

different family but its external appearance is similar. Popularly they are known as "script" lichens from the resemblance of the apothecia to some foreign script.

**Cladonia.** Some species are common on logs in open stations. Scarlet-fruited species include *C. vacillaris*, *C. macilenta*, *C. floerkeana* and *C. pleurota*, and brown-fruited species include *C. chlorophaea*, *C. cornutoradiata*, *C. pityrea* and *C. scabriuscula*.

## Growth of Filmy-fern Fronds in Response to Rainfall

BY a fortunate chance I happened to visit some foothill bush east of Levin in late October, 1953, after a long spell of dry weather, and again in mid-November, following heavy rainfall. In the short intervening period, trackside fronds of the filmy ferns *Hymenophyllum dilatatum* and *H. demissum* had undergone a noticeable change. The end segments of the pinnules had made further growth of an elongated form. On the first occasion the fronds appeared fully developed and therefore unlikely to be susceptible to the influence of wetter weather, but the tips of the pinnules must have been still able to continue growing for they subsequently produced narrow straplike segments under the moister conditions. A glance at herbarium specimens of other "filmies" collected in the same general locality in the Tararua foothills showed similar extended new growth on fronds of *Hymenophyllum demissum* (October 1952), *H. flexuosum* and *H. sanguinolentum* (both October 1956), *H. bivalve* (February 1967) and *H. rarum* (May 1966). In each case the point of arrested development made a sharp contrast between the older, more compact growth and the new growth, which was paler and more diffuse. Although late spring seems to be the most common time for such bursts of development, their occurrence on specimens collected in February and May suggests that growth may be renewed at the tips of fronds or pinnules at any time in response to plentiful rain after a dry period.

Conversely, a period of very dry weather during the early growth of *H. revolutum* resulted in many fronds being much reduced in the blade, though by no means lacking in well-grown sori. For instance, in a collection dated September 1966 one frond has seven well-developed two-valved receptacles occupying the upper portion of the rachis, while the lower is furnished with six very meagre, sparingly forked pinnules. A note attached to a sheet containing a number of these specimens states: "The bush suffered a period of desiccation before these were collected. The dead tree-ferns were obvious; the same conditions could be responsible for the meagre fronds of this fern."

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