

GEORGE FORSTER AND THE TOUGH MORSELE.D. Hatch

In the de Plantis Esculentis, published in 1786, George Forster fumbled a couple of ferns, and created a ripple that is still lapping on the botanical shores of 1984!

The first of these is to be found on p.74 n.47

'Pteris esculenta F.

(Note that George takes the credit for this to himself, even though the name and the original description were Solander's.)

'Found in the forests of the Society Islands. Although they are tasteless, fibrous and woody, with very little nutrient, the roots are sucked at by the natives in times of scarcity and hunger. Called e narre by the Tahitians'.

and the second on p.75 n.49

'Polypodium dichotomum Thunb. Fl.Jap. p.338 t.37' (1784)

'Grows naturally on dry mountains in NZ, and also within the tropics on very dry hills in the Society Islands. Eaten by the people of NZ, who parch the root above a fire, then beat it with a stone or club, sucking out the sweet starchy part from the centre. This agrees well Thunberg's description of the same plant collected in Japan'.

With our present knowledge it is obvious that George has got these comments entangled and in part transposed. They were however, taken seriously by the early botanists and for a time caused some confusion.

George was in a hurry. His thesis had to be in by 21 September 1785. He had a wife now to support and a daughter in the making. Solander was dead, Banks estranged by J.R.'s debts and tantrums, and Sparrman was in Sweden. He was writing some 12 years after the voyage and much turbulent water had run under his bridges in the interval. He had his father's Journal to refer to and he leaned heavily on Murray, Thunberg and the younger Linnaeus.

But the plant descriptions had been written by Sparrman and he was unfamiliar (as he admits in the preface to the Prodromus) with the material he was working on. The Prodromus in fact throws some light on George's mood at this time. Odd phrases stand out -

'I could find no fault with the unfamiliar short descriptions' and '... much too hastily ...'.

The suspicion comes through that George was pot-boiling. He was also publishing a number of NZ plant descriptions for the first time. The combination was unfortunate.

But let me go back to the beginning - and Pteris esculenta.

On 21 October 1769, at Anaura Bay, Banks briefly described the heating and beating, the prolonged chewing and eventual spitting out of what he called the 'morsels' of Pteris crenulata (Beaglehole, Banks 1: 1962 p.416), and there is on the same day, another more detailed account by the Endeavour's surgeon, W.B. Monkhouse, who completes the modus praeparandi by describing the stone anvil and the wooden mallet, and telling us that the heated roots, having been beaten once, were doubled and beaten again before being chewed. (Beaglehole, Cook 1: 1955 p.585.)

Solander, in the Primitiae Florae, describes Pteris esculenta and says that it is extremely abundant on the hills in every place they anchored at. He gives the Maori name as e anuhe (= aruhe) and goes on -

'The root is edible after being roasted over a fire and finally bruised with a mallet, serving the natives in place of bread. We have heard the roasted root called he taura by the New Zealanders'.

On 4 November 1774, at Queen Charlotte's Sound, J.R. Forster records -

'... all the Indians are gone off, except one wretchedly poor and indolent family in the Indian Cove. We went to them in order to buy fish, but the poor creatures had none, nor anything else, except several bundles dry fern root of the Acrostichum bifurcatum, which they beat on a stone and put on the embers for a few moments, and then it is eaten; but it is upon the whole only a miserable insipid food ...' (Hoare, Resolution Journal 4: 1982 p.679).

Acrostichum is of course related to Pteris and included with Pteridium in the Pteridoideae, so that these determinations, made in the grey dawn of taxonomy, were not unreasonable. Solander's species was eventually transferred to Pteridium as a variety of the European P. aquilinum, but a number of recent accounts have treated it as a valid species, Pteridium esculentum.

Referring now to Polypodium dichotomum -

Allan Cunningham, in the Precursor 1837 p.361 n.165, places this plant under Gleichenia hermanni R. Br., quotes Polypodium dichotomum as a synonym and says -

'New Zealand - 1773 - G. Forster'.

He then repeats the Latin of the Esculentis, and adds the French comment (translated for me by Mr Jim Beaver) that the plant

'... was said to occur in Java and in NZ'.

In the Handbook 1864 p.348, J.D. Hooker adds a footnote to Gleichenia.-

'... Polypodium dichotomum ... a common tropical plant, is erroneously introduced by Forster amongst his NZ plants, as a native of arid mountains. In his Esculent Plants he states that the roots are roasted, pounded and eaten by the natives. The plant does not exist in his or any other NZ herbarium'.

In the addendum, 1867 p.747, Hooker does however record Gleichenia dichotoma from the hot springs of the Tarawera district in the North Island. He goes on to say -

'... a most abundant tropical fern all over the globe. Curiously enough, Forster (as stated in the Handbook) gives NZ as a habitat of this plant, where however he never saw it in all probability, and erroneously describes the roots as eaten'.

These remarks of Hooker's are repeated often in subsequent accounts of the ferns, indeed as recently as 1983 (Andrew Crowe, Native Edible Plants of NZ p.162). But there is an additional note in G.M. Thomson, Ferns and Fern Allies of NZ 1882 p.27 -

'... Mr. Kirk has pointed out that probably Forster gathered it at some isolated locality in the Bay of Plenty or Poverty Bay, but that his inclusion of it among the plants used by the Maoris as food is apparently an error'.

I find Kirk's ignorance interesting. The Resolution never came to anchor in the North Island and none of Cook's people were ever ashore in the Bay of Plenty!

Cheeseman, Manual 1: 1906 p.1021, trailing Kirk but wiser in his generation, says -

'Forster ... recorded it as a native of NZ and stated that the roots were eaten by the natives; but as he only collected in the South Island it is extremely improbable that he ever saw it in NZ, and there is no other record of the roots being eaten'.

The species was eventually transferred to Dicranopteris, using the earlier name linearis, from Polypodium lineare Burman 1768.

By 1961 (Allan Flora 1: p.21) Forster and his edible roots were no longer of interest and were not even mentioned. Allan however, states that the species is endemic! An error surely? The few remaining NZ plants are now on the 'rare and endangered' list, but not because they have been cooked and eaten!

9 August 1984

The observant will have noticed that in the earlier Forster note on Avicennia resinifera (Newsletter 39: January 1984, p.21) I gave the date of the Esculentis as 21 April 1785, and in this note as 21 September 1785. Apparently both are correct. The thesis was presented on 21 April and George was examined on it on 21 September. Hoare gives the earlier date in the Resolution Journal of J.R. Forster 1: 1982, p.87; and the later date in Tactless Philosopher 1976, p.248.

LARGE-LEAVED PRIVET (<u>Ligustrum lucidum</u>)		height 5.5m crown spread 4m		
	Branches	number	length (m)	
Dimensions of a 5 year old plant growing through a bottlebrush at Mt Albert	1 primary	42	59.2	1
	2 secondary	924	225.0	2
	3 tertiary	745	105.1	3
	4 quaternary	59	28.0	4
			<u>1770</u>	<u>417.3</u>
	Number of leaves	12,619		
	Area of leaves	37.8 sq m		
		first branch at 1.5m		
A.E.Esler 24.9.84		trunk diameter 12cm		

