

By 1940 the eastern valleys, Waipawa and Makaroro in particular, were developing slips and screes on steep forested slopes. These had been initiated by trampling, which was destroying the mat of mosses and fine rootlets and allowing the rock beneath to break up. The stabilization and revegetation of slip surfaces has been slow, so that it appears that a much reduced deer population can delay healing almost indefinitely. Below a certain level, however, recovery can be rapid.

Deer were rarely seen in the scrub forest of the Southern Ruahine before 1945, but more recently the defoliation of the canopy *Weinmannia* by opossums has allowed a luxuriant understorey to come away, much of it palatable to deer, and a steady build-up of deer in that area is still being reported.

Hares

These are not as common as they are on the Kaweka Range, where they are abundant, and their influence is interesting rather than serious. Browsing of *Aciphylla* was attributed to them (Kean and Newcombe), and in the last five years or so the undercutting of bushes of *Olearia colensoi* to a height of 2ft has been noticed in a number of localities. This was almost certainly the work of hares.

Goats

Goats are more localized than deer and they browse more intensively, showing a strong preference for open spaces exposed to the sun, which they hammer unmercifully. Their fondness for *Geniostoma* is marked, but their taste is so catholic that an evaluation of species browsed would be pointless.

Their spread throughout the Southern Ruahine, which was perhaps encouraged by their disturbance in the early stages of the extermination campaign, has probably contributed in some degree to the rapid spread of opossums a little later.

Opossums

The spectacular canopy defoliation over the Southern Ruahine developed over so short a period that it has only been sporadically observed, and unfortunately the changes were gathering momentum during the war years when practically all hunting and botanical work was halted, so that many of the processes of change are obscure. To add to the complexity of the situation abrupt changes in the animal population since have introduced new factors, not only the collapse of an opossum population but also the resumption and intensification of Forest Service hunting and the initiation of 1080 poisoning trials. With the possible exception of the podocarp-hardwood forests along the margin of the range the present plant cover of the Southern Ruahine appears to be in a highly unstable state. Observations become out of date soon after they are made, and its future development is a matter for surmise.

Fortunately Messrs Druce and Greenwood had covered most of the Southern Ruahine prior to World War II and their botanical reconnaissance gives an invaluable general picture of the distribution and frequency of species before the animal invasion.

Aerial photography in October 1946 came at a useful stage, when the forest canopy was still substantially intact, at least in the *Weinmannia* belt, though the texture on the lower slopes suggested extensive crown fires to the Forest Research