



Lijndenia udzungwarum (Melastomataceae–Olisbeoideae): a new, endemic species from the Udzungwa Mountains of southern Tanzania

ROBERT DOUGLAS STONE¹ & QUENTIN LUKE²

¹School of Life Sciences, University of KwaZulu-Natal, Pietermaritzburg 3209, South Africa

E-mail: StoneRD@ukzn.ac.za

²The East African Herbarium, National Museums of Kenya, P.O. Box 45166, 00100 Nairobi, Kenya

E-mail: quentinluke1@gmail.com

Abstract

Lijndenia udzungwarum R.D. Stone & Q. Luke, a shrub or small tree of Tanzania's Udzungwa Mountains, is described and illustrated. The placement of the new species in *Lijndenia* is indicated by its trinervate, papillose-muricate leaves and persistent bracteoles partially fused to form a cupule immediately subtending each flower. The cordate leaves of *L. udzungwarum* are unique in the genus. From the East African *L. brenanii* (A. Fern. & R. Fern.) Jacq.-Fél. and *L. procteri* (A. Fern. & R. Fern.) Borhidi, the new species is further distinguished by its capitellate inflorescences on long, filiform, axillary peduncles, resembling those of the Sri Lankan *L. capitellata* (Arn.) K. Bremer. Despite its local endemism, *L. udzungwarum* has been assessed as 'Least Concern' according to IUCN criteria, although this assessment is dependent on the continued safeguarding of the Udzungwa Mountains National Park. An identification key is provided for the three currently recognized Tanzanian species of *Lijndenia*.

Introduction

Lijndenia Zoll. & Moritz in Moritz (1846: 10) is a small but widespread paleotropical genus with three previously recognized species in tropical Africa, i.e. the western and central African *L. barteri* (J.D. Hooker in Oliver 1871: 462) K. Bremer (1982: 124) as well as the Tanzanian *L. brenanii* (A. Fernandes & R. Fernandes 1960: 71) Jacques-Félix (1985a: 398) and *L. procteri* (A. Fernandes & R. Fernandes 1960: 72) Borhidi (1993: 151). The remaining congeners are in Madagascar (6 spp., Jacques-Félix 1985b) and Sri Lanka (2 spp., Bremer 1988), with the type species *L. laurina* Zoll. & Moritz in Moritz (1846: 9) in Malesia, peninsular Thailand and the Philippines (Hughes & Wijedasa 2012). In Borhidi's (1993) treatment there were seven *Lijndenia* species reported for East Africa, but his six new combinations in this genus were made without analysis of taxonomic characters, and five of these species have since been returned to *Warneckea* Gilg (1904: 100) or to *Memecylon* Linnaeus (1753: 349) sensu stricto (cf. Stone & Andreasen 2010, Stone 2014).

In the treatment of Melastomataceae for the *Flora of Tropical East Africa* (Wickens 1975), the species *Lijndenia brenanii* and *L. procteri* were placed in *Memecylon* sensu lato (as *M. brenanii* A. Fern. & R. Fern. and *M. procteri* A. Fern. & R. Fern., respectively). It is clear, however, that these two species do not belong in *Memecylon* sensu stricto (Stone 2014) and are instead properly placed in *Lijndenia* on account of their strongly trinervate to multinervate, papillose-muricate leaves (the distinctive texture owing to the presence of ramiform sclereid idioblasts in the mesophyll). Additional characteristics distinguishing *Lijndenia* from the other memecyloid genera include its inflorescences with a pair of persistent bracteoles fused to form a cupule or "false calyx" immediately subtending each flower; petals unguiculate; ovary strictly unilocular; and embryo curved, with a short hypocotyl and leafy cotyledons, the inner cotyledon bent and rolled around the involute edge of the outer (Zollinger & Moritz in Moritz 1846, Jacques-Félix 1977, 1978, 1983, 1985a, 1985b, 1995, Jacques-Félix *et al.* 1978, Rao & Jacques-Félix 1978, Bremer, 1981, 1982, Rao *et al.* 1983, Stone 2004). Exclusive monophyly of *Lijndenia* was strongly supported in earlier phylogenetic analyses of the nuclear *GapC* gene (Stone 2006), and is also seen in analyses with denser taxonomic sampling based on sequences of the 5' ETS and ITS regions of nuclear ribosomal DNA (R.D. Stone, unpublished data).