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***Rhizopulvinaria nevesi* (Gómez-Menor Ortega, 1946) n. comb. for *Lecanopsis nevesi*
and comments on the genus *Rhizopulvinaria* Borchsenius, 1952
(Hemiptera Coccoidea Coccidae)**

Abstract - The species *Lecanopsis nevesi* Gómez-Menor Ortega, 1946 is transferred to the genus *Rhizopulvinaria* Borchsenius, 1952. The adult female is redescribed and illustrated, a lectotype is designated. Observations on the species belonging to the genus *Rhizopulvinaria* are also reported.

Riassunto - *Rhizopulvinaria nevesi* (Gómez-Menor Ortega, 1946) n. comb. per *Lecanopsis nevesi* e considerazioni su *Rhizopulvinaria* Borchsenius, 1952 (Hemiptera Coccoidea Coccidae).

Lecanopsis nevesi Gómez-Menor Ortega, 1946, viene trasferita al genere *Rhizopulvinaria* Borchsenius, 1952. Viene ridescritta la femmina adulta del Coccide e ne viene designato il lectotipo. Sono inoltre riportate alcune osservazioni sul complesso di specie appartenenti al genere *Rhizopulvinaria*.

Key words: *Rhizopulvinaria nevesi* n. comb., *Lecanopsis nevesi*, *Rhizopulvinaria*, Coccoidea.

While preparing a systematic revision of the genus *Lecanopsis* Targioni Tozzetti, 1872, we received on loan from the Museum Nacional de Ciencias Naturales (MNCN), Madrid, Spain, the type series of *Lecanopsis nevesi* Gómez-Menor Ortega. In the description by Gómez-Menor Ortega (1946) the adult females of this species were reported as collected on roots and subterranean parts of *Santolina chamaecyparissus* (Compositae) in November. The recording of an adult *Lecanopsis* on a Composita in November appeared to be unusual. It is known that the *Lecanopsis* species live on Gramineae and overwintering is carried out by 3rd instar females and 2nd instar males (Boratynsky *et al.*, 1982; Pellizzari & Fontana, 1998). Moreover, the detailed illustration by Gómez-Menor Ortega cast doubt on the real pertinence of the species to the genus *Lecanopsis*. This species was no more recorded after its description.

The study of the type series revealed that the specimens attributed to *Lecanopsis* belong to the genus *Rhizopulvinaria* Borchsenius without any doubt.

This paper introduces the new generic placement of *R. nevesi* and presents a

redescription of the adult female of the species. In fact the original description by Gómez-Menor Ortega is in many respects quite detailed, nevertheless some important information, largely used in systematics of Coccidae, (e. g. shape and number of stigmatic spines, average number of spiracular pores), are not reported.

***Rhizopulvinaria nevesi* (Gómez-Menor Ortega) n. comb.**

Lecanopsis nevesi Gómez-Menor Ortega, 1946: 88.

Lecanopsis nevesi Gómez-Menor Ortega, Martin Mateo, 1984: 72; Ben-Dov, 1993:158; Kozár *et al.*, 1998: 96.

MATERIAL EXAMINED: 3 slides deposited in the MNCN, Madrid, each with 2 females, one labelled "*Lecanopsis nevesi* Góm-Menor, H.C.18 928, Toledo, 10-III, sobre raiz de *Santolina chamaecyparissus*", the other two labelled respectively "En raiz de *Santolina chamaecyparissus*, H.C.22, Toledo, 1941" and "De raiz de *Santolina chamaecyparissus*, Toledo, 11-941". According to the Conservator of the Museum, Mrs. I. Izquierdo (1996, in litteris), Gómez-Menor Ortega did not use to label the type species and the females in the slides should be considered as syntypes. One female of the slide n. H.C.18 928 (marked with a black spot) was remounted and is here designated as lectotype. The other female and the 4 females in the other two slides are here designated as paralectotypes.

Data and measurements of the type series are reported in Table 1.

Table 1 - Data and measurements of lectotype and paralectotypes.

	min	max	average
Total length (mm)	1,464	1,992	1,724
Total width (mm)	0,936	1,44	1,096
length of antennae (µm)	216	240	224
length of trochanter-femur (µm)	151	170	162
length of tibia (µm)	124	134	131
length of tarsus (µm)	72	76	073
length of anal plates (µm)	132	144	137
width of anal plates (µm)	72	96	84
length of marginal setae (µm)	9,6	21	16
length of stigmatic setae (µm)	6,4	14	9,3
number of anterior stigmatic spines	2	3	2,41
number of posterior stigmatic spines	1	2	1,6
number of anterior spiracular pores	25	46	33,4
number of posterior spiracular pores	35	46	41,3

DESCRIPTION

LIVING FEMALE: according to Gómez-Menor the living female is greenish in colour, slightly convex, with body segments not distinct.

MOUNTED FEMALE: body oval, 1,46-1,99 mm long, 0,93-1,44 mm wide.

DORSUM: dorsal setae short, broadly spiniform, scattered over the dorsum. Preopercular pores present in a sparse group of about 8-10 pores in front of anal plates. Rare dorsal tubular ducts with a filamentous inner ductule. Anal plates subtriangular, 132-144 μm long and 72-96 μm wide, each with 4 apical setae. Anal ring with 6 setae.

MARGIN: marginal setae spinose, conical, with blunt apex, rather variable in length (each 9,6 -21 μm long), present in an uneven double line, with about 44 setae on each side. Stigmatic spines conical, shorter than marginal setae (each 6,4-14 μm long). There are usually 2 or 3 stigmatic spines in each anterior stigmatic area and 1 or 2 in each posterior stigmatic area.

VENTER: antennae 8-segmented, 3rd segment longest; total length 216-240 μm . One pair of long and two pairs of short setae between antennae. Pregenital disc-pores each with 7 loculi on the abdominal sternites, more abundant around genital opening. Spiracles normal. Spiracular disc-pores each with 5 loculi present in a band between margin and spiracles, with 25-46 disc-pores in each anterior band and 35-46 disc-pores in each posterior band. Tubular ducts of two sizes, with a filamentous inner ductule, scattered on head, thorax and venter and forming a submarginal band becoming rather sparse between antennae. Ventral setae hair-like. Two pairs of pregenital setae. Legs each with a tibio-tarsal articulation and an articular scleritis. Claws with a distinct denticle; both claw digitules fine and with expanded tip; tarsal digitules similar but longer.

COMMENTS

R. nevesi shows affinities with both *R. maritima* Canard, 1967 and *R. artemisiae* (Signoret, 1873).

R. nevesi is very similar to *R. maritima* Canard, described for Southern France on *Helichrysum* (Compositae), but has a larger number of spiracular disc-pores (average 34 in the anterior band and 42 in the posterior band, while *R. maritima* has respectively 21 and 24). In both the species the stigmatic spines are shorter than the marginal spines. Presently *R. maritima* has been recorded in France, Portugal and Italy (Kozár & Franco, 1995; Pellizzari & Fontana, 1996) and its presence in Spain would fill the gap. At the moment we have not yet compared *R. nevesi* with the type of *R. maritima* and this doesn't allow us to put the last in synonymy with *R. nevesi*.

R. artemisiae has the stigmatic spines shorter than the marginal spines, as *R.*

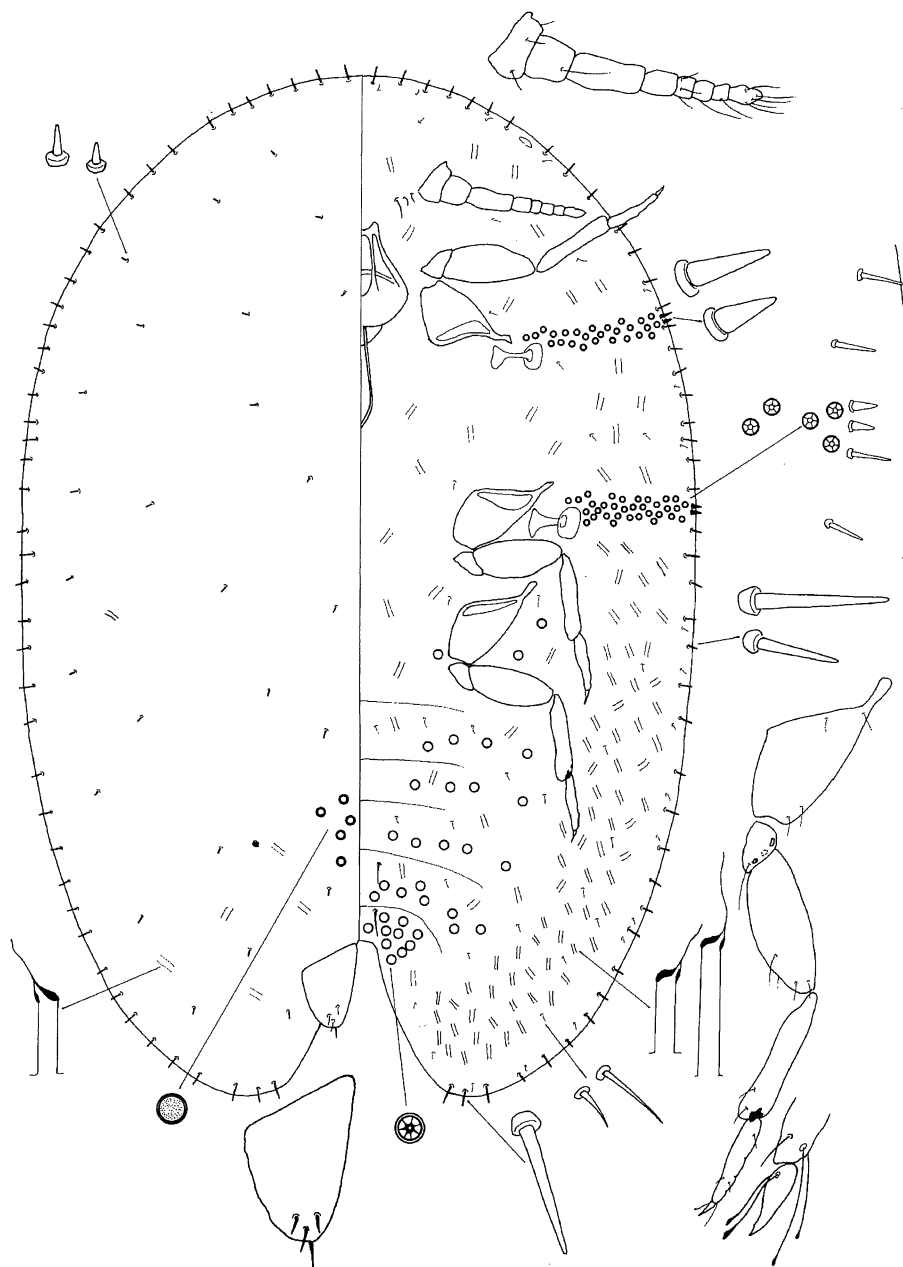


Fig. 1 - *Rhizopulvinaria nevesi* (Gómez-Menor Ortega) n. comb. - Adult female.

Table 2 - Species in the Genus *Rhizopolvinaria* (from Ben Dov, 1993; Pellizzari & Fontana, 1996; Kozár et al., 1998).

SPECIES	HOST PLANT	DISTRIBUTION
<i>arenaria</i> Canard, 1967	CARYOPHYLLACEAE: Dianthus	France
<i>armeniaca</i> Borchsenius, 1952	CHENOPODIACEAE	Armenia
<i>artemisiae</i> (Signoret, 1873)	COMPOSITAE: Artemisia ; CRUCIFERAE: Alyssum . CARYOPHYLLACEAE: Dianthus	Spain, France, Italy, Germany, Czechoslovakia, Hungary, Romania, Turkey, Irak
<i>dianthi</i> (Bodenheimer, 1943)	CARYOPHYLLACEAE: Dianthus , Alsine .	Iraq, Italy
<i>gracilis</i> Canard, 1967	CARYOPHYLLACEAE: Dianthus	France
<i>grandicula</i> Borchsenius, 1952	COMPOSITAE: Artemisia .	
	CAMPANULACEAE: Campanula . CRUCIFERAE: Erysimum . RUBIACEAE: Galium ; CARYOPHYLLACEAE: Silene . LABIATAE: Teucrium ; CHENOPODIACEAE: Kochia .	Armenia
<i>grassei</i> (Balachowsky, 1936)	CARYOPHYLLACEAE: Cerastium . UMBELLIFERAE: Anethum , Phoeniculum .	France, Italy
<i>halli</i> Borchsenius, 1957	COMPOSITAE: Artemisia	Egypt
<i>hissarica</i> Borchsenius, 1952	CARYOPHYLLACEAE: Dianthus	Tadzhikistan
<i>maritima</i> Canard, 1967	COMPOSITAE: Helichrysum	Portugal, France, Italy
<i>megriensis</i> Borchsenius, 1952	CHENOPODIACEAE	Armenia
<i>minima</i> Borchsenius, 1952	LEGUMINOSAE: Astragalus . ROSACEAE: Rosa . PLUMBAGINACEAE: Acantholimon	Kirgizia, Tadzhikistan
<i>narykulovi</i> Baz.& Shm., 1975	COMPOSITAE: Artemisia	Tadzhikistan
<i>nevesi</i> (Gomez Menor, 1946)	COMPOSITAE: Santolina	Spain
<i>polispina</i> Matesova, 1960	COMPOSITAE: Artemisia , Seriphidium . CARYOPHYLLACEAE: Silene	Kazakhstan
<i>pyrethri</i> Borchsenius, 1952	COMPOSITAE: Pyrethrum	Kazakhstan
<i>quadrispina</i> Matesova, 1960	CHENOPODIACEAE: Salsola	Kazakhstan
<i>retamae</i> (Hall, 1923)	COMPOSITAE: Artemisia . LEGUMINOSAE: Retama . SCROPHULARIACEAE: Linaria . UMBELLIFERAE: Pituranthos	Egypt, Israel Tadzhikistan
<i>rhizophila</i> Bazarov, 1963	COMPOSITAE: Artemisia	
<i>saxatilis</i> Canard, 1967	CARYOPHYLLACEAE: Dianthus	France
<i>saxosa</i> Shmelev, 1971	CARYOPHYLLACEAE: Dianthus	Tadzhikistan
<i>solitudina</i> Matesova, 1960	COMPOSITAE: Artemisia	Kazakhstan
<i>spinifera</i> Borchsenius, 1952	CARYOPHYLLACEAE: Dianthus , Gypsophila , Minuartia , Silene . COMPOSITAE: Achillea , Helichrysum . LEGUMINOSAE: Genista ; RUBIACEAE: Galium .	Hungary, Crimea, Moldavia, Ukraine, Georgia, Kazakhstan
<i>transcaspica</i> Borchsenius, 1952	COMPOSITAE: Artemisia	Turkmenia, Uzbekistan
<i>turkestanica</i> (Archang., 1931)	COMPOSITAE: Artemisia . CARYOPHYLLACEAE: Acanthophyllum , Silene . LABIATAE: Salvia , Scutellaria , Teucrium . SCROPHULARIACEAE: Scrophularia .	Tadzhikistan, Uzbekistan,
<i>turkmenica</i> Borchsenius, 1952	COMPOSITAE: Aster .	Turkmenia, Kazakhstan

(table 2 continued)

<i>ucrainica</i> Tereznikova, 1981 <i>variabilis</i> Borchsenius, 1952	CRUCIFERAE COMPOSITAE: Artemisia . CHENOPODIACEAE: Camphorosma , Eurotia LABIATAE: Scutellaria .	Crimea Kazakhstan, Stalingrad region
<i>virgulata</i> Borchsenius, 1952	COMPOSITAE: Artemisia . CHENOPODIACEAE: Sympegma .	Iran, Turkmenia, Mongolia
<i>viridis</i> Borchsenius, 1952	CARYOPHYLLACEAE: Dianthus , Minuartia . COMPOSITAE: Artemisia ; LABIATAE: Teucrium .	Crimea, Moldavia, Ukraine
<i>zaisanica</i> Matesova, 1960	COMPOSITAE: Artemisia . CHENOPODIACEAE: Camphorosma .	Kazakhstan
<i>zygophylli</i> Baz. & Shm., 1975	ZYGOPHYLLACEAE: Zygophyllum	Tadzhikistan

maritima and *R. nevesi*, but a larger number of stigmatic pores (average 47 pores in the anterior furrow and 58 in the posterior furrow (Canard, 1968)). Canard (1968) described the crawlers of *R. maritima* and *R. artemisiae* which are very similar. The recording of crawlers from the type locality of *R. nevesi* and their comparison with the crawlers of *R. maritima* and *R. artemisiae* should help in solving any doubt on their identity.

The genus *Rhizopulvinaria* was established by Borchsenius in 1952. It is comprehensive, including *R. nevesi* and excluding *R. ericae* (Balachowsky, 1936), recently transferred to the genus *Eulecanium* (Pellizzari & Fontana, 1996), of 32 species. Their identification is difficult because of their similarity; in some cases a complete illustration of the described species is lacking. Besides they present a large overlapping of host plants and distributional areas (Table 2). In fact 14 different species of *Rhizopulvinaria* are reported on *Artemisia*, 11 on Caryophyllaceae, 6 on Chenopodiaceae. Taking into account the distribution, 7 species are described from Tadzhikistan, 7 from Kazakhstan, 6 from Southern Europe, 3 from both Armenia and Turkmenia. In some cases different species were described from the same country and host plant by the same author (f.i. *R. polispina*, *R. solitudina*, *R. zaisanica*). In most cases these species were no more recorded after the original description. Besides, nobody took into account intraspecific variability that can be noticed when a large number of specimens from the same locality and host plant are available (Pellizzari, personal observation). The genus is in need of revision. A correct approach in the identification of the species could be the different length and shape of the crumena in the crawlers, as suggested by Canard (1965). The recording of new material, including crawlers, from the type localities could help in solving the problem of the identity of this species complex.

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