



Two new *Monophyllaea* (Gesneriaceae) species from Sarawak, Borneo

RUTH KIEW¹ & JULIA SANG²

¹Forest Research Institute Malaysia, Kepong, Selangor, Malaysia; e-mail: ruth@frim.gov.my; ²Botanical Research Centre, Sarawak Forestry, Kuching, Sarawak, Malaysia; e-mail: juliasang@sarawakforestry.com

Abstract

Two new species, *Monophyllaea grandifolia* Kiew & S.Julia and *Monophyllaea meriraiensis* Kiew & S.Julia are described from limestone hills in Ulu Merirai, Tatau District, Sarawak. Descriptions and photographs of the two species are provided.

Key words: limestone hills, Malaysia, *Monophyllaea* subgen. *Monophyllaea*

Introduction

Sarawak is the center of diversity of *Monophyllaea* R.Brown (1838: 121) being home to 16 of the 24 currently known species (Burt 1978, Weber 1998, Kiew 2002). In Sarawak the highest number of *Monophyllaea* are on limestone hills in the Kuching Division (8 species) and on the Melinau limestone (8 species) in Gunung Mulu National Park, with only the widespread *M. merrilliana* Kraenzlin (1913: 168) occurring in both areas. The remaining species is found on Bukit Sarang, an isolated limestone hill in the Tatau District.

Exploration of the Ulu Merirai limestone, also in the Tatau District (02° 46' 13.7" N, 113° 39' 02.9" E), resulted in the discovery of two new *Monophyllaea* species, as well as five new species of *Begonia* Linnaeus (1753: 1056), Begoniaceae (Kiew & Sang 2009) and a new species of *Amorphophallus* Blume ex Decaisne (1834: 366), Araceae (Boyce & Hettterscheid 2010), indicating that this is an important, though still little known, limestone area in Sarawak. The Ulu Merirai limestone is mostly comprised of cliff faces backed by steep earth slopes with most not reaching above the tree canopy and with the highest peak reaching only a maximum elevation of 430 m. Of the two new species, *Monophyllaea grandifolia* is widespread at its locality and in places is the dominant herb in the ground layer on limestone-derived soil or in swampy areas at the base of limestone cliffs. In contrast, *M. meriraiensis* grows on the vertical limestone and was found only below one cliff overhang.

Both these species, in having uniseriate hairs and pedicels distinctly longer than calyx are placed in *Monophyllaea* subgen. *Monophyllaea* Burt (1978: 1). While *M. grandiflora* displays most similarity to *M. hottae* Burt (1978: 50) in the Kuching Division, *M. meriraiensis* is most similar to *M. tenuis* Burt (1978: 41) from the Melinau limestone.

Taxonomic treatment

Monophyllaea grandifolia Kiew & S.Julia, *sp. nov.* (Figure 1)

It differs from *Monophyllaea hottae* in its shorter peduncle (ca. 14 cm not ca. 30 cm long), its strongly recurved flowering axis and its smaller flowers (ca. 9 mm not ca. 13 mm long) with strongly reflexed upper lobes.

Type:—MALAYSIA. Borneo, Sarawak, Tatau District: Ulu Merirai, Gua Tiang, 6 July 2005, *Julia et al.* S 94648 (holotype SAR!; isotypes KEP!, SAR!, SING!).