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## **New or little known exotic Platygastriinae (Hymenoptera, Platygasteridae)**

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### **Abstract**

The following five species are described as new to science: *Platygaster acaciae* (Kenya), *P. cephalandrae* (India), *P. formosae* (Australia), *P. sinaiensis* (Egypt), and *Synopeas bouceki* (India). The hitherto unknown female of *Leptacis propodealis* BUHL, 2001 is described. The work is illustrated by 21 figures.

### **Zusammenfassung**

Fünf neue Arten werden beschrieben: *Platygaster acaciae* (Kenya), *P. cephalandrae* (Indien), *P. formosae* (Australien), *P. sinaiensis* (Ägypten) und *Synopeas bouceki* (Indien). Das Weibchen von *Leptacis propodealis* BUHL, 2001 wird beschrieben. Die Arbeit ist mit 21 Abbildungen versehen.

### **Introduction**

The material described below was part of a loan by courtesy of Dr. Andrew POLASZEK, London. All the material is deposited in the Natural History Museum, London, Great Britain.

### ***Leptacis propodealis* BUHL, 2001 (fig. 1)**

Description of the hitherto unknown female. Length 0.75 mm. Antenna (fig. 1) with flagellar pubescence two-thirds as long as width of apical segments. Forewing 2.4 times as long as wide, marginal cilia 0.25 times as long as width of wing. Metasoma two-thirds as long as head and mesosoma combined.

Material examined. 1 female, India, Wynad distr., Kerala, 1989, “ex. *Pseudococcus* on black pepper” [there must have been a cecidomyiid present], S. DEVASAHAYAM (CIE A20134).

Remarks. Originally described from Honduras by BUHL (2001). Probably immigrated to the New World together with the host plant, black pepper.

***Platygaster acaciae* sp. nov.** (figs 2-5)

Diagnosis. Occiput with distinct and extensive striation; frons smooth in upper half, rest finely striated; female A9 as wide as long; notauli almost complete; female metasoma shorter than head and mesosoma combined, T2 striated in basal foveae to half of length.

Description. Female. Length 1.3 mm. Black; antennae, mandibles and legs dark brown; trochanters, base and apex of tibiae, and segments 1-4 of all tarsi yellowish brown.

Head from above (fig. 2) 2.4 times as wide as long, 1.2 times as wide as mesosoma; occiput without hyperoccipital carina, rather strongly transversely striated over whole width and up to posterior ocelli; vertex medially smooth, towards sides reticulate-coriaceous; frons smooth, laterally in lower half with fine and slightly oblique striation, above antennae with five stronger transverse wrinkles. OOL:LOL = 15:16. Head in frontal view 1.3 times as wide as high. Antenna (fig. 3) with A1 0.7 times as long as height of head, 0.85 times as long as distance between inner orbits; A9 as wide as long.

Mesosoma 1.3 times as long as wide, very slightly higher than wide. Sides of pronotum smooth, only with a small spot of rugosity anteriorly, with scattered and slightly raised hair-implantations all over. Mesoscutum with very few hairs, smooth except for longitudinal rugosity along middle and anteriorly of notauli which are distinct and almost complete; mid lobe rather finely pointed and slightly prolonged to base of scutellum; scuto-scutellar grooves wide, with a few very inconspicuous hairs. Mesopleuron smooth. Scutellum (fig. 4) evenly convex, smooth and almost bare. Metapleuron with pilosity all over. Propodeal carinae and area between them brownish; carinae slightly diverging; area smooth and shiny, almost twice as wide as long.

Forewing clear, with fine and moderately dense microtrichia, two-thirds as long as entire body, 2.2 times as long as wide; marginal cilia 0.06 times as long as width of wing. Hindwing 4.5 times as long as wide, with two hamuli; marginal cilia one-third as long as width of wing.

Metasoma (fig. 5) 0.9 times as long as head and mesosoma combined, 1.3 times as long as mesosoma, and hardly 0.9 times as wide as this. T1 almost evenly crenulated. T2 striated in basal foveae to half of length, medially to 0.25 length of tergite. T3-T6 smooth; T3-T5 with rather superficially implanted hairs laterally: 6 on T3, and 10 on each of T4-T5.

Material examined. Holotype female: Kenya, Malili Ranch, 13.xi.1990, J. MAROHASY (IIE 21459), ex. Cecidomyiid gall on *Acacia nilotica* (L.).

Affinities. This species has more transverse head, smoother frons, and less slender antennae than the somewhat similar *P. kenyana* BUHL, 2004, cf. BUHL (2004).

Etymology. The name refers to the host plant of the cecidomyiid host.

***Platygaster cephalandrae* sp. nov.** (figs 6-9)

Diagnosis. An approx. 1 mm long species with finely striated occiput, weakly sculptured frons, short notauli, slightly transverse female A9, T2 striated to fully half of length,

and moderately pointed female metasoma which is about as long as head and mesosoma combined.

Description. Female: Length 0.95 - 1.15 mm. Body blackish; antennae and legs light to medium brown; A1 or at least basal half of A1 lighter than rest of antenna; mandibles and tegulae dark brown.

Head from above (fig. 6) 1.8 times as wide as long, almost 1.2 times as wide as mesosoma; occiput finely and densely transversely striated; vertex rounded, weakly reticulate-coriaceous; frons with fine, oblique reticulate-coriaceous sculpture, almost forming fine fan-like striation. OOL = LOL. Head in frontal view 1.4 times as wide as high. Antenna (fig. 7) with A1 0.75 times as long as height of head, shorter than distance between inner orbits (6:7); A9 slightly more than 1.1 times as wide as long.

Mesosoma hardly 1.4 times as long as wide, nearly 1.2 times as high as wide. Sides of pronotum smooth in most of upper half and along wide hind margin, rest with longitudinal microsculpture. Mesoscutum with sparse hairs, finely reticulate-coriaceous, postero-medially longitudinally so, smoother towards sides; notauli weakly indicated in about posterior 0.4; mid lobe bluntly and very slightly prolonged to base of scutellum; scuto-scutellar grooves narrow, each with about four inconspicuous hairs. Mesopleuron smooth. Scutellum (fig. 8) distinctly and evenly convex, smooth, sparsely hairy. Metapleuron with pilosity all over. Propodeal carinae short, parallel; transverse area between them smooth and shiny.

Forewing reaching to about tip of metasoma, clear, 2.5 times as long as wide, with sparse and rather long microtrichia; marginal cilia 0.08 as long as width of wing. Hindwing 5.7 times as long as wide, with two hamuli; marginal cilia one-third as long as width of wing.

Metasoma (fig. 9) slightly shorter to slightly longer than head and mesosoma combined, hardly 0.9 times as wide as mesosoma. T1 with two longitudinal keels, in anterior half also with weak crenulation. T2 striated in basal foveae to at most 0.6 length of tergite, medially to hardly 0.2 of length (in small specimens basal foveae are almost smooth). T3-T6 smooth, each with a few superficially implanted hairs laterally (about 2 on each side on T3, 4 on each side on T4, 5 on each side on T5).

Material examined. Holotype female: India, Madras, 1985, ex. *Neolasioptera cephalandrae* MANI on *Cephalandra indica* NAUD., T.N. ANANTHAKRISHNAN (C.I.E.A. 17118). Paratypes: 8 females same data, on same card as holotype (which is the specimen medially in outer row, farthest away from the pin).

Affinities. *P. indicus* MUKERJEE, 1978 is larger, it has denser microtrichia on wings and longer T3-T6 than *P. cephalandrae*, cf. MUKERJEE (1978). *P. cephalandrae* runs to *P. imlaci* BUHL, 1997 and *P. satara* MANI, 1975 in BUHL's (2007) key to Oriental *Platy-gaster*, but these species have complete notauli, cf. also MANI (1975) and BUHL (1997).

Etymology. The name refers to the host plant.

### ***Platygaster formosae* sp. nov. (figs 10-13)**

Diagnosis. A species with female A9 one and two-thirds times as long as wide, notauli indicated in basal half, and T2 striated to about half of its length.

Description. Female: Length 1.5 mm. Black; antennae, mandibles, tegulae and legs dark brown; A2-A6, trochanters, apex of fore femur, entire fore tibia, base and apex of mid and hind tibiae, and all tarsi lighter brown.

Head from above (fig. 10) 2.0 times as wide as long, about 1.25 times as wide as mesosoma, finely reticulate-coriaceous, transversely so on occiput; frons medially smooth; sculpture on lower half of frons oblique, forming fine striation from below eyes; frons just above antennal insertions with transverse wrinkles. OOL = LOL. Head in frontal view 1.2 times as wide as high. Antenna (fig. 11) with A1 hardly 0.9 times as long as height of head, 9/8 as long as distance between inner orbits.

Mesosoma almost 1.6 times as long as wide, slightly higher than wide (21:20). Sides of pronotum longitudinally reticulate-coriaceous, smooth along narrow hind margin. Mesoscutum with sparse, scattered hairs, longitudinally and superficially reticulate-coriaceous, with stronger rugosity around anterior ends of imaginary notauli, these indicated in posterior half; mid lobe posteriorly smooth, blunt, slightly prolonged to base of scutellum; scuto-scutellar grooves distinct, triangular, each with about five long, inconspicuous hairs. Mesopleuron distinctly longitudinally striated in most of upper half, along hind margin in upper 0.8, entire anterior margin smooth. Scutellum (fig. 12) smooth, evenly convex, with only a few sparse hairs laterally. Metapleuron with pilosity all over. Propodeal carinae parallel, distinctly transverse area between them dull in posterior half.

Forewing just reaching apex of metasoma, 2.25 times as long as wide, almost clear, disc bare in basal half, microtrichia gradually becoming denser towards apex; marginal cilia absent. Hindwing 4.6 times as long as wide, with two hamuli; marginal cilia hardly 0.2 times the width of wing.

Metasoma (fig. 13) as long as head and mesosoma, as wide as mesosoma. T1 evenly crenulated. T2 striated in basal foveae to slightly more than half of length, medially to hardly 0.25 the length of tergite. T3-T6 smooth, T3-T5 each with a medially interrupted transverse row of superficially implanted hairs, 6 on T3, 8 on T4, 10 on T5; T6 with 8 such hairs along margins.

Material examined. Holotype female: "Australia, 17.ix.87, 87-420, Bartlett collection, *Formosa* leaves with 2 types of gall. CIE A19175".

Affinities. *P. paches* WALKER, 1842 differs from this species in having metasoma narrower than mesosoma, T2 without striation, legs black, and it is only 1.1 mm long, cf. KIEFFER (1926). *P. australis* (DODD, 1916) has antennal structure different than in *P. formosae*, body appendages brighter colored, notauli complete, and it is only 1 mm long. Cf. DODD (1916).

Etymology. The name refers to the probable host plant.

### *Platygaster sinaiensis* sp. nov. (figs 14-17)

Diagnosis. A species with female A9 1.5 times as long as wide, notauli almost complete, scutellum hardly convex, and female metasoma as long as head and mesosoma combined, distinctly pointed, with hardly striated T2 and dull T6.

Description. Female: Length 0.95 mm. Body black; antennae, mandibles, tegulae and legs including coxae dark brown; extreme base of all tibiae, apex of fore tibia, and segments 1-4 of all tarsi light brown.

Head from above (fig. 14) 2.0 times as wide as long, wider than mesosoma (9:8); occiput and vertex rounded, finely reticulate-coriaceous, occiput transversely so; frons smooth, with weak transverse wrinkles in lower 0.3. OOL:LOL = 5:6. Head in frontal view one and a third times as wide as high. Antenna (fig. 15) with A1 0.8 times as long as height of head, as long as distance between inner orbits; A9 about 1.5 times as long as wide.

Mesosoma 1.2 times as long as wide, as high as wide. Sides of pronotum smooth except for sparse, scattered hair-implantations and, in upper anterior corner, a small spot of rugosity. Mesoscutum with scattered, sparse hairs, weakly reticulate-coriaceous; mid lobe in posterior one-third and lateral lobes in outer half smooth; notauli fine but almost complete, fading out anteriorly; mid lobe blunt posteriorly, hardly prolonged but reaching base of scutellum; scuto-scutellar grooves inconspicuous, at most with a couple of fine, short hairs similar to those on disc. Mesopleuron smooth. Scutellum (fig. 16) very slightly convex, finely reticulate-coriaceous, smooth medially, with sparse hairs. Metapleuron with pilosity all over. Propodeal carinae very short, transverse area between them unsculptured.

Forewing clear, overreaching tip of metasoma by a length equal to combined length of T4-T6, 2.2 times as long as wide, with moderately dense and rather long microtrichia; marginal cilia 0.06 as long as width of wing. Hindwing 4.8 times as long as wide, with two hamuli; marginal cilia about 0.25 as long as width of wing.

Metasoma (fig. 17) as long as head and mesosoma combined, slightly narrower than mesosoma. T1 with two longitudinal carinae. T2 with rather short and deep basal foveae with slight pubescence, between foveae with a few carinae at most 1/7 as long as tergite. T3-T5 smooth, each with a few superficially implanted hairs laterally (2 on each side on T3, 3 on each side on T4 and T5); T6 with reticulate-coriaceous microsculpture.

Material examined. Holotype female: Egypt, Sinai, Wadi Isla, 27.ii.1935, W. WITTMER.

Affinities, Similar to *P. harteni* BUHL (in press) but with longer notauli, smoother mesopleuron, and longer T3-T6.

Etymology. The name refers to the region of the type locality.

### ***Synopeas bouceki* sp. nov.** (fig. 18-21)

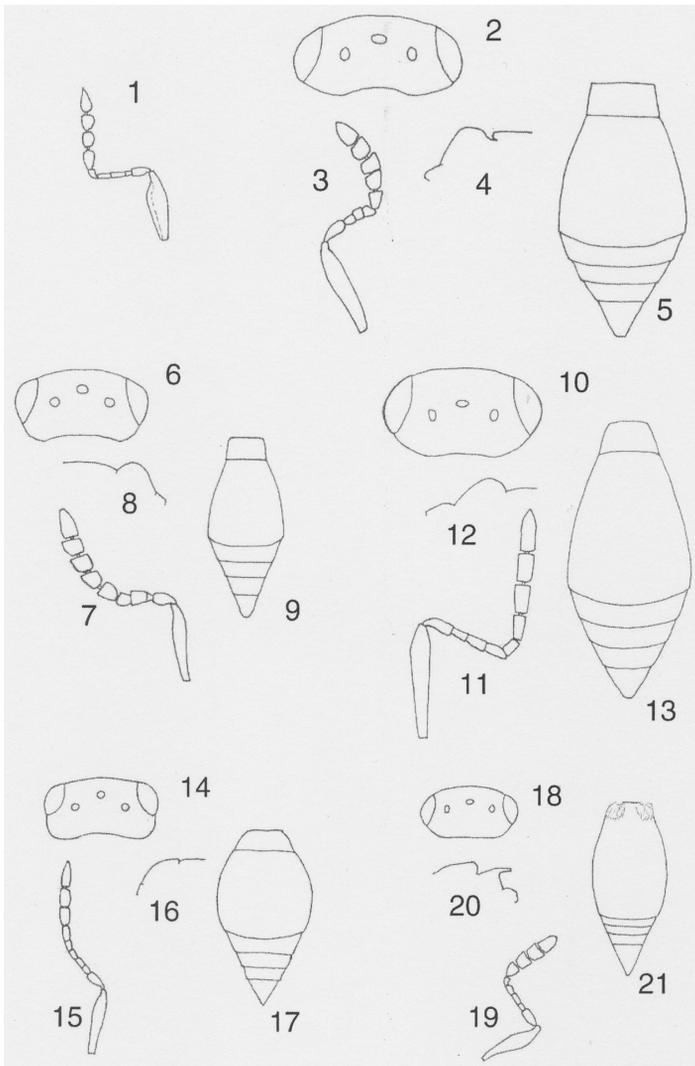
Diagnosis. A species with female A9 slightly transverse, hind margin of mesoscutum much above scutellum which has a distinct spine; female metasoma about 1.1 times as wide as high

Description. Female: Length 0.85 mm. Body dark brown, head almost black; A1-A6 and legs including coxae pale yellow; A7-A10, mandibles and tegulae medium brown.

Head from above (fig. 18) 1.9 times as wide as long, slightly more than 1.1 times as wide as mesosoma, with a weak hyperoccipital carina; reticulate sculpture consisting of distinct, rather large (except on vertex) and at most slightly transverse meshes. LOL = 1.25 OOL; OOL 1.3 times as long as diameter of lateral ocellus. Head in frontal view hardly 1.2 times as wide as high. Antenna (fig. 19) with A1 0.75 times as long as height of head.

Mesosoma one and a third times as long as wide, 1.2 times as high as wide. Sides of pronotum faintly reticulate-coriaceous over most of surface. Mesoscutum faintly leathery, evenly and rather densely hairy, without notauli, postero-medially with a large and blunt prolongation which is slightly lighter and smoother than rest of disc; scuto-scutellar grooves with dense, whitish hairs. Mesopleuron smooth. Scutellum (fig. 20) from above smooth and bare medially, laterally with dense hairs, in lateral view much below level of mesoscutum; spine distinct, slightly semitransparent, with a narrow vertical lamella below. Metapleuron smooth and bare in anterior 0.2, rest with whitish pilosity. Propodeal carinae very close together, pale semitransparent.

Forewing clear, 0.8 times as long as entire body, 2.6 times as long as wide, with moderately densely microtrichia; marginal cilia absent. Hindwing 6.7 times as long as wide; marginal cilia hardly 0.4 times as long as width of wing.



Figures 1-21: 1 *Leptacis propodealis* BUHL, 2001: female antenna. 2-5 *Platygaster acaeciae* sp. nov. female: 2 head, 3 antenna, 4 scutellum, 5 metasoma. 6-9 *Platygaster cephalandrae* sp. nov. female: 6 head, 7 antenna, 8 scutellum, 9 metasoma. 10-13 *Platygaster formosae* sp. nov. female: 10 head, 11 antenna, 12 scutellum, 13 metasoma. 14-17 *Platygaster sinaiensis* sp. nov. female: 14 head, 15 antenna, 16 scutellum, 17 metasoma. 18-21 *Synopeas bouceki* sp. nov. female: 18 head, 19 antenna, 20 scutellum, 21 metasoma.

Metasoma (fig. 21) as long as head and mesosoma combined, slightly narrower than mesosoma, about 1.1 times as wide as high. T2 smooth. T3-T5 each with a transverse stripe of reticulate microsculpture, T6 with such sculpture all over.

Material examined. Holotype female: India, Uttar Pradesh, Dehra Dun, 21.x.1979, Z. BOUČEK.

Affinities. Generally similar to European *S. gibberosus* BUHL, 1997, but this species has elongate apical flagellar segments, marginal cilia on forewings, less pilose metapleuron, more flattened metasoma, and it is larger, cf. BUHL (1997).

Etmology. Named after the collector.

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