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Studies on Homalomeneae (Araceae) of Borneo XIX: Three new species of geologically obligated Homalomena from Sabah, Malaysian Borneo

Abstract


DOI: http://dx.doi.org/10.3372/wi.45.45308

Three new geologically obligated species of Homalomena Schott are described from Sabah, Malaysian Borneo. Rheophytic H. gempal Kartini, P. C. Boyce & S. Y. Wong, sp. nov., restricted to rhyolite, belongs to the Chamaeladon clade and is compared to H. atrox P. C. Boyce & al. and H. paucinervia Ridl. Homalomena marasmiella Kartini, P. C. Boyce & S. Y. Wong, sp. nov., restricted to ultramafic substrates, forms an apparently natural grouping with H. stella P. C. Boyce & S. Y. Wong and H. vagans P. C. Boyce, and together these are termed the Vagans Complex. Homalomena simunii Kartini, P. C. Boyce & S. Y. Wong, sp. nov. is the third species of the Insignis clade to be described from Sabah and is restricted to basalt. All three species are illustrated from living plants.

Additional key words: aroids, Homalomena gempal, Homalomena marasmiella, Homalomena simunii, basalt, ultramafic, rhyolite, rheophyte

Introduction

Araceae-focused fieldwork on Borneo continues to bring to light undescribed locally endemic species correlated with geological obligation (see Boyce & Wong 2015 for a bibliography to date). Here we describe three taxonomic novelties belonging to Homalomena Schott, each restricted to a specific geology: H. marasmiella associated with ultramafic rocks at Telupid, C Sabah, H. gempal occurring on rhyolite waterfalls and H. simunii from forested basalts, the latter two at Tawau Hills N.P. (National Park), SE Sabah.

Homalomena is by far the most speciose and most poorly understood genus of aroids in tropical Asia. No modern monograph exists, the last being Engler (1912).

Geological interpretation of Tawau Hills N.P. was much assisted by reference to Sanudin & al. (2010). Interpretation of the geology of Borneo in general relies on Tate (2001).

Results and Discussion

Homalomena gempal Kartini, P. C. Boyce & S. Y. Wong, sp. nov. – Fig. 1.
Holotype: from plant cultivated at Institute for Tropical Biology and Conservation, Kota Kinabalu, 4 Jan 2015, Kartini BORH 2702 (BORH!) [original living collection: Malaysian Borneo, Sabah, Tawau, Tawau Hills N.P., Bukit Galas, Dec 2014, Kartini].