(This note on Solander, which appeared in Tuatara 11:#2.1963. p66. may be of interest. E.D.H.)

SOLANDER - HIS INFLUENCE ON NEW ZEALAND BOTANY

' To the memory of Daniel Carl Solander, F.R.S. 1733 -1782 '

So runs the dedication to Allan's 1961 Flora of New Zealand. But why Solander ? Why not Forster, Robert Brown, Cunningham, Hooker, Kirk, Cheeseman ? - all have left their mark and more upon the Flora. Cheeseman himself supplies the answer in the oft quoted preface to the 1906 Manual (p.v.) ' Every botanist who prepares a Flora starts from the standpoint reached by his predecessors in the same field '.

Solander had no predecessors - his was a virgin field. He had it is true the Species Plantarum at his hand. He had the advantage of personal tuition by Linnaeus. He had wide experience of botanical matters in Europe and in England, and he had, during 1769, botanised briefly in South America and Tierra del Fuego, and extensively in Tahiti. He was in fact a first class professional botanist. He had been offered the Chair of Botany in the Petersburg Academy of Sciences, was a fellow of the Royal Society and on the staff of the British Museum. He had also two very able colleagues - Banks, himself no mean botanist, with his vigorous intelligence, his youthful enthusiasm and his very necessary money - and Parkinson, with his technical skill and devotion. And in the background the master mariner Cook, who had brought them there and would take them home. The presence of Tupaia too was providential. To be able to discuss the native names and uses of the plants collected, with the people who had lived among them for centuries was invaluable. Solander's Pohutukawa and Kowhai - his modus praeparandi, are echoed unaltered 200 years later in the Floras of today. These things were in his favour. But against him was the very limited time ashore and the almost total strangeness of the vegetation he was studying. Banks said of it ' Sow thistle, garden nightshade, and perhaps one or two kinds of grasses were exactly the same as in England, three or four kinds of fern the same as those of the West Indies, and a plant or two that are common to almost all the world; these were all that had before been described by any botanist out of about 400 species, except five or six which we ourselves had before seen in Terra del Fuego '.

The Primitiae Florae is of necessity a coastal Flora and the shadow of the Endeavour hangs over it. Much of the botanising was done during wooding and watering, fishing, shooting and surveying trips, and was subject to the exigencies of service. The Maori comes into it too. His clothes and cultivations, his ornaments and his children, and many of his plant names. The few errors are more interesting than otherwise - one in particular, Avicennia resinifera. Cook says - ' ... in speaking of Mercury Bay I forgot to mention that the Mangrove trees found there produce a resinous substance... we found it at first in small lumps upon the sea beach, but afterwards found it sticking to the Mangrove trees and by that means found out from whence it came'. The resin was the familiar Kauri gum and it was not produced by the Mangrove. The name though misleading, was perpetuated by Geo. Forster and having priority had stuck - like the gum it commemorates.

This first Flora was a major event in the botanical history of New Zealand, although it was never published. Its importance is emphasised by the number of Solander's names which were taken up by later botanists and his skill by the fact that 123 plants still belong in the genera in which he originally placed them. The near misses are revelant too. Smilax, Pandanus, Piper, Fagus, Panax, Aralia, Veronica, Myrtus, Mesembryanthemum, Passiflora, etc., are but further proof of his knowledge.

To read Solander for the first time is to experience a feeling of familiarity - one has trodden this path before. In spite of the Latin and the odd quirks of the Linnean system, this collibus et campis is home sweet home. His descriptions have a modern ring about them and his locality-habitat notes a photographic clarity. For example -

Avicennia resinifera - ad latera limosa fluviorum lacuum salsorum,

Disphyma australe - copiose juxta littora marina praecipue, in fissuris rupium.

Lycopodium billardieri - in sylvis...in arboribus parasitica dependens.

Entelea arborescens - ad latera vallium et ubi sylvae incipiunt.

and of Leptospermum simply - ubique et copiose.

Odd words stand out here and there - Paesia scaberula - elegantissima and Phormium tenax - utilitissima, which tell more than pages of prose.

That the work had so profound an influence on subsequent Floras of New Zealand was due partly to Banks' place in the scientific world and to his generosity in allowing the collections to be studied by those interested, and partly to his choice of secretaries. First Solander, then Dryander and finally Robert Brown, who after Banks' death in 1820 took the botanical material and the manuscripts and Parkinson's drawings, together with the prepared copperplates, into the British Museum where they continued to be available for research. That Geo. Forster had access to them is obvious from the number of Solander's names he uses, often without acknowledgment. Allan Cunningham knew them too and Hooker makes frequent reference to the ' excellent manuscript descriptions '. The British Museum sent out a typed copy of the New Zealand section of the manuscript, a run of prints from the copperplates and a series of the original specimens. These were studied by Thomas Kirk for the Students' Flora of 1899 and were handed over to Cheeseman who used them while preparing the 1906 Manual. They are still preserved in the Auckland Museum, and are the basis of these notes. Cheeseman says ' of their scientific value I cannot speak too highly'. I believe there is a photostat copy of the original manuscript and another set of drawings in the Dominion Museum and in the Turnbull Library. The whole of the 'Banks and Solander' material was studied by H.H. Allan for the 1961 Flora. All these botanists quote Solander freely and with respect. E.D.H.

(to be continued)