

# BOTANISTS AND MOSSES AT JENOLAN CAVES

- Alison Downing & Ron Oldfield\*

In recent years, Jenolan Caves has been recognised as one of the richest areas for mosses and liverworts in New South Wales. They are not only extraordinarily diverse but are also surprisingly abundant. So the organisers of the VI Australasian Bryological (mosses & liverworts) Workshop held in the Blue Mountains in September 2001, were very keen to organise a field trip to Jenolan. Australasian bryological workshops are held every two to three years in different locations throughout Australia combining field trips, workshop sessions and paper presentations. The September workshop included botanists from Australia, New Zealand and Germany and was jointly organised by Alison Downing and Ron Oldfield from Macquarie University and Elizabeth Brown from the National Herbarium of New South Wales.

With encouragement and support from Steve Reilly and Mia Thurgate at Jenolan, on Monday, 24th September, a coach load of enthusiastic botanists departed from the Berringa Conference Centre at Kurrajong to investigate the mysteries at Jenolan Caves and to see if they could discover more species to add to the substantial species list recorded in the last few years at Jenolan.

Steve and Mia met the group on arrival, and much to the delight of the group, Steve organised an impromptu cave tour for the visitors. We were astonished to realise that quite a few had never had an opportunity to visit a limestone cave! On conclusion of the tour, the party split into a number of smaller groups to visit various locations, depending on their specific interests. Those interested in liverworts tended to work in shaded, sheltered areas in the vicinity of Caves House and the Grand Arch, those interested in mosses tended to move to drier locations, such as the Carlotta Arch and along McKeown's Valley.

As it turned out, Mia has an extraordinary ability to turn up something new and exciting. She had previously sent us material of an aquatic moss, *Fissidens berteroi* (*F. fontanus*) from the western end of the Borenore Cave complex. This species is quite rare in both Australia and New Zealand. Well, Mia insisted that mosses had never been collected in the wallaby enclosure and she was sure something exciting would be found there. At the time we did not notice anything particularly unusual, but working through collections some weeks after the workshop, we realised we had collected an unusual moss from near the water trough. This was *Cratoneuropsis relaxa*, and, so far, we believe it occurs in New South Wales only at

Yarrangobilly Caves, so its presence at Jenolan is quite remarkable.

We had previously collected *Plagiomnion novae-zealandiae* in McKeown's Valley, but had not considered its rarity until discussion on rare and endangered species during the workshop brought it to our attention. We will be investigating both species, *Cratoneuropsis relaxa* and *Plagiomnion novae-zealandiae* at Jenolan with a view to proposing classification as rare and endangered species. (We will also look at classification of *Fissidens berteroi* at the same time.)

A number of other new records were exciting. Graham Bell, from the National Herbarium of South Australia, collected two previously unrecorded species of arid zone mosses at Jenolan, and Paddy Dalton, from the Department of Plant Sciences at University of Tasmania in Hobart recorded an epiphytic species *Orthotrichum tasmanicum*. Christine Cargill, from the Australian National Botanic Garden in Canberra, collected two previously unrecorded hornworts, *Anthoceros punctatus* and *Phaeoceros* cf. *carolinianus* and the liverwort, *Fossombronina pusilla*.

The botanists must have provided an amusing sight for tourists to the caves, as they worked with their bums up in the air and heads down low as they searched for mosses and liverworts everywhere – on the ground, on rocks, soil, on tree trunks, branches and on fallen logs.

The visit to Jenolan was voted the most successful field trip for the bryological workshop, and all participants were most appreciative of time and effort put in by Steve Reilly and Mia Thurgate to make the day particularly enjoyable and productive. We thank both for the approval given for the field trip, and also their very active involvement on the day.

For the botanists, the field trip was a great success. We hope that the additional information about the new species, and their rarity, will be able to put to good use by Steve Reilly and his very able staff at Jenolan.

For more information on Jenolan Caves mosses: 'Limestone Mosses' by Alison Downing and Ron Oldfield, has just been published in 'Nature Australia' the magazine of the Australian Museum in Sydney.

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