

only 2 were successful. All the 5 nests of Blackbirds found (6ft on *Coprosma* sp., 7ft on *Coprosma rotundifolia*, 8ft on *Myrsine divaricata*, 11ft on *Lophomyrtus obcordata* and 20ft on *Nothofagus fusca*) were unsuccessful (predation or desertion of eggs). Some Robins were singing high on trees as well as on the ground and some were moulting.

(ii) *Feeding.* Fruit of *Coprosma rotundifolia* in podocarp forest attracted Song Thrushes, Blackbirds, Bellbirds and Silveryeyes. Song Thrushes and Blackbirds were also seen feeding on fruits of *Fuchsia*, and only few were flushed from the ground. Tui were mostly on podocarp trees, but some juveniles were also seen feeding on fruits of *Aristotelia serrata* and *Fuchsia excorticata*. One adult Tui was seen on the ground (possibly searching for food for nestlings). Pigeons were mostly seen on fruits, though one was seen eating leaves of *Sophora microphylla* near the lake shore. Silveryeyes were numerous, feeding in flocks along the forest edge, including the lake shore and by the stream as well as in the canopy of podocarp. Some Fantails were seen catching moths on the wing. Out of 15 Fantails recorded 2 were the black form. In the pure *Nothofagus* forest about the Tiraumea Saddle, the Bellbird was the commonest species, many of them feeding on honey water from the bark fungus on *Nothofagus*. In this forest the Rifleman was the next commonest, followed by the Yellow-breasted Tit, Robin and Grey Warbler in order of abundance. They were all feeding on insects and spiders. No Fantail was found in this forest. Chaffinches fed in flocks (up to 40 in a flock) in the forest edge, clearings of the forest, and the river bed. A few Redpolls visited *Leptospermum* stands near the lake shore but were not seen on the river bed. Parakeets which fed in canopy and flew over the forest were not identified as to species. Juvenile Shining Cuckoos were seen along the lake shore and about the clearings, up to 3 at a time and one was seen feeding in an isolated *Sophora microphylla* tree near the lake.

(iii) *Other Records.* Other species recorded on this trip were 1 Kea and 1 Weka, which were heard from the direction of Mt Hutton, 1 Weka seen near the D'Urville Hut, 1 Long-tailed Cuckoo and 1 Morepork heard in the D'Urville Valley, and 1 Kingfisher beside the mouth of the D'Urville River. Except for one doubtful record of distant call notes the Brown Creeper was not recorded on this trip. Yellowheads and Hedge Sparrows were not seen in the area covered. (A flock of about 30 Yellowheads was recorded at Lake Rotoroa by Grimmett in January, 1922 (Moncrieff, 1929)). Rats and mice were common in the forest, but no signs of opossums were found. Deer and wild pig (*Sus scrofa*, naturalized) were present but not common in podocarp forest. One stoat was seen near the Sabine Hut and squeals were heard during the night, possibly of mice being hunted.

D. EAST COAST.

At Catlins two unoccupied nests of Pigeons were found: one at 14ft on young *Podocarpus hallii*, and one at 15ft on *Coprosma foetidissima*. Rats and mice were known to be common in the area, and one of the Pigeon's nests had a pile of pulpy cases of *Podocarpus ferrugineus* fruit presumably gathered by a rat (*Rattus rattus*). Opossums were common in the forest (1) where the damage to *Neopanax* was obvious. At Hook Bush, Waimate, a nest of Brown Creepers was located at 28.5ft in the canopy of old *Myrsine australis*, containing 3 fully fledged nestlings on 25 October 1959. It had a lining of grass and sheep's wool in a cup made of moss, lichen and bark tissue of *Cordyline australis*. One of the early breeding records of Grey Warblers was obtained at Evansdale, north of Dunedin; a nest at 6.5ft on *Leptospermum scoparium* was nearly completed on 17 September 1960.

APPENDIX III.—COMPARISON OF THE COMPONENTS OF FEEDING HABITATS OF BIRDS BETWEEN THREE TYPES OF FOREST.

The size of the circle area represents the relative size of biomass per sample.

(a) Foliage invertebrates in low hardwood forest (1154 individuals in 22 samples), podocarp dominant forest (398 individuals in 13 samples), and *Nothofagus* dominant forest (1013 individuals in 22 samples). The samples were taken from various localities in summer, each sample consisting of 50 sweeps with a sweep-net (30cm in diameter). (b) Litter invertebrates (Collembola, mites and other small forms excluded) in low hardwood forest (643 individuals in 11 samples), podocarp dominant forest (192 individuals in 8 samples), and *Nothofagus* dominant forest (288 individuals in 14 samples). The samples were taken from various localities in summer, each sample consisting of animals sifted through a 7mm-mesh sieve from the litter in the area of 30cm x 30cm of the forest floor.