



Operculum

Southern Highlands Botanic Gardens Inc

Newsletter No. 15

June 2013

Successful Weekend!



Les Musgrave produced this lovely display at the plant sale



A view of the plant stall at Quindalup

The Southern Highlands turned on its charm for the Town and Country Open Gardens Weekend (27-28 April) —perfect blue skies and warm sun made the event especially memorable and busy. There were more visitors than ever, including many Garden Clubs from NSW in coaches. The owners of

all the gardens worked tirelessly, as did the volunteers at the plant stall, on the garden gates and on car parking detail. The goodwill from everyone abounded and it was not only profitable but immensely enjoyable. Myriad visitors and locals were delighted with the gardens and the plant stall did a roaring trade from dawn to dusk. (And the plant propagators and growers deserve our special thanks.) The overall profit for the plant sale and the gardens was in excess of \$50,000—an excellent result. Thanks to everyone involved—each one of you played a role in a successful fund-raising event.



Plant Sale at Quindalup on Saturday 27 April 2013

Recent Developments

The Development Application (DA) (for the concept plan for the Botanic Gardens) has now been lodged with Wingecarribee Shire Council. It is available for public comment until the end of June.

The Shed now has the water supply connected and the electricity supply is to be connected by 12 June. Thanks to the muscular support of the Rotary Club of Berrima District, and the generous sponsorship of Bunnings and Deirdre Hill, all the necessary painting will be finally completed by the end of June.

Working Bee: 26 July 2013

The first Working Bee for 2013 will take place on Friday 26 July commencing at 9 am on the site. Please contact Chris Webb (chris@cwebb.com.au or 4861 4899) if you would like to help on that day.

A short site induction course (to comply with the *Work, Health and Safety Act 2011*) will be held at the beginning of the session for those of you who have not yet been inducted.

The working bee will involve levelling the area round the Shed, planting trees and hedges. Please don't forget to bring your own garden tools. If you don't feel up to wielding a spade, volunteers are required to assist with providing some refreshments and a BBQ lunch. There is always something you can do for the Friends! Bake a cake, make some scones, manage the BBQ or turn the sausages—please contact Chris if you would like to be involved.

Resignation of Ted Duncan

It was with great regret that the Executive Committee accepted the resignation of Ted Duncan from his role as Chair of the Friends Committee. Ted has been a tremendous supporter of the SHBG from the beginning, and the Friends Committee will miss his leadership and his dry sense of humour. Behind every leader there is usually an equally committed partner, and Ted's wife, Wendy, has also been an important and integral part of the 'team'. Don't ask her about all the phonecalls she fielded in the week leading up to the Town and Country Weekend! The best wishes of all the SHBG go with them and we look forward to seeing them both at all the future functions.

The management of the Southern Highlands Botanic Gardens is about to be reorganised with a different committee structure. In the interim, Chris Webb has agreed to take on the role of Chair of the Friends Committee.

Simon Grant on The Explorers Part 3: Linnaeus' 'Apostles' and Joseph Banks

My previous article covered the development of a formal naming of plants by Carl Linnaeus—a necessary system to cope with the expanding number of plant discoveries if people scattered around the world were to understand what everyone was talking about. This article returns to the discussion of the plant explorers. Linnaeus had explored the wilds of Lapland, describing new species, but perhaps more importantly he was later to sponsor a number of plant hunters to travel around the world.

In 1735, after relationships with a colleague deteriorated, Linnaeus travelled to Holland where he obtained his medical degree at Harderwijk. Harderwijk, a little fishing village, was the seat of a university that had a thriving trade in cut-price degrees obtainable in the shortest of time. It took Linnaeus only two weeks presenting a thesis on malaria! He returned to Sweden and spent a short time in Stockholm before being appointed as professor of medicine at Uppsala University in 1741. He continued to explore Sweden, but it was his teaching and encouragement which led many of his students to travel even more widely in search of

new species. The best of them he called his 'apostles' and they faced many risks—seven, including his first, failed to return.

Christopher Tarnstrom, older than Linnaeus and with a wife and children, set out in 1746. Unfortunately while on his way to China, he died in Vietnam of a tropical fever. His wife, bitter at being left a widow without support, blamed Linnaeus—so all future 'apostles' were unmarried.

From 1748-1751, Pehr Kalm travelled around North America, initially in the hope of finding useful plants for Sweden, such as the red mulberry, for a future silk industry. He returned with a large collection of pressed plants and seed—increasing substantially those species recognised in *Species Plantarum* (1753) from earlier works. Linnaeus recognised his contribution, naming the genus *Kalmia* in commemoration.



Kalmia Angustifolia Philip Reinagle 1804

A number of the apostles travelled around the world (including Daniel Solander, who appears later in this article in association with Sir Joseph Banks), but perhaps the most important was Carl Peter Thunberg. From 1770, Thunberg spent nine years travelling to the East via South Africa. Having studied both natural philosophy and medicine, he left with the Dutch East India Company as a ship's surgeon. On the way to Japan he spent nearly three years in South Africa during which time he collected some 300 new species, despatching them back to a delighted Linnaeus. Whilst there he met and worked with Francis Masson, who was the first official plant hunter sent

out by Joseph Banks. He then headed east via Java eventually arriving as one of the Company's staff at its trading post in Nagasaki harbour.

At this time Japan was ruled by the Tokugawa Shogunate: foreigners were prohibited from entering Japan and all trade was restricted to the Chinese and Dutch through a small island in Nagasaki harbour called Dejima. This man-made island, originally constructed in 1636 to segregate Portuguese settlers from the Japanese, was only 120m x 75m (0.9 hectare) and acted as a 'virtual' prison. Thunberg spent fifteen months on Dejima, sifting through animal fodder trying to pick out and identify specimens. He also encouraged Japanese interpreters to bring samples from their gardens by trading his knowledge of European medicine. Finally in mid-1776, during a visit of homage to the Shogun in Edo (Tokyo), he was able to collect many Japanese plants, eventually published in 1784 as *Flora Japonica*.

Leaving Japan in 1776, he returned to Sweden via Sri Lanka, then visited Joseph Banks in London where he saw the collection of Engelbert Kaempfer, a German naturalist who had visited Japan 85 years earlier. By the time he reached Sweden in 1779, Linnaeus had died. In 1784 (after the death of Linnaeus's son), Thunberg was appointed Professor of Botany at Uppsala, a position he held until his death in 1828. On his journeys Thunberg collected about 28,000 plant specimens, 731 from Japan. He described both *Acer palmatum* and *japonicum*, so important to gardens today as well as many now bearing the identification '*thunbergii*'. (A future article will describe his South African exploits with Francis Masson.)

Equally influenced by Linnaeus, and botanising shortly before Thunberg, Sir Joseph Banks, commenced his overseas botanising career in 1766, in Labrador and Newfoundland. Considered by many the father of modern plant hunting, Banks was born in 1743 into a family of landed gentry from Lincolnshire. To say that he was born with a silver spoon in his mouth is an understatement. He followed the traditional path through Harrow and Eton where he discovered his calling in life, science and the natural world, rather than the classics.

In 1760 he entered Christ Church, Oxford, but finding the quality of the botanic instruction disappointing, he paid the Cambridge botanist Israel Lyons to deliver a series of lectures. At the age of 21 he came into his inheritance (his father had died in 1761) and left Oxford in 1764. Sharing his time between Lincolnshire and Chelsea, he kept up his interest in science by attending the Chelsea Physic Garden and the British Museum.

It was at the British Museum that he met Daniel Solander from Sweden, who was promoting the new Linnaean system of classification and cataloguing their natural history collections, and it was through

him that he began to correspond with Linnaeus and other scientific men of the day. With increasing influence, including that of King George III, he urged support of voyages of discovery and instead of doing what 'Every block-head does'—taking a Grand Tour of Italy—he secured for himself the position of naturalist on board *HMS Niger* on her seven-month tour of Labrador and Newfoundland. His herbarium began from specimens collected on that trip. Not that he only described plants (using the Linnaean system), he also described 34 species of birds such as the now extinct Great Auk. But it was his next journey that left Britain two years later that really established Banks then and now.



Joseph Banks by Joshua Reynolds 1773

He had learnt that the Admiralty was to send a ship under Lieutenant James Cook to the South Seas and under secret orders from the King to then proceed further looking for the fabled southern continent. Banks, looking forward to the prospect of collecting new plants and animals, paid £10,000 for his party of 10 men to join the crew. In today's money that is the equivalent of over \$A21,000,000! In the party were Daniel Solander, Sydney Parkinson (the scientific draughtsman), two landscape draughtsmen, a secretary, four servants and a pair of greyhounds. The *Endeavour*, little more than 100 feet in length, left in August 1768 carrying 94 people.

It is not possible here to do justice to the risks taken and all their achievements (the attached references are worth reading by those interested), but to give some idea, by the time they returned to England in 1771, 42 out of the 94 had been lost and only three of Bank's party survived (including Solander who had also nearly died). Their near

misses included twice coming under cannon fire from the Portuguese near Rio de Janeiro, nearly dying from exposure when caught out in Tierra del Fuego, several skirmishes with the Maoris, and from malaria and/or dysentery in Batavia (Jakarta) where most of the crew were lost. But perhaps the closest call for all was when the *Endeavour* struck the Great Barrier Reef some 40 km from the coast, taking six days with everyone manning pumps (including Banks) to reach the mouth of the Endeavour River. As it turned out they would have sunk but for a large lump of coral that had broken off and wedged in the hole.

Everywhere they went, Banks and Solander collected specimens. Sydney Parkinson drew them and made notes on their colours. That information would later be used by Banks to develop his *Florilegium*, finally published in 35 volumes in 1988. Back in England, Banks made a detailed study of his collection; 1,300 new species and 110 new genera. Although that included 125 from Tierra del Fuego and 360 from New Zealand—such as *Hebe*, *Leptospermum scoparium* (manuka) and *Phormium sp.* (New Zealand flax)—it is those from the east coast of Australia for which he is most remembered, including *Callistemon*, *Grevillea*, *Brachychiton acerifolius* (the Illawarra flame tree), *Waratah*, *Eucalyptus*, *Acacia* and of course *Banksia*.



James Cook's 1st Voyage

After a disagreement with the Admiralty, Banks didn't go on Cook's second voyage. Nevertheless in 1772 and having gained royal favour, he was appointed Scientific Advisor on the Plant Life of the Dependencies of the Crown, an unofficial first director of Kew. From specimen collecting himself, he fostered others to go around the world in search of plants that could be introduced into cultivation.

Solander remained in England with Banks and worked at the British Museum until his death in 1782, never sending any samples back to Linnaeus (much to the latter's annoyance). Banks died in 1820 after many achievements, amongst them the position of President of the Royal Society for over forty-one years

Simon Grant

References and Further Reading:

Wilfred Blunt, *The Compleat Naturalist: A Life of Linnaeus* (Princeton University Press, 1971).

Toby Musgrave et al, *The Plant Hunters* (Ward Lock, 1998).

Richard Holmes, *The Age of Wonder* (HarperCollins 2008).

Wikipedia articles on Carl Linnaeus, Joseph Banks, Thunberg and Solander.

Environment and Sustainability Information Centre in Bowral

There is an Environment and Sustainability Information Centre (EASI) in the Bowral CWA every Thursday from 10 am till 2 pm manned by well-informed volunteers—an initiative of CANWin (Climate Action Now, Wingecarribee). Contact David Tranter (4885-1394) for bookings.

Renewal of Membership

If you haven't already paid your Friends membership for June 2013 to June 2014, please complete the enclosed form (**and don't forget to include your email address to help us reduce mailing costs**) and return the form to:

SHBG, PO Box 707, Moss Vale, 2577

Please note that if you joined after 1 April 2013 your membership is paid until June 2014.

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