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New or little known species of Platygasterinae from NW Europe (Hymenoptera, Platygasteridae)

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Abstract

The following six species are described as new to science: *Platygaster latiptera* (Sweden), *P. tengoei* (Sweden), *P. tolsgaardi* (Denmark), *Synopeas evanescens* (Denmark), *S. fanoeense* (Denmark), and *S. ronquisti* (Sweden). The hitherto unknown female of *Synopeas larides* (WALKER, 1835) is described. The work is illustrated by 29 text-figures.

Zusammenfassung

Die folgenden sechs neuen Arten werden beschrieben: *Platygaster latiptera* (Schweden), *P. tengoei* (Schweden), *P. tolsgaardi* (Dänemark), *Synopeas evanescens* (Dänemark), *S. fanoeense* (Dänemark) und *S. ronquisti* (Schweden). Das bisher unbekannte Weibchen von *Synopeas larides* (Walker, 1835) wird beschrieben. Die Arbeit ist mit 29 Abbildungen versehen.

Introduction

During my examination of platygasterids from the Swedish Malaise Trap Project a number of new species have appeared, three of which are described below together with three new species from Denmark.

Terminology: Standard abbreviations used are A1-A10 = antennal segments 1-10, OOL = distance between lateral ocellus and eye, LOL = distance between lateral and anterior ocelli, POL = distance between lateral ocelli, and T1-T6 = tergites 1-6.

The material is deposited in the Swedish Museum of Natural History, Stockholm (SMNH) or in the Zoological Museum, University of Copenhagen (ZMUC).

***Platygaster latiptera* sp. nov.** (figs 1-4)

Material examined. Holotype female: Sweden, Sö., Tyresta, Ungfars mosse, bog (N 59°10.698, E 18°13.766), 21.vi.-20.vii.2004, Swedish Malaise Trap Project (SMNH).

Diagnosis. Head 2.5 times as wide as long, with strongly striated occiput and distinctly sculptured frons; female A9 as long as wide; mesoscutum rather densely setose; notauli visible in posterior 0.5; fore wing 2.25 times as long as wide; female metasoma short, with T2 striated to about half of length, medially with only very short striae.

Description. Body length 1.25 mm. Body black; antennae, mandibles and legs dark brown; most of fore tibiae, base of mid and hind tibiae, and segments 1-4 of fore and mid tarsi light brown.

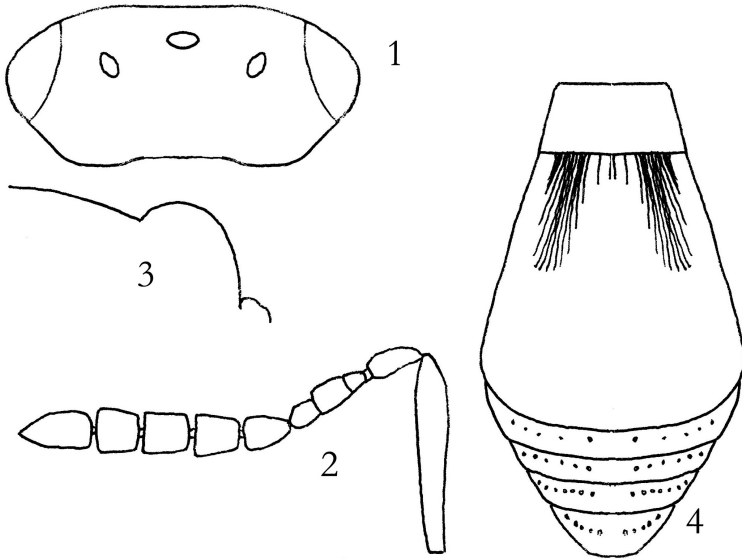
Head from above (fig. 1) 2.5 times as wide as long, wider than mesosoma just in front of tegulae (26:23); occiput strongly and transversely, almost half-circularly striated all over, hyperoccipital carina absent; vertex finely and slightly transversely reticulate-coriaceous; frons finely but distinctly, obliquely reticulate-coriaceous from a smoother longitudinal midline. OOL = LOL. Eyes with very few, inconspicuous minute setae. Head in frontal view 1.4 times as wide as high. Antenna (fig. 2) with A1 shorter than height of head (15:18), shorter than distance between inner orbits (15:16); A9 as long as wide.

Mesosoma 1.25 times as long as wide, hardly higher than wide. Sides of pronotum weakly and slightly longitudinally reticulate almost all over. Mesoscutum evenly and rather densely setose, distinctly and somewhat longitudinally reticulate-coriaceous, smoother in front of scutellum and medially on lateral lobes; notauli indicated in posterior half, well separated behind; blunt mid lobe slightly prolonged, touching base of scutellum; scuto-scutellar grooves covered by dense, long setae. Mesopleuron smooth. Scutellum (fig. 3) distinctly and evenly convex, smooth except for slightly raised setae-implantations, sparsely setose medially, denser towards sides. Metapleuron with pilosity all over. Propodeal carinae parallel, short, thick, widely separated; area between them about twice as wide as long, dull.

Fore wing almost 0.8 times as long as entire body, 2.25 times as long as wide, clear, with dense and very fine microtrichia; marginal cilia 0.05 width of wing. Hind wing 4.6 times as long as wide, with two hamuli; marginal cilia 0.2 width of wing.

Metasoma (fig. 4) hardly more than 0.8 times as long as head and mesosoma combined, 0.85 times as wide as mesosoma. T1 with numerous weak longitudinal carinae. T2 striated in basal foveae to 0.45 the length of tergite, medially to only slightly more than basal 0.1. T3-T4 with faint reticulation along hind margin, more extensive such reticulation on T5-T6, each with a transverse row of setae inserted in moderately deep punctures: 10 on T3, 12 on T4, 14 on T5, 10 on T6.

Affinities. Runs to *P. manto* WALKER, 1835 in VLUG's (1985) and BUHL's (2006) keys, but *P. manto* has smoother frons and mesoscutum, head only twice as wide as long, narrowed in straight lines behind eyes, scutellum less elevated and less evenly convex than in *P. latiptera*, propodeal carinae diverging, striation of T2 not exceeding one-third of tergite, and T3-T6 smooth (lectotype *P. manto* seen and compared to *P. latiptera*). *P. lati-*



Figs 1-4 *Platygaster latiptera* sp. nov. female: 1 head, 2 antenna, 3 scutellum and propodeum, 4 metasoma.

ptera is similar to *P. etsuhoae* BUHL, 1999 from Spain, but this species has head at most twice as wide as long, smoother frons and relatively smaller A4 than *P. latiptera*, mesoscutum with only a few setae, metasoma at least as wide as mesosoma, and T2 medially only slightly shorter striated than laterally. The similar Mongolian species *P. brevipetiolata* BUHL, 2004 and *P. crenulata* BUHL, 2004 have only few setae on meso-scutum, metasoma as wide as mesosoma, *P. brevipetiolata* has more transverse T1, and *P. crenulata* has mesosoma 1.5 times as long as wide, and longer metasoma with more striated T2 than in *P. latiptera*, cf. BUHL (2004a). *P. latiptera* is similar to *P. robiniae* BUHL & DUSO, 2008 but e.g. with more slender antennae, distinctly stronger sculptured frons, much more setosity on mesoscutum and scutellum, and less striated T2 than in *P. robiniae*.

Etymology. The names refers to the relatively wide wings of this species.

***Platygaster tengoei* sp. nov. (figs 5-9)**

Material examined. Holotype female: Sweden, Sö., Tyresö kommun, Åva, Spirudden, mixed coastal oak forest (N 59°10.313 E 18°22.197), 17.vi.-2.vii.2003 Swedish Malaise Trap Project (SMNH). Paratypes: 2 females, 14 males same data as holotype; 5 females same data but 2.-11.vii.2003 (SMNH).

Diagnosis. Head behind with only very few, weak transverse elements; female A9 hardly as wide as long; mesoscutum almost uniformly sculptured, implantations of setae

not scaly, admedian lines absent, notauli complete; propodeal carinae minute; metasoma 1.5 times as long as rest of body, with T2 striated in and between basal foveae to about 0.4, T4 twice as wide as long and T4-T5 smooth.

Description. Female. Body length 1.10-1.25 mm. Body black, antennae and legs hardly lighter, or flagellum very dark brown; mandibles, trochanters, narrow base and apex of tibiae, and most of tarsi dark brownish, lighter brown on fore legs; T6 sometimes slightly lighter than rest of metasoma.

Head from above (fig. 5) twice as wide as long, 1.2 times as wide as mesosoma; occiput rounded, weakly reticulate-coriaceous (at most slightly transversely so), with some weak and short, oblique wrinkles at hind margin, and very few weak, transverse wrinkles just behind ocelli (not longer than POL); vertex finely reticulate-coriaceous, slightly transversely so between ocelli; frons medially smooth, with a fine midline from anterior ocellus to the weak transverse striation just above antennal insertions, along inner orbits with weak reticulation. OOL = LOL. Head in frontal view 1.25 times as wide as high. Eyes bare. Antenna (fig. 6) with A1 hardly more than 0.8 times as long as height of head, as long as distance between inner orbits; A9 as long as wide to 1.1 times as long as wide.

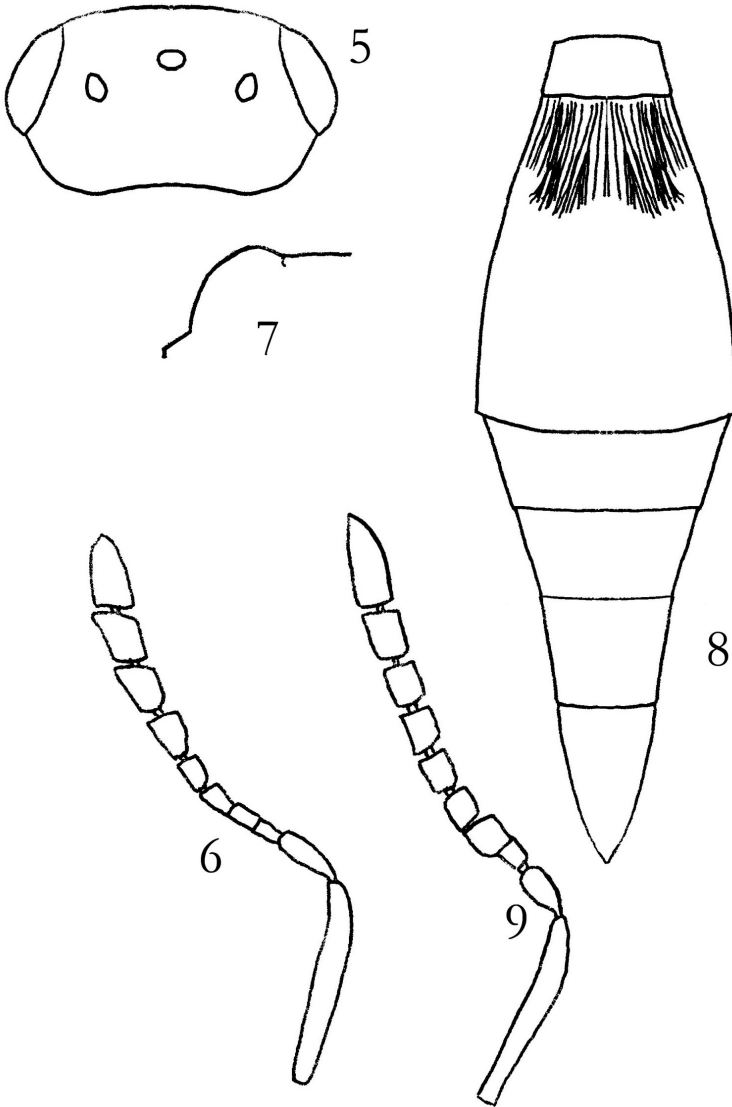
Mesosoma 1.4 times as long as wide, slightly higher than wide (16:15). Sides of pronotum reticulate-coriaceous (not longitudinally so) to about 0.6 of length in upper half, rest smooth. Mesoscutum with sparse and evenly scattered setae, almost uniformly reticulate-coriaceous, in posterior half sculpture is slightly less strong and more longitudinal; anterior admedian lines most often not indicated; notauli complete, meeting in a fine point which is not prolonged behind margin of disc, hardly touching base of scutellum; scuto-scutellar grooves each with only 2-3 inconspicuous setae. Mesopleuron smooth. Scutellum (fig. 7) slightly above level of mesoscutum, sparsely and evenly setose, uniformly and distinctly reticulate-coriaceous, Metapleuron with pilosity all over. Propodeal carinae short, weak and low, area between them about twice as wide as long, smooth.

Fore wing slightly surpassing tip of metasoma (by a distance equal to length of T5), 0.8 times as long as entire body, 2.7 times as long as wide, faintly infuscated, with fine and dense microtrichia; longest marginal cilia hardly 0.1 width of wing. Hind wing 6.1 times as long as wide, with two hamuli; marginal cilia 0.3 width of wing.

Metasoma (fig. 8) about 1.5 times as long as head and mesosoma combined, slightly narrower than mesosoma (14:15). T1 with numerous weak longitudinal carinae and a couple of slightly stronger ones. T2 distinctly and evenly striated in and between the weak basal foveae to very slightly more than 0.4 the length of tergite, rest of tergite and following tergites smooth except for faint rugosity medially on T6; T4 twice as wide as long, T5 at midlength twice as wide as high; joints between apical tergites slightly thickened in lateral view; apical tergites laterally with a few inconspicuous setae inserted in shallow punctures (on each side with about 2 setae on T3, 3 on T4, 5 on T5). Sternite 2 with a distinct hump reaching in between hind coxae.

Male. Body length 0.95-1.05 mm. Antenna (fig. 9) with A9 one and a third times as long as wide; flagellar pubescence standing away from segments to a distance equal to half the width of segments. Metasoma 1.0-1.05 times as long as head and mesosoma combined.

Affinities. Similar to *P. gorge* WALKER, 1835, *P. oebalus* WALKER, 1835 and *P. marchali* KIEFFER, 1906, but these species are larger (at least 1.5 mm) and with head distinctly striated behind; *P. gorge* also has less slender female antennae than *P. tengoei*, partly



Figs 5-9 *Platygaster tengoei* sp. nov.: 5 head, 6 female antenna, 7 scutellum and propodeum, 8 female metasoma, 9 male antenna.

smooth mesoscutum with scaly implantations of setae, scutellum nearly vertically sloping towards propodeum, propodeum with high carinae, and T2 antero-medially with only a few

striae between deep basal foveae; *P. oebalus* (lectotype seen and compared to *P. tengoei*) also has less slender female antennae, and A6-A7 much more similar in size than in *P. tengoei*, strong and high propodeal carinae, T4 hardly 1.5 times as wide as long, and T4-T5 with faint sculpture; *P. marchali* also has admedian lines indicated, male hind wing with three hamuli, and female T3-T6 combined not longer than T2, cf. KIEFFER (1926) and VLUG (1985).

Etymology. Named in honour of dr. Jan TENGÖ, former head of the Ecological Research Station, Öland, Sweden.

***Platygaster tolsaardi* sp. nov.** (figs 10-13)

Material examined. Holotype female: Denmark, East Jutland, Hevring Hede (N 56°31, E 10°25), 26.vii.2000, T. MUNK & S. TOLSGAARD leg. (ZMUC).

Diagnosis. Head behind strongly transversely striated; female A9 slightly longer than wide; notauli absent; scutellum strongly and evenly convex; female metasoma short, striated in basal foveae to two-thirds of length, medially to 0.25 of length.

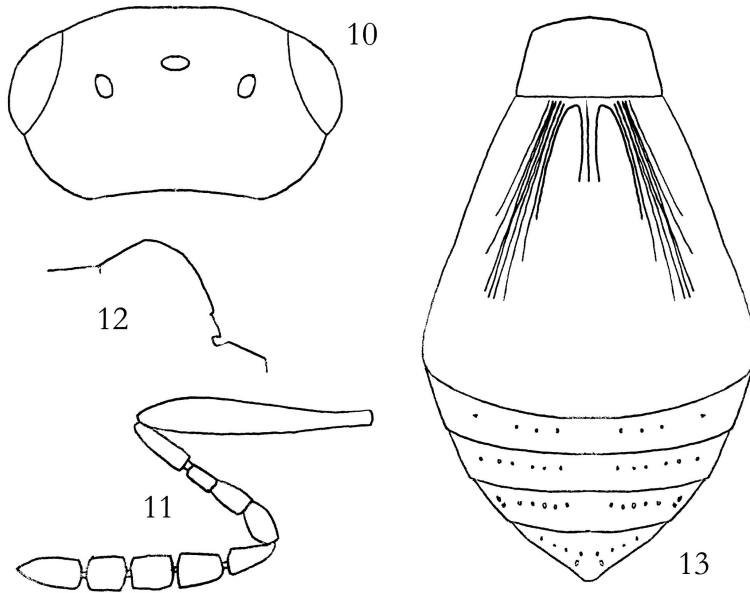
Description. Female. Body length 1.6 mm. Body black, antennae and legs hardly lighter except most of fore tibiae and segments 1-4 of fore tarsi which are light brown, and mid and hind tibiae which are dark brown with slightly lighter base and apex, segments 1-4 of mid and hind tarsi coloured as base and apex of their tibiae.

Head from above (fig. 10) 1.75 times as wide as long, wider than mesosoma just in front of tegulae (27:24). Occiput broadly rounded, strongly transversely striated all over; vertex finely transversely striated between ocelli, laterally finely coriaceous; frons finely fan-like reticulate-coriaceous, almost obliquely striated out from midline, just above antennal insertions with transverse wrinkles. OOL and LOL about equal. Head in frontal view 1.3 times as wide as high. Antenna (fig. 11) with A1 slightly shorter than height of head (about 19:20), 1.1 times as long as distance between inner orbits; A9 almost 1.2 times as long as wide.

Mesosoma 1.5 times as long as wide, 1.1 times as high as wide. Sides of pronotum finely reticulate-coriaceous (not longitudinally so), smooth along rather narrow upper and hind margins. Mesoscutum evenly and moderately densely setose, finely reticulate-coriaceous in about anterior half and along outer margins, rest almost smooth; admedian lines indicated as smooth traces; notauli absent; hind margin medially with a distinct, blunt, dark prolongation to base of scutellum, at sides with dense long setae over scuto-scutellar grooves. Mesopleuron smooth. Scutellum (fig. 12) strongly and evenly convex, smooth and rather densely setose, with weak rugosity towards sides. Metapleuron with pilosity all over. Propodeal carinae parallel, with smooth surfaces, wider posteriorly than anteriorly; area between them smooth, slightly longer than wide.

Fore wing 0.8 times as long as entire body, 2.6 times as long as wide, clear, with dense and moderately long microtrichia; marginal cilia at their longest 0.1 width of wing. Hind wing 5.2 times as long as wide, with two hamuli; marginal cilia 0.2 width of wing.

Metasoma (fig. 13) 0.9 times as long as head and mesosoma combined, wider than mesosoma (28:24). T1 uniformly covered by weak longitudinal carinae, only with very few long setae standing out from sides. T2 striated in basal foveae to about two-thirds the length of tergite, medially with three longitudinal carinae to 0.25 of length. T3-T6 smooth, each



Figs 10-13 *Platygaster tolsgaardi* sp. nov. female: 10 head, 11 antenna, 12 scutellum and propodeum, 13 metasoma.

with a transverse row of setae inserted in moderately deep punctures: 8 on T3, 12 on T4, 14 on T5; T6 with 10 more scattered setae.

Affinities. Among the species mentioned in KIEFFER (1926) *P. tolsgaardi* seems to be most similar to *P. cruciferarum* KIEFFER, 1916 from France (only male known, type material unknown), but this species has head 2.5 times as wide as long, mesoscutum with sparse setae, scutellum weakly convex and with less setosity, fore wings darker, T2 less striated and body appendages lighter than in *P. tolsgaardi* (and male has metasoma as long as rest of body). Another similar species without notauli, *P. javieri* BUHL, 1999 from Spain, has e.g. more slender antennae, less convex scutellum and shorter striation on T2 than in *P. tolsgaardi*, cf. BUHL (1999a). *P. tolsgaardi* runs to *P. inermis* WALKER, 1835 in BUHL's (1999b, 2006) keys, but *P. inermis* has e.g. head more than twice as wide as long, scutellum at level of mesoscutum, T2 striated to only one-third, and T6 as long as wide.

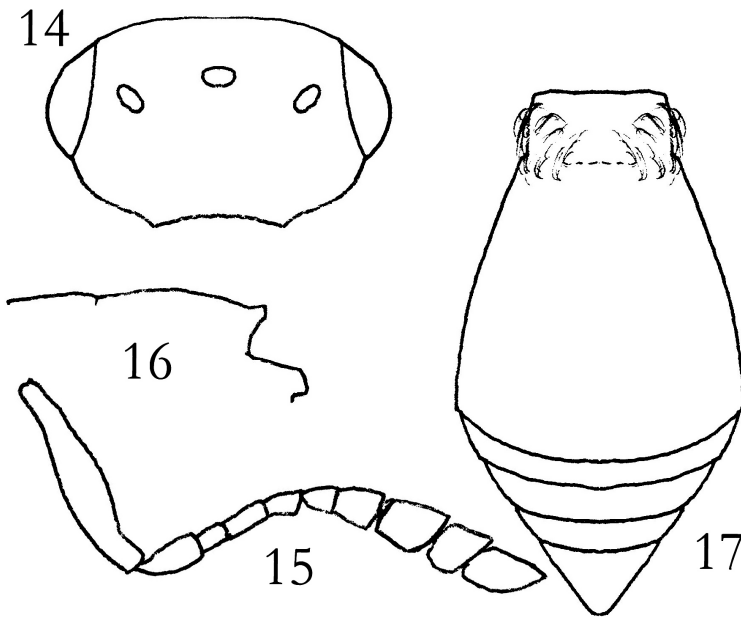
Etymology. Named after one of the collectors, mr. Søren TOLSGAARD (Aarhus).

***Synopeas evanescens* sp. nov. (figs 14-17)**

Material examined. Holotype female: Denmark, South Zealand, Vallø (N 55°33, E 12°13), 25.vii.1996, swept, P.N. BUHL leg. (ZMUC). Paratype: 1 female same data as holotype (ZMUC).

Diagnosis. Head hardly transversely reticulate-coriaceous; hyperoccipital carina very weakly indicated, incomplete; female A9 1.25 times as wide as long; sides of pronotum smooth below and behind, notauli absent; scutellum with a short, dark tooth; propodeal carinae fused; marginal cilia of fore wings short; female metasoma hardly 0.9 times as long as rest of body, 1.5 times as wide as high; T6 slightly pointed, 1.6 times as wide as long; legs partly darkened.

Description. Female. Body length 0.9-1.0 mm. Body black, antennae more or less dark brown with basal 0.4 of A1 and part of A2 light brown; mandibles medium brown; legs light brown with all coxae, mid and hind femora, apical half of mid and hind tibiae, and last segment of all tarsi dark brown.



Figs 14-17 *Synopeas evanescens* sp. nov. female: 14 head, 15 antenna, 16 scutellum and propodeum, 17 metasoma.

Head from above (fig. 14) 1.75 times as wide as long, 1.1 times as wide as mesosoma, finely and hardly transversely reticulate-coriaceous; hyperoccipital carina only very weakly indicated medially, frons with a fine longitudinal midline. OOL equal to longer diameter of lateral ocellus, half as long as LOL. Head in frontal view 1.2 times as wide as high. Antenna (fig. 15) A1 as long as distance between inner orbits, 0.8 times as long as height of head; A9 1.25 times as wide as long.

Mesosoma 1.6 times as long as wide, 1.1 times as high as wide. Sides of pronotum finely reticulate-coriaceous (not longitudinally so) in slightly more than upper half, smooth

below and along hind margin. Mesoscutum evenly covered by moderately dense setae, uniformly reticulate-coriaceous (even finer sculpture than on head), notauli absent; hind margin medially with a tiny, dark, smooth prolongation to base of scutellum, at each side with about six long setae above scuto-scutellar grooves. Mesopleuron smooth. Scutellum (fig. 16) more densely setose than mesoscutum, smooth, posteriorly with a short, dark tooth, slightly semitransparent below it. Metapleuron smooth, with sparse pilosity over most of surface. Propodeal carinae fused, slightly transparent.

Fore wing clear, 0.9 times as long as entire body, 2.5 times as long as wide, with fine and dense microtrichia; marginal cilia 0.06 width of wing. Hind wing 6.2 times as long as wide; marginal cilia 0.5 width of wing.

Metasoma (fig. 17) 0.80-0.85 as long as head and mesosoma combined, slightly longer than mesosoma (26:25), very slightly narrower than this, 1.5 times as wide as high. T1-T2 smooth; T3-T6 with faint reticulation (on T3-T5 only towards sides), T4-T6 with fine setae inserted in shallow punctures, on T4-T5 arranged in one transverse row on each tergite (about six setae on T4, 12 on T5, 10 on T6), T6 1.6 times as wide as long.

Affinities. Runs to *S. gallicola* KIEFFER, 1916 in KIEFFER's (1926) key, but this species has transverse sculpture on hind part of head, mesoscutum yellow postero-medially, fore wings without marginal cilia, and metasoma longer than in *S. evanescens*. *S. zomborii* BUHL, 2004 from Hungary has no trace of hyperoccipital carina, A3, A5 and propodeal carinae relatively longer, and metasoma less pointed than in *S. evanescens*, cf. BUHL (2004b).

Etymology. The name refers to the evanescent hyperoccipital carina.

Synopeas fanoense sp. n. (figs. 18-21)

Material examined. Holotype female: Denmark, West Jutland, south part of the island of Fanø (N 55°24, E 8°25), 8.-9.-vii.2008, swept, P.N. BUHL leg. (ZMUC).

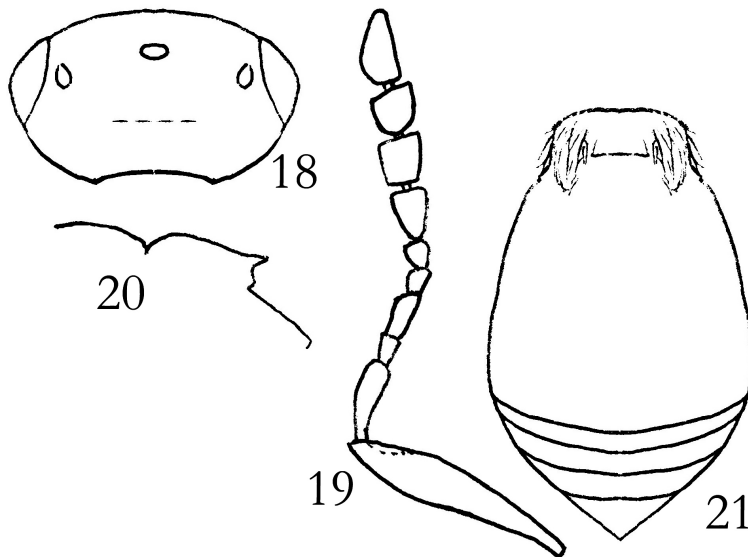
Diagnosis. Head hardly transversely reticulate-coriaceous; hyperoccipital carina very faint, incomplete; female A9 1.2 times as wide as long; sides of pronotum sculptured all over, notauli absent, mesoscutum postero-medially with a short, dark prolongation; scutellum with a tiny, dark tooth; propodeal carinae slightly separated; marginal cilia of fore wings short; female metasoma hardly 0.8 times as long as rest of body, 1.4 times as wide as high, T1 without strong carinae, T6 blunt, 2.7 times as wide as long; legs partly darkened.

Description. Female. Body length 0.90 mm. Body black, A1-A6 more or less medium brownish; A7-A10, coxae, femora, distal half of mid and hind tibiae, and last segment of all tarsi dark brown, rest of legs and tarsi light to medium brown.

Head from above (fig. 18) 1.8 times as wide as long, almost 1.1 times as wide as mesosoma, finely reticulate-coriaceous (not transversely so), most distinctly so on occiput; hyperoccipital carina at most faintly indicated medially, head moderately (not sharply) angled. OOL equal to shorter diameter of lateral ocellus, 0.3 times as long as LOL. Head in frontal view 1.2 times as wide as high. Antenna (fig. 19) with A1 0.95 times as long as height of head, longer than distance between inner orbits (13:11); A9 1.2 times as wide as long.

Mesosoma 1.5 times as long as wide, 1.2 times as high as wide. Sides of pronotum

distinctly reticulate-coriaceous (not longitudinally so) all over. Mesoscutum with only a few scattered setae, finely and almost uniformly dull coriaceous, without notauli; hind margin medially with a small, dark, flat prolongation to base of scutellum; scuto-scutellar grooves each with about five inconspicuous setae. Mesopleuron smooth except for fine longitudinal rugosity in about upper 0.2. Scutellum (fig. 20) smooth, along middle almost bare, denser setose towards sides, posteriorly with a tiny dark tooth without lamella. Metapleuron smooth and bare in anterior half (except along upper and lower margins), in posterior half with sparse pilosity. Propodeal carinae low, dark, long and straight, parallel, close together but not fused.



Figs 18-21 *Synopeas fanoense* sp. nov. female: 18 head, 19 antenna, 20 scutellum and propodeum, 21 metasoma.

Fore wing 0.9 times as long as entire body, 2.4 times as long as wide, almost clear, with fine and dense microtrichia; marginal cilia very short. Hind wing with marginal cilia hardly one-third the width of wing.

Metasoma (fig. 21) 0.75 times as long as head and mesosoma combined, slightly longer than mesosoma (23:22), very slightly narrower than this, 1.4 times as wide as high. T1 with only weak longitudinal carinae, indistinct among the pubescence. T2 smooth except for narrow hind margin which is weakly reticulate as most of T3-T6.

Affinities. Differs from *S. trebius* (WALKER, 1835) and *S. velutinus* (WALKER, 1835) in having less transverse head with weaker hyperoccipital carina, smaller scutellar spine and propodeal carinae not fused, from *S. trebius* also in having head not pustulated and in

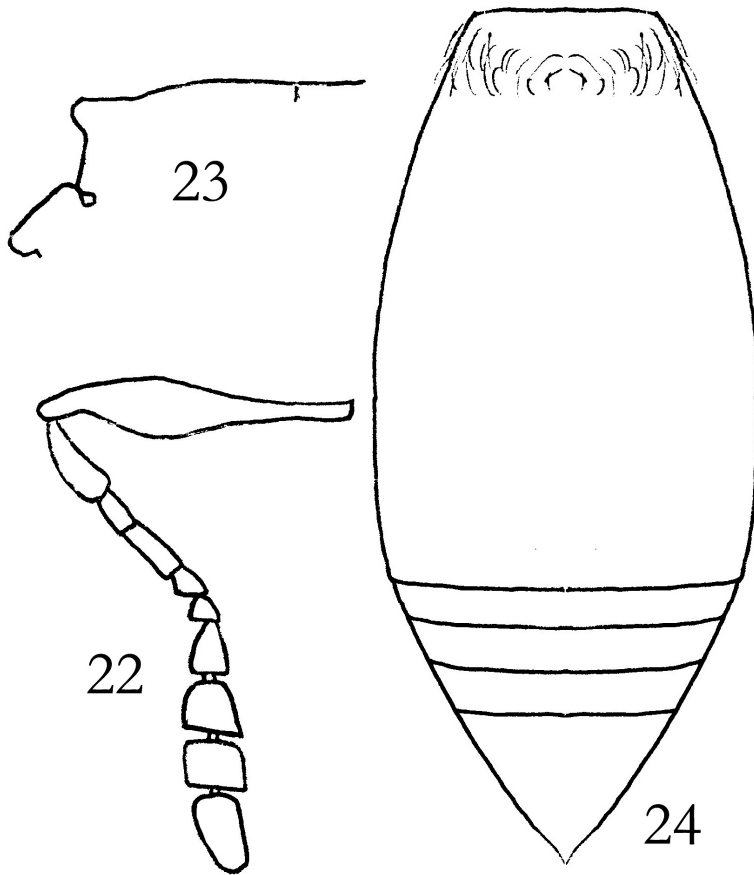
having weaker carinae anteriorly on metasoma, from *S. velutinus* also in having no notauli, and in having prolongation medially in front of scutellum darker and shorter, cf. also VLUG (1985). Among the two other new *Synopeas*-species described in the present paper, *S. fanoense* comes closest to *S. evanescens*, but *S. fanoense* has e.g. longer A2, more sculptured sides of pronotum, more convex scutellum with smaller tooth, propodeal carinae darker and not fused, and metasoma less pointed.

Etymology. Named after the type locality.

***Synopeas larides* (WALKER, 1835) (figs 22-24)**

Material examined. Lectotype male in the Natural History Museum, London, and the following additional material: Ireland: Waterford, Portlaw, 1.iv.1991, 2 males, J.P. O'CONNOR leg. (National Museum of Ireland); Wicklow, Coolattin Woods, 14.ix.1984, 1 male, J.P. O'CONNOR leg. (National Museum of Ireland). Germany: Baden-Württemberg, Isny, Adelegg, 2.-19.v.2003, 2 males, 1 female, Malaise trap, D. DOCZKAL leg. Latvia: 6 km east of Jekabpils, 26.viii.-8.x.2006, 1 male, 1 female, Malaise trap, P.N. BUHL leg.; 9 km west of Viesite, 23.vi.-27.vii.2006, 1 female, Malaise trap, P.N. BUHL leg. Denmark: NEJ, Tofte Skov, 14.v.2005, 2 males, T. MUNK leg.; EJ, Velling Skov, 12.vi.1997, 1 female, T. MUNK leg.; EJ, Djursland Plantage, Langsø, 17.vi.2002, 1 male, P.N. BUHL leg.; SZ, Vallø, 12.vi.1997, 1 female, P.N. BUHL leg.; SZ, Magleby Skov, 7.vi.2009, 1 female, P.N. BUHL leg.; NEZ, Færgelund, 18.v.1987, 2 males, 13.iv.1991, 3 males, 1 female, 24.iv.1993, 13 males, 3 females, all P.N. BUHL leg.; NEZ, Jægerspris Nordskov, 13.viii.1987, 1 female, P.N. BUHL leg.; NEZ, Svanholm, Julianehøj Skov, 10.v.1988, 8 males, 2 females, P.N. BUHL leg.; NEZ, Jægersborg Hegn, 21.iv.1993, 2 males, P.N. BUHL leg.; NEZ, Rusland, 9.vi.2009, 1 male, P.N. BUHL leg.; NEZ, Strødam, 29.v.-27.vi.2006, 2 males, Malaise trap, P.N. BUHL leg.; B, Bastemose, 3.v.2009, 1 male, P.N. BUHL leg. Sweden: Sk., Ven, 4.v.2008, 1 male, 1 female, P.N. BUHL leg.; Ha., Mästocka ljunghed, 15.vi.-9.vii.2004, 1 male, Swedish Malaise Trap Project (SMNH); Öl., Gamla Skogsby (Kalkstad), 1.v.-1.vi.2004, 2 males, 7 females, Malaise trap on meadow with bushes, Swedish Malaise Trap Project (SMNH); Dr., Säterdalen, Näsåkerspussen, alder wood ravine, 23.vi.-8.vii.2003, 3 females, Swedish Malaise Trap Project (SMNH), same data, 1 female, but 16.ix.-14.x.2003, same data, 3 females, but 13.v.-18.vi.2004; Sö., Tyresta, Urskogsslingan, flat-rock and pine forest, 28.i.-28.iv.2004, 1 male, 4 females, Swedish Malaise Trap Project (SMNH), same data, 4 females, but 28.iv.-18.vi.2004; Bo., Kolhättan (Ödsmål), Hällsberget, 14.iv.-25.v.2004, Malaise trap in broad-leaved deciduous forest, Swedish Malaise Trap Project (SMNH). All material in ZMUC except where otherwise mentioned.

Description of the hitherto unknown female. Body length 1.2-1.5 mm. Antenna (fig. 22) with A9 1.4 times as wide as long. Sides of pronotum reticulate (not longitudinally so), smooth along narrow hind margin and in lower 0.25. Scutellum (fig. 23) in larger specimens with a distinct tooth. Fore wing 2.5 times as long as wide, faintly infuscated, with fine and dense microtrichia, without marginal cilia. Hind wing 5.2 times as long as wide, marginal cilia hardly 0.25 width of wing. Metasoma (fig. 24) about 1.1 times as long as head and mesosoma combined, between 1.4 and 1.5 times as wide as high. T6 1.6 times as wide as long.



Figs 22-24 *Synopeas larides* (WALKER, 1835) female: 22 antenna, 23 scutellum and propodeum, 24 metasoma.

Comments. This is a hitherto almost unrecognised but in fact very common and widespread species in NW Europe. It differs from the three new *Synopeas* species described in this paper e.g. in having propodeal carinae much more sloping in lateral view, and in having longer female metasoma.

***Synopeas ronquisti* sp. nov.** (figs 25-29)

Material examined. Holotype female: Sweden, Sm., Nybro kommun, Bäckebo, Grytsjöns naturreservat, old moisty haymaking meadow in forest edge (N 56°50, E 16°10), 18.-

25.vii.2005, Swedish Malaise Trap Project (SMNH). Paratype: 1 female same data as holotype (SMNH).

Diagnosis. Hyperoccipital carina weak; female A9 1.5 times as wide as long; notauli absent; scutellum with a short, dark tooth or thin spine; marginal cilia of fore wings 0.1 width of wings; female metasoma hardly shorter than rest of body, 1.3 times as wide as high; T6 slightly pointed, about 1.75 times as wide as long; legs except coxae uniformly brightly coloured.

Description. Female. Body length 1.0 mm. Body black; A1-A6 and legs light brownish yellow; mandibles, A7-A10 and coxae dark brown.

Head from above (fig. 25) 1.8-1.9 times as wide as long, slightly more than 1.1 times as wide as mesosoma, finely reticulate-coriaceous, postero-medially and on frons slightly transversely so. Head angled behind ocelli, hyperoccipital carina very finely indicated. OOL slightly longer than diameter of lateral ocellus; LOL = 2 OOL. Head in frontal view almost 1.2 times as wide as high. Antenna (fig. 26) with A1 longer than distance between inner orbits (12:11), 0.9 times as long as height of head; A9 1.5 times as wide as long.

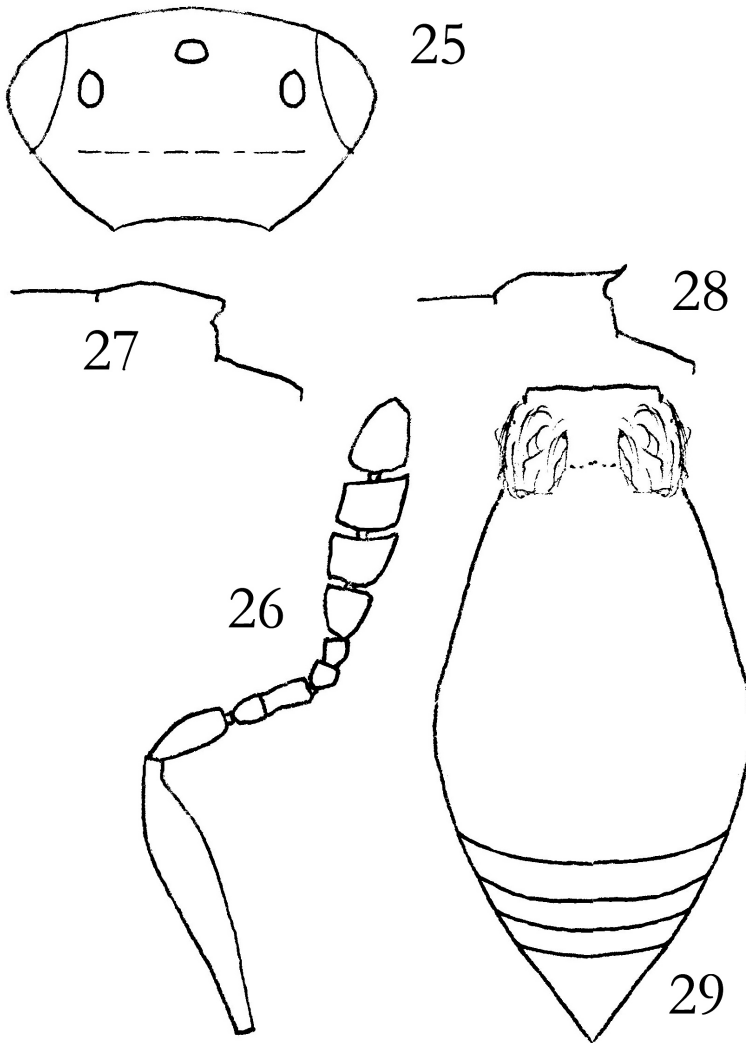
Mesosoma 1.6 times as long as wide, 1.1 times as high as wide. Sides of pronotum reticulate-coriaceous in slightly more than upper half, smooth along hind margin and below. Mesoscutum with rather sparse, evenly scattered setae, weakly reticulate-coriaceous, postero-medially smooth, without notauli; hind margin medially with a short, dark prolongation to base of scutellum, at each side with about five long setae. Mesopleuron smooth. Scutellum (figs 27-28) smooth and bare along middle, towards sides densely setose, posteriorly with a very narrow vertical lamella below a short tooth or tiny spine. Metapleuron smooth and bare in most of anterior half, medially with very sparse pilosity, only along upper, hind and lower margins with dense pilosity. Propodeal carinae fused, straight, semitransparent, fully 0.8 times as long as scutellum.

Fore wing 0.9 times as long as entire body, two and two-thirds times as long as wide, almost clear, with fine and dense microtrichia; marginal cilia 0.1 width of wing. Hind wing 6.9 times as long as wide; marginal cilia 0.5 width of wing.

Metasoma (fig. 29) 0.95 times as long as head and mesosoma combined, very slightly narrower than mesosoma, 1.3 times as wide as high, 2.0 times as long as wide. All tergites smooth; apical tergites with very few, inconspicuous setae inserted in shallow punctures.

Affinities. In shape of scutellum approaching *S. larides* (WALKER, 1835) (cf. above), but this species has strong hyperoccipital carina, head and mesoscutum pustulated, notauli indicated posteriorly, mesoscutum in front of scutellum transparent, shorter propodeum, and darker body appendages, cf. also VLUG (1985). *Synopeas brevis* BUHL, 1998 has stronger hyperoccipital carina, stronger scutellar tooth and shorter metasoma than *S. ronquisti* which is similar to *S. evanescens* sp. nov. but with e.g. more transverse A9, longer propodeum, longer and less depressed metasoma, and lighter body appendages.

Etymology. Named in honour of Dr. Fredrik RONQUIST, initiator of the Swedish Malaise Trap Project.



Figs 25-29 *Synopeas ronquisti* sp. nov. female: 25 head, 26 antenna, 27 scutellum and propodeum (paratype), 28 scutellum and propodeum (holotype), 29 metasoma.

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Literaturbesprechung

HÖLLDOBLER, B., WILSON, E.O. 2010: Der Superorganismus. Der Erfolg von Ameisen, Bienen, Wespen und Termiten. - Springer-Verlag, Berlin, Heidelberg. 604 S.

“Superorganismen” sind Kolonien sozialer Insekten, die sich durch altruistische Zusammenarbeit sowie komplexe Kommunikation und Arbeitsteilung auszeichnen. Sie eignen sich hervorragend als Modellorganismen, die für viele Phänomene und Konzepte von allgemeiner Bedeutung in der Biologie sind. Nachdem die beiden Autoren 1991 den Pulitzer-Preis für ihr englisch-sprachiges Werk “The Ants” erhalten hatten, präsentieren Bert Hölldobler und Edward O. Wilson nun einem breiten, deutschsprachigen Leserkreis, was über die Biologie und die Organisationsformen sozial lebender Insekten in den vergangenen beiden Jahrzehnten erarbeitet wurde.

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R. Gerstmeier

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