

Key to conifer-infesting species of *Lepidosaphes* Shimer worldwide (Hemiptera: Coccoidea: Diaspididae), with descriptions of two new species and a redescription of *L. pallidula* (Williams)

DOUGLASS R. MILLER¹, DOUGLAS J. WILLIAMS² & JOHN A. DAVIDSON³

¹Systematic Entomology Laboratory, PSI, Agricultural Research Service, U. S. Department of Agriculture, Building 005, BARC-West, 10300 Baltimore Avenue, Beltsville, MD 20705, U.S.A. E-mail: dmiller@sel.barc.usda.gov

²Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD, U.K.

³Department of Entomology, University of Maryland, College Park, MD 20742, U.S.A. E-mail: jdavids1@umd.edu

Abstract

Two new species of *Lepidosaphes* are described, *L. caribaeae* Williams and Miller from Trinidad and Jamaica and *L. murreeana* Williams and Miller from Pakistan. *Lepidosaphes pallidula* (Williams), a non-conifer infesting species, is redescribed so that it can be distinguished from *L. pallida* (Maskell), a species commonly detected on conifers. A dichotomus key is presented for the identification of the adult females of the 25 species of *Lepidosaphes* that occur on conifers worldwide and a matrix is provided containing 23 characters considered important in distinguishing the 25 conifer-infesting species.

Key words: *Lepidosaphes*, conifer, armored scale, Trinidad, Jamaica, Pakistan, worldwide

Introduction

While writing a manuscript on the economic armored scales of the United States (Miller & Davidson 2005), considerable effort was spent sorting out the identity of *Lepidosaphes* species that occur on conifers, especially *Lepidosaphes pallida* Maskell and *L. pallidula* (Williams) (the latter does not occur on conifers but has been confused with *Lepidosaphes pallida*). In the United States *L. pallida* has gone under the names Maskell scale, *L. maskelli* Cockerell; Newstead scale, *L. newsteadi* Šulc; and Maskell scale, *L. pallida*. The purpose of this paper is 1) to redescribe *L. pallidula* so that it can be compared with *L. pallida*, 2) to describe two new conifer-infesting species of *Lepidosaphes*, 3) to provide a key to the conifer-infesting *Lepidosaphes* species world wide, and 4) to provide a matrix