



Clarification of *Zamia acuminata* and a new *Zamia* species from Coclé Province, Panama

ANDERS J. LINDSTRÖM¹, MICHAEL CALONJE^{2,3}, DENNIS STEVENSON⁴, CHAD HUSBY² & ALBERTO TAYLOR⁵

¹ Nong Nooch Tropical Botanical Garden, 34/1 Sukhumvit Highway, Najomtien, Sattahip, Chonburi 20250, Thailand.
E-mail: ajlindstrom71@gmail.com

² Montgomery Botanical Center, 11901 Old Cutler Road, Miami, Florida 33156, U.S.A.

³ Florida International University, 1200 S.W. 8th Street, Miami, Florida 33199, U.S.A.

⁴ New York Botanical Garden, Bronx, NY 10458-5126, U.S.A.

⁵ Departamento de Botánica, Universidad de Panamá, Facultad de Ciencias Naturales, Exactas y Tecnología, Panamá, Panama.

Abstract

Zamia acuminata has remained an obscure, poorly understood species for over a century due to possibly misinterpreted or erroneous locality data on the unicate sterile type specimen, a very brief protologue description, the misidentification of the plants from El Valle de Antón in Panama as *Z. acuminata*, and the erroneous determinations of plants of *Z. acuminata* from Costa Rica as *Z. fairchildiana*. Recently collected material from San José Province in Costa Rica is here determined to be identical to the single sterile leaf material of the holotype of *Zamia acuminata*. We consider *Z. acuminata* to be a Costa Rican endemic species restricted to the western Talamanca mountain range in San José Province, and that the *Zamia* from El Valle de Antón in Panama, which has previously been referred to as *Zamia acuminata*, to be a new species, here described as *Zamia nana*.

Key words: Cycadales, Mesoamerica, Zamiaceae

Introduction

Zamia acuminata Oerst. ex Thiselton-Dyer (1884: 194) was described by British botanist William Thiselton-Dyer based on a unicate sterile specimen collected by Danish botanist Anders Sandøe Ørsted (21 June 1816–3 September 1872). This specimen, consisting of a single leaf, is currently deposited at the Natural History Museum of Denmark (A.S. Ørsted s.n., C). It was not assigned a collection number by Ørsted and includes no description of the plant or of its habitat. However, the original label contains the hand written inscription “ad flumen S. Juan Nicaragua”, suggesting that the specimen was collected near the Rio San Juan that forms the natural border between Costa Rica and Nicaragua. The specimen has no collection date, but was likely collected sometime between 1846 and 1848, when Ørsted traveled in Nicaragua and Costa Rica (see Ørsted, 1863). Thiselton-Dyer prepared his description of *Zamia acuminata* based solely on this specimen, the description is limited to a characterization of the leaf and leaflets and does not include the description of other taxonomically useful characters such as reproductive structures. The Latin description in the protologue is reproduced below from Thiselton-Dyer followed by a translation in English:

Folia jugo-pinnata; petiolo sparsimaculeato, triquetro, glaberrimo; foliolis utroque latere ad 8, falcato-lanceolatis, apicem versus caudato-acuminatis, basi maxime angustatis, utriusque integerrimis, membranaceis, 30 nerviis, 10–11 pollicibus longis, 1 1/2–1 3/4 pollicibus latis.

Leaves opposite-pinnate, petiole sparsely prickly, triangular, glabrous, leaflets 8 per side, falcate-