

# *Davidsonia pruriens* Davidson's Plum



*Davidsonia pruriens* Cairns Queensland. Photo: Kerry Coleman inaturalist.org CC BY-NC 4.0

## **First Collection of *Davidsonia pruriens* Ooray**

John Dallachy was born in Morayshire, Scotland in 1808 and died near Cardwell, Queensland on 4 June 1871. He had been a gardener for the Earl of Aberdeen and then trained at Kew Gardens. It seems that it was there he caught the bug of plant collection, and certainly the expertise. He travelled to Ceylon in 1847 to become a plantation manager, then to Victoria, where in 1849 he was appointed Superintendent of the Melbourne Botanic Gardens, over the other candidate, Daniel Bunce.

He spent much of his time as Superintendent in plant collecting expeditions all over Victoria and into western NSW for the Gardens and Herbarium. When in 1857 his friend Ferdinand von Mueller was appointed Director of the Gardens over him, he continued his plant collecting for him, from 1857 to 1862 in Victoria, and then in Queensland, where he settled with his family in Rockingham Bay, between Townsville and Cairns, north of Ingham. He died of 'jungle fever' near Cardwell on southern Rockingham Bay on 4th June, 1871, having been sending samples on to Mueller until only a few weeks before.

He was a meticulous collector, and about 8530 specimens of his are kept in the Melbourne Herbarium. He would go back to the same specimen in different seasons to provide a rounded picture, and when trees were very tall would shoot off branches with a gun, or, with some sadness, cut them down. It was there on the sugar plantation of John Ewan Davidson that he found and described for the first time, the 'plum' that he called 'Davidson's'. He found it on the property of a sugar-cane farmer, named Davidson, near Tully River, northern Rockingham Bay.

## **Three species of *Davidsonia***

There are three species of *Davidsonia* (family Cunoniaceae) endemic to discrete areas of subtropical and tropical rainforests of eastern Australia (see map on last page).



*Davidsonia pruriens* Leaves and Plant form, GBG. Photos: Lynne Clarke

It is an understory plant of the rainforest. The trees have several forms ranging from single trunked with a few branches and large compound leaves which grow from the top part of the trunk, to multi-trunk forms covered in dense foliage to the ground. The leaves are divided into leaflets, that is, they are pinnate, and may be up to 800 mm long. The reddish-brown flowers occur in pendulous clusters in spring. These are followed by purple, edible fruits up to 50mm diameter which resemble small plums.

In the wild, the seeds of the Davidson Plum need to pass through the gut of animals to germinate. The tree kangaroo chews the plump, juicy fruit first, but the cassowary can swallow it whole. Digestion can take hours to days, during which time the animals may have wandered kilometres from the parent tree. The broken-down fruit and seeds are excreted by the animal, giving germination a kick start of fertiliser, resulting in a successful seed spread. Due to its intense fruit acid and low sugar content, the fruit of the Davidson plum seems, to some, unsuitable to be eaten fresh by humans. However, they were eaten by our First Nations people. Perhaps they used nectar to sweeten them?

#### ***Davidsonia pruriens* Habitat and Description**

*D. pruriens* was the first named of the three species in the genus. It is known as the Queensland Davidson plum, Ooray (its traditional indigenous name by some groups), the Queensland itch tree (due to very irritating hairs that cover the tree - *pruriens* is Latin for 'itch'), the Sour plum and the Northern Davidson plum. It is widespread in tropical rainforest in north-eastern Queensland from Cardwell to Cooktown, growing from sea level to over 1000 metres. Natural populations mainly grow in sheltered positions on southern and east facing slopes in riparian and rainforest areas. It can grow to 20m tall.

Inflorescences are cauliflorous, pendant 12 to 80 cm long. The fruit is obovoid or ellipsoid, laterally compressed, 38–55 mm long, 32–53 mm wide, 35–46 mm deep; and blue-black. (416 *Telopea* 8(4): 2000 Harden and Williams, *Davidsonia* (Cunoniaceae) 417) The fruit has similar skin to the New South Wales Davidson plum *D. jerseyana*, fruit but the flesh is paler in colour, contains more fibre and one source says it is from 6 to 12 cm in diameter. *D. pruriens* is cultivated in tropical and subtropical regions and is the species collected by John Dallachy on 12th August 1866 and described by Mueller in 1867. Other Aboriginal names for it: Wuray (Jirrbal, Yidin), Wiraa (Ngadjan), Munumba (Djabugay), and Jirirr (Kuku Yalanji). (tuckerbush.com.au)

#### ***Davidsonia jerseyana* Habitat and Description**

*D. jerseyana* is commonly known as the New South Wales Davidson plum, the 'hairy' Davidson plum or southern Mullumbimby plum. It was first described in 1900, and is endemic to north eastern New South Wales, growing 6–10m tall, from sea level to 300 metres. Like *D. pruriens* the inflorescences are usually



*Davidsonia pruriens* Cauliflorous inflorescence, GBG. Photo: Lynne Clarke

cauliflorous, mostly lateral on main stems, with pendent, compressed panicles, often appearing as tight clusters, but shorter: 4–10(–30) cm long. The fruit is laterally compressed, 33–45 mm long, 31–37 mm wide, 27–35 mm deep, blue to black, glaucous; young fruits hirsute, mature fruits sparsely hirsute with golden-brown to fawn hairs 1.0–2.0 mm long. (Harden and Williams) Flowers are clustered in long hairy pendulous panicles about 30 cm long in the upper axils or on the leafless trunk. (Floyd p 105) When ripe, the fruit has dark purple skin and soft, juicy, burgundy-coloured flesh. The fruit is covered by somewhat irritating fine hairs when young and is up to 5 cm long. It has either a single unbranched stem or several stems arising from the base. The large, hairy leaves are bunched towards the top of the trunk, and are divided into 7 - 17 large, toothed leaflets. Small pinkish flowers are borne directly from the main stem in long, loose clusters. This is the most widely cultivated species of Davidson's plum in subtropical areas.

#### ***Davidsonia johnsonii* Habitat and Description**

*D. johnsonii*, definitively described as a separate species in 1979, is known as the Smooth-leaved Davidson plum and grows in scattered populations from north east New South Wales from Wardell, between Byron Bay and Yamba, to south east Queensland. It is a small, hairless bushy tree, growing 10–18m tall. The tree is grown from cuttings in cultivations in New South Wales.

Fruit are produced abundantly and are well-developed but the pyrenes are always empty and no seed has ever been found. From our own field observations and communications with others that are familiar with field populations (G. Watson, A.G. Floyd, D.L. Jones) the species relies on root suckers for reproduction. It mostly occurs as groups of several mature trees, with many saplings and young plants that have developed from root suckers.

This vegetative reproductive process readily enables present stands to propagate, but it does not account for the species distribution in populations scattered over 120 kms. Unless, as suggested by Watson (1987), aboriginal people were involved with the vegetative spread of this species over its geographic range. Or, alternatively is it possible that very rarely fertile seeds are formed, with subsequent dispersal and establishment of seedlings. G Harden, J Williams P 424, *Telopea* 8(4):2000.

It seems to me that the trees we have in our Gardens are probably jerseyana rather than pruriens, as they are not covered with itchy hairs, the fruit is smooth and does not come from long panicles. However, it seems that the smooth forms come from lowland and coastal districts of either species, according to Page and Sosnin. Our fruit produces seed which germinate readily, so it is certainly not johnsonii. Somewhat confusing!

#### **Facts and figures**

Davidson plum has long been a food source for Indigenous Australians and was used by early European settlers for jams and sauces. They are now a sought-after ingredient for a wide range of sweet and savoury foods, including jams, sauces, chutneys, cordials, ice-cream, yoghurt, wines and liqueurs. Increasingly, Davidson's plum is being used in baked goods and by restaurants.

Davidson plum has a higher anti-oxidant capacity than blueberry, higher levels of lutein than avocado, and a high ratio of potassium to sodium.

Established as a seedling, the tree will bear fruit 3–4 years after planting and reach full production up to 15 years after planting.



The market for Davidson plum was originally built on wild-harvested fruit but from 2013, supply was almost exclusively from plantations. The two New South Wales species of Davidson plum are listed as endangered in the wild and permits are required (but no longer issued) for wild harvest of the fruit. Permits are also required for harvest of wild Davidson plum in Queensland.

**References**

Source for John Dallachy:  
 Extracted from: A.E.Orchard (1999) A History of Systematic Botany in Australia, in Flora of Australia Vol.1, 2nd ed., ABRS.

Floyd, A. G., Rainforest Trees of Mainland South-eastern Australia , Forestry Commission of New South Wales, Inkata Press , Melbourne, Sydney, 1989.

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 anpsa.org.au

Gwen J. Harden and John B Williams, Telopea 8(4): 2000  
 Harden and Williams, *Davidsonia* (Cunoniaceae)

Tony Page and Anna Sosnin, *Davidsonia* in domestication far north Queensland, May 2017  
 RIRDC Publication No 1  
 RIRDC Project No. PRJ 7/030009026

Photos: *Davidsonia pruriens*  
 Top: Ripe fruit  
 Middle: Unripe fruit on tree  
 Bottom: New leaves  
 All 3 photos: Cairns, Queensland, Kerry Coleman, inaturalist.org  
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Above: *Davidsonia* Habitat, Mossman Gorge, near Port Douglas. Photo: Jason Stewart (macropneuma), inaturalist.org CC BY-NC-ND 4.0.

Left: *Davidsonia*, Wild distribution of the three species. Based on G. Harden and J. Williams, 'A revision of *Davidsonia* (Cunoniaceae)', July 2000, *Telopea* 8(4), pp 413-428, DOI:10.7751/telopea20002001.

Below: Location of *Davidsonia pruriens* in Geelong Botanic Gardens.



This information was prepared by Lynne Clarke  
 Volunteer Guide, Friends of  
 Geelong Botanic Gardens