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**New genus and species of scale insects in Italy
(Homoptera Coccoidea Pseudococcidae)**

Abstract - The genus *Pellizzaricoccus* (Homoptera Coccoidea Pseudococcidae) and a new species *Pellizzaricoccus gabrielis* are described from Italy.

Riassunto - *Un nuovo genere e una nuova specie di cocciniglia in Italia (Homoptera Coccoidea Pseudococcidae).*

Vengono descritti il nuovo genere *Pellizzaricoccus* e la nuova specie *Pellizzaricoccus gabrielis* rinvenuti in Italia.

Key words: Homoptera, Coccoidea, Pseudococcidae, *Pellizzaricoccus gabrielis* sp. n., Italy.

The Mediterranean Region is one of the centers of origin of scale insects, but the study of its scale insects fauna was abandoned in the last 50 years (Kozár & Drozdják, 1987). The studies of the last years discovered several new species for the science and high number of new species for this Region (Ben-Dov, 1990; Ezzat & Nada, 1986; Goux, 1989; Kozár, 1983; Kozár & Matile-Ferrero, 1983; Kozár, Paloukis & Papadopoulos, 1991; Kozár & Pellizzari, 1989; Kozár, Tranfaglia & Pellizzari, 1984; Marotta & Tranfaglia, 1990; Matile-Ferrero, 1988; Pellizzari Scaltriti, 1986; Tranfaglia, 1981; Tranfaglia & Tremblay, 1984), and several other publications of these and other authors cited herein. All of these data show that the Mediterranean Region needs more intensive studies in the future.

In this paper a new genus is established, which could be a link between *Phenacoccus* and *Heliococcus* genera. The presence of members of this genus between described species in *Phenacoccus* and *Peliococcus* in different Regions of the world, needs further studies.

Genus *PELLIZZARICOCCUS* gen. n.Type species: *Pellizzaricoccus gabrielis* sp. n.

Description: Adult female elongate oval, claw with denticle. Ostioles present, well developed. Circulus moderately large, posterior half distinctly excised in both sides. Anal ring large, situated at the margin, with one inner and two outer rows of cells, and 6 setae, each shorter than the apical seta. Anal lobes well developed. Cerarii 18 pairs and there are some cerarii on the dorsum, too. Anal lobe cerarii large, with two big conical setae and 3 smaller, mixed with trilocular pores. Sclerotization of cerarii not so strong. All cerarii situated on well developed lobes. Dorsal setae conical, the ventral ones flagellated and near to the ventral margin mixed with small conical setae. Multilocular pores numerous on abdominal venter and some scattered on VII tergite. Fivelocular pores numerous on ventral side of thorax and in some rows on first sternites of abdomen. Trilocular pores numerous on both surfaces. Some small discoidal pores present on venter. Oral collar tubular ducts of two types, the smaller is a typical *Phenacoccus*-like. They are numerous on last sternites and some are on the margin of last tergites. The big ones are crateriform, like in *Heliococcus*, but without spines, they are not so strongly sclerotized and it could be well detected in the marginal position. They are situated similarly to big ducts of *Heliococcus* species. One duct is present on the dorsal surface of anal lobes.

Comments: The most prominent feature of *Pellizzaricoccus* is the presence of big crateriform tubular ducts, but without spines. By this character this genus has an intermediate position between *Phenacoccus* and *Heliococcus*. There are several species in *Peliococcus* and *Phenacoccus* genera, with possess similarly big tubular ducts on the dorsum, the structure of these needs further analysis. The need of separation of such kind of species from *Phenacoccus* was mentioned earlier by Ferris (1950).

The genus was named in honour of Professor Giuseppina Pellizzari (University of Padova, Institute of Entomology, Italy), who has substantial results in study of scale insect fauna of Italy.

Pellizzaricoccus gabrielis sp. n. (Fig. 1)

Type material: The holotype, adult female on slide, from unidentified *Compositae*, Firenze (Park Boboli), 6.V.1989, by F. Kozár (Kozár's collection No 3629), deposited with 4 paratypes in the Collection of Plant Protection Institute, Hungarian Academy of Sciences (Budapest, Hungary) and 2 others in

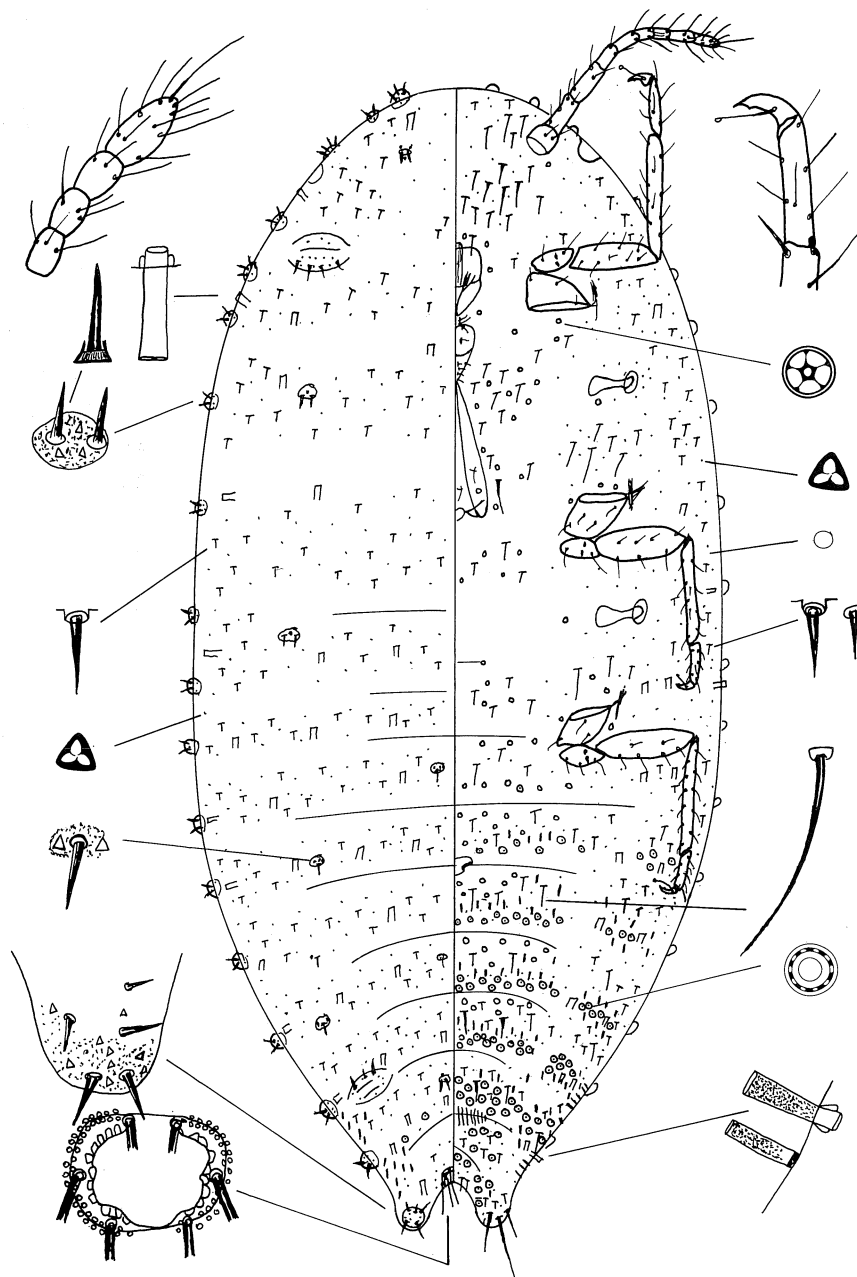


Fig. 1 - *Pellizzaricoccus gabrielis* genus and species nova, adult female.

the collection of Institute Entomology of Padova, University of Padova, (Italy).

Description: Mounted specimens elongate oval, 2 mm long and 1 mm wide. Antennae 9-segmented, 430 μm long. The length of segments is: I-33, II-66, III-63, IV-40, V-49, VI-40, VII-37, VIII-37, and IX-66 μm . Eyes circular. Labium 106 μm long, stylet loops 231 μm long, reaches the line of median legs. Legs well developed, the anterior 619 μm , the median 693 μm , the posterior 756 μm long. Claw with denticle. The tarsal digitules shorter than claw, with pointed end, the claw digitules longer than claw, with small knob. Legs without translucent pores. Spiracles with trilocular pores, but they do not form a special group. Circulus present, moderately large, posterior half distinctly excised in both sides. Ostioles large with spines and trilocular pores. The spines situated only on one lip of ostioles, in the thoracic ostioles on the posterior, and on the abdominal only on anterior lips. There are 18 pair of marginal cerarii. The anal lobe cerarius with 2 big and 3 smaller conical setae and about 8 trilocular pores. Most of the cerarii have only 2 setae and 2-3 trilocular pores. C1, C5, have 3, but C3 4 setae. There are some extra cerarii, scattered on the dorsum, with 1 or 2 setae and 1 or 2 trilocular pores. Anal lobes prominent. Anal ring large, oval, situated at the margin, with 1 inner and 2 outhern rows of cells and with 6 setae 112 μm long. The apical setae are 200 μm long. There are 2 subapical setae, the lenght of them is one third of the apical setae, and there are 3 smaller setae, too.

The multilocular pores form rows and bands on abdominal sternites and 4 were found on the VIIth tergites. The fivelocular pores are numerous on thoracic venter and form irregular rows on the I-VIth abdominal sternites. The trilocular pores are numerous on both surfaces, except median part of thoracic venter. Simple discoidal pores are scattered on venter. Tubular ducts of two shapes and sizes. The smaller ones are 11 μm long, typical for the *Phenacoccus*, situated in row on III-VIIIth abdominal sternites and in small marginal groups on the VII-VIIIth tergites. The big tubular ducts are crateriform, similar to *Heliococcus*, but without spines, 15 μm long. The crateriform end is not so heavily sclerotized and the structure can be seen clearly in marginal ones. They are scattered on the dorsum of thorax and in rare rows on abdominal tergites, in number 4 to 8. One of them is on the dorsal side of anal lobes, as it is usual for some *Heliococcus*, *Peliococcus* and *Phenacoccus*. One or two are present in the marginal band of venter. There is high number of flagellated setae on venter from 20 μm to 100 μm long. On the marginal band of the venter the setae are mixed with spines typical for dorsum. The dorsal spines, 10-12 μm long, form 2-3 irregular rows on dorsum, but there are no trilocular pores at the base of spines.

Comments: The most similar species to *P. gabrielis* seems *Phenacoccus lycii* (Ferris, 1919) from North America, living on *Lycium* sp. (Ferris, 1950), by the presence and position of very big tubular ducts on the dorsum, but the structure of them is not known. The *P. lycii* differs from *P. gabrielis* by absence of multilocular pores and by presence of groups of tubular ducts on venter of thorax. Our species is similar to *Phenococcus avenae*, Borchsenius (1949), too, which, according to Williams (1985), also has somewhat similar structure of big tubular ducts. The *P. gabrielis* differs from *P. avenae* by presence of extra cerarii on the dorsum, and by presence of spines only on one lips of each ostioles, by absence of translucent pores on the posterior tibia, and by excise on posterior side of circulus only.

The species was named in honour of Gabriele Scaltriti (University of Padova, Italy), who provided great help in our samplings and collected several important scale insect species in Italy.

Biology: The cream colored females were found on the roots, leaves and in the leafsheats of different plants (*Parietaria officinalis*, *Cynodon dactylon*, *Poa* sp., and others) in May 1991 in Padova, Bassano in Italy and in October 1990 in Athen in Greece, too.

The species was found exclusively only in towns, often in high density, what indicate that it could be an introduced species in Southern Europe. If it is true, the most probable origin is North America, where there are high number of species with similar characters, as it was shown by Williams (1985).

ACKNOWLEDGEMENTS

I extend my sincere thanks to Dr. Daniele Matile-Ferrero (Natural History Museum, Paris, France) for her comments on this species.

REFERENCES

- BEN-DOV Y., 1990 - Zoogeographical Affinities of Middle Eastern Mealybugs (Homoptera: Coccoidea: Pseudococcidae). - Proc. ISSIS-VI, Kraków, part II: 95-100.
- EZZAT M.Y., NADA S.M.A., 1986 - List of Superfamily Coccoidea as know to exist in Egypt. - Bull. Lab. Ent. agr. F. Silvestri (Suppl.) 43: 85-90.
- FERRIS G.F., 1950 - Atlas of the Scale Insects of North America, Ser. V, The Pseudococcidae (Part I) - Stanford University Press, Stanford, California: 1-278.
- GOUX L., 1989 - Contribution à l'étude des *Peliococcus* de la faune française. II. Description de quatre espèces nouvelles (Homoptera, Pseudococcidae). - Nouv. Revue Ent. (N.S.) 6: 301-312.

- KOZÁR F., 1983 - New and little known scale-insect species from Yugoslavia (Homoptera: Coccoidea). - Acta Zool. Sci. Hung. 29: 139-149.
- KOZÁR F., DROZDJÁK J., 1986 - Some Questions Concerning the Knowledge of Palaearctic Coccoidea (Homoptera). - Boll. Lab. Ent. agr. F. Silvestri (Suppl.) 43: 97-105.
- KOZÁR F., MATILE-FERRERO D., 1983 - Two New Species of Armoured Scale-insects from Hungary (Homoptera, Coccoidea: Diaspididae). - Acta Zool. Sci. Hung. 29: 389-395.
- KOZÁR F., TRANFAGLIA A., PELLIZZARI G., 1984 - New Records on the Scale insects fauna of Italy.-Boll. Lab. Ent. agr. F. Silvestri 41: 3-10.
- KOZÁR F., PALOUKIS S.S., PAPADOPULOS N., 1991 - New Scale-insect species (Homoptera: Coccoidea) for the Fauna of Greece. - Folia Ent. Hung. (N.S.) 1-10 (submitted).
- KOZÁR F., PELLIZZARI SCALTRITI G., 1989 - A New Mealybug from Italy: *Coccidohystrix zangherii* sp. n. (Homoptera: Coccoidea, Pseudococcidae). - Redia 72: 507-511.
- MAROTTA S., TRANFAGLIA A., 1990 - New and Little Known species of Italian Scale Insects (Homoptera: Coccoidea). - Proc. ISSIS-VI, Kraków, Part II. 107-112.
- MATILE-FERRERO D., 1988 - Sternorrhyncha: Suborder Coccoidea of Saudi Arabia (Part 2). - Fauna of Saudi Arabia 9: 23-38.
- PELLIZZARI SCALTRITI G., 1991 - Segnalazione di Omotteri Coccoidea nuovi per l'Italia (Homoptera). - Boll. Soc. Ent. ital. 123: 16-20.
- TRANFAGLIA A., 1981 - Studi sugli Homoptera Coccoidea. V. Note morfosistematiche su alcune specie di cocciniglie con descrizione di tre nuove specie di Pseudococcidae. - Boll. Lab. Ent. agr. F. Silvestri 38: 3-28.
- TRANFAGLIA A., TREMBLAY E., 1984 - Faunistic and Systematic Studies on Italian Scale Insects. - Verh. SIEEC.X. Budapest: 372-374.
- WILLIAMS D.J., 1985 - *Phenacoccus avenae* Borchsenius (Homoptera: Pseudococcidae) from the Netherlands and Turkey, Intercepted at Quarantine on Bulbs, Corms and Rhizomes of Ornamental Plants. - Bull. ent. Res. 75: 671-674.

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Ricevuto il 13 giugno 1991; pubblicato il 28 giugno 1991.