

Strelitzia nicolai (Strelitziaceae): a new species, genus and family weed record for New South Wales

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Abstract

Strelitzia nicolai Regel & Körn. (Strelitziaceae), a native of South Africa, is newly recorded as a sparingly naturalised weed for New South Wales and represents new family, generic and species records for the state. Descriptions, notes and identification key are provided for the family, genus and species.

Introduction

Strelitzia nicolai Regel & Körn. (Giant White Bird of Paradise or Natal Wild Banana; Strelitziaceae), a native of South Africa, is a common horticultural subject in eastern Australia. Recently a small colony of plants was discovered at Minnie Water (c. 60 km NNE of Coffs Harbour, North Coast, New South Wales). The colony is of note as some plants were 8 m tall (suggesting they had been there for some time) and that they were setting viable seed. Seedlings were found within this population and Milne and Luxton have observed that the species is being found in increasing numbers on council land and in National Parks of the area. The species has also been recorded from the Murri-yanna Track, Bidjigal Reserve (North Rocks, NW Sydney) in 2006, with vouchers lodged at the National Herbarium of New South Wales. This latter population consisted of approximately 20 seedlings. This area was visited by Duretto in 2015 and the population is extant with roughly the same number of plants. There were plants of different sizes (30–250 cm tall, the height being mostly leaf length) suggesting that they were of different ages and thus recruitment events. In addition it was noted that the plants were found not only along the track but scattered in the forest in wetter areas to a few 10's of metres from the track. No mature plants were seen though plants are growing in private gardens bordering the reserve and these may be the seed source. The Atlas of Living Australia (<http://www.ala.org.au/>) and NSW BioNet (<http://www.bionet.nsw.gov.au/>) both have a few additional observational sightings of this species from the Sydney and Newcastle areas but with very little information.

It would appear that *Strelitzia nicolai* has become sparingly naturalised in at least two localities in New South Wales. The species is well known and large and so awkward to collect. It may be underrepresented in Herbaria as people tend not to collect and send in familiar and/or large plants for identification. The species is sparingly naturalised in south-eastern Queensland (Queensland Government 2015).

The descriptions provided below were compiled from living material and the descriptions given in Wright (1913), Dyer (1976) and Anderson (1998).

Strelitziaceae (K.Schum.) Hutch.

Arborescent suckering plants or acaulescent plants with dichotomously branched stem. Leaves alternate, distichous; sheath without distinct ligule; petiole distinct, indistinct or absent; blade entire, midrib distinct, lateral veins closely set and parallel. Inflorescence a terminal or lateral thyrus, bearing cincinnate flower clusters in axils of spathaceous bracts on an indeterminate main axis. Flowers bisexual, trimerous, heterochlamydeous, zygomorphic, subtended by carinate bracteoles. Sepals 3, free or more or less adnate to petals. Petals 3, variously connate, equal or very unequal. Stamens 5 or 6, staminodes absent; anthers basifixed, elongate, 2-thecate, 4-sporangiate. Ovary inferior, 3-locular, with deeply sunken septal nectaries; ovules anatropous, 1 to numerous on axile placenta; style filiform. Fruit a dehiscent capsule. Seeds inoperculate, arillate, with a 1-layered, starchless perisperm, with copious starchy endosperm.

The naturalised species of Strelitziaceae are distinguished from other plant families in New South Wales by usually being arborescent, having large banana-like leaves (usually > 1 m long including petiole) arranged distichously and with an elliptic lamina and a main midrib, and the large flowers. Some species in *Strelitzia* are not arborescent but these are not naturalised and can be distinguished by forming large clumps of large leaves and the large, showy and unequal tepals.

The family consists of three taxa native to southern Africa (*Strelitzia*, Bird of Paradise), Madagascar (*Ravenala madagascariensis* Sonn., Travellers Palm) and South America (*Phenakospermum guyannense* (Rich.) Endl. ex Miq.) (Anderson 1998). *Strelitzia* and *Ravenala* are common in horticulture and only the former appears to be naturalised while the latter may persist from dumped garden refuse.

Key to genera *Ravenala* and *Strelitzia* (Strelitziaceae)

- 1 Petals very unequal, the anterior pair connivent into a large sagittate structure with a central groove enclosing stamens and style; posterior petal small and scalelike; arborescent or not *Strelitzia*
 - 1: Petals ± equal in shape though posterior one slightly smaller, not connivent; arborescent *Ravenala*
- Strelitzia* Banks, *Strelitzia reginae* [plate] (1788).

Type species: *Strelitzia reginae* Banks

Arborescent and suckering or acaulescent and clumping with dichotomously branching corm like stems. Inflorescence lateral. Sepals unequal, the median sepal smaller than the lateral paired ones. Petals strongly unequal, free; the paired ones large, brightly coloured, connivent into a sagittate structure centrally with a groove enclosing the style and stamens; the unpaired (posterior) one small. Stamens 5, perfect. Ovary with 2 rows of ovules. Seeds few, globose, with orange woolly aril.

A South African genus of 5–6 species. Three species, *S. reginae* (Bird of Paradise), *S. nicolai* and to a lesser extent *S. juncea* Link, are widely cultivated and important floricultural plants. *Strelitzia nicolai* is sparingly naturalised in south-eastern Queensland (Queensland Government 2015) and north-eastern New South Wales.

Strelitzia nicolai Regel & Körn., *Gartenflora* 7: 265, t. 235 (1858).

Arborescent, multi-stemmed plant to 8(–12 m elsewhere) high; trunk diam. to 0.5 m wide; forming large clumps by new stems shooting from base. Leaves simple, petiolate, to 2 m long; bases tightly packed; lamina undivided though usually splitting in several places between lateral veins with age, elliptic, with a single main vein and many perpendicular lateral veins; persisting for short time after dying and then falling off entire. Inflorescence axillary, protruding from between petioles; spathe large, dark blue to reddish-brown, drying and persisting for several years. Entire flower to 18 cm high and 45 cm long, typically held just above the point where the leaf fan emerges from the stem. Tepals white/blue. Fruit a woody capsule. Seeds large, 8–10 mm diam., black; aril orange.

Specimens examined: AUSTRALIA: NEW SOUTH WALES: NORTH COAST: Minnie Water, 29°46'06"S 153°17'43"E, R. Luxton, Apr 2015 (NSW 907786); CENTRAL COAST: Along footpath [Murri-yanna Track] on eastern side of Darling Mills Creek [Bidjigal Reserve], North Rocks, 33°46'45"S 151°00'36"E, W. Cherry 21, Oct 2006 (NSW 741411).

Images: Images of *Strelitzia nicolai* and related species are readily available on the internet (eg. PlantNET 2016).

Distribution and ecology: Currently known from two vouchered populations in New South Wales. 1. At Minnie Water (c. 60 km NNE of Coffs Harbour), in and around Yuraygir National Park, where found in *Melaleuca* forest on sand as well as in tall open Banksia heath on exposed headlands (e.g. east side of Pipers Hill, D Milne pers. obs.). 2. At Bidjigal Reserve (NW Sydney) plants are found in wet *Syncarpia glomulifera*/*Angophora costata* forest on sandstone. Plants have also been observed as isolated individuals or in small groups around Sydney; eg. *Melaleuca* forest in Lawson Swamp (Centennial Park, Randwick), very weedy woodland on railway sidings at Waverton, as well as at Middle Harbour near the Roseville Bridge (M Duretto, pers. obs.). In Queensland the species is found in tall open woodland, notophyll vine forest and rainforest (Atlas of Living Australia; <http://www.ala.org.au/>).

Notes: At Minnie Water the species appears to be established over a large area in a variety of habitats, although individuals can be widely spaced. There are a variety of ages present (from seedlings to plants 8 m tall), and since seed production is active it would appear the plants have become established. The local Yuraygir Landcare group is actively removing plants.

Elsewhere it is not known if populations are self-perpetuating. They may originate from seeds produced by local horticultural subjects or from garden refuse. Nevertheless the species is long lived, and given the size plants can attain, in both height and width of the colony, removing them should become mandatory in natural habitats. Once established the species would be difficult to eradicate.

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