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## **New species of Platygastriinae from Sri Lanka (Hymenoptera, Platygasteridae)**

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### **Abstract**

Twelve new species are described: *Amblyaspis cederholmi* nov.sp., *Inostemma srilankense* nov.sp., *Platygaster bygebjergi* nov.sp., *P. concava* nov.sp., *P. harasbeddensis* nov.sp., *P. joergenseni* nov.sp., *P. pilosiscutellata* nov.sp., *Synopeas anderssonianum* nov.sp., *S. brincki* nov.sp., *S. bygebjergi* nov.sp., *S. sheldrakei* nov.sp., and *S. veenakumarii* nov.sp. *Gastrotrypes vindhyensis* (MUKERJEE) nov.comb. is transferred from *Metanopedias* and the female is described. The work is illustrated by 38 text-figures.

### **Zusammenfassung**

Zwölf neue Arten werden beschrieben: *Amblyaspis cederholmi* nov.sp., *Inostemma srilankense* nov.sp., *Platygaster bygebjergi* nov.sp., *P. concava* nov.sp., *P. harasbeddensis* nov.sp., *P. joergenseni* nov.sp., *P. pilosiscutellata* nov.sp., *Synopeas anderssonianum* nov.sp., *S. brincki* nov.sp., *S. bygebjergi* nov.sp., *S. sheldrakei* nov.sp., and *S. veenakumarii* nov.sp. *Gastrotrypes vindhyensis* (MUKERJEE) nov.comb. wird aus *Metanopedias* übertragen und das Weibchen beschrieben. Die Arbeit ist mit 38 Abbildungen versehen.

## Introduction

Hitherto only very few species of Platygastriinae have been described from Sri Lanka (BUHL 2003). Due to a generous loan from Mr. Rune BYGEBJERG (Museum of Zoology, Lund University) of specimens collected by the "Lund University Ceylon Expedition" in 1962 (Per BRINCK, Hugo ANDERSSON & Lennart CEDERHOLM leg.) I am hereby able to describe further 12 species new to science. Very probably there are further new species in the material, but the many inadequately described species from the same region (mostly India) with inaccessible types prevent further descriptions at present. But in the material a few further specimens deserve to be mentioned here: One specimen of *Isolia* perhaps representing the female of *I. indica* BUHL 2008 (hitherto only male described), differing only in having scutellum and mesopleuron without striation (sexual dimorphism?), one female indistinguishable from South African *Leptacis acanthia* BUHL 2005, one male very similar to *Platygaster striatitergitis* BUHL 1995 from the Philippines, and one male probably belonging to *Synopeas protuberatum* BUHL 2009 from Vietnam (hitherto only female described).

**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, and T1-T6 = tergites 1-6.

All material is preserved in the Museum of Zoology, Lund University, Sweden (MZLU).

### *Amblyaspis cederholmi* nov.sp. (figs 1-3)

**Material examined:** Holotype ♀: Sri Lanka, Sabaragamuwa Prov., Bulutota Pass, 2 mls SE of Rakwana, 28.ii.1962, swept on dry grassland.

**Diagnosis.** Head 2.1 times as wide as long, with a strong and complete hyperoccipital carina, and OOL longer than LOL and diameter of lateral ocellus; notauli absent, hind margin of mesoscutum straight; female metasoma 0.8 times as long as rest of body.

**Description.** ♀. Body length 0.9 mm. Body light medium brown; A1-A2, mandibles, tegulae and legs including coxae pale yellowish brown, A3-A10 slightly darker.

Head from above (fig. 1) 2.1 times as wide as long, fully 1.1 times as wide as mesosoma, with a strong and complete hyperoccipital carina; occiput and vertex with weak (not transverse) reticulate microsculpture, frons almost smooth. OOL = 1.4 LOL. Head in frontal view 1.1 times as wide as high. Antenna (fig. 2) with A1 0.95 as long as height of head, 1.3 times as long as distance between inner orbits.

Mesosoma 1.45 times as long as wide, hardly noticeable higher than wide. Sides of pronotum reticulate (not longitudinally so) over most of surface. Mesoscutum with about 20 scattered setae, finely and almost uniformly reticulate-coriaceous, without notauli, hind margin straight. Mesopleuron smooth. Scutellum (fig. 3) sculptured almost as mesoscutum, moderately densely setose, about 1.2 times as long as wide, posteriorly evenly sloping and with long, whitish backwards directed setation standing out from apex, with a short and narrow vertical lamella below. Metapleuron with whitish pilosity,

dense only along hind margin. Propodeal carinae parallel, close together but distinctly separated, much elongate area between them smooth and shiny.

Fore wing 0.9 times as long as entire body, 2.6 times as long as wide, faintly infuscated, with dense and moderately fine microtrichia; marginal cilia about 0.1 width of wing. Hind wing with marginal cilia about half the width of wing.

Metasoma 0.8 times as long as head and mesosoma combined, 1.15 times as long as mesosoma, as wide as this. T1 about as long as wide, with two strong and almost parallel longitudinal carinae, along sides with short and dense pubescence. T2 1.1 times as long as wide, with two hardly pubescent basal foveae reaching 0.15 length of tergite, rest of tergite almost smooth. T3-T6 combined 0.4 as long as T2, with distinct microsculpture and a few inconspicuous setae.

**C o m m e n t s .** Most similar to *A. cariniceps* BUHL 1997 from the Philippines, but that species has more slender A2-A6, convex hind margin of mesoscutum, and metasoma hardly shorter than rest of body.

**E t y m o l o g y .** Named after one of the collectors.

### ***Gastrotrypes vindhyensis* (MUKERJEE 1978) nov.comb. (figs 4-6)**

*Trichacis vindhyensis* MUKERJEE 1978: 94.

*Metanopedias vindhyensis* (MUKERJEE); VLUG 1995: 42.

**M a t e r i a l e x a m i n e d .** 1♀, 3♂♂ Sri Lanka, W. Prov., Alawala, 26 mls NE of Colombo, 17.i.1962, ravine with stream; 1♂ same locality but 6.iii.1962, swept on short grass; 1♂ W. Prov., Yakkala, 18 mls NE of Colombo, 14-31.i.1962, at light; 1♀, 2♂♂ Sri Lanka, NW Prov., swamps 10 mls E of Puttalam, 2.ii.1962, swept; 1♂ Sri Lanka, N. Central Prov., stream at Maha Bulankulama, 7 mls SW of Anuradhapura, 4.ii.1962; 1♀, 1♂ Sri Lanka, Sabaragamuwa Prov., Belihul-Oya, altitude 1800 ft, 1-2.iii.1962, at light; 1♂ Sri Lanka, Central Prov., 3 mls NW of Hanguranketa, altitude 1800 ft, 10 mls SE of Kandy, 15.iii.1962, swept at stream in coconut plantation.

**D i a g n o s i s .** Female A8-A9 each fully twice as long as wide, male A8-A9 each fully four times as long as wide; female metasoma 5-segmented, T3-T4 each with a transverse row of 10-12 deep punctures, T5 almost as long as wide.

**D e s c r i p t i o n .** ♀. Body length 1.3-1.4 mm. Black, A1 and legs including coxae light brownish yellow; hind coxae light reddish brown; A2-A10 slightly darker reddish brown except the very small, pale A3; last segment of tarsi slightly darkened.

Head from above 1.75 times as wide as long, 1.15 times as wide as mesosoma, rounded, without a hyperoccipital carina; occiput in posterior half finely transversely striated, in anterior half as well as on vertex weakly and transversely reticulate-coriaceous; frons very faintly and slightly obliquely reticulate-coriaceous. Head in frontal view wider than high (19:17). Antenna (fig. 4) with A1 0.85 times as long as height of head, 1.15 times as long as distance between inner orbits; A7 2.7 times as long as wide; A8-A9 each fully twice as long as wide; A10 1.1 times as long as A9.

Mesosoma 1.75 times as long as wide, 1.15 times as high as wide. Sides of pronotum weakly coriaceous in upper half and slightly less than anterior half, in lower third with fine longitudinal microsculpture, rest smooth. Mesoscutum with very few, more or less scattered setae, smooth except for coriaceous sculpture along sides and at anterior ends

of imaginary notaulic courses; notauli absent; hind margin medially with a long prolongation, reaching one-third the length of scutellum, seen from above rounded and brown at apex; scuto-scutellar grooves with dense whitish pubescence or setosity, this continuing around sides of scutellum; central area of scutellum moderately densely setose and almost smooth. Mesopleuron smooth. Metapleuron smooth, with pilosity only along lower and hind margins. Propodeal carinae dark, very close together.

Fore wing 0.75 times as long as entire body, 2.75 times as long as wide, slightly infuscated, with fine and dense microtrichia; marginal cilia very short. Hind wing with marginal cilia about 0.25 width of wing.

Metasoma (fig. 5) 0.9 times as long as head and mesosoma combined, as wide as head. T1 with two moderately strong longitudinal carinae. T2 smooth, without basal foveae or pubescence, only with three short longitudinal carinae basally on each side, reaching hardly 0.15 length of tergite. T3-T5 smooth nearly all over; T3-T4 each with a transverse row of fine setae inserted in deep punctures (10 on T3, 12 on T4); T5 with fine longitudinal carinae in slightly more than basal 0.2.

♂. Body length 1.0-1.4 mm. Antenna (fig. 6) with preapical segments each fully four times as long as wide; flagellum with sparse, scattered setae most of which are slightly shorter than width of segments. Metasoma 0.75-0.85 times as long as head and mesosoma combined.

**C o m m e n t s .** Hitherto known only from three males from Manpur in Central India. The female described above makes it clear (from metasomal characters) that this in fact is a species close to known species of *Gastrotrypes*. MUKERJEE's figure of the characteristic male antenna makes it clear that we are dealing with the same species (compare MUKERJEE's fig. 15C with my fig. 6). However, in MUKERJEE's description it says "parapsidal furrows present", but the setosity and sculpture along imaginary notaulic courses can sometimes easily make it look that way. Similar to *G. spatulatus* BRUES 1922 and *G. caudatus* BRUES 1922, but female antennae distinctly more slender than in these species. Female metasoma most similar to that of *G. spatulatus*, but punctures of T3-T4 less scattered and T5 even shorter and smoother.

### ***Inostemma srilankense* nov.sp. (fig. 7)**

**M a t e r i a l e x a m i n e d :** Holotype ♀: Sri Lanka, W. Prov., Yakkala, 18 mls NE of Colombo, 13.i.1962.

**D i a g n o s i s .** Female A9 1.2 times as wide as long; horn of T1 short, just surpassing midlength of scutellum; T2 1.25 times as long as wide.

**D e s c r i p t i o n .** ♀. Body length 1.25 mm. Black, antennae dark reddish brown, A1 basally slightly lighter; tegulae dark brown; coxae and most of femora medium brown; trochanters, tibiae, and tarsi except darkened last segment, light yellowish brown.

Head from above 1.75 times as wide as long, slightly wider than mesosoma (19:18), dull, finely but distinctly reticulate-coriaceous, not transversely so except on a triangular area on slightly more than lower half of frons, this area narrowed upwards, transversely sculptured on a more shiny background. Vertex evenly convex. OOL equal to diameter of lateral ocellus. Head in frontal view 1.25 times as wide as high. Antenna (fig. 7) with A1 0.8 times as long as height of head, as long as distance between inner orbits

(measured at midheight of frons); A2 0.25 times as long as A1; A3 0.75 times as long as A2, 1.15 times as long as wide and 1.15 times as long as A4 which is as wide as long; A9 1.2 times as wide as long.

Mesosoma 1.3 times as long as wide, wider than high (18:16). Sides of pronotum distinctly reticulate-coriaceous (not longitudinally so) in about upper half, rest smooth. Mesoscutum finely and uniformly reticulate-coriaceous; notauli distinct, complete and smooth, strongly widened behind, width of one of them at hind margin slightly larger than distance between them here. Mesopleuron mostly smooth, but with longitudinal wrinkles in upper 0.2 and reticulate-coriaceous sculpture in lower third. Scutellum finely sculptured, somewhat hollowed out to accommodate horn.

Fore wing 0.6 times as long as entire body, 2.25 times as long as wide, faintly infuscated, with fine and dense microtrichia; submarginal vein medium brown.

Metasoma (measured without horn) 1.15 times as long as head and mesosoma combined, 0.9 times as wide as mesosoma. Horn of T1 longitudinally reticulate-coriaceous, overreaching posterior 0.6 of scutellum, bluntly rounded apically. T2 1.25 times as long as wide, laterally finely longitudinally striated to half of length, smooth behind. T3-T6 combined 0.7 times as long as T2, faintly leathery and with setae in shallow punctures: about 10 on each of T3 and T6, 14 on each of T4-T5. T6 slightly shorter than its basal width (about 6:7).

**C o m m e n t s .** Similar to *I. matsutama* YOSHIDA & HIRASHIMA 1979 from Japan, but that species has A3 fully 0.9 times as long as A2, A9 longer than wide, T2 not longer than wide, and it is at least 1.5 mm long.

**E t y m o l o g y .** Named after the country with the type locality.

### ***Platygaster bygebjergi* nov.sp. (figs 8-10)**

**M a t e r i a l e x a m i n e d :** Holotype ♀: Sri Lanka, Prov. of Uva, Kalumullanda, 4 mls SW of Welimada, 3.iii.1962, dry meadow, on *Anthyllis*.

**D i a g n o s i s .** Female A9 as long as wide; notauli complete; female metasoma 3 times as long as rest of body, T2 striated in slightly more than anterior half; T3-T6 rather flat and with fine longitudinal sculpture; sternite 2 inconspicuously prolonged below T1.

**D e s c r i p t i o n .** ♀. Body length 2.6 mm. Blackish, metasoma dark brown; A1-A6, mandibles and legs yellowish brown, coxae and femora only slightly darker than rest; tegulae and A7-A10 dark brown.

Head from above twice as wide as long, hardly noticeable wider than mesosoma; occiput in posterior half with a couple of longitudinal crenulae and a few short oblique striae, in anterior half with fine transverse striation, the longest (most anterior) striae about as long as distance between inner orbits, they run very close to a weak hyperoccipital carina; rest of occiput almost smooth (with faint reticulation); vertex almost smooth except for being weakly transversely reticulate-coriaceous laterally; frons only with faint traces of reticulation, just above antennal insertions with a few oblique wrinkles. LOL = 1.1 OOL. Head in frontal view 1.3 times as wide as high. Antenna (fig. 8) with A1 0.9 times as long as height of head, longer than distance between inner orbits (16:15); A9 as long as wide.

Mesosoma 1.5 times as long as wide, 1.1 times as high as wide. Mesoscutum with very few setae, most of them along margins, faintly reticulate, without admedian lines; notauli complete and deep; mid lobe posteriorly blunt, very slightly prolonged to base of scutellum; scuto-scutellar grooves narrow, each with about six short setae. Mesopleuron smooth. Scutellum (fig. 9) evenly and distinctly convex, sparsely setose, faintly reticulate-coriaceous. Metapleuron with pilosity all over, but only densely so along upper and hind margins. Propodeal carinae short, parallel, area between them more than twice as wide as long, smooth and shiny.

Fore wing reaching midlength of T4, clear, with fine and dense microtrichia, about 2.7 times as long as wide; marginal cilia very short. Hind wing 5.9 times as long as wide, with two hamuli; marginal cilia 0.25 width of wing.

Metasoma (fig. 10) three times as long as head and mesosoma combined, hardly 0.9 times as wide as mesosoma. T1 with two strong longitudinal carinae. T2 strongly striated in basal foveae to 0.55 length of tergite, a very narrow area along middle smooth, rest of T2 as well as T3 smooth; T4-T6 with very fine longitudinal sculpture over most of surface and with a few scattered inconspicuous setae in shallow punctures; apical metasomal segments slightly convex, T5 at midlength 1.7 times as wide as high. Sternite 2 shortly prolonged under T1.

**C o m m e n t s .** No similar Oriental species (due to shape of metasoma), but several Palaerctic species come close. But *P. bygebjergi* has less convex apical metasomal segments than *P. umbraculi* (KIEFFER 1916), less elongate A7-A9 and longer metasoma than *P. oblonga* BUHL 2005, and metasoma longer and more striated than in *P. krarupi* BUHL 1995.

**E t y m o l o g y .** Named after Rune BYGEBJERG at MZLU who offered me the material for study.

### ***Platygaster concava* nov.sp. (figs 11-13)**

**M a t e r i a l e x a m i n e d :** Holotype ♀: Sri Lanka, Central Prov., 5 mls SW of Habarana, 11.ii.1962, swept in dry forest. Paratype: 1 ♀ Sri Lanka, Prov. of Uva, Kudu Oya, river 15 mls S of Wellawaya, 22.iii.1962, dry roadside, swept.

**D i a g n o s i s .** Head behind hollowed out, distinctly concave.

**D e s c r i p t i o n .** ♀. Body length 1.0-1.2 mm. Dark brown (head darkest) with A1-A3 and legs including fore and mid coxae pale brownish yellow, A4-A10 and hind coxae medium brown.

Head from above 1.8 times as wide as long, fully 1.25 times as wide as mesosoma (23:18), finely but distinctly reticulate-coriaceous, on occiput and vertex hardly transversely so, on frons transversely so, more or less obliquely along inner orbits, smoother medially, just above antennal insertions transversely reticulate-coriaceous; hyperoccipital carina absent; occiput in hind part with a strong concavity medially, vertex produced over the eyes. OOL = 1.2 OOL. Head in frontal view (fig. 11) 1.2 times as wide as high. Antenna with A1 0.7 times as long as height of head, very slightly shorter than distance between inner orbits; A3-A4 combined 1.15 times as long as A2; A7-A10 forming a weak clava, each about 1.2 times as wide as A6; A8-A9 each as long as wide.

Mesosoma 1.4 times as long as wide, 1.2 times as high as wide. Sides of pronotum slightly longitudinally reticulate-coriaceous, smooth along narrow hind margin. Mesoscutum with a few scattered setae, reticulate-coriaceous, smooth medially on lateral lobes and just in front of scutellum; notauli weakly indicated in at most posterior half, strongly converging, mid lobe just reaching scutellum in a rather fine point; scuto-scutellar grooves wide, each with about four long setae. Mesopleuron smooth. Scutellum (fig. 12) distinctly and evenly convex, smooth, sparsely setose. Metapleuron with sparse pilosity all over. Propodeal carinae short, slightly diverging; much transverse area between them smooth and shiny.

Fore wing 0.75 times as long as entire body, 2.4 times as long as wide, almost clear, with fine and moderately dense microtrichia; marginal cilia very short. Hind wing 5.2 times as long as wide, with two hamuli; marginal cilia one-third the width of wing.

Metasoma (fig. 13) 0.75-0.80 times as long as head and mesosoma combined, 0.9 times as wide as mesosoma. T1 with six longitudinal carinae. T2 striated in basal foveae to about 0.6 of length of tergite, medially smooth. T3-T5 smooth except for deep punctures: 4 on T3, 10 on T4, 12 on T5. T6 dull reticulate-coriaceous and with inconspicuous punctures.

**C o m m e n t s .** The very characteristic concavity on occiput is much stronger than on the figure of head in frontal view when the head is seen obliquely from above. Because of this character this species can not be confused with any other Oriental species of *Platygaster*.

**E t y m o l o g y .** The name refers to the characteristically concave occiput.

### ***Platygaster harasbeddensis* nov.sp. (figs 14-16)**

**M a t e r i a l e x a m i n e d :** Holotype ♀: Sri Lanka, Central Prov., Harasbedda, 9 mls NE of Nuwara-Eliya, 15.iii.1962.

**D i a g n o s i s .** A middle-sized species with head more than twice as wide as long, distinctly striated occiput, frons weakly reticulate-striate laterally; female A9 1.1 times as long as wide; notauli present in posterior two-thirds; scutellum distinctly above level of mesoscutum; female metasoma as long as rest of body, T2 striated from basal foveae to half of length, medially with very short striation.

**D e s c r i p t i o n .** ♀. Body length 1.3 mm. Blackish with dark brown metasoma; antennae and legs including coxae dark brown; A2-A3, base and apex of fore tibiae, basal half of mid and hind tibiae, and segments 1-4 of tarsi more or less light brown.

Head from above (fig. 14) 2.2 times as wide as long, 1.15 times as wide as mesosoma; occiput finely but distinctly half-circularly striated all over, slightly angled anteriorly but without a hyperoccipital carina; vertex distinctly transversely striated between ocelli; OOL only with a single transverse line, otherwise finely reticulate-coriaceous; frons with a longitudinal medial impression, smooth in medial 0.3, towards sides weakly, obliquely reticulate-striate. OOL = 1.2 LOL. Head in frontal view 1.3 times as wide as high. Antenna (fig. 15) with A1 0.85 times as long as height of head, as long as distance between inner orbits; A9 1.1 times as long as wide.



Mesosoma 1.45 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 setae along notauli, anteriorly of these and along margins, otherwise bare, disc finely reticulate-coriaceous, smoother medially on lateral lobes and on hind 0.25 on mid lobe; notauli distinct in posterior two-thirds, missing in anterior third; mid lobe posteriorly blunt, slightly prolonged to base of scutellum; scuto-scutellar grooves each with six long setae. Mesopleuron smooth. Scutellum (fig. 16) distinctly and almost evenly convex, posteriorly inconspicuously cut off, along middle smooth and almost bare, towards sides finely reticulate-coriaceous and moderately densely setose. Metapleuron with pilosity all over. Propodeal carinae parallel, transverse area between them smooth and shiny.

Fore wing 0.8 times as long as entire body, 2.25 times as long as wide, slightly infuscated, with fine and dense microtrichia; marginal cilia very short. Hind wing 4.8 times as long as wide, with two hamuli; marginal cilia 0.25 width of wing.

Metasoma 2.2 times as long as wide, as long as head and mesosoma combined, 0.85 times as wide as mesosoma. T1 slightly wider than long (9:8), with nine longitudinal carinae. T2 1.1 times as long as wide, striated from basal foveae to about half of length, medially with a couple of crenulae to 0.1 of length, rest of T2 smooth except for weak microsculpture along narrow hind margin. T3-T6 combined 0.65 times as long as T2, weakly reticulate-coriaceous; T3-T5 each with a transverse row of 14 deep punctures; T6 1.8 times as wide as long, with ten shallow punctures near margins.

**C o m m e n t s .** Runs to *P. foersteri* (GAHAN 1919) in BUHL'S (2008) key to Oriental species of *Platygaster*, but that species has OOL shorter than ocellar diameter and notauli complete. *P. harasbeddensis* is rather similar to *P. convexissima* BUHL 2009 but with wider head, slightly more slender antennae, wider mid lobe of mesoscutum, less setose scuto-scutellar grooves, and stronger and more numerous punctures on T3-T5.

**E t y m o l o g y .** The name refers to the holotype locality.

### ***Platygaster joergenseni* nov.sp. (figs 17-19)**

**M a t e r i a l e x a m i n e d :** Holotype ♀: Sri Lanka, Sabaragamuwa Prov., Bulutota Pass, 2 mls SE of Rakwana, 28.ii.1962, swept on dry grassland.

**D i a g n o s i s .** A middle-sized species with head more than twice as wide as long, rather strongly striated occiput, frons weakly reticulate-striate; female A9 1.85 times as long as wide; notauli present in posterior half; scutellum slightly above level of mesoscutum; female metasoma 0.9 times as long as rest of body, T2 striated from basal foveae to fully 0.6 of length, medially to 0.25 of length.

**D e s c r i p t i o n .** ♀. Body length 1.3 mm. Blackish, metasoma with brownish tint; A1-A3, trochanters, tibiae and tarsi (except last segment) light brownish yellow; A4-A5, mandibles, tegulae, coxae and femora slightly darker, light reddish brown.

Head from above (fig. 17) 2.25 times as wide as long, 1.15 times as wide as mesosoma, without hyperoccipital carina; occiput rather strongly half-circularly striated all over; vertex transversely striated posteriorly to POL, rest finely reticulate-coriaceous (not transversely so); frons finely, obliquely reticulate-striate out from a smooth longitudinal midline, just above antennal insertions finely transversely striated. OOL = LOL. Head in frontal view 1.25 times as wide as high. Antenna (fig. 18) with A1 0.9 times as long as



height of head, 1.15 times as long as distance between inner orbits; A9 1.85 times as long as wide.

Mesosoma 1.35 times as long as wide, 1.1 times as high as wide. Sides of pronotum finely longitudinally reticulate-coriaceous, smoother only along narrow margins. Mesoscutum with rather few setae, nearly all of them just inside tegulae and around anterior half of imaginary notaulic courses, disc finely reticulate-coriaceous all over; notauli clearly indicated in posterior half, missing in anterior half; mid lobe posteriorly blunt, slightly prolonged to base of scutellum; scuto-scutellar grooves each with about seven moderately long setae. Mesopleuron smooth except for a couple of short longitudinal wrinkles in upper hind corner. Scutellum (fig. 19) evenly convex, sparsely setose, smooth medially, towards sides weakly leathery. Metapleuron with pilosity all over. Propodeal carinae parallel, area between them slightly transverse.

Fore wing 0.75 times as long as entire body, 2.3 times as long as wide, clear, with fine and dense microtrichia; marginal cilia very short. Hind wing 4.5 times as long as wide, with two hamuli; marginal cilia 0.18 width of wing.

Metasoma 1.8 times as long as wide, 0.9 times as long as head and mesosoma combined, 0.9 times as wide as mesosoma. T1 about twice as wide as long, with five longitudinal furrows on central area, excavated on each side. T2 slightly longer than wide (21:20), striated in basal foveae to slightly more than 0.6 of length of tergite, medially to 0.25 of length. T3-T6 combined half as long as T2, smooth, with fine setae in shallow punctures: six on T3, eight on T4, ten on T5; T6 2.7 times as wide as long

**C o m m e n t s .** Similar to *P. flavifemorata* BUHL & CHOI 2006 from S. Korea, but that species has head less transverse, A9 twice as long as wide, mesosoma smoother, propodeal carinae slightly diverging and area between them about as long as wide, metasoma as long as rest of body, T2 striated in basal foveae only (to 0.4 of length), and legs uniformly pale yellowish.

**E t y m o l o g y .** Named in honor of Professor Jørgen JØRGENSEN (Holte, Denmark), the pre-eminent Danish gall midge researcher, to commemorate his 95th birthday.

### ***Platygaster pilosiscutellata* nov.sp. (figs 20-22)**

**M a t e r i a l e x a m i n e d :** Holotype ♀: Sri Lanka, W. Prov., Labugama, 24 mls ESE of Colombo, 21.i.1962. Paratypes: 1 ♀ W. Prov., Yakkala, 18 mls NE of Colombo, 16.i.1962, swept on herbs; 1 ♀ Sri Lanka, Sabaragamuwa Prov., Bopathella Falls 9 mls NNW of Ratnapura, 19.ii.1962.

**D i a g n o s i s .** A rather small species with head fully twice as wide as long, distinctly striated occiput, frons weakly reticulate-coriaceous; female A9 1.5 times as long as wide; notauli absent; scutellum hardly above level of mesoscutum, contrastingly strongly pilose; female metasoma 0.8-0.9 times as long as rest of body, T2 without striation.

**D e s c r i p t i o n .** ♀. Body length 0.85-1.0 mm. Body and A4-A10 medium brown; A1-A3, mandibles, tegulae and legs including coxae pale brownish yellow.

Head from above (fig. 20) 2.05 times as wide as long, 1.25 times as wide as mesosoma, without hyperoccipital carina; occiput finely but distinctly half-circularly striated all over; vertex medially with very faint transverse microsculpture, laterally finely reticulate-coriaceous (not transversely so); frons in upper half smooth, in lower half

finely transversely striated. OOL = 1.2 LOL. Head in frontal view 1.3 times as wide as high. Antenna (fig. 21) with A1 hardly noticeable shorter than height of head, 1.1 times as long as distance between inner orbits; A9 1.5 times as long as wide.

Mesosoma 1.4 times as long as wide, very slightly higher than wide (about 16:15). Sides of pronotum smooth except for faint rugosity in upper anterior corner, but with scattered setae in upper as well as in lower half. Mesoscutum with very few setae, towards sides finely reticulate-coriaceous, smooth along medial 0.3 of width, without notauli; hind margin hardly prolonged medially, at each side with 5-6 white setae over each narrow scuto-scutellar groove. Mesopleuron smooth. Scutellum (fig. 22) evenly but weakly convex, faintly coriaceous, rather evenly and densely covered by conspicuous whitish pilosity. Metapleuron slightly dull, with moderately dense pilosity all over (similar to that on scutellum). Propodeal carinae parallel, transverse area between them smooth.

Fore wing 0.8 times as long as entire body, 2.8 times as long as wide, almost clear, with fine and dense microtrichia; marginal cilia short. Hind wing with two hamuli; marginal cilia 0.4 width of wing.

Metasoma 0.8-0.9 times as long as head and mesosoma combined, 0.95 times as wide as mesosoma. T1 1.6 times as wide as long, with a transverse impression a little anteriorly to midlength and with three rather weak longitudinal carinae. T2 as wide as long, slightly more than twice as long as T3-T6 combined (15:7), with two smooth basal foveae reaching to almost 0.25 length of tergite, between them with a couple of crenulae reaching 0.1 length of tergite. T3-T5 smooth, each with 6-8 setae inserted in shallow punctures; T6 twice as wide as long, with faint microsculpture.

**C o m m e n t s .** A characteristic species on account of strong pilosity on scutellum. It runs to couplet 10 in BUHL'S (2008) key to Oriental *Platyaster*, but it has distinctly longer A9 than the species mentioned there.

**E t y m o l o g y .** The name refers to the unusually strong and contrasting pilosity of scutellum.

### ***Synopeas anderssonianum* nov.sp. (figs 23-25)**

**M a t e r i a l e x a m i n e d :** Holotype ♀: Sri Lanka, W. Prov., Yongamulla 3 mls E of Yakkala, 18 mls NE of Colombo, 19.i.1962. Paratypes: 1♂ Sri Lanka, Sabaragamuwa Prov., stream at 2500 ft, 5 mls NNW of Balangoda, 22.ii.1962, swept; 1♀ Sri Lanka, Central Prov., Menickwalla Ela, 4 mls NW of Hatton, 18.iii.1962, ravine with small stream.

**D i a g n o s i s .** Body length at most 1 mm; head twice as wide as long, with a strong and complete hyperoccipital carina, female A9 1.25-1.4 times as wide as long; scutellar spine strong, fully as long as propodeum; fore wing 2.5 times as long as wide, with marginal cilia 0.08 width of wing; female metasoma 0.85 times as long as rest of body, 1.4 times as wide as high.

**D e s c r i p t i o n .** ♀. Body length 0.85-0.95 mm. Black, A1-A4 and legs light brownish yellow; A5-A6, apical 0.4 of hind tibiae and last segment of all tarsi slightly darker; A7-A10, mandibles, tegulae and coxae more or less dark brown.

Head from above (fig. 23) twice as wide as long, wider than mesosoma (16:15), finely reticulate-coriaceous, slightly more distinctly so on occiput than on vertex and frons, only medially on vertex with slightly transverse elements; hyperoccipital carina strong

and complete. OOL shorter than diameter of lateral ocellus; LOL = 3.5 OOL. Head in frontal view wider than high (16:14). Antennae (fig. 24) with A1 0.9 times as long as height of head, 1.2 times as long as distance between inner orbits; A9 1.25-1.4 times as wide as long.

Mesosoma 1.5 times as long as wide, 1.15 times as high as wide. Sides of pronotum weakly reticulate-coriaceous (not longitudinally so), smooth in slightly more than lower half and along hind margin. Mesoscutum evenly and moderately densely setose, finely and almost uniformly reticulate-coriaceous, without notauli; hind margin medially with a distinct, smooth, slightly transverse prolongation to base of scutellum; scuto-scutellar grooves each with 7-8 long setae. Mesopleuron smooth. Scutellum (fig. 25) slightly smoother and denser setose than mesoscutum, with a strong, light brown spine which is as long as propodeal carinae, below its base with a narrow vertical lamella. Metapleuron smooth and bare in about anterior half, rest with rather dense white pilosity. Propodeal carinae moderately high, light brown translucent, fused.

Fore wing 0.9 times as long as entire body, 2.5 times as long as wide, slightly infuscated, with fine and dense microtrichia in apical two-thirds; marginal cilia at their longest 0.08 width of wing. Hind wing 7.2 times as long as wide; marginal cilia two-thirds the width of wing.

Metasoma 1.65 times as long as wide, 0.85 times as long as head and mesosoma combined, longer than mesosoma (24:22), very slightly narrower than this, 1.4 times as wide as high. Basal pubescence of metasoma reaching 0.35 length of T1-T2 combined. T2 smooth, without carinae on junction between T1-T2. T3-T6 combined 0.4 as long as T1-T2 combined; T3-T5 each with a transverse stripe of microsculpture; T6 2.5 times as wide as long, reticulate-coriaceous all over; apical tergites with a few inconspicuous setae.

♂. Body length 1.0 mm. A3-A4 combined very slightly longer than A2; A4 feebly widened, twice as long as A3, nearly twice as long as A5; clava 4-segmented, A9 as long as wide; flagellar pubescence very short. Metasoma shorter than mesosoma (25:27).

**C o m m e n t s .** The male and female paratypes both have scutellar spine slightly upturned apically and sculpture above antennal insertions slightly transverse, and the female paratype has A9 slightly more transverse than in the holotype. *S. anderssonianum* runs to couplet 27 in BUHL'S (2008) key to Oriental species of *Synopeas*. It is most similar to *S. pellucidum* BUHL, O'CONNOR & ASHE 2009 from Sulawesi, but that species has head only 1.7 times as wide as long, female antennae slightly less slender, and scutellar spine thinner and paler than in *S. anderssonianum*. *S. srilankense* BUHL 2003 has head only 1.7 times as wide as long, mesosoma 1.3 times as long as wide, scutellar spine distinctly shorter than in *S. anderssonianum*, and metasoma 1.2 times as wide as high.

**E t y m o l o g y .** Named after one of the collectors.

### ***Synopeas brincki* nov.sp. (figs 26-29)**

**M a t e r i a l e x a m i n e d :** Holotype ♀: Sri Lanka, Sabaragamuwa Prov., Deerwood, Kuruwita, 6 mls NNW of Ratnapura, 18-21.ii.1962, ravine with stream. Paratype: 1♂ same data as holotype.

**D i a g n o s i s .** Body length slightly more than 1 mm; head 1.8 times as wide as long, with a strong and complete hyperoccipital carina, female A4 slightly longer than A5, A9 1.2 times as wide as long; scutellum at level of mesoscutum, spine strong, reaching base of T2; fore wing 2.4 times as long as wide, without marginal cilia; female metasoma hardly longer than mesosoma, 1.3 times as wide as high.

**D e s c r i p t i o n .** ♀. Body length 1.3 mm. Black; A1-A6, trochanters, tibiae and tarsi light brown, hind tibiae slightly darkened in apical 0.6; A7-10, coxae and femora dark brown.

Head from above (fig. 26) 1.8 times as wide as long, wider than mesosoma (25:22), dull; occiput and vertex finely reticulate-coriaceous (not transversely so); hyperoccipital carina strong and complete; vertex with a fine longitudinal carina from hyperoccipital carina to anterior ocellus; frons slightly roughened, irregularly reticulate-coriaceous. OOL = LOL. Head in frontal view 1.25 times as wide as high. Antenna (fig. 27) with A1 0.8 times as long as height of head, longer than distance between inner orbits (16:15); A9 1.2 times as wide as long.

Mesosoma 1.5 times as long as wide, 1.1 times as high as wide. Sides of pronotum reticulate-coriaceous (not longitudinally so) in upper half of slightly less than anterior half, rest smooth. Mesoscutum with short and sparsely scattered setae, distinctly and uniformly reticulate-coriaceous; notauli distinct, fading out shortly before reaching anterior margin, behind meeting in a fine point which is slightly prolonged, almost reaching base of scutellum; scuto-scutellar grooves large, each with 5-6 short setae. Mesopleuron smooth. Scutellum (fig. 28) sculptured much as mesoscutum, towards sides moderately densely setose, with a strong dark spine reaching base of T2, without lamella. Metapleuron smooth and bare in most of anterior half, rest with dense whitish pilosity. Propodeal carinae slightly translucent, diverging in posterior 0.4.

Fore wing almost clear, 0.8 times as long as entire body, 2.4 times as long as wide, with moderately fine and moderately dense microtrichia; marginal cilia absent. Hind wing 6.0 times as long as wide; marginal cilia 0.4 width of wing.

Metasoma (fig. 29) 0.75 times as long as head and mesosoma combined, hardly noticeable longer than mesosoma, 0.85 times as wide as this, 1.3 times as wide as high. T2 micropunctate along hind margin, towards sides in posterior 0.45; T3-T6 roughly micropunctate all over.

♂. Body length 1.25 mm. A1-A2 light brown, A3-A10 dark brown. Antennae non-clavate; A4 triangularly widened on inner side around midlength, as long as A2, 1.2 times as long as A5; A6-A9 each about twice as long as wide; flagellar pubescence sparse, slightly shorter than width of segments. Metasoma 0.9 times as long as mesosoma.

**C o m m e n t s .** In BUHL'S (2008) key this species runs to *S. obesum* BUHL 2001, but that species has a much smaller tooth on scutellum (and slightly less slender female antennae) than *S. brincki*.

**E t y m o l o g y .** Named after one of the collectors.

***Synopeas bygebjergi* nov.sp. (figs 30-32)**

**M a t e r i a l e x a m i n e d :** Holotype ♂: Sri Lanka, Central Prov., Horton Plains, altitude 7000 ft, 12 mls SSE of Nuwara-Eliya, 19.iii.1962, swept at edge of jungle. Paratype: 1♂ same data as holotype.

**D i a g n o s i s .** Body length slightly more than 1 mm; head twice as wide as long, with a sharp and complete hyperoccipital carina, male A4 triangularly widened, A9 1.25 times as long as wide; notauli faintly indicated in posterior 0.4, scutellum at level of mesoscutum, spine dark, without lamella, nearly half as long as the high propodeal carinae; fore wing 2.9 times as long as wide, marginal cilia 0.16 width of wing; male metasoma longer than mesosoma but shorter than head and mesosoma combined.

**D e s c r i p t i o n .** ♂. Body length 1.05-1.50 mm. Black; A1, trochanters, tibiae and tarsi (except last segment) light brownish, hind tibiae slightly darkened in apical half; A2-A10, mandibles, coxae and femora dark brown.

Head from above (fig. 30) twice as wide as long, as wide as mesosoma, with a sharp and complete hyperoccipital carina, finely reticulate-coriaceous, on occiput very slightly transversely so, on lower third of frons slightly transversely so. OOL slightly shorter than diameter of lateral ocellus. Head in frontal view 1.15 times as wide as high. Antenna (fig. 31) with A1 very slightly longer than height of head, 1.5 times as long as distance between inner orbits; A9 1.25 times as long as wide; flagellum only with scattered setae which are between 0.5-1.0 width of segments.

Mesosoma 1.55 times as long as wide, 1.15 times as high as wide. Sides of pronotum faintly reticulate-coriaceous (not longitudinally so) in slightly more than upper half and anterior half, rest smooth. Mesoscutum with a few scattered setae, most of them laterally; disc finely reticulate-coriaceous, mid lobe smooth in posterior half; notauli faintly indicated in posterior 0.4, mid lobe distinctly pointed to base of scutellum, prolongation about 1.25 times as wide as long; scuto-scutellar grooves wide, with numerous long whitish setae. Mesopleuron smooth. Scutellum (fig. 32) along middle smooth and bare, towards sides rather densely setose and weakly coriaceous; spine dark brown, without lamella, slightly upwards directed, 0.4 times as long as propodeal carinae. Metapleuron smooth and bare in anterior 0.55, pilosity dense only along upper and hind margins. Propodeal carinae high, translucent, fused.

Fore wing 1.05 times as long as entire body, 2.9 times as long as wide, slightly infuscated, with fine and dense microtrichia; marginal cilia 0.16 width of wing. Hind wing 6.3 times as long as wide; marginal cilia 0.45 width of wing.

Metasoma 2.0-2.3 times as long as wide, 0.85 times as long as head and mesosoma combined, from slightly longer than mesosoma (29:27) to almost as long as head and mesosoma combined (44:45), 0.85 as wide as mesosoma, 1.3 times as wide as high. Mid area of T1 with three longitudinal carinae continuing on junction T1-T2, rest of T2 smooth; T2 longer than wide (17:15). T3-T7 combined slightly less than half as long as T2 (8:17), with dull microsculpture.

**C o m m e n t s .** The larger paratype has entire scutellar profile in lateral view more oblique than in holotype, and with scutellar spine slightly stronger. *S. bygebjergi* is somewhat similar to *S. transluceum* BUHL 2009 from Vietnam, but that species is smaller (at most 0.9 mm in male), it has A4 less angular, scutellum translucent behind, and male metasoma only 0.9 times as long as mesosoma. Because the key of BUHL (2008) is only

intended for females, *S. bygebjergi* is hard to fit in, but it can only run to *S. ciliare* BUHL 2008 which is a distinctly smaller species without notauli, with longer marginal cilia of wings, and scutellum pale behind, with a lamella.

E t y m o l o g y . Named after Rune BYGEBJERG at MZLU who offered me the material for study.

### ***Synopeas sheldrakei* nov.sp. (figs 33-34)**

M a t e r i a l e x a m i n e d : Holotype ♀: Sri Lanka, E. Prov., Gal Oya, altitude 300 ft, 14 mls E of Bibile, 8.iii.1962, on grass and plants in a primeval forest.

D i a g n o s i s . Head with a strong and complete hyperoccipital carina; female A4 slightly longer than A5, A9 1.4 times as wide as long; scutellum much below level of mesoscutum, profile of scutellar disc slightly angled in lateral view, spine more than half as long as propodeum; fore wing without marginal cilia; female metasoma as long as rest of body, 1.2 times as wide as high; T6 1.8 times as wide as long.

D e s c r i p t i o n . ♀. Body length 1.1 mm. Head black, meso- and metasoma dark brown; A1-A6 and legs yellowish brown, A7-A10 medium brown; mandibles, tegulae and coxae dark brownish.

Head from above (fig. 33) 2.2 times as wide as long, fully 1.15 times as wide as mesosoma, finely and uniformly reticulate-coriaceous (not transversely so), only with a few weak transverse elements just behind anterior ocellus and around antennal insertions; hyperoccipital carina strong and complete. LOL = 2 OOL. Head in frontal view 1.25 times as wide as high. Antenna with A1 0.8 times as long as height of head, longer than distance between inner orbits (14:13); A3-A4 combined slightly more than 1.1 times as long as A2; A4 about 1.25 times as long as each of A3 and A5; clava 4-segmented, A9 1.4 times as wide as long.

Mesosoma 1.4 times as long as wide, 1.2 times as high as wide. Sides of pronotum finely reticulate-coriaceous (not longitudinally so), smooth in lower 0.4 and along hind margin. Mesoscutum evenly and rather densely setose, weakly and uniformly reticulate-coriaceous, without notauli; hind margin light brownish, medially with a smooth, rounded prolongation, at each side with numerous long setae. Mesopleuron smooth except for a couple of very weak wrinkles just below tegula. Scutellum (fig. 34) much below level of mesoscutum, almost smooth and bare medially, toward sides densely pubescent, posteriorly with a distinct light brownish spine with a very narrow vertical lamella below. Metapleuron smooth and bare in anterior third and in upper and lower 0.25, pilosity dense only at hind margin. Propodeal carinae translucent, very close together.

Fore wing 0.85 times as long as entire body, 2.55 times as long as wide, almost clear, with fine and dense microtrichia; marginal cilia absent. Hind wing 5.45 times as long as wide; marginal cilia 0.4 width of wing.

Metasoma 1.9 times as long as wide, as long as head and mesosoma combined, very slightly narrower than mesosoma, 1.2 times as wide as high. Basal pubescence of metasoma reaching fully 0.3 length of T1-T2 combined. T2 smooth except for faint microsculpture along narrow hind margin. T3-T6 combined 0.45 times as long as T1-T2 combined, with distinct microsculpture; T6 1.8 times as wide as long.

**C o m m e n t s .** Generally similar to North Indian *S. bouceki* BUHL 2007 which is evidently a "sister species", but that species has head only 1.9 times as wide as long, LOL = 1.25 OOL, hyperoccipital carina weak, A4 fully 1.5 times as long as A3, and female metasoma about 2.3 times as long as wide, only 1.1 times as wide as high, with basal pubescence of metasoma reaching only 0.2 length of T1-T2 combined, and with T6 as long as wide. *S. sheldrakei* runs to *S. balabacense* BUHL 1997 in BUHL'S (2008) key, but that species has scutellum at level of mesoscutum, without spine. *S. sheldrakei* is moderately similar to Palaearctic *S. gibberosum* BUHL 1997 but that species has head only 1.75 times as wide as long, not wider than mesosoma, A9 slightly elongate, scutellar spine straight, continuing profile of scutellar disc, and metasoma only 1.1 times as long as mesosoma.

**E t y m o l o g y .** Named after the eminent biologist Dr. Rupert SHELDRAKE (Oxford).

### ***Synopeas veenakumarü nov.sp. (figs 35-38)***

**M a t e r i a l e x a m i n e d :** Holotype ♀: Sri Lanka, Central Prov., foothills of Knuckle Mountains, 10 mls ENE of Kandy, 11.iii.1962, swept over stream.

**D i a g n o s i s .** Head twice as wide as long, with a strong hyperoccipital carina; female A3-A4 small, equal, hardly longer than wide, each only one-third as long as A5, A9 as long as wide; scutellar spine as long as propodeum; female metasoma almost twice as long as wide, 0.85 times as long as rest of body.

**D e s c r i p t i o n .** ♀. Body length 0.95 mm. Head blackish brown, meso- and metasoma dark brown; A1-A4 and legs light yellowish brown, apical half of hind tibiae slightly darker; A5-A10, mandibles and coxae medium reddish brown.

Head from above (fig. 35) twice as wide as long, fully 1.2 times as wide as mesosoma, rather uniformly, strongly or slightly roughened reticulate-coriaceous (not transversely so); hyperoccipital carina strong and complete. LOL = 2 OOL. Head in frontal view 1.2 times as wide as high. Antenna (fig. 36) with A1 0.9 times as long as height of head, 1.15 times as long as distance between inner orbits; A9 as long as wide.

Mesosoma 1.6 times as long as wide, 1.15 times as high as wide. Sides of pronotum weakly reticulate-coriaceous (not longitudinally so) in slightly more than upper half, smooth below. Mesoscutum almost uniformly and moderately densely setose, finely and uniformly reticulate-coriaceous; notauli absent; hind margin light brownish, high above scutellum, with a roundish, almost smooth short prolongation medially, at each side with dense whitish setae. Mesopleuron smooth. Scutellum (fig. 37) along middle smooth and bare, towards sides rather densely setose; spine light brown, as long as propodeal carinae, without lamella. Metapleuron smooth, bare in anterior half, with sparse pilosity in posterior half. Propodeal carinae low, translucent, very slightly separated.

Fore wing hardly 0.9 times as long as entire body, 2.45 times as long as wide, almost clear, with fine and dense microtrichia; marginal cilia absent. Hind wing 5.9 times as long as wide; marginal cilia one-third the width of wing.

Metasoma (fig. 38) fully 1.9 times as long as wide, 0.85 times as long as head and mesosoma combined, 0.95 times as wide as mesosoma, 1.35 times as wide as high. T1-T2 smooth, T3-T6 finely reticulate-coriaceous and with very few, inconspicuous setae.



**C o m m e n t s .** Rather similar to *S. asiaticum* (USHAKUMARI & NARENDRAN 2007) in aberrant antennal structure, but that species has head more transverse, POL longer relative to OOL, A3-A4 and preapical antennal segments more slender, and scutellar tooth and metasoma shorter than in *S. veenakumarii*.

**E t y m o l o g y .** Named after the esteemed Indian hymenopterist K. VEENAKUMARI (National Bureau of Agriculturally Important Insects, Hebbal, Bangalore).

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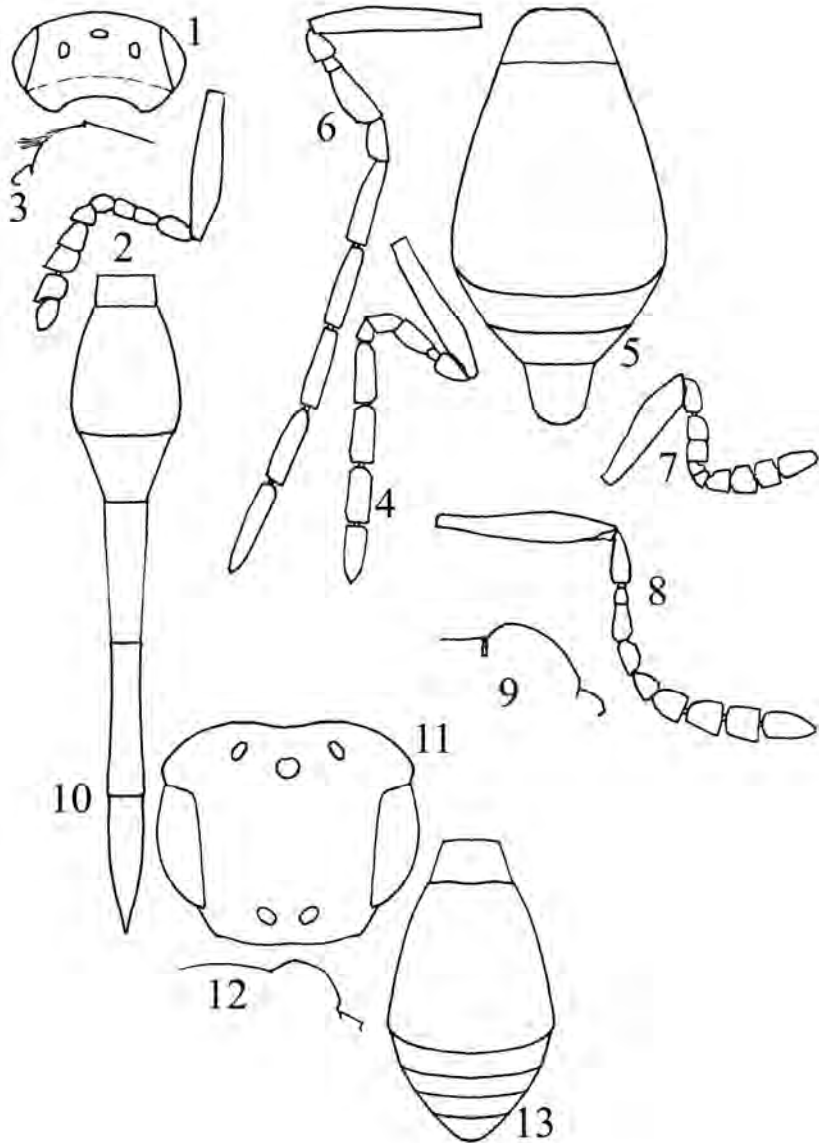
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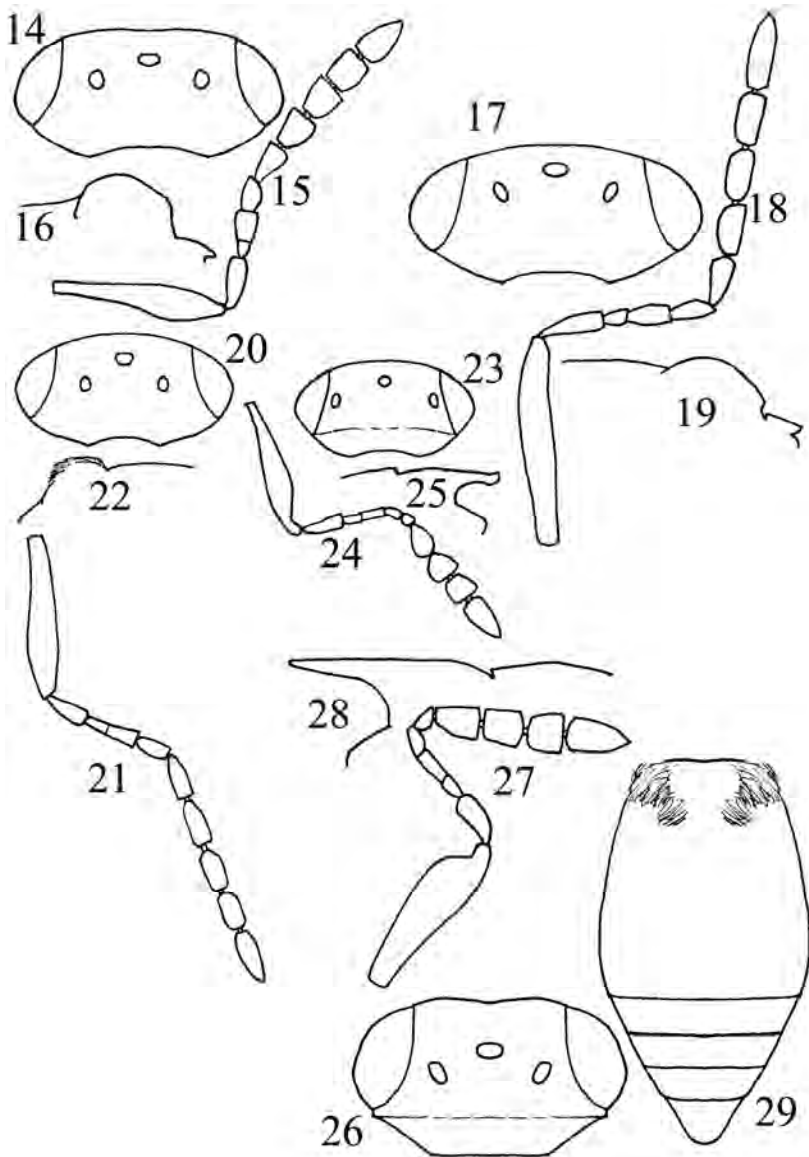
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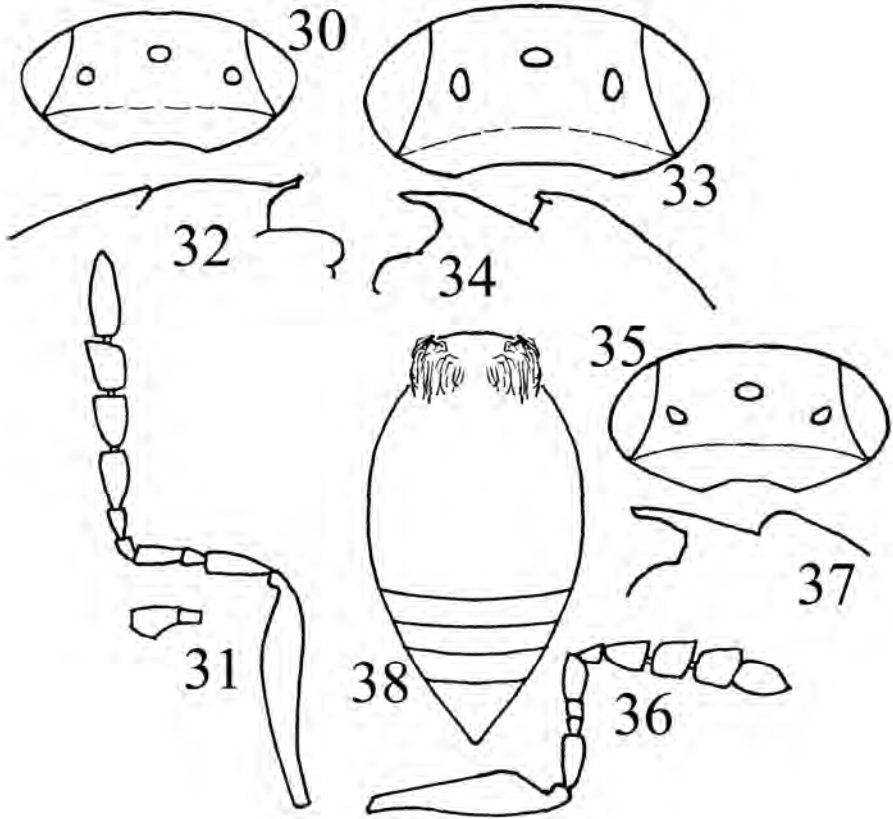
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**Figs 1-3:** *Amblyaspis cederholmi* nov.sp. ♀: (1) head, (2) antenna, (3) metasoma. **Figs 4-6:** *Gastrotrypes vindhyensis* (MUKERJEE): (4) ♀-antenna, (5) ♀-metasoma, (6) ♂-antenna. **Fig. 7:** *Inostemma srilankense* nov.sp. ♀-antenna. **Figs 8-10:** *Platygaster bygebjergi* nov.sp. ♀: (8) antenna, (9) scutellum, (10) metasoma. **Figs 11-13:** *Platygaster concava* nov.sp. ♀: (11) head, (12) scutellum, (13) metasoma.



**Figs 14-16:** *Platygaster harasbeddensis* nov.sp. ♀: (14) head, (15) antenna, (16) scutellum. **Figs 17-19:** *Platygaster joergenseni* nov.sp. ♀: (17) head, (18) antenna, (19) scutellum. **Figs 20-22:** *Platygaster pilosiscutellata* nov.sp. ♀: (20) head, (21) antenna, (22) scutellum. **Figs 23-25:** *Synopeas anderssonianum* nov.sp. ♀: (23) head, (24) antenna, (25) scutellum. **Figs 26-29:** *Synopeas brincki* nov.sp. ♀: (26) head, (27) antenna, (28) scutellum, (29) metasoma.



**Figs 30-32:** *Synopeas bygebjergi* nov.sp. ♂: (30) head, (31) antenna (A3-A4 also from another angle), (32) scutellum. **Figs 33-34:** *Synopeas sheldraeki* nov.sp. ♀: (33) head, (34) scutellum. **Figs 35-38:** *Synopeas veenakumarii* nov.sp. ♀: (35) head, (36) antenna, (37) scutellum, (38) metasoma.

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## Buchbesprechung

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Fossilien belegen die Existenz von Bäumen und holzassoziierten Organismen seit nahezu 400 Millionen Jahren und man geht heute von über einer halben Million holzbewohnender Arten weltweit aus. In den letzten Jahrzehnten wurde vermehrt ein Augenmerk auf die Bedeutung von Totholz und sich zersetzenden Bäumen bezüglich der Biodiversität gerichtet. Auch wenn die Inhalte dieses Buches primär global ausgelegt sein sollten, muss doch ein starker Fokus auf die nordeuropäische Situation festgestellt werden. Vieles in diesem Band dreht sich um Pilze und Insekten, so dass man auch sagen könnte, dass dieses Buch eine "Mykologie für Entomologen" oder eine "Entomologie für Mykologen" darstellt. Neben einer sehr kurzen Einführung, die das Konzept der xylobionten Arten definiert, hängen die 16 weiteren Kapitel über die unterschiedlichen Aspekte der Biodiversität (Funktion, Struktur, Zusammensetzung sowie Naturschutz und Management) zusammen: "Wood decomposition", "The saproxylic food web", "Other associations with dead woody material", "Host-tree associations", "Mortality factors and decay succession", "Microhabitats", "Tree size", "The surrounding environment", "Evolution of saproxylic organism", "Species diversity of saproxylic organisms", "Natural forest dynamics", "Dead wood and sustainable forest management", "Population dynamics and evolutionary strategies", "Threatened saproxylic species", "Dead wood in agricultural and urban habitats" und "The value and future of saproxylic diversity" sind die einzelnen Themen.

Somit wird zum ersten Mal eine Synthese aus der Naturgeschichte holzbewohnender Organismen und die für sie notwendigen Schutzmaßnahmen dargestellt. Es wird die funktionelle Diversität dieser Organismen und ihre spezifischen Habitatansprüche in Bezug auf Wirtsbäume, Zersetzungsgrad, Baumdimension, Mikrohabitate und die umgebende Umwelt beschrieben. Aber auch die aus Holzwirtschaft und Waldmanagement resultierenden Gefahren werden aufgezeigt.

Eine hervorragende Zusammenfassung für Biologen, vornehmlich mit Schwerpunkt Waldökologie und Biodiversität, aber ebenso wichtig und interessant für Forstwirte und -manager sowie für das Naturschutzmanagement.

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