Zootaxa 2866: 61–68 (2011)
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

A new species of *Neolasioptera* (Diptera: Cecidomyiidae) from *Parkinsonia aculeata* (Leguminosae) in Argentina for possible use in biological control in Australia, with a key to Neotropical species of Neolasioptera

RAYMOND J. GAGNÉ[1], FERNANDO MC KAY[2] & TIM A. HEARD[3]

[1]*Systematic Entomology Laboratory, PSI, Agricultural Research Service, USDA, c/o U. S. National Museum NHB 168, Washington, DC 20013-7012, USA. E-mail: raymond.gagne@ars.usda.gov*

[2]*South American Biological Control Laboratory, Agricultural Research Service, USDA, Bolivar 1559 (1686), Hurlingham, Argentina. E-mail: fmckay@speedy.com.ar*

[3]*CSIRO Ecosystem Sciences, EcoSciences Precinct, GPO Box 2583, Brisbane 4001, Australia. E-mail: Tim.Heard@csiro.au*

Abstract

Neolasioptera aculeatae Gagné (Diptera: Cecidomyiidae) is described as a new species from stem swellings on *Parkinsonia aculeata* L. (Leguminosae) in NW Argentina. The new species appears to be a good candidate for the biological control of its host in Australia, where the plant was accidentally introduced and is currently a serious pest. The species is shown to be distinct from its 64 Neotropical congeners. A preliminary key to these species is offered that can be adapted as more work is done on *Neolasioptera*.

Key words: gall midges, biological control, key

Introduction

Parkinsonia aculeata L. is a thorny leguminous shrub native to the hot and dry regions of North, Central and South America (Hawkins *et al.* 2007). In Australia, where the plant was accidentally introduced, its dense thorny thickets are injurious to the environment and agricultural industries (van Klinken *et al.* 2009). A biological control program was initiated by Australia in 1983, with extensive surveys for biological control agents conducted in North America, resulting in the release into Australia of three insects, a mirid (Hemiptera) and two bruchids (Coleoptera). Of the three, only one of the bruchids has become widespread and common and none causes population-level impacts (van Klinken *et al.* 2009). Native-range surveys were recommenced recently in South America. The results indicate that Argentine *P. aculeata* populations harbor natural enemies not previously reported. One of the candidates prioritized for further study is a gall midge (Diptera: Cecidomyiidae) responsible for a common and conspicuous stem gall that stunts the branches and often curbs further axillary growth (Figs. 1–3). Considering the biological control potential of this insect, we take the opportunity to describe and illustrate this species.

The new species belongs to the genus *Neolasioptera*. This is a species-rich genus that, like the rest of the tribe Alycaulini, is restricted to the Americas. *Neolasioptera* species are found on a wide array of plant families and the species appear to be mostly host specific (Gagné 1994, 2010). Most cause fusiform stem galls, but some are found in swellings of leaf petioles and midveins and a few in flower parts of Asteraceae.

Material and methods

Galls were brought in from the field in order to rear adults. Some adults were pinned to preserve the scale color pattern for the description. The remaining adults, as well as samples of larvae and pupae, were saved in 70% alcohol for eventual mounting on slides and SEM stubs. The field work during which the new species was discovered was done by FMK and TAH; the species description was the work of RJG.

Accepted by P.H. Kerr: 11 Apr. 2011; published: 4 May 2011