

*Nothofagus* dominant forest—to podocarp dominant forest—to low hardwood forest, and in the South Island it is one of the commonest indigenous species in suburban districts. The only *Nothofagus* forest in which the Bellbird was a dominant element was at the Tiraumea Saddle, Lake Rotoroa, where the tree trunks were covered with black honey fungi attracting Bellbirds. The tui shows a more marked pattern of distribution. It is common in podocarp forest, sometimes breeding in concentration, and visits low hardwood forest and suburban areas in winter. It was once a common species throughout the forest along the east coast of the South Island, now mostly confined to the Catlins forest. It is also common from inland Nelson to west Nelson, along the west coast forest down to the Hollyford Valley, where the podocarp dominant forest gradually disappears. The Tui is not known to breed south of Milford Sound until the lower part of the Waiiau Valley is reached (Dunckley & Todd, 1949) where podocarp dominant forest reappears (Holloway, 1954). In the present study the Tui was not recorded from *Nothofagus* forest, except in Area 2 (Hollyford Valley) where the strong element of *Podocarpus* was the characteristic of the forest. Therefore it is reasonable to conclude that the breeding population of the Tui occurs in association with podocarp forest, and possibly in some low hardwood forests and *Nothofagus/Podocarpus* forests near the centre of the distribution. The Silvereye occurred in all forest habitats and suburban districts. It is commoner in the forest edge regardless of the type of the forest, breeding in high concentration, particularly in the open low hardwood forest.

Most of the naturalized species which occur in indigenous forests follow the example of the Silvereye, being more common in the forest edge. Their population densities are much higher in the low hardwood forest, particularly near the settled areas, than in other forests. An interesting fact obtained in the present study is that in Fiordland the Lesser Redpoll with variable plumage breeds in both lower and higher limits of *Nothofagus* forest (see Appendix II). There have been a few records of the occurrences of the Goldfinch (Bull & Falla, 1951; Riney *et al.*, 1959) and Yellow Hammer (Riney *et al.*, 1959) from Fiordland, but in the present study none of them was recorded from the forest habitats in Fiordland.

In summary, those species which tend to have higher densities in podocarp dominant forest are the Fantail, Grey Warbler, Bellbird and Tui, while those which tend to have higher densities in *Nothofagus* forest are the Rifleman, Yellow-breasted Tit and Yellowhead. The Robin and Brown Creeper occur in both types of forest and their present population distribution is not explicable in terms of vegetation. The Bellbird and Silvereye attained the highest density in low hardwood forest of suburban districts. The naturalized species which occur in indigenous habitats at present have low densities in major forests but maintain high densities in suburban districts, including some low hardwood forests.

Except for the Brown Creeper, which had patchy distribution, the birds exclusively feeding on invertebrates did not show concentration in any area studied, while honey-eaters and berry-eaters showed great variation in the population density. In *Podocarpus* dominant forest the associated plants include many flowering and fruit-bearing species which in other places form low hardwood forest by themselves. As already seen the food distribution (Fig. 8) accounts for the abundance of honey-eaters and berry-eaters in low hardwood forests and hence in the podocarp dominant forest also. Among the insect-eaters the Rifleman has a higher density in *Nothofagus* forest, but its feeding habitat is peculiar. It does not utilize much of the edge habitat, which is provided also under canopy of *Podocarpus* dominant forest, where Fantails and Grey Warblers are common.

A brief survey was made in this study of invertebrates which were considered to form potential sources of food for many insect-eaters and opportunistic feeders. The methods used to collect invertebrate samples are very crude and inadequate