9

Mueller's Legacy: The Yates in Melbourne's Rotary Park.

Ian Ferguson

Introduction

The Domain Parklands were first set aside in 1841. They include Rotary Park and are adjacent to the Royal Botanic Gardens in Melbourne. The Domain Parklands were listed under the Victorian Heritage Act in 2014.

Alan Threader, a longtime friend and fellow forester, and I have shared some Rotary responsibilities for Rotary Park as chairs and members of the Rotary Park Committee, along with other members of the Rotary Club of Melbourne. The Club conducts tree plantings, or dedications of existing trees, to honor distinguished 'service above self' contributions of Rotary leaders.

We often noted the three large old Yates (*Eucalyptus cornuta* F. Muell.) in Rotary Park as being a very clear legacy of Mueller, because they are distinctive and unlike the east coast eucalypts. They are Tree Nos 45, 46 and 51 in the Rotary Park brochure (see Figure 1). Tree No.46 had to be removed in 2014 because of a rotten bole and branches that were a potential threat to public safety.

Figure 1. Yate trees in Rotary Park: a) No. 45, b) No. 51. *Source:* Ferguson (2013).

Initially we had difficulty in rebutting the City of Melbourne's appellation of *E. botryoides* for these trees – not because we doubted our visual identification - but because it was exceedingly hard to find evidence of the fruiting bodies that would unassailably confirm our identification. Earlier findings of specimens of the characteristic operculum by Alan and Ken Simpfendorfer, a well-known

forester and botanist, had given hope and were to be confirmed by substantial material on a fallen branch from Tree No. 51 (Ferguson 2013) on 21 February, 2013 – shown in Figure 2, together with the classification document from the Royal Botanical Gardens at Kew (Mueller 1867, Plate VII). That confirmation encouraged a search for further information about the origins of Rotary Park and of those trees in particular.

Figure 2(a): Specimen from Tree 51, Rotary Park (b) Lithograph from Mueller (1867:Plate VII).

History

The State Library of Victoria has an on-line copy of an 1855 map compiled by Kearney (1855: Map 4) that shows Rotary Park as being open woodland. It also has on-line copies of maps of trees planted in the 'Botanic Garden and its Domain, indicating the principal plantations' that were prepared by E.B. (catalogued respectively as Heyne 186-?, 1864 & 1873]). No official date is given on these maps.

The later map (Heyne 1873) is titled 'Botanic Gardens 1873, upon the retirement of Baron von Mueller from the directorship of the Royal Botanic Garden'. It is not informative about species planted, especially in Rotary Park, and appears to be more of a decorative tribute. Reference is made to the other two later.

Baron Sir Ferdinand von Mueller KCMG, the first Director of the Royal Botanic Gardens, was maligned and ultimately released from the position of Director in 1873 because of his predilection for 'scientific' tree planting in straight lines within rectangular blocks, although in part the campaign against him reflected an anti-German stance on the part of the media (Home et al. 2002). While his predilection may be true, the maligning does little justice to a very talented systematic botanist who did great service to Australia and its neighbors in identifying and classifying new species.

Mueller's ' Report of the Forest Resources of Western Australia' was published in 1879. To quote Mueller (1879);

> …. the writer had only on three occasions the opportunity of traversing portions of the vast extent of Western Australia, and then only for a few weeks at a time – in 1856 (as naturalist of the expedition sent out by the Duke of Newcastle, under Aud. Gregory), some of the north-eastern regions along Sturt's river from latitude 18° to 22 ° 20' south; in 1867, the Stirling range and surrounding country, and the vicinity of King George's Sound; and in 1877, the country from Champion Bay to Shark Bay, and also from Swan River to Geograph Bay, and thence to the

> Shannon and Gordon rivers, - these last-mentioned journeys being carried out under special facilities, liberally afforded by the Western Australian Government.

This excerpt makes it clear that there were two possible occasions on which Mueller, an inveterate collector of specimens of new species, would have seen and possibly collected Yate, namely 1867 and 1877 (see Florabase in Department of Environment and Conservation 2013).

Figure 3: Map of South Coast of Western Australia.

Figure 3 shows a map of the general area involved in Mueller's 1867 expedition. The distances involved may not be great by today's modes of travel but for Mueller the 100 km from Albany to the Stirling Range probably represented several day's travel by horse via the Porongorup Ranges, followed by excursions around the coast in east and west directions from Albany.

Mueller's correspondence with F. Barlee, the Colonial Secretary of Western Australia, and others at the time make it clear that Mueller's first expedition to Albany in Western Australia was motivated in part by a desire to recuperate from the stresses of overwork and ill-health (Home et al. 2003).

Those stresses did not seem to curtail his travels. In 1867, Mueller travelled widely from Albany to the Porongorups and seemingly into the Shannon River. These travels must have been by horse and involved substantial distances and difficulties, as those who know the south-west bush can attest. Regrettably, his publications and correspondence about his expeditions are sparse in description of the difficulties he faced and focus more on the technical matters of classification. His major report also included an extensive section recommending the introduction of an array of exotic species, as was his wont as the sometime President of the Acclimatization Society of Victoria, which had considerable influence at that time (Mueller 1879).

Home et al. (2002) report that notwithstanding his reservations about the Kew domination of botanical classification, Mueller shipped specimens to Kew for formal identification and classification by Bentham, the Director of the Royal Botanical Gardens at Kew. According to Home et al. (2002), there was an agreement between Bentham and Mueller, such that Bentham faithfully reported any differences between his own and Mueller's classification. While there have been later changes in classification, notably splitting the genus *Corymbia* from *Eucalyptus*, Mueller was the acknowledged authority responsible for first formally classifying a number of Western Australian species and, in recognition, they bear his name as an appendage.

The Yates

Mueller's description of Yate is revealing because, in addition to a technical description of the species, it includes some commentary on subsequent events:

> 7. Eucalyptus cornuta. Labillardiere, Relation du Voyage a la Recherche de La Perouse, i. t. 20 (1799). Bentham's Flora Australiensis, iii. 234. The Yate-tree. Leaves scattered, oblong-ovate or falcate-lanceolar, equally green on both sides; their veins thin, spreading, the peripheric vein somewhat remote from the margin; flowers from three to twenty-one, crowded on long solitary axillary cylindric or somewhat compressed stalks; lid horn-like, several times longer than the obconic bell-shaped tube of the calyx; stamens straight before expansion; filaments as well as the style yellow, very long; anthers comparatively long, narrow-ellipsoid, opening with longitudinal slits; anthers comparatively long, narrow-ellipsoid, opening with longitudinal slits; fruit three- to four-celled; valves elongated, exserted, pyramidally connivent, cohering far up and passing into the style; fertile as well as sterile seeds without any appendage.
>
> From the vicinity of Geograph Bay, at least as far as Cape Riche, the "Yate" is of rapid growth. In Lucknow, according to Dr. Bonavia (to whom I supplied the seeds), it attained in the first year eight to ten feet, and the young plants did not suffer there from the tropical rains, as is the case with so many other Eucalypts. I witnessed the quickness of its growth also at Melbourne, on even poor ground. The tree advances in age to a very considerable height. The bark of at least part of the stem is smooth and pale, hence the Yate must be placed among the Lerophloiae, unless it is preferred to arrange it with the Hemiphloiae. Its elastic and very hard wood is splendid for agricultural implements, boat-ribs, and is for wheelwrights' work as good as that of Eucalyptus loxophleba [York gum], while for cart-shafts it is regarded as equal to the best English ash-wood.
>
> Mr. Muir noted a variety of Yate, which has the mass of its foliage flat-topped ; besides this there is another variety, considered by some as a distinct species, the Eucalyptus Lehmanni [Bushy yate] (Preiss in Lehmann's Plantae Preissianae, i. 127), which mainly differs in having the calyces of the flowers and fruits connate into one mass.
>
> Monsieur Labillardiére discovered Eucalyptus cornuta in 1792 at Cape Leeuwin, when naturalist of the expedition sent out under the command of Admiral D'Entrecasteaux, in search of the missing ships of the unfortunate Count La Perouse. The specific name was aptly given in allusion to the horn-like lid of the flowers (Mueller 1879: p.20)

Thus Mueller (1879) reports that he supplied seed to Dr Bonavia in Lucknow where they attained the height of eight to ten feet in the first year. Given the date of this publication (1879), the time involved in correspondence and shipping, and the year's growth reported, this shipment of seed must have been a result of the 1867 expedition, not that of 1877.

The Heyne (186-?) map (see Figure 4) clearly predates the Heyne (1864) version (see Figure 5), as the additional annotations of plantings of various eucalypts show.

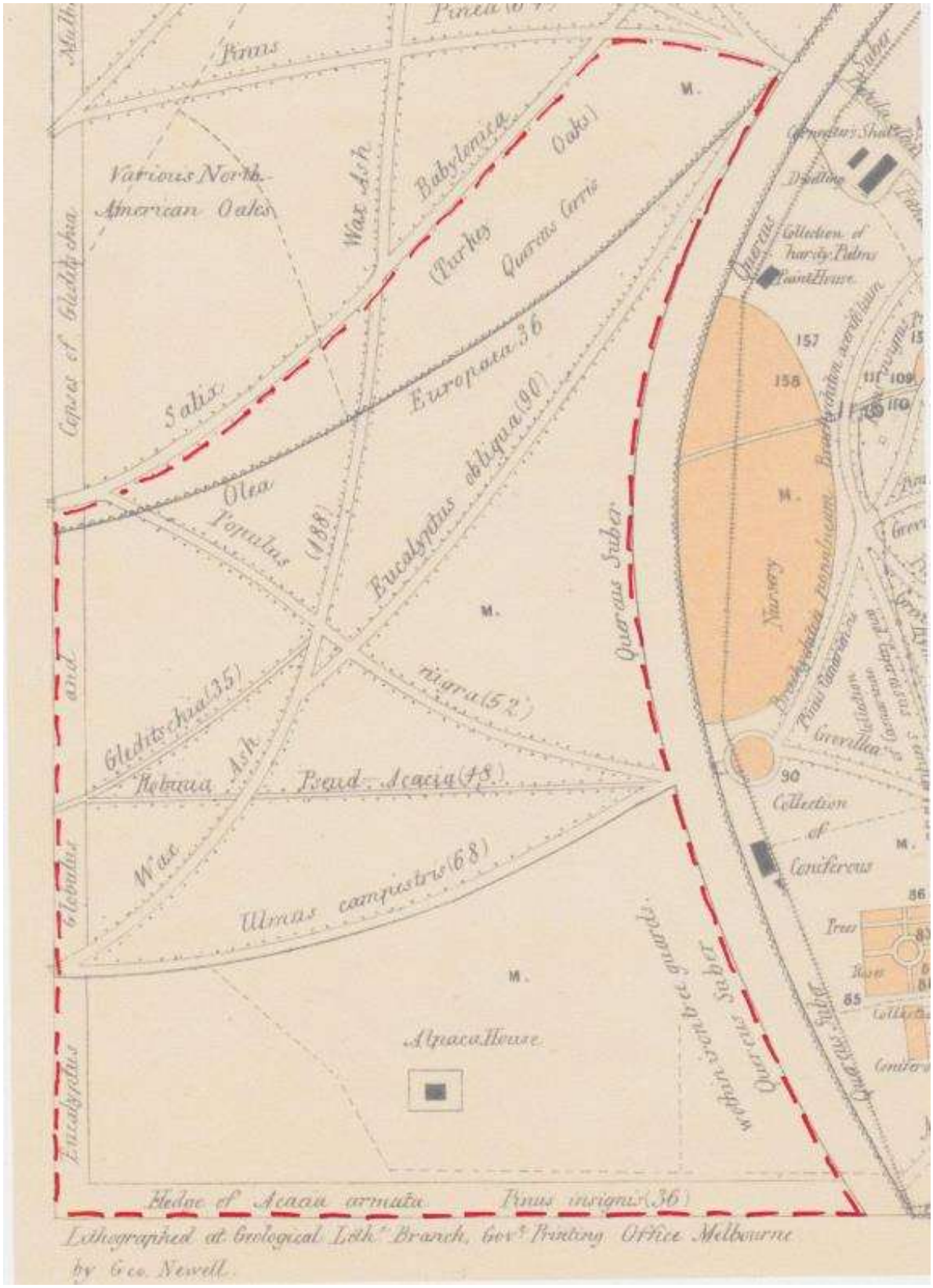

Figure 4: Portion of Map by Heyne (186-?) - Rotary Park boundaries in red.

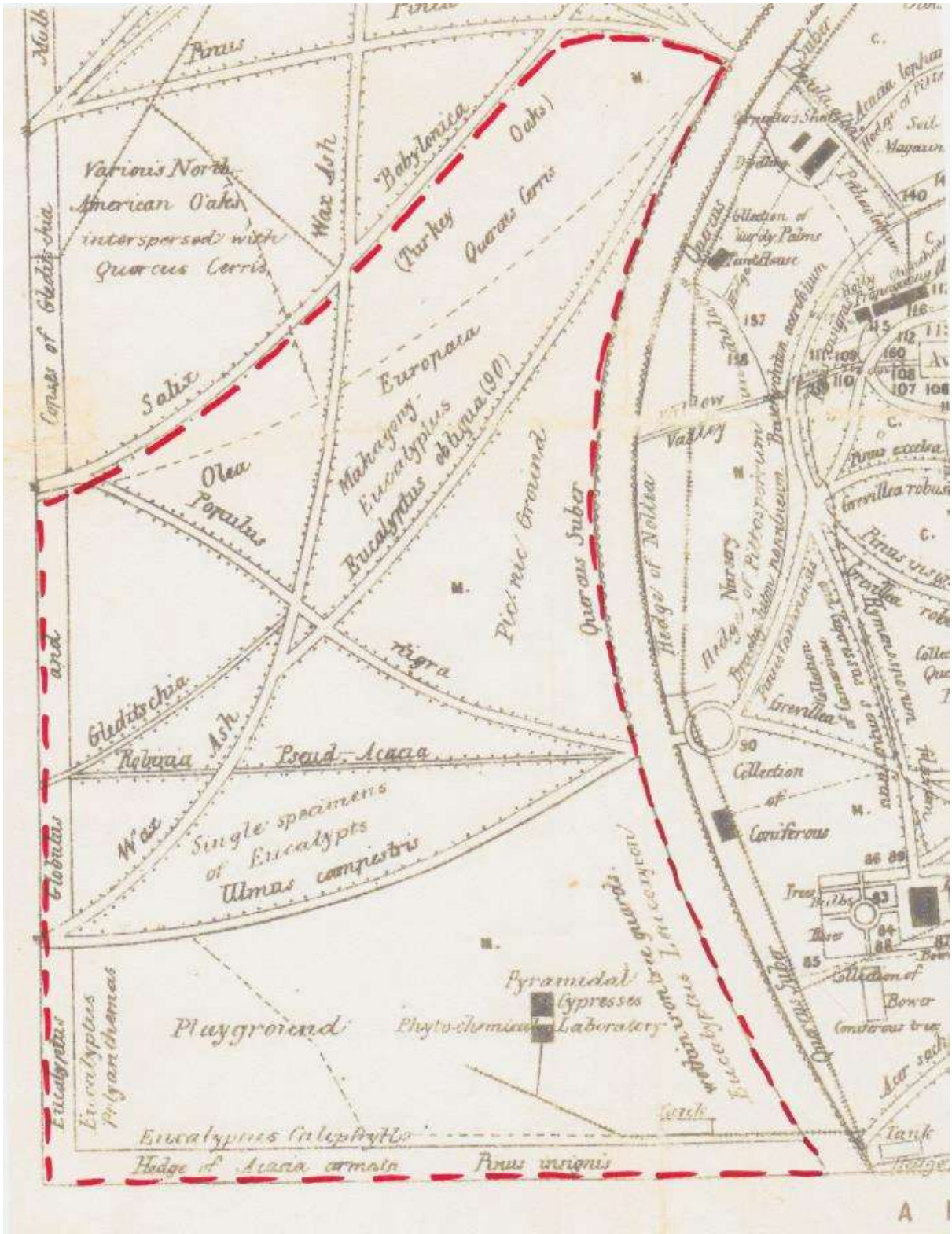

Figure 5: Portion of Map by Heyne (1864) showing Rotary Park boundaries in red.

None of the species recorded on these maps for the Rotary Park area still exist although there is a general reference to 'Single specimens of Eucalyptus' on the 1864 Heyne map near the area where the Yate were planted. The rows planted along Domain Rd and Anderson St were probably removed in the course of road, kerb and footpath construction. The apparently widespread failures of this time seen elsewhere probably reflect the lack of reticulated water (pre 1860) or later paucity of supply from the Yan Yean dam (inoperable 1868). Subsequently, water had to be pumped from the Yarra River until a reliable water supply was installed around 1873 (Morris 2001: 108).

The 186-? and 1864Heyne maps also show an *Eucalyptus cornuta* (#70 on the original maps which, like its neighbors, no longer exists) as having been planted at the south-eastern entrance to the Royal Botanic Gardens off Anderson St. Thus, at the earliest, these maps may actually date from 1867 because it is unlikely that Mueller had seed prior to his 1867 expedition to the south-west of Western Australia and the text cited above indicates that Mueller's interest in Yate stemmed from this 1867 expedition.

The Alpaca House on the 186-? Heyne map probably reflects the initial siting of the Zoo within the Botanical Gardens complex. However, the Zoo was transferred to its Royal Park site in 1862. This suggests that the map was prepared in the early 1860s. The phyto-chemical laboratory was a later initiative of Mueller, but ceased after 1873.

In 1873 Mueller was relieved of his position as Director of the Royal Botanic Gardens, although he retained the position of Government Botanist. In the process he was stripped of almost all his earlier staff and resources and increasingly had to use personal funds to send material overseas and conduct research (Home et al. (2002).

Subsequent to the excerpt cited above, Mueller makes reference to Red Flowering Gum (*Corymbia ficifolia,* (F. Muell.) K.D. Hill & L.A.S. Johnson then known as *Eucalyptus ficifolia* F. Muell.:

> 3. Eucalyptus ficifolia. F. v. Mueller, Fragmenta Phytographiae Australiae, ii. 85 (1860,) Bentham's Flora Australiensis, iii. 256. The crimson-flowered Eucalypt.
>
> The characteristics of this species are so similar to those of E. calophylla, that it is unnecessary to offer a diagnosis. The diversity of E. ficifolia rests on the following points:—The tree is of smaller stature, the greatest height not exceeding fifty feet ; the bark is generally still more deeply furrowed ; the leaves are usually longer, more acuminate and less dotted; the calyces are on the whole rather larger, somewhat tinged with red, longer in proportion to their width; the filaments of a magnificent crimson; the seeds are of a pale colour and provided with a membranous appendage. To this may be added, that the seedling at no time of its growth is conspicuously rough from bristlets, nor do the leaves even in the earliest period of the plant show the insertion to be supra-basal to the stalk.
>
> The geographic distribution of this species is very limited; it extends, according to Messrs. Muir and Maxwell, from the western side of Irwin's Inlet to the mouth of the Shannon, the forests of this tree forming a belt not quite near to the coast nor very remote from it, the furthest distance inland being about eight miles. Hardly anything more gorgeous can be imagined than the forest of E. ficifolia about the month of February, when the brilliant trusses of flowers diffuse a rich red over the dark-green foliage of the whole landscape.
>
> Although of the value of the timber nothing as yet is known, this species could not be passed in this report, it being even almost unknown to West Australian colonists, though its floral magnificence was demonstrated already in 1867 from trees reared by the writer in the Botanic Garden of Melbourne. More recently it has been introduced into the countries around the Mediterranean Sea, and into several other parts of the globe free of frost. A lucrative trade in seeds of E. ficifolia is sure to arise, as through my exertions this species, like many other West Australian plants, has now become widely appreciated.
>
> The tree ought also in West Australia to be reared as an umbrageous, highly ornamental avenue-tree.
>
> The species was first described from a mere fruiting branchlet, and received its name from the resemblance of its foliage to leaves of several species of Ficus, of the series to which the Indiarubber Fig-tree belongs.
>
> Only two other tall Eucalyptus-trees can perhaps be compared in floral splendour to the present species—namely, E. miniata [Darwin woolybutt] (A. Cunningham, in A. Walpers's Repertorium, ii. 925, anno 1843), and E. phoenicea [Scarlet gum] (F. v. M., in the Journal of the Linnean Society, iii. 91, anno 1859), both extending from Carpentaria into the most northern regions of the West Australian territory, the colour of their flowers being a fiery orange (Mueller 1879: 17.

The above excerpt confirms that, under Mueller's direction, seed of *Corymbia ficifolia* from the 1867 expedition was raised and planted by his staff; a matter specifically but probably wrongly dated to 1860 in his description of introducing 'Eucalyptus ficifolia' to the Botanical Gardens (Mueller 1879:333) and, by inference from the earlier excerpt, likewise *E. cornuta*. The sole specimen of Karri (*E. diversicolor* F. Muell.) in the Domain Parklands can perhaps also be dated to near 1868 on the same basis, as Mueller would have collected seed from Karri in the Porongorups and/or from the South Coast near Denmark in the course of this expedition.

If there were any plantings of Red Flowering Gum in Rotary Park at this time, they did not survive. Regrettably, those planted later to commemorate the visit of the Founder of Rotary, Paul Harris, in 1935 have also not thrived, although they have survived. Plantations of Red Flowering Gum along St Kilda Rd in the Domain Parklands are known to date from 1918 and 1935 (John Patrick and Allom Lovell 2003). The later success of this species as a street and garden tree in Victoria, no doubt aided by selection and breeding, is now widely evident and another testament to Mueller's work and foresight.

Conclusions

Mueller's oversight of the raising and planting of Yate can circumstantially but quite confidently be placed in the period 1867 to 1873. In Rotary Park, there are a number of other specimens of east coast trees of similar age to the Yate – namely *Ficus macrocarpa* [Tree no. 36 in Ferguson 2013], *F. platypoda* [42] and *Eucalyptus melliodora* [11, 49], *E. leucoxylon* (x *sideroxylon*)[41] , *E. sideroxylon* [16], *E. camaldulensis* [9]and *Corymbia calophylla* [21] and *C. maculata* [15]. While it has not been possible to date these with authority, some are clearly of similar vintage.

The Yate trees in Rotary Park deserve special recognition for their age and verifiable link to the life and the work of a remarkable systematic botanist, Baron Sir Ferdinand von Mueller, KCMG.

References

Department of Environment and Conservation 2013. *Florabase*, online flora database. Available on www.florabase.dec.wa.gov.au

Ferguson, I. 2013. Rotary Park: Brochure for the Rotary Club of Melbourne, Melbourne: The author, 2 pp.

Heyne, E.B., 186-? Plan of the Government House reserve [cartographic material]: Botanic Garden and its Domain indicating the principal plantations / drawn under direction of F. v. Mueller by E. B. Heyne; lithographed at Geological Lith. Branch, Govt. Printing Office, Melbourne by Geo. Newell.

Heyne, E.B., 1864. Plan of the Government House reserve [cartographic material]: Botanic Garden and its Domain indicating the principal plantations / drawn under the direction of F. v. Mueller by E. B. Heyne; lithographed at Geological Lith. Branch, Govt. Printing Office, Melbourne by Geo. Newell.

Heyne, E.B., 1873. Botanic Gardens 1973, upon the retirement of Baron von Mueller from the directorship of the Royal Botanic Garden [cartographic material]. Government Printing Office, Melbourne [annotation on catalogue copied from the Original Plan of E.B. Heyne, Assistant Curator, 1872].

Home, R.W., Lucas, A.M., Maroske, S., Sinkora, D.M. and Vogt, J.H., 2002. *Regardfully yours: Selected Correspondence of Ferdinand von Mueller. Vol II: 1860-1875*. Peter Lang, Bern, 864pp

John Patrick Pty Ltd and Allom Lovell & Associates , 2003. *Domain Parkland: Conservation Analysis. Report for City of Melbourne*. Melbourne: John Patrick Pty Ltd and Allom Lovell & Associates, 342 pp.

Kearney, J., 1855. Melbourne and its suburbs [cartographic material] / compiled by James Kearney, draughtsman; engraved by David Tulloch and James D. Brown. Victoria. Surveyor-General.

Morris, D., 2001. *Royal Botanic Gardens Melbourne*, Allen & Unwin, London.

Mueller, F., 1879. *A Report of the Forest Resources of Western Australia*. London: L Reeve & Co. 29 pp.

Mueller, F., 1880. *Eucalyptographia: A Descriptive Atlas. Eucalypts of Australia and Adjoining Islands. Seventh Decade*. Melbourne: John Ferres, Government Printer.