

# Threatened Species of the Northern Territory

## Hibbertia sp. South Magela

(K.G. Brennan 896)  
(DILLENIACEAE)

### Conservation status

Australia: Not listed

Northern Territory: Vulnerable



Photo: I. Cowie

### Description

*Hibbertia* sp. South Magela is a pendulous multi-stemmed subshrub with stems to 0.5m long. The dark green leaves are oblanceolate or obovate in shape, c. 15 mm long and 5 mm wide, with a dense covering of simple spreading hairs. They have stem-clasping petioles and attenuate bases. Flowers are bright yellow. (Cowie 2005)

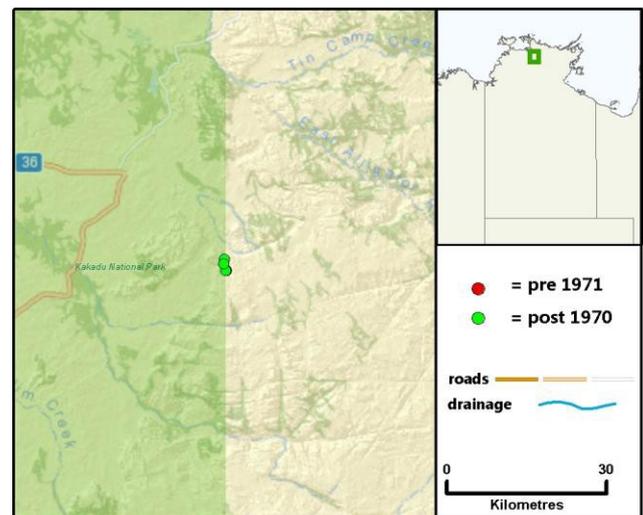
Flowering: January (Holtze 2010).

This taxon is currently not formally described and has the informal phrase-name *Hibbertia* sp. South Magela (K.G.Brennan 896) (DILLENIACEAE).

### Distribution

This species is endemic to the Northern Territory (NT), where it is known only from one branch of the upper Magela Creek Gorge on the escarpment of the Western Arnhem Land Plateau.

Conservation reserves where reported:  
Kakadu National Park.



Known location of *Hibbertia* sp. South Magela

### Ecology

*Hibbertia* sp. South Magela grows from sandstone cliff faces in semi-shaded situations (Cowie 2005). It appears to be an obligate cliff habitat specialist and has only been found hanging from sandstone cliff faces and in rock fissures in the sandstone escarpment.

Associated species of this cliff face habitat include *Dubouzetia australiensis*, *Microcorys elliptica*, *Sauropus rimophilus* and *Scleria* sp. Jabiru.

### Conservation assessment

This species appears confined to the South Magela Gorge, a single narrow gorge area of about two kilometres in length.

Limited species-specific targeted survey has been undertaken for this taxon in the gorge where it is known to occur. Several days of additional targeted survey of other cliff-dwelling species in nearby gorges failed to locate more subpopulations (Cowie 2005). However, cliff faces in the gorge to the south of the known occurrences and adjacent cliffs in the main Magela Gorge system are yet to be surveyed and may extend the range. The Magela Creek Gorge system can be regarded as a relatively well known area botanically as indicated by a survey density of 62 and 25 survey points per 100 km<sup>2</sup> in the two adjoining half degree (30 by 30 minute) cells. In addition, there is a pattern of short range endemism in the genus and in the sandstone flora of Western Arnhem Land in general (Woinarski *et al.* 2006; Toelken 2010). Both these factors indicate that the distribution is likely to be quite limited.

The known extent of occurrence (EoO) of *Hibbertia* sp. South Magela is less than 1 km<sup>2</sup> and was estimated by Cowie (2005) at 100 ha. The area of occupancy (AoO) was estimated at approximately three kilometres of cliff face. These figures give a population estimate of less than 100 individuals. However, if all cliffs in the area are occupied the total population potentially consists of a few hundred individuals and is unlikely to exceed 1000 plants (Cowie 2005). The species was first collected in 1991 and there is no information available to suggest past declines

in EoO or AoO, nor to indicate future changes.

This species qualifies as **Vulnerable** in the NT (under criterion D2), based on:

- Restricted to an area of less than 20 km<sup>2</sup>;
- fewer than five known locations; and
- threats from human activities and inappropriate fire regimes.

It probably also qualifies as D1 – number of mature individuals <1 000.

The species is also listed as a short range endemic in the NT.

### Threatening processes

There are no obvious threats. The cliff face habitat of the species is naturally fire proof and secure from disturbance, though plants could be scorched by fires in adjacent vegetation. The response of the species to fire is unknown, but it is perennial with a woody root system.

### Conservation objectives and management

Further survey of the extent of occurrence in South Magela Gorge and nearby gorges is warranted. Cliff faces counts, density measurements and population estimates are required (Cowie 2005).

### Complied by

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[updated December 2012]

### References

- Cowie, I. (2005). *Kakadu Threatened Flora Report. Volume 3. Report to Parks Australia North.* (NT Department of Infrastructure Planning and Environment, Darwin.)
- HOLTZE (2010) Northern Territory Herbarium (DNA) specimen database.

- Toelken, H.R. (2010) Notes on Hibbertia (Dilleniaceae) 5.*H. melhanioides* and *H. tomentosa* groups from tropical Australia. *Journal of the Adelaide Botanical Gardens* 23, 1–117.
- Woinarski, J.C.Z.; Hempel, C.; Cowie, I.; Brennan, K.; Kerrigan, R.; Leach, G.; Russell-Smith, J. (2006). Distributional patterns of plant species endemic to the Northern Territory, Australia. *Australian Journal of Botany* 54, 627–640.