

Selection of the areas in Fiordland and Stewart Island was limited for practical purposes of mapping and early morning counting under unfavourable weather conditions, and the area selected may not have been typical of the region. This could be checked to some extent against the counts made for relative abundance. A few indigenous species were not uniformly distributed in one habitat (e.g., Yellowheads at Lake Manapouri and Lake Monk areas, Brown Creepers and Robins on Stewart Island), so that the species composition found in the census areas was not always representative of the habitat. This fact will be referred to later. The inclusion of forest edges in some census areas resulted in higher counts of naturalized species. However, in many parts of the South Island such habitats were more typical than unbroken dense forest, and in the forest the population density of some forest edge species could be considered as an indicator of the instability of the habitat. Observational errors due to the large size of the census area probably caused somewhat low estimation of the density in Area 1, while in the standard expression of the density (number of pairs per 100 acres or 40 hectares) statistical errors caused by the small size of census areas were probably greater for species with wide-ranging individuals (e.g., non-passerine species on Stewart Island). For these reasons the discussion of population distribution is mostly limited to the common passerine birds, more than one pair of which were represented in one census area. The abundance of other species is indicated, where necessary, in relative terms.

The conclusions based on the present results of population distribution may not apply to North Island habitats where the species composition and the environmental conditions are different (cf. Caughley, 1962).

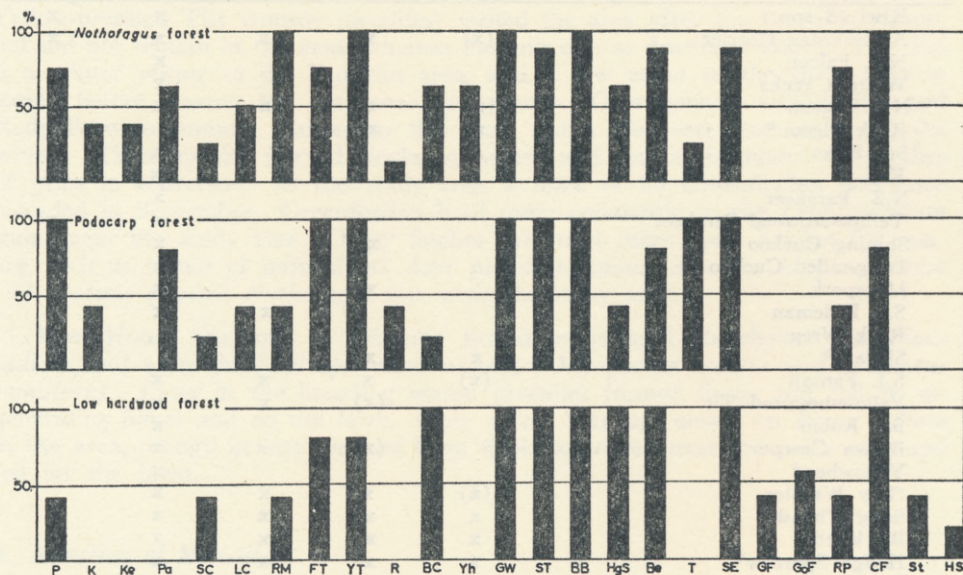


FIG. 10.—Percentage occurrences of land birds in *Nothofagus* dominant forest (8 localities), *Podocarpus* dominant forest (5 localities), and low hardwood forest (5 localities) in summer. The names of the birds abbreviated are (from left to right): Pigeon, Kaka, Kea, Parakeet, Shining Cuckoo, Long-tailed Cuckoo, Rifleman, Fantail, Yellow-breasted Tit, Robin, Brown Creeper, Yellowhead, Grey Warbler, Song Thrush, Blackbird, Hedge Sparrow, Bellbird, Tui, Silveryeye, Greenfinch, Goldfinch, Redpoll, Chaffinch, Starling, House Sparrow.

2. Ecological Distribution

Before proceeding to the discussion of population distribution, it is necessary to give a picture of general ecological distribution of common land birds in New