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A new phytophagous eulophid wasp (Hymenoptera: Chalcidoidea: Eulophidae) that feeds within leaf buds and cones of *Pinus massoniana*

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Abstract

Aprostocetus pinus **sp. nov.** (Chalcidoidea: Eulophidae) is newly described as a leaf bud and microstrobilus pest of *Pinus massoniana* (Pinales: Pinaceae), an important afforestation species in southeast China. Both sexes of the parasitoid are described and illustrated.

Key words: *Aprostocetus*, economic importance, plant host

Introduction

Aprostocetus Westwood (Chalcidoidea: Eulophidae) is a cosmopolitan genus that currently includes 758 species (Noyes 2012), of which 8 are recorded from Zhejiang (Wu *et al.* 2001; Zhu & Huang 2001; He *et al.* 2004; Xu & Huang 2004) among 35 species known to occur in China (Perkins 1912; Li & Nie 1984; LaSalle & Huang 1994; Sheng & Zhao 1995; Yang 1996; Zhu & Huang 2001, 2002; Yang *et al.* 2003; Zhang *et al.* 2007; Weng *et al*. 2007; Noyes 2012). Graham (1987) recognized five subgenera in *Aprostocetus*: *Tetrastichodes* Ashmead, *Ootetrastichus* Perkins, *Coriophagus* Graham, *Chrysotetrastichus* Kostjukov and *Aprostocetus* Westwood, and LaSalle (1994) added a sixth subgenus, *Quercastichus* LaSalle.

The majority of species of *Aprostocetus* are parasitoids of insects, but here we describe a new phytophagous species that feeds within leaf buds and cones (microstrobili) of *Pinus massoniana* (Pinales: Pinaceae). This tree is the most widespread species of *Pinus* in China and is of major importance in afforestation projects in the Yangtze River Basin and southeast China (Sun 2005). For this reason we are describing this new species in order to facilitate further research on its biology and economic importance.

Material and methods

Specimens of the parasitoid reared from leaf buds and cones (microstrobili) of *P. massoniana* were preserved in 75% ethanol and subsequently air dried and examined with a Leica M125 stereomicroscope. Photographs were taken with a Hitachi TM-1000 Scanning Electron Microscope, Nikon ECLIPSE 80i, and Nikon AZ100.

Morphological terms follow Graham (1987) and Gibson *et al.*(1997). The following abbreviations are used: ocular-ocellar line (OOL) is the minimum distance between a posterior ocellus and the eye; the posterior ocellar line (POL) is the minimum distance between the posterior ocelli; OD is the major diameter of a lateral ocellus; F1 is the first segment of the funicle, F2 the second, and F3 the third; and C1 is the first segment of the clava, C2 the second, and C3 the third.

Type specimens of the newly described species are deposited in the Department of Plant Protection, School of Agriculture and Food Science, Zhejiang Agriculture & Forestry University, Hangzhou, China (ZAFU).

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