

## Robert Brown 200: Introduction

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This issue of *Telopea* includes a number of papers presented at **Robert Brown 200**, an international conference celebrating Robert Brown's time in New South Wales and his contribution to science. This conference, held at the Royal Botanic Gardens, Sydney on 8–10<sup>th</sup> May 2002, was one of a series around Australia, to celebrate the successes of Matthew Flinders's voyage, two hundred years after the *Investigator* touched various points in its circumnavigation of the Australian coast.

Robert Brown (1773–1858) was selected by Sir Joseph Banks as naturalist for the voyage (for biographical details of Brown see Mabberley (1985)). On 9<sup>th</sup> May 1802, the *Investigator* dropped anchor in Sydney Cove, before beginning her circumnavigation of Australia. Little did Robert Brown, the naturalist, know that he was to spend much of the next three years based in New South Wales, a time of avid collecting but also reflection on the enormity of the task ahead of him in bringing order to the materials from the expedition as a whole. For a time he lived in a house on what is now the Domain in Sydney, and we know that he botanised all over the area.

But this conference was not just looking back and celebrating Brown's time here. The meeting used his time in New South Wales as a benchmark from which to consider the systematics of plants and the ecology of Australia in a modern context, and to look forward to the challenges ahead. Robert Brown's interests and influence were broader than the flora of Australia. He had a lasting influence on botanical systematics in general, and his microscopic work led to whole new insights and discoveries beyond systematics in the fundamentals of plant-fertilisation and cytology.

From the standpoint of modern systematics, Brown's re-introduction to the English-speaking world of the natural system of classification was, and is, seen as a major contribution. First set out in his great monograph of Proteaceae, largely concerned with Australian species, it was further elaborated in his *Prodromus florae novae-hollandiae* (1810) and later his appendix to Flinders's account of the *Investigator* voyage (1814). Brown's projected great Flora of Australia was never completed but in monographs later he published a great deal more on Australian plants.

Brown wrote a pioneering monograph of the Asclepiadaceae-Apocynaceae and a great essay on Compositae (1817). He also inserted monographs of families like Sterculiaceae and Gesneriaceae in floristic accounts. He was responsible for the recognition and circumscription of dozens of new families of angiosperms e.g. Chloranthaceae, Winteraceae, Myristicaceae, Pandanaceae, Hypoxidaceae, Hemerocallidaceae, Dioscoreaceae, Marantaceae, Lardizabalaceae, Phytolaccaceae, Hamamelidaceae, Haloragidaceae, Santalaceae, Zygophyllaceae, Celastraceae, Chrysobalanaceae, Oxalidaceae and Connaraceae; Cunoniaceae, Cephalotaceae, Tremandraceae, Casuarinaceae, Combretaceae, Limnanthaceae, Myrsinaceae, Myoporaceae, Pedaliaceae, Escalloniaceae, Pittosporaceae, Stylidiaceae, Goodeniaceae and Calyceraceae, Haemodoraceae and Restionaceae.

Brown also published on mosses and ferns, and clearly distinguished the gymnosperms from the angiosperms (Mabberley 1985, p. 252). He described the biggest flower in the world, *Rafflesia arnoldii* from Sumatra (Mabberley 1985, pp. 219–238), and made important advances in the studies of this and other parasitic angiosperms. Of other angiosperm groups where he made major advances, pre-eminent are the Orchidaceae, particularly collaborating with Ferdinand Bauer, natural history painter on the voyage, and later Ferdinand's brother Franz, especially in the pollination and fertilization studies on which Darwin was to build (Mabberley 1985, p. 158). Another family where he made groundbreaking advances was the grasses.

In Australia we tend to grasp to us Brown, like Bentham later, for his work on our flora, but both men worked monographically and therefore beyond the phytogeographical constraints of Australia. They both also worked floristically on the plants of other parts of the world. For Brown, his greatest plant geography contributions were probably on the flora of Africa — notably the Congo basin, but also west Africa and Ethiopia, besides Madeira. This work had a major influence on von Humboldt, Lyell and through him, Darwin. Brown also worked on Indian, North American and other temperate plants from China and many groups for *Hortus kewensis*, effectively an encyclopaedia of cultivated plants of the period. But to show his truly global influence, it is important that we realise he worked on a flora as distant as it could be from Australia: the Arctic.

The papers presented here deal with a broad range of 'his' plant groups: Apocynaceae by Mary Endress; Gesneriaceae and Scrophulariaceae by Tony Weber; Restionaceae by Barbara Briggs; Grasses by Lynn Clark; and Rhamnaceae by Juergen Kellerman.

Other papers relevant to Brown's contribution to our knowledge of the Australian environment, also presented at Robert Brown 200, are to be found in *Cunninghamia* 7(4) 2002.

### Reference

- Mabberley, D.J. (1985) *Jupiter botanicus: Robert Brown of the British Museum*. (J. Cramer/ British Museum Natural History: Braunschweig / London).