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Boronia and Allied Genera

Australian Native Plants Society (Australia) Inc. Boronia and Allied Genera Study Group Newsletter

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Propagation of Boronias

Difficulty experienced in growing Boronias can usually be attributed to locations that do not provide for sheltering the roots to provide a cool root run or to attempting to grow species that are unsuited to local climatic conditions such a growing winter rainfall species in summer rainfall locations with their associated soil pathogens.

Propagation is another matter altogether. Boronias are usually propagated from stem cuttings because of difficulties in germinating seedlings. Boronia seeds have a coating that provides longevity but the coating needs to be removed before the seed will germinate.

The North Shore Group of the Australian Plants Society in Sydney is funding a post graduate student to research the matter. UNSW Researcher Berin Mackenzie, as part of his PhD practical experiments, trialled the germination of seven different species of east coast boronia under various conditions mimicking field conditions. One of his aims was to determine which factors controlled germination of boronias from the soil-held seed bank.

Berin's research is on-going and it will be of great value for future management of wild populations. His results will also assist native plant growers to mimic these conditions to promote germination of boronia seeds.

The by-products of Berin's experiments were tens of petri dishes containing boronia seeds that had barely germinated. Berin kindly passed these propagules on to our The North Shore Group to grow them on in the Shadehouse. They have reached the stage of 20cm plants in early 2015.

Wendy Grimm from the North Shore Group hopes to plant them into the garden area of Kuring-gai Wildflower Garden in autumn 2015. The Rutaceae bed has been established on the eastern slope of the Knoll Garden. The area is partly shaded by tall Eucalyptus and is adjacent to the Fern House, which is periodically watered. Large sandstone boulders and sandstone outcrops are scattered through the fenced area. Cutting-derived *Boronia serrulata* plants are already doing well, as are several species of Correa and Leionema.

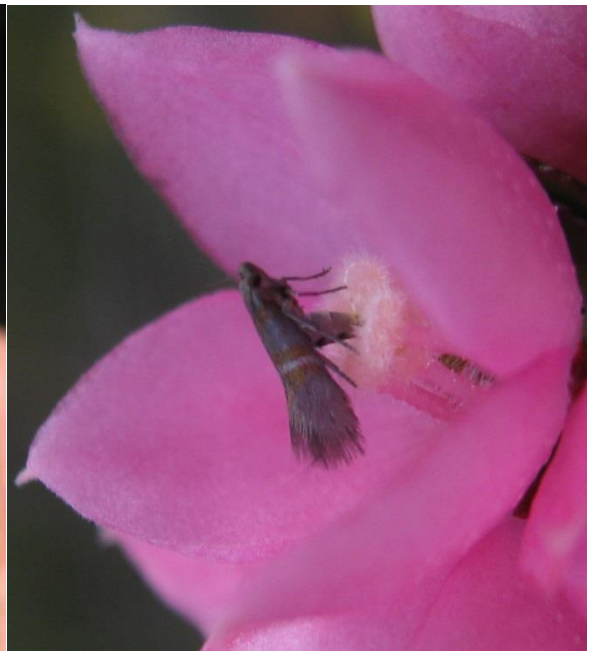
We anticipate hearing of further progress from Wendy Grimm, who has become a member of the Boronia and Allied Plants Study Group, concerning Boronia at the Kuring-gai Wildflower Gardens and of Berin Mackenzie's Research.

Pollination of Boronia and Allied Genera

Wendy Grimm, Australian Plants Society North Shore Group

We were photographing *Boronia serrulata* plants during a plant survey for NPWS in Marramarra National Park. The target species was *Tetratheca glandulosa* but the *B. serrulata* was coming into bloom and the perfume was exquisite. We had lunch on a rock surrounded by the plants. I noticed two tiny moths in the cup of one flower and took many photos from all angles.

On later inspection on the computer screen I could see that the abdomen of the larger moth was inserted into the ring of anthers of the Boronia flower. Scientists at the Australian Museum passed the images on to the Heliozelidae moth family expert in Melbourne. He said that several genera in that moth family are associated with Rutaceae; including *Correa, Boronia, Microcybe, Phebalium, Zieria, Philotheca* and *Geleznowia*. The association may involve predation of the leaves, flowers and seeds and may involve pollination of the plant. The Heliozelidae study group are discovering many new and undescribed moths and are interested in receiving detailed observations of moths associated with Rutaceae plants.



Self Propagation and Hybridisation of Croweas

Doug Coates

The Crowea genera contains only a small number of species. There is *C. exalata* and *C. saligna* from the eastern states and *C. augustifolia* in Western Australia. Both the flowers and leaves of *C. saligna* are significantly larger than those of *C. exalata*, but it is usually slower growing and has higher moisture requirements. *C. exalata* is less demanding of the growing conditions.

We have grown both these species at our property at Mount Victoria in NSW. The following photographs are from the current flowering season:

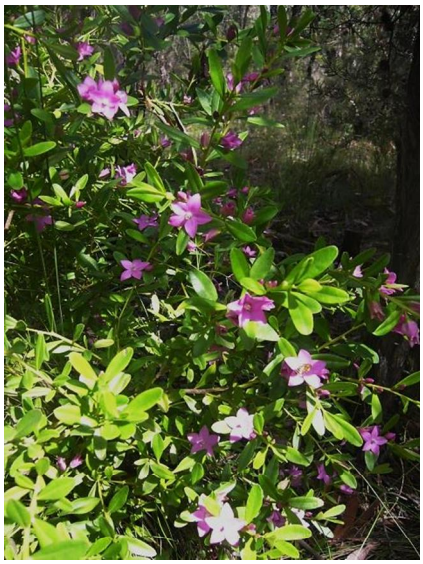


Figure 1 Crowea Saligna

Figure 2 Crowea Exalata

The narrower leaves of C.*exalata* are readily observable in these photographs. Less observable is that the leaves of *C.saligna* are larger and the flowers correspondingly larger as well. Flower colour is similar with the colour of *C. exalata* perhaps being slightly deeper.

Differences in lighting and aspect make it difficult to represent flower colour precisely in the photographs. We have grown several examples of C. 'Festival' which is described in the literature as a chance hybrid of the above two species. However, it is very similar in appearance to *C. exalata* but the flowers are of a deeper and slightly darker colour which is difficult to illustrate in photographs.

Circumstances in our garden in Mount Victoria are such that croweas readily self propagate. This year a mild summer with few hot days and regular but not terribly high rainfall has been a very good year for self propagation. A large number of new plants have appeared,

particularly where shaded by eucalyptus trees. The level of hybridisation will become more apparent as the plants grow larger.

The following is an example of a hybrid from a previous season:

Figure 3 C. 'Mt Victoria' Hybrid

This self propagated hybrid is characterised by flowers of similar size to *C. saligna* but perhaps of a slightly more intense colour. The leaves are similar in length but narrower than *C. saligna*. with a more pointed shape. What cannot be readily conveyed in a photograph is that these plants seem to display what might be referred to as hybrid vigour. They seem to be faster growing and require less moisture than *C. saligna*. The leaves appear to be a little darker but this could just reflect greater vigour with more photosynthesis. It would appear to resemble the registered cultivar 'Poorinda Ecstasy'.