THREATENED SPECIES OF THE NORTHERN TERRITORY

PALM VALLEY PALM, RED CABBAGE PALM, CENTRAL AUSTRALIAN CABBAGE PALM *Livistona mariae* subsp. *mariae*

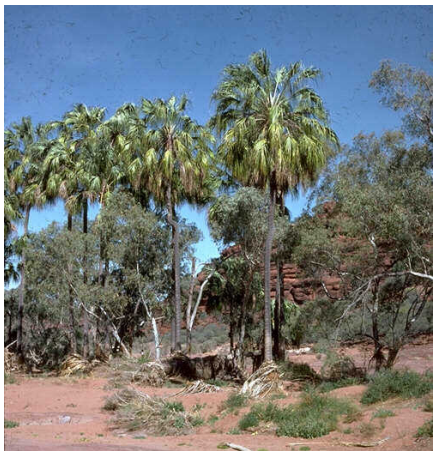
Conservation status

Australia: Vulnerable.
Northern Territory: Vulnerable.

Description

Livistona mariae subsp. *mariae* is a tall fan palm to 20 m high. It is an unmistakable and spectacular palm of biogeographic significance.

Flowering: May, Sep.
Fruiting: Mar, May, Oct.

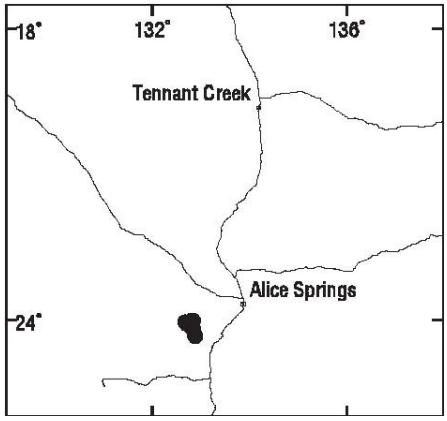


Livistona mariae subsp. *mariae*.

Distribution

In his recent revision of *Livistona*, Rodd (1998) recognised three subspecies of *L. mariae*. The subspecies *rigida* (formerly *L. rigida*) occurs in northern NT and in Queensland, and subspecies *occidentalis* occurs in the central Kimberley region of WA and western NT. The subspecies *mariae* is endemic to the MacDonnell Ranges bioregion, being restricted to a small portion of the Finke River and its tributaries. Most individuals are found in Finke Gorge National Park, with an outlying population outside the National Park, at Running Waters (White *et al*. 2000). The extent of occurrence is less than 60 km^2 and the actual area occupied by the existing stands is less than 50 ha. The latitudinal range is 35 km and the longitudinal range is 20 km.

Conservation reserves where reported:
Finke Gorge National Park.



Known locations of *Livistona mariae* subsp. *mariae*.

Ecology

This species grows predominantly on the floor of gorges fed by spring waters in Hermannsburg Sandstone. The hydrology of this system and its importance for refugial processes is described by Wischusen *et al*. (2004). It also occurs in the bed and banks of sandy drainage lines but rarely reaches

maturity there, probably due to the occasional severe floods.

Conservation assessment

The principal IUCN criteria for rating this taxon as **Vulnerable** (under criterion D2) is its acutely restricted range.

Threatening processes

The population at Running Waters is currently being degraded by a range of activities acting in concert, including stock and vehicle access to the wetter area of the springs. This has greatly accelerated the extent of environmental weed invasion at the site and has promoted soil disturbance and compaction.

Potential threats to individual stands include wildfire, severe flooding and the possible failure of critical springs. In the longer term, the invasion of environmental weeds such as *Cynodon dactylon* (couch grass) may inhibit the recruitment of seedlings and may contribute to the build up of fuel loads in and around palm stands increasing the risk of mortality in the event of fire.

This palm may also be affected by the development of walking tracks and tourist facilities and the associated potential for visitors to introduce soil-borne pathogens to stands.

It is possible that this distinctive palm may also be detrimentally affected by increasing aridity associated with global climate change.

Conservation objectives and management

Some of these threats are recognised and are being addressed by the Parks and Wildlife Service. Monitoring of the entire population is carried out at regular intervals.

Compiled by

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References

Rodd, A.N. (1988). Revision of *Livistona* (Arecaceae) in Australia. *Telopea* **8**, 49-154.

White, M., Albrecht, D., Duguid, A., Latz, P., and Hamilton, M. (2000). *Plant species and sites of botanical significance in the southern bioregions of the Northern Territory. Volume 1: significant vascular plants.* A report to the Australian Heritage Commission. (Arid Lands Environment Centre, Alice Springs.)

Wischusen, J.D.H., Fifield, L.K., and Cresswell, R.G. (2004). Hydrogeology of Palm Valley, central Australia; a Pleistocene flora refuge? *Journal of Hydrogeology* **293**, 20-46.