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RESEARCH ARTICLE

Pygmaeococcus giliomeei, a new species of scale insects (Homoptera: Coccinea: Pseudococcidae) from the Western Cape (South Africa)

Pygmaeococcus giliomeei – новый вид кокцид (Homoptera: Coccinea: Pseudococcidae) из Западно-Капской провинции Южной Африки

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Abstract. A new species, *Pygmaeococcus giliomeei* **sp. nov.** (Pseudococcidae), is described and illustrated based on specimens collected in the Western Cape Province of South Africa. This species is distinguished from its only congener, *P. morrisoni* McKenzie, 1960, which is distributed in California (USA), by the presence of numerous multilocular pores, six-segmented antennae, and the absence of ostioles.

Резюме. В статье описывается и иллюстрируется новый вид *Pygmaeococcus giliomeei* **sp. nov.** (Pseudococcidae), собранный в Западно-Капской провинции Южной Африки. Этот вид отличается от типового и единственного вида рода, *P. morrisoni* McKenzie, 1960, распространенного в Калифорнии (США), наличием многочисленных многоячеистых желез, 6-члениковыми усиками и отсутствием обеих пар спинных устьиц.

Key words: scale insects, mealybugs, morphology, taxonomy, South Africa, new species

Ключевые слова: кокциды, псевдококциды, морфология, таксономия, Южная Африка, новый вид

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Introduction

The present article continues a series of publications by the author and his coauthors on scale insects of South Africa. Previous articles (Gavrilov-Zimin & Chetverikov, 2017; Gavrilov-Zimin, 2019; Giliomee & Gavrilov-Zimin, 2021) have discussed the primary coccidological literature regarding the fauna of this country; therefore, relevant information is not repeated here.

Below, I provide a description of a new species of mealybugs, collected during a recent expedition in the Western Cape Province in October–November 2024.

Material and methods

The holotype of the new species is planned to be sent to the South African National Collection of Insects in Pretoria, South Africa (SANC). The paratypes are deposited in the collection of the Zoological Institute of the Russian Academy of Sciences in St Petersburg, Russia (ZIN RAS).

The methods for mounting and studying scale insects have been described in previous literature, such as Gavrilov-Zimin et al. (2021). The classification of higher taxa employed in this study is based on the publications by Danzig & Gavrilov-Zimin (2014) and Gavrilov-Zimin et al. (2021).

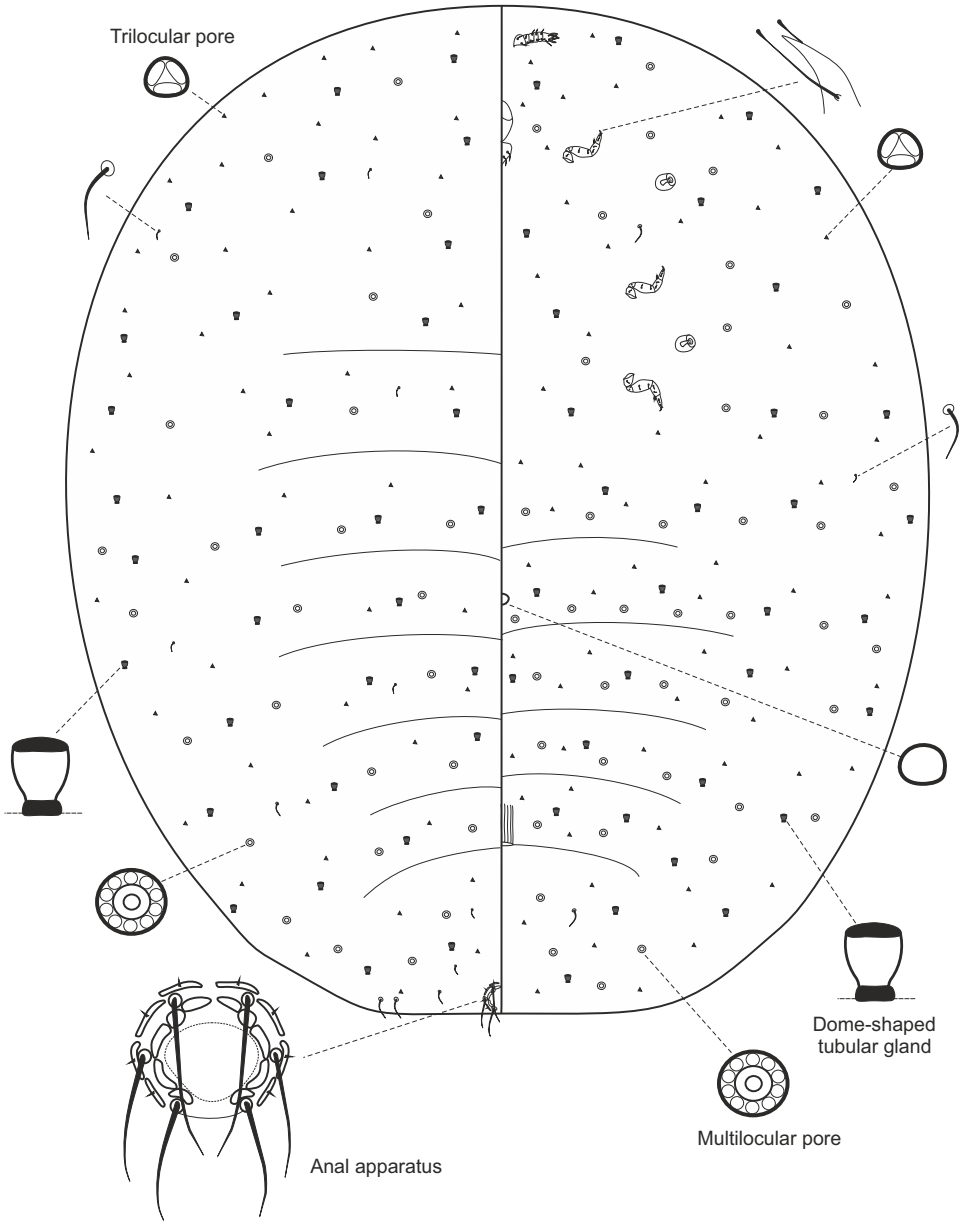

Fig. 1. *Pygmaeococcus giliomeei* **sp. nov.**, adult female, holotype.

Taxonomy

Order **Homoptera**

Suborder **Coccinea**

Family **Pseudococcidae**

Subfamily **Pseudococcinae**

Tribe **Rhizoecini**

Note. The taxonomic position of Rhizoecini has been previously discussed in detail by Danzig & Gavrilov-Zimin (2014: 60–64).

Genus ***Pygmaeococcus*** McKenzie, 1960

Note. The genus was erected by McKenzie (1960) as monotypic, with the type species *P. morrisoni* McKenzie, 1960, which is currently known only from California (USA). In the taxonomic revision of Rhizoecini conducted by Kozár and Konczné Benedicty (2007), the genus was placed in the newly established subtribe Ripersiellina Kozár, 2007, and an appropriate generic key was provided. *Pygmaeococcus* is distinguished from all other genera of Rhizoecini by the presence of

so-called dome-shaped tubular glands (or ducts, according to the terminology of the English coccidological school).

***Pygmaeococcus giliomeei* sp. nov.**
(Fig. 1)

Holotype. Adult female, **South Africa**, *Western Cape Prov.*, about 19 km NW of Worcester, Hex River Mountains, above Vredehoek guest farm (Fig. 2), on roots of unidentified Poaceae grass, 29.X.2024, I. Gavrilov-Zimin (K2045, SANC).

Paratypes. 2 adult females (on separate slides) with data as for holotype (K 2037, ZIN RAS).

Description. *Adult female.* Body nearly round or broadly oval, soft, white in life, but yellow after fixation in acetoethanol, 1–2 mm in length. Antennae six-segmented, very small compared to body size, about 75 μm in length. Legs also small, similar in size to antennae, but with all segments present; claw without a denticle. Anal apparatus of usual structure for Rhizoecini (Fig. 1). Both pairs of ostioles not visible in specimens examined, probably absent. Circulus present, very small, about 6 μm in diameter. Multilocular pores, each about 5 μm in diameter, forming transverse rows on abdominal tergites and sternites and sparsely scattered across other body surfaces. Trilocular pores (each about 3 μm in diameter) scattered across entire body surface. Simple discoidal pores absent. Tritubular and bitubular glands absent. Dome-shaped tubular glands, each about 6 μm in length, distributed similarly to multilocular pores. Simple tubular glands absent. Conical setae absent. Flagellate setae minute, sparsely scattered on dorsal and ventral surfaces of body.

Males and morphology of larvae unknown.

Comparison. The new species differs from the type species of the genus, *P. morrisoni*, in the presence of numerous multilocular pores, six-segmented antennae, and the absence of ostioles.

Fig. 2. Type locality of *Pygmaeococcus giliomeei* **sp. nov.** in the Hex River Mountains.

Pygmaeococcus giliomeei **sp. nov.** should likely be placed in a separate genus that is endemic to South Africa. However, I am currently refraining from establishing this taxon pending a future revision of the genera of mealybugs in the global fauna.

Etymology. The species is named in honor of Professor Jan Giliomee (Stellenbosch, South Africa), in recognition of his extensive research on scale insects in South Africa.

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