



Hen Mistletoe-bird at Nest.

Photo. by R. T. Littlejohns.

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[PART 1

## Nesting Notes on the Mistletoe-bird

By R. T. LITTLEJOHNS, Melbourne, Vic.

Since a first memorable experience of it, with Mr. S. A. Lawrence, some years ago, the writer has been strongly attracted by the Mistletoe-bird (*Dicaeum hirundinaceum*). The remarkable felt-like nest never ceases to be an object of wonder and the high-pitched notes of the species in nesting time always call for investigation. The discovery of the nest of the tiny bird is, I think, a thrill for any bird-man.

During the 1942 season I spent much time in search of Mistletoe-birds' nests at Glen Waverley, Vic., the special reason being a desire to obtain Kodachrome natural-colour pictures of the brilliantly-coloured male. Three nests were discovered in that area, one or two after many hours of painstaking investigation. All, however, were high above the ground in difficult situations. Their height accounted for much of the difficulty in locating them.

Late in January, 1943, a trip was made to heathy country beyond Frankston where, in earlier years, nests had been often found in low bushes. The day chosen for the initial search (January 31) was the hottest day of the season, the shade temperature reaching 107 degrees. Two separate pairs of Mistletoe-birds were heard and in about an hour one pair had been traced to a nest built in an *Acacia* bush at a height of about four feet. The nest, which contained three well-fledged young, was in such an exposed position that the sun beat on it relentlessly for most of the day. The distress of the young birds was evident and the female bird spent much time in the nest spread above the chicks in such a way as to shelter them from the direct rays of the sun, though her presence there must have almost smothered them. In order to protect the young birds further I stood throughout much of the day holding a leafy branch above the nest.

Almost before the camera had been set up eighteen inches from the nest, the female had ceased to show any fear. The male, however, though heard in the vicinity, did not come near. During two whole days, in fact, he visited the nest only three times. The female was one of the most engaging subjects met with in many years. It was impossible to keep her away and on many occasions she was moved by hand from an unsatisfactory to a suitable position as she clung to the front of the nest. She was entirely unaffected by handling.

On the following day the young birds scrambled from the nest whilst the camera was being focussed and they could not be induced to remain there when replaced. They were then placed in a cardboard box covered with fine net. After a few futile visits to the nest the female discovered their new position but nevertheless she returned occasionally throughout the day to look for them in the nest. Usually, however, she flew directly to the box and at each visit one of the young birds was taken in the hand and held there while she fed it. Once in about every six visits she brought insects but at other times one, two, or even three, mistletoe seeds.

After some hours the frequent removal of the young birds for feeding became irksome and their presentation to the adult was delayed on some occasions. When that happened the bird would seek out my hand, even if it were some feet away from the box. She would thrust her head into the half-closed hand and, on a few occasions, even left the serving of mistletoe seeds there and flew off, apparently quite satisfied that she had delivered her offering satisfactorily. The return of the adult to the nest, even after it had been vacated for some hours, and the leaving of the food where she had been accustomed to find a young bird, may shed some interesting light on the limitations of the bird mind.

The most interesting aspect of the life history of the Mistletoe-bird, however, appears to me to be the completeness of the partnership between the bird and the mistletoe plant. One has but to examine the trees, both large and small, in the vicinity of a nest of the species to realize to what extent the mistletoe is spread through the agency of the tiny bird. Everywhere within a fairly wide radius the seeds will be found adhering to branches and to twigs. A week or two after the nest has been vacated almost every one of these seeds will be found to have sent out a root which has entered the bark of the host. Other birds feed on the mistletoe seeds, certainly, but no other, I think, does so to the same extent as the Mistletoe-bird. Furthermore after passing through the digestive organs of other birds the seeds are dropped clear of the branch or twig upon which the bird is perched. A very small percentage may

happen to lodge on a lower branch. In the case of the Mistletoe-bird, however, almost one hundred per cent. of the seeds lodge on the perch. It is significant, too, that the voided seeds retain sufficient of the sticky covering to attach themselves with certainty. Actually it seems clear that the bird is designed expressly to assist the distribution of the parasite.

After the young birds had been imprisoned for about three hours fifty-seven seeds were counted in the box. Beneath the nest, also, there was a mass of seeds, probably 400 or 500, dropped from the nest opening by the young birds. As the voided seeds were usually taken away by the parents and would not be included in the mass beneath the nest, it will be apparent that in the period during which the nestlings were fed on the seeds, many thousands of them were distributed in the immediate neighbourhood.

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## Notes on Australian Birds (II)

By ERNST MAYR, New York, U.S.A.

While working on a collection of birds from Timor Island, the author was struck by the close faunal relationship of that island with north-western Australia. A separate publication will be devoted to the history of this connection and to the zoo-geographical questions it raises. In the present paper some of the taxonomic results of the revisions will be published, which were made necessary by the above-mentioned study. In addition to giving an evaluation of some doubtful North Australian races, these revisions will be of two-fold value to the student of Australian birds. They attempt to outline more accurately the extra-limital portion of the range of certain Australian species and secondly they list the actual differences between the Australian subspecies and their closest relatives among the island forms. This paper is devoted to the species *Podiceps novaehollandiae*, *Butorides striatus*, and *Ninox novaeseelandiae*. For part I see *Emu*, XL, 111-117.

### THE LITTLE GREBES OF THE AUSTRALIAN REGION

Up to fifteen years ago there seemed to be no difficulties in regard to the Australian dabchicks of the *Podiceps ruficollis* group. The islands from Java and Celebes to the Papuan Region were considered the home of *tricolor*, whilst *novae-hollandiae* was held to be breeding only in Australia, but to appear on migration in scattered localities from New Caledonia to New Guinea and the Talaut Islands. Since then the evidence has become stronger from year to year that *novae-hollandiae* breeds side by side with *tricolor* throughout the greater part of the island region, and Rand (1942, *Bull. Amer. Mus. Nat. Hist.*, LXXIX, p. 426) logically suggested therefore that *novae-hollandiae* should be considered a