NOTE ON THE DISCOVERY OF *SPONDYLOSTROBUS SMYTHII*, MUELL., AND OTHER FOSSIL FRUITS IN THE DEEP LEAD DRIFT AT BRANDY CREEK GOLDFIELD.

By Robt. M. Johnston, F.L.S.

Through the kind interest of several friends, particularly Mr. Stockman, mining manager, and Mr. J. W. Brown, district surveyor, I have from time to time received fragments of Fossil Wood, principally a lignified Pine, with structure which appears under the microscope to be identical with lignified Pine remains at Breadalbane and elsewhere throughout the Launceston Tertiary Basin. These woods are obtained in sinking shafts to the "deep lead" at the Brandy Creek goldfields, about 40 or 50 feet from the surface, in a stratum of black carbonaceous clay. Recently, having directed the attention of the miners to look out for fruits, I was fortunate in securing a few tolerably well preserved specimens, one of which is undoubtedly the well known *Spondylostrobus Smythii*, Müeller, found abundantly in the "Haddon," and other deep leads in Victoria.

One of the others is most probably a species of Penteune, closely allied to the species found by the late Mr. Morton Allport, in the travertin at Risdon Quarry.

I submitted the fruits to Baron Von Müeller, who is praiseworthily investigating the paleophytology of Victoria and New South Wales, and he not only confirmed my opinion, but declared that in one of the drawings (No. 5), contained in my first paper to the Royal Society of Tasmania ("Regarding Comp. and Extent of Tert. Beds, Launceston," read 12th August, 1873), he believed he discerned the missing foliage of *S. Smythii*, so long unavailingly sought for in Victoria. He stated further that if I could find out whether the whorls were *quinary* he would feel justified in relating the various parts. Unfortunately, the specimen from which I took the drawing has crumbled to powder, but in a fragment of the Risdon Quarry travertin presented to me some years ago by the late Mr. Morton Allport, I believe I have discovered the same foliage, which is undoubtedly quinary. I have long ago arrived at the conclusion that the travertin beds at Risdon are closely related to the lower beds of the Launceston Tertiary Basin, from the identity of certain vegetable impressions. I have now to draw attention to the distribution of certain vegetable fossils in the adjoining table,* wherein, as well as from other evidences, we may be able to draw conclusions as to the close relation of strata associated with the Victorian gold drifts to the Launceston Tertiary Basin, the Risdon travertin, the Brandy Creek "deep lead," and to certain points in New South Wales.

It will be seen, therefore, that certain genera and species of the older auriferous drifts have had a very wide range, as it includes New South Wales, Victoria, Tasmania, and perhaps Queensland. It is to be hoped that those interested in the working of the mines at Brandy Creek will interest themselves in preserving the fruit remains, which ought to be found freely in the carbonaceous clays through which they sink. It may afterwards form a useful indication to our miners in search of the valuable metals, as well as add to our scientific knowledge of the flora of the early Tertiary period:

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* The names of fruits subsequently identified are also included.

DISTRIBUTION OF THE FOSSIL FLORA OF AUSTRALIA

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TERTIARY PERIOD.

	VICTORIA										TASMANIA.				
	Nittingbool, near Haddon	Bacchus Marsh	Daylesford.	Werribee R.	Beechworth	Creswick.	Gulgong.	Orange.	Richmond R.	Darling Downs, Queensland.	Breadalbane	Corra Lynn	Launceston.	Risdon	Brandy Creek.
Banksia sp						x						x	x		
Celyphina M'Coyi, F. von Mueller	x														
Counotheca rotundata, ditto	x														
Ditto turgida, ditto	x									x				x	x
Acrocoila anodonta, ditto							x								
Cinnamomum polymorphoides* M'Coy		x											x	x	x
Daphnogrna sp		x													
Dieune pluriovulata F. von. Mueller	x														
Eisothecaryon semiseptatum, ditto							x								
Eucalyptus obliqua, Hertier			x												
Ditto Pluti, M'Coy			x												
Illicites astrocarpa, F von Mueller							x								
Laurus sp ind		x											x		
de Werribeensis, M'Coy				x									x		
Liversidgra oxyspora, F von Mueller									x						
Ochthodocaryon Wilkinsonii, ditto							x								
Odontocaryon M'Gregorii, do	x														
Pentacoila Gulgongensis, do.							x								
Penteune brachyclinis, do					x										
Ditto Clarkei, do					x			x							? x
Ditto trachyclinis, ditto					x										
Do. Allporti, do.														x	
Ditto sp															? x
Ditto sp.														x	
Phymatocaryon angulare, F von Mueller					x										
Ditto bivalve, do.							x								
Ditto M'Kayi, do.	x				x										
Platycoila Sullivani, do.	x										x			x	x
Pleiacrom elachocarpum do.							x								
Plesiocapparis leptocelyphis, do.							x								x
Ditto prisca, do	x														
Rhytidocaryon Wilkinsoni, do.								x							
Rhytidotheca Lynchii, do.															
Do. pleioclinis, do	x										? x				
Spondylostrobus Smythii, do.	x					x		x					x	? x	x
Trematocaryon Maclellani, do.	x					x							x	x	
Anracarix Johnstonii, ditto													x	x	
Wilkinsonix bilaminata, do.							x								
Xylocaryon Lockii, do.	x														
Exogenous ovate acuminate serrate, leaf		x									x		x	x	
Numerous undescribed leaves, etc, figured in Proc of Roy. Soc. Tas, p 46, 1873 — JOHNSTON													x	x	
Ditto ditto, pp. 61-63, 1874— JOHNSTON											x		x		

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* This leaf was figured by the writer in August, 1874, in the Proc. of the Roy. Soc. of Tas. It occurs at Stevenson's Bend, near Launceston.