

Records of *Tamarixia radiata* (Hymenoptera: Eulophidae) in Northwestern Argentina*

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ABSTRACT

The presence of *Tamarixia radiata* Waterston (Hymenoptera: Eulophidae) is reported for the first time in Northwestern Argentina.

Key words: “Huanglongbing”, greening, parasitoid, citrus.

RESUMEN

Presencia de *Tamarixia radiata* (Hymenoptera: Eulophidae) en el noroeste argentino

La presencia de *Tamarixia radiata* Waterston (Hymenoptera: Eulophidae) fue detectada por primera vez en el noroeste argentino.

Palabras clave: “Huanglongbing”, “greening”, parasitoide, cítricos.

* Work supported jointly by Asociación Fitosanitaria del Noroeste Argentino (AFINOA) and EEAOC.

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INTRODUCTION

“Huanglongbing” (HLB), formerly denominated greening, is one of the most important diseases in numerous citrus growing Asian and African countries (Étienne *et al.*, 2001). In America, the disease was first detected in São Paulo, Brazil, in 2004. Its causal agent is a protobacterium found in the phloem of infected plants.

Two insect vectors are responsible for transmitting Huanglongbing, both belonging to the Psyllidae family (Hemiptera): *Trioza erytreae* (Del Guercio) for *Candidatus Liberibacter africanus*, and *Diaphorina citri* Kuwayama for *Candidatus Liberibacter asiaticus* and *Candidatus Liberibacter americanus*. Recently, *D. citri* was reported to appear for the first time in Northwestern Argentina (NWA) (Augier *et al.*, 2006).

The integrated management of this pest includes, among other aspects, HLB vector population control through chemical methods, namely insecticide applications. China, for example, reports up to 13 applications per year during flushing period in an area affected by greening disease (Roistacher, 1996). However, chemical control can have harmful side-effects on both environment and beneficial fauna.

Tamarixia radiata (Waterston) is a natural enemy of *D. citri*, an hymenopter eulophid from Northeastern India that has been imported in different countries, such as Taiwan, Reunion Island, Mauritius, and Florida (USA). In Argentina, this insect can be found in the Northeastern region (NEA) regulating psyllid summer population in the province of Corrientes (Cáceres and Aguirre, 2005).

T. radiata develops as an idiobiont ectoparasitoid on *D. citri* immature stages. The female lays her eggs on the ventral part of the third to the fifth instar nymphs, and the parasitoid larvae feed on the host hemolymph, pupating under the psyllid mummy. The adult then emerges through a hole in the dead nymph thorax (Étienne *et al.*, 2001).

The purpose of this note is to cite for the first time the presence of *Tamarixia radiata* in Northwestern Argentina.

MATERIALS AND METHODS

In order to detect the presence of *D. citri* and its natural enemies in NWA, a survey was carried out in orange, lemon, tangerine, and grapefruit plants in citrus orchards of Jujuy, Salta, Tucumán, and Catamarca, between August 2005 and April 2006. Infested buds were extracted from the plants and taken to the laboratory for further observation under a stereoscopic microscope. Thirteen females and six males of *T. radiata* were obtained in April 2006, and 23 females and 10 males in May 2006, and the development of the parasitoid was observed until adults were obtained for identification.

RESULTS

Parasitated nymphs were obtained from orange and tangerine buds in Ledesma (Jujuy) (23° 49' 08" S and 64° 47' 48.5" W), and they were included in the collection of Zoología Agrícola (Estación Experimental Agroindustrial “Obispo Colombes”, EEAO), this being the first reference for Northwestern Argentina.

CITED REFERENCES

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