

First record of *Russellaspis pustulans* (Cockerell) (Hemiptera: Asterolecaniidae) in Turkey

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Abstract: In this note, we report the presence of *Russellaspis pustulans* (Cockerell) (Hemiptera: Asterolecaniidae) in Turkey.

Key words: *Russellaspis*, *Nerium oleander*, new record

Members of the family Asterolecaniidae (Hemiptera: Sternorrhyncha: Coccoidea) are known as pit scales, and include 240 species belonging to 23 genera distributed all over the world, with 73 species in 11 genera in the Palaearctic region (Kozár, 1998; Ben-Dov et al., 2014). Although pit scales have been found on a wide range of host plant species, they generally specialize on Poaceae (bamboos), Palmae (palms), and Fagaceae (oaks) (Russell, 1941). Asterolecaniids are characterized by having transparent or translucent scale covers and producing a pit on the plant surface as a result of a plant defense mechanism.

The most comprehensive study was made by Russell (1941), who revised the genus *Asterolecanium* sensu lato with 156 species at that time. Currently, the most species-rich genera in the family are *Bambusaspis* (Cockerell) (with 60 species), *Asterolecanium* Targioni Tozzetti (with 58 species), *Palmaspis* Bodenheimer (with 34 species), and *Asterodiaspis* Signoret (with 25 species), members of which are specialized on oaks, Fagaceae, bamboo, and palms, respectively.

Ten species have been recorded in Turkey, belonging to the genera *Asterodiaspis* (5 species), *Planchonia* Signoret (2 species), and *Pollinia* Targioni Tozzetti (*P. pollini*) (Kaydan et al., 2013).

Russellaspis pustulans (Cockerell) (Figures 1a–1d) is a species that is distributed worldwide and found on 225 plant species from 64 different plant families, mostly on Rosaceae, Malvaceae, and Fabaceae (Ben-Dov et al., 2014). This is an interesting species that induces pits of different shapes, such as deep or shallow pits, or no pits at all,

depending on its host plants. Although deep pits can be seen on stems and branches, generally no pits occur on leaves and fruits (Russell, 1941; Gullan et al., 2004).

The female body is almost round or oval, rarely slightly produced posteriorly and covered by a transparent secretion; brownish or greenish yellow. White or pink wax filaments on body margin and dorsal areas; dorsal filaments generally longer than marginal ones (Russell, 1941; Stumpf, 2000). The adult females of family Asterolecaniidae are defined by the following microscopic characters: presence of figure-8-shaped pores on both/ either dorsum and/or venter, and asymmetrical tubular ducts on dorsum (Figure 1e).

In this note, we report the presence of *R. pustulans* on *Nerium oleander* L. (Apocynaceae) in Turkey.

Samples were collected from ornamental plants from Adana and Mersin in Turkey. Each sample was placed in a plastic bag and taken to the laboratory for examination. Specimens were prepared for light microscopy using the slide-mounted method of Kosztarab and Kozár (1988), and identified according to the key provided by Russell (1941).

Material examined: Turkey, Adana, Balcalı, 26.v.2012, 6 ♀♀, *Nerium oleander* (Apocynaceae), coll.: A. F. Çalışkan; Turkey, Adana, Balcalı, 02.vi.2012, 5 ♀♀, *Nerium oleander* (Apocynaceae), coll.: A. F. Çalışkan; Turkey, Adana, Balcalı, 14.x.2012, 7 ♀♀, *Nerium oleander* (Apocynaceae), coll.: A. F. Çalışkan; Turkey, Adana, Balcalı, 18.x.2012, 4 ♀♀, *Nerium oleander* (Apocynaceae), coll.: A. F. Çalışkan; Turkey, Mersin, Silifke, 25.vi.2013, 4 ♀♀, *Nerium oleander* (Apocynaceae), coll.: M. B. Kaydan;

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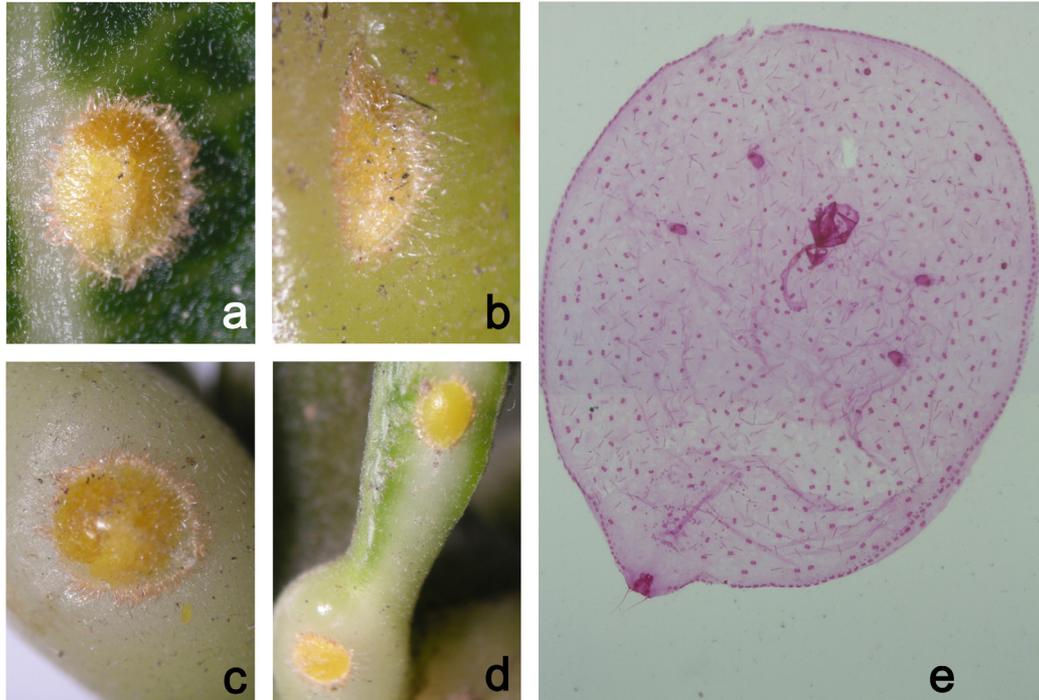


Figure 1. *Russellaspis pustulatus* (Cockerell) (Photos: AFÇ and MBK).

Turkey, Mersin, Yeşilovacık, 09.ix.2013, 6 ♀♀, *Nerium oleander* (Apocynaceae), coll.: M. B. Kaydan.

The asterolecaniid was found in very high densities on young branches of the infected trees. Because this species

is highly polyphagous, it may occur on other host plants and be more widely spread in the region. For this reason, further collections should be done in order to determine the host plants and distribution of this pit scale species in Turkey.

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