

A NEW SPECIES OF *PELIOCOCCUS* (HOMOPTERA: PSEUDOCOCCIDAE) FROM
THE JUDEAN DESERT

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ABSTRACT

A description is given of the adult female of *Peliococcus deserticola* Ben-Dov and Gerson, n.sp., (Homoptera: Pseudococcidae) found on roots of sumac, *Rhus tri-partita* (B. Ucria) Grande (Anacardiaceae) and on leaves of *Onosma aleppica* Boiss. (Boraginaceae) in the Judean Desert.

KEY WORDS: *Peliococcus deserticola* n.sp., Homoptera, Pseudococcidae, *Rhus tripartita*, Israel.

About 28 species of *Peliococcus* Borchsenius (Homoptera: Pseudococcidae) have been found in various parts of the world. These include Asia (Borchsenius, 1949; Ter-Grigorian, 1973; Tereznikova, 1975; Danzig, 1980), Europe (Williams, 1962) the Middle East (Ezzat, 1960), Africa (De Lotto, 1964, 1969) and North America (Ferris, 1950; McKenzie, 1967). In addition to their wide-ranging geographical distribution, the members of this genus are known from host plants belonging to at least 10 families, infesting the roots as well as aerial parts of their host plants.

The sumac *Rhus tripartita* (Bernard de Ucria) Grande (Anacardiaceae) is distributed in small isolated populations across North Africa into the Middle East. Most populations grow in a desert environment but a few are found in Mediterranean environments. This sumac has pseudo-thorns, a three-part leaf, and is usually encountered as a scrubby tree (0.5-2.0 meters tall). It is dioecious, flowering and fruiting in winter (November-February). Desert populations are deciduous (June-September). Propagation is primarily through rhizoids and the trees live on the rocky slopes of canyons rather than in the canyon floor or on the desert plateau. *Onosma aleppica* Boiss. (Boraginaceae) is a perennial herb, 30-60 cm tall, densely-stemmed, with rigid-bristled leaves, found on the chalky or loess soil of deserts or steppes and in some more Mediterranean environments in the Middle East. It flowers from April into June. In Wadi Qilt it usually grows along the open aqueducts.

The new species of *Peliococcus* described here was first discovered on *Rhus tri-partita* in the course of a four-year (1977-1981) study on the ecology and phenology of this tree (D.G. Furth, in preparation). The mealybugs were observed on sumac roots in a population at Wadi Qilt in the Judean Desert between Jerusalem and Jericho. The

mealybugs were tended by rather large ants, *Camponotus thoracicus fellah* Em. (Hymenoptera: Formicidae), during the initial collection (January 3) but were unattended when collected from sumac roots in the same host population the following year (December 18). The mealybugs were also collected from *Onosma aleppica* (October 22). These observations indicate that the mealybug is neither host specific to the sumac nor is it obligatory hypogaecic, and that its relationship with the ants is possibly a "weak, casual seasonal" one (Mc Kenzie, 1967). No males of this new species have been found to date; however, we cannot yet assume that this species is parthenogenic.

Peliococcus deserticola Ben-Dov and Gerson, n.sp.

(Fig. 1)

Adult female (mounted on a slide) oval in outline; anal lobes well developed; young female — 1.5 mm long, 1.0 mm wide; dimensions of largest specimens 3.4 mm x 2.2 mm.

Dorsum with 18 pairs of cerarii; XVI cerarii each with 3 spines, and 3-6 trilocular pores; rest of cerarii each with 2 spines and 3-6 trilocular pores; anal lobe cerarius with 2 stout, conical spines, one slender seta and 15-20 trilocular pores; all cerarii devoid of auxiliary setae. Clusters of multilocular (4-8 pores in each, commonest number 6) distributed on dorsal surface, excluding the post genital segments; a single oral collar duct placed in middle of each cluster. Trilocular pores on dorsum, numerous, evenly distributed. Slender setae, varying in size, distributed all over dorsum in no regular pattern. Anterior and posterior ostioles with membranous inner lips; outer lips, each with 2-4 slender setae and 15-20 trilocular pores. Anal ring, entire, with 2 rows of pores, and 6 setae 130-140 μ m long.

Ventrum with clusters of multilocular pores (same structure as dorsal ones); clusters present on most of surface, excluding the head, the anal-lobe segment, and median + submedian areas of three pregenital segments. Other multilocular pores disposed in transverse bands on ventral midregion of anal lobe segment (40-50 pores), and on the three preceding segments (60-70, 35-40 and 6-10 pores, respectively). Quinquelocular pores present on ventral midregion areas from second pregenital segment to mouthparts. Tubular ducts of the oral-collar type present ventrally on submargin of postgenital segments, and on the three pregenital segments. Circulus present. Legs well-developed; claw with a denticle; coxa 160-170 μ m long; trochanter + femur 240-280 μ m long; tibia 160-180, and tarsus 80-90 μ m long. Trilocular pores on ventrum less numerous than on dorsum. Ventral setae, longer and more numerous than dorsal ones. Labium about 160 μ m long. Antenna 9-segmented, 490-530 μ m long. Anal lobe, ventrally without a sclerotized bar; apical seta 250 μ m long, subapical one 120 μ m long. Eyes conspicuous.

MATERIAL EXAMINED. Holotype, ♀, Israel Wadi Qilt (about 15 km west of the Dead Sea), on roots of *Rhus tripartita*, 18 December 1980, D.G. Furth (no. C/1570); 12 paratypes ♀♀, same data as holotype. Additional material (not included in type-series) was taken at the type-locality on leaves of *Onosma aleppica*, 22 October 1979, Y. Ben-Dov, and on roots of *R. tripartita*, 3 January 1980, D.G. Furth & U. Gerson.

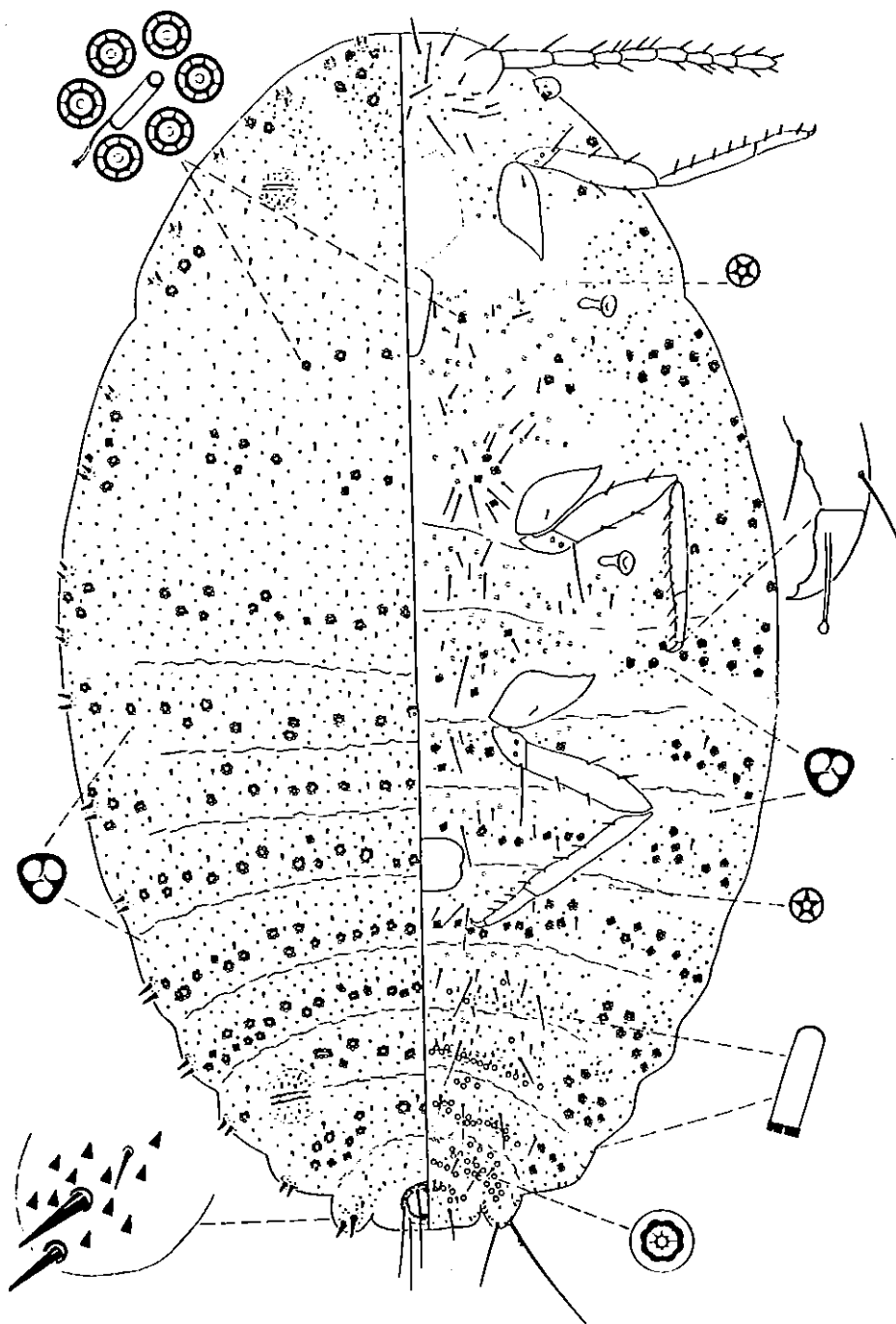


Fig. 1. *Peliococcus deserticola* Ben-Dov and Gerson, adult female.

The holotype and paratypes are in the Coccoidea collection, Division of Entomology, Agricultural Research Organization, Bet Dagan. Paratypes will be deposited in: Department of Entomology, Faculty of Agriculture, Rehovot; British Museum (Natural History), London; U.S. National Museum, Smithsonian Institution, Washington, D.C.; Museum National d'Histoire Naturelle, Paris.

TAXONOMIC NOTES. Two species of *Peliococcus*, namely *zillae* (Hall) and *priesneri* (Laing), were hitherto known from the Middle East. The new species differs from *priesneri* by the presence of a circulus. It can be distinguished from *P. zillae* by its greater number of multilocular pores in each of the dorsal and ventral clusters, and by the absence of oral collar ducts on thoracic segments. It differs also from another *Peliococcus* known from *Rhus*, namely *P. plurimus* De Lotto, 1969, from South Africa, by the presence of a circulus and by the small number of multilocular pores in the clusters.

Bodenheimer (1924) recorded a *Pulvinaria* sp. from the Dead Sea area, which later (1935) he named *P. subterranea*. The latter was shown to be a *nomen nudum* (Ben-Dov, 1971). Bodenheimer's record was taken from the roots of *Rhus (oxycanthoides) tripartita* collected at Masada, not far from the type-locality of *P. deserticola*. It seems likely that Bodenheimer's record actually referred to the species that we have described, but no material of *P. subterranea* exists.

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