

Celebrating 50 years of botanical discovery

By Juliet Wege and Kelly Shepherd

In 1970, the Western Australian Herbarium launched its flagship taxonomic journal *Nuytsia* so that new information on the State's diverse and fascinating flora could be locally published. Named after the spectacular, giant mistletoe *Nuytsia floribunda* (Christmas tree or *kaanya* trees), the journal has played a central role in supporting five extraordinary decades of botanical discovery. Over this time, the number of native plant species formally recorded for the State has grown from 5,802 to 10,445, of which around one-fifth were scientifically named in *Nuytsia*.

This growth in botanical knowledge has been a collective effort – a vast array of scientists, curatorial staff, citizen scientists and volunteers have been involved in the discovery of new species, the collection, processing, databasing and curation of herbarium specimens, and the writing, reviewing and editing of taxonomic manuscripts. To celebrate these achievements and the 50th year of *Nuytsia*, 50 new species will be published in a [golden anniversary edition of the journal](#).

Cover photo: The dancing lechenaultia is a horticulturally significant discovery. This beautiful plant would fit right into many a native garden. Photo – Juliet Wege.

Recent discoveries and known unknowns

The 50 botanical novelties occur in a range of habitats across the State, from the Kimberley to the south coast and the deserts to the sea, including some botanically well-trodden (or snorkelled!) national parks. They will be published on separate days throughout 2020 via [FloraBase](#), with a story behind the science posted on the [Herbarium's Facebook page](#).

To achieve this world-first, Herbarium botanists coordinated a series of field expeditions to obtain high-quality herbarium collections and data for many species, among them the dancing lechenaultia (*Lechenaultia orchestris*), our cover photo. Discovered in southern Western Australia in 2012 by citizen scientist William Archer, this botanical showstopper has mauve blue flowers that are reminiscent of a flamenco dancer with arms upstretched, inspiring its scientific name (which means 'a dancer' in Greek). Species of *Lechenaultia* can be scarce in the wild but many are well known in cultivation and the horticultural potential of this new rarity is being explored by our colleagues at the Botanic Gardens and Parks Authority.



Above: Botanist Kelly Shepherd collects material of the dancing lechenaultia. Photo – Juliet Wege.

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Another recent find is the Mundatharrda calytrix (*Calytrix insperata*), which was discovered out of the blue by local botanists Steve Dillon and Adrienne Markey while they holidayed in the Kennedy Range National Park in the Gascoyne region. Its opportunistic detection, like that of the dancing lechenaultia, highlights the ongoing importance of botanical collecting and flora surveys in Western Australia, where new species continue to be discovered at a remarkable rate.

The *Nuytsia* anniversary edition also features species that were first collected more than 50 years ago but have remained undescribed (our 'known unknowns'). One example is the ornate babingtonia (*Babingtonia peteriana*), an unusual rarity from near Three Springs that was classified using DNA data and fresh field observations. This warty-stemmed species was named on Valentine's Day by Barbara Rye after her husband of nearly 45 years (how romantic!).

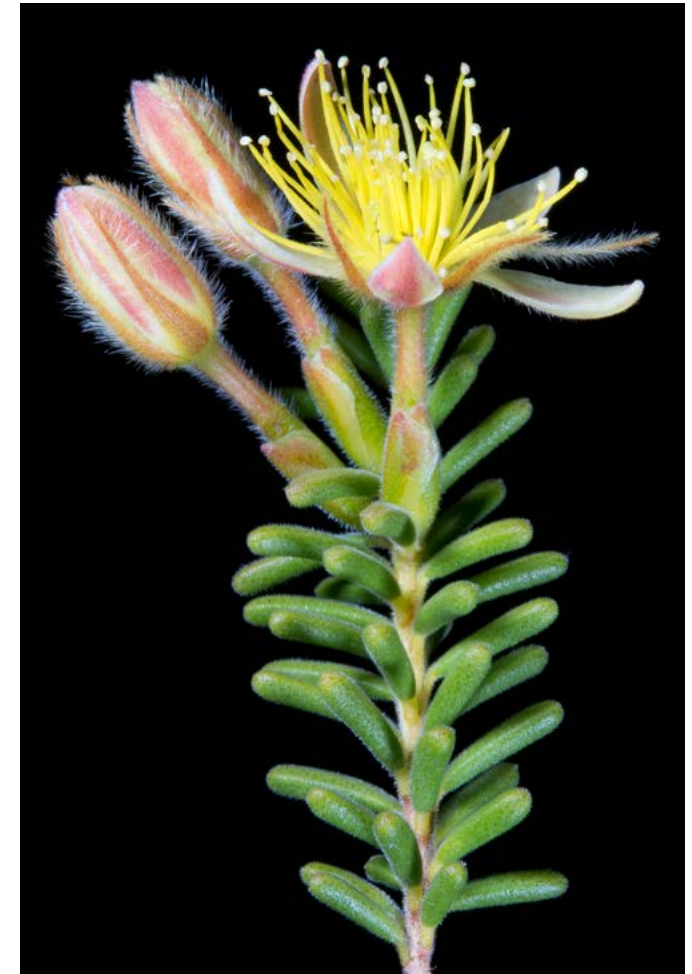
Taxonomy for conservation

Most of the species included in the *Nuytsia* anniversary edition are threatened, rare or poorly known, with several known only from a single collection or population, or fewer than 50 individuals. Naming these species and providing descriptions to aid their identification will hopefully lead to positive conservation outcomes such as the discovery of new populations. This is especially important in view of the escalating threats to our biodiversity in an era of rapid environmental change.

Despite 50 years of progress, Western Australia still has a large taxonomic backlog of more than 1,170 undescribed species (recognised on *FloraBase* under informal phrase names), many of which are poorly known. These species need classifying, naming and describing in publications such as *Nuytsia* so that this information can then be used to help conserve them for future generations.



Ornate babingtonia is an unusual rarity. It was first collected by former government botanist Charles Gardner in 1952 but its classification has been in doubt, until now. Photo – Robert Davis.



The opportunistically discovered *Mundatharrda calytrix*. We still have so much to learn about the biodiversity of our State. Species continue to be unearthed by botanists, even when they are on holiday. Photo – Kevin Thiele.

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