

# Threatened species of the Northern Territory

## *Schoutenia ovata*

### Conservation status

#### Australia: Not Listed

Environment Protection and Biodiversity Conservation Act 1999

#### Northern Territory: Endangered

Territory Parks and Wildlife Conservation Act 1976

### Description

*Schoutenia ovata* is a semi deciduous shrub or tree up to 10 m high. Stems and leaf undersurfaces are densely covered in white to straw-coloured hairs. Leaves are elliptic to obovate, 3.5–10 cm long, 2–5 cm wide, margins are entire to irregularly lobed in upper half. Flowers are white or pale yellow. The fruit is ovoid to globular, 6–7 mm long, 5.5–6 mm diam., largely filled with spongy tissue, with the dry sepals persisting and probably aiding in wind dispersal<sup>1</sup>.

Flowering: February–March.

Fruiting: May.



Credits: I.D. Cowie

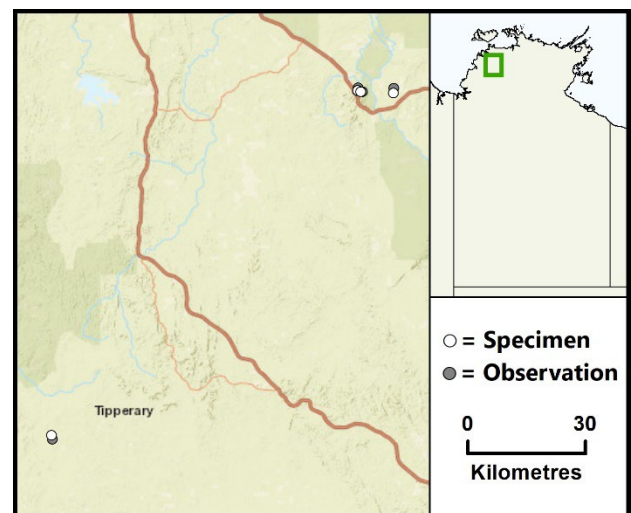


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### Distribution

This species occurs in Thailand, Indochina and Java. In Australia, it is known only from the Northern Territory (NT). In the NT, it occurs in three disjunct areas, two in the Mt Bunday - Mt Goyder area and near Tipperary Station<sup>2</sup>.

NT conservation reserves where reported: Mary River National Park.



Caption: Known locations of *Schoutenia ovata* in the NT ([nrmmaps.nt.gov.au](http://nrmmaps.nt.gov.au))

## Ecology

This species has been recorded from monsoon vine thicket on syenite (a granitic rock lacking quartz) and limestone outcrops. These rocks appear to break down to clayey soils. The Mt Bunday plants mostly occur on south facing slopes. Juvenile plants appears to have some ability to resprout after fire and mature plants produce some root suckers. The fruit appears to be wind dispersed and fruit set is irregular.

## Threatening processes

Although this species is known from rocky outcrops that are unlikely to be affected by land clearing in the Daly Basin area or at Mt Bunday, invasion by introduced grassy weeds coupled with changes in fire regimes, soil hydrology and nitrogen availability is a serious developing threat.

The immediate major threat at Mt Bunday and likely also at Tipperary is the incursion of Gamba Grass (*Andropogon gayanus*) into the margins of its vine thicket habitat and subsequent erosion of those patches by changed fire regimes and altered competitive relationships. Gamba Grass is an introduced perennial grass species producing a high-biomass. It is now established and common at Mt Bunday in Eucalypt woodland adjoining vine thicket, with scattered plants occurring in vine thicket margins in some places.

Compared with native grasses, Gamba Grass forms taller, denser stands, curing later in the Dry season. This results in substantial changes to savanna fire regimes. It can dramatically increase fuel loads from the 2–4 t/ha typical for native grasses to 11–15 t/ha or sometimes even 30 t/ha resulting in later, more intense fires that can kill or reduce the vigour of tree species<sup>3,4</sup>.

Gamba Grass may also out compete native woody species both by grossly altering the availability of nitrogen to native plant species and by using larger amounts of water than native grasses<sup>5,6</sup>.

## Conservation objectives and management

Fire management is essential to manage fire effects on the vine thicket community. Gamba Grass and other invasive weeds (especially perennial grasses) need to be controlled and managed at the known sites to prevent the development of excessive fuel loads that will inevitably result in high intensity fires and to prevent erosion and invasion of vine thicket habitat. Adequate buffering from land use activities in the adjacent woodland vegetation at Tipperary may be required. Further investigation into the size, extent and status of subpopulations is required.

## References

- <sup>1</sup> Cowie, I.D., Dixon, D.J. and Kerrigan, R.A. 2011. Tiliaceae. In Short, P.S. & Cowie, I.D. (eds), *Flora of the Darwin Region*. (Northern Territory Herbarium, Department of Natural Resources, Environment, the Arts and Sport). Vol. 1, pp. 1–19. <http://www.nt.gov.au/nreta/wildlife/plants/herbarium/index.html>
- <sup>2</sup> Liddle, D.T., Russell-Smith, J., Brock, J., Leach, G.J. and Connors, G.T. 1994. *Atlas of the vascular rainforest plants of the Northern Territory*. Flora of Australia Supplementary Series No. 3. (ABRS, Canberra.)
- <sup>3</sup> Rossiter, N.A., Setterfield, S.A., Douglas, M.M. and Hutley, L.B. 2003. Testing the grass-fire cycle: exotic grass invasion in the tropical savannas of northern Australia, *Diversity and Distributions* 9: 169–176.
- <sup>4</sup> Ferdinands, K. Setterfield, S.A., Douglas, M.M. and Barratt, J. 2006, Africanising the tropical woodlands: Canopy loss and tree death following gamba grass *Andropogon gayanus* invasion. In *Proceedings of the 15th Australian Weeds Conference*, Eds. C. Preston, J.H. Watts and N.D. Crossman. Weed Management Society of South Australia, Adelaide, p. 296.
- <sup>5</sup> Rossiter, N.A., Setterfield, S.A., Douglas, M.M., Hutley, L.B. and Cook, G.D. 2004, 'Exotic grass invasion in the tropical savannas of northern Australia: Ecosystem consequences', in *Proceedings of the 14th Australian Weeds Conference*, Eds. B.M. Sindel and S.B. Johnson. Weeds Society of New South Wales, Sydney, pp. 168–171.
- <sup>6</sup> Rossiter-Rachor, N. A., Setterfield S. A., Douglas, M. M., Hutley, L. B., Cook, G. D. and Schmidt, S. 2009. Invasive *Andropogon gayanus* (gamba grass) is an ecosystem transformer of nitrogen relations in Australian savanna. *Ecological Applications* 19(6): 1546–1560.
- <sup>7</sup> Russell-Smith, J. 1991. Classification, species richness, and environmental relations of monsoon rain forest in northern Australia. *Journal of Vegetation Science* 2, 259–278.