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TAXONOMICAL AND DISTRIBUTIONAL NOTES ON NEW AND KNOWN PALAEARCTIC PLATYGASTRID SPECIES (HYMENOPTERA: PLATYGASTRIDAE)

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The following 12 species are described as new to science: *Amblyaspis subcarinata* sp. n. (North Korea), *Inostemma bonessi* sp. n. (Germany), *I. popovicii* sp. n. (Denmark), *P. delyi* sp. n. (North Korea), *P. draskovitsi* sp. n. (North Korea), *P. koreana* sp. n. (North Korea), *P. phragmitiphila* sp. n. (Turkey), *P. semiflava* sp. n. (Germany), *Synopeas epigeios* sp.n. (Denmark), *S. kanwonensis* sp. n. (North Korea), *S. koreana* sp. n. (North Korea), and *S. mahunkai* sp. n. (North Korea). *Platygaster laticeps* THOMSON, 1859 is redescribed. About 35 further species are recorded from North Korea, many of them already known from Western Europe.

Key words: Hymenoptera, Platygastridae, *Amblyaspis*, *Inostemma*, *Platygaster*, *Synopeas*, new species, Palaearctic region.

It seems that the tiny platygastrid wasps often have a very wide geographical distribution. About half of the species recorded from Mongolia by BUHL (2004*b*) were indistinguisable from Western European species, and as the list below shows, also even further away in North Korea at least one third of the recorded species seem to be identical to species from NW Europe.

All material from North Korea is deposited in the Department of Zoology, Hungarian Natural History Museum, Budapest, Hungary (HNHM), all other material is deposited in the Zoological Museum, University of Copenhagen, Denmark (ZMUC), except the lectotype of *Platygaster laticeps* which is in Naturhistoriska Riksmuseet, Stockholm, Sweden.

Acerotella humilis KIEFFER, 1913

One female, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, wood, 18–20.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

Allotropa mecrida (WALKER, 1835)

Two females, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, lakeshore and wood, 18–20.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

Amblyaspis subcarinata sp. n.
(Figs 1–4)

Female – Length: 1.0 mm. Dark reddish-brown, head black, A1–A5 and legs including coxae yellow, A6–A10 brown. Head from above (Fig. 1) 1.7 times as wide as long, fully 1.1 times as wide as mesosoma; occiput finely but distinctly transversely reticulate-coriaceous, with a weak but complete carina; vertex and frons very faintly reticulate. OOL:LOL = 8:5. Head in frontal view 1.2 times as wide as high; antenna (Fig. 2) with A1 shorter than height of head (13:14); A3–A4 of equal length, combined longer than A2; A7–A9 each as long as wide. Mesosoma 1.5 times as long as wide, fully 1.1 times as high as wide. Sides of pronotum finely reticulate-coriaceous (not longitudinally so) except along narrow hind margin. Mesoscutum weakly and uniformly sculptured as sides of pronotum, with few hairs, most notably about five arranged in a line along inner courses of imaginary notauli; notauli completely absent; hind margin almost straight, not prolonged medially, at sides with very few hairs. Mesopleuron smooth. Scutellum (Fig. 3) densely hairy all over. Metapleuron with pilosity all over. Propodeal carinae straight, parallel, close together. Fore wing hardly shorter than body, 2.6 times as long as wide, slightly brownish, with strong and dense microtrichia; marginal cilia at their longest hardly 0.2 width of wing. Hind wing 7.8 times as long as wide; marginal cilia 0.4 width of wing. Metasoma (Fig. 4) 0.9 times as long as head and mesosoma combined, as wide as mesosoma. T1 with several longitudinal carinae. T2 with weak but distinctly hairy basal foveae. T3–T6 with faint microsculpture, laterally with a few hairs, on T5–T6 also medially.

Material examined: Holotype female: North Korea, Kanwon, Kum-gang san, Sam-il po, 1.VI.1970. S. MAHUNKA & H. STEINMANN leg. Preserved in HNHM.

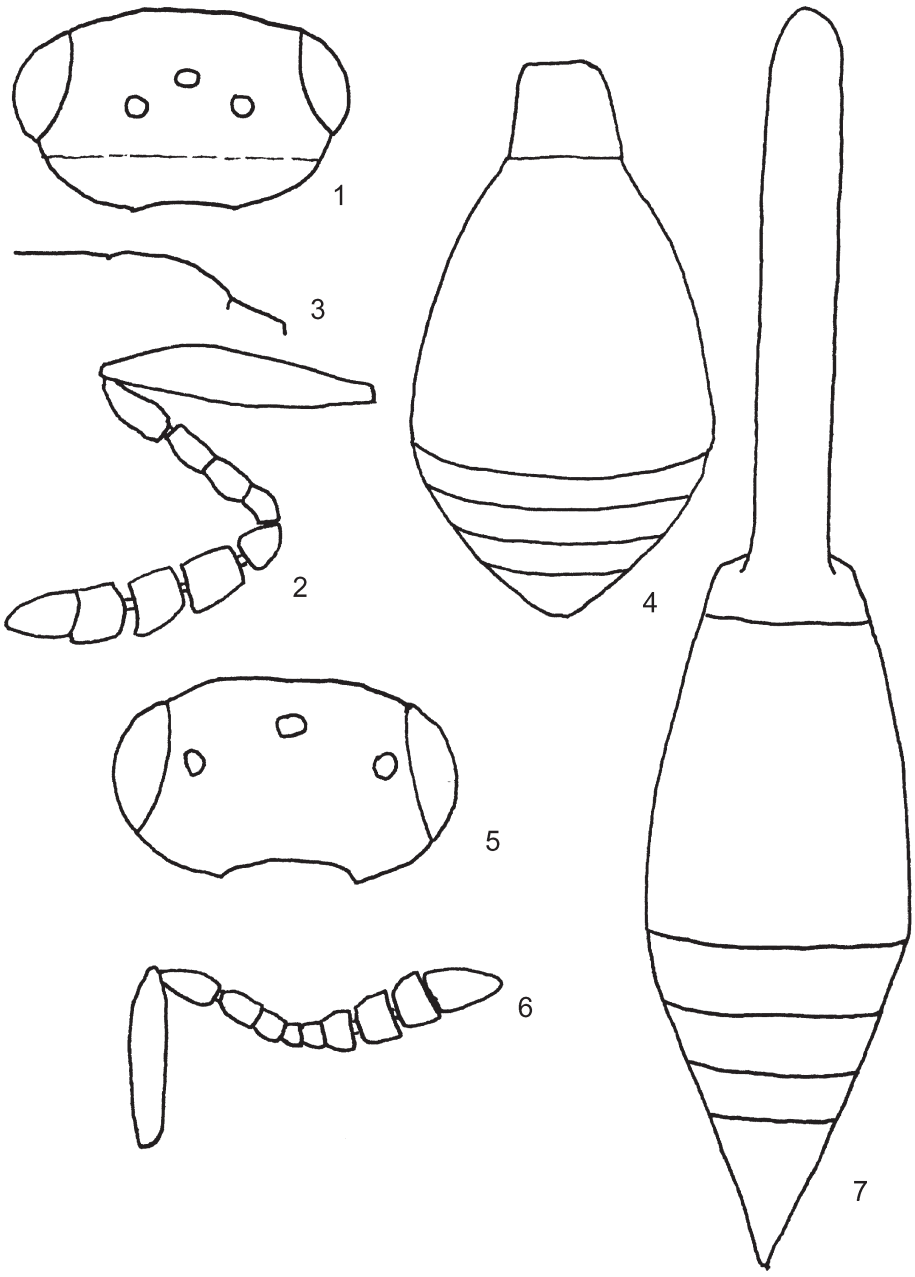
Differs from the *Amblyaspis*-species described by BUHL (1997) in shape of head, from *A. belus* (WALKER, 1835) in having occipital carina and in lacking notauli, from *A. rufithorax* KIEFFER, 1913 in shape of antennae and in lacking notauli, and from *A. brunnea* ASHMEAD, 1895 in shape of A2–A4, cf. KIEFFER (1926) and VLUG (1985).

Amblyaspis spp.

Two further species from North Korea.

Euxestonotus spp.

Two species (4 specimens) near *E. clavicornis* BUHL, 1995 and *E. hasselbalchi* BUHL, 1995, respectively, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, 18–20.VII.1977, netting in grasses, DELY & DRASKOVITS leg.



Figs 1–7. 1–4 = *Amblyaspis subcarinata* sp. n. female: 1 = head in dorsal view, 2 = antenna, 3 = scutellum in lateral view, 4 = metasoma in dorsal view. 5–7 = *Inostemma bonessi* sp. n. female: 5 = head in dorsal view, 6 = antenna, 7 = metasoma in dorsal view.

Inostemma bonessi sp. n.
(Figs 5–7)

Female – Length: 1.2 mm. Black; trochanters, both ends of fore tibia, base of mid and hind tibiae, and segments 1–4 of all tarsi light brownish. Head dull, from above (Fig. 5) twice as wide as long, very slightly wider than mesosoma; occiput and vertex transversely reticulate-coriaceous, with a moderately deep notch; frons reticulate-coriaceous. OOL hardly as long as ocellar diameter. Head in frontal view 1.25 times as wide as high. Antenna (Fig. 6) with A3 1.3 times as long as wide, 1.3 times as long as A4 which is as wide as long; A9 about 1.3 times as wide as long. Mesosoma 1.2 times as long as wide, 1.1 times as wide as high. Mesoscutum almost uniformly reticulate-coriaceous; notauli distinct throughout, posteriorly widened and smooth. Scutellum sculptured as mesoscutum. Fore wing clear, 2.3 times as long as wide, just reaching apex of T6, with rather sparse microtrichia and extremely short marginal cilia; subcostalis brown, one-third as long as wing. Hind wing 4.6 times as long as wide; marginal cilia hardly one-fourth the width of wing. Metasoma (Fig. 7) 1.1 times as long as head and mesosoma combined (excluding cornutus), hardly 0.9 times as wide as mesosoma. Cornutus longitudinally striated, just reaching occiput. T2 1.2 times as long as wide, smooth except for faint longitudinal striations that reach hardly half the length of tergite. T3–T5 with faint reticulation, each with a transverse row of superficially implanted hairs. T6 very slightly longer than wide, distinctly reticulate-coriaceous.

Material examined: Holotype female: Germany, Leverkusen, Bergisch Neukirchen, 30.VII.2004. M. Boness leg. From *Salix caprea* L. with *Phytoptus gemmarum*-galls (there must also have been a cecidomyiid-gall present). Preserved in ZMUC.

Named after the collector. Similar to *I. contariniae* SZELÉNYI, 1938, but this species has more transverse head with smaller notch, and less transverse preapical antennal segments than *I. bonessi*, cf. SZELÉNYI (1938).

Inostemma boscii (Jurine, 1807)

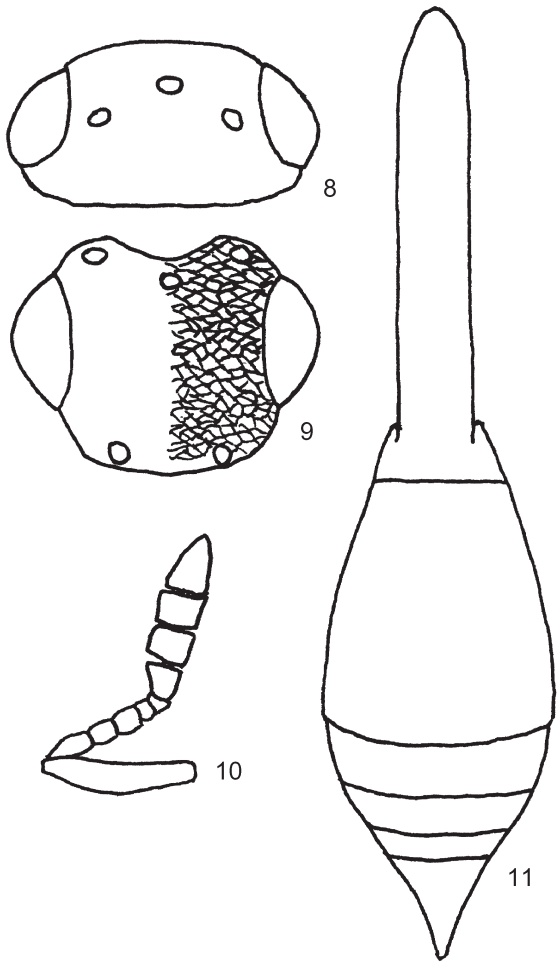
One female, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, lakeshore, 19.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

Inostemma hispo WALKER, 1838 sensu KOZLOV (1978)

One female, North Korea, Pyong-sung, Bek-sung-li, Za-mo san, 60 km NE from Pyongyan, 1.VIII.1975, J. PAPP & A. VOJNITS leg.

Inostemma popovicii sp. n.
(Figs 8–11)

Female – Length: 0.9–1.2 mm. Black, antennae and legs hardly lighter; tarsi light brown. Head from above (Fig. 8) 1.8–1.9 times as wide as long, as wide as mesosoma; occiput and vertex finely and slightly transversely reticulate-coriaceous, with a distinct, moderately deep notch; frons distinctly reticulate on a smooth background with rather large meshes (Fig. 9) OOL slightly longer than ocellar diameter. Head in frontal view (Fig. 9) one and a third times as wide as its greatest height. Antenna (Fig. 10) with A1 0.7 times as long as height of head; A3–A4 about equal, each hardly longer



Figs 8–11. *Inostemma popovicii* sp. n. female: 8 = head in dorsal view; 9 = head in frontal view, 10 = antenna, 11 = metasoma in dorsal view.

than wide. Mesosoma hardly longer than wide (16:15), 1.2 times as wide as high. Sides of pronotum reticulate-coriaceous, smooth in about lower half. Mesoscutum uniformly, finely and weakly reticulate-coriaceous, with fine but complete notauli. Mesopleuron reticulate above and below, smooth in slightly more than medial third. Scutellum slightly convex. Fore wing clear, just reaching apex of metasoma, 2.4 times as long as wide; marginal cilia short. Hind wing 5.2 times as long as wide; marginal cilia 0.3 times the width of wing. Metasoma (Fig. 11) 1.1 times as long as head and mesosoma combined, 0.8 times as wide as mesosoma. T1 with a longitudinally striated cornutus just reaching occiput. T2 smooth except for weak striation laterally to one-third of length. T3–T5 with faint traces of reticulation, each with a transverse row of superficially implanted hairs (medially interrupted on T3–T4). T6 sculptured all over, 1.0–1.5 times as long as wide.

Material examined: Holotype female: Denmark, East Jutland, Hevring Hede, 6–7.VII. 2004. P.N. BUHL leg. Paratypes: 2 females same data as holotype. Preserved in ZMUC.

Named after Dr. OVIDIU POPOVICI (Iasi, Romania). Similar to *I. bonessi* sp. n. but differs from this species in a number of details, cf. above, most obviously in sculpture of frons which has much larger meshes on a smoother background than in *I. bonessi*. *I. popovicii* runs to *I. melicerta* WALKER, 1835 in KOZLOV's (1978) key, but it has much shorter A3–A4 than this species. *I. popovicii* runs to *I. contariniae* SZELÉNYI, 1938 in SZELÉNYI's (1938) key, but it differs from this species in the same way as *I. bonessi* (and it has distinct marginal cilia of fore wing). *I. popovicii* runs to *I. maurum* KIEFFER, 1912 in KIEFFER's (1926) key, but it is smaller, darker, and with apical tergites relatively shorter than in *I. maurum*.

Iphitrachelus lar HALIDAY, 1835

One male, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, lakeshore, 19.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

Isocybus cf. *hungaricus* KIEFFER, 1916

One female, 3 males, North Korea, Ryang-gang, Chann-Pay plateau, Mt. Pektusan, Mu-do-bong, 2100–2200 m, 25.VII.1975, J. PAPP & A. VOJNITS leg.

Leptacis ?*nydia* (WALKER, 1835)

One female, North Korea, Gang-von, On-dzong, Kum-gang san, along Ok-ru dong, 300–600 m, 5.VIII.1975, J. PAPP & A. VOJNITS leg.

Leptacis orchymonti (DEBAUCHE, 1947)

One female, 1 male, North Korea, Ryang-gang, Chann-Pay plateau, Mt. Pektusan, Mu-do-bong, 2100–2200 m, 25.VII.1975, J. PAPP & A. VOJNITS leg.

Leptacis ozines (WALKER, 1835)

One female, North Korea, Ryang-gang, Chann-Pay plateau, 24 km NW from Sam-Zi-yan, road to Mt. Pektusan, 2000 m, 24.VII.1975, J. PAPP & A. VOJNITS leg.

Piestopleura sp.

Seven males, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, wood, 18–20.VII.1977; 1 male, Nampo, Vaudo, 60 km SW Pyongyan, 3.VII.1977. All netting in grasses, DELY & DRASKOVITS leg.

Platygaster athamas WALKER, 1835

Three females, North Korea, Ryang-gang, Chann-Pay plateau, Sam-zi-yan, 1700 m, 24.VII. 1975, J. PAPP & A. VOJNITS leg.; 1 female, North Korea, Kanwon, Kum-gang san, Go-song chon, upper reaches of brook below hotel, 30.V.1970, S. MAHUNKA & H. STEINMANN leg.

Platygaster ?chloropus THOMSON, 1859

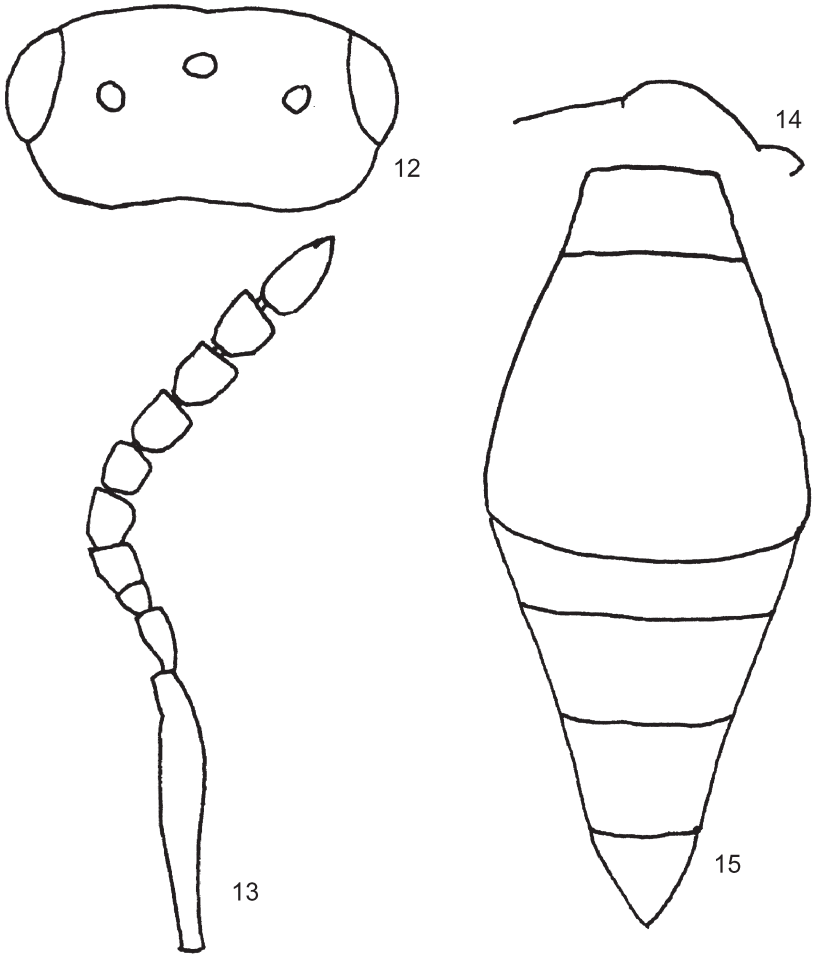
Four females, North Korea, Ryang-gang, Chann-Pay plateau, 24 km NW from Sam-Zi-yan, road to Mt. Pektusan, 2000 m, 24.VII.1975; 2 females, North Korea, Ryang-gang, Chann-Pay plateau, Mt. Pektusan, Mu-do-bong, 2100–2200 m, 25.VII.1975. All J. PAPP & A. VOJNITS leg.

Platygaster cyrsilus WALKER, 1835

One female, North Korea, Ryang-gang, Chann-Pay plateau, 24 km NW from Sam-Zi-yan, road to Mt. Pektusan, 2000 m, 24.VII.1975, J. PAPP & A. VOJNITS leg.

Platygaster delyi sp. n.
(Figs 12–15)

Female – Length: 1.3 mm. Black, antennae and legs excluding coxae dark reddish-brown; A2, both ends of fore tibia, base of mid and hind tibiae, and base of all tarsi slightly lighter. Head in dorsal view (Fig. 12) 2.0 times as wide as long, nearly 1.2 times as wide as mesosoma; occiput finely and somewhat irregulary transversely striated; vertex reticulate-coriaceous and with transverse striation between ocelli; frons smooth, slightly sculptured along inner orbits and with distinct oblique striation above antennal insertions. Head in frontal view 1.25 times as wide as high; antenna (Fig. 13) with A1 0.8 times as long as height of head; A9 fully 1.1 times as long as wide. Mesosoma 1.5 times as long as



Figs 12–15. *Platygaster delyi* sp. n. female. – 12 = head in dorsal view; 13 = antenna; 14 = scutellum in lateral view; 15 = metasoma in dorsal view.

wide, very slightly higher than wide. Sides of pronotum smooth except in upper anterior corner. Mesoscutum sparsely hairy, smooth, reticulate-coriaceous in about anterior third, notauli nearly complete; mid lobe posteriorly narrow, slightly prolonged to base of scutellum; scuto-scutellar grooves with a few long hairs. Mesopleuron smooth. Scutellum (Fig. 14) smooth, moderately hairy, evenly rounded. Metapleuron with pilosity all over. Propodeal carinae short, widely separated, without sculpture between them. Fore wing hardly overreaching tip of metasoma, 2.4 times as long as wide, almost clear, with fine and dense microtrichia; marginal cilia very short. Hind wing 5.3 times as long as wide; marginal cilia 0.25 width of wing. Metasoma (Fig. 15) 1.2 times as long as head and mesosoma combined, hardly as wide as mesosoma. T1 smooth, with two longitudinal carinae. T2 with basal foveae almost smooth, between them striated to hardly 0.2 length of tergite. T3 smooth, with a transverse row of rather superficially implanted hairs. T4 and T6 with spots of faint rugosity and with some scattered hairs. T5 with distinct rugosity over most of surface and with a few hairs. Sternite 2 without hump.

Material examined: Holotype female: North Korea, Sa Gam, 30–40 km N of Pyongyan, water-basin, wood, 5.VII.1977, netting in grasses. DELY and DRASKOVITS leg. Paratype: 1 female, North Korea, Sa Gam, 30 km N of Pyongyang, 24.V.1970. S. MAHUNKA and H. STEINMANN leg. Preserved in HNHM.

Named after one of the collectors. *P. delyi* is superficially similar to *P. iolas* WALKER, 1835, but this species has strongly striated occiput, more slender preapical segments of flagellum, and differently sculptured metasoma than in *P. delyi*, cf. VLUG (1985).

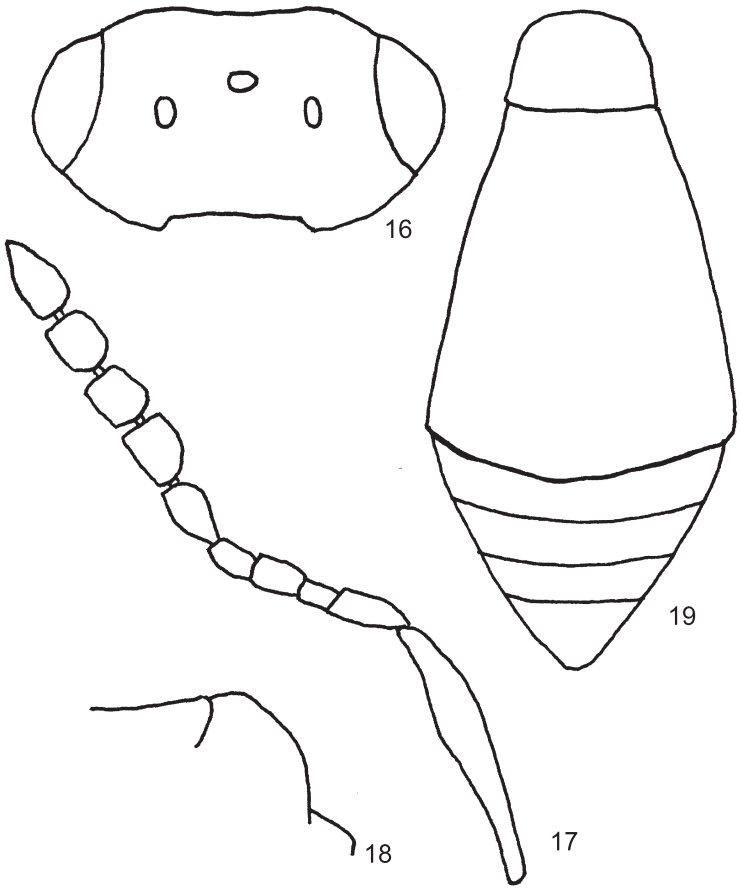
Platygaster draskovitsi sp. n.
(Figs 16–19)

Female – Length: 1.2 mm. Blackish, antennae almost uniformly dark brown (basal half slightly lighter); legs brown; trochanters, boths ends of tibiae, and segments 1–4 of all tarsi more yellowish. Head in dorsal view (Fig. 16) 2.0 times as wide as long, fully 1.2 times as wide as mesosoma; occiput posteriorly smooth with strongly transverse striation which is much oblique laterally, occiput in anterior third with denser, less curved striae, almost margined between posterior and anterior part; vertex weakly reticulate-coriaceous with fine transverse wrinkles; frons finely fan-like reticulate-striate. OOL and LOL about equal. Head in frontal view 1.25 times as wide as high; antenna (Fig. 17) with A1 0.8 times as long as height of head, A9 as long as wide. Mesosoma 1.4 times as long as wide, 1.1 times as high as wide. Sides of pronotum finely longitudinally reticulate-coriaceous, smooth along hind margin. Mesoscutum with few hairs, finely reticulate-coriaceous; posterior half of mid lobe and most of lateral lobes smooth; notauli missing in anterior 0.25; mid lobe distinctly and broadly prolonged over anterior part of scutellum; scuto-scutellar grooves with dense, whitish hairs. Mesopleuron smooth. Scutellum (Fig. 18) almost smooth, densely hairy especially laterally. Metapleuron with pilosity all over. Propodeal carinae short, widely separated, area between them smooth and shiny. Fore wing almost clear, 0.75 times as long as body, 2.1 times as long as wide, with fine and moderately dense microtrichia; marginal cilia short. Hind wing 5.0 times as long as wide, with two hamuli; marginal cilia 0.25 width of wing. Metasoma (Fig. 19) nearly as long as head and mesosoma combined, slightly narrower than mesosoma. T1 evenly crenulated. T2 striated in basal foveae to

slightly more than half of length, medially hardly striated. T3–T6 smooth; T3–T5 each with a complete (sometimes irregular) transverse row of deeply implanted hairs, T6 with more scattered such hairs.

Material examined: Holotype female: North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, wood, 18–20.VII.1977, netting in grasses. Paratype: 1 female, North Korea, Sa Gam, 30–40 km N of Pyongyan, water-basin, wood, 5.VII.1977, netting in grasses. Both DELY and DRASKOVITS leg. Preserved in HNHM.

Named after one of the collectors. Similar to *P. punctiventris* BUHL, 2006, but differs from this species most obviously in having differently structured posterior part of mid lobe of mesoscutum; it differs also from *P. punctiventris* e.g. in



Figs 16–19. *Platygaster draskovitsi* sp. n. female: 16 = head in dorsal view, 17 = antenna, 18 = scutellum in lateral view, 19 = metasoma in dorsal view.

having less densely but sharper striated occiput on a smoother background, longer notauli, broader wings, and T2 slightly differently striated, cf. BUHL (in press).

Platygaster galenus WALKER, 1835

One female, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, lakeshore, 19.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

Platygaster cf. *iolas* WALKER, 1835

Three females, North Korea, Ryang-gang, Chann-Pay plateau, 24 km NW from Sam-Zi-yan, road to Mt. Pektusan, 2000 m, 24.VII.1975, J. PAPP & A. VOJNITS leg.

Platygaster koreana sp. n.
(Figs 20–23)

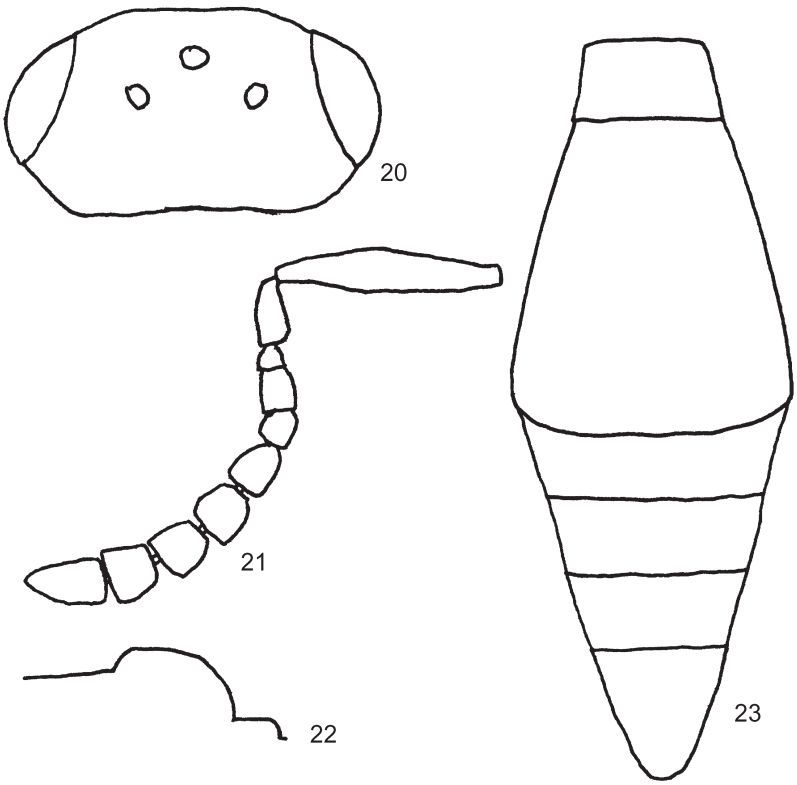
Female – Length: 1.3 mm. Black, A1-A3 and legs brownish yellow, coxae and last segment of tarsi slightly darker, A4–A10 brown. Head from above (Fig. 20) 2.0 times as wide as long, fully 1.2 times as wide as mesosoma; occiput and vertex finely and densely transversely reticulate-striate; frons finely fan-like reticulate-striate. OOL and LOL about equal. Head in frontal view one and a third times as wide as high; antenna (Fig. 21) with A1 0.8 times as long as height of head; preapical antennal segments at most as long as wide. Mesosoma 1.4 times as long as wide, hardly higher than wide. Sides of pronotum finely longitudinally reticulate-coriaceous except along rather narrow upper and hind margins. Mesoscutum sparsely hairy, finely and almost uniformly reticulate-coriaceous all over, slightly smoother in front of scutellum; notauli hardly indicated posteriorly; hind margin medially slightly and bluntly prolonged, with about five long hairs at each side. Mesopleuron smooth. Scutellum (Fig. 22) almost smooth, bare medially, moderately hairy laterally. Metapleuron with pilosity all over. Propodeal carinae short, parallel, much transverse area between them smooth and shiny. Fore wing hardly reaching tip of metasoma, almost clear, 2.4 times as long as wide, with rather long and moderately dense microtrichia and short marginal cilia. Hind wing 5.1 times as long as wide, with two hamuli; marginal cilia 0.25 width of wing. Metasoma (Fig. 23) 1.2 times as long as head and mesosoma combined, slightly narrower than mesosoma. T1 evenly crenulated. T2 striated in basal foveae to two-thirds of length, medially only to 0.25. T3–T6 smooth, T3 with a few moderately deeply implanted hairs laterally at about midlength, such hairs form a medially interrupted transverse row on T4–T5 at about midlength of tergites; T6 with a few superficially implanted hairs laterally. Sternite 2 without hump.

Material examined: Holotype female: North Korea, South Pyongan, Mts. Guk-san-bong, 40 km NE of Nam-po, 5.IX.1971. S. HORVATOVICH & J. PAPP leg. Preserved in HNHM.

Close to *P. rutilipes* BUHL, 1997, but this species has head less narrowed behind eyes (genae longer than eyes), preapical antennal segments longer than wide, mesoscutum smoother, T2 shorter striated, and T3–T6 longer than in *P. koreana*, cf. also BUHL (1997).

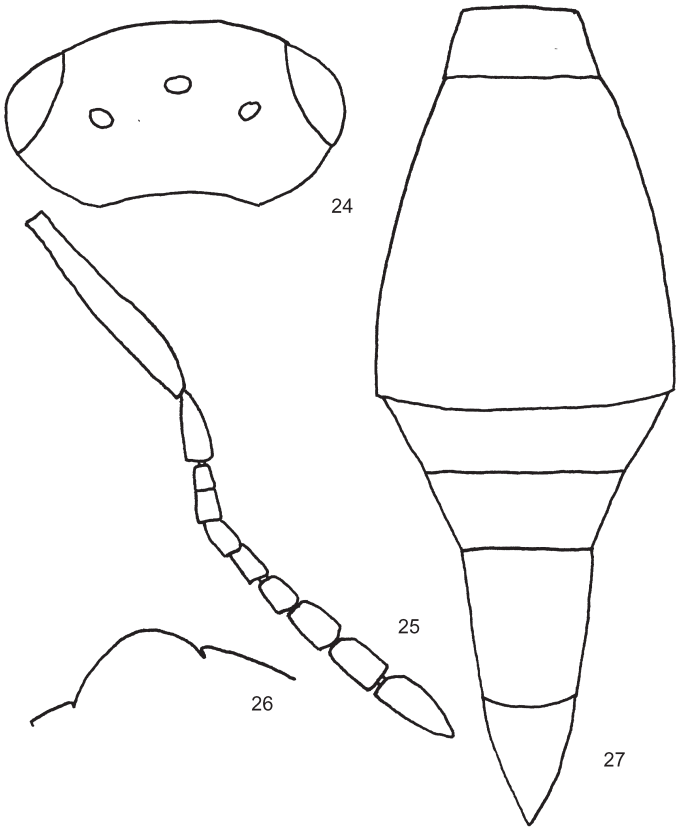
Platygaster laticeps THOMSON, 1859
(Figs 24–27)

Female – Length: 1.7 mm. Black, antennae hardly lighter, mandibles and legs dark brown. Head from above (Fig. 24) 2.2 times as wide as long, 1.1 times as wide as mesosoma; occiput distinctly reticulate-coriaceous, medially with a few longitudinal wrinkles behind some transverse wrinkles; vertex reticulate-coriaceous, with some weak transverse carinae between ocelli; frons smooth, with a few transverse wrinkles above antennae. OOL = LOL. Head in frontal view 1.25 times as wide as high; antenna (Fig. 25) with A1 0.8 times as long as height of head; A8-A9 each about 1.2 times as



Figs 20–23. *Platygaster koreana* sp. n. female: 20 = head in dorsal view, 21 = antenn, 22 = scutellum in lateral view, 23 = metasoma in dorsal view.

long as wide. Mesosoma 1.4 times as long as wide, hardly 1.1 times as long as wide. Sides of pronotum smooth, distinctly reticulate-coriaceous in upper and anterior half. Mesoscutum with few hairs; mid lobe roughly reticulate-coriaceous, distinctly longitudinally so in more than posterior half; lateral lobes only reticulate-coriaceous posteriorly along inner margin, rest smooth; notauli complete and deep, meeting in a point hardly touching base of scutellum; scuto-scutellar grooves broadly triangular, with a few inconspicuous hairs. Mesopleuron smooth. Scutellum (Fig. 26) distinctly reticulate-coriaceous, smoother along middle, almost bare. Metapleuron with pilosity all over. Propodeal carinae short, parallel, area between them much transverse, smooth. Fore wing almost reaching apex of metasoma, about 2.5 times as long as wide; marginal cilia very short. Hind wing 4.7 times as long as wide, with two hamuli; marginal cilia one-sixth the width of wing. Metasoma (Fig. 27) 1.5 times as long as head and mesosoma combined, about as wide as mesosoma. T1 unevenly crenulated. T2 striated between basal foveae to one-third of length, rest of tergite as well as the following tergites smooth; apical tergites with scattered, superficially implanted hairs, moderately convex, e.g. T5 medially twice as wide as high; joint between T5 and T6 slightly thickened. Sternite 2 rather convex anteriorly.



Figs 24–27. *Platygaster laticeps* Th. female: 24 = head in dorsal view, 25 = antenna, 26 = scutellum in lateral view, 27 = metasoma in dorsal view.

Material examined: Lectotype female from Sweden, labeled "Sm." (Småland), "Bhm" (Boheman), "Type", "149", "Naturhistoriska Riksmuseet Stockholm Loan no 1193/05", "Lectotype P.N. BUHL" and "*Platygaster laticeps* Th. P.N. BUHL det. 2006", hereby designated. Additional material: 1 female, Denmark, North East Jutland, Høstemark, summer 2002, Malaise trap. P.N. BUHL leg. Preserved in ZMUC.

Differs from *P. munita* WALKER, 1835 in having differently shaped and smoother apical tergites, from *P. tisias* WALKER, 1835 in having more elongate A8–A9 and more transverse head, and shorter metasoma. Cf. VLUG (1985). Head not so much wider than mesosoma as indicated by THOMSON (1859).

Platygaster cf. *munita* WALKER, 1835

Six females, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, wood and lakeshore, 18–20.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

Platygaster nisus WALKER, 1835

Four females, 1 male, North Korea, De Sang-san, 10 km NE Pyongyan, 1.VII.1977, DELY & DRASKOVITS leg.

Platygaster cf. *otanes* WALKER, 1835

Four females, North Korea, Ryang-gang, Chann-Pay plateau, Mt. Pektusan, Mu-do-bong, 2100–2200 m, 25.VII.1975, J. PAPP & A. VOJNITS leg.; 1 female, North Korea, Mt. Pektusan, 2–6 km N Sam-zi-yan Hotel, wood, 18.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

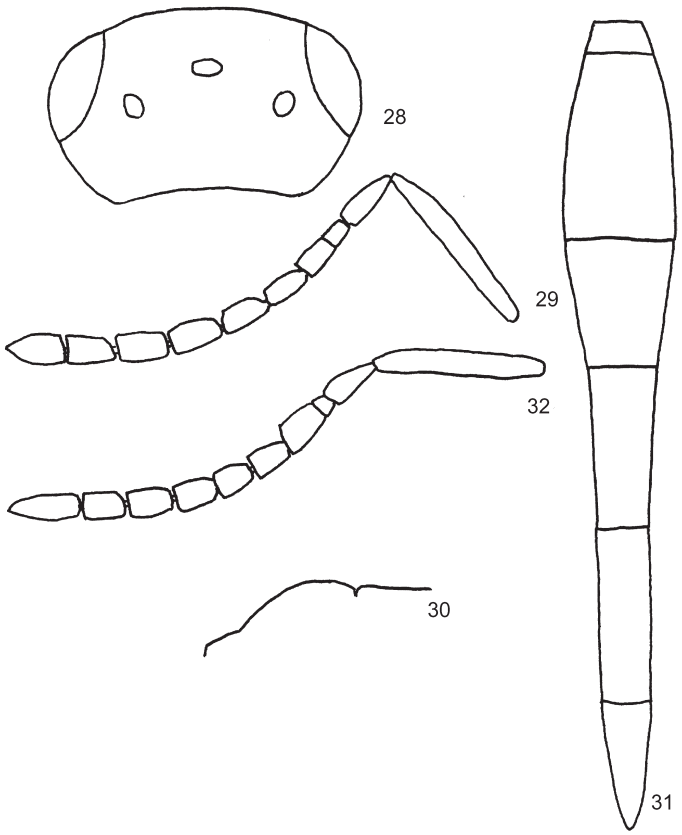
Platygaster ?*pelias* WALKER, 1835

Two females, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, wood, 18–20.VII.1977, netting in grasses, DELY & DRASKOVITS leg.; 4 females, North Korea, Ryang-gang, Chann-Pay plateau, 24 km NW from Sam-zi-yan, road to Mt. Pektusan, 2000 m, 24.VII.1975, J. PAPP & A. VOJNITS leg.

Platygaster phragmitiphila sp. n.
(Figs 28–32)

Female – Length: 3.1 mm. Black, legs dark brown, tibiae and segments 1–4 of tarsi medium brown. Head from above (Fig. 28) hardly twice as wide as long, 1.2 times as wide as mesosoma,

finely reticulate-coriaceous; occiput transversely so, with a few weak wrinkles medially; frons medially slightly smoother, above antennae with fine transverse wrinkles. OOL:LOL = 3:4. Head in frontal view 1.25 times as wide as high; antenna (Fig. 29) with preapical segments each 1.4 times as long as wide. Mesosoma 1.6 times as long as wide, 1.1 times as high as wide. Sides of pronotum dull reticulate-coriaceous, smooth in lower half and along upper and hind margins. Mesoscutum with sparse and inconspicuous hairs, weakly and almost uniformly reticulate-coriaceous; notauli sharp and complete, meeting in a rather fine point not reaching scutellum; scuto-scutellar grooves with a few inconspicuous hairs. Mesopleuron smooth except for a few wrinkles just below tegula. Scutellum (Fig. 30) hardly above mesoscutum, sculptured and hairy as this. Metapleuron with pilosity all over. Propodeal carinae parallel, area between them about as long as wide, smooth and shiny. Fore wing reaching base of T4, clear, 2.75 times as long as wide; marginal cilia very short. Hind wing 5.7 times as long as wide, with two hamuli; marginal cilia hardly one-fifth the width of wing. Metasoma (Fig. 31) 3.0 times as long as head and mesosoma combined, nearly 4 times as long as mesosoma, slightly narrower than this. T1 with two longitudinal carinae and some finer crenulation, smooth in posterior half between carinae; T2 finely striated in basal foveae to about half of length, rest of tergite (except



Figs 28–32. *Platygaster phragmitiphila* sp. n.: 28 = female head in dorsal view, 29 = female antenna, 30 = female scutellum in lateral view, 31 = female metasoma in dorsal view, 32 = male antenna.

antero-medially and along hind margin) with fine longitudinal microsculpture; T3 with such microsculpture, smoother anteriorly, posteriorly and medially; T4–T5 with such microsculpture, each smoother anteriorly and posteriorly; T6 almost smooth. Sternite 2 slightly prolonged anteriorly; apical tergites moderately flattened, e.g. T5 medially hardly twice as wide as high, joints not thickened.

Male – Length: 1.7–2.0 mm. Antenna (Fig. 32) with flagellar pubescence one-fifth the width of segments. Metasoma 1.2 times as long as head and mesosoma combined, smoother than in female.

Material examined: Holotype female: Turkey, Antalya, Phaselis near Kemer, 23.II.2004, ex. *Phragmites communis* TRIN. with *Lipara* sp.-galls (seemingly also with cecidomyiids). M. BONESS leg. Paratypes: 3 males same data. Preserved in ZMUC.

Similar to *P. phragmitis* (SCHRANK, 1781) but at once separated from this species by the shape of female metasoma; in *P. phragmitis* this is much constricted at T3 with T4–T5 parallel sided, less than half as wide as T2. *P. phragmitis* differs also from *P. phragmitiphila* e.g. in having female metasoma slightly shorter and distinctly smoother, and in having mesosoma twice as long as wide, somewhat differently structured, cf. KIEFFER (1926) and SZELÉNYI (1958).

Platygaster sagana WALKER, 1835

Two females, North Korea, Ryang-gang, Chann-Pay plateau, 24 km NW from Sam-Zi-yan, road to Mt. Pektusan, 2000 m, 24.VII.1975; 3 females, North Korea, Ryang-gang, Chann-Pay plateau, Mt. Pektusan, Mu-do-bong, 2100–2200 m, 25.VII.1975. All J. PAPP & A. VOJNITS leg.; Mt. Pektusan, Explosion-Lake, 2000–2500 m, 18.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

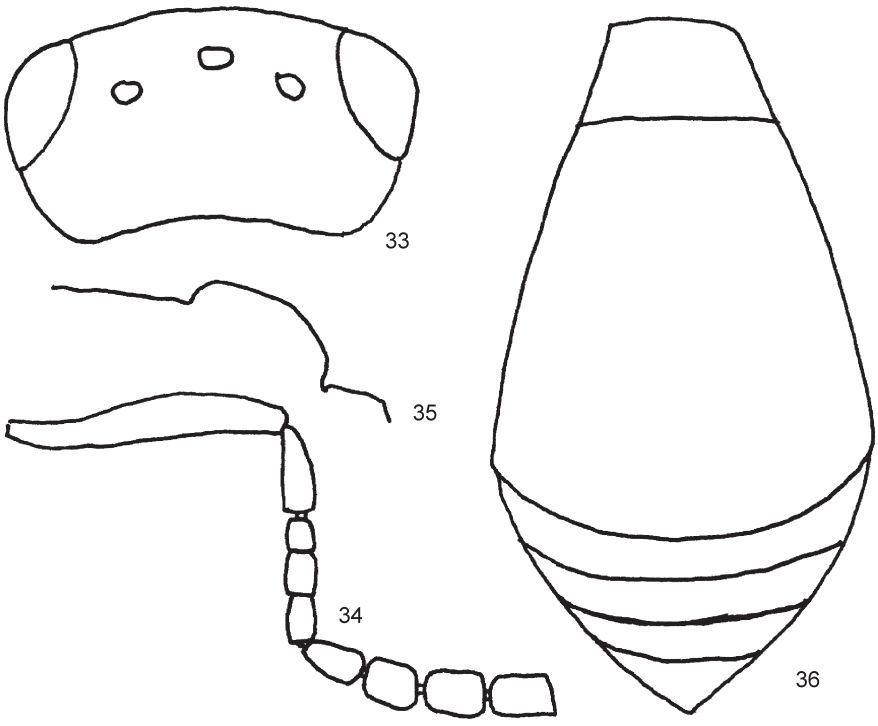
Platygaster semiflava sp. n.
(Figs 33–36)

Female – Length: 1.3 mm. Black, antennae hardly lighter except A2–A5 which are strikingly brownish yellow; legs dark brown, all tibiae and segments 1–4 of tarsi light reddish brown. Head from above (Fig. 33) 1.9 times as wide as long, almost 1.2 times as wide as mesosoma. Occiput distinctly, densely transversely striated; vertex with weak microsculpture, transverse between ocelli; frons smooth medially, towards sides with weak fan-like microsculpture, becoming stronger towards antennae. OOL = LOL. Head in frontal view 1.3 times as wide as high; antenna (Fig. 34) with A1 0.9 times as long as height of head; preapical segments each 1.3 times as long as wide. Mesosoma 1.4 times as long as wide, almost 1.2 times as high as wide. Sides of pronotum finely longitudinally reticulate-coriaceous, smooth along upper and hind margins. Mesoscutum weakly reticulate-coriaceous in anterior half, laterally and posteriorly almost smooth, in posterior third in front of each scuto-scutellar groove with distinct hair-implantations; notauli indicated in hardly posterior half, mid lobe posteriorly broad and smooth, bluntly reaching base of scutellum; scuto-scutellar grooves densely hairy. Mesopleuron smooth. Scutellum (Fig. 35) smooth, laterally with dense hairs, medially with sparse hairs. Metapleuron with sparse pilosity all over. Propodeal carinae parallel, widely separated,

slightly transverse area between them smooth and shiny. Fore wing clear, 0.8 times as long as body, 2.4 times as long as wide, with long and slightly sparse microtrichia; marginal cilia hardly 0.1 width of wing. Hind wing 5.4 times as long as wide, with two hamuli; marginal cilia 0.3 width of wing. Metasoma (Fig. 36) hardly as long as head and mesosoma combined (18:19), slightly wider than mesosoma. T1 evenly crenulated; T2 striated in basal foveae to fully half of length, medially to 0.1 of length, rest of tergite as well as the following tergites smooth; T3 with a few deeply implanted hairs; T4 with a medially interrupted transverse row of deeply implanted hairs; T5 with a complete such row.

Material examined: Holotype female: Germany, Leverkusen, Bergisch Neukirchen, 13–19.IX. 2004, compost site. M. Boness leg. Preserved in ZMUC.

Similar to *P. fennica* BUHL, 2003 and *P. varicornis* BUHL, 1999, but differs from these species in colour and in sculpture of metasoma, from *P. fennica* also in having preapical antennal segments more elongate, and from *P. varicornis* also in having less transverse head (more than twice as wide as long in *P. varicornis*, holotype reexamined) cf. BUHL (1999, 2003).



Figs 33–36. *Platygaster semiflava* sp. n. female: 33 = head in dorsal view, 34 = antenna (A10 missing), 35 = scutellum in lateral view, 36 = metasoma in dorsal view.

Platygaster ?*splendidula* RUTHE, 1859

One female, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, wood, 18–20.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

Platygaster spp.

About six further species from North Korea, some of them near *P. gorge* WALKER, 1835, *oebalus* WALKER, 1835, and *tisias* WALKER, 1835 (total about 50 specimens).

Synopeas epigeios sp. n.
(Figs 37–40)

Female – Length: 1.6 mm. Black, A1 and legs medium reddish, coxae and last segment of tarsi darker. Head from above (Fig. 37) 1.75 times as wide as long, fully 1.1 times as wide as mesosoma, finely and evenly reticulate-coriaceous, without hyperoccipital carina, hardly angled. OOL:LOL = 3:4. Head in frontal view 1.25 times as wide as high. Antenna (Fig. 38) with A1 as long as distance between inner orbits. Mesosoma almost 1.6 times as long as wide, fully 1.1 times as high as wide. Sides of pronotum faintly reticulate-coriaceous in upper half, in lower half smooth and bare. Mesoscutum finely and weakly reticulate-coriaceous, with meshes very small as on head, postero-medially smooth and slightly swollen and brownish prolonged above scutellum; disc without trace of notauli, with rather dense, evenly distributed hairs. Mesopleuron smooth. Scutellum (Fig. 39) smooth and bare along middle, laterally with dense hairs; spine distinct and slightly brownish, below with a narrow, vertical semitransparent lamella. Metapleuron more or less smooth and bare in anterior third, rest with dense pilosity. Propodeal carinae rather low, dark, in dorsal view thick and smooth, almost fused. Fore wing 0.75 times as long as body, 2.4 times as long as wide, clear but with dense microtrichia, without marginal cilia. Hind wing 5.7 times as long as wide; marginal cilia hardly 0.3 times the width of wing. Metasoma (Fig. 40) 1.25 times as long as head and mesosoma combined, slightly wider than mesosoma, almost 1.2 times as wide as high. T1 with a few longitudinal carinae on a smooth surface; junction of T1–T2 pubescent. T2 smooth except for reticulate sculpture along hind margin; T3–T6 with such reticulation except along anterior and posterior margins; apical tergites with some superficially implanted hairs, forming a transverse row on T5; T6 about as long as wide.

Material examined: Holotype female: Denmark, East Jutland, Hevring Hede 6–7.VII. 2004, swept. P.N. BUHL leg. Preserved in ZMUC.

Differs from *S. dravedensis* BUHL, 2004 e.g. in larger OOL, more swollen posterior part of mesoscutum, larger scutellar spine, less convex metasoma, and in lighter coloured body appendages, cf. BUHL (2004*a*). Differs from *S. rhanis* (WALKER, 1835) in the two last mentioned characters and in having scutellum differently shaped, cf. VLUG (1985). *S. convexus* THOMSON, 1859 has metasoma shaped

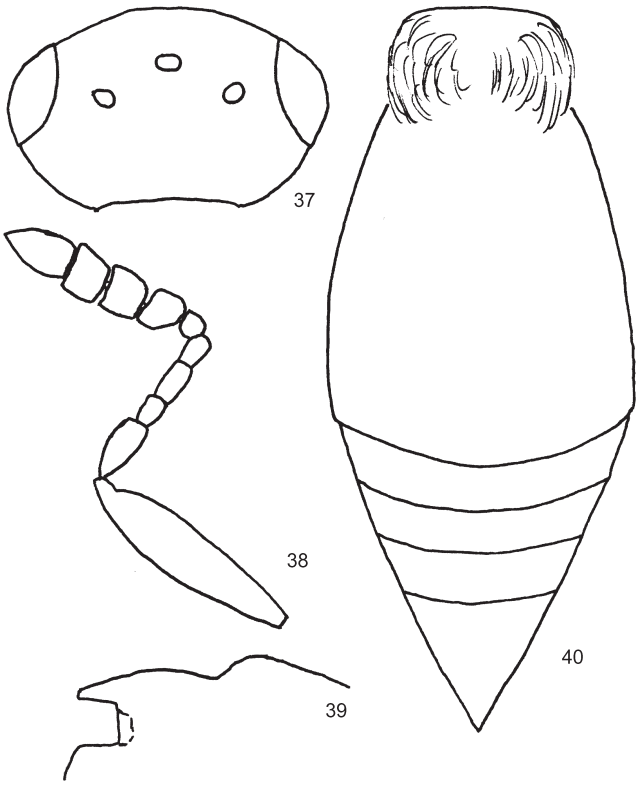
as in *S. epigeios*, but *S. convexus* has hyperoccipital carina, much smaller tooth on scutellum, and darker body appendages than *S. epigeios*, cf. BUHL (1998*a*).

Synopeas ?*euryale* (WALKER, 1835)

One female, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, wood, 18–20.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

Synopeas gibberosus BUHL, 1997

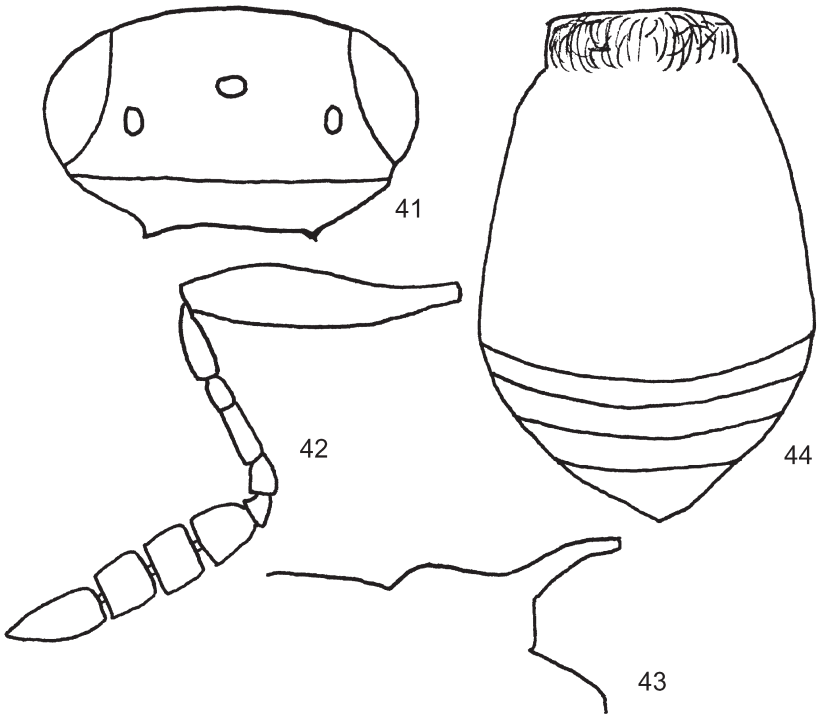
One female, North Korea, Pyong-sung, Bek-sung-li, Za-mo san, 60 km NE from Pyongyan, 1.VIII.1975, J. PAPP & A. VOJNITS leg.



Figs 37–40. *Synopeas epigeios* sp. n., female: 37 = head in dorsal view, 38 = antenna, 39 = scutellum in lateral view, 40 = metasoma in dorsal view.

Synopeas kanwonensis sp. n.
(Figs 41–44)

Female – Length: 1.2 mm. Black, A1-A6 reddish yellow; legs dark brown; trochanters, fore tibia, both ends of mid tibia, base of hind tibia, and segments 1–4 of all tarsi reddish yellow. Head from above (Fig. 41) 1.7 times as wide as long, very slightly wider than mesosoma, evenly and distinctly reticulate-coriaceous; occiput with a complete but not strong carina. OOL equal to diameter of lateral ocellus. Head in frontal view 1.1 times as wide as high; antenna (Fig. 42) with A1 0.8 times as long as height of head. Mesosoma 1.5 times as long as wide, 1.1 times as high as wide. Sides of pronotum distinctly reticulate-coriaceous as head, smooth only in extreme lower corner. Mesoscutum sparsely hairy, uniformly and somewhat finer reticulate-coriaceous than head; notauli posteriorly hardly indicated; mid lobe posteriorly slightly prolonged, rather finely pointed, not smooth or swollen, with about seven long hairs at each side. Mesopleuron smooth. Scutellum (Fig. 43) finely sculptured and hairy, with a strong, slightly semitransparent spine, without lamella below. Metapleuron with pilosity all over. Propodeal carinae low and straight. Fore wing hardly shorter than body, 2.5 times as long as wide, faintly brownish, with fine and dense microtrichia, without marginal cilia. Marginal cilia of hind wing 0.2 width of wing. Metasoma (Fig. 44) 0.9 times as long as mesosoma, hardly as wide as this, 1.4 times as wide as high. Hind margins of T2–T6 distinctly reticulate-coriaceous; T4–T5 each with a transverse row of punctures with hairs.



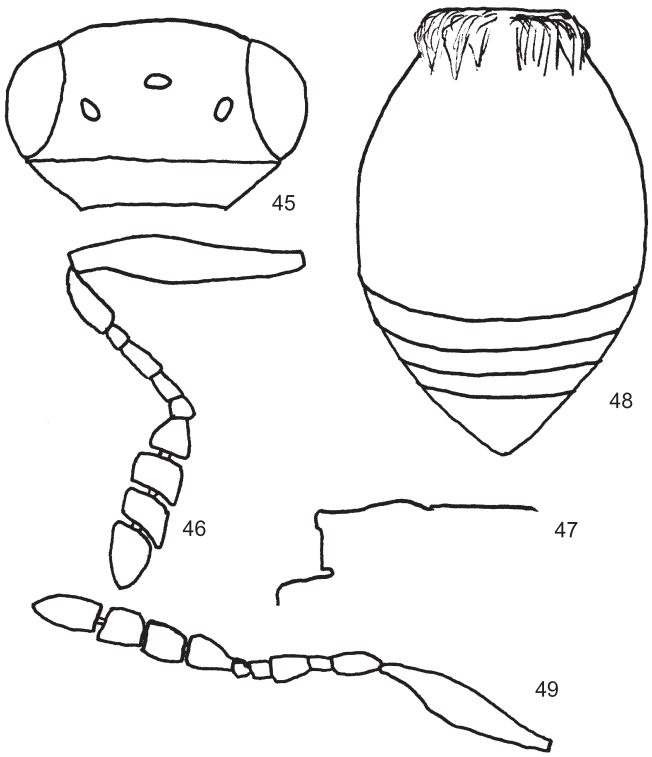
Figs. 41–44. *Synopeas kanwonensis* sp. n., female: 41 = head in dorsal view, 42 = antenna, 43 = scutellum in lateral view, 44 = metasoma in dorsal view.

Material examined: Holotype female: North Korea, Kanwon, Kum-gang san, Sam-il po, 29.V. 1970. S. MAHUNKA & H. STEINMANN leg. Preserved in HNHM.

Differs from *S. acutispinus* BUHL, 1998 in structure of head, from *S. hansseni* BUHL, 1998 e.g. in absence of notauli and sculpture of mesopleuron, from *S. marttii* BUHL, 2004 in shape of scutellum, and from *S. romsoeensis* BUHL, 1999 e.g. in slightly different structured head and antennae, and in lacking marginal cilia of fore wing, cf. also BUHL (1998*a*, *b*, 1999, 2004*a*).

Synopeas koreana sp. n.
(Figs 45–49)

Female – Length: 1.0–1.2 mm. Black, A1–A6 and legs yellow; A7–A10, coxae, apical half of hind femur and of hind tibia, and last segment of all tarsi more or less darkened. Head from above (Fig. 45) 1.7 times as wide as long, very slightly wider than mesosoma, distinctly and uniformly retic-



Figs 45–49. *Synopeas koreana* sp. n.: 45 = female head in dorsal view, 46 = female antenna, 47 = female scutellum in lateral view, 48 = female metasoma in dorsal view, 49 = male antenna.

ulate-coriaceous all over (not transversely so); occipital carina complete but not strong. Lateral ocellus fully twice as long as OOL. Head in frontal view 1.1 times as wide as high; antenna (Fig. 46) with A1 0.9 times as long as height of head. Mesosoma 1.5 times as long as wide, almost 1.2 times as high as wide. Sides of pronotum smooth, with rugosity in upper anterior corner. Mesoscutum sparsely hairy, uniformly and slightly finer reticulate-coriaceous than head, without notauli; hind margin medially with a tiny, unmodified prolongation, at sides with numerous long hairs; scuto-scutellar grooves wide, much transverse. Mesopleuron smooth. Scutellum (Fig. 47) smooth but with denser hairs than mesoscutum, along middle with a keel which ends in a vertical, hardly semi-transparent lamella. Metapleuron with pilosity all over. Propodeal carinae moderately high, slightly curved, faintly semitransparent. Fore wing clear, 0.8 times as long as body, 2.3 times as long as wide, with moderately dense microtrichia, without marginal cilia. Hind wing 6.3 times as long as wide; marginal cilia 0.4 width of wing. Mesosoma (Fig. 48) 0.8 times as long as head and mesosoma combined, as wide as mesosoma, 1.4 times as wide as high. Hind margin of T3–T5, and most of T6, reticulate-coriaceous; apical tergites with a few hairs.

Male – Length: 1.0 mm. Antenna (Fig. 49) with very short flagellar pubescence.

Material examined: Holotype female: North Korea, South Pyongan, Chang-lyong san, 50 km N of Pyongyan, 13.VIII.1971. S. HORVATOVICH & J. PAPP leg. Paratypes: 1 female, North Korea, Gang-von, district On-dzong, Kum-gang san, near Hotel Go-song, 250 m, 5.VIII.1975, J. PAPP & A. VOJNITS leg.; 1 male, North Korea, Mt. Pektusan, environs Sam-zi-yan hotel, wood, 18–20.VII.1977, netting in grasses. DELY & DRASKOVITS leg. Preserved in HNHM.

Runs to *S. gracilicornis* KIEFFER, 1916 and *S. bifoveatus* (KIEFFER, 1912) in KIEFFER's (1926) key, but differs from *S. gracilicornis* in having less elongate female A4, and from *S. bifoveatus* in shape of scuto-scutellar grooves.

Eight further specimens from the environs of Sam-zi-yan (1 female, 7 males) are possibly conspecific with types though they have distinct scutellar spine and fore wings with marginal cilia.

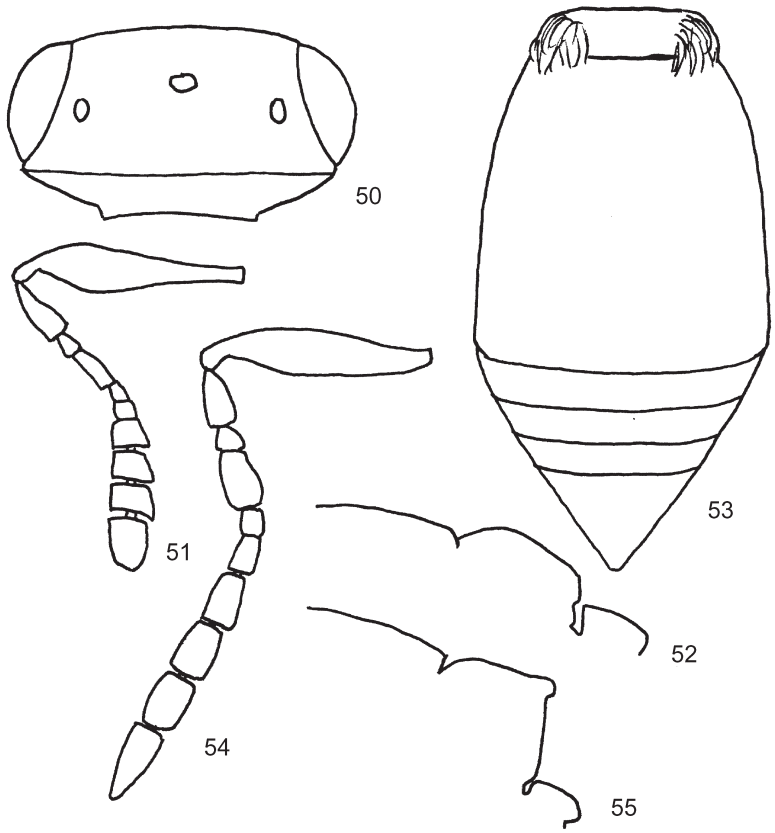
Synopeas mahunkai sp. n.
(Figs 50–55)

Female – Length: 1.2–1.5 mm. Black, antennae and legs dark brownish; base of A1, most of fore tibia, base of mid and hind tibiae, and segments 1–4 of all tarsi reddish. Head from above (Fig. 50) 1.8 times as wide as long, very slightly wider than mesosoma, finely and uniformly reticulate-coriaceous (hardly transversely so); occipital carina complete but not strong. Lateral ocellus 1.7 times as long as OOL. Head in frontal view 1.25 times as wide as high; antenna (Fig. 51) with A1 nearly 0.9 times as long as height of head. Mesosoma 1.6 times as long as wide, 1.1 times as high as wide. Sides of pronotum finely reticulate-coriaceous as head, smooth in lower third. Mesoscutum sparsely hairy, uniformly sculptured as head, without notauli; hind margin medially with a small, triangular prolongation (not smooth or swollen), at sides with numerous long hairs. Mesopleuron with fine longitudinal sculpture in upper 0.3, rest smooth. Scutellum (Fig. 52) almost smooth, densely hairy, posteriorly with a vertical, dark lamella. Metapleuron with pilosity all over. Propodeal carinae high, dark, almost straight, close together. Fore wing 0.8 times as long as body, 2.5 times as long as

wide, almost clear, with fine and dense microtrichia, without marginal cilia. Hind wing 5.7 times as long as wide; marginal cilia hardly 0.3 width of wing. Metasoma (Fig. 53) about 1.1 times as long as mesosoma, hardly as wide as this, 1.6 times as wide as high. T1 crenulated; T2–T5 with fine reticulation along hind margin; T6 reticulate-coriaceous all over. T4 with some hairs laterally; T5 with a medially interrupted transverse row of superficially implanted hairs; T6 with some scattered hairs.

Male – Length: 1.6 mm. Antenna (Fig. 54) with very short flagellar pubescence. Scutellum (Fig. 55).

Material examined: Holotype female: North Korea, Kanwon, Kum-gang san, environs of Hotel Go-song, 29.V.1970. Paratypes: 1 female same data as holotype; 1 female, 1 male, North Korea, South Phenan, NE environs of Pyongyang, 22.V.1970. All S. MAHUNKA & H. STEINMANN leg. Preserved in HNHM.



Figs 50–55. *Synopeas mahunkai* sp. n.: 50 = female head in dorsal view, 51 = female antenna, 52 = female scutellum in lateral view, 53 = female metasoma in dorsal view, 54 = male antenna, 55 = male scutellum in lateral view.

Named after one of the collectors. Similar to NW European *S. lugubris* THOMSON, 1859; this species differs from *S. mahunkai* in details such as having mesoscutum in front of scutellum reddish, scutellum distinctly sculptured with few hairs and a differently shaped posterior lamella, metapleuron mostly bare, and metasoma less pointed, cf. BUHL (1998*b*). *S. mahunkai* differs from *S. neuroteri* KIEFFER, 1916 in shape of antennae and especially of metasoma, cf. KIEFFER (1926).

Synopeas neglectus BUHL, 2004

One female, North Korea, Mt. Pektusan, environs Sam-zi-yan Hotel, lakeshore, 19.VII.1977, netting in grasses, DELY & DRASKOVITS leg.

Hitherto known only from Mongolia, cf. BUHL (2004*b*).

Synopeas osaces (WALKER, 1835)

One female, North Korea, South Pyongyan, Mts. Gul-san-bong, 40 km NE from Nam-po, 5.IX.1971, S. HORVATOVICH & J. PAPP leg.; 4 females, North Korea, Sa-gam, 45 km N from Pyongyan, 12.VIII.1971, S. HORVATOVICH & J. PAPP leg.; 1 female, Pyongyan, Botanical garden, 3.VIII.1975, J. PAPP & A. VOJNITS leg.

Trichacoides hirsutus YAMAGISHI, 1980

One female, 1 male, North Korea, Sa-gam, 45 km N from Pyongyan, 12.VIII.1971, S. HORVATOVICH & J. PAPP leg.; 1 male, North Korea, Nampo, Vaudo, 60 km SW Pyongyan, netting in grasses, DELY & DRASKOVITS leg.

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