Plant Taxonomy in New South Wales, Australia©

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INTRODUCTION

I want to share with I.P.P.S. members my experiences when I visited Armidale, NSW, Australia, and the plants we saw and collected for the New England University Herbarium. I flew from my home in Hamilton, New Zealand, in Spring 2000, and a few hours later arrived in Sydney where I took an 8-h train journey to Armidale in the north of NSW. On the train I met the other six members of an over 50s holiday group. We had all booked through Odyssey Travel to take an 11 day NSW Flora Research Programme. We would be helping to collect and set up a new student herbarium for the Botany Department, at the University of New England. The programme attracts a national grant with participants paying their way, in collaboration between the University and Odyssey Travel members. We were all excited with the prospect of working on this project but some members were uncertain about what we would be expected to do, and how expert we would need to be.

Dr. Jeremy Bruhl, Senior Lecturer in Botany and Director of the N.C.W. Beadle Herbarium, University of New England, met us off the train at Armidale. The weather that evening, as we came off the train, was sunny and warm, but Jeremy advised that they had had a lot of rain in the last few days and this might make it necessary to rearrange some of the site visits for the next 2 days. Little was he to know that the weather would get worse.

We stayed at the University student accommodation that night and were up bright and early next morning to go to the herbarium. Here Jeremy introduced us to his staff, the University Vice Chancellor, and the University facilities we were to use during the programme.

INTO THE BUSH

We were impatient to get out into the bush, but apprehensive about what we had let ourselves in for. Especially when we saw the plant presses and amount of materials we needed to carry with us. The morning went quickly with checking the resources and packing the van. After lunch in the staff room, we all set off in the van to Oxley Wild Rivers National Park, Salisbury Water. I remember the water but little else that first afternoon. We were at an altitude of 966 m with open woodland of *Eucalyptus conica* with *Pomaderris* species and *Pimelea* species in grassy scrub underneath the trees. All the colours were olive-green to grey-green, and there were open vistas under the trees with no ferns, and no climbers in sight. The habitat was very tired and dusty looking, and altogether very different to North Island, New Zealand. It started to rain!

The group got all geared up for the rain, which was to follow us day after day. Much of the breathtaking scenery we could have enjoyed was hidden by cloud. However at one or two of the beautiful valleys we did manage to catch a glimpse of the views provided we were quick.

To illustrate the beautiful scenery the shrubby *Ozothamnus obcordatus* subsp. *major* was seen in full flower and at its best at the Governor Lookout in Mt. Kaputar

National Park. The mountainside where this was collected is truly dramatic and we made many collections on the 4th day out.

PLANT HUNTING AND COLLECTING

To go back for a moment to the first afternoon, we set off from the van once we reached Oxley Wild Rivers National Park to plant hunt. We learnt to cut (using secateurs of course) the best possible examples of a plant species, with good leaves, stem, and flowers. No specimen was collected without either flowers or fruits present. Because of the nearly constant rain we were unable to place specimens in the plant presses right away, and so all our specimens were bagged for later processing. As each plant species is collected a label is needed for each sample. The labels used were not waterproof and so we developed a new technique. Someone with a poncho held the label and collecting book under their poncho, and ducked their face inside the waterproof where they are able to see to write in dry conditions. Their "helper" then takes the labels from them and attaches them to each sample.

Later on during tea or lunch breaks, under cover we were able to open the plant presses and put our samples in artistically. Overnight all the presses were returned to the herbarium and placed in drying cabinets and in this way the process was speeded up to take 3 to 4 days. Natural drying can take between 3 to 6 weeks.

On Day 4 the sky cleared and we drove out from Bingara along the highway towards Warialda. Seventeen kilometers out from Bingara we stopped at the roadside and found a wonderful collection of native shrubs and climbers. The most spectacular climber was *Dendrophthoe vitellina* a wonderful orange-flowering mistletoe. During this morning we bypassed the floods to revisit Oxley Wild River National Park, and again visited the open woodland of *Eucalyptus* species at 919 m altitude.

Later that day by a very circuitous route we made our way to Mt. Kaputar National Park to visit The Governor Lookout. Here we parked at an altitude of 1432 m in *E. pauciflora* woodland and climbed up a good track to reach the top and the lookout. Here the cloud was so crowded around us that we saw nothing beyond about 10 m. However, with Jeremy's help we found and collected some wonderful specimens of *Bulbine glauca*. An impressive tall yellow-flowered *Bulbine* of approximately 1 m in height and with flowers over 1 cm across.

MOUNTING THE SAMPLES

On the last couple of days we spent several hours each day mounting up our collections. They were taken out of their drying papers, identified accurately by consulting the NSW flora descriptions and microscope examination of their flower or fruit details. Our samples were then mounted on herbarium sheets and their herbarium labels completed. This final task was both rewarding and nerve-racking. This was because of the 106 individual genera and species collected, all were considered of sufficient interest to be included in both the original student collection and the N.C.W. Beadle Herbarium collection. So even our handwriting had to be especially good.

A FEW SPECIAL PLANTS COLLECTED

Of all the plants collected the most interesting and beautiful to my mind was the *Xanthorrhoea australis* known as Grass tree, that we found growing beside a disused open-caste asbestos mine. Other plants of note were:

- *Phebalium squamulosum* subsp. *squamulosum*; A slender shrub 1 to 7 m tall, narrow leaves, terminal cluster of yellow flowers, rusty scales on sepals.
- *Alyxia ruscifolia* subsp. *ruscifolia*; shrub to 2.5 m, flowers white and fragrant.
- *Dianella tasmanica*; a tufted perennial herb, up to 0.9 m tall, flowers lavender-violet.
- *Beyeria viscosa*; (dioecious species) rounded shrub to 4 m, yellow flowers, well drained soil.
- *Dodonaea viscosa* subsp. *angustifolia;* shrub to 5m, much larger fruits than in N.Z.
- *Eucalyptus pauciflora*; tree to 20 m, liking high altitude (700 m).

I had an enjoyable study trip, both because of the techniques learnt, and being involved in a worthwhile project to produce resources for botany students. The comparison of New Zealand and Australian plant habitats and ecosystems was most enlightening and helpful in my teaching.

LITERATURE CITED

Harden, G.J. (Ed). 1993. Flora of New South Wales. New South Wales University Press, Kensington, NSW.

Forman, L. and **D. Bridson**. 1989. The herbarium handbook. Royal Botanic Gardens Kew, London.

Odyssey Travel. 2000. Research on the north east NSW flora and development of the student herbarium at the University of New England. A division of the Australian and New Zealand College of Seniors Inc., University of Wollongong, New South Wales, Australia.