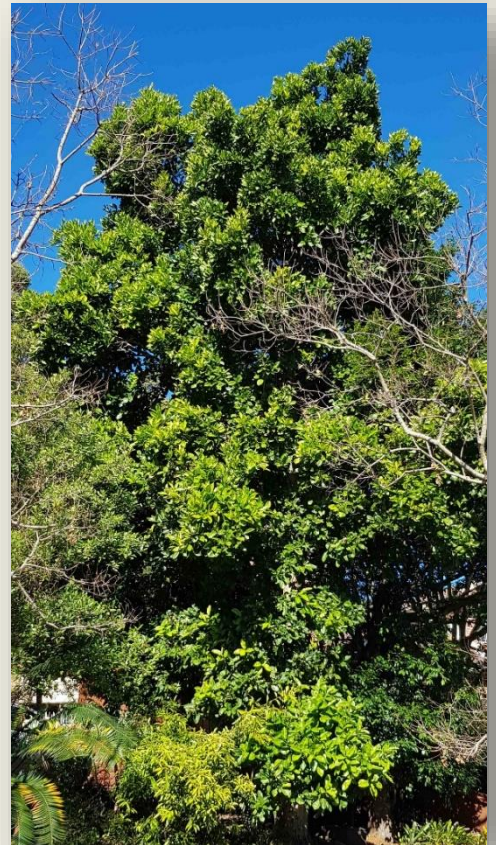


Syzygium *moorei*

Coolamon, Durobby

**A rare species in a genus
key to the floristic origins
of Malesian rainforests**

Syzygium moorei, the Coolamon, or Durobby, is a rare tree (now classified as *vulnerable*) from the fertile soils of riverine and lowland subtropical environments of NE NSW and SE Queensland. Extremely large, leathery leaves, and delicate pink or orange-red flowers that grow directly from the trunk or large upper branches make this species very different from the lillypillies common in Sydney gardens and surrounding gullies. This characteristic of flowering from woody stems, is known as *cauliflory* (from the Latin, *caulis* – stem, and *flos* – flower), and although common in the tropics, is quite unusual in a tree so far south in New South Wales.



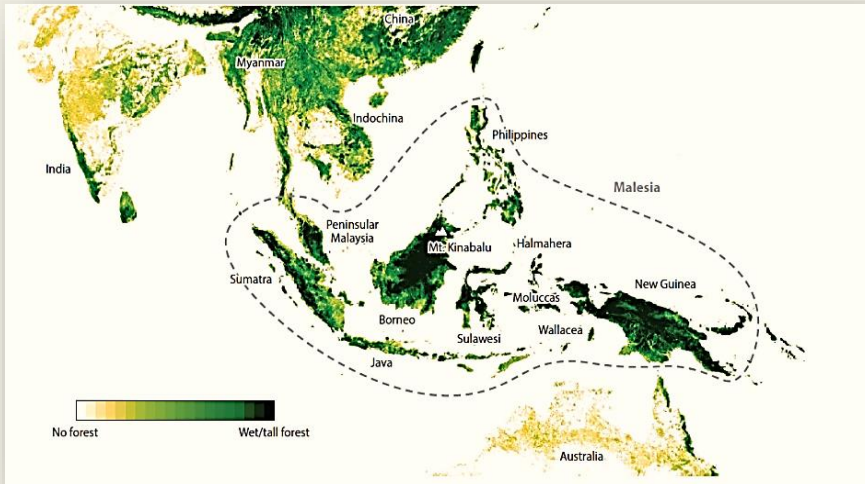
Syzygium is a key genus in recent studies of the origins of floristics of Malesian rainforests undertaken by a team of biologists headed by rainforest ecologist and botanist Rob Kooyman. Malesia is a biogeographical region that lies between the boundaries of Indomalaya and Australia. Some floristic components of Malesian rainforests originated from the Indian Plate, some from montane elements of the Australian Plate (Sahul – refers to the Australian Plate and includes the Sahul Shelf and New Guinea). The Australian flora is now known to include substantial two-way exchanges with Malesia (Sunda). Biologists



Syzygium moorei - flowers and fruit. Photo:
Poyt448 Peter Woodard

recognise two great Asiatic floristic interchanges (GAFIs) resulting from continental drift.

Continental drift, in particular, two continental plate collisions, firstly of the Indian Plate and secondly the Australian Plate, with Asia, are considered to have generated major interchange of plant species into and out of Malesia. The first of the *Great Asiatic floristic interchanges* (GAFI 1) began with the separation of India and Madagascar from Africa and Antarctica ~ 110 Ma, and the eventual collision with South Asia in the mid Eocene (~ 45 Ma).



The second *Great Asiatic floristic interchange* (GAFI 2) began with the separation of Australia (Sahul) from Antarctica ~45 Ma, and the eventual collision with Malesia (Sunda) ~ 26 Ma. This second collision of northern Australia with Malesia resulted in an ongoing floristic interchange, including the movement of Gondwanan species

northwards into Malesia. Vegetation map highlighting the extent of tall, wet rainforests in Malesia, South Asia and northern Australia. Kooyman et al. 2019. *Origins and Assembly of Malesian Rainforests*. *Annu. Rev. Ecol. Evol. Syst.* 50: 119-143.:

northwards into Malesia.

The genus *Syzygium* is present not only in Australia, but at a broad range of altitudes right across Malesia, and extends a considerable distance into mainland South Asia, where it is both abundant (~ 1,200 species) and diverse. Far from having its origins in Asia, evidence based on *Syzygium* leaf fossils from early Miocene deposits found at Kiandra, in Kosciuszko National Park in southern NSW, *Syzygium* may well be the most successful Australian immigrant into



Cauliflorous fruit. Photo: Zaareo / CC BY-SA (<https://creativecommons.org/licenses/by-sa/3.0>)



Cauliflorous flowers. Photo: Poyt448 Peter Woodward

Southeast Asia as there is little evidence of Malesian taxa extending so far south at that time. The dominant path for Australian species migrating north into Malesia has been via the cool, wet mountainous regions of New Guinea.

Alison Downing, Brian Atwell, Kevin Downing
Department of Biological Sciences

Kooyman R M, Morley R J, Crayn D M, Joyce E M, Rossetto M, Slik J W F, Strijk J S, Su T, Yap J-Y S, Wilf P. 2019. Origins and Assembly of Malesian Rainforests. *Annu. Rev. Ecol. Evol. Syst.* 50: 119-143. Office of Environment and Heritage:
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Wikipedia: https://en.wikipedia.org/wiki/Syzygium_moorei
Wikipedia: <https://en.wikipedia.org/wiki/Malesia>



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