Phytotaxa 227 (1): 066–074
www.mapress.com/phytotaxa/

Article

ISSN 1179-3155 (print edition)
PHYTOTAXA
ISSN 1179-3163 (online edition)

http://dx.doi.org/10.11646/phytotaxa.227.1.7

A new species of *Dichocarpum* (Ranunculaceae) from Guizhou, China

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Abstract

Dichocarpum wuchuanense S. Z. He, a new species from Guizhou, China, is described and illustrated. This taxon belongs to sect. *Dichocarpum* based on its non-tumescent torus during fruiting. The new species resembles *D. hypoglaucum* from which it differs by its slender and longer rhizome, 3(–5)-foliolate abaxially non-pruinose and smaller seeds. A histological examination, palynology and seed microscopic structures are provided along with detailed habitat and distribution data. An analysis of the nrDNA ITS sequences of *D. wuchuanense* supports its recognition as a taxonomic entity distinct from *D. hypoglaucum*. The taxonomic affinities of the new species are briefly discussed.

Key words: *Dichocarpum wuchuanense*, section *Dichocarpum*, Ranunculaceae, new species, Guizhou

Introduction

Dichocarpum W. T. Wang et Hsiao (1964: 323) (Ranunculaceae) is a small genus and currently includes about fifteen species (Fu & Orbélia 2001). Based on morphological characteristics, two sections were recognized by Hsiao and Wang (1964): section *Dichocarpum*, which includes ten species mainly distributed on the mainland of East Asia, and sect. *Hutchinsonia*, which includes six species mainly distributed on the Japanese archipelago. Tamura and Lauener (1968) revised the genus and divided it into four sections. Three sections include species of mainland East Asia, including three series and ten species, and the remaining section included the species found in Japan, divided into two subsections, three series and nine species. Based on the studies of the morphology, palynology and cytology, Fu (1988) thoroughly revised the genus and reinstated two sections with six series, including fifteen species and three varieties.

When identifying *Dichocarpum* material deposited in the Guizhou Institute of Traditional Chinese Medicine Herbarium (GZTM), a specimen from Wuchuan with fruits, similar to *Dichocarpum hypoglaucum* W. T. Wang et Hsiao (1964: 327) was discovered. This specimen, however, had a robust rhizome, leaves pedately compound, 3-foliolate and the central leaflet ovate-diamond, 6–14 × 3.0–6.5 cm, which suggested it was a new species that is here named and described as *Dichocarpum wuchuanense* S. Z. He.

The classification of *Dichocarpum* still mainly relies on gross morphology, however, the application of DNA sequencing can help to better understand species delineations and relationships within the genus. In the present study, we performed a phylogenetic analysis of *D. wuchuanense* based on DNA sequence data from the internal transcribed spacer (ITS). Combining this genetic data with extensive external morphological observations, support for the establishment of this new species is provided.

 Accepted by Jinshuang Ma: 26 Aug. 2015; published: 18 Sept. 2015