

## SHORT COMMUNICATION

**The distribution, habitat and conservation status of  
*Suregada glomerulata* (Blume) Baill. (Euphorbiaceae)  
from north-eastern Cape York Peninsula, Queensland**

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A systematic survey of the rainforest vegetation of Cape York Peninsula, far north-eastern Australia, was carried out between 1992 and 1995 (Stanton & Fell 2005). The survey which provided site data utilised in the mapping of the region's vegetation (*cf.* Neldner & Clarkson 1995), described the variety of rainforest communities throughout Cape York Peninsula, and resulted in significant contributions of voucher specimens to the Queensland Herbarium (BRI) and other Australian herbaria. These records included a number of range extensions, including the first records of *Suregada glomerulata* (Blume) Baill. (Euphorbiaceae) for Queensland.

*Suregada* Roxb. ex Rottl. comprises 31 species of shrubs and small trees that predominantly occur in the tropical Asian – Pacific region, as well as Taiwan, South Africa and Madagascar (Govaerts 2004). The genus is characterised by leaves with unusual, secretory lacunae that may be adaptive for xeric environments (Wurdack *et al.* 2005).

*Suregada glomerulata* is a dioecious shrub or small tree with elliptic or narrowly cuneate-ovate leaves up to 18 by 6 cm (Airy-Shaw 1980). Leaves are typically decurrent at the base merging into a very short petiole with an obtuse or rounded apex and translucent areoles between the ultimate nerves (Airy-Shaw 1980). The stem blaze is reported as yellow (J.P. Stanton, pers. comm., June 2007). The flowers have been variously recorded as green (*Brass 8219*), greenish-cream (*De Wild 19353*), brownish yellow (*Woerjantoro 120*), and white (*Van Steenis 9884*, *Tangkilisan 93*, *Stanton 67*). Fruits are orange-red capsules

and dehisce septicidally to present black seeds (EPA 2007).

**Distribution – Non-Queensland habitat:** *Suregada glomerulata* is widespread in western and eastern Malesia including Malaysia, Philippines, Indonesia, Timor and New Guinea (EPA 2007). Within these areas it inhabits lowland and lower montane rainforest between altitudes of 130 to 1160 m, often near running fresh water on a variety of substrates including limestone (Airy Shaw 1975 cited in RBGK n.d.; EPA 2007). It also occurs throughout southern China, in Hainan, Guangdong, Guangxi and Yunnan Provinces where it is common in open areas, roadsides, and early recovery vegetation such as 5–25-year-old secondary forests on abandoned lands of shifting cultivation (Ding & Zang 2005; Yi Ding, pers. comm., November 2006).

In the Northern Territory, *S. glomerulata* is known from vineforests and vinethickets on dry sandstone, sandy alluvium associated with springs, or lateritic substrates (Liddle *et al.* 1994; EPA 2007). The majority of the herbarium records are located in the Arnhem Plateau Bioregion, over an approximate extent of 100 km east-west by 140 km north-south (DPI 2006; Liddle *et al.* 1994; EPA 2007). The main population occurs in an area with an average annual maximum temperature of 34° C and average annual rainfall of 1200–1600 mm (DPI 2006). A disjunct population occurs in the Tiwi – Coburg Bioregion on Croker Island, some 200 km northwest of the main population (EPA 2007). In contrast to the predominately sandstone environments of the Arnhem Plateau Bioregion, the Croker Island population occurs on laterite in a maritime environment.

**Queensland Habitat:** *Suregada glomerulata* was first collected in Queensland in the Iron Range area in March 1994 (Fell & Stanton DGF4154, Site 117 West Claudie River, Cape York Peninsula; Stanton & Fell 2005). The second collection in Queensland (Stanton 67, October 1995) was recorded within two kilometres of the first site. Both localities occur within Iron Range National Park within the traditional lands of the Kuuku y’au people (Horton 1994).

The initial Queensland collection of *Suregada glomerulata* was from semi-deciduous mesophyll-notophyll vine forest with *Acacia* species (Stanton & Fell 2005 – Type 49) where it was an uncommon understorey shrub up to 2 m in height. The survey site (Site 117) occurred on podzolic soils of poor internal drainage that are found on the lower slopes and adjacent colluvial deposits of granite ranges (Stanton & Fell 2005). Granite boulders outcrop on the site amongst which *Dendrocnide cordata* was frequent. The well-developed but uneven canopy reaching 35 m in height was dominated by *Acacia polystachya*, *Terminalia sericocarpa* and *Canarium australianum*, and also featured *Brachychiton velutinosus* (listed as Rare in the *Queensland Nature Conservation Act (Wildlife) Regulation 2006 (NCR 2006)*) and *Margaritaria indica* (listed as Vulnerable in the *NCR 2006*). The diverse understorey featured dense patches of the native bamboo *Neololeba atra* (listed as Rare in the *NCR 2006*). At the time of survey, the site was undisturbed by human activity and free of weeds.

The second collection of *Suregada glomerulata* was located in tall simple mesophyll/notophyll vine forest on a gentle slope, with red loam soils derived from weathered schist (Stanton & Fell 2005 – Type 38).

**Environmental Relationships:** In contrast to the Northern Territory populations, the Queensland habitats of *S. glomerulata* are very wet (rainfall + 2,000 mm per annum), perhaps more resembling those described for the extra-Australian populations in Asia and Malesia. While the granitic derived soils

present at the West Claudie River site are likely to exhibit acidic properties similar to those of soils derived from sandstones in the Northern Territory sites, the precise habitat parameters and relationships for this species are at this point speculative. Rainforest structure remains relatively constant in the West Claudie River area in response to geology; however, floristics vary considerably in response to soil properties, slope position and drainage (Stanton & Fell 2005). An exception is vegetation on the upper granitic slopes and ridges which support simpler evergreen notophyll forests, representative of a continuum between sclerophyll forest (*Acacia* dominated) and vineforest.

**Conservation Status:** *Suregada glomerulata* is widespread outside Australia and relatively well known in the Northern Territory where it is assigned “least concern” status under the *Territory Parks and Wildlife Conservation Act 2000*. In Queensland, the species is considered extremely rare, with two collections representing the only known occurrence of a highly disjunct population. On current information, the species is restricted to the West Claudie River catchment in the Cape York Peninsula bioregion in vegetation types that are restricted to the Iron Range area (Stanton & Fell 2005).

Based on available knowledge and the limited extent of known potential habitat, *S. glomerulata* may have a very restricted area of occupancy in Queensland. The species is conserved within Iron Range National Park and not currently under any apparent threat. Furthermore, the isolation of the population limits the potential incidence and degree of anthropogenic threats. However, there remains a risk of stochastic extinction of the species in Queensland due to its small population size and very localised extent of occurrence.

Accordingly, the species should be considered regionally significant in the Cape York Peninsula bioregion and afforded **Vulnerable** status under the *Nature Conservation (Wildlife) Regulation 2006* as consistent with Criterion D2 (IUCN 2001). This recommendation acknowledges the difficulties in attributing conservation status

to taxa which are rare in Queensland, both in terms of restricted geographic distribution and habitat, but widespread in neighbouring regions, for example Papua New Guinea where we have limited knowledge of their status. Such species in the Cape York Peninsula bioregion are numerous and include *Aglaia argentea*, *Aglaia brassii*, *Albizia retusa* subsp. *retusa*, *Brachychiton velutinosus*, *Cleistanthus myrianthus*, *Macaranga polyadenia*, *Margaritaria indica*, *Pimeleodendron amboinicum*, *Syzygium malaccense* and *S. buettnerianum*, all of which are currently listed as Rare (NCR 2006). In many cases, data on Australian and extra-Australian habitat of such species are limited and reliant on historical herbarium collections. While the broader distribution needs to be taken into account when considering the conservation status and potential for extinction of taxa that also occur outside Australia, there remains an obligation to protect all species extant within the country and to protect the genetic diversity inherent in populations on the edge of a species' range.

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