

Dipterous flies of the family Empidæ have been observed carrying brightly-coloured flower-petals during courtship display (see O. W. Richards, *Biol. Rev. Cambridge Phil. Soc.*, 1927, pp. 298-360; also K. C. McKeown, *Australian Insects*, 1st ed., 1942, p. 226).

Migration of Two Species of Honeyeaters

By K. A. HINDWOOD, Sydney, N.S.W.

Bundanoon (elevation 2,200 feet) is a popular holiday resort on the southern highlands of New South Wales, and lies about eighty miles south-west of Sydney. It was there, on May 2 and 3, 1947, that I watched an extensive migration of two species of honeyeaters, namely the White-naped (*Melithreptus lunatus*) and the Yellow-faced (*Meliphaga novæ-hollandiæ* = *chrysops* auct.). I had no way of ascertaining how long the movement had been in progress as I was not in the locality before May 2. However, it seemed to have ceased by May 4, on which day no migrating birds could be observed. Following an absence of several days I was again in the area on May 9 without seeing any evidence of migration.

The flight was first noticed at 10 a.m. on May 2, 1947. Flocks of two hundred or more birds were seen flying from one clump of trees to another, fifty to one hundred feet above cultivation paddocks. For the most part they were moving directly north. Between 10 a.m. and 10.30, several thousand birds passed over, generally at an elevation of from fifty to one hundred feet. They would congregate in the topmost branches, often on dead limbs, of trees on the crest of a ridge, to the south of which was a deep valley: after resting for a short while they would move off to the north. With but occasional breaks there was an almost continuous flight for more than an hour. Towards mid-day their numbers lessened. With fewer numbers passing it was possible to estimate how many birds passed a given spot. Between 12.10 p.m. and 12.25 p.m., for instance, the following count was made—flock of 56 travelling north, 20 north-east, 36 north, 50 north-east, 6 north, 5 north, 2 north, making a total of 175 birds for a period of fifteen minutes.

The next day, May 3, a thick fog blotted out the landscape until 9 a.m. When the fog lifted the flight was again in evidence. Between 9 a.m. and 9.30 a.m., many thousands of birds passed in flocks of up to two hundred or more. As on the previous day the number of birds (of both species) involved lessened considerably after the morning 'rushes.' Likewise, the direction of their flight was not so consistently north, but often to the north-east, and during the afternoon

frequently to the east. Both while resting and when in flight the birds uttered short, rather plaintive notes, high-pitched in the case of the White-naped, harsher in the Yellow-faced. It seemed to me that there was an air of excitement and urgency in the movements and the call-notes of the birds.

On May 4 there was no fog, but the morning was cloudy and cold, with a strong westerly wind until 10 a.m., after which it was warm and sunny with hardly any wind. However, no birds were seen during that day. The spot where the birds were observed was in the grounds of 'Greenways' guest house, one of the most elevated parts of Bundanoon.

The above observations agree with those made by A. R. McGill,¹ at Blackheath (elevation 3,500 feet) a year previously. Blackheath lies some seventy miles directly north of Bundanoon. Most of the birds seen at Bundanoon were moving north and, if they continued in that direction, would pass over Blackheath. The inference to be drawn from both observations conjointly is that there is an annual autumnal migration, or movement, of the two species of honeyeaters noted; also that this movement is of considerable volume and takes place during late April and early May, and apparently follows the highlands of the Blue Mountains, taking a direction generally from south to north. The area between Bundanoon and Blackheath consists of several extensive plateaux dissected by deep valleys.

Whereas most of the flocks were travelling north it was observed that numbers of birds, particularly after the morning 'rushes,' deviated to the north-east and to the east. It would appear, therefore, that there may be a gradual dispersal to the coastal areas lying east of the highlands, as the birds move northwards. Such is in accord with observations made in the neighbourhood of Sydney, for instance, where flocks of both species have frequently been recorded,² mostly during the months of May and June. At this time of the year the heathland shrubs (*Banksia*, *Grevillea*, etc.) and the *Eucalyptus* trees, in the coastal areas, often flower profusely and attract large numbers of nectar-loving honeyeaters. Apart from an apparent large influx in the numbers of both the White-naped and the Yellow-faced Honeyeaters to the coastal areas of New South Wales, during the autumn and winter months, there is a considerable, though well-dispersed, breeding population present in spring and summer. Such birds may not join any definite migratory movement but are, I believe, inclined to wander a good deal after nesting is finished. In other words, they are nomads rather than migrants.

It seems that a regular northward migration of at least two species of honeyeaters takes place during the autumn. Where this movement begins and where it ends is, in our

present state of knowledge, a matter of speculation. It is apparent from the foregoing observations that it is at the very least one hundred miles in extent. No doubt it commences much further south and continues far to the north of the two observation points, Bundanoon and Blackheath. The indications are that the birds may move on a fairly narrow front with a gradual progressive dispersal to suitable coastal feeding grounds. Again there may be several such fly-ways over a broad front. The absence of observers and the consequent lack of a continuous series of records preclude any definite conclusions.

REFERENCES

1. McGill, A. R. 'Migrating Honeyeaters,' *The Emu*, vol. 47, pt. 1, July 1947, pp. 56-7.
2. Hindwood, K. A. 'Honeyeaters of the Sydney District (County of Cumberland), New South Wales,' *Australian Zoologist*, vol. 10, pt. 3, May 10, 1944, pp. 231-251, pls. 8-14, see particularly p. 234 and p. 240.

Stray Feathers

The Pomarine Skua.—Although the Pomarine Skua (*Stercorarius pomarinus*) is nowadays regarded as a reasonably-common migrant to the eastern Australian coast, and sight observations of it are regularly reported each year, it must be remembered that only twenty-two years ago it was omitted from the numerical sequence of *The Official Checklist* (1926) on the grounds of insufficient occurrences. In an interesting article (*The Emu*, vol. 40, 1940, pp. 177-180) Tom Iredale pointed out the doubts that actuated its exclusion at that time. Despite its recognition as being a somewhat-common visitor now, it is probable that Australian-collected specimens are actually few in numbers. Therefore it may be interesting to report that the remains of a Pomarine Skua were found on Cronulla beach, New South Wales, on December 20, 1947. The bird was badly decomposed, but the legs and some wing and tail feathers were taken for identification purposes, and a check with Australian Museum material by J. A. Keast, subsequently confirmed identity.

Mr. K. A. Hindwood has kindly supplied information of two specimens in the Australian Museum, as follows—

- O.10089. Collected by E. P. Ramsay, April 1881, Bondi beach, imm.
- O.35532. Collected by G. P. Whitley, March 1937, Maroubra beach, ♂.

G. M. Mathews (*Austr. Av. Rec.*, vol. 3, pt. 4, July 21, 1917, p. 72) refers—under the subspecific name of *nutcheri*—to a specimen taken at Broken Bay on December 3, 1913. He also deals with a subspecies of *S. parasiticus*, i.e. *visitori*,