



## *Didymodon californicus* (Pottiaceae), a new species from California, U.S.A.

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### Abstract

*Didymodon californicus* is described as a new species from California, U.S.A. The new taxon is included in sect. Vineales (Steere) R.H. Zander, and characterized mainly by its large size, lanceolate leaves, plane margins throughout, the red to reddish orange color in KOH, costa ending below the apex, a hyaline area of rectangular cells on ventral surface of the costa, cross-section of the costa with numerous guide cells in 2–3 layers and without ventral stereids, and smooth to low-papillose laminal cells. Drawings and light microscope photographs of the main characters are given, and possible confusion with other closely related taxa is discussed.

**Key words:** *Didymodon*, mosses, rheophytes, taxonomy, Western North America

### Introduction

*Didymodon* Hedwig (1801: 104) includes approximately 122 species and represents one of the largest genera of Pottiaceae (Zander 1993). The genus has a cosmopolitan distribution, with an important center of diversity in the western North America. In the past two decades, two new taxa, *D. norrisii* Zander (1999: 112) and *D. eckeliae* Zander (2001: 298) were described from California and subsequently located beyond the state. *Didymodon bistratosus* Hébrard & Pierrot (1994: 354), also collected in California, was new to the New World (Zander *et al.* 2005). The North American species of *Didymodon* were recently revised by Zander (2007), who recognized 26 species.

While examining material of western North American *Didymodon*, several Californian specimens were found that did not match the concept of any known species of the genus, and are consequently described as a new species.

### Material and methods

Voucher specimens of the new species are deposited in CAS, MO, MUB and NY. The samples were studied with the typical anatomical and morphological methods applied for the Pottiaceae (Zander 1993). In addition, most of the type material of taxa attributed to this genus in the world has been studied by the first author. Microscopic examinations and measurements were taken with an Olympus-BX41 light microscope, while microphotographs were obtained with a Jenoptik ProgRes C7 camera mounted on this microscope. Specimens were examined in 2% potassium hydroxide.

### Description

*Didymodon californicus* J. A. Jiménez, Toren & Shevock *sp. nov.* (Figs. 1, 2)

*Diagnosis:* *Didymodon californicus* differs from the otherwise similar *Didymodon vinealis* Bridel (1827: 830) Zander (1978:

*Didymodon eckeliae*, a species disjunct between the Pacific coast of North America and the Mediterranean region (Zander 2007; Jiménez & Cano 2012), is easily distinguishable from the new species in having bistratose leaf margins that are broadly crenulate to notched above midleaf as well as a more long-lanceolate leaf outline.

Some morphological characters shown by *D. californicus*, such as the size and color of the plants, the shape of the leaves, plane leaf margins above midleaf, the color of the lamina with KOH and epapillose laminal cells are also found in the Neotropical *D. laevigatus* (Mitten 1869: 160) Zander (1978: 29). However, this species has elongate cells on the upper ventral surface of the costa and two costal stereid bands, while in the new species the upper ventral surface cells of the costa are subquadrate or oblate and the costa lacks a ventral stereid band.

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