



## A new, rare *Hibbertia* discovered on Bandalup Hill

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### Background

The Ravensthorpe Range and Bandalup Hill are biologically important areas of south-west Western Australia, supporting a wide variety of habitat types and a species-rich flora with significant levels of endemism. A range of new plant species with distributions centred on this area have been discovered and described in recent years, including a heath-myrtle (*Micromyrtus navicularis*), a rare *Kunzea* (*Kunzea similis* subsp. *mediterranea*), a sword sedge (*Lepidosperma gahnioides*), a pea (*Pultenaea craigiana*) and a sheoak (*Allocasuarina hystricosa*). Six endemic taxa are currently known from Bandalup Hill alone.

This region has a varied terrain and complex geology, including Archaean greenstones and nickel laterites, and is highly prospective for minerals such as nickel, magnesite, iron, gold, copper and silver. In view of the potential resource development activities in the region, it is essential to have an accurate understanding of the taxonomy and conservation status of species that occur in the area in order for them to be appropriately managed. The region has therefore been the recent focus of intensive floristic surveys and vegetation mapping. It was during one of these surveys that an unusual *Hibbertia* (Dilleneaceae) was collected and brought to the attention of staff at the Western Australian Herbarium for taxonomic evaluation.



Bandalup Hill (left) and the Ravensthorpe Range have exceptionally high biodiversity values and new plant species, such as the Bandalup Buttercup (right), continue to be discovered. Photographs: © Adrienne Markey.

### Findings

A taxonomic assessment of the *Hibbertia* indicated that it was a species new to science, distinct from allied species such as *H. hamulosa* and *H. mucronata* in a number of features including its long and hairless flower stalks. The species was added to the Western Australian Census of Vascular Plants under the informal phrase name *Hibbertia* sp. Bandalup Hill (G.F. Craig 3479) in January 2008 and subsequently given a Priority One status on the *Declared Rare and Priority Flora List for Western Australia*.

During follow-up surveys of Bandalup Hill in November 2008, DEC Science staff obtained baseline data and made additional herbarium collections so that the taxonomic research could be completed. They also confirmed that the species was localised and highly threatened, having been impacted by recent vegetation clearing associated with mine expansion. The mine was subsequently closed in January 2009 for economic reasons.

The research findings have been published in *Nuytsia* Volume 19(2), freely available via the link on FloraBase.



Photograph: © Jess Allen.

## Species facts



Photographs: © Adrienne Markey.

### *Scientific name*

*Hibbertia abyssa* Wege and KR Thiele

The species name means 'growing next to an abyss' and refers to this species' perilous conservation status.

### *Vernacular name*

The Bandalup Buttercup

### *Diagnostic features*

- An upright shrub to 1.2 m high, with sprawling lower stems.
- Linear to subulate leaves with tightly recurved margins and sharp tips.
- Slender and  $\pm$  hairless flower stalks 6–14 mm long.
- Hooked and branched hairs on the outer sepal surface.
- Five stamens, all arranged on one side of the carpels.
- Young branchlets with a dense covering of branched hairs between the hairless ribs.

### *Habitat*

Grows on rocky outcrops of Pallingup Siltstone in shallow red-brown light clay, in *Eucalyptus pleurocarpa*, *E. lehmannii* subsp. *parallela* and *E. falcata* subsp. *falcata* open mallee shrubland.

### *Conservation status*

Currently listed as Priority One under DEC Conservation Codes for Western Australian Flora. This species has been nominated for listing as Declared Rare Flora.

## Management Implications

The discovery of *Hibbertia abyssa* highlights not only the ongoing importance of floristic surveys to biodiversity conservation in Western Australia, but of subsequent taxonomic study of anomalous collections. The descriptive information and associated data that has been compiled and published will enable this highly significant species to be identified, making it possible for appropriate management strategies to be developed and implemented.