAD, 1894) from the W. Indies (type material unknown), but this species has A1-A6 brownish yellow, mesosoma twice as long as wide, scutellum partly hairy, wings clear, and apical tergites smooth, cf. KIEFFER (1926).

***Synopeas hastatus* sp. nov.** (figs 37-40)

Material examined: Holotype ♀ "Panama, I. Coiba, Estación Biológica, T. Malaise (2), 5-12/02.1994, leg. J.L. NIEVES".

Description. ♀: Length 1.05 mm. Colour black, antennae and legs yellow; A7-A10, and

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

apex of hind femur and of hind tibia dark brown.

Head from above (fig. 37) 1.6 x as wide as long, almost 1.2 x as wide as thorax, dull, uniformly reticulate-coriaceous, with an impressed line from anterior ocellus towards antennae; occiput rather sharply angled but without carina. Lateral ocelli separated from eye by about half their diameter. Head from front 1.1 x as wide as high. Antenna (fig. 38) with A1 0.75 x as long as height of head.

Mesosoma 1.7 x as long as wide, 1.2 x as high as wide. Sides of pronotum reticulate-coriaceous in upper half, rest smooth. Mesoscutum uniformly reticulate-coriaceous (weaker than on head), with sparse and inconspicuous hairs, notauli hardly indicated posteriorly, mid lobe prolonged in a fine semitransparent point to base of scutellum; scuto-scutellar grooves wide and distinctly hairy. Mesopleura smooth, with some longitudinal striae below tegulae. Scutellum (fig. 39) sculptured as mesoscutum, with much denser hairs; spine sharp, dark, with a slightly semitransparent vertical lamella below. Metapleura smooth and bare in anterior 0.2-0.5, behind with long and rather sparse whitish pilosity. Propodeal carinae fused, long, straight and high, slightly semitransparent.

Fore wing clear, much overreaching tip of metasoma but shorter than body (5:6), 2.6 x as long as wide, hairs on disc unusually sparse; marginal cilia absent. Hind wing 7.5 x as long as wide; marginal cilia half the width of wing.

Metasoma (fig. 40) hardly longer than mesosoma (26:25), about as wide as this, 1.5 x as wide as high. Most of T1 smooth and bare, junction of T1-T2 with two rather large tufts of pubescence. T2-T6 smooth except for fine reticulation along hind margins, apical tergites with some inconspicuous hairs.

Runs to Chilean *S. eugeniae* KIEFFER, 1911 in KIEFFER's (1926) key, but *eugeniae* has (among other differences) longer OOL and shorter flagellar segments than *hastatus*.

***Synopeas longifuniculus* sp. nov.** (figs 41-44)

Material examined: Holotype ♀ "Panama, I. Coiba, Cerro de la Torre(cima) 400 m, T. Malaise, 18-22/VII.1998, leg. NIEVES & FONTAL".

Description. ♀: Length 1.2 mm. Colour black; A1 and legs reddish brown, distal half of hind femur and tibia slightly darkened; A2-A10 dark brown.

Head from above (fig. 41) 1.6 x as wide as long, about 1.1 x as wide as thorax, uniformly and somewhat roughly reticulate-coriaceous, occiput rather sharply angled; eyes with scattered distinct long hairs; lateral ocelli separated from eye by their diameter, LOL = 1.7 x OOL. Head from front hardly wider than high, lower frons somewhat prolonged in front of mouth. Antenna (fig. 42) long, with A1 as long as height of head.

Mesosoma 1.5 x as long as wide, 1.2 x as high as wide. Sides of pronotum smooth, with scattered hairs, reticulate-coriaceous anteriorly in upper half. Mesoscutum uniformly and slightly longitudinally reticulate-coriaceous, rather densely hairy; notauli finely indicated in posterior half; mid lobe slightly and somewhat bluntly prolonged in front of scutellum; scuto-scutellar grooves distinct, with few hairs. Mesopleura smooth. Scutellum (fig. 43) sculptured as mesoscutum, with dense hairs; spine sharp, not semitransparent, hardly with lamella below. Metapleura smooth and bare in anterior half, rest with whitish pilosity. Propodeal carinae slightly semitransparent, curved, fused, rather low.

Fore wing 2.7 x as long as wide, with faint yellowish tint, reaching tip of metasoma, rather densely hairy over most of disc; marginal cilia about 0.1 width of wing. Hind wing 7.3 x as long as wide; marginal cilia two-thirds the width of wing.

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

Metasoma (fig. 44) 1.2 x as long as head and mesosoma combined, hardly 0.9 x as wide as thorax, almost 1.2 x as wide as high. T1-T2 smooth; T3-T4 with dense micropunctation, smooth anteriorly and posteriorly; T5-T6 with extensive longitudinal micropunctation (fine longitudinal grooves); apical tergites with scattered fine hairs.

Differs from *Synopeas insularis* (ASHMEAD, 1894) from the W. Indies in having mesosoma less slender, and in sculptured apical tergites; differs from *S. macrurus* (ASHMEAD, 1895) from the West Indies in being smaller, in having more slender antennae and shorter metasoma, cf. KIEFFER (1926).

***Synopeas minor* (BRUES, 1922)**

This species was well described from British Guyana as *Polymecus minor* by BRUES (1922).

Additional material 7♀♀: 2♀♀ Coiba, Estación Biol., Malaise trap (2), 19-21.I.1994, J.L. NIEVES leg.; 1♀ Coiba, Cerro de la Torre(cima), 400 m, Malaise trap, 18-22.VII.1998, leg. NIEVES & FONTAL; 2♀♀ Coiba, La Falla, Malaise trap, 20-26.VII.1998, leg. NIEVES & FONTAL; 2♀♀ Ranchería, Malaise trap, 19-25. VII.1998, leg. NIEVES & FONTAL.

***Synopeas nievesaldreyi* sp. nov.** (figs 45-48)

Material examined: Holotype ♀ "Panama, Coiba, Estación Biol., T. Malaise (1), 25-27/I.1994, J.L. NIEVES leg."

Description. ♀: Length 1.2 mm. Colour black; antennae and legs yellowish, A7-A10 medium brown, hind femur and apex of hind tibia very slightly darkened.

Head from above (fig. 45) 1.8 x as wide as long, fully 1.1 x as wide as thorax, dull, almost uniformly reticulate-coriaceous, behind ocelli rather sharply angled; LOL = 1.2 x OOL, posterior ocelli separated from eye fully by their diameter. Head from front only slightly more than 1.1 x as wide as high. Antenna (fig. 46) with A1 0.7 x as long as height of head.

Mesosoma 1.4 x as long as wide, 1.2 x as high as wide. Sides of pronotum smooth, in upper half with faint reticulation and numerous white hairs. Mesoscutum weakly reticulate-coriaceous, uniformly and rather densely covered by white hairs; notauli weak but complete, meeting in a fine point which is prolonged to base of scutellum; scuto-scutellar grooves wide, with few hairs. Mesopleura smooth. Scutellum (fig. 47) sculptured as mesoscutum but denser hairy, spine strong and semitransparent, with a very narrow semitransparent vertical lamella below. Metapleura with long but sparse white pilosity all over. Propodeal carinae curved, fused, semitransparent.

Fore wing reaching middle of T6, almost clear, 3.2 x as long as wide, bare in basal third, rest of disc with rather sparse hairs; marginal cilia absent. Hind wing 6.4 x as long as wide; marginal cilia 0.5 width of wing.

Metasoma (fig. 48) 1.4 x as long as head and mesosoma combined, 0.9 x as wide as thorax, almost 1.2 x as wide as high. T1-T2 smooth; T3-T5 with some faint reticulation, smooth along margins; T6 with faint longitudinal wrinkles, apical tergites with some superficially implanted fine hairs.

Named after the collector. Probably most similar to *Synopeas insularis* (ASHMEAD, 1894) from the W. Indies (type material unknown), but this species has mesosoma more slender, and different conformation of metasoma which is also smoother on apical tergites than in *nievesaldreyi*, cf. KIEFFER (1926).

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

***Synopeas panamaensis* sp. nov.** (figs 49-51)

Material examined: Holotype ♀ "Panama, I. Coiba, Cerro de la Torre(cima), 400 m, T. Malaise, 18-22/VII.1998, leg. NIEVES & FONTAL". Paratypes: 4♀♀ same data.

Description. ♀: Length 0.60-0.75 mm. Colour black; antennae and legs light brownish, with apices of femora and tibiae slightly darkened.

Head from above (fig. 49) 1.8 x as wide as long, 1.3 x as wide as thorax, shiny, distinctly and rather uniformly reticulate; posterior ocelli separated from eye by slightly more than their diameter; OOL:POL:LOL = 1:4:2; occiput rather angled but without carina. Head from front 1.3 x as wide as high. Antenna (fig. 50) with length of A1 hardly 0.9 height of head.

Mesosoma (fig. 51) fully 1.4 x as long as wide, slightly more than 1.1 x as high as wide. Sides of pronotum smooth, with faint reticulation on upper anterior corner. Mesoscutum weakly reticulate-coriaceous, moderately hairy; notauli weak but nearly complete, fading out anteriorly, not meeting posteriorly, the somewhat blunt mid lobe slightly prolonged and raised, reaching base of scutellum. Mesopleura smooth. Scutellum sculptured and hairy as mesoscutum; spine as long as disc of scutellum, dark, slightly downcurved at apex, along sides with dense white hairs standing out from hind margin of scutellum, below with a narrow semitransparent vertical lamella. Metapleura with long white pilosity except at front margin. Propodeal carinae short, semitransparent, slightly curved.

Fore wing 0.85 x as long as body, 2.5 x as long as wide, almost clear, with rather sparse but distinct hairs; marginal cilia hardly present. Hind wing 7.3 x as long as wide; marginal cilia fully 0.6 the width of wing.

Metasoma (fig. 51) about as long as mesosoma, hardly as wide as this, about 1.1 x as wide as high, smooth; junction of T1-T2 with two large tufts of pubescence, bare medially; T3-T6 combined about half as long as T2, with some superficially implanted hairs; T6 twice as wide as long.

A rather distinct species on the combination of nearly complete notauli, long scutellar spine, and short metasoma. *S. eugeniae* KIEFFER, 1911 from Chile seems to be rather similar to *S. panamaensis* but lacks notauli; another somewhat similar species, the Nearctic *S. rugosiceps* (KIEFFER, 1926), has different sculpture, cf. KIEFFER (1926).

***Synopeas reticulatifrons* sp. nov.** (figs 52-55)

Material examined: Holotype ♀ "Panama, Coiba, Estacion Biol., T. Malaise (2) 5-12/02.1994, J.L. NIEVES leg." Paratypes 9♀♀ 3♂♂: All same locality as holotype; 1♀ same data as holotype, 2♂♂ 19-21.I.1994, 1♂ 21-23.I.1994 (Malaise trap 2), 1♀ 23-25.I. 1994 (Malaise trap 1), 1♀ 25-27.I.1994, 2♀♀ 27-29.I.1994 (Malaise traps 1+2), 1♀ 29.I.-5.II.1994 (Malaise trap 2), 1♀ 5-12.II.1994 (Malaise trap 2), 1♀ 30.IV.-9.V.1994 (Malaise trap 2), 1♀ "Estación Biológica, 10 m, T. Malaise, 28-08/1-09.1999", leg. NIEVES & FONTAL.

Description. ♀: Length 0.7-0.8 mm. Colour blackish, antennae and legs medium brown; base of scape, A2-A6, trochanters, basal half of tibiae, and segments 1-4 of all tarsi yellowish brown. Sometimes legs brownish-yellow with coxae and femora only slightly darkened.

Head from above (fig. 52) hardly 1.9 x as wide as long, 1.4 x as wide as thorax. Frons distinctly reticulate-coriaceous, the large meshes appearing raised; sculpture on lower half of frons becoming transverse, being striae just above antennae. Vertex with finer sculpture

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

than on frons, but still rather rough; occiput with low but distinct carina, behind this with transverse reticulation. Posterior ocelli separated from eye by hardly half their diameter. Head from front 1.2 x as wide as high. Antenna (fig. 53) with length of A1 three-fourths the height of head.

Mesosoma twice as long as wide, 1.3 x as high as wide. Sides of pronotum smooth, in upper half with raised hair-implantations anteriorly. Mesoscutum with fine reticulation and numerous raised hair-implantations, distinctly hairy; notauli absent, hind margin medially prolonged but not swollen, laterally with hairy scuto-scutellar grooves. Mesopleura smooth. Scutellum (fig. 54) sculptured and hairy as mesoscutum, with a distinct and partially semitransparent spine almost reaching hind margin of propodeum, hardly with lamella below. Metapleura smooth and bare except posteriorly. Propodeal carinae fused, rather long and straight, slightly semitransparent.

Fore wing 3.4 x as long as wide, slightly surpassing tip of metasoma, 0.8 x as long as body, with faint brownish tint, bare in basal 0.4, rest uniformly moderately hairy; marginal cilia at their longest almost one-fourth the width of wing. Hind wing 6.7 x as long as wide; marginal cilia two-thirds the width of wing.

Metasoma (fig. 55) 0.75-0.95 x as long as head and mesosoma combined, slightly wider than thorax, 0.8 x as high as wide. T1-T5 smooth, T6 reticulate-coriaceous; T3-T6 with some superficially implanted hairs.

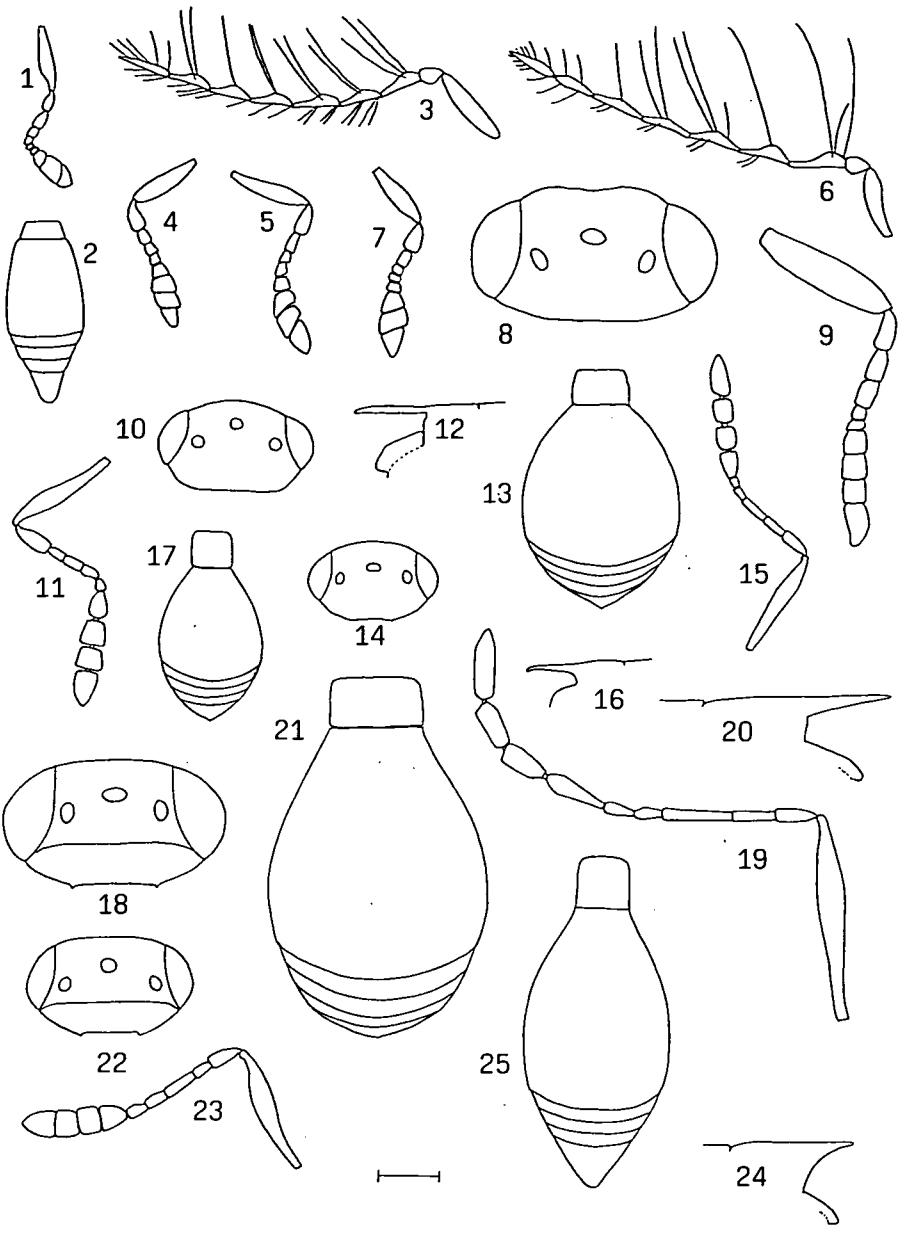
♂: Mostly as female. Preapical segments of flagellum hardly longer than wide to 1.7 x as long as wide.

A somewhat variable species; sometimes sculpture on frons rather obliterated. Similar to *S. carinifrons* BUHL, 2001 but smaller, frons with sculpture less transverse, and fore wing more elongate, cf. also BUHL (2001a).

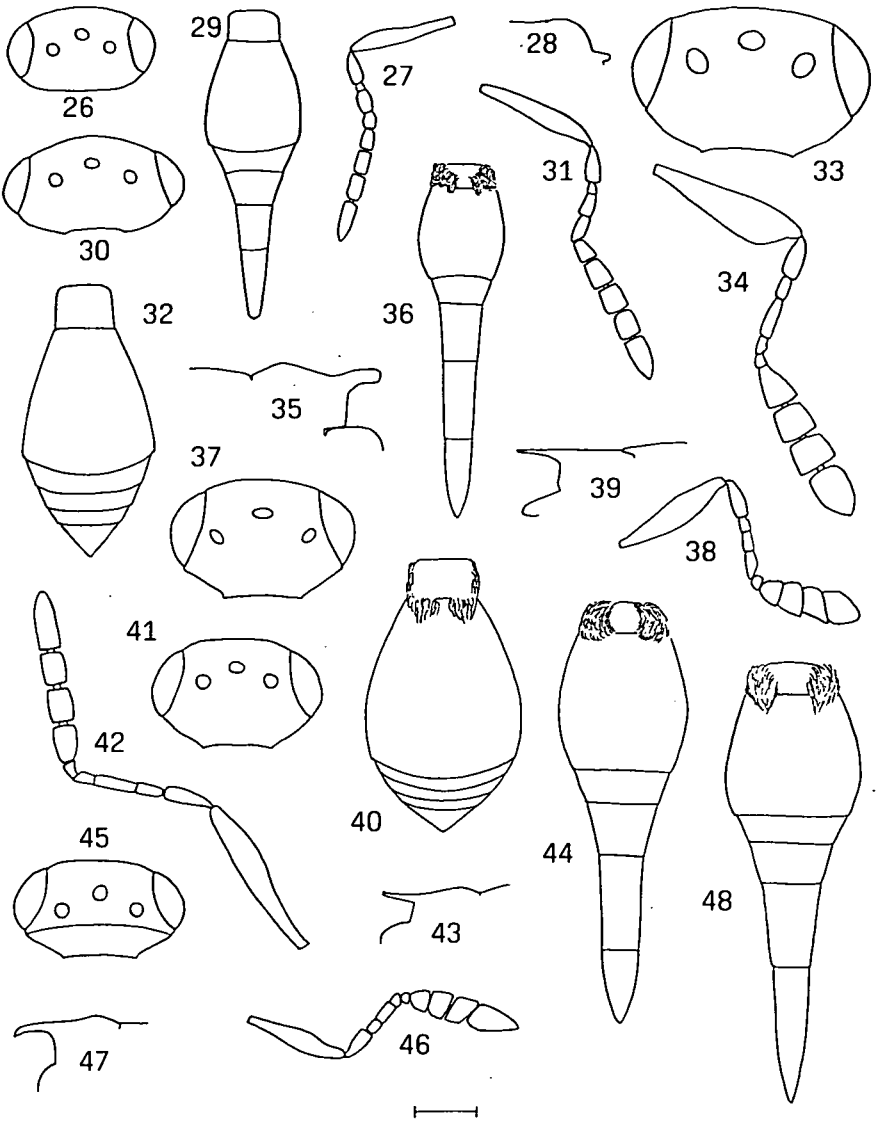
Figures 1-55

1-2: *Acerotella aldrovandii* sp. nov. ♀, antenna (1), metasoma (2); 3-4: *Allotropa muesebecki* sp. nov., antenna ♂ (3), antenna ♀ (4); 5-6: *A. pallidicornis* sp. nov., antenna ♀ (5), antenna ♂ (6); 7: *A. transversiceps* sp. nov. ♀, antenna; 8-9: *Inostemma striaticornu* ♀, head (8), antenna (9); 10-13: *Leptacis brevifuniculus* sp. nov. ♀, head (10), antenna (11), scutellum (12), metasoma (13); 14-17: *L. coiba* sp. nov. ♀, head (14), antenna (15), scutellum (16), metasoma (17); 18-21: *L. inaequalis* sp. nov. ♀, head (18), antenna (19), scutellum (20), metasoma (21); 22-25: *L. lucidiventris* sp. nov. ♀, head (22), antenna (23), scutellum (24), metasoma (25); 26-29: *Platygaster laevifrons* sp. nov. ♀, head (26), antenna (27), scutellum (28), metasoma (29); 30-32: *P. panamaensis* sp. nov. ♀, head (30), antenna (31), metasoma (32); 33-36: *Synopeas fontali* sp. nov. ♀, head (33), antenna (34), scutellum (35), metasoma (36); 37-40: *S. hastatus* sp. nov. ♀, head (37), antenna (38), scutellum (39), metasoma (40); 41-44: *S. longifuniculus* sp. nov. ♀, head (41), antenna (42), scutellum (43), metasoma (44); 45-48: *S. nievesaldreyi* sp. nov. ♀, head (45), antenna (46), scutellum (47), metasoma (48); 49-51: *S. panamaensis* sp. nov. ♀, head (49), antenna (50), body (51); 52-55: *S. reticulatifrons* sp. nov. ♀, head (52), antenna (53), scutellum (54), metasoma (55). Scale bar = 0.10 mm (for figs 1-2 it is = 0.14 mm, for fig. 36 it is = 0.20 mm).

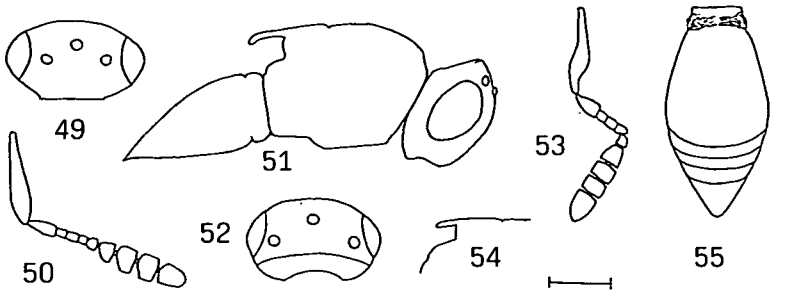
© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at



© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at



© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at



Literature

ASHMEAD, W.H. - 1894. Report on the parasitic Cynipidae, part of the Braconidae, the Ichneumonidae, the Proctotrypidae, and part of the Chalcididae. Part III. In W.H. ASHMEAD: On the parasitic Hymenoptera of the island of St. Vincent. - Linn. J. Zool. 25: 188-254.

BRÈTHES, J. - 1913. Himenopteros de la América meridional. - Ann. Mus. Nat. Hist. Buenos Aires 24: 35-165.

BRÈTHES, J. - 1919. Cueillette d'insectes au Rio Blanco. - Revista Chilena 22: 161-171.

BRUES, C.T. - 1922. Some hymenopterous parasites of lignicolous Itoniidae. - Proc. Am. Acad. Arts Sci. 57: 263-288.

BUHL, P.N. - 1998. Key to world species of *Euxestonotus* FOUTS (Hym., Platygastridae). - Entomologist's mon. Mag. 134: 241-255.

BUHL, P.N. - 2001a. Taxonomical notes on Platygastridae (Hymenoptera, Platygastroidea). - Entomofauna 22: 17-40.

BUHL, P.N. - 2001b. Eleven new species of Platygastrinae (Hymenoptera: Platygastridae). - Folia ent. hung. 62: 133-149.

BUHL, P.N. - 2002. New species of *Leptacis* from the Neotropics (Insecta: Hymenoptera: Platygastridae: Platygastrinae). - Reichenbachia 35 (in press).

FOUTS, R.M. - 1923. Description of a new Serphoid parasite (Hymen.). - Proc. ent. Soc. Wash. 25: 64-65.

FOUTS, R.M. - 1924. Revision of the North American wasps of the subfamily Platygasterinae. - Proc. USNM 63: 1-145.

FOUTS, R.M. - 1927. Descriptions of new Nearctic Serphoidea (Hymenoptera). - Proc. ent. Soc. Wash. 29: 165-179.

HUGGERT, L. - 1980. Taxonomical studies on some genera and species of Platygastrinae (Hymenoptera, Proctotrupoidea). - Ent. scand. 11: 97-112.

KIEFFER, J.J. - 1926. Scelionidae. Das Tierreich 48. Berlin. 885 pp.

MACGOWN, M.W. (unpublished). Key to identification of species of *Platygaster* (Hymenoptera: Proctotrupoidea) in the United States: 42 pp., 101 figs.

MASNER, L. - 1976. The Nearctic species of *Iphitrachelus* WALKER (Hymenoptera, Proctotrupoidea, Platygastridae), with a key to world species. - Can. ent. 108: 1065-1068.

MASNER, L. - 1980. The Nearctic species of *Acerotella* MASNER (Hymenoptera, Procto-

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

trupoidea, Platygastridae). - Can. ent. 112: 1291-1303.
MUESEBECK, C.F.W. - 1939. A new mealybug parasite (Hymenoptera: Scelionidae). - Can. ent. 71: 158-160.
MUESEBECK, C.F.W. - 1942. Two new species of *Allotropa* (Platygasteridae, Serphoidea) parasitic on the Comstock mealybug. - Bull. Brooklyn ent. Soc. 37: 170-173.
MUESEBECK, C.F.W. - 1954. Three new mealybug parasites of the genus *Allotropa* (Hymenoptera: Platygasteridae). - Bull. Brooklyn ent. Soc. 49: 18-21.
NIEVES-ALDREY, J. L. & FONTAL, F. - 1997. Inventario de himenópteros parasitoides (Cynipoidea y Chalcidoidea, Hymenoptera, Insecta) de la isla de Coiba (Panamá). In: Flora y Fauna del Parque Nacional de Coiba (Panamá) Inventario preliminar. Santiago Castroviejo ed. AECI. Madrid: 375-397.
VLUG, H.J. - 1985. The types of Platygastridae (Hymenoptera, Scelionoidea) described by HALIDAY and WALKER and preserved in the National Museum of Ireland and in the British Museum (Natural History). 2. Keys to species, redescriptions, synonymy. - Tijdschr. Ent. 127: 179-224.
VLUG, H.J. - 1995. Catalogue of the Platygastridae (Platygastroidea) of the world. - Hymenopterorum Catalogus 19: 1-168.

Author's address:
Peter Neerup BUHL
Troldhøjvej 3
DK-3310 Ølsted
Denmark

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

Literaturbesprechung

PERRIN, J. 2002: Nomaden der Lüfte. - Gerstenberg Verlag, Hildesheim, 272 S.

Jacques PERRIN ist kein Unbekannter; von ihm stammt u.a. "Mikrokosmos", einer der besten Naturfilme der letzten Jahre. "Nomaden der Lüfte" dürfte der aufwendigste Tierfilm aller Zeiten sein: Acht Filmteams und eine Schar von Spezialisten (Kameraleute, Tontechniker, Piloten, wissenschaftliche Berater, Vogeltrainer etc.) filmten drei Jahre lang Zugvögel rund um den Globus. Mit Spezialschiffen, Hubschraubern und Ultraleichtflugzeugen begleiteten sie Singvögel aus Europa, kanadische Schneegänse, Kraniche aus Asien, südamerikanische Schwarzhalsschwäne und afrikanische Pelikane auf ihren Flugrouten. Der vorliegende großformatige Bildband zeigt die faszinierendsten Bilder dieser außergewöhnlichen Unternehmung. Der begleitende Text beschreibt die Hauptakteure und ihre Besonderheiten, von der Balz bis zur Aufzucht der Jungen, vom Vogelzug bis zum Vogeltanz, und von den unglaublichen Anpassungen an extremste Lebensbedingungen. Eingestreut findet sich ornithologisches Spezialwissen unter der Überschrift "Wissenswertes", etwas sensationell , aber trotzdem aktuell informativ.

Ein grandioser Bildband für alle Naturfreunde und Vogelliebhaber, der neben dem optischen Genuss eine ganze Menge an ornithologischem Wissen vermittelt.

R. GERSTMEIER

DONALDSON, K. 2002: Malerisches Afrika. Aus dem Skizzenbuch eines Künstlers. - Frederking & Thaler Verlag, München, 220 S.

Die Einführung des Autors endet mit dem Absatz "Ich möchte Sie einladen, Afrika anhand meiner Tagebücher, Bilder und Reisen mit mir gemeinsam zu erkunden. Und es wäre schön, wenn dieses Buch Sie anregt, auch auf den Pfaden der Tiere zu wandern und das Schweigen zu erfahren". Dies läßt einiges über den Autor erwarten und wird durch die Lektüre dieses Bildbandes bestätigt.

Kim DONALDSON wurde in Zimbabwe geboren und wuchs auf einer riesigen Farm im Buschland auf. Er präsentiert in diesem Werk eine Safari mit Pinsel, Zeichenstift und Tagebuch durch Afrikas spektakulärste Wildreservate. Er ist einer jener wenigen Maler, die es vermögen, das Tier in all seiner Würde darzustellen, auch deren Geist und ihre Seele. Sein Werk spiegelt die Achtung vor der Natur und sein Bestreben, ihr Gleichgewicht so wenig wie möglich zu stören, wider. Die Liebe zum Detail zieht sich durch den gesamten Bildband, welcher neben den unverwechselbaren Ölbildern auch zahlreiche Studien, Detailskizzen, Bleistift- und Tuschezeichnungen bringt und liebevoll mit Briefmarken, Geldscheinen und -münzen, Notizblock-Auszügen und Malutensilien "garniert" ist. Im Text gibt es u.a. Informationen aus den jeweiligen Ländern, aus den Wildreservaten, über Naturschutz und Naturvölker.

Jeder Afrika-Liebhaber wird von diesem äußerst ansprechenden Bildband fasziniert sein, welcher nicht nur ein meisterhaftes Porträt der afrikanischen Naturlandschaft darstellt, sondern auch ein eindringliches Plädoyer für den Schutz von Flora und Fauna dieses Kontinents.

R. GERSTMEIER

© Entomofauna Ansfelden/Austria; download unter www.biologiezentrum.at

BRECHTEL, F. & KOSTENBADER, H. (Hrsg.) 2002: Die Pracht- und Hirschkäfer Baden-Württembergs. - Verlag Eugen Ulmer, Stuttgart, 632 S.

Als generelle Ziele dieses Buches können die Erarbeitung und zusammenfassende Darstellung des Wissenstandes über die Pracht- und Hirschkäferfauna Baden-Württembergs sowie die Erstellung eines Schutzprogrammes für diese Insektengruppen genannt werden. Die Bedeutung dieser beiden Käfergruppen werden lokal somit überwiegend in der Naturschutzrelevanz, in ihrer indikatorischen Bedeutung und in ihrer Bedeutung für Land- und Forstwirtschaft gesehen. Mit insgesamt etwa 130 in Mitteleuropa vorkommenden Arten handelt es sich um zwei überschaubare, für den Einstieg in eben genannte Zielvorstellungen gut geeignete Artengruppen. Es existieren gut brauchbare Bestimmungswerke, die nach einer gewissen Einarbeitung unter Kontaktierung eines Spezialisten bald zu Erfolgen führt. Eine gesamtökologische Betrachtung mit besonderem Augenmerk auf die Biologie einzelner Arten ist heute immer noch lohnenswert. Die Grundlage bildet vorliegendes Werk, die sich ausführlichst mit den 77 sicher nachgewiesenen Prachtkäferarten und 7 Hirschkäferarten Baden-Württembergs befaßt. Farbfotos, Verbreitungskarten und ausführliche Beschreibung der Ökologie und Biologie werden vorgestellt. Für beide Familien wird erstmals eine Rote Liste Baden-Württembergs erstellt und Maßnahmen zum Schutz der gefährdeten Arten beschrieben. Wie bei den bereits erschienen Bänden über andere Tiergruppen, werden auch in diesem Band sehr viele alte und aktuelle Daten zur Faunistik und Biologie zusammengetragen. Jede Art wird genauestens über eine "Bestimmungshilfe", "Kurzübersicht", "Verbreitung" (Naturräume, Höhenverbreitung, Nachbargebiete), "Biologie und Ökologie" (Habitatansprüche, Lebensräume, Entwicklung, Populationsentwicklung) sowie "Gefährdung und Schutz" analysiert. Insgesamt wurden 306 Farbfotos, 180 Diagramme und Zeichnungen, 86 Verbreitungskarten und 30 Tabellen zusammengetragen.

Wiederum eine sehr lobens- und damit empfehlenswerte Monographie dieser beliebten Reihe aus dem Ulmer Verlag. R. GERSTMEIER

Druck, Eigentümer, Herausgeber, Verleger und für den Inhalt verantwortlich:
Maximilian SCHWARZ, Konsulent für Wissenschaft der O.Ö. Landesregierung, Eibenweg 6, A-4052 Ansfelden
Redaktion: Erich DILLER (ZSM), Münchhausenstrasse 21, D-81247 München, Tel.(089)8107-159
Fritz GUSENLEITNER, Lungitzerstrasse 51, A-4222 St. Georgen / Gusen
Wolfgang SCHACHT, Scherrerstrasse 8, D-82296 Schöngeising, Tel. (089) 8107-146
Erika SCHARNHOP, Himbeerschlag 2, D-80935 München, Tel. (089) 8107-102
Johannes SCHUBERTH, Bauschingerstrasse 7, D-80997 München, Tel. (089) 8107-160
Emma SCHWARZ, Eibenweg 6, A-4052 Ansfelden
Thomas WITT, Tengstrasse 33, D-80796 München
Postadresse: Entomofauna (ZSM), Münchhausenstrasse 21, D-81247 München, Tel.(089) 8107-0, Fax (089) 8107-300, e-mail: Erich.Diller@zsm.mwn.de

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: Entomofauna

Jahr/Year: 2002

Band/Volume: 0023

Autor(en)/Author(s): Buhl Peter Neerup

Artikel/Article: Contributions to the platygastrid fauna of Pananma (Hymenoptera, Platygastridae). 309-330