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A new species of the nearctic gall-forming genus *Tamalia* Baker (Hemiptera: Aphididae: Tamaliinae)

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Abstract

The apterous viviparous female and alate oviparous female of a new aphid species, *Tamalia milleri* **sp. nov.**, a representative of a nearctic relict genus *Tamalia* and associated with *Arctostaphylos columbiana*, is described and figured in detail from specimens collected in California and Oregon (USA) and deposited in the Natural History Museum, London (UK). The differences between *T. milleri* and a related species, *T. dicksoni* Remaudière & Stroyan as well as other taxa of this genus are discussed. The distribution of *Tamalia* and a key to identification of the known species of the genus are provided.

Key words: aphids, *Arctostaphylos*, Nearctic, taxonomy

Introduction

The relict nearctic genus *Tamalia* Baker, forming galls on *Arctostaphylos* Adanson (manzanitas; Ericaceae Juss.) (Blackman and Eastop, 2006) is the only extant representative of the aphid subfamily Tamaliinae Oestlund, 1923 (Remaudière and Stroyan, 1984). This genus comprises four described species; however, some authors question the validity of *T. keltoni* Richards (Blackman and Eastop, 2006). An additional few undescribed species, associated with *Arbutus* sp. and *Comarostaphylis* sp. (Ericaceae), are mentioned by Miller and Crespi (2003). *Tamalia* species were originally classified in the genus *Pemphigus* (Eriosomatinae) (Cockerell, 1905), but later placed within Phyllaphidini (e.g. Hottes and Frison, 1931). Based on the distinctiveness of *Tamalia* Remaudière and Stroyan (1984) elevated this genus to a subfamily status.

Apterous viviparous females and immature sexuales of all described species of *Tamalia* live in galls and are characterized in general by having a variable number of antennal segments even within one species (i.e. the antennae 4–6 segmented), body covered by numerous spicules, and eyes only in the form of triommatidia. The oviparous females are alatae, an uncommon character occurring only in a small number of non-host-alternating aphid genera such as *Phloeomyzus* Horvath, *Greenidea* Schouteden, *Aiceona* Takahashi and *Neophyllaphis* Takahashi (Blackman & Eastop, 1994).

Blackman & Eastop (2006) suggested that specimens belonging to an undescribed species differing from *T. dicksoni* Remaudière & Stroyan, 1984 were present in the collections of the Natural History Museum, London. During the work in the BMNH, specimens from the D. Hille Ris Lambers collection (apterous viviparous and alate oviparous females) belonging to a hitherto unknown species of *Tamalia* were studied. With its very long apical rostrum segment (IV + V), the undescribed species appears more closely related to *T. dicksoni* than to other species of the genus.

The specimens were compared with the type material of *T. dicksoni* and found to have other distinctive morphological and biometric characters. The description of this new species is the main aim of the present paper.

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