



A new species of *Thismia* (Thismiaceae) from Brunei Darussalam, Borneo

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Abstract

A new species of *Thismia* (Thismiaceae) from Borneo is described. *Thismia hexagona* was discovered in 2013 in lowland mixed dipterocarp forest in Ulu Temburong, Brunei Darussalam. The species is circumscribed, illustrated and its position within the Malesian species of the genus is characterised by insertion into the existing determination key. Its most conspicuous feature is bright yellow, sharply hexagonal flower annulus.

Kew words: tropical rain forest, mycoheterotrophy, Malesia, Burmanniaceae

Introduction

The Family Thismiaceae (Dioscoreales) is a small group of achlorophyllous mycoheterotrophic herbaceous plants, formerly treated as a tribe Thismieae in the family Burmanniaceae (Merckx *et al.* 2006). It contains five genera: *Afrothismia* Schlechter (1907: 138), *Haplothismia* Airy Shaw (1952: 277), *Oxygyne* Schlechter (1907: 140), *Thismia* Griffith (1844: 221) and *Tiputinia* Berry & Woodward in Woodward *et al.* (2007: 158). Its distribution covers tropical and subtropical zones globally, with a few species extending to temperate regions (Maas-van de Kamer 1998, Woodward *et al.* 2007).

The genus *Thismia*, comprising about 50 species, is the most widespread and species-rich genus of the family Thismiaceae. It has a pantropical distribution, with two main centres of biodiversity: the Atlantic Rain Forest of South America and Southeast Asia (Jonker 1948, Mancinelli *et al.* 2012). Members of the genus are small herbs with reduced, scale-like leaves, actinomorphic or zygomorphic, urceolate to campanulate flowers. Perianth lobes are six, free or three inner lobes connivent at the apex forming erect mitre with three holes (Jonker 1948). After Jonker (1938), Southeast Asian species with mitre-like flowers are treated as section *Sarcosiphon* (Blume) Jonker (1938: 251) while species with free perianth lobes as section *Thismia*. The latter section is divided into two subsections: *Odoardoa* Schlechter (1921: 34) including species with all perianth lobes that are equal in length and size, and *Brunonithismia* Jonker (1938: 242) including species with inner perianth lobes that are larger than outer lobes.

Members of the genus *Thismia* are generally poorly-known, often collected only once or a few times. They are easily overlooked in the field because of their small growth form and the ephemeral nature of their aboveground parts (Larsen & Averyanov 2007). Many species are also likely extremely rare, with scattered distributions. As a result of these factors, it is highly possible that undescribed species can still be found in Southeast Asia (Larsen & Averyanov 2007, Chantanaorrapint 2012).