



Revision of *Begonia* (Begoniaceae) from the Melinau Limestone in Gunung Mulu National Park and Gunung Buda National Park, Sarawak, Borneo, including thirteen new species

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Abstract

Besides *Begonia conipila*, 13 new species (*Begonia apiensis*, *B. benaratensis*, *B. conniegeriae*, *B. divergens*, *B. lucychongiana*, *B. magentifolia*, *B. melinauensis*, *B. ramosissima*, *B. rhodoneura*, *B. umbratica*, *B. vulgare*, *B. yiii* and *B. xiphophylloides*) and a putative natural hybrid between *B. conipila* and *B. lucychongiana* are described from the Melinau limestone. All these species are endemic in the Melinau limestone and 10 species are restricted to limestone habitats. The Melinau limestone includes the highest limestone hills in Malaysia with Gunung Api (1710 m) and Gunung Benarat (1615 m), which above 800 m are covered by montane forest. The vegetation types and habitats of each species are described. Conservation-wise, all are of Least Concern following IUCN criteria and categories, except for *B. apiensis* that is extremely local and threatened by tourist activities and is designated Rare following Malaysian criteria and categories.

Introduction

The Melinau limestone in the Gunung Mulu National Park and Gunung Buda National Park lies approximately 100 km south of Miri in the Marudi District of Sarawak (Figure 1). Gunung Mulu National Park was gazetted as a National Park in October 1974 and as a World Heritage Site in November 2000 whereas Gunung Buda National Park was gazetted in 2001.

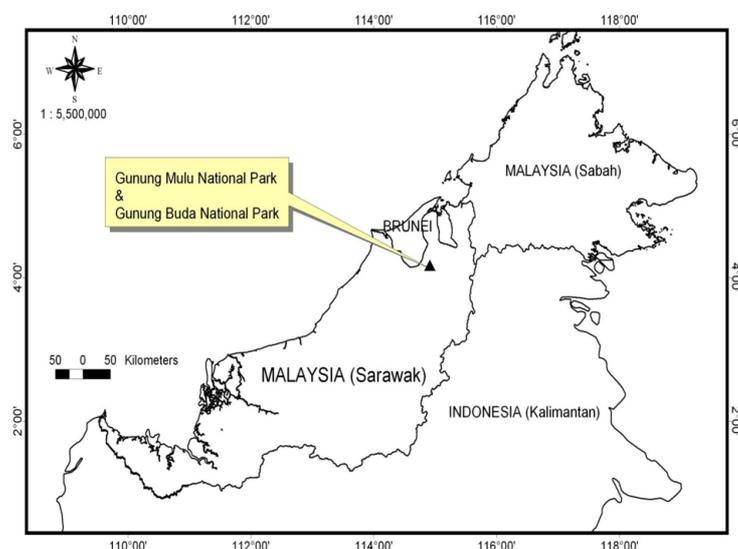


FIGURE 1. Location of Gunung Mulu National Park and Gunung Buda National Park, Sarawak, Borneo.