

A NEW SPECIES OF
PLATYGASTER (HYMENOPTERA: PLATYGASTRIDAE)
FROM CANADA ASSOCIATED WITH WHEAT

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INTRODUCTION

During an investigation on the potential control of insect pests of wheat by a strip intercropping system of wheat with corn, soybean and *Vicia* sp. (Fabaceae), the second author collected parasitoids in wheat, of which she sent species of *Platygaster* to the first author for identification. Among these a characteristic new species was present, described below.

Abbreviations used: 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.

Platygaster microsoma sp. n. Buhl & Goyer

Diagnosis.

A dark species of *Platygaster* s. str. distinctly below 1mm long; head twice as wide as long, clearly wider than mesosoma, very finely striated behind, frons only weakly sculptured on lower half; female antenna with A4 much longer than A3, preapical antennal segments very slightly elongate; male antenna with A4 only slightly widened, distinctly shorter than A2, preapical antennal segments as long as wide; notauli weak, fading out in anterior third; scutellum smooth, slightly setose and moderately convex; female metasoma as long as rest of body, twice as long as wide, with forewing extending at most 0.25 the length of metasoma past the apex of T6; T2 striated laterally to 0.5, medially shorter.

Description.

Female. Body length 0.55–0.80mm. Black, antennae and legs hardly lighter; base and apex of fore tibiae and segments 1–4 of all tarsi dark brownish.

Head from above (Figs 1–2) 2 times as wide as long, 1.2–1.3 times as wide as mesosoma; occiput rounded, finely and densely transversely reticulate-striate all over; vertex with faint traces of reticulation; frons (Fig. 3) with a weak longitudinal medial impression, mostly smooth, on parts of lower half with very weak oblique wrinkles. OOL = LOL. Head in anterior view (Fig. 3) 1.2 times as wide as high. Antenna with A1 0.8 times as long as height of head, as long as distance between inner orbits; A2 about three times as long as A3, slightly longer than A3–A4 combined; A4 slightly elongate, about 1.8 times as long as A3 (Fig. 4); A7 intermediate in size between A6 and A8; A9 1.25 times as long as wide, twice as wide as A4 (Fig. 5); flagellum with only very short setae.

Mesosoma 1.4 times as long as wide, 1.1 times as high as wide. Sides of pronotum (Fig. 6) in upper half mostly smooth, anteriorly reticulate (not longitudinally so), in lower half with longitudinal microsculpture and smooth along narrow hind margin. Mesoscutum (Fig. 2) with only a few scattered setae, in anterior half and along outer margins moderately strongly reticulate-coriaceous (not longitudinally so), in most of posterior half almost smooth; notauli weakly indicated, fading out in anterior third; mid lobe posteriorly narrow but not finely pointed, slightly prolonged to base of scutellum; the narrow scuto-scutellar grooves each covered by about five inconspicuous setae. Mesopleuron smooth. Scutellum (Figs 2 and 6–7) smooth, sparsely setose (slightly denser towards sides), evenly convex, very slightly above level of mesoscutum, obliquely sloping posteriorly. Metapleuron (Fig. 6) smooth, antero-medially almost bare, rest with moderately dense pilosity. Propodeal carinae short, parallel; area between them transverse and smooth.

Forewing (Fig. 7) clear, with fine and rather dense microtrichia, 2.4–2.5 times as long as wide, 0.8 times as long as entire body, extending at most 0.25 the length of metasoma past the apex of T6; marginal cilia at their longest hardly 0.1 width of wing. Hindwing 5.8 times as long as wide, with two hamuli; marginal cilia 0.4 width of wing.

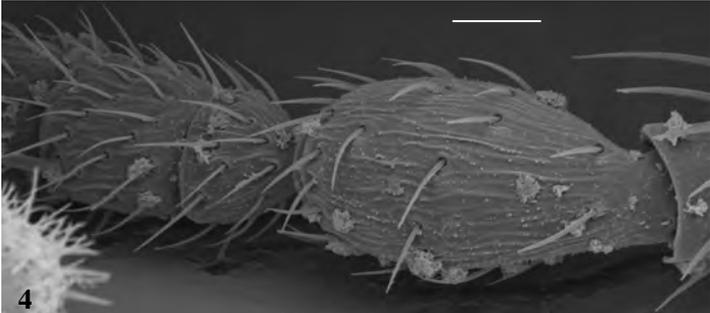
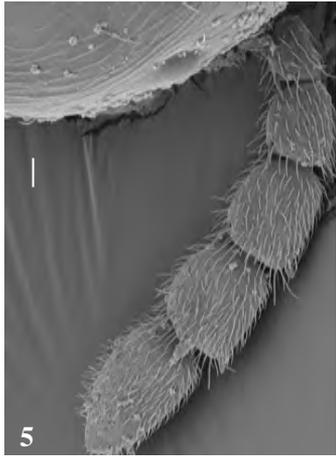
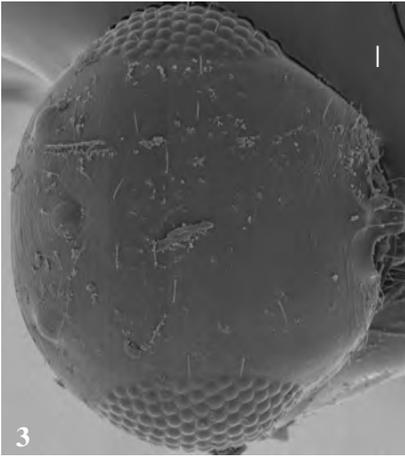
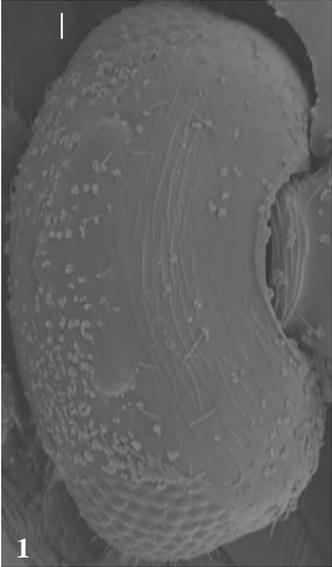
Metasoma (Fig. 2) as long as head and mesosoma combined, slightly narrower than mesosoma, twice as long as wide, and twice as wide as high. T1 almost evenly covered by eight longitudinal furrows. T2 striated from basal foveae to about half the length of tergite, medially to hardly more than 0.2 of length, rest of T2, as well as following tergites, smooth, T2 comprising clearly less than 0.6 of the total length of metasoma; T3–T6 combined 0.5–0.8 times as long as T2, each with shallow punctures with setae: four on T3, about six on each of T4–T6; apical tergites rather strongly flattened; T6 somewhat pointed, two-thirds to three-fourths as long as its basal width.

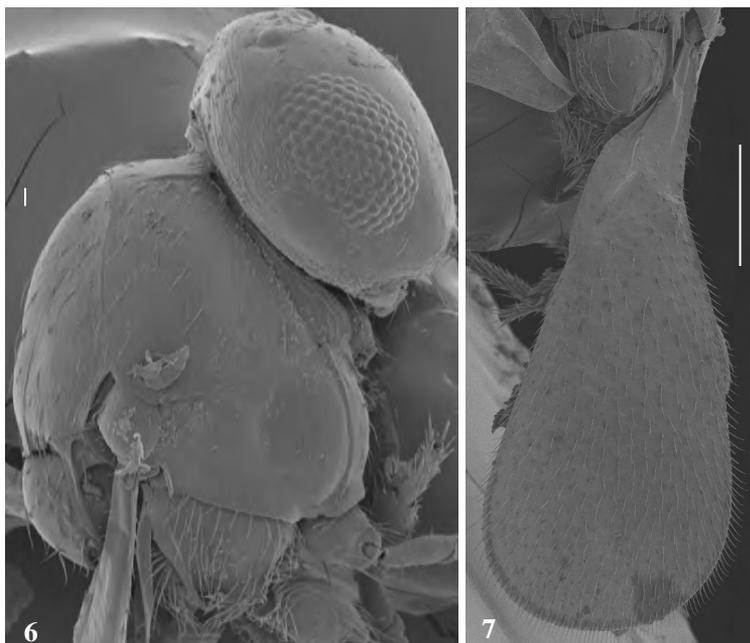
Male. Body length 0.70mm. Antenna with A2 as long as A3–A4 combined; A4 only slightly widened, distinctly narrower than A9; A5–A9 each about as long as wide; A10 1.8 times as long as A9; flagellum slightly widened towards apex (A9 one and a third times as wide as A5); flagellar pubescence conspicuous, standing away from segments to a distance equal to fully half the width of the segments. Metasoma 0.8 times as long as head and mesosoma combined.

Material examined.

Holotype ♀. Canada, Québec, Les Cèdres, 11.vi.–17.vii.2010 (M. Goyer). Deposited in the Canadian National Collection, Ottawa (CNC). Paratypes: 4♀, 1♀, same data as holotype (1♀ and 1♂ in CNC; 2♀♀ in the Zoological Museum, University of Copenhagen, both coated for SEM photographing). Further non-types, deposited at the Centre de recherche sur les grains (CÉROM) inc., are available from the second author.

Comments. This species is unusually small, but apart from that it could run to several species of *Platygaster* in Fouts' (1924) key: *P. columbiana* Fouts, 1924 has occiput and vertex strongly striated, female A7–A9 each slightly wider than long, notauli indicated only in basal fourth, and body appendages lighter than in *P. microsoma*. *P. huachucae* (Ashmead, 1893) has head not wider than mesosoma, female A3 nearly as long as A4, and notauli not reaching middle of mesoscutum. *P. astericola* (Ashmead, 1893) has head not wider than mesosoma, preapical antennal segments not longer than wide in female, distinctly transverse in male, and female metasoma distinctly less than twice as long as wide. *P. rubi* (Ashmead, 1893) has female A6 longer than each of A7–A9 which are as wide as long. Of these species, only *P. astericola* is as small as *P. microsoma*; another species just as small is *P. pentatoma* (Ashmead, 1893) which, however, has male A4 as long as A2, and it is generally brighter coloured than *P. microsoma*. MacGown's much more recent unpublished key with further North American species of *Platygaster* does not add species more similar to *P. microsoma* than those mentioned by Fouts. Other very small species of *Platygaster*, such as Palearctic *P. pygmaea* Kieffer, 1913 and Holarctic *P. hiemalis* Forbes, 1888 (= *P. minutula* Dalla Torre, 1898), clearly differ from *P. microsoma*, e.g. in conformation of antennae, cf. Kieffer (1926) and Gahan (1933). *P. hiemalis* is one of the most important parasitoids of *Mayetiola destructor* (Say, 1817) on wheat, it was described in detail by Fouts (1924) and Gahan (1933), and it can be clearly separated from *P. microsoma*, e.g. in having head only 1.1 times as wide as mesosoma, female A7–A8 subequal, shorter notauli, female metasoma





Figs 1–7. — *Platygaster microsoma* sp. n., ♀. 1, head – dorsal view; 2, body – dorsal view; 3, head – anterior view; 4, antennal segments 2–4; 5, antennal segments 6–10; 6, head and mesosoma – lateral view; 7, forewing. (Scale Bars: Figs 1, 3–6 = 10 μ m; Figs 2, 7 = 100 μ m).

only slightly longer than mesosoma with T2 comprising about two-thirds of the total length of metasoma, forewing extending half the length of metasoma past the apex of T6, 0.9 times as long as entire body, and in having male A4 ‘much enlarged’ according to Gahan, larger than A2, and male A7–A9 each longer than wide.

Etymology. The name refers to the unusual small body size of this species, even among the generally small species of *Platygaster*.

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