

MOONWORT (BOTRYCHIUM LUNARIA, SWARTZ)

We seek it here, we seek it there,
 Botanists seek it everywhere,
 Is it in the Eny's area?
 That demmed, elusive lunaria!

(With apologies to Baroness Orczy).

The Eighteen-Eighties.

The notes and articles on
B. lunaria Sw.

J.D. Enys
 and Thomas Kirk

The Seekers.

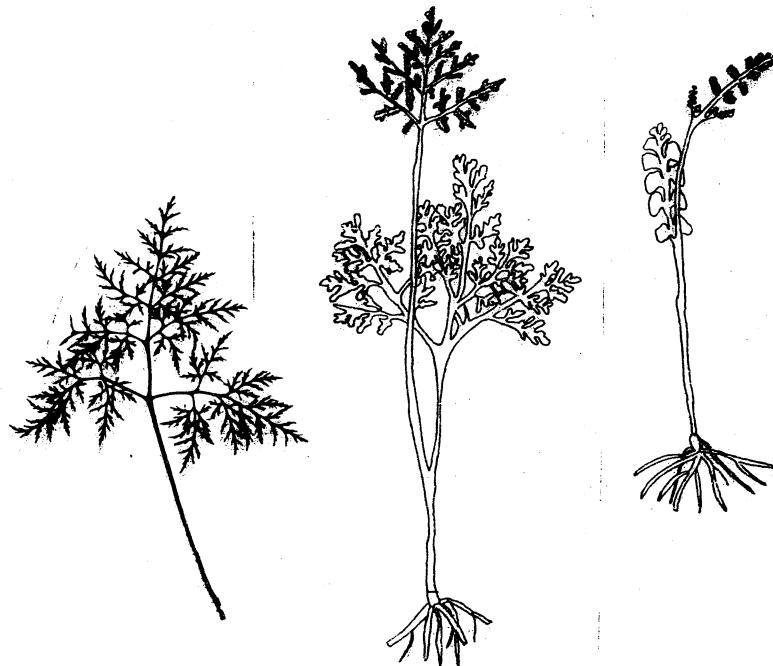
Bot. Soc. Field Trip
 Extracts from "Some studies
 on the N.Z. spp of Botrychium

John Thompson
 John Braggins

The Nineteen-eighties.

B. lunaria on Hoary Head

Tony Druce



B. biforme

B. australe

B. lunaria

On the 15th November, 1882 J.D. Enys, while laying out the lines of a wire fence on his Castle Hill sheep station, found a specimen of moonwort. A week later he "found a number more showing up in two spots in the same neighbourhood". This comes from a paper he read to the Philosophical Institute of Canterbury on the 3rd May 1883, (Enys, 1884). Thomas Kirk (1883) however, had already recorded this finding by his friend with a note on "Botrychium lunaria, Swartz" in the New Zealand Journal of Science, Vol 1, No 7, 1882. "This interesting plant has been added to our Fern Flora by Mr. J.D. Enys , to whom I am indebted for specimens collected in the Upper Waimakariri, at an altitude of 2500 ft (761 m)". Kirk then gives a few characters that distinguish it from B. vernatum (australe) and continues "In New Zealand it may ;be expected to occur in cool grassy places from sea level to 3000 ft (914)."

Kirk (1884)also read a paper to the Philospphical Institute of Canterbury on 6th September, 1883, four months after Enys had read his paper, but both were published in the same Vol. and No. of the T.R.S.N.Z. He notes "In Nov- last year I had the pleasure of examining a specimen of the Moonwort (Botrychium lunaria, Sw) which had recently been discovered by my friend Mr. J.D. Enys and a few days later received several specimens collected by him. In New Zealand, however, the species is of a remarkable fugacious character, as on visiting the habitat on 3rd January (1883) not a trace of plant could be found; all had disappeared."

He gives some morphological details, pointing out that the specimens are all of small size, closely resembling examples from the highest known habitats in the Highlands of Scotland.

So describing this collection by Enys spread over at least a week we have a note published by Kirk and two articles one by Enys the other by Kirk.

On the 15th November, 1975, that is 93 years to the day

after Enys' finding, the members of a Canterbury Botanical Society field trip under the leadership of John Thompson searched without success, the most likely area where Enys could have made his find. John and Phyllis Thompson have searched this area and other south-western slopes of Mt. Torlesse on a number of occasions, also without success. There have probably been many attempts to find the missing moonwort and the following extract from a paper by John Braggins (1980) would seem to present the position at Dec 1980. Referring to Enys's collection: "This species has not been reported since, its small size and resemblance when sterile to the herb Anisotome aromatica which is common in the area may mean that it would be difficult to locate. However, it seems unlikely to have escaped detection during the last 100 years and may have been destroyed by grazing."

The genus Botrychium in New Zealand consists of three species, the endemic B. biforme, the Australasian B. australe and the cosmopolitan B. lunaria (not reported since 1883). The key is reprinted with kind permission from John Braggins paper.

Key to N.Z. Species of Botrychium.

1. Sterile lamina simply pinnate, fertile portion arising from near base of steril lamina, plants very small with fronds only 3 - 4 cm long. B. lunaria.

Sterile lamina ternate, dissected, the fertile portion arising from hear the base of the stipe will below the sterile lamina. 2.

2. The sterile lamina (5)-6-(8) times dissected, the ultimate divisions narrow (0.1 - 0.5mm) and sharp pointed, roots never showing root contraction. B. biforme.

The sterile lamina (3)-4-(5) times dissected, the ultimate divisions fan-shaped and blunt tipped (0.5-2-7mm wide), roots normally showing root contraction. B. australe.

BOTRYCHIUM LUNARIA ON HOARY HEAD, N.W. NELSON, DEC. 1980

Tony Druce

"EUREKA!" is what you are supposed to say, but when Warren and I, flat on the ground searching a turf of Coprosma atropurpurea for whatever might be there, raised our heads and looked at one another we said nothing for a second or two - moments of disbelief no doubt, while we sought reassurance - then, almost in unison: "BOTRYCHIUM LUNARIA!"

This was our second day (Dec. 8) on Hoary Head, a marble mountain of 1470 m (4820 ft), 14 km (8.5 miles) north-east of Mt Arthur. Our party of six (Barry Sneddon, Warren Burke, Joe Cartman, Geoff Rogers, John Bartlett, and myself) had camped at the foot of the cliffs on the east side of the mountain for two nights and had searched the northern cliffs and tops the previous day. (Our route to the mountain had been via Mt. Campbell from the Motueka V.). We had seen Clematis marmoraria, though it was a very poor flowering year, and had found Pterostylis humilis for the first time in the south Island. We were fairly sure we had new species of Coprosma, Dracophyllum, and Ranunculus. Myosotis arnoldii, in its only location apart from the Ben More- Chalk Range area of eastern Marlborough, was not uncommon, though not yet in flower. (Of course there were many other plants present: I have deposited a list of the 192 species we saw above 1060 m (3,500 ft) with the editor of this journal.)

On the second day the party had split up on the top and it was by accident that Warren and I found ourselves with our noses to the ground on a piece of short turf. Botrychium lunaria could not have been further from our thoughts - surely ideal conditions for finding the like of Serendipitus universalis ("described" in Bulletin Wellington Botanical Society 39). Of course after finding our first plant we soon found others nearby. They were at various stages of

emerging through the turf; the tallest was less than 2 cm. When Barry appeared we shouted "Guess what we've found" he couldn't of course, and neither could the others when they arrived

When the excitement had died down and two plants had been dug up and packed in billies for growing on, we moved across the undulating marble tops and lunched in a large basin-like sink-hole. Here there were extensive patches of short herbfield composed of Coprosma atropurpurea, Raoulia apice-nigra, Stackhousia minima, and other plants. Botrychium lunaria was widely scattered in this vegetation. Since there are many such hollows on the mountain the species may turn out to be not uncommon.

After lunch we descended to a camp site in a hollow near the bush edge on the south side of the mountain. After erecting tents we set out for a quick look at Crusader, the next marble peak in the direction of Mt. Arthur. Half-way up a hailstorm hit us, the temperature dropped dramatically, and we immediately turned back for camp. The hail soon turned to snow, the snow flakes coming thicker and faster by the minute. Back at camp we got into our sleeping bags, but I could hardly keep warm and the weight of snow was pressing down the tent roof. At 9 p.m., waking to a strange stillness, I crawled outside. It was still light of course and what a world greeted me! The storm had passed, everything was blanketed: shrubs were mounds of white, trees were drooping under their loads - and somewhere under a bush (but which one?) were the two billies of precious plants. Soon everyone was up, stamping through the snow in the evening light. To the west the N.W. Nelson mountains, diminished by the great hump of Mt. Snowdon, were clear, white tops over black, forested valleys as the light faded. The sky then coloured up in a sunset of extraordinary beauty, ending a day I shall never forget.

Next morning the billies were found, their contents unharmed. To think that if we had come over the tops one day

later the mountain would have been covered in snow and Botrychium lunaria would have continued to remain an enigma! [And in my car at this time, still unread, a paper by John Braggins (1^o80)]

Our route now lay down a steep ridge to the North Branch of Graham Stm, a descent of nearly 1200 m (4000 ft) to where we had left a car to take us back to our starting point in the Motueka Valley. You might think that is the end of the story, but its only the beginning!

A hitchhiker we picked up soon told us the ferries weren't running. But Geoff had to be at work the next day, so after camping at Onamalutu Domain we put him on the early morning plane from Blenheim (fortunately there was one seat available as a certain "Mr. Stevens" didn't turn up!) Barry and I (and the B..'s) were now left to sit it out till the ferries ran again. (John, Warren and Joe had left us in Nelson the previous day.) We dried out our gear, and pressed specimens. But as the day wore on, with no sign of the ferries running, we decided we would have to leave the car and take ourselves, the pressed plants and the B...s to Wellington by air. All the gear was checked in, bar one billy destined for Patrick Brownsey at the National Museum. This we placed against the wall of the airport lounge while we sat and waited for the plane. Enter at this point "The Man in the Grey Suit" who calmly bent down - Barry saw him, I didn't - and stubbed out his cigarette on the turf in the billy, missing the Botrychium by a whisker! As "The Man in the Grey Suit" walked past us when we were seated in the plane Barry nudged me and whispered "There he is!" (If murder had been committed on a Friendship would they ever have discovered the motive?)

At Wellington Airport I rang Patrick at the Museum to tell him that it would be worth his while to come out to the Airport, without telling him of course what it was we had for him. (One billy of Botrychium was surely worth a free ride into town!). When he arrived I told him we had a

fern not collected since 1882; without hesitation he guessed "Botrychium lunaria".

The second plant brought back I grew on till it had increased in height to several centimetres I then pressed it, and it is now in the herbarium at Botany Division, Lincoln.

What of the future? Well, surely Botrychium lunaria is elsewhere on the "marbleous" mountains of N.W. Nelson (Mt. Arthur, Mt. Owen, etc) For a start we are hoping to visit Mt Arthur next January and perhaps someday we will go back to Hoary Head.

The moral of this story is, of course: "Beware of the Man in the Grey Suit" or "Don't count your B..'s before they're safely delivered!"

STONY RANGE FLORA RESERVE SYDNEY

John Thompson

Should any of my readers be in Sydney with a few hours to spare then a visit to the Stony Range Flora Reserve should be accorded high priority. This reserve, containing 3.3ha (8.25) acres, has been developed for the purpose of growing Australian plants and what a magnificent collection of plants it contains.

The reserve is situated in the suburb of Dee Why, with the bus stopping at the gates, and has been developed by voluntary labour with the greater part of the finance being obtained by donations from the visiting public.

The main flowering season is from the end of June until mid-October with the main flush from mid-August to the end of September. Throughout the year there are always some plants in flower.

A booklet is available at the gate which provides