

HABITS OF STARLINGS.

By H. L. Seeker, Wellington.

During 1946-47 a study of the starling (*Sturnus vulgaris*) was made at Karori, Wellington, and comparisons made with the habits of English birds. No change in behaviour except adaption to local condition was noted. An absence of low country has caused this species to forage on windy hillsides above 600 feet. There is a persistent dislike of altitudes, however, as birds which crossed high ground in summer at 800 feet alighted on the first tree available. Observations indicated that narrow gullies below 600 feet were disliked except when the elder (*Sambucus nigra*) was fruiting.

As most feeding areas in England are in the lowlands and likewise the roosts, the successful acclimatisation of starlings at Wellington, Waiouru and elsewhere, where they breed, needs explanation.

Reference was made recently to roosting behaviour, but in future breeding areas this was found to be a tendency only. On August 3, 1946, several starlings were visible before nightfall in a plantation, and on July 19, 1947, a few furtive birds remained, but none was present on August 2, although several were seen at dusk about houses. Possibly these were birds with habits of roosting singly but song heard indistinctly because of mechanical noises was in too much volume for this explanation. Mating may begin at this period, for sexual chases were seen on July 9, 1947, and August 3, 1946. It appeared that birds advanced sexually tended to remain in their anticipated territories, and scanty evidence suggested that birds preferring to roost alone in holes occupied them in the breeding season.

Nesting activity began in the plantation on September 27, when starlings were heard at sunset. A single bird hurtled at dusk about the trees and another a few minutes earlier glided in circles making a grating noise before it entered a pine where a second was visible. On October 11 there were no gatherings but two colonies of mated starlings existed, in one case with nests fifteen metres apart. Both sexes were employed in nest construction, ceasing work at 1825 when song increased in volume but declined rapidly at dusk. Unemployed birds were present. Three were observed in chase and at 18.28 there was excitement from two trios. A single bird with material was pursued by a pair, after which it landed on a leading conifer shoot which concealed a nest.

By late November breeding was over except for occasional reconditioning of nests. During these weeks the social instinct did not decline, and numbers seeking food for their young fossicked together in open spaces.

One writer records that starlings depart in a tight flock for their roost with brief halts on the way. Local observations proved that this was true in built-up areas where birds moved among scattered trees until a flock was formed at a favoured point. On June 26, 1947, a compact flock left the plantation and others from Makara were seen until September 27, when groups of 25 passed overhead. These parties passed between hills more than 1000 feet in height at an altitude of 800 feet. All flew rapidly along the contours.

In July starlings from the plantation departed alone or in unconsolidated groups which later united with others to form loose flocks of under 100 birds. A tendency developed to shun contours and to circle restlessly over trees or buildings which recalled migrating flights of swifts (*Apus apus*) seen late in the northern spring. Parties lost sense of direction until obscure forces redirected them to the roost. More leisurely departure occurred with frequent return to assembly perches. On September 27 a bird returning in this way was plucked toward the roost by violent force, but managed to control the emotion and flew back to the pines.

Social roosting continued when breeding commenced. Several pairs departed on October 18 and numbers were greater on November 1, one bird finding difficulty in leaving the plantation. The habit was

persistent throughout November and December, but whether socially roosting birds were mated males or young of the previous season was unknown.

Authorities state that social roosting recommences late in June in southern England. Summer and early autumn roosts are also described by Marples (1934) starlings occupying reed beds or deciduous trees and deserting them before winter. He notes that non-breeding starlings occupy a roost throughout the year.

At Karori on December 6 birds remained at night about their late breeding area in the plantation or flew elsewhere. Two kilometres distant a summer roost existed in late November. Many juveniles were absent from the suburb but had probably retired to Makara where they were abundant on January 2, 1948.

Small groups of non-breeding birds, usually about five, had increased to fifty by November 23 and 30.

Observations on summer roosts are not precisely identical with English records but the writer believes this is caused by the absence of favourable vegetation in the area.

References.

- Tucker, B. W. (et al) Handbook of British Birds.
Marples, B. J.—Journal of Animal Ecology, Nov., 1934. Winter Starling Roosts of Great Britain.
Stuart Smith.—How to Study Birds.
Secker, H. L.—N.Z. Bird Notes, Vol. II., Roosting Habits of Starlings.

REVIEWS.

New Zealand Bird Life, by E. G. Turbott; A. H. & A. W. Reed. (101 pages, including 49 illustrations). Price, 17/6.

Attractively printed on art paper, this volume contains authoritative information concerning a number of native birds, with more or less incidental reference to two or three introduced species. Written in popular style, it is intended to interest more particularly youthful readers, though its pages can well be perused and enjoyed by the more mature. Miss Nancy Wilson contributes a fitting preface. A feature of the volume is its profusion of photographs, many of which are the work of Major G. A. Buddle. The photographs generally are of an excellent standard, but a few of stuffed specimens do not stand comparison with those of wild birds. Major Buddle's fine studies testify to his patience and painstaking work in photographing New Zealand's bird life. Perhaps some space could have been devoted to common, introduced birds met with in garden and countryside and captions provided for the photographs introducing the four sections of the book. The volume as a whole is a very fine production and should grace the shelves of all bird lovers.—R.H.D.S.

The Gannet on Cape Kidnappers, by K. A. Wodzicki and C. P. McMeekan; Trans. Royal Soc. of N.Z., Vol. 76, pt. 3, p.p. 429-452, July, 1947.

In view of the gannet census being conducted by the Ornithological Society of New Zealand this paper is of particular interest. In an introductory section is included a table of the breeding colonies of the gannet in N.Z., in which, based on the observations of various authorities, the estimated total is given as 11,777 pairs, though this may not be very accurate as some of the estimates were made over 20 years ago. Dealing more particularly with the Cape Kidnappers colony, the authors give a brief historical survey, a general description of the gannetry, evidence of an extension of the breeding areas to three different colonies in comparatively recent years, a population census (in 1945, 5674 birds), observations on breeding habits and on experiments to study psychological reactions of breeding birds. The authors reached the conclusion that in the 1945-46 season "no more than 16 per cent. of their total numbers have been reared to the stage that the chicks are able to leave