

Redescription of *Pulvinaria floccifera* (Insecta: Hemiptera: Coccidae)

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A pulvinariine soft scale, *Pulvinaria floccifera* (Westwood, 1870), is re-described and illustrated based on microscopic examination of the morphology of several adult female specimens of the type series. These syntypic specimens exhibit a different distribution of tubular ducts than that presented in several previous taxonomic accounts of *P. floccifera* based on other material.

Key Words: Insecta, Hemiptera, Coccidae, Pulvinariini, *Pulvinaria floccifera*, syntypes, redescription.

Introduction

Pulvinaria floccifera (Westwood, 1870), a pulvinariine soft scale, is a cosmopolitan species known from the Afrotropical, Australasian, Nearctic, Neotropical, Oriental, and Palearctic regions (Ben-Dov 2005). We examined the syntypes of the species and found that descriptions in several previous taxonomic accounts of *P. floccifera* based on non-type materials (Ezzat and Hussein 1969; Williams and Kosztarab 1972; Hamon and Williams 1984; Qin and Gullan 1992; Hodgson 1994; Kosztarab 1996; Granara de Willink 1999; Hodgson and Henderson 2000) do not agree with the morphology of the type material. Our observation suggests that more than one species have become mixed under the name *P. floccifera*. In this paper we redescribe *P. floccifera* based on the syntypes to clarify its specific concept.

Materials and Methods

All syntypes of *Pulvinaria floccifera* have been kept in a dried state in the Hope Entomological Collections, Oxford University Museum of Natural History, Oxford, UK. The syntype series consists of about 20 adult females, three adult males, and more than 100 crawlers mounted on a cardboard, as well as more than 50 crawlers attached to three leaves of *Camellia* sp. Also, 20 ovisacs detached from those female specimens are preserved. We carefully removed five adult females in good condition from the cardboard and mounted them on glass slides. The mounted specimens were then examined with a phase-contrast microscope.

The slide-mounting method of Kawai (1980) was followed, except that the specimens were not heated, but were kept at room temperature throughout the slide-mounting process. In addition, clearing time in the 10% KOH, lactophenol, and