

NEW RECORDS AND DATA ON SCALE INSECTS (HEMIPTERA: COCCOIDEA) FROM SOUTHERN SPAIN

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Abstract: Eleven species of scale insects are recorded from southern Spain, with data on their geographical distribution and host plants. Four of these species, *Micrococcus silvestrii* Leonardi, 1907, *Antonina graminis* (Maskell, 1897), *Pseudococcus cryptus* Hempel, 1918 and *Planococcus vovae* (Nasonov, 1908), are recorded for the first time from the Iberian Peninsula.

Key words: Hemiptera, Coccoidea, new records, Spain.

Nuevas citas y datos sobre cochinillas (Hemiptera: Coccoidea) del Sur de España

Resumen: Se citan once especies de cochinillas del Sur de España, junto con su distribución geográfica y plantas huésped. Cuatro de estas especies, *Micrococcus silvestrii* Leonardi, 1907, *Antonina graminis* (Maskell, 1897), *Pseudococcus cryptus* Hempel, 1918 y *Planococcus vovae* (Nasonov, 1908) se citan por primera vez de la Península Ibérica.

Palabras clave: Hemiptera, Coccoidea, nuevas citas, España.

The inventory of scale insects (Hemiptera: Coccoidea) fauna of Spain comprise 203 species distributed among the following 11 families: Aclerdidae, Asterolecaniidae, Coccidae, Diaspididae, Eriococcidae, Kermesidae, Lecanodiaspididae, Margarodidae, Ortheziidae, Phoenicococcidae and Pseudococcidae (Ben-Dov *et al.*, 2010). Juan Gómez-Menor Ortega (1903-1983), in his numerous publications on the group, was the main contributor to the current knowledge of scale insects in the Iberian Peninsula. But, we should also recall the studies by Pablo Colvée (1849-1903), Ricardo Garcia Mercet (1860-1932), Filippo Silvestri (1873-1949) and Alfred Serge Balachowsky (1901-1983).

In this note we present information on several species of scale insects which have been collected in recent years by the senior author in Spain. Species names indicated with an asterisk (*), refer to species that are recorded for the first time from the Iberian Peninsula.

Voucher specimens of the species recorded here are deposited (under the references C-number and I-number which are indicated here at the end of each record) in the Coccoidea collection, Department of Entomology, Agricultural Research Organization, The Volcani Center, Bet Dagan, Israel and in the personal collection of I. Sánchez respectively.

**Antonina graminis* (Maskell, 1897) (Pseudococcidae)

This mealybug, supposedly of Asian origin, is now widely distributed in most territories of the tropical and subtropical regions (Ben-Dov, 2010). In the Mediterranean basin it has been recorded from Egypt, France, Iran, Iraq, Israel, Italy, Lebanon, Libya and Turkey (Ben-Dov, 2010). This is the first record for the Iberian Peninsula.

MATERIAL EXAMINED: Jerez de la Frontera, FREMAP gardens (Cádiz province), on *Cynodon dactylon*, (L.) Pers. 17.X.2007, C-4572.

Antonina purpurea Signoret, 1875 (Pseudococcidae)

This Palaearctic mealybug is common on plants of the Poaceae. In Spain it has been recorded from the provinces of Alicante,

Cádiz, Gerona, Granada, Málaga, Murcia, and Toledo (Gómez-Menor Ortega, 1954, 1958, 1960, 1965, 1968). We have found this mealybug to damage Golden Bamboo at several localities. MATERIAL EXAMINED: Cádiz, Jerez de la Frontera, Zoobotánico, on *Phyllostachys aurea*, 15.VII.2008, C-4570; Málaga, Fuengirola, zoo, on *Phyllostachys aurea*, 12.V.2007, I-23; Granada, Almuñecar, El Majuelo park, on *Phyllostachys aurea*, 03.VI.2009, I-26.

Chionaspis etrusca Leonardi, 1908 (Diaspididae)

This Holarctic species has been previously recorded in Spain from the provinces of Alicante, Almería, Cádiz, Gerona and Madrid (Blay Goicoechea, 1992). The only record for the last province (Gómez-Menor Ortega, 1957) has neither exact location nor host so we have considered interesting to include this new record. *Chionaspis etrusca* was so far recorded mainly from *Tamarix* spp., but was never recorded from this specific host (Ben-Dov, 2010).

MATERIAL EXAMINED: Jerez de la Frontera, El Portal (Cádiz province), on *Tamarix canariensis* Willd., 27.X.2007, C-4617.

Heliococcus minutus (Green, 1925) (Pseudococcidae)

This species has been recorded from the United Kingdom (Channel Islands), France and Spain (Granada, Madrid and Mallorca) (Gómez-Menor Ortega, 1937).

MATERIAL EXAMINED: Cádiz, San José del Valle, Dehesa Picado, in clusters under stones, associated with *Bothriomyrmex* sp. ants, 19.XI.2006, C-4385.

Hemiberlesia lataniae (Signoret, 1869) (Diaspididae)

This cosmopolitan species has been recorded in Spain from Alicante, Almería, Barcelona, Córdoba, Murcia, Pontevedra, Sevilla, Tarragona y Valencia (Blay Goicoechea, 1992). *Eleagnus pungens* Thunb. is a new host plant record for this polyphagous species (Ben-Dov, 2010).

MATERIAL EXAMINED: Jerez, ASISA Gardens, on *Eleagnus pungens* Thunb., 05.I.2007, C-4646; Jerez, Zoobotánico, on *Olea europaea* L., 26.X.2007, C-4659.

**Micrococcus silvestrii* Leonardi, 1907 (Micrococcidae)

This species was previously known only from Italy, Sardinia and Morocco (Leonardi, 1907; Miller & Williams, 1995), and

here it is recorded for the first time from the Iberian Peninsula. All our records from Spain were collected on roots of host plants of the Poaceae, where this scale insect was attended by ants of the genus *Tapinoma*. However, Marotta *et al.* (1995) have recorded this species also from roots of *Rubus* sp. (Rosaceae). All other species of the genus *Micrococcus* appear to be specific to host plants of the Poaceae (Miller & Williams, 1995).

MATERIAL EXAMINED: samples in Cádiz province: Puerto Real (Pinar de las Yeguas), on Poaceae, 01.II.2006, C-4044; Bornos (Sierra del Calvario), in nest of *Tapinoma nigerrimum*, 18.IV.2006, C-4133; San José del Valle (Dehesa Picado), on Poaceae, 09.IV.2006, C-4644; same locality on *Poa* sp., in nest of *Tapinoma nigerrimum*, 15.I.2007, C-4234; El Puerto de Santa María (Dunas de San Antón) 21.I.2007, on roots of Poaceae, in nest of *Tapinoma nigerrimum*, C-4383; sample in Málaga province: Cortes de la Frontera, in nest of *Tapinoma nigerrimum*, 12.X.2008, C-4649.

***Saissetia coffeae* (Walker, 1852) (Coccidae)**

This species has been previously recorded in Spain (Gómez-Menor Ortega, 1937, 1946, 1948) as *S. hemisphaerica* from Almería, Madrid and Valencia provinces.

MATERIAL EXAMINED: Jerez, Zoobotánico de Jerez (Cádiz province), on *Asplenium nidus* (L.) Raddi, 22.VIII.2006, C-4645; Jerez, on *Platyserium bifurcatum* (Cav.) C. Chr., 15.VI.2008, I-22.

***Trabutina mannipara* (Hemprich & Ehrenberg, 1829) (Pseudococcidae)**

The Manna mealybug is a Palaearctic species that is host-specific to species of *Tamarix*. It was recently recorded in Spain from Jerez de la Frontera, Cádiz (Sánchez-García, 2004).

MATERIAL EXAMINED: Cádiz, Torrecera, on *Tamarix canariensis* (Willd.), 09.V.2008, C-4581; San José del Valle, Dehesa Picado, on *T. canariensis* 11.V.2008, I-25; Cádiz, Bornos, tail of the reservoir, on *T. canariensis*, 20.V.2007, I-24.

***Peliococcus cycliger* (Leonardi, 1908) (Pseudococcidae)**

This Palaearctic species appears to be distributed in western countries of the Mediterranean basin, and most records were collected from olive, *Olea europaea*. In Spain it has been recorded only in Aranjuez, Madrid province (Gómez-Menor Ortega, 1946) on *Olea europaea*.

MATERIAL EXAMINED: Granada, Loja, La Atajaea, on *Olea europaea* (Oleaceae), 20.VIII.2008, C-4661.

****Planococcus vovae* (Nasonov, 1909) (Pseudococcidae)**

This mealybug is widespread throughout the Mediterranean region, and in the Palaearctic region from England in the West to Central Asia. It is known mainly from trees belonging to the family Cupressaceae (Ben-Dov, 2010). Here it is recorded for the first time from the Iberian Peninsula.

MATERIAL EXAMINED: Cádiz, Sanlúcar de Barrameda, Laguna de Tarelo, on *Juniperus phoenicea* (L.), 23.VI.2006, C-4648.

****Pseudococcus cryptus* Hempel, 1918 (Pseudococcidae)**

Pseudococcus cryptus, commonly named the citriculus mealybug, is fairly polyphagous and widely distributed in South

East Asia, South America and Tropical Africa. Until this new record from Spain, it was known in the Mediterranean region only from Israel, where it is particularly a pest of citrus (Ben-Dov, 2010). This is also a new host plant record for this species. MATERIAL EXAMINED: Cádiz, Jerez de la Frontera, Zoobotánico, on *Viburnum tinus* L. (Caprifoliaceae), 17.VI.2006, C-4576.

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