but the toheroa, now proved a vegetarian, has risen in my estimation. Mrs Cassie's talk was illustrated by coloured photomicrograph slides, pointing to perfection the variety and beauty of a group of plants which she has made her particular study. An unusual and memorable evening. (I notice in the ' Herald ' 13 February 1965, a quotation from Dr. R.M. Cassie - '...the oceans of the world produce 100 million tons of plant material a day. This is probably the biggest untapped food resource still existing - if only it could be harvested...') E.D.H.

DECIDUOUS FERNS

On page 8 of the last Newsletter I wondered if Osmunda was the only deciduous fern in New Zealand. Looking into the literature I find both Field (1890.p126) and Dobbie (Edition 4.p272) recording that Athyrium is inclined to die down in the winter, and I have since had two long letters, one from Miss Stocker in Nelson and another from Mrs Duguid in Levin, giving quite a list of deciduous ferns. Both agree that these drop their fronds only when exposed to frosts, and cold or drying winds; and that when they grow in damp, shaded, well sheltered situations they remain green throughout the year. Mrs Duguid reports that winter-green plants of Athyrium australe, transplanted from the bush into the windy open of her garden, invariably become deciduous, but continue to throw viable spores so that she has numerous self-sown plants about the place. Miss Stocker tells me that in Nelson the two Athyriums, with Hypolepis millefolium and distans regularly lose their fronds. ' The dead stipes of Hypolepis remain standing as browned guardians, but alas ' says she, ' the fronds of Athyrium vanish, so that one must mark the place where a plant lies, and not do as I did, casting a great wet slab of Hypolepis distans on top of a poor dormant Athyrium australe '.

Mrs Duguid lists the above 4 also, and adds Pteris tremula, the introduced English species Dryopteris filix-mas, Botrychium, Ophioglossum and Pellaea rotundifolia, which last she says ' is another proposition altogether. Naturally inhabiting dry situations, it should remain leafy throughout all the seasons, and the self-sown plants I have in my garden now, do so; but some years ago I had some very flourishing plants in a different garden which invariably cast off the pinnae, leaving a brush of wiry stalks. As each of these had to be cut off individually to tidy up the plants I have good cause to remember them, though after this lapse of time I cannot guess what circumstances contributed to the fern's behaviour '. Miss Crookes, who confirmed Mrs Duguid's identification of Dryopteris filix-mas, asks about its distribution as a naturalised plant. Quoting Mrs Duguid again - ' The plant I have in cultivation grows luxuriantly, but at the onset of cold weather the fronds lie down flat and die. It came from a friends garden on a Kelburn hillside, where the same family has lived for over sixty years. This fern comes up there in a number of nooks and corners and the owners have no idea of its origin. I have noticed it also under neglected shrubs near the heart of Wellington City, and in an old Christchurch garden '. E.D.H.