



Taxonomic notes on the fern species group around *Terpsichore lanigera* (Polypodiaceae), including the descriptions of three new species and one new variety

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Abstract

We describe three new species and one new variety of ferns in the grammitid genus *Terpsichore* (Polypodiaceae): *T. diaphana*, *T. monosora*, *T. semilunaris*, and *T. stella* var. *flava*. We further propose the new combinations *T. contacta* and *T. stella*.

Key words: Bolivia, Ecuador, Ferns, Grammitidaceae, Neotropics, Peru, Pteridophytes

Introduction

Grammitid ferns, formerly often treated as the separate family Grammitidaceae (e.g., Newman, 1840; Ching, 1940; Parris, 1990; Ranker *et al.*, 2004), form a monophyletic and morphologically distinct clade of about 750 species nested within the Polypodiaceae (Hasebe *et al.*, 1995; Ranker *et al.*, 2004; Schneider *et al.*, 2004; Smith *et al.*, 2006). Generic delimitation within grammitid ferns is highly controversial, with only one genus recognised by Tryon & Tryon (1982), four genera by Parris (1990), 10 by Smith (1993), 12 by Copeland (1955), and 18 by Parris (2003). A revision of the American species of Grammitidaceae was initiated by L. E. Bishop and continued especially by A. R. Smith, R. C. Moran, P. Labiak and M. Sundue leading to the recognition currently 12 genera in the Neotropics.

Among these, the genus *Terpsichore* was described by Smith (1993) to include grammitid ferns with the following combination of characters: presence of usually conspicuous hydathodes that sometimes produce calcareous secretions, reddish to atropurpureous (less often hyaline), mostly 1–3 mm long setae along the stipes, rachises, costae, and (sometimes) laminae, nonclathrate, usually castaneous to blackish rhizome scales that are usually setulose at the margins, and free, unbranched, pinnate venation in the pinnae. Smith (1993) included about 50 species in the genus, and combined these into five presumedly natural groups based on morphological characters. This separation was largely confirmed in a molecular study by Ranker *et al.* (2004), where species of *Terpsichore* were recovered at four widely separated sites in an overall well-supported phylogenetic reconstruction of grammitid ferns. These four groups mostly correspond to the subgeneric groups as defined by Smith (1993).

Among these groups, the group around *Terpsichore lanigera* (Desvaux, 1811: 316) Smith (1993: 487) includes about 20 species characterised by a combination of the following characters: pendent to slightly arching blades of indeterminate growth lacking black, club-shaped fungal fruiting bodies, short-creeping to suberect and radially symmetric rhizomes covered with rhizome scales or setae, orangish to castaneous or rarely blackish, linear to deltate, not clathrate rhizome scales with setae and hairs on the margins and