

## Notes on the Genus *Epthianura*.

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In the Emu (Vol. XII., p. 205) Mr. Gregory M. Mathews proposed the division of the genus *Epthianura* into three genera.

To a field ornithologist the three common species *E. albifrons*, *E. tricolor*, and *E. aurifrons* form so compact and natural a genus, that it is difficult to believe they can be separated on structural grounds. These birds all inhabit similar situations, the nests are indistinguishable from one another, as are the eggs, and their flight, food, and habits are the same. Mr. Mathews' reasons for the separation are:—

1. Difference in colour. This is his principal reason. Structural differences were searched for for confirmation.

2. *E. tricolor* has a longer and more slender bill than *E. albifrons*, shorter claws, and a shorter first primary.

3. *E. aurifrons* has a more curved bill, shorter and more rounded wings, with comparatively longer first primaries, and more slender legs.

He includes in the last group *E. lovensis* (Ashby) and *E. crocea* (Gould), though agreeing with Mr. North in the separation of *E. lovensis* as *ishbia*, with this last I also agree, on structural grounds. With *E. crocea* I have no field, and very little cabinet experience, so I offer no opinion as to its position. Mr. Mathews' observations are, somewhat difficult to criticise as he, as usual, neither gives measurements, nor states number of specimens examined. To take Mr. Mathews' first reason for separation, viz.—colour. It is quite true that the colours are different, but the colour pattern is not, with the exception of the black pectoral band in *E. albifrons* it is almost identical. Curiously enough, this black band is present, in a modified form, in *E. crocea*, the colour pattern of which is otherwise markedly different. As Mr. Mathews has abandoned colour *per se* as of generic taxonomic value, in favour of colour pattern, I presume he will not himself insist upon this reason for separation.

To find out how far his alleged structural differences, trivial as they are, existed I measured nine specimens of *E. albifrons*, and fifteen each of *E. tricolor*, and *E. aurifrons*, with the following results:—*E. tricolor* has a longer bill. This is correct; The measurements were taken from the junction of the feathers and horny bill to the tip. The average length of the bill of *E. albifrons* is 10.32 m.m., and that of *E. tricolor*, 11.41 m.m.— there is therefore a difference of 1.09 m.m. in favour of *E. tricolor*. The individual variation in *E. albifrons* is 10 to 11 m.m., and in *E. tricolor*, 11 to 13 m.m. *E. tricolor* has a more slender bill. This is wrong. The average width of the horny bill in *E. albifrons* is 3.75 m.m., and in *E. tricolor* it is 3.80 m.m., so that the bill in the latter is somewhat broader. If Mr. Mathews means relatively more slender, though he does not say so, he is right to a limited extent, the proportion of width to length in *E. albifrons* is 1 to 2.75, and in *E. tricolor*, 1 to 3. This is less than the individual variation, which in each species is 1 to 2.50 to 1 to 4. The bill of *E. tricolor* is in fact, slightly larger in all dimensions than that of *E. albifrons*.

*E. tricolor* has shorter claws. This is wrong. The average length of the middle claw of *E. albifrons* is 4.28 m.m., and that of *E. tricolor*, 4.42 m.m., or 0.14 m.m. longer. The

individual variation in *E. albifrons* is from 3.50 m.m. to 6 m.m., and in *E. tricolor*, 4 to 5 m.m.

*E. tricolor* has shorter first primaries. The first primary was measured with compasses from insertion to tip. It varies in *E. albifrons* from 11.50 to 17 m.m., and in *E. tricolor*, from 8 to 16. The average of *E. albifrons* being 13.83, and in *E. tricolor*, 11.75—a difference of 2.12 m.m. in favour of *E. albifrons*. This difference is much less than the individual variation, and a longer series might easily reverse the order, as it is quite easy to pick out specimens of *E. albifrons* with much shorter primaries than others of *E. tricolor*.

*E. aurifrons* has a more curved bill. This is wrong. The curvature of the bills was estimated by making a tracing of the culmen on paper, joining the ends of the curve by a straight line, and measuring the height of the arc. There is no difference in the curvature of the bills.

*E. aurifrons* has a shorter wing. This is correct. The average length of the wing measured from carpus to tip is in *E. albifrons*, 68.5 m.m., in *E. tricolor*, 66.90 m.m., and in *E. aurifrons*, 62.91 m.m., or 5.61 m.m. in favour of *E. albifrons*.

*E. aurifrons* has a more rounded wing. This is a matter of opinion. Personally, I think it is somewhat more rounded, while others whose opinion I have asked think that there is no difference. The difference at any rate is very slight, and if present, is brought about by the relative greater length of the seventh primary. The wing formula of the three species is otherwise identical, viz.—third, fourth, and fifth primaries longest and practically co-equal, 2nd and 6th co-equal, and slightly shorter. It is, however, not constant. In some specimens, the third, and in some the fourth is absolutely the longest by the fraction of a m.m. It even differs in the two wings in some skins.

*E. aurifrons* has comparatively longer first primaries. This is correct. The average length of the first primary is 12.84 m.m., varying from 11 to 16 m.m. There is therefore, no material difference in the actual length from the other two species, but as the wing is shorter, the first primary is necessarily relatively longer than in them.

*E. aurifrons* has more slender legs. This is wrong. There is no difference in the thickness of the legs in the three species. These parts do not admit of accurate measurement in skins, as the epidermis dries in wrinkles, and the legs are not of equal diameter throughout their length,

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Two only of Mr. Mathews' differences are constant—a slightly larger bill in *E. tricolor*, and a shorter wing in *E. aurifrons*.

If new genera are to be accepted on such grounds as these, species will have to be abolished as a division in ornithology, and what we now call species will become genera—for I should think there are very few species in which such differences could not be discovered by careful search.

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