Notes on reared or emerged Platygastroidea (Hymenoptera)

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Platygaster bonessi sp. n. and *P. stefaniellae* sp. n. were reared from galls of the gall midge *Stefaniella atriplicis* on *Atriplex halimus* (Chenopodiaceae) in the Mediterranean region. *Synopeas fungorum* sp. n. emerged from filamentous fungi, especially *Meripilus giganteus* (giant polypore) in Germany. *Allotropa mecrida* (Walk.) and *Platygaster ?galenus* (Walk.) were reared from a *Halimione portulacoides* (Chenopodiaceae) with galls, and *Leptacis tipulae* (Kirby) was reared from *Hemerocallis fusca*-flowers (Liliaceae) galled by Cecidomyiidae. *Trimorus flavipes* (Th.), *T. laevifrons* (Th.), *Leptacis ozines* (Walk.), and *Synopeas euryale* (Walk.) ermerged from filamentous fungi.

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From Dr. Martin Boness in Leverkusen (Germany) I have received a material of reared or emerged microhymenoptera, primarily Platygastridae. It is often hard to tell whether a wasp is "reared" or "emerged" from a plant or fungus. Most platygastrids are parasitoids on gall midges (Diptera, Cecidomyiidae), but some of these hosts live as larvae on fungi or as scavengers in decomposing organic matter (CSIRO, 1991). Thus, platygastrid wasps could possibly be reared from e.g. *Meripilus giganteus*, but they might also just emerge from it because they are feeding on it as adults. Large assemblages of tiny *Synopeas* spp. can often be seen sitting under shelf fungi on tree trunks. The scelionids mentioned below belong to the subfamily Teleasinae, the biology of which is poorly known, but probably they parasitize eggs of Coleoptera (Gauld & Bolton, 1988). Thus they could possibly be reared from fungi housing many beetles. The rearings of *Allotropa mecrida* and *Leptacis tipulae* recorded below indicate that these well-known parasitoids can be beneficial for other plants than fig, wine, and wheat.

All the material treated below is preserved in the Zoological Museum, University of Copenhagen.

Scelionidae

Trimorus flavipes (Thomson, 1859)
One male emerged from *Inonotus radiatus* (Sow.) on *Alnus glutinosa* (L.), Germany, Leverkusen, Bergisch Neukirchen, 3.IX.1984 (M. Boness).

Trimorus laevifrons (Thomson, 1859)
Seven females emerged from *Ganoderma resinaceum* Boud. (undeveloped old specimen) at base of *Quercus robur* L. in Germany, Freiburg-Hochdorf, 6.II. 1999 (M. Boness).

Platygastridae

Allotropa mecrida (Walker, 1835)
An unusually large female (0.98 mm long) was reared from *Halimione portulacoides* (L.) "with galls" in Portugal, Algarve, 21.X.1999 (M. Boness). Known as a parasite of mealybugs (Pseudococcidae): *Planococcus citri* (Risso, 1813) on *Ficus carica* L. and *Vitis vinifera* L.; pseudococcid on *Betula nana* L., etc., cf. Vlug (1995).

Leptacis ozines (Walker, 1835)
Two females emerged from *Ganoderma resinaceum* Boud. (undeveloped old specimen) at base of *Quercus robur* L. in Germany, Freiburg-Hochdorf, 6.II. 1999 (M. Boness).

Leptacis tipulae (Kirby, 1798)
Nine females, ex. *Hemerocallis fusca*-flowers, "galled by Cecidomyiidae (fleshy petals)", Germany, Leverkusen, Bergisch Neukirchen, 17.VI. 1999 (M. Boness). *L. tipulae* is well-known as an important parasitoid of *Sitodiplosis mosellana* (Géhin, 1857) and *Contarinia tritici* (Kirby, 1798), both on *Triticum vulgare* Villars (Vlug, 1995).

Platygaster bonessi sp. n. (Figs. 1-4)
Holotype female: Tunesia, Ben-Gardan, ex. galls of *Stefaniella atriplicis* Kieffer, 1898 on *Atriplex halimus* L., 11.II.1995 (M. Boness).

Description. Female: Length 1.3 mm. Colour black, antennae and legs almost uniformly dark brown; apex of fore tibiae and segments 1-4 of all tarsi light brown.
Head from above (Fig. 1) 1.8x as wide as long, very slightly wider than thorax, sharply reticulate-coriaceous, occiput and above antennae transversely so. OOL:POL:LOL = 4:12:5. Head from front 1.2x as wide as high. Antennae (Fig. 2) with A1 two-thirds as long as height of head.

Mesosoma 1.2x as long as wide, very slightly higher than wide. Sides of pronotum reticulate-coriaceous all over, anteriorly somewhat longitudinally so. Mesoscutum uniformly and finely longitudinally reticulate-coriaceous, with a few inconspicuous hairs, without notauli; hind margin with very few hairs, slightly prolonged medially, just reaching base of scutellum; scuto-scutellar grooves rather wide. Mesopleura finely longitudinally striated in upper and lower third, medially with traces of striation. Scutellum (Fig. 3) sculptured as mesoscutum, with a few hairs, posteriorly with a distinct vertical lamella. Metapleura almost all over with greyish pilosity. Propodeal carinae very short, hardly present.

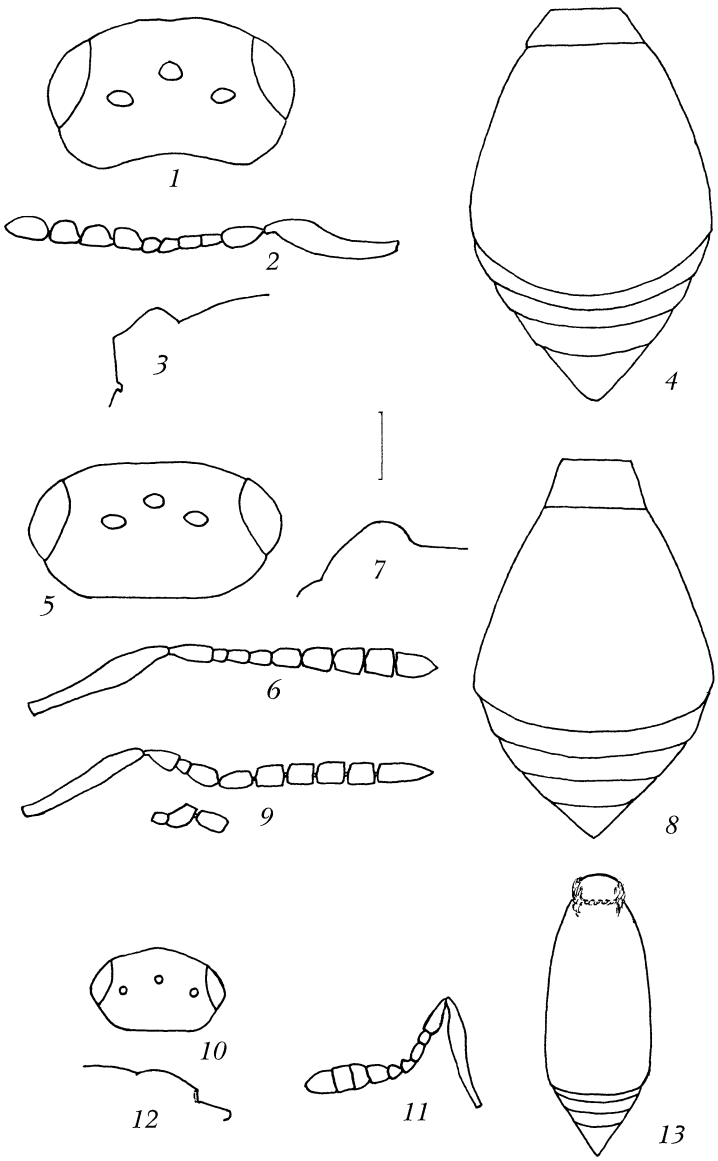
Fore wing clear, moderately hairy, 0.75 as long as body, 2.4x as long as wide; marginal cilia very short. Hind wing 4.9x as long as wide, with two frenal hooks; marginal cilia hardly 0.2 width of wing.

Metasoma (Fig. 4) fully 0.9x as long as head and mesosoma combined, slightly wider than thorax. T1 crenulated. T2 with basal foveae somewhat short, roundish and hardly sculptured, striation between them to 0.25 length of tergite, rest smooth. T3-T6 finely reticulate, with some superficially implanted short hairs.

Male: Unknown.

This is a rather remarkable species in shape of scutellum and in sculpture. Most similar to *P. signata* (Foerster, 1861), but this species has A9 transverse, higher and less rounded scutellum, longer propodeal carinae, mesopleura smoother, and it is larger, cf. also Buhl (1996).

Named after the collector. The only species of Platygastridae hitherto reared from *Stefaniella atriplicis* is *Inostemma mediterraneum* (Kieffer, 1916), cf. Vlug (1995). This species was reared together with *Platygaster bonessi* sp. n. and *P. stefaniellae* sp. n. in Tunesia, cf. below.



Figs 1-4. *Platygaster bonessi* sp. n. female. 1, head from above; 2, antenna; 3, scutellum in lateral view; 4, metasoma.

Figs 5-9. *Platygaster stefaniellae* sp. n. 5, female head from above; 6, female antenna; 7, female scutellum in lateral view; 8, female metasoma; 9, male antenna (A3-A5 also from another angle).

Figs 10-13. *Synopeas fungorum* sp. n. female. 10, head from above; 11, antenna; 12, scutellum in lateral view; 13, metasoma.

Scale bar = 0.10 mm.

Platygaster ?galenus Walker, 1835
This species was reared together with *Allotropa mecrida* Walker (cf. above) from *Halimione portulacoides* (L.) "with galls", in Algarve, Portugal, 21.X.1999 (M. Boness). Unfortunately only two males were reared (the female being much more characteristic), but the smooth head and mesoscutum combined with shape of head and scutellum make it fairly certain *P. galenus*, the biology of which is unknown.

Platygaster stefaniellae sp. n. (Figs. 5-9)
Holotype female: Portugal, Algarve, Albuféira, ex. galls of *Stefaniella atriplicis* Kieffer on *Atriplex halimus* L., 12.XII.1995 (M. Boness). Paratypes (6 females, 4 males): 4 females, 4 males same data as holotype; 2 females, Tunesia, Ben-Gardan, ex. galls of *Stefaniella atriplicis* Kieffer on *Atriplex halimus* L., 11.II.1995 (M. Boness).

Description. Female: Length 1.1-1.3 mm (holotype 1.2 mm). Colour black, antennae and legs dark brown; both ends of fore tibiae, base of middle and hind tibiae, and segments 1-4 of all tarsi light brown.

Head from above (Fig. 5) 1.8x as wide as long, 1.1x as wide as thorax; occiput distinctly and densely transversely striated; vertex almost smooth; frons faintly fan-like striated. OOL:POL:LOL = 4:6:3. Head from front 1.25x as wide as high. Antenna (Fig. 6) with A1 0.75x as long as height of head.

Mesosoma 1.3x as long as wide, 1.1x as high as wide. Sides of pronotum smooth, with scattered long hairs. Mesoscutum smooth, with faint longitudinal wrinkles medially and fine rugosity anteriorly, sparsely hairy; notauli fine but nearly complete; mid lobe posteriorly rather wide, just reaching scutellum medially; scuto-scutellar grooves rather wide and deep, with very few hairs. Mesopleura smooth. Scutellum (Fig. 7) evenly convex, above mesoscutum, with a few hairs. Metapleura with whitish pilosity all over. Propodeal carinae slightly diverging, short; area in between much transverse, unsculptured.

Fore wing clear, fully 0.7x as long as body, 2.2x as long as wide; marginal cilia very short. Hind wing 4.8x as long as wide, with two frenal hooks; marginal cilia hardly 0.3 width of wing.

Metasoma (Fig. 8) hardly shorter than head and mesosoma combined (24:25), as wide as head. T1 crenulated and with two longer and slightly stronger longitudinal carinae. T2 striated in basal foveae to slightly less than half of length, medially with striae half as long, rest of tergite smooth. T3-T6 smooth, each with a transverse row of superficially implanted hairs.

Male: Length 0.8-1.2 mm. Antenna (Fig. 9) with flagellar pubescence 0.8 width of segments.

Most similar to *Platygaster stefaniolae* Buhl, 1998 reared from *Stefaniola bilobata* (Kieffer, 1913) in Spain (Buhl, 1998). *P. stefaniolae* differs from *P. stefaniellae* e.g. in having female antennae slightly more slender, scutellum in lateral view less semicircular (dome of scutellum more pushed forward), mesoscutum stronger sculptured, T1 more transverse, metasoma wider and differently striated, and in being slightly larger in body size, cf. also Buhl (1998). For differences in relation to the similar *P. manto* Walker, 1835 and other species also relevant for *P. stefaniellae*, Buhl (1998) mentions some key characters.

P. stefaniellae was reared together with *P. bonessi* sp. n. and *Inostemma mediterraneum* Kieffer in Tunesia, cf. above.

Synopeas euryale (Walker, 1835)
One female emerged from *Meripilus giganteus* (Pers.) at base of dead *Fagus silvatica* L. in Germany, Leverkusen, Bergisch Neukirchen near the river Wupper, 10.IX.1995 (M. Boness). Biology unknown. Emerged together with *S. fungorum* sp. n. described below.

Synopeas fungorum sp. n. (Figs. 10-13)

Holotype female: Germany, Leverkusen, Bergisch Neukirchen near the river Wupper, 10.IX.1995, emerged from *Meripilus giganteus* (Pers.) at base of dead *Fagus silvatica* L. (M. Boness). Paratypes (68 females, 7 males): 16 females same data as holytype; 17 females same data but 5.X.1997; 2 females, 4 males, Bergisch Neukirchen, ex. *Meripilus giganteus* (on *Fagus silvatica*) with Cecidomyiidae, 5.X.1997; 11 females, Bergisch Neukirchen, *M. giganteus* on *F. silvatica*, 28.VII.1992; 1 female, Bergisch Neukirchen, *M. giganteus* on old *Fagus*-stump, "common on the hymenium", 22.IX.1992 (together with *Aphanogmus remotus* Szelényi, 1938 (Ceraphronidae)); 3 females, Bergisch Neukirchen, in park, on hymenium of *M. giganteus* on stump of *Aesculus hippocastanum* L., 2.VII.1994; 4 females, Bergisch Neukirchen, on *Laetiporus sulphureus* (Bull. ex Fries) Murr. at trunk of *Prunus domestica* L., 4.VIII.1994; 1 male, Bergisch Neukirchen, on *Gloeophyllum tabacinum* on *Picea abies* (L.), 7.XI.1997; 3 females, Leverkusen, Opladen, on *M. giganteus*, on the hymenium with Cecidomyiidae, 11.X.1994; 11 females, 2 males, Duisburg, Rheinhausen, *M. giganteus* on *Aesculus hippocastanum*, 4.X.1997 (all M. Boness).

Description. Female: Length 0.75-1.10 mm (holotype 0.85 mm). Colour shiny blackish to dark brown; antennae and legs dirty yellow; flagellum, most of femora, and apical half of tibiae slightly darker (sometimes legs almost uniformly yellowish); A7-A10 and last segment of tarsi dark brown.

Head from above (Fig. 10) 1.6x as wide as long, fully 1.1x as wide as thorax, transversely reticulate with rather large meshes; occiput angled, almost with carina. Lateral ocelli separated from eye by their diameter; OOL:POL:LOL = 2:16:7. Head from front slightly wider than high (9:8). Antenna (Fig. 11) with A1 hardly as long as height of head (15:16).

Mesosoma 1.7x as long as wide, 1.25x as high as wide. Sides of pronotum reticulate in upper half, rest smooth. Mesoscutum finely and uniformly reticulate-coriaceous, with a few hairs, notauli hardly indicated posteriorly; hind margin slightly prolonged medially, laterally with a few long hairs covering scuto-scutellar grooves. Mesopleura smooth. Scutellum (Fig. 12) sculptured as mesoscutum, with more hairs than this, posteriorly with a fine semitransparent vertical lamella. Metapleura almost smooth, with white pilosity in posterior half. Propodeal carinae long, straight, rather high and semitransparent, very close together.

Fore wing hardly as long as body (13:14), narrow, 3.6x as long as wide, almost clear but rather densely hairy; marginal cilia 0.4 width of wing. Hind wing 6.2x as long as wide; marginal cilia 0.6 width of wing.

Metasoma (Fig. 13) about 1.0-1.1x as long as head and mesosoma combined, hardly as wide as thorax, 1.25x as wide as high. T1 hardly sculptured; T2 smooth; T3-T6 with faint reticulation, virtually bare.

Male: Very much like female, but length 0.70-0.90 mm, A4 slightly widened, A7-A9 each as long as wide, and metasoma 0.8-1.0x as long as head and mesosoma combined.

Rather similar to *Synopeas euryale* (Walk.) which emerged from the same fungus. This species, however, has broader wings with shorter marginal cilia, scutellum without lamella behind, short and curved propodeal carinae, and it is larger, cf. also Vlug (1985).

Acknowledgements

I thank Dr. Martin Boness very much for sending me this interesting material.

Dansk sammendrag

Beskrivelser gives af sorthvepsene *Platygaster bonessi* sp. n. og *P. stefaniellae* sp. n., som begge er klækket fra galmyggen *Stefaniella atriplicis* i Middelhavsområdet. Desuden beskrives *Synopeas fungorum* sp. n., som kom frem i antal fra poresvampe, især kæmpe-poresvampen (*Meripilus giganteus*) i Tyskland. *Allotropa mecrida* (Walk.) og *Platygaster? galenus* (Walk.) blev klækket fra galmyg på stilkløs kilebæger (*Halimione portulacoides*), og *Leptacis tipulae* (Kirby) blev klækket fra galmyg på blomster af liljen *Hemerocallis fusca*. *Trimorus flavipes* (Th.), *T. laevifrons* (Th.), *Leptacis ozines* (Walk.), og *Synopeas euryale* (Walk.) kom frem fra poresvampe. Det diskuteres, om hvepsene fremkommet af svampe også kan antages at være klækket derfra, eller om blot imagines har benyttet dem som fødekilde. Både larver af værter for Platygastrinae (*Leptacis* og *Synopeas*) og Teleasinae (*Trimorus*), henholdsvis galmyg og biller, forekommer i poresvampe.

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Bestemmelse af Malaisefælde-materiale

Aage V. Jensens Fonde har på Æbelø opstillet en Malaisefælde for at overvåge insektlivet under overgangen til naturskov. Materiale modtages hver måned gennem sæsonen af undertegnede, der skal fordele det til specialister til bestemmelse. Hidtil bliver dog kun Coleoptera og Hymenoptera Proctotrupoidea s.l. bestemt. Hvis nogen ønsker at modtage materiale fra andre grupper til bestemmelse, bedes de henvende sig til undertegnede.

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