Some additions to the mealybug fauna (Homoptera: Coccinea: Pseudococcidae) of the Canary Islands

Дополнения к фауне псевдококцид (Homoptera: Coccinea: Pseudococcidae) Канарских островов

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Five species of mealybug (Homoptera: Pseudococcidae) were found to be new for the Canary Islands and more widely – for Macaronesia or for the whole Hesperian (Mediterranean-Macaronesian) zoogeographical region. In addition one species, *Phenacoccus guanchorum* **sp. nov.**, is described and illustrated as new for science.

В статье обсуждаются пять видов, впервые обнаруженных в фауне Канарских островов; эти же виды впервые указываются для фауны Макаронезии или для всей Гесперийской (Средиземноморско-Макаронезийской) области Палеарктики. Еще один вид, *Phenacoccus guanchorum* **sp. nov.**, описывается и иллюстрируется как новый для науки.

Key words: scale insects, mealybugs, Tenerife, Homoptera, Coccinea, Pseudococcidae, new records, new species

Ключевые слова: мучнистые червецы, кокциды, Тенерифе, Homoptera, Coccinea, Pseudococcidae, новые находки, новый вид

INTRODUCTION

The scale insect (Coccinea) fauna of the Canary Islands (Spain) comprises about 110 known species, including only 20 species of mealybugs (Lindinger, 1911, 1918, 1919; Gómez-Menor Guerrero, 1962, 1967; Gómez-Menor Ortega, 1967; Matile-Ferrero & Balachowsky, 1972; Carnero Hernandez & Perez Guerra, 1986; Matile-Ferrero & Oromí, 2001; Oromí, de la Cruz & Báez, 2009; Malumphy, 2010, 2014; Ben-Dov, 2012). However, these data were based mainly on occasional collections rather than on regular faunistic studies of the territory. Moreover, coastal lowland landscapes of the islands with numerous invasive scale insects on exotic ornamental plants were studied in more detail than the central, mountainous parts of the islands where biotopes with native plants and animals are still preserved. In September–October 2014 the first author was able to make several collecting trips to different localities of the largest Canarian Island – Tenerife. Five of the mealybug species collected were found to be new for the Canary Islands and more widely – for Macaronesia or even for all Hesperian (Mediterranean-Macaronesian) zoogeographical region (see zoogeographical map of Emeljanov, 1974) and one additional species is new for science. Native mealybugs of this region were recently revised by us in as part of a bi-volume monograph on Palaearctic mealybugs (Danzig & Gavrilov-Zimin, 2014, 2015, in press). However, the material for the present paper was mounted and studied after the completion of the first

volume of this monograph where one of two mealybug subfamilies, Phenacoccinae, was considered. For this reason and also the extremely mixed (invasive pantropical-native Palaearctic) composition of the fauna of the Canary Islands compel us to publish this separate paper on the subject.

All material, including types of the new species are deposited in the collection of Zoological Institute, Russian Academy of Sciences (ZIN RAS).

RESULTS

Phenacoccus guanchorum sp. nov.
(Fig. 1)

Material. Holotype: **Tenerife**, Anaga peninsula, road Santa Cruz – Almaciga, about 670 m altitude, on *Erica arborea*, 24.IX.2014, I.A. Gavrilov-Zimin, collection number K 1230, female in black circle. *Paratypes*: female on the same slide and female on another slide with the same collecting data (mixed preparation with one female of *Pseudococcus viburni* (Signoret, 1875) on the same slide).

Diagnosis. Female. Body oval, about 2 mm long. Antennae 9-segmented. Legs normally developed. Claws with denticle. Anal apparatus complete. Circulus large, oval. Multilocular pores forming transverse rows on abdominal sternites and occasionally present on ventral surface of cephalothorax, often in groups with small tubular ducts. Quinquelocular pores few, sparsely scattered in medial zone of cephalothorax and anterior abdominal sternites. Trilocular pores evenly scattered on all body surface. Tubular ducts of simple type, of three sizes: large ducts forming transverse rows on most of tergites and present along margin of abdominal sternites; mid-sized ducts forming transverse rows on most tergites, on abdominal sternites and present on ventral surface of cephalothorax together with multilocular pores; small ducts present together with mid-sized ducts on abdominal sternites. Cerarii numbering 18 pairs; C_{18} with three thin conical setae and group of trilocular pores on sclerotized plate; other cerarii each with two thin conical setae (C_3 with 3 setae) and three-five trilocular pores without sclerotization.

Males and larvae unknown.

Comparison. The genus *Phenacoccus* Cockerell, 1893 is the largest and most taxonomically complex amongst all the genera of the global fauna of mealybugs. The revision of Palaearctic species of the genus was completed by us recently (Danzig & Gavrilov-Zimin, 2014), before preparation of the material collected in Tenerife. Morphologically the new species is very similar with two species, earlier described from the Eastern Palaearctic from grasses (Poaceae): *Ph. herbaceus* Borchsenius, 1962 in China and *Ph. loiki* Danzig, 2001 in Russian Siberia. *Ph. guanchorum* **sp. nov.** differs from both these species [characters in brackets] in the following characters: C_{18} with three conical setae [instead of two setae only], tubular ducts of simple type only [all or some ducts with small narrow collar], large tubular ducts about 1.5 times wider than small ducts [large tubular ducts about two times wider than small ducts].

Etymology. The new species name is constructed basing on the Spanish word "guanches", the name of the ancient aboriginal people of Tenerife Island.

Mode of life. Females were collected in the bark cracks of *Erica arborea* (Ericaceae) in mountain "laurisilva" forest.

Phenacoccus solenopsis Tinsley, 1898

Material. **Tenerife**, Anaga peninsula, Santa Cruz, on ornamental *Hibiscus* sp., 30.IX.2014.

Comments. This pantropical polyphagous species was never recorded before in the Macaronesian subregion as well as in neighboring continental countries of Spain, Portugal and Morocco. It is however, present in the Eastern Mediterranean and Egypt.

Peliococcus globulariae (Goux, 1937)

Material. **Tenerife**, Anaga peninsula, road Santa Cruz – Almaciga, about 600 m altitude, "laurisilva" mountain forest, on roots of Macaronesian endemic *Phyllis nobla* (Rubiaceae), 28.IX.2014.

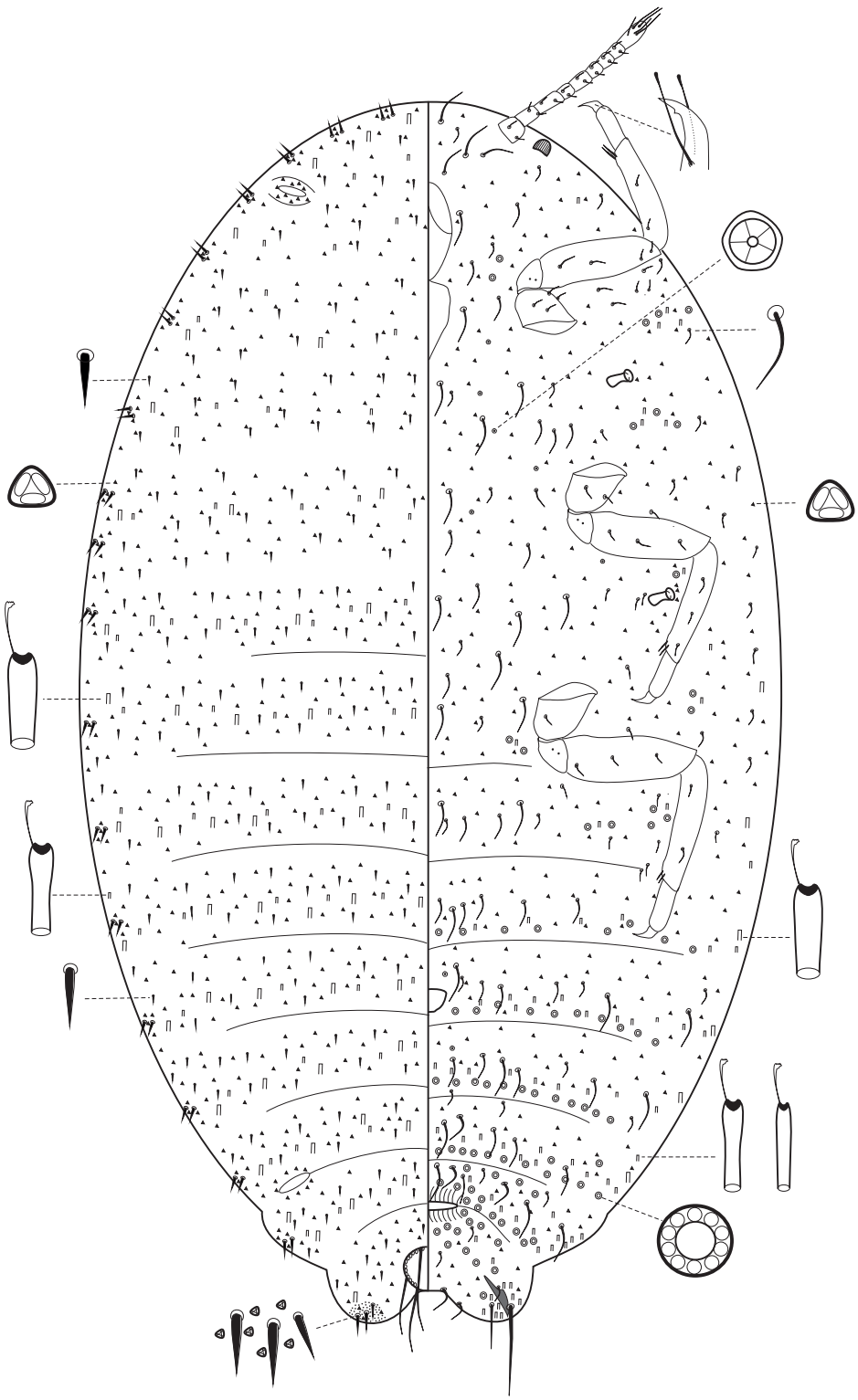

Fig. 1. *Phenacoccus guanchorum* **sp. nov.**, holotype.

Comments. The species was previously known from the type locality only (France: Marseille).

Mirococcus inermis (Hall, 1925)

Material. **Tenerife**, Los Cristianos, slopes with natural vegetation near southern board of the city, on root of undetermined trailing herb, 1.X.2014.

Comments. The species is widely distributed in the Southern Palaearctic, in particular in Mediterranean countries, but was never reported before in Macaronesia.

Paracoccus burnerae (Brain, 1915)

Material. **Tenerife**, Anaga peninsula, Santa Cruz and vicinities, Los Cristianos and vicinities, common on different herbaceous and arboreal plants, 25.IX.2014–1.X.2014.

Comments. This tropical polyphagous species was recorded only once in Palaearctic – in Iran (Moghaddam, 2013). It is the first record here in Hesperian (Mediterranean-Macaronesian) region. Probably this species name may be a junior synonym of *Pseudococcus aridorum* Lindinger, 1911. The last species was described as common on Tenerife on different plants, but with very brief, inadequate morphological diagnosis and figures, which are not enough for species identification. Unfortunately, there are no modern redescriptions of *P. aridorum* and the type material is unavailable for us.

Atrococcus achilleae (Kiritshenko, 1936)

Material. **Tenerife**, Anaga peninsula, road Santa Cruz – Almaciga, about 500 m altitude, on stem of annual Brassicaceae herb, 24.IX.2014.

Comments. We follow the "wide" taxonomic concept for this species accepted by us in our revision of the genus *Atrococcus* Goux, 1941 (Danzig & Gavrilov-Zimin, 2015, in press). According to this approach, *A. achilleae* is a polymorphic transpalearctic species distributed from the Mediterranean subregion to the Far East (Korea and China). This is the first report of this species from Macaronesia.

Notes on previously reported species

Puto barberi (Cockerell, 1895)

This Neotropical species was recently found as a new adventive pest on ornamental plants in Gran Canaria to the East of Tenerife by Dr. Chris Malumphy (2010). In October 1 (2014), I. Gavrilov-Zimin found the colony of this species on branches of ornamental bush in Los Cristianos town, south coast of Tenerife.

Fonscolombia menieri (Matile-Ferrero et Balachowsky, 1972)

The species is an endemic of Tenerife Island, monophagous on the endemic plant, *Euphorbia canariensis* (Euphorbiaceae) and was collected by different entomologists in April and May in different years. In the late September 2014 I. Gavrilov-Zimin seeked vigorously for this species in its type locality (Barranco de San Andre), but was only able to find dead females in ovisacs. This fact probably sugests that the species develops rather synchronously and probably has only one generation per year.

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