

Short Communication

The first sampling of *Araucaria cunninghamii* Mudie (hoop pine) (Araucariaceae) on the Brisbane River

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The King's collector for Kew, the botanist Allan Cunningham, collected plants extensively in his forays around the Red Cliff Settlement, Moreton Bay islands and the Brisbane River in 1824 (Orchard & Orchard 2014; Bacon 2025). Through a combination of data from published diaries, journals, archival items and herbarium specimens, it has been possible to determine the first collection site of *Araucaria cunninghamii* Mudie ('hoop pine') in what became the Moreton Bay settlement, the precursor to contemporary South-East Queensland.

At the bequest of the Governor of New South Wales, Sir Thomas Makdougall Brisbane, a settlement foundation team (soldiers, their wives and children, convicts, civilian government officials and farm animals) under the leadership of the Colonial Surveyor-General, John Oxley, arrived in Moreton Bay on the brig 'Amity' on 10 September 1824 (Pearn 2025). Both Oxley and Cunningham took every opportunity to explore, document and sample the local environs, before exiting back to Port Jackson on 7 October 1824 (Cunningham 1824; Anonymous 1925).

Using the diary and journal of the two explorers respectively, it is possible to follow and map with quite reasonable accuracy the 'hoop pine' discovery day on 21 September 1824 (Figs. 1 & 2). They left their stranded boat on the drought-affected and debris-filled river and took off on foot aiming for a mountain vista clothed with stately trees. After fording the river three times to reach

their destination both men could barely contain their enthusiasm for the sylvan view at hand.

Cunningham (1824: 159) noted in his journal: '*Hitherto in our examination of this River, we have been only gratified with a distant view of the Pine; immediately we approached one of magnificent stature, the Monarch of these woods. It was a healthy well-grown Tree, exceeding 120 feet in height with a trunk 3'6" diam., clear of branches exceeding 80 feet. It was totally impossible not to halt a few moments to admire this noble tree which had all the habits of ramification of the Araucaria braziliensis [sic; = A. angustifolia (Bertol.) Kuntze]*'.

Oxley noted in his diary (Anonymous 1925: 145): '*We penetrated through a very thick brush abounding with stately and magnificent pines, which towered far above the other timber of the hill, among which was the Flindersia. Mr C procured a couple of young cones, which satisfactorily demonstrated that the tree which had excited so much admiration was an entirely new species of the genus Auricaris [sic] being the first discovered in New South Wales, and decidedly the growth of the interior and not a coast tree. We measured one, the first we came to, the circumference of which was 10 feet. Many others were of greater magnitude, which was carried up perfectly straight without a branch to a height of from 50 to 100 feet, the whole height in the full-grown trees being at least 150 feet. To this stately tree Mr C gave the name of the Brisbane pine.*'

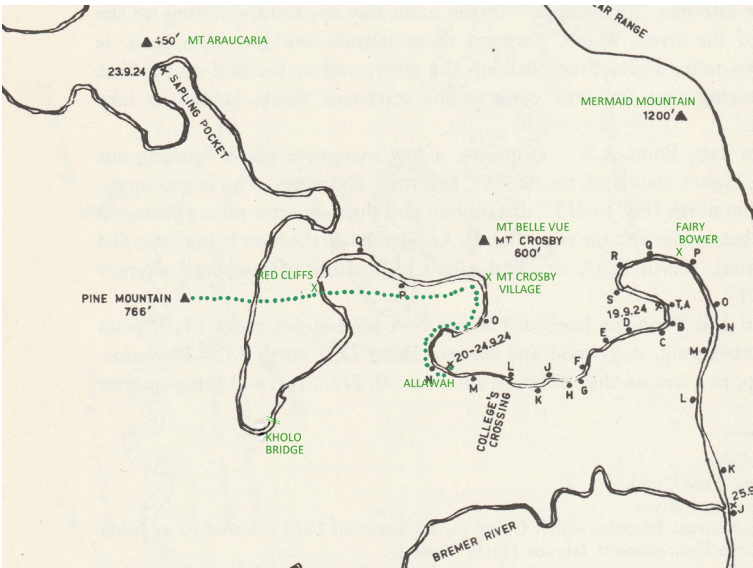


Fig. 1. 21 September 1824 transect of Cunningham & Oxley plotted on Steele (1972).



Fig. 2. Cunningham sketch from Lee (1925).

A herbarium collection comprising foliage and cone samples was collected *in situ* and eventually reached Kew Gardens in London (Orchard 2014) with the species being named, perhaps inadvertently given the nature of the publication, by Mudie (1829) as *Araucaria cunninghamii*, after the botanist who determined this was a new tree to science. Whilst the botanical authorship for this species has been commonly given in the literature as Aiton ex A.Cunn., it is considered that Mudie (1829) effectively published the name (APNI 2024; A. Monro *pers. comm.* 2024). Cunningham had in fact first sighted and collected his ‘Brisbane pine’ in June 1819 at Cape Cleveland in current day north Queensland, when exploring and botanising the eastern Australian coast with Cpt Phillip Parker King in the *Mermaid*. At that time the trees were considered to be ‘Norfolk Island pine’ (then referred to as *A. excelsa* Cav., now *A. heterophylla* (Salisb.) Franco) (Harrison 2020; Orchard & Orchard 2020). Cunningham had also spent two years collecting in Brazil for Kew Gardens and thus had prior experience with the genus *Araucaria* and this accounts for his journal reference to *Araucaria braziliensis* (Orchard & Orchard 2020).

‘Brisbane pine’ soon became widely known to the world as ‘Moreton Bay pine’ (Mudie 1829: 133–134; Pettigrew 1878; Weedon 1898), though included within Government Regulations in the generic timber term ‘pine wood’ or ‘white pine’ (QGG 1860; Bailey 1883). Early use of the current common descriptor ‘hoop pine’ was by Pettigrew (1874) when he advised “Another pine tree of Wide Bay is called Hoop Pine, in Brisbane it is called Moreton Bay Pine”. He went onto say that the “Native name in Wide Bay is Coonam, and here (Brisbane) is Toonbul. Either of these names would be more appropriate than Hoop or Moreton Bay”. Hill (1879) also used ‘hoop pine’ in his report on timber stands on Fraser’s Island and Bailey (1890) in his listing of Queensland flora.

The term ‘hoop’ in relation to *Araucaria cunninghamii* derives, from the observation that fallen trees, leave long lasting cylinders of bark or hoops on the forest floor as the soft internal timber quickly rots away (Holzworth 1999; Huth *et al.* 2002).

Using the recorded traverses of the two principal explorers, the area of discovery was located on private property near Pine Mountain north of Ipswich and a veteran specimen hoop pine (135 cm diameter at breast height with corymbose top) was selected, sampled and accessioned for the Queensland Herbarium (**Fig. 3**; Forster PIF49025, Bacon & Don [BRI, AQ1047247]).

‘Hoop pine’ reportedly lives up to 450 years and grows very slowly (23 mm each year) when mature (ANBG 2024; SOWN 2024); however, the age of very large remnant individuals remains undetermined. Francis (1928) used magnified growth rings to determine annual diameter growth of 0.4 cm to estimate the age of a 53 cm diameter natural grown hoop pine tree near Gympie as being 135 years. Growth records of un-thinned planted ‘hoop pine’ on State Forests near Imbil age 70 years and near Yarraman age 64 years indicated an average annual diameter increment of 0.4 and 0.44 cm respectively (Shea *et al.* 1979). Considering the time it would take for a germinated seedling to become established in the wild within a forested canopy (‘hoop pine’ planted in brushed lines within a dry scrub at Benarkin were < 1.8 m tall at age 50 years (Bacon unpublished)), and allowing for the vicissitudes of weather, browsing animals and competition, the estimated age of the Pine Mountain ‘hoop pine’ specimen tree would be over 300 years old. Hence, it is presumed to have been present and in close proximity to where Cunningham collected his specimens.

When the *Amity* sailed for the return trip it had on deck ‘hoop pine’ logs for assessment in Port Jackson. From then onwards ‘hoop pine’ became a most desirable and valuable construction, furniture and naval timber (Mudie 1829: 148; MBC 1861; Pettigrew 1878). Indeed, the relocation of the fledgling



Fig. 3. Specimen tree of *Araucaria cunninghamii* at Pine Mountain that was selected for recollection of the species in close proximity to Cunningham's original collection (Forster PIF49025, Bacon & Don, BRI, AQ107247).

settlement from Red Cliff [current day Redcliffe] to the present-day location of Brisbane in May 1825 was in keeping with a sailing route aligned to ‘facilitate the loading of timber that may be procured in the Brisbane River’ (Sydney Gazette 1824). By 1830 there were 26 sawyers cutting in the district. By 1835 there were ‘no ship spars within 20 miles of the anchorage’ (Johnston 1988).

For over a century ‘hoop pine’ was the main stay of the forest products industry in Queensland (Holzworth 1999). After the establishment of the Queensland Forest Service, it became the foundation of the Queensland Forestry Plantation enterprise (QFS 1929). Today there are about 44 000 ha of managed planted ‘hoop pine’ on State Forests of Queensland (DAFF 2013).

Acknowledgements

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