

# MAD ABOUT MOSSES

Rod Seppelt bumps into a lot of branches and spider webs when he goes walking in the Australian bush. As a passionate bryologist, Rod isn't looking at the trees and the views; he's searching the ground for tiny mosses, liverworts and lichens.

'Most people just see gravel and rocks,' he says, 'but I see bryophytes and lichens.'

Some of Rod's subjects are only half a millimetre in size, so good eyesight is essential. But if you think that sounds like hard work, consider Rod's other passion – botanical illustration.

For the past 40 years, Rod – a principal research scientist with the Australian Antarctic Division and a curator of the Division's herbarium – has been drawing scientifically accurate illustrations of Antarctic, sub-Antarctic, Arctic and Australasian mosses. His subjects might only be millimetres



in size, but it can take Rod up to 20 hours to complete one drawing. His completed work usually includes an illustration of the whole plant, leaves, the spore capsule (if there is one), cellular detail and cross-sections of the leaves and stem.

Rod uses both dissecting and compound research microscopes with drawing attachments, which effectively allows him to trace the shape of the plants and cells. He then transfers the rough pencil drawing to transparent drafting film, and uses a fine inked nib to complete the art work. The illustrations can then be scanned or photocopied.

Rod's interest in botanical illustration began during his undergraduate studies in the Department of Botany at the University of Adelaide, and some of his first moss drawings still hang on the Department's walls. He then transferred to Melbourne University to do a PhD on Australian native violets. After two and a half years, however, he realised the research was going no-where and he changed research topics to the moss flora of Macquarie Island – a subject that continues to fascinate him, 36 years later, and which he has researched extensively during his subsequent work with the Australian Antarctic Division.

Rod reckons he's covered about half of Antarctica and much of the sub-Antarctic in his search for mosses. He has also worked in Arctic Alaska and



Rod's illustration of the moss *Sanionia uncinata*, found on Macquarie Island and in Antarctica, was displayed at the Hobart Botanical Gardens during Living Artists' Week.

Scandinavia. His drawings help others to identify specimens from written descriptions, which can be very similar. They are also an important visual record of the biodiversity of a region, which can be used to monitor or detect changes as a consequence of climate change or human interference.

Some of Rod's drawings were recently displayed at the Hobart Botanical Gardens for Living Artists' Week, and are also in an exhibition touring Australian art galleries until 2009, called *Hidden in Plain View: the forgotten flora*.

WENDY PYPER  
Information Services, AAD

## Heroic era moss discovered

A rare specimen of a 'fruiting' Antarctic moss, collected during Douglas Mawson's 1911-13 Australasian Antarctic Expedition, has been discovered in the Tasmanian Herbarium in Hobart.

Dr Rod Seppelt found the specimen of *Dryptodon fuscoluteus*, which was collected by Tasmanian biologist Charles Harrison, amongst miscellaneous collections held in the Herbarium.

'This lone moss specimen is the first and only record of the species for continental Antarctica,' Rod says.

'Even more exciting is that the specimen has both immature and mature spore capsules. Records of fruiting mosses in Antarctica are very rare.'

Another 13 moss specimens from the expedition, representing five species, are housed at the National Herbarium of New South Wales. Duplicates of this material were sent to the British Museum

of Natural History and some of these have been located in the Dixon Herbarium there.

According to Harrison's notes on the expedition, he collected a number of fruiting moss specimens from several outcrops on or near David Island, near the Shackleton Ice Shelf in East Antarctica. His notes observe: '...some fine lichens and, what pleased me most, a little moss in seed.'

Rod has illustrated the moss and, together with his colleague, Ryszard Ochyra, from the Polish Academy of Science, is preparing a detailed article on the moss for publication.

'Historical information like this is vital to understand the baseline biodiversity of Antarctica,' Rod says. 'It appears that the area around David Island and Haswell Island (an Antarctic Specially Protected Area) may be a plant biodiversity hot spot and the area needs a careful re-examination.'



Hobart biologist, Charles Harrison, collected the first record of fruiting moss in Antarctica during the Australasian Antarctic Expedition of 1911-13.