



<http://dx.doi.org/10.11646/zootaxa.3861.3.1>

<http://zoobank.org/urn:lsid:zoobank.org:pub:6876248D-2FB2-4B43-87C1-1681CA6F97D0>

Two new species of *Anagyrus* (Hymenoptera: Encyrtidae) from Argentina, parasitoids of *Hypogeococcus* spp. (Hemiptera: Pseudococcidae), with taxonomic notes on some congeneric taxa

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Abstract

Two new species of *Anagyrus* Howard (Hymenoptera: Encyrtidae) are described from Argentina, *A. cachamai* Triapitsyn, Logarzo & Aguirre **sp. n.** (Catamarca, Córdoba, Salta and Tucumán Provinces) and *A. quilmes* Triapitsyn, Logarzo & Aguirre **sp. n.** (Catamarca, Salta and Tucumán). Both new species are parasitoids of *Hypogeococcus* spp. (Hemiptera: Pseudococcidae). *Anagyrus cachamai* is a parasitoid of *H. pungens* Granara de Willink on *Alternanthera paronychioides*, *A. pungens* and *Gomphrena* sp. (Amaranthaceae), and also of a *Hypogeococcus* sp. on *Cleistocactus baumannii* and *Hypogeococcus* sp. on *C. smaragdiflorus* (Cactaceae). *Anagyrus quilmes* is a parasitoid of *H. pungens* on *A. paronychioides*, *A. pungens* and *Gomphrena* sp. Other biological traits of the new species are also reported. These parasitoids may be of importance as potential candidate biological control agents against a *Hypogeococcus* sp., commonly called the Harrisia cactus mealybug and identified as *H. pungens*, but possibly not belonging to that species. This mealybug threatens the native cacti in some Caribbean islands and Florida, USA, and is devastating the native columnar cacti in Puerto Rico. Illustrations and taxonomic notes on the type specimens of some other, little known described species of *Anagyrus* from Argentina and Chile are provided, and a key to females of the 14 species of *Anagyrus* known from Argentina is given. *Anagyrus nigriceps* (De Santis) **syn. n.** is synonymized under *A. bellator* (De Santis). Lectotypes are designated for *Paranusia bifasciata* Brèthes, *Philoponectroma pectinatum* Brèthes, and *Protanagyrus aciculatus* Blanchard.

Key words: Chalcidoidea, taxonomy, host associations, mealybug, cactus, *Alternanthera*, biological control

Introduction

Species of the cosmopolitan, speciose wasp genus *Anagyrus* Howard (Hymenoptera: Encyrtidae) are common parasitoids of mealybugs (Hemiptera: Coccoidea: Pseudococcidae) (Noyes 1980, 2000; Noyes & Hayat 1994). They are rather poorly known in South America even though a number of species were described, most of them from Argentina (De Santis 1964, 1972).

The mealybug *Hypogeococcus* sp., commonly called the Harrisia cactus mealybug (HCM), is a serious pest of the native columnar cacti (Cactaceae) in Puerto Rico and is threatening the native cacti in Florida (USA), Barbados and some other Caribbean islands, and also in Hawaii, USA (Williams & Granara de Willink 1992; German-Ramirez *et al.* 2014; USDA, ARS 2014). Although identified as *H. pungens* Granara de Willink, it possibly does not belong to this species and its true identity is currently under investigation using morphological and molecular methods. *Hypogeococcus pungens* was originally described from Tucumán Province of Argentina (Granara de Willink 1981) from *Alternanthera pungens* (Amaranthaceae). Because of this, a survey of its parasitoids, as part of a classical biological control program, has been conducted in Argentina since 2010 (USDA, ARS 2014), with collections of the mealybugs made from *Alternanthera* spp. and some other Amaranthaceae and also from different native cacti.

Type material examined. Holotype female [MLPA] on slide (Fig. 49) labeled: 1. “EVA PERON [Ciudad Eva Perón is now La Plata] (Pcia. Buenos Aires) Col. Balcedo 10/XI/1954 *Trichomastus* [sic, in pencil]”; 2. “*Aglyptoideus rus-ticus* Det. De Santis HOLOTIPO ♀ 1987/1 [MLPA type number added later] MUSEO DE LA PLATA”. The holotype (Fig. 51) is in fair condition; the body is mounted dorsoventrally, with the head and antennae detached.

Paratypes [MLPA]: 2 ♀ on slides labeled almost identically except for the MLPA type numbers (1987/2 and 1987/3): 1. “POTRILLO OBSCURO (Prov. de La Pampa) ♀ [in pencil] Col: Exp. Museo 27/I/1958 *Leptomastix* [in pencil]”; 2. “*Aglyptoideus rusticus* Det. De Santis PARATIPO [MLPA type number, added later in pencil] MUSEO DE LA PLATA”.

Distribution. Argentina: Autonomous City of Buenos Aires, Buenos Aires, and La Pampa (De Santis 1964, 1967).

Hosts. Unknown.

Taxonomic notes. This species was described from the holotype and six female paratypes (De Santis 1964). The antennal funicle (Fig. 50) is black, and the fore wing disc has a small, inconspicuous infuscation that is noticeable just behind the submarginal vein (Fig. 51).

Acknowledgments

We are indebted to Juan José Martínez (MACN) for his kind help during the first author’s visit to the respective collection in Argentina during February 2014 and for the loan of type specimens. We also thank Vladimir V. Berezovskiy and Andy H. Duong (UCRC) for making excellent mounts of the specimens, Paul Rugman-Jones (UCRC) for his generous help with the molecular analyses, Eduardo G. Virla (IMLA) for his friendly assistance on many occasions, and Mariel Guala (FuEDEI) and Darío Ruiz for help with collecting. Gary A.P. Gibson (Zootaxa Subject Editor) and John S. Noyes (BMNH) made many useful comments and suggestions in their reviews of the manuscript. This study was funded by the USDA-APHIS (Agreement No. 34-WI-14-1001-0861-IA to FuEDEI).

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