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Four new species of Platygastrinae
(Hymenoptera, Platygastridae)

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Abstract

Four new species, viz. *Leptacis equatoriana* **sp. nov.** (female) from Uganda, *L. neotropica* **sp. nov.** (female) from the West Indies, *Trichacis vitreus* **sp. nov.** (female) from Greece, and *T. nosferatus* **sp. nov.** (female) from Norway are described. The work is illustrated by 16 text-figures.

Zusammenfassung

Vier neue Arten, *Leptacis equatoriana* **sp. nov.** (Weibchen) aus Uganda, *L. neotropica* **sp. nov.** (Weibchen) aus Westindien, *Trichacis vitreus* **sp. nov.** (Weibchen) aus Griechenland, und *T. nosferatus* **sp. nov.** (Weibchen) aus Norwegen werden beschrieben. Die Arbeit ist mit 16 Abbildungen versehen.

Leptacis equatoriana sp. nov. (figs. 1 - 4)

Female: Body length 1.6 mm. Colour black; scape, mandibles and legs yellowish; A2-A10, tegulae and coxae brown.

Head from above (fig. 1) 1.8 times wider than long, wider than thorax (9:8). Occiput evenly reticulate, carina rather strong and complete; vertex and frons almost evenly reticulate, with finer meshes than on occiput, frons slightly smoother medially, with a few transverse striae just above antennal insertions. Head from front almost 1.2 times wider than high. Malar space 0.3 height of an eye; OOL:POL:LOL = 1:15:6. Antenna (Fig. 2) with flagellar pubescence generally about one-third the width of segments, a few longer hairs present.

Mesosoma 1.2 times higher than wide and 1.8 times longer than wide. Sides of pronotum smooth except for weak reticulation in upper anterior corner, with sparse hairs in upper half. Mesoscutum moderately hairy, weakly and evenly reticulate-coriaceous,

without notauli, hind margin slightly prolonged medially, with long and dense hairs laterally. Mesopleurae with faint longitudinal striations just below tegulae, rest smooth. Scutellum (fig. 3) rather densely hairy, reticulate-coriaceous and with some rugosity; spine semitransparent brownish, just overreaching anterior margin of T1. Metapleurae and sides of propodeum smooth and bare in anterior 0.6, rest with dense white pilosity. Propodeal carinae almost parallel, well separated, area in between smooth and shiny.

Fore wing almost clear, hardly 0.9 times as long as whole body and 2.6 times longer than wide; marginal cilia at most 0.15 width of wing. Hind wing with two frenal hooks, 6.1 times longer than wide; marginal cilia 0.4 width of wing.

Metasoma (fig. 4) narrower than mesosoma (7:8) and as long as this, hardly 1.6 times wider than high. T1 with two rather strong and slightly converging longitudinal keels, area in between smooth, with a medial longitudinal keel in anterior two-thirds, areas lateral of keels hairy. T2 slightly pubescent in weak basal foveae, smooth, with very faint sculpture along hind margin; T3 with faint sculpture, T4-T6 stronger reticulate, T3-T6 hardly hairy.

Male unknown.

Material examined: Holotype female, Uganda, Budongo Forest, 14.XI.1972, H. GØNGET leg. Deposited in the collection of the Zoological Museum, University of Copenhagen. Unique.

Runs to *L. dux* MASNER, 1960 and *L. porthos* MASNER, 1960 in MASNER's (1960) key to African *Leptacis*, but these two species are smaller (1.0 mm) than *equatoriana*, they have head in lateral view shorter and vertex more elevated than this, and they have T6 shorter than in *equatoriana*. Furthermore, A9 is transverse in MASNER's two species, as long as wide in *equatoriana*, cf. also MASNER (1960).

Leptacis neotropica sp. nov. (figs. 5 - 8)

Female: Body length 1.0 mm. Colour black, petiole brown; antennae, mandibles, tegulae and legs yellowish, antennal club darker.

Head from above (fig. 5) 1.6 times wider than long, wider than thorax (13:11). Occiput faintly transversely reticulate, with a weak but complete carina; vertex stronger reticulate-coriaceous; frons very faintly reticulate, transversely so in lower half. Head from front 1.1 times wider than high. Malar space one-fourth the height of an eye; OOL:POL:LOL = 1:20:10. Antenna (fig. 6) with rather dense flagellar hairs equal to slightly more and less half the width of segments.

Mesosoma higher than wide (13:11) and almost 1.8 times longer than wide. Sides of pronotum smooth except for weak rugosity along upper margin, with sparse hairs in upper 0.4 and a vertical row of sparse hairs in lower half. Mesoscutum with weak rugosity and moderately hairy, without notauli, hind margin slightly convex, yellowish. Mesopleurae with faint longitudinal striations just below tegulae, rest smooth. Scutellum (fig. 7) rather densely hairy, with some sculpture, reaching posterior margin of T1. Metapleurae and sides of propodeum smooth and bare except along posterior margin. Propodeal carinae fused.

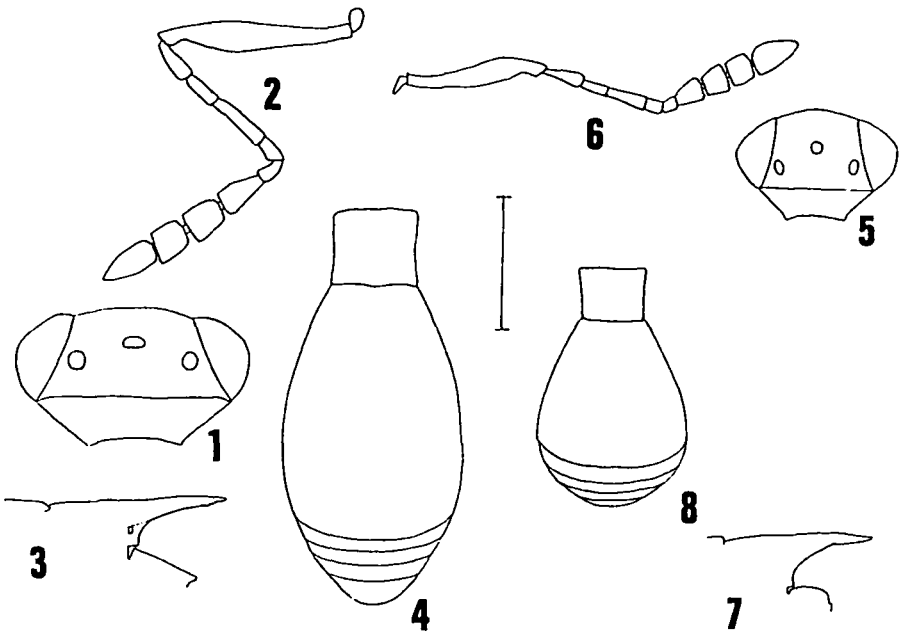
Fore wing clear, 0.9 times as long as whole body and almost 3.3 times longer than wide; marginal cilia 0.2 width of wing. Hind wing with two frenal hooks, 6.4 times longer than wide; marginal cilia 0.8 width of wing.

Metasoma (fig. 8) wider than mesosoma (12:11) and slightly shorter than this, two-thirds as high as wide. T1 rather smooth, with weak traces of two longitudinal keels in posterior half, laterally with white pubescence, anterior half strongly raised. T2 smooth, with weak rugosity along hind margin, with two small spots of pubescence in imaginary basal foveae; T3-T5 smooth, with weak rugosity along hind margins, T6 with more extensive rugosity; T3-T6 hardly hairy.

Male unknown.

Material examined: Holotype female, W. Indies, Dominica, Portsmouth, VII.1979, N.L.H. KRAUSS leg. Deposited in the collection of the Zoological Museum, University of Copenhagen. Unique.

Among Neotropical species of *Leptacis*, *L. neotropica* is most similar to *L. xanthopus* (ASHMEAD, 1894), also from W. Indies, but this species has A3 and A4 of equal length and T1 longer than wide, cf. KIEFFER (1926). *L. neotropica* runs to *L. americana* (ASHMEAD, 1887) in FOUTS' (1924) key to Nearctic species of *Leptacis*, but *neotropica* has A4 much shorter than in this species. The same difference is present in relation to the similar *L. gahani* FOUTS, 1924. Only males are known of the related species *L. rugiceps* (ASHMEAD, 1893) and *L. puncticeps* ASHMEAD, 1893, but these two have shorter and differently shaped scutellum and are differently sculptured than *neotropica*; *L. puncticeps* has also notauli, cf. FOUTS (1924).



Figs. 1-4 *Leptacis equatoriana* sp. nov. female. - 1) head in dorsal view; 2) antenna; 3) scutellum in lateral view; 4) metasoma in dorsal view.

Figs. 5-8 *Leptacis neotropica* sp. nov. female. - 5) head in dorsal view; 6) antenna; 7) scutellum in lateral view; 8) metasoma in dorsal view.

Scale bar = 0.25 mm.

Trichacis vitreus **sp. nov.** (figs. 9 - 12)

Female: Body length 1.7 mm. Colour black; legs and base of scape yellowish; rest of A1-A5, mandibles, tegulae and coxae brownish.

Head from above (fig. 9) 1.8 times wider than long, hardly wider than thorax. Occiput rather densely hairy, with transverse striations and rugosity, occipital carina weak and incomplete; vertex finely reticulate, almost smooth posteriorly; frons smooth, with fine reticulation along and below eyes, transversely reticulate just above antennal insertions. Head from front 1.2 times wider than high. Malar space 0.2 height of an eye; OOL:POL:LOL = 7:23:11. Antenna (fig. 10) with A3 as long as A2, fully four times longer than wide and 1.3 times longer than A4. A6-A10 missing on unique type.

Mesosoma higher than wide (10:9) and 1.4 times longer than wide. Sides of pronotum hairy and coriaceous except along upper and hind margins. Mesoscutum rather densely hairy, coriaceous in anterior third, rest smooth and with sparse punctures; notauli nearly complete. Mesopleuron smooth, with a couple of deeply implanted hairs just below tegulae. Scutellum (fig. 11) distinctly below level of mesoscutum, almost smooth, with a few punctures and hairs, posteriorly with a very dense tuft of hairs. Metapleurae and sides of propodeum evenly covered with dense, whitish pilosity. Propodeal carinae parallel, rather close, area in between almost smooth. Lower half of mid coxae and most of hind coxae densely hairy.

Fore wing clear, as long as whole body, 2.6 times longer than wide; marginal cilia 0.1 width of wing. Hind wing with two frenal hooks, 6.3 times longer than wide; marginal cilia 0.3 width of wing.

Metasoma (fig. 12) hardly as wide as thorax and very slightly longer than head and mesosoma combined, about 1.5 times wider than high. T1 crenulated, with long hairs laterally; T2 smooth, with some pubescence in basal foveae which are about 1.5 times the length of T1; a couple of longitudinal striae between foveae are hardly more than half the length of T1; T3-T6 with some faint reticulation and each with a few rather superficially implanted long hairs.

Male unknown.

Material examined: Holotype female, Greece, Peloponisos, 5 km south of Monemvasia, 27.XI.1983, Georg CHRISTENSEN leg. Deposited in the Zoological Museum, University of Copenhagen. Unique.

Close to *T. remulus* (WALKER, 1835), *T. didas* (WALKER,1835), and *T. pisis* (WALKER, 1835), but *T. vitreus* has clear wings and much brighter coloured legs, cf. VLUG (1985). WALKER's three species are very similar and perhaps conspecific with each other. They have all A3-A4 of equal length; A3 is distinctly longer than A4 in *T. vitreus* and more slender than in WALKER's species, cf. KIEFFER (1926) and GAHAN (1933). *T. vitreus* has also more slender A3-A4 than the similar *T. tristis* (NEES, 1834), cf. KIEFFER (1926). *T. vitreus* differs from the species described by SZABO (1981) in the coloration of wings and legs as well as in other characters, e.g.: *T. hajduica* SZABO, 1981 has A4 longer than A3 which is only 2.5 times longer than wide; *T. fusciala* Szabo, 1981 has head 2.5 times longer than wide and A3 only 3 times longer than wide; *T. bidentiscutum* SZABO, 1981 has A4 thickened towards apex, two dentiform lamellae on scutellum and 3 frenal hooks on hind wing; and *T. quadriclava* SZABO, 1981 has head 2.25 times wider than long and A2 4 times, A3 5 times longer than wide, cf. SZABO (1981). In MASNER's (1983) key to Nearctic *Trichacis*, *T. vitreus* runs to *T. cornicola* (ASHMEAD, 1893) and *T. huberi* MASNER, 1983, but the first of these species has A3-A4 much thicker and shorter than in *vitreus*; the second species has occiput smooth and glabrous medially and A3-A4 slightly shorter than in *vitreus*; both species have much darker legs than *vitreus*, cf. MASNER (1983).

Trichacis nosferatus sp. nov. (figs. 13 - 16)

Female: Body length 1.3 mm. Colour black; antennae, mandibles, tegulae and legs brown; fore legs except coxae yellowish; middle legs except coxae yellowish brown.

Head from above (fig. 13) twice as wide as long, slightly wider than thorax (16:15). Occiput with extensive rugosity and fine reticulation, carina sharp and almost complete; vertex transversely reticulate-coriaceous; frons almost smooth, with weak reticulation along eyes and a few transverse striae just above antennal insertions. Head from front 1.2 times wider than high. Malar space one-fourth the height of an eye; OOL:POL:LOL = 7:18:7. Antenna (fig. 14) hardly hairy, with A4 1.2 times longer than A3, A9 slightly longer than wide.

Mesosoma very slightly higher than wide and one and a third times longer than wide. Sides of pronotum hairy in upper 0.4 and more or less reticulate-coriaceous all over except in upper posterior corner. Mesoscutum finely and densely hairy, reticulate-coriaceous, lateral lobes somewhat smoother; notauli nearly complete, with trace of a medial longitudinal furrow in between, mid lobe hardly prolonged posteriorly; scuto-scutellar grooves rather wide and deep, covered with some long hairs. Mesopleurae with weak longitudinal striations in upper half, rest almost smooth. Scutellum (fig. 15) with rather sparse hairs on an almost smooth but uneven surface, with a relatively large tuft posteriorly. Metapleurae with dense white pubescence except anteriorly. Propodeal carinae high, well separated, parallel, area in between smooth and shiny.

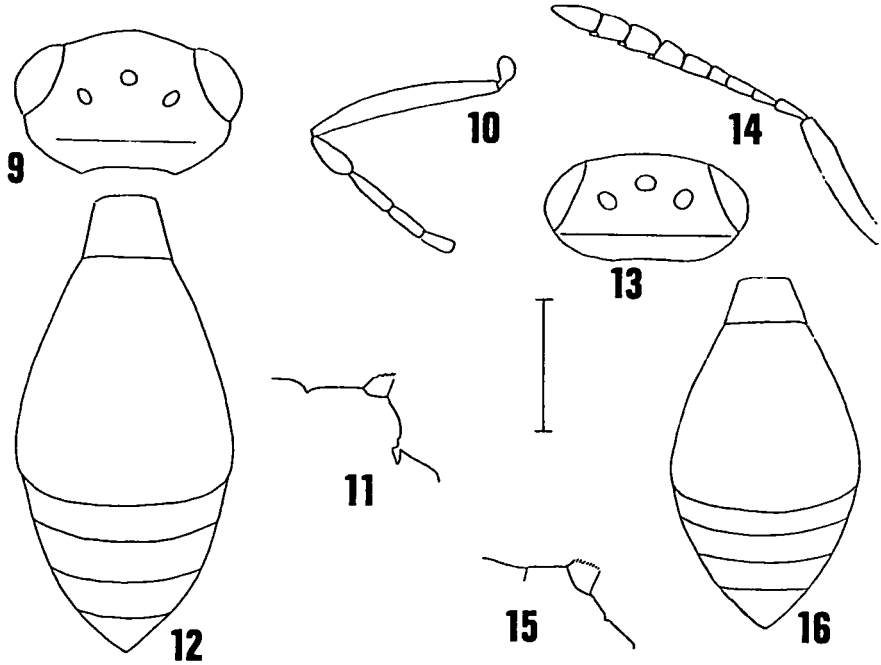
Wings much destroyed on unique type; fore wing almost clear, slightly overreaching gaster; hind wing with two frenal hooks.

Metasoma (fig. 16) as wide as thorax and as long as head and mesosoma combined, almost 1.7 times wider than high. T1 crenulated, hairy laterally, anterior margin smooth and somewhat upturned. T2 with pubescent basal foveae which are hardly longer than T1, area in between with about six longitudinal striae which are slightly shorter than T1, rest of tergite almost smooth. T3-T6 with fine microsculpture and a few hairs.

Male unknown.

Material examined: Holotype female, Norway (EIS 19, BØ), Hurum, Tofteholmen, 7.-31.VII.1991, Malaise-trap, Lars Ove HANSEN leg. Deposited in the Zoological Museum, University of Oslo. Unique.

A most distinct species on account of the striated mesopleurae; it seems that only the Nearctic *T. striata* MASNER, 1983 has more extensive striation here, cf. MASNER (1983). The species treated by SZABO (1981) and VLUG (1985) all have mesopleurae smooth, and they also differ from *nosferatus* in structure of antennae or metasoma, cf. also KIEFFER (1926) and GAHAN (1933) for female antennal structure of the species treated by VLUG (1985). *T. nosferatus* is rather distinct in having A4 longer than A3, in having slender apical antennal segments, and in having rather short T3-T6 in relation to T2.



Figs. 9-12 *Trichacis vitreus* sp. nov. female. - 9) head in dorsal view; 10) antenna (A6-A10 missing); 11) scutellum in lateral view; 12) metasoma in dorsal view.
Figs. 13-16 *Trichacis nosferatus* sp. nov. female. - 13) head in dorsal view; 14) antenna; 15) scutellum in lateral view; 16) metasoma in dorsal view.
Scale bar = 0.25 mm.

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Literaturbesprechung

PRICE, P. W. 1996: Biological Evolution. - Saunders College Publishing, Harcourt Brace College Publishers, Fort Worth. ISBN 0-03-0968437, 477 Seiten.

In diesem sehr schönen neuen Lehrbuch ist das zentrale Thema der Biologie, die Evolutionstheorie verständlich und umfassend zusammengestellt. Das Buch ist sehr gut gegliedert und schön illustriert. Es enthält viele interessante, auch manch weniger allgemein bekannte Beispiele. Besonders positiv hervorheben möchte ich, daß das Buch deutlich zeigt, daß Systematik als Teilgebiet der Biologie ganz wesentliche Grundlagen zum Verständnis der Evolution macht. Systematik erforscht und beschreibt den geschichtlichen Prozess der Evolution und ist dadurch die natürliche Grundlage für jede evolutionsbiologische Forschung. Dementsprechend findet man in dem Buch zum Beispiel sehr schöne Zusammenfassungen zu den verschiedenen Artkonzepten der Biologie und unterschiedlichen Schulen der biologischen Systematik.

Das Buch kann uneingeschränkt allen Biologen und Biologiestudenten empfohlen werden, sei es als Lehr- oder als Nachschlagewerk! Klaus SCHÖNITZER

GAULD, G. & BOLTON, B. 1996: The Hymenoptera. - Oxford University Press, Oxford. Reprint, erster Druck 1988, ISBN: 0-19-858521-7, 143 Seiten.

Dieses bei Fachleuten bekannte und beliebte Buch ist eine einzigartige zusammenfassende systematische Darstellung für die Hymenopteren. Auch wenn dieses Werk einen Schwerpunkt bei der britischen Fauna hat, ist es hervorragend als allgemeine Einführung und Übersicht für die gesamten Hymenopteren zu empfehlen. Neben einem Überblick zur Morphologie und Systematik der Ordnung werden die eizelnen Familien vorgestellt. Zu jeder Familie enthält das Buch eine kurze Diagnose, Hinweise zu Verbreitung, Größe und Bedeutung, sowie eine ausführliche Zusammenfassung über die Biologie der Tiere. Habituszeichnungen und andere Abbildungen, sowie Literaturhinweise ergänzen den Text. Im Gegensatz zu anderen zusammenfassenden Darstellungen über die Hymenopteren in verschiedenen entomologischen Lehrbüchern werden auch die "Nicht-Aculeata" in adequatem Umfang abgehandelt. Es ist sehr zu begrüßen, daß dieses -immer noch akuelle - Grundlagenwerk neu aufgelegt wurde und dadurch wieder für alle Interessenten zugänglich ist. Klaus SCHÖNITZER

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