

# A new species of *Platygaster* Latreille, 1809 (Hymenoptera, Platygasteridae) from Denmark

En ny *Platygaster*-art fra forfatterens have på Lolland

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## Abstract

*Platygaster lalandica* sp. n., is described. The species is unusually hairy for the genus and also with a characteristic combination of sculpture and body shape. The poorly studied diversity of platygasterids is also indicated by several rare species at the unremarkable type locality, among these two species new to Denmark, *Platygaster semiflava* Buhl and *Synopeas pinnei* Buhl.

## Sammendrag

Galmygsnyltehvepse af den megadiverse slægt *Platygaster* er blandt de dårligst kendte sorthvepse. Fra forfatterens ret ordinære villahave på Lolland gav en Malaisefælde gennem én sæson således adskillige usædvanlige arter, deriblandt to nye for Danmark, *Platygaster semiflava* Buhl og *Synopeas pinnei* Buhl, og den helt nye art *Platygaster lalandica*, der især er karakteriseret ved en for slægten usædvanlig veludviklet behåring.

## Introduction

*Platygaster* Latreille, 1809 is a cosmopolitan genus with about 650 valid species described worldwide (hol.osu.edu, 2017), and about 125 recorded from Denmark (Allearter.dk, 2018), all koinobiont parasitoids of Cecidomyiidae (Diptera).

No doubt many undescribed, poorly characterized species of *Platygaster* remain to be documented also from Denmark. Very often doubtfully placed specimens have to be set aside for "future study" because of unlocated types of similar species and unresolved intraspecific variation. For 25 years I have studied the platygasterid fauna of Scandinavia relatively intensively, so distinct new taxa do not appear very often. But as a testament to the diversity of *Platygaster*, I here report a striking new species of the genus described from a single year of Malaise trap catch in my own, rather average Danish garden, hardly 700 square meters at the edge of about a hectare of old market garden/woodland terrain situated in a landscape generally consisting of sugar beet fields in South Denmark.

The Malaise trap (Fig. 1) was run from about mid April to mid October at the edge of the lawn, in the vicinity of a large horse chestnut tree (*Aesculus hippocastanum* L.), close to an apple tree on one side and dense stands of blackberry, *Rubus* sp., and common nettle, *Urtica dioica* L., on the other, as well as a fence densely covered by common ivy, *Hedera helix* L. The garden also contains a moderate diversity of culinary herbs and bushes. Apart from the new species described below, a number of other rare platygasterids were caught in the Malaise trap, most notably *Platygaster lyneborgi* Buhl, 1998, *P. semiflava* Buhl, 2006 (new to Denmark, known from Germany), *P. szelenyii* Huggert, 1975, *Synopeas pinnei* Buhl, 2009 (new to Denmark, known from Sweden, Germany and Latvia), and *S. romsoeense* Buhl, 1999.

In the relative measurements below (length/width of body parts and segments) 1 equals 17  $\mu\text{m}$ . Standard abbreviations used in the descriptions are A1–A10 = antennomeres 1–10, OOL = distance between lateral ocellus and eye, LOL = distance between lateral and anterior ocelli, POL = distance between lateral ocelli, and T1–T6 = tergites 1–6.



**Fig. 1.** Type locality of *Platygaster lalandica* sp. n. on 20 May 2017. Note Malaise trap just to the left of blooming apple tree.

***Platygaster lalandica* sp. n. (Fig. 2)**

**Material examined.** Holotype female, Denmark, LFM, Lolland, 4 km NNE of Sakskøbing, Tårsvej 33, 20.iv.-23.v.2017, Malaise trap in garden, leg. P.N. Buhl, deposited in the collection of the Natural History Museum of Denmark (ZMUC), Copenhagen.

**Diagnosis.** Head and mesoscutum distinctly hairy; head twice as wide as long, with rounded occiput which is reticulate and with only a few short carinae; female A8-A9 each 1.3 times as long as wide; notauli complete; fore wings infuscated with hyaline basal cell weakly indicated; female metasoma 1.1 times as long as rest of body, with two strong carinae on T1, without striation on T2, apical tergites very hairy; body appendages dark.

**Description.** Female. Body length 1.5 mm. Black, antennae and most of legs hardly lighter; mandibles dark brown; apex of fore femora, most of fore tibiae, and segments 1-4 of fore tarsi yellowish brown; base and apex of mid and hind tibiae, and segments 1-4 of mid and hind tarsi reddish brown. Head from above 2.0 times as wide as long, 1.15 times as wide as mesosoma; occiput, vertex and upper part of frons with rather dense, long hairs, hair sockets slightly raised; occiput finely reticulate-coriaceous, towards middle transversely so, medially behind ocellar area with three short, raised transverse carinae; hyperoccipital carina absent; vertex finely leathery, with a faint line connecting hind margins of lateral ocelli, behind anterior ocellus with circular impression. Eyes large, with few very short hairs; malar space smooth, 0.15 the height of an eye. OOL 1.2 times as long as longer diameter of lateral ocellus; OOL:POL:LOL = 3:9:4. Head in frontal view 1.5 times as wide as high. Frons in uppermost part finely leathery and dull, just below anterior ocellus with a smooth medial area almost to antennal insertions, rest rather smooth, weakly but much transversely reticulate, slightly



**Fig. 2.** *Platygaster lalandica* sp. n., female in dorsal view (A) and in lateral view (B) (photo by Anders A. Illum).

stronger in lower part of frons, becoming finely transversely striated just above antennal insertions. Antenna with A1 0.8 times as long as height of head, longer than distance between inner orbits (15:14). Length:width A1-A10 = 15.0:2.7; 4.8:2.0; 2.0:1.4; 4.0:2.3; 3.7:2.3; 4.0:3.0; 4.0:3.0; 3.9:3.0; 3.9:3.0; 4.9:3.0. Flagellar pubescence distinct, fully one-third as long as width of segments. Mesosoma 1.33 times as long as wide, very slightly higher than wide. Sides of pronotum with rather dense, raised hair sockets all over except along moderately wide hind margin, in upper half also dull leathery, in lower half smooth. Mesoscutum densely and evenly hairy with slightly raised hair sockets, finely dull leathery, postero-medially with longitudinal elements, lateral lobes smoother on slightly more than outer half. Anterior admedian lines hardly noticeable; notauli distinct, complete, smooth, meeting in a fine point which is slightly short of reaching base of scutellum; scuto-scutellar grooves smooth, triangular, rather wide, each partly covered by about seven hairs hardly different from other hairs on mesoscutum. Mesopleuron smooth, with five short longitudinal wrinkles in upper third below tegula. Scutellum evenly rounded, slightly above level of mesoscutum, anterior half finely dull leathery, otherwise mostly smooth, with rather dense hairs all over. Metapleuron with pilosity all over. Propodeal carinae parallel; area between them smooth, slightly wider than long. Fore wing 0.85 times as long as entire body, 2.33 times as long as wide, extending beyond tip of metasoma by distance equal to length of T4-T6, infuscated except for hyaline area in most of basal quarter, darkest around apex of imaginary basal cell indicated by slightly darkened nebulous veins; microtrichia fine and dense; marginal cilia 0.05 width of wing. Hind wing 5.0 times as long as wide, with two hamuli; marginal cilia one-sixth the width of wing. Legs rather slender, with relatively long and distinct pilosity which for instance on basal half of mid tibia is as long as width of tibia. Fore tarsus 1.9 times as long as fore tibia, mid tarsus 1.3 times as long as mid tibia, hind tarsus 1.3 times as long as hind tibia. Metasoma 1.1 times as long as rest of body, 0.85 times as wide as mesosoma, 2.25 times as long as wide, 1.5 times as wide as high. Length:width T1-T6 = 5.5:10.0; 24.0:21.0; 4.0:19.5; 4.5:17.0; 4.5:12.2; 5.0:6.7. T1 with two strong longitudinal carinae, converging behind. T2 smooth, with two distinct basal foveae in anterior 0.4, foveae without striae but hairy in basal half. T3-T6 smooth, with rather scattered long hairs (about 35  $\mu$ m long) in shallow punctures: almost 30 on each of T3-T5, 10 on the pointed T6.

**Comments.** An unusually hairy species, runs to *P. inconspicua* Buhl, 1999 in Buhl's (2006) key to Danish *Platygaster*, but that species has head only 1.7 times as wide as long, malar space one-third the height of an eye, mesoscutum rather sparsely hairy, anterior admedian lines indicated in anterior third, fore wing 2.7 times as long as wide, and T1 with numerous fine carinae. The only *Platygaster*-species known to me with being similarly hairy is the Afrotropical *P. setosa* Buhl, 2003 (only male known), which has a distinct hyperoccipital carina

and markedly smoother head and mesoscutum than *P. lalandica*. Also approaching *P. lalandica* in being unusually hairy is Australian *P. pilosithorax* Buhl, 2014, but that species has distinctly more slender antennae, slightly incomplete notauli and strongly striate T2. *P. pubicornis* Buhl, 2012 from Finland has only the female flagellum unusually pubescent, and also a much longer metasoma than *P. lalandica* with striated T2, cf. Buhl (2003, 2012, 2014). In Kieffer's (1926) key to Palaearctic *Platygaster*, *P. lalandica* runs to *P. formicarum* Kieffer, 1916, but that species is only 0.8 mm long, with very short flagellar pubescence, hyaline wings and metasoma not longer than mesosoma. Rather than to the already mentioned species, *P. lalandica* is generally more similar to the NW European *P. aegeus* Walker, 1835, *P. minthe* Walker, 1835, and *P. oscus* Walker, 1835, redescribed by Vlug (1985), but these three species, apart from being less hairy, have a distinctly striate occiput and slightly incomplete notauli. All in all, mostly due to hairiness and conformation of wings, *P. lalandica* is probably one of the more plesiomorphic species of *Platygaster*, the habitus at first glance resembles a species of the "*Proplatygaster*-cluster" sensu Masner & Huggert (1989), such as a *Metaclisis* sp.; likely closer relatives would be *Trichacis* spp. which also are generally more hairy than most species of *Platygaster*, and with more pigmented wings (but with a distinct modified tuft on scutellum).

**Etymology.** The name refers to the island with the type locality, Lolland (Latin: Lalandia).

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