



## *Thismia puberula* (Thismiaceae), a new species from Southern Vietnam

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### Abstract

*Thismia puberula*, a new species of Thismiaceae, is described and illustrated. The species was discovered in 2014 during botanical survey of Chu Yang Sin national park (Dak Lak province, Southern Vietnam). *Thismia puberula* possesses vermiform roots and mitriform inner tepals. It is most similar to *T. angustimitra*, *T. mirabilis*, *T. mucronata* and *T. okhaensis*. The new species differs from related species mainly by dome-shaped annulus with delimited vertical and horizontal parts covered by hairs, broad mitre with foveae, inner mitre surface covered by papillate trichomes, and presence of interstaminal glands. An updated key to Vietnamese species of *Thismia* is provided.

**Key words:** *Thismia*, taxonomy, key, mycoheterotrophic plants, Southern Vietnam, Chu Yang Sin national park, flora, biodiversity

### Introduction

Representatives of the genus *Thismia* Griffith (1844: 221) are mycoheterotrophic achlorophyllous herbs which inhabit tropical (rarely to temperate) areas of Asia, Australia and America (Maas-Van de Kamer 1998, Merckx *et al.* 2013). This genus is currently placed in the family Thismiaceae, order Dioscoreales (Stevens 2001). Several important problems are revealed in understanding the phylogenetic relationships between the species of *Thismia*, as well as in delimitation of borders between genera of Thismiaceae and families of Dioscoreales. These problems were recently highlighted and reviewed elsewhere (Thiele & Jordan 2002, Merckx *et al.* 2006, 2009, Hunt *et al.* 2014, Merckx & Smets 2014, Nuraliev *et al.* 2014).

Based on the list compiled by Merckx & Smets (2014), Nuraliev *et al.* (2014) estimated the number of species in the genus *Thismia* as 53, with the species newly described by them being the 54th. Since then, two more species were published (Hunt *et al.* 2014, Mar & Saunders 2015), and *T. hillii* (Cheeseman 1908: 420) N.Pfeiffer (1914: 122) was reconsidered as an independent taxon (Hunt *et al.* 2014), bringing the total species number to 57. Also, a new variety was reported (Tsukaya *et al.* 2014) and one combination validated (Hroneš 2014) during this period.

The rate of publication of new discoveries in *Thismia* during the past decades is especially high in Southeast Asia. In Vietnam, two of the five currently known species were described in 2014 (Nuraliev *et al.* 2014, Truong *et al.* 2014), and two others in 2007 (Larsen & Averyanov 2007). Here, we report a further new species of *Thismia* from Southern Vietnam and update the key to the Vietnamese species of this genus.

### Material & Methods

The new species was collected during an expedition of the Russian-Vietnamese Tropical Center in Dak Lak province of Vietnam, Chu Yang Sin national park, in May 2014. The description and drawings are based on spirit collection of a single available plant and photo materials of the same individual in a living state. The measurements were performed for the plant fixed and stored in 70% ethanol, using a vernier calliper under a dissecting microscope; the photos of a living plant calibrated with a ruler were also used. For characters of the parts of plant which are not unique in our specimen (roots, leaves, involucre bracts, tepals, stamens, carpels), as many measurements as possible were made.