

# **Bizarrely distributed and verging on extinction, this 'mystic' tree went unidentified for 17 years**

April 26 2019, by Gregory John Leach

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# Hildegardia

Botanical name: *Hildegardia australiensis*

Family: *Malvaceae*

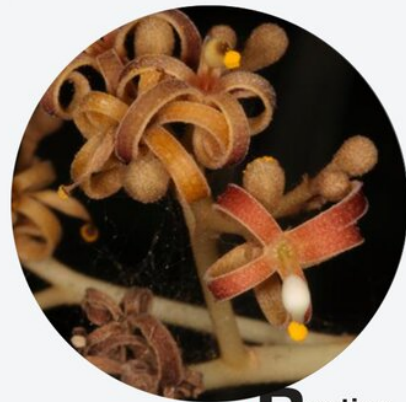
Height: 10m

A specimen of *Hildegardia* was tucked away in a Darwin vault in 1974, and only found in 1991.

It grows in 'sickness country' in Australia's north, where huge uranium deposits cause radiation poisoning.



*Hildegardia* sports unusual curved, inflated and winged fruit and orange-yellow flowers.



Credit: The Conversation

Almost 30 years ago, the specimen of a weird tree collected in the southern part of Kakadu National Park was packed in my luggage. It was on its way to the mecca of botanical knowledge in London, the Royal Botanic Gardens Kew.

But what was it?

With unusual inflated winged fruits, it flummoxed local botanists who had not seen anything like it before. To crack the tree's identity, it needed more than the limited resources of the Darwin Herbarium.

Later, [we discovered](#) a fragmentary specimen hidden in a small box at the end of a little-visited collection vault in the Darwin Herbarium. And it had been sitting there quietly since 1974.

Most of the specimens inside this box just irritate botanists as being somewhat intractable to identify. It's known as the "GOK" box, standing for "God Only Knows".

Together with the resources of Kew Gardens, the species was finally connected with a genus and recognised as a [new species](#).

A year later, it was named *Hildegardia australiensis*.

## **Mysterious global distribution**

The species is the only Australian representative for an international genus, *Hildegardia*. Under Northern Territory [legislation](#), it's listed as "near threatened", due to its small numbers and limited distribution.

The genus *Hildegardia* was [named in 1832](#) by Austrian botanists Schott and Endlicher. They named it after *Hildegard*, the 11th-century German abbess and mystic, the "Sybil of the Rhine".

The genus retains some of this mystical and elusive nature. It's rare with small isolated populations, traits that seem to dominate for all bar one of the species in the genus.

Twelve species of *Hildegardia* are recognised: one from Cuba, three from Africa, four from Madagascar and one each from India, the Philippines, Indonesia and Australia.

This bizarre global distribution is even more unusual in that almost the entire generic lineage seems to be verging on extinction.

The Australian species fits this pattern of small fragmented populations and, despite being a reasonably sized tree at up to 10 metres tall, remained unknown until 1991.

## Rarely seen and hard to find

Generally, *Hildegardia* species are tall, [deciduous trees](#) of well-drained areas, often growing on rocky hills.

Their trunks have a smooth, thin bark, which smells unpleasant and exudes a gum when wounded. Most species have heart-shaped leaves and bear a profusion of orange-red flowers when leafless. These are followed by strange, winged fruits with one or two seeds.

*Hildegardia australiensis* would have to be one of the most rarely seen [trees](#) in Australia in its natural habitat. It is native to the margins of the western Arnhem Land Plateau with scattered populations on limestone and sandstone scree slopes.

These are all difficult locations to visit, so if you really want to see it, a helicopter is recommended. Fortunately it is easy to grow and has found its way into [limited cultivation](#).

Several trees have been in the Darwin Botanic Gardens since the early '90s and a few are known to have been planted in some of the urban parks in greater Darwin. The plantings have been more to showcase a rare and odd-looking tree rather than any great ornamental value.

## Growing on 'sickness country'

In the NT the tree is so poorly known that it has no common name other than the default generic name of *Hildegardia*.

It appears to have no recorded Indigenous uses, which is perhaps not surprising as much of its distribution is in "[sickness country](#)".

This is country with uranium deposits and was avoided by the traditional owners. Rock art showing figures with swollen joints has been [interpreted as](#) showing radiation poisoning.

But it does have one claim to fame. A [heated debate](#) between conservationists and miners was sparked during a proposed development of the Coronation Hill gold, platinum and palladium mine in Kakadu National Park.

The main population of *H. australiensis* is only a stone's throw from Coronation Hill and the species became one of the key identified biodiversity assets that could have been threatened by development of the mine.

The area around Coronation Hill, or Guratba in the local Jawoyn language, is also of considerable spiritual significance to the Jawoyn

traditional landowners and forms part of the identified "sickness country". A creation deity, Bula, rests and lays dormant under the sickness country and should not be disturbed.

Eventually, these concerns culminated in the Hawke government decision on June 17 1991 to [no longer allow](#) the mine development.

## **So are the seeds edible?**

While there appears to be no known uses of the Australian species, the tree may have hidden potential.

The closely related trees *Sterculia* and *Brachychiton* are well known as bush tucker plants and good sources of fibre. The local Top End species *Sterculia quadrifida*, for instance, is commonly known as the Peanut Tree and is a highly favoured [bush tucker plant](#).

The fibre potential of *H. australiensis* is being explored by internationally acclaimed Darwin-based papermaker, [Winsome Jobling](#). Cyclone Marcus whipped through Darwin in 2018 and one of the casualties was a planted tree of *H. australiensis* in the Darwin Botanic Gardens.

Thankfully, material was salvaged. Winsome has material stored in her freezer awaiting extraction and processing to see what the fibre potential is.

*H. barteri*, an African species in the *Hildegardia* genus, has a broad distribution through half-a-dozen African countries. And the West African locals have a number of uses for it, from eating the seeds to using the bark as [fibre for ropes](#). But we don't know just yet if the flesh or seed in the Australian species is edible.

Whether the Australian species might also harbour such useful

properties still awaits some testing and research. Fortunately, with the creation deity Bula watching over the natural populations, the [species](#), unlike many of its close relatives, appears secure in the wild.

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Provided by The Conversation

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