# Queensland Tree Waratah

## *Alloxylon flammeum*



The Queensland Tree Waratah, *Alloxylon flammeum*, produces spectacular scarlet-red waratah-like flowers in spring. It is native to the *Mabi* rainforest community of far north Queensland, but it is much loved by horticulturists and sought after for planting in parks and gardens. The glorious clusters of flowers are produced in abundance in the tree canopy in spring, and the long tubular individual flowers that make up the clusters are well suited to pollination by birds. *Mabi* forests are a type of dense vine forest found growing on porous, nutrient-rich basalt soils with very high rainfall, from 700 – 1,000 metres above sea level. They are seasonally dry in October. *Mabi* forests are classified as critically endangered and only survive in remnant patches on the Atherton Tablelands of Far North Queensland, and along the Annan River.



Given its common name, Tree Waratah, it's not surprising that *Alloxylon* is closely related to the Waratahs that we know so well from



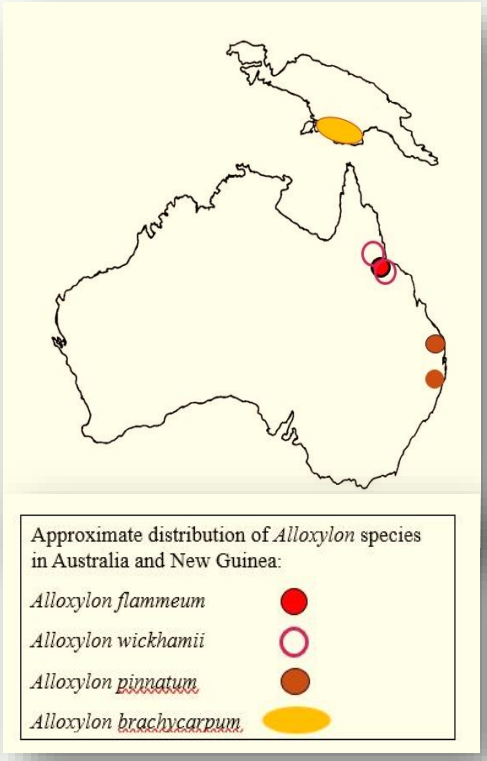
*Embothrium coccineum* –
Wulaia Bay, Isla Navarino, Chile.



*Oreocallis grandiflora,* Machu Pichu, Peru.
Photograph: McKay Savage



*Telopea speciosissima* –
New South Wales Waratah

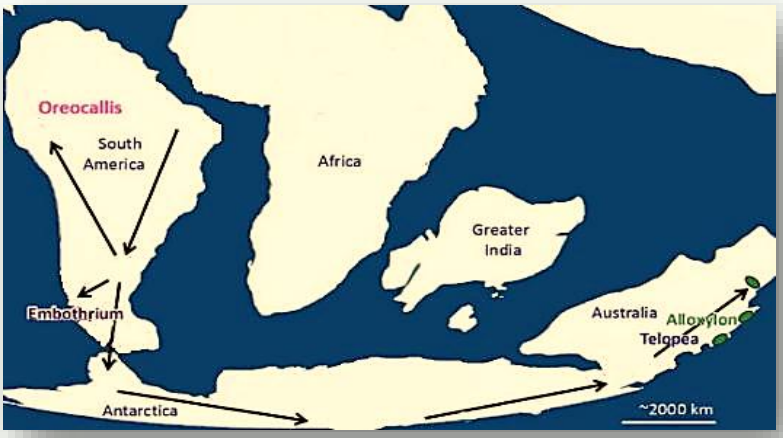



southern Australian states. And, of course, it belongs in the plant family Proteaceae. There are only four species in the genus *Alloxylon*: *A. flammeum* and *A. wickhamii* only occur in far-north Queensland; *A. pinnatum* (the Dorrigo Waratah) from north-eastern NSW and south-eastern Queensland; and *A. brachycarpum* from Papua New Guinea.

*Alloxylon flammeum* was first recorded as *Embothrium wickhamii*, then later *Oreocallis wickhamii*. Thanks to molecular biology, both genera, *Embothrium* and *Oreocallis* are now known to occur naturally only in South America, but all three, *Alloxylon, Embothrium* and *Oreocallis,* together with the Australian Waratahs, *Telopea* spp., are closely related and are grouped in the same sub-tribe Embothriinae of the Proteaceae.

So how is it that there are two Australian genera, *Telopea* and *Alloxylon*, that are so closely related to two South American genera, *Embothrium* and *Oreocallis*? It is now suggested that the lineage (from a common ancestor) originated about 60 million years ago *before* the breakup of Gondwana, when there was a land bridge linking South America, Antarctica and

Australia. The prominent position of *Alloxylon flammeum* flowers, together with their striking red colour, suggests adaptation to pollination by birds. The date of radiation of these closely related, bird-pollinated plants is consistent with the estimated date of origin of nectar-feeding birds in Australia.




World map at ~ 100 million years ago, but with current areas of distribution of *Oreocallis, Embothrium, Telopea* and *Alloxylon*. Arrows indicate directions of migration of Proteaceae genera. Map modified from Wei et al. 2025.

Alison Downing, Brian Atwell, Karen Marais, Kevin Downing and with thanks to the Cherrybrook family who provided flowers for this display.
School of Natural Sciences

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Wikipedia: https://en.wikipedia.org/wiki/Mabi_forest
Photograph of *Oreocallis grandiflora* by Mackay Savage, London, UK: Peru, Machu Picchu 046 - pretty wildflowers, CC BY 2.0, https://commons.wikimedia.org/w/index.php?curid=23462462



Sulphur-crested Cockatoo, *Cacatua galerita* in a Queensland Tree Waratah, *Alloxylon flammeum*. Photo: Tatiana Gerus from Brisbane, Australia,
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