

Threatened Species of the Northern Territory

Hibbertia pancerea

Conservation status

Australia: Not listed

Northern Territory: Vulnerable



Photo: I. Cowie

Description

Formerly referred to as *Hibbertia* sp. fire plot 121 (K.G. Brennan). Now formally described and conventionally accepted (Toelken 2010).

Hibbertia pancerea is a spreading shrub that grows to 1.5 m tall. Plants are clothed in a dense covering of peltate scales. Leaves are broadly elliptic with rounded apices. The solitary flowers have large yellow petals about 15 mm long (Toelken 2010). *Hibbertia pancerea* is in the *H. leptoda* subgroup and resembles *H. argyrochiton*.

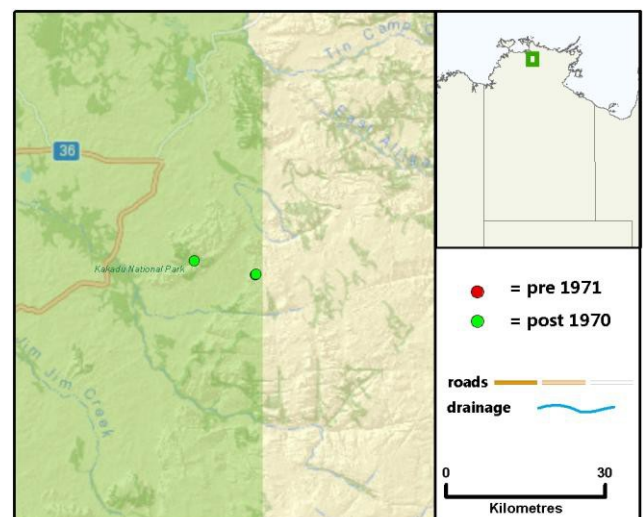
Flowering: February and March.

Distribution

This species is endemic to the Northern Territory (NT). To date *Hibbertia pancerea* is known only from the Type location on the western escarpment of the Arnhem Land Plateau. The single known site (near Lightning Dreaming) is situated at the eastern edge of

Kakadu National Park (KNP) very near its border with Arnhem Land.

Conservation reserves where reported:
Kakadu National Park.



Known locations of *Hibbertia pancerea*

Ecology

Hibbertia pancerea grows among sandstone rocks in shrubland to open forest on top of the Arnhem Land escarpment. It occurs on

sandstone boulder slopes around a cliff line and adjacent a seasonal stream on the escarpment.

Conservation assessment

Hibbertia pancerea is a very restricted species that is known only from the Type locality. It is represented by two collections from the same point and a third within 200 m distance. Thus the current known area of occupancy is in the order of only two hectares.

The Western Arnhem Land escarpment area of KNP is a very well known area botanically with 63 plant survey points per 100 km², this being the cell with the second highest survey density throughout the NT. The adjacent Arnhem Land cell also has 25 individual survey points per 100 km²). While it is possible that the extent of occurrence and area of occupancy may be larger than is currently known, the high level of general survey in the area indicates that substantial increases are unlikely. 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).

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

- Restricted to an area of less than 20 km²;
- Fewer than five known locations; and
- Threats from human activities and inappropriate fire regimes.

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

Threatening processes

As *H. pancerea* is confined to a single location it is at risk of unforeseen stochastic events. Although no threats are recognisable, successive wildfire events could potentially threaten the population. The very rocky

habitat of the species however provides some inherent protection from fire. The fire response of *H. pancerea* is unknown. The species may have the capacity to resprout from rootstock or dormant buds following fire, and thus have some resilience.

Alternatively the species may be an obligate seeding shrub sensitive to fire regimes characterised by frequent intense fires.

Conservation objectives and management

A fire monitoring program was established across KNP in 1999 to assess the impacts of fire regimes on the biota of the reserve.

Hibbertia pancerea occurs within one of the 138 monitoring plots established. Continued assessment of the population of *H. pancerea* during the five yearly monitoring should provide an indication of population dynamics and also the particular fire response of the species should the area burn.

Fire management of the sandstone heath in this area of KNP should take account of the presence of this species.

Given the inherent vulnerability of a single known locality, propagation of plant cuttings and ex-situ cultivation, for example at the George Brown Botanic Gardens Darwin, would provide some conservation security.

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[updated December 2012]

References

Toelken, H.R. (2010) Notes on *Hibbertia* (Dilleniaceae) 5. *H. melhanioides* and *H. tomentosa* groups from tropical Australia. *Journal of the Adelaide Botanic 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.