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A new species of *Platygaster* Latreille (Hymenoptera: Platygastridae) parasitizing *Chilophaga virgati* Gagné (Diptera: Cecidomyiidae)

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Abstract

Platygaster chilophagae, new species, is described from specimens reared from larvae of *Chilophaga virgati* Gagné collected and reared in eastern South Dakota. The host larva feeds on the basal meristematic tissues of the inflorescence of *Panicum virgatum* L. This new species seems to lack immediate affinities with any described *Platygaster* species in its combination of characteristics, and is compared to and discriminated from six other species. Polyembryony is suggested by the presence of cocoon clusters containing 4–14 pupae from each host larva.

Key words: Platygastridae, *Platygaster*, **new species**, *Chilophaga*, Cecidomyiidae, parasitoid, *Panicum virgatum*, switchgrass, polyembryony

Introduction

Platygaster Latreille is the most species diverse genus in the Platygastridae of North America, with 101 nominal species cataloged by Krombein *et al.* (1979) and Masner (1993) noting the presence of 255 described species and a number of known undescribed species. Many of the species are parasitoids of plant-feeding gall midges (Diptera: Cecidomyiidae) and though these flies are stereotypically specific to their plant hosts, the parasitoids are apparently not necessarily specific to their host midges (Hawkins & Gagné 1989).

During investigations on the life history of *Chilophaga virgati* Gagné (Diptera: Cecidomyiidae), a gall midge on *Panicum virgatum* L. (switchgrass) an undescribed species of *Platygaster* was reared from prepupal larvae. Subsequently, we were able to recognize this species in sweep samples taken in agronomic swards of *P. virgatum*. This new *Platygaster* is described below.

Materials and Methods

Specimens. All wasps used in this study were obtained by field collection and by rearing from infested tillers the switchgrass cultivar 'Dakotah'. Field specimens were swept from agronomic swards of switchgrass during early and mid morning hours (7:00–10:30 am). The host plant swards are research plots varying in size, ca. 45–120 m^2, and representing 18 experimental cultivars planted separately and in mixtures. Sampling was generally conducted when plants were dry of condensation or precipitation, winds were ≤8 kph, and air temperatures at plant height were between 24–30°c.

Specimens reared in the laboratory came from field collected cocoon clusters of *Platygaster* n.sp. found with *C. virgati* larvae inside the sheath of the terminal leaf and at the inflorescence base of individual tillers of *P. virgatum*. Cocoon clusters were kept associated by tiller and placed between layers of brown paper toweling that were loosely rolled and inserted into 8 dram shell vials. The toweling was moistened with a few drops of deionized water and the vial capped with fine screening. The vials were kept at room temperature and shaded from direct

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