



Article

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On some Encyrtidae (Hymenoptera: Chalcidoidea) associated with gall-inducing psylloids, *Phacopteron* and *Trioza* species (Hemiptera: Phacopteronidae, Triozidae) in southern India

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Abstract

Two new species, *Ooencyrtus alrake* Hayat, **sp. nov.** and *Syrphophagus wayanadensis* Hayat, **sp. nov.** (Hymenoptera: Chalcidoidea: Encyrtidae), are described from material collected in Kerala State (India) from *Trioza jambolanae* Crawford (Hemiptera: Psylloidea: Triozidae), a leaf gall-inducer on species of *Syzygium* (Myrtaceae). Two species, *Psyllaephagus garuga* S. Singh and *P. phacopteron* S. Singh, both recently described in S. Singh & K.P. Singh, (2011) from Dehra Dun, are recorded from Kerala from *Phacopteron lentiginosum* Buckton (Hemiptera: Psylloidea: Phacopteronidae) a leaf gall-inducer on *Garuga pinnata* Roxb. (Burseraceae). Some variation in the Kerala and Dehra Dun specimens of these two species is noted. It appears that this is the first record of *Ooencyrtus* Ashmead on psyllid hosts.

Key words: *Ooencyrtus*, *Psyllaephagus*, *Syrphophagus*, new species, new records, Kerala

Introduction

Syzygium cumini (L.) (Myrtaceae) is recognized as a medicinal herb in south India. The leaves are antibacterial and the fruits are used for the treatment of diabetes, digestive and urinary problems, diarrhoea, and fungal infections on the surface of the skin. Recent studies have also shown that *S. cumini* inhibits growth and induces apoptosis in cervical cancer cell lines (Barh & Viswanathan 2008). *Syzygium caryophyllatum* (L.) is distributed throughout the western Ghats of India and Sri Lanka, and is listed in the IUCN Red List of Threatened Species. The bark, leaves and fruits of the plant are used to treat arthritis, diarrhoea, skin diseases and general debility. *Garuga pinnata* Roxb. (Burseraceae) has various medicinal uses. A concentrated extract of the root prepared by boiling is given for the treatment of pulmonary affections, whereas stem juice is dropped into the eyes to cure opacities of the conjunctiva. *Phacopteron lentiginosum* Buckton (Hemiptera: Phacopteronidae) has been reported to induce galls on *Garuga pinnata* (Mathur 1975; Yang & Raman 2007) (Fig. 25) and *Schleichera trijuga* Willd. (Sapindaceae) (Mathur 1975), whereas *Trioza jambolanae* Crawford (Hemiptera: Triozidae) has been reported to induce galls on *S. cumini* (Fig. 23).

The present study was undertaken to determine the gall inducers on *Syzygium caryophyllatum*, *S. cumini* and *Garuga pinnata*, and to document the possible biological control agents of the gall inducers. In the present paper, we report two species of *Psyllaephagus* Ashmead, two species of *Ooencyrtus* Ashmead (one described as new), and one species of *Syrphophagus* Ashmead (new) (Hymenoptera: Encyrtidae) parasitizing *P. lentiginosum*, and *T. jambolanae* on *G. pinnata*, *S. caryophyllatum* and *S. cumini*. The second species of *Ooencyrtus*, although apparently undescribed, is not considered as it is represented by a single female with the right wings lost and the left fore wing damaged.