A new species of gall-forming armored scale insect from Israel (Homoptera, Coccinea: Diaspididae)

E.M. Danzig

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A new species of gall-forming armored scale insect, *Diaspidiotus roseni* sp. n., living on *Nitraria retusa* in Israel is described and compared with *D. nitrariae* (March.).

E.M. Danzig. Zoological Institute, Russian Academy of Sciences, Universitetskaya nab. 1, St.Petersburg 199034, Russia.

Introduction

Marchal (1911) described from Tunisia a gall-forming armoured scale *Diaspidiotus nitrariae* living on leaves of *Nitraria*. It was *Nitraria retusa*, the only species of *Nitraria* distributed in Tunisia (Bobrov, 1965). Bodenheimer (1926) recorded *D. nitrariae* from Palestine (now Israel) from *Nitraria tridentata* (= *retusa*). Recently I received from Israel gall-forming scale also from *N. retusa*, but strongly different from *D. nitrariae* (redescribed by Balachowsky, 1950). Bodenheimer did not give a description of his material from Israel, and this material (from Jordan Valley) could not be located, but the later collected specimens from Bodenheimer's collection (2 slides, Judean Desert, 18.IX.1942) belong to the new species described below, not to *D. nitrariae* (Y. Ben-Dov, personal communication). Coccinea (except for the family Eriococcidae), and the family Diaspididae particularly, have relatively few gall-forming species, in contrast to their relatives under Sternorrhyncha, such as Psyllinea and Aphidinea. Of the approximately 1700 described species of diaspidids, only 31 are known to cause galls (Larew, 1990). "Perhaps it is because their covering scale minimized the need for additional protection and with their sedentary feeding habit the diaspidids undoubtedly establish nutrient sinks on the plant similar to those established by gall-formers" (Larew, 1990). I suppose that this explanation is correct for all Coccinea with their perfect protection coverings and semisedentary or sedentary habits. Therefore discovery of two gall-forming diaspidid species on the same host plant is remarkable.

The genus *Nitraria* consisting of 10 species is widespread in deserts of Palaearctic, one species is known from Australia (Bobrov, 1965), but diaspidids are recorded only from *N. retusa*. The genus is divided into 2 sections. *N. retusa* forms a monotypic section definitely isolated from all other species (Bobrov, 1965) and is most primitive in the genus (Komarov, 1908; Emeljanov, 1972). The range of distribution of *N. retusa* is very wide: from Senegal in Africa to Iraq in the Near East (Bobrov, 1965). Gall-forming as a specialized type of nutrition and restriction to most primitive species of the genus *Nitraria* suggest an ancient association of these two species of diaspidids with their host plant.

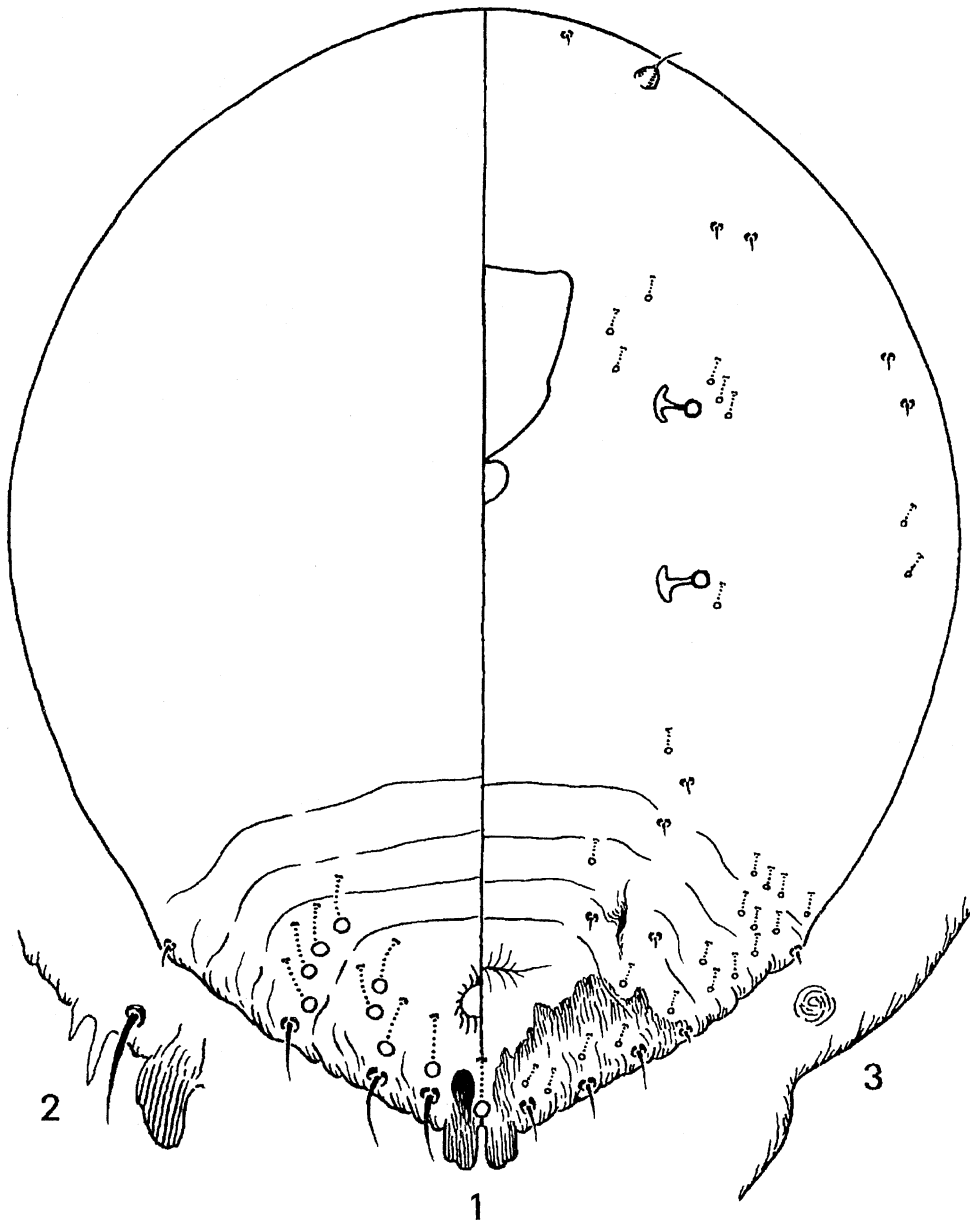
The holotype and paratypes of the new species are kept in the collection of Zoological Institute, St.Petersburg.

Diaspidiotus roseni sp. n.
(Figs 1-3)

Holotype. ♀, **Israel**, 45 km S of Newe Zoher, Natreva, on *Nitraria retusa*, 25.V.1992 (D. Gerling, V. Kravchenko, E. Sugonjaev).

Paratypes: 5 ♀, 1 second instar larva, 1 exuvium, about 50 empty scales of males, with the same data.

Description. Female. Scale white, opaque; exuviae yellow, central. Body pyriform; more mature specimens a little constricted at first abdominal segment (Fig. 3); about 1 mm long. Derm membranous except for frontal and pygidial margin. A submarginal



Figs 1-3. *Diaspidiotus roseni* sp. n., female. **1**, general view, holotype; **2**, plates of the second furrow, paratype; **3**, dorsal margin with boss, paratype.

dorsal boss present sometimes on first abdominal segment (Fig. 3). Pygidium with median lobes only; the latter elongated, parallel, with more or less developed dent on outer edge. Basal scleroses well developed. Plates either absent or 2 rudimentary, spiniform plates present between median and second lobes (Fig. 2). Dorsal ducts a few on pygidium only. Paraphyses inconspicuous. Perivulvar disc pores absent. Ventral ducts sparse, without concentration near body margin.

Scale of the male similar to the scale of female, but elongate.

Etymology. The new species is named in honour of the famous Israeli entomologist

David Rosen, who prematurely died in 1997.

Comparison. D. roseni differs distinctly from *D. nitrariae* (March.) in the reduced number of all structures of pygidium and in the opaque scale. In contrast to *D. nitrariae*, *D. roseni* is a bisexual species.

Biology. Females form pit galls on leaves. As typical of gall-forming diaspidids (Beardsley, 1984), the insects are incompletely covered by plant tissue, the top of the gall is covered by the scale. Males form no galls, occur not only on lives but also on twigs. The species is ovoviviparous. In the end of May, young females, females with crawlers under scale and second instar larvae occured. Numerous crawlers were on leaves and twigs. Scales of males were empty.

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