

## Olive-backed Oriole — Age Indicator Notes

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Details of plumage changes of Olive-backed Orioles *Oriolus sagittatus* are given. The data are taken mainly from specimens obtained from the Queensland Museum. An examination of the literature is made in an attempt to clarify ageing.

On 20 September 1974 an Olive-backed Oriole *Oriolus sagittatus*, a window fatality, was brought to me and then sent to the Queensland Museum. There it was registered as specimen No. 0 16440 and was listed as a juvenile female, probably in its first year, ovaries not enlarged (4 mm), oviduct straight, iris dark brown, bill dark brown with start of change to amber on lower mandible. Measurements recorded prior to despatch to the Queensland Museum were length 270 mm, wing 141 mm, wingspan 440 mm, bill 29 mm, weight 97 g.

On 6 May 1976 in my garden at Wellington Point, Queensland, an oriole was seen feeding on the ripe berries clustered thickly along the tops of the metre-long racemes which radiate from the stem tops of an Umbrella Tree *Brassaia actinophylla*. The oriole was attracted by the mixed flock of honeyeaters moving in and out of the pull-string feeder trap (see Robertson 1969), and so it was caught. It was banded\* 060-04071 and a record made of its plumage details, also its length 282 mm, wing 150 mm, bill 28 mm and weight 108 g.

On 12 May 1976 in repeat circumstances a second oriole was banded 060-04073, and its details recorded including wing 152 mm, bill 26 mm, tail 111 mm, tarsus 30 mm, weight 99 g.

The more noteworthy and distinctive features common to these three birds were:—

- Rufous-edged coverts on the folded wing.
- Dark brown eyes.
- Dark horn coloured bill.
- A pronounced and extensive pale coloured eyebrow.

A good coloured illustration depicting this plumage is shown in the upper figure of Plate 578, facing page 266, Vol. 12 of *The Birds of Australia*

by Gregory M. Mathews (1927); it is designated thereon as a male.

In an effort to determine age and sex, the detailed descriptions in various reference books were consulted. These showed clearly that this is a species where from specimen to specimen there can be noticeable differences of colour of certain plumage areas. Unfortunately the reference books consulted do not agree on what is indicated by these plumage differences, so more clarity seemed desirable.

Thus perhaps by tabulating these characteristics for a larger sample of known data specimens some additional clues might be found which would indicate either age or sex or seasonal plumage changes.

Hence an approach was made to the Queensland Museum, through its Ornithologist, D. P. Vernon. The Museum on 2 June 1976 kindly made available to me 39 Olive-backed Oriole skins for study. The skins were closely laid out in long rows, with one wing uppermost and as a start were rearranged and graded by colour into two groups being:—

- (a) those showing rufous edges in the wing covert, 19 specimens; and
- (b) those with grey and white wing covert edges, 20 specimens.

Owing to the gradual reducing intensity of rufous from specimen to specimen the junction of the two groups was not sharply defined. In these notes where colour combinations are used, the predominant colour is stated first.

The (a) group, (with rufous edged coverts), were found to be listed by their Museum labels as 10 males, eight females and one unsexed. Their back colours, in my own tabulations, are shown as brown/greenish or brown/greyish. The backs of the 10 males being seven brown/greenish and three brown/greyish; the eight females being five

\* Bands used were provided by the Australian Bird-banding Scheme, Division of Wildlife Research, CSIRO.

brown/greenish and three brown/greyish. Thus no sex trend was apparent in my listing of a lining up based on their back colours.

Also in this (a) group, the skins of the small or partly grown birds showed additional rufous in the wing quills and in the very small birds, not long fledged, considerable rufous also on various areas of the head.

This evidence suggests that with this oriole the rufous colour is basically an age characteristic, clearly evident and widely distributed over the plumage in recently fledged birds but becoming progressively less as they mature.

The Museum labels of the (b) group of 20 specimens (with grey and white wing covert edges showed them to be 14 males, four females, and two unsexed. Of these, 19 showed back colours of green/olivish or green/brownish or green/greyish with one unsexed skin of brown/greyish. When these skins were laid out into their sex groups for comparison no sex plumage characteristics were noticeable.

These Museum skins showed a white spot near the distal end of the underside of the rectrices except the two very small skins which had no tail spot. Incidentally the tail spot on the two birds banded here was stained mulberry colour from contact with the juice of the half eaten berries of the Umbrella Tree as the bird moved over them during the feeding process.

North (1902) Vol. 1, page 75, described in much detail the 'adult male' including—  
'bill brownish/red; iris red . . .' then went on 'adult female. Similar in plumage to the male.'

He made no mention in these adult descriptions of the eyebrow or of any rufous in the wing coverts, both of which features were pronounced in the three birds caught at Wellington Point.

On page 77, North, described 'Young Birds' then in line 24 went on—

'In a slightly older bird there is a distinct olive-white eyebrow; . . . the median and greater wing coverts are broadly margined with pale rufous, . . .'

This latter description by North matches my three orioles and so suggests their age as being about 'sub-adult'.

Mathews (1927) Vol. 12: 266-8 and Plate 578 illustrate and described in much detail two differently plumaged orioles both of which are designated as '*Adult Males*'.

As stated earlier in these notes the upper figure of Plate 578 and its detailed description nicely match my three orioles. However, its designation of adult male is confusing and questionable as to its representing an adult in the final plumage of maturity. Mathews on page 268 stated—

'*Adult male* . . . a whitish eyebrow commencing in front of the eye and continued over the ear coverts; . . . wing and secondary coverts brownish grey, bordered on both webs with brownish-buff; . . . Eyes dark umber; bill dark horn, . . .'

The description of the lower figure of Plate 578 includes—

'*Adult Male*, eyes light red . . ., bill fleshy brown.'

This figure illustrates generally the plumage considered as representing a fully mature adult. The Queensland Museum skins showed 20 of this general type of which 14 were labelled as males, four as females and two not sexed.

Mathews then described '*Nearly adult female*' and sets out four lines of detail of head to rump, then went on—

'wing coverts ash brown, broadly margined with rusty-buff; . . .' then in the tenth line' . . .; and indistinct eyebrow of dull yellow; . . . Eyes black, . . . bill brownish black.'

This '*Nearly adult female*' also generally agrees with my three birds.

A search through references to this species in the *Emu* showed that nearly all listings concerned the mere geographic range of the Olive-backed Oriole sightings; however two contributions are relevant in that they describe plumage details.

Gogerley (1922) discussed the 'Change in colour of bill and iris of the oriole'. Referring to breeding observations made by a friend he stated that—

'He had reared a young Oriole from the nest and said that when the bird was two years old, or at the third moult, both the colour of the bill and iris changed from black to red, and the plumage assumed a brighter tint and was more clearly pencilled on the breast. Evidently the bird starts to breed when changing, for I have seen no black-billed birds nesting at any time; only the birds with red bill and iris.'

Bryant (1939) described photographing an Olive-backed Oriole pair at their nest, feeding young, near Melbourne. In Plate 55 he showed, in a black and white photo, the male at the nest. It is clear that this breeding male had no sign of any eyebrow. He described the day old young as—  
'Their body colour was a shade almost that of a carrot . . .' The first nestling was out of the nest in about 14 days. It is also stated 'The male which was more brightly marked than the hen, fed the young less frequently.'

Miss Ella Pratt of Reserve Creek, near Murwillumbah, N.S.W., has written to me that during the 1976/1977 summer she located only one breeding pair of Olive-backed Orioles. An examination of both birds showed them as identical in colour. 'Each had an olive green back and wing coverts; both had those beautiful coral pink bills they have for the breeding season.'

### Conclusions

Young Olive-backed Orioles indicate the stage of their youthfulness primarily by the extent of rufous in their plumage.

Fledglings show much rufous, this being in various areas of the head, in addition to broad rufous edging of the wing quills and their coverts. All this rufous is lost progressively with age, the wing covert edgings being the last to retain their rufous.

Dark brown eyes and dark horn coloured bill also indicate youth.

Apparently only sub-adult birds show a clearly discernible cream eyebrow.

Mature birds show orange bills, red eyes, green olive backs and wing coverts with grey margins and white tips; they show no eyebrow.

No sex indicators were found to be readily discernible.

Breeding birds show bills variously called orange red to coral pink with bright plumage which normally lacks any rufous.

### References

- Bryant, C. E. (1939), 'Photographing the Oriole', *Emu* 38: 416.  
 Gogerley, J. F. H. (1922), 'Change in Colour of Bill and Iris of the Oriole', *Emu* 21: 315.  
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 North, A. J. (1902), 'Nests and Eggs of Birds found breeding in Australia and Tasmania', 1: 75. Aust. Museum. Sydney.  
 Robertson, J. S. (1969), 'The Significance of Gape Colour in Brown Honeyeaters', *Aust. Bird Bander* 7: 51-55.

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## Shearwater Hazard on Breeding Island

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While banding Little Penguins *Eudyptula minor* and shearwaters *Puffinus spp.* on Big Island, Five Islands, New South Wales on 18 December 1977, some 30 Wedge-tailed Shearwaters *P. pacificus* were found dead in burrows or at burrow entrances. These birds had become entangled in the runners of Kikuyu Grass *Penisetum clandestinum* which now grows extensively on the island.

In the wet summer of 1975/1976, the Kikuyu Grass flourished and spread rapidly (Gibson 1976). It formed deep carpets over large areas of the island and walking through these areas is difficult. Although providing cover for whatever soil remained after the erosion following the dry years prior to 1975/1976, it also creates a problem for the burrowing shearwaters.

During the 1976/1977 breeding season a few shearwaters, probably less than ten, were found dead in this manner. Five or six were similarly found dead during the first visit of the 1977/1978 season on 19 November 1977.

Little Penguins, however, do not appear to be troubled to the same extent and undoubtedly are able to extricate their flippers from the grass and force their way out of the burrow. On the other hand, the shearwaters' wings become badly tangled as the grass runners catch around the shoulder joint and the struggles of the bird often worsens the situation.

In one case, after removing a very badly tangled bird, a second dead bird was found in the burrow. Apparently it had been unable to escape past its tangled mate.

The natural grass, Prickly Couch *Zoisia macrantha*, does not create this hazard for the breeding birds as its runners are much thinner than those of the Kikuyu and in similar circumstances apparently are broken by the birds.

### Reference

- Gibson, J. D. (1976), 'Seabird Islands No. 38: Big Island, Five Islands, New South Wales', *Aust. Bird Bander* 14: 100-103.

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