



Description of two new species of *Psyllaephagus* Ashmead (Hymenoptera: Encyrtidae) parasitizing *Phacopteron lentiginosum* Buckton (Hemiptera: Psyllidae), a leaf gall-former of *Garuga pinnata* Roxburgh (Burseraceae)

SUDHIR SINGH & KARAN PAL SINGH

Forest Entomology Division, Forest Research Institute, New Forest, Dehradun – 248 006 Uttarakhand, INDIA.

E-mail: sudhirs@icfre.org

Abstract

Two new species of Encyrtidae, *Psyllaephagus phacopteron* sp. nov. and *Psyllaephagus garuga* sp. nov. (Hymenoptera: Chalcidoidea) from Dehradun, Uttarakhand, India, that parasitize *Phacopteron lentiginosum* Buckton (Hemiptera: Psyllidae), a leaf-galler of *Garuga pinnata* Roxburgh (Burseraceae), are described. The two species are differentiated from other known Indian species of the genus through modifying a previously published key to species.

Key words: New species, taxonomy, Chalcidoidea, parasitoids, India, Dehradun, *Psyllaephagus phacopteron*, *Psyllaephagus garuga*

Introduction

Garuga pinnata Roxburgh (Burseraceae) is an important multipurpose tree species found throughout India. In the south it is used as a shade tree in pepper plantations and in the north, especially in Dehradun, it is an important fodder tree in the Doon valley where its leaves are used extensively as fodder for the bovine livestock of the Gujjars and forest dwellers. The tree is often attacked by the gall-making psyllid, *Phacopteron lentiginosum* Buckton (Hemiptera: Psyllidae), whose galls are predominantly visible during the monsoon and post-monsoon seasons. The galls mature during October–November and are shed along with the leaf fall. The galls, called “*Kakadshringī*”, are also used in the Indian system of traditional medicine as an antidiarrheal due to the presence of phenols and gallic acid (Upadhye & Rajopadhye 2010). They are also reported eaten by the Hanuman Langur, *Semnopithecus entellus* in the Western Ghats of Maharashtra (Punekar 2002).

Psyllaephagus Ashmead (Hymenoptera: Chalcidoidea: Encyrtidae) is a cosmopolitan genus of parasitoids with about 229 described species — 110 species from Australia, 60 from the Palearctic, 22 from Africa, and 20 from the New World (Noyes 2003). The Oriental *Psyllaephagus* fauna has great biological diversity but is very poorly known. The genus is more diverse in Australia where the total number of species may be as many as 1000 (Noyes & Hayat 1984). Species are primary parasitoids of Psyllidae (Hemiptera), an economically very important family affecting the health of agricultural, horticultural and forest plant species. Several species have been used in biological control programs. *Psyllaephagus pilosus* Noyes and *P. bliteus* Riek, both Australian species, were successfully introduced into California against blue gum psyllids, *Ctenarytaina eucalypti* (Maskell) (Dahlsten *et al.* 1998) and *Glycaspis brimblecombei* Moore (Daane *et al.* 2005), respectively. We reared two species of *Psyllaephagus* from the galls of *P. lentiginosum* that are new to the science and these are described here in detail.

Material and methods

During an insect survey in the sal, *Shorea robusta* Gaertner f. (Dipterocarpaceae) forests of Dehradun, India, in November, 2008, leaf galls of *Garuga pinnata* Roxburgh, an associate tree, were collected by K.P. Singh and