

Rediscovery of *Prostanthera albohirta* C.T.White (Lamiaceae)

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Abstract

The northern Queensland species, *Prostanthera albohirta* C.T.White (Lamiaceae) is very inadequately known and is officially regarded as extinct. The recent discovery of *P. albohirta* from the Mount Emerald area of Queensland (Australia) represents the first collections of this species since 1932. Habitat preferences, conservation notes and photographs of the species are here provided.

Introduction

Prostanthera albohirta C.T.White was described from a single collection by L.J. Brass in 1932 from Mount Demi, west of Mossman, Cook District, North Queensland (White 1936). Attempts to re-collect this species by several botanical collectors have been unsuccessful. Hence, both the Australian national authority (EPBC 2013) and the Queensland State authority (Nature Conservation (Wildlife) Regulation 2006) regard *P. albohirta* as being Extinct.

During discussions between the two authors regarding tropical species of *Prostanthera* in northern Queensland, it became apparent that unidentified collections from the Mount Emerald area, west of Tolga (Cook district, Queensland) were of *P. albohirta*.

Prostanthera albohirta C.T.White, *Proceedings of the Royal Society of Queensland* 47: 74 (1936). **Fig. 1**

Holotype: Queensland: Cook District: Mt Demi summit, L.J. Brass 2102, 6 Feb 1932 (BRI).

For detailed description of species – refer White (1936).

Distribution: Previously known by type collection from the summit area of Mount Demi, near Mossman, and now from the Mount Emerald area on the Great Dividing Range, west of Tolga. Both localities are from the Cook botanical district, Queensland, Australia. In addition, both localities are also within the Wet Tropics Bioregion, although the Mt Emerald population sits a little east of the Einasleigh Upland Bioregion (see <http://www.environment.gov.au/parks/nrs/science/bioregion-framework/ibra/maps.html>)



Fig.1. Photograph of flowering branchlets showing indumentum of branchlet, abaxial surface of leaves, prophylls and outer surface of calyx; oblique profile view of corolla (*Ford 6174*). Photographer: A. Ford

Habitat: The original collections from Mount Emerald (*Holmes 173*, *Ford 2360* and *Ford 5361*) occurred in one small area in a protected gully dominated by stunted *Syncarpia glomulifera* (Sm.) Nied, with a dense understorey of mesic shrubs including: *Acrotriche aggregata* R.Br., *Bertya polystigma* Gruening, *Pittosporum revolutum* W.T.Aiton and *Pomaderris argyrophylla* N.A.Wakef. However, the latest collection (*Ford 6174*) came from a wet, low grassy woodland that is approximately 20 metres from the populations that were previously known. The habitat of the *Ford 6174* collection included the same understorey shrub species, but the ground-layer included more grass species such as *Entolasia* and *Panicum*. Little is known about the habitat preferences of this species on Mount Demi, except that it occurred ‘on an exposed cliff face’ (*Brass 2102*). The vegetation occurring on Mount Demi is predominantly tropical upland rainforest. The species is known to occur at elevations of 900–1100 metres, although the collections only represent two localities.

Notes: The discovery of *P. albohirta* from the Mount Emerald area is surprising given the extent of potential habitat between (and north of) Mount Demi and Mount Emerald. There are many areas above 900 m altitude that harbour scrubby gullies amongst rock outcrops which appear suitable but from which the species has not been found, this is despite several collectors being active in those areas.

It appears as though fire regimes play a significant role in determining the population structure and presence of *P. albohirta*. The Mount Emerald collections from the sheltered gully represent an area that has not been burnt for many years. In response to the lack of fire or other disturbances, the five plants of *P. albohirta* had become openly branched and poorly formed. As a result of a fire in a nearby gully in 2009, the plants that were at least 11 years old were killed. There was no sign of coppice growth at ground level from where the stems had originally been. It is assumed the stems were totally incinerated. However, nearby a healthy population now thrives in a much more open and sunny community. From these observations it is apparent that *P. albohirta* is an obligate seeder, but it is not known at what age plants become reproductive. Therefore, local fire regimes are critical if *P. albohirta* is to survive in the Mount Emerald area.

The affinities of this species are unclear. White (1935) regarded *P. albohirta* as closely related to *P. rugosa* A.Cunn. ex Benth from New South Wales. There are two other, morphologically unrelated, species of *Prostanthera* which occur within 10 km of Mt Emerald in north Queensland, viz. *P. clotteniana* (F.M.Bailey) A.R.Bean and *Prostanthera* sp. (*Dinden P.I. Forster 17342*). Both of these species have glabrous to glabrescent leaves with entire margins and a calyx which enlarges markedly during fruit maturation, however *P. albohirta* has densely hairy leaves with 1–4 bluntly pointed lobes on each side of the margin and a calyx which does not enlarge during fruit maturation.

Conservation status: We strongly urge reassessment of the extinction-risk listing status of *P. albohirta* under both Queensland and Commonwealth legislation, and incorporation of it in relevant conservation management plans and guidelines. There is a very strong prima facie case that it now satisfies the requirements for ‘Critically Endangered’ status *sensu* IUCN (2001), at least under Criterion D (population size <50 individuals). On Mount Emerald there are currently less than 50 plants known in an area no larger than 100 m². Searches of nearby areas have so far failed to discover additional occurrences.

This species has only been collected once from the summit area of Mount Demi and attempts to recollect this species from this area by the second author have failed and *P. albohirta* should be regarded as probably locally extinct at this location. Nearby areas which contain similar rock faces should be explored.

Other specimens examined: Queensland: Cook: Mt Emerald, Herberton Range: *Ford 2360*, 4 April 2000 (BRI, CNS); *Ford 5361*, 18 Aug 2008 (BRI, CNS, NSW); *Ford 6174*, 1 May 2013 (BRI, CNS, MEL, NSW); *Holmes 173*, 24 March 2000 (BRI, CNS).

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