

# The Smallest *Astelia*

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FOR five years I had been wanting to get seed of *Astelia subulata* for a seed oil project on *Astelia* and related genera. The plant was known to grow in Stewart, Auckland and Campbell Islands (Cheeseman, *Manual of the N.Z. Flora*, 1925), and R. Mason and N. T. Moar (*N.Z. Jl Sci. Technol.*, 1955, A37, 175) had found it on Mt Augustus, north of the Buller River. Requests to meteorological officers in Campbell Island had produced nothing, and there was reported to be only a small amount at Mt Augustus, so it was with some excitement that I learnt of a new and accessible source from Dr L. B. Moore (*N.Z. Jl Bot.*, 1966, 4, 201). With Mr Ivor Robins of Greymouth she had discovered three patches of *A. subulata* on the southern end of the Paparoa Range.

Ivor kindly offered to take me to the same place, so in early April we set out in his car for the Roa mine up the hillside behind Blackball. There the miners lent us a lamp to take a short cut through the mine, and after fifteen minutes of walking through a dark and dripping tunnel and scrambling over loose coal we emerged amongst a group of mountain cabbage trees. A climb up through the bush and scrub brought us above the bush line to the first patch of *A. subulata* in a damp hollow between rocks. At first there appeared nothing but a turf of small leaves about 2—3 cm long and rather hard and prickly to kneel on, but after much searching we found a few shrivelled brown fruits almost completely hidden by the leaves. The second patch was along the ridge in a northerly direction, on a bigger saddle with *Donatia novae-zelandiae* bog. More searching produced more shrivelled fruits, which seemed a little easier to see this time, and then — a great marvel — Ivor found one red one.

After eating our lunch in a shower of rain we went on to another saddle with *Donatia* bog, south of Mt. Watson. This place seemed a little boggier than the two previous ones, with larger areas of *A. subulata*. Suddenly, with terrific excitement, Ivor called me to see, and there was a great patch of *A. subulata* about forty square feet, with single, reddish orange fruits, a few inches apart, standing higher than the leaves. We each dug out a plant and confirmed that the fruit really did belong to *A. subulata*. It appeared to come from the side of the tuft of leaves, but as the flower is said to be terminal, the tuft is probably one of the three lateral shoots which can sometimes be seen growing round an old inflorescence in larger species of *Astelia*. We never found more than one fruit to a tuft. After collecting all we could see (more



*Astelia subulata*,  
Paparoa Range.

than 300), and well satisfied with our day, we returned the way we had come, back through the coal mine and down to the car.

The fruits were red at the top, then orange about the middle and orange-yellow at the base. In colouring they were much more like *A. nervosa* fruits than the pinkish red "jelly beans" of both varieties of their nearest relative, *A. linearis*. They were longer and thinner than *A. nervosa* however, coming to a point at the top and to a narrower point at the base, and slightly curved. Of 52 measured the longest was 23 mm and the shortest 7 mm, the average length being 12 mm. Their width varied from 3 to 5 mm. They had neither the unpleasant smell of *A. nervosa* and other species of *Tricella*, nor the rather attractive smell of *A. linearis*. Although not as translucent as *A. solandri*, in some the seeds could be seen through the wall. The fruits were unilocular with seeds near the top in some and near the base in others. A few were filled with seeds from top to bottom. Some which contained only one or two seeds were three-sided in cross section. In 100 fruits the number of seeds ranged from 1 to 22 with an average of 9. The seeds were black, shining and globose with a projecting funicle, and were approximately 1.2 mm long and 1 mm wide. The average weight of a seed (derived from 882) was 0.5 mg.

As there is such a big gap in the distribution of *A. subulata* it should be looked for in likely places between Stewart Island and the Paparoa Range. It is possible too that it occurs further north than Mt Augustus in the mountains of Nelson. It is such a tiny plant that without its fruit it can easily be missed.