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SEXUAL DIMORPHISM IN THE BLUE BONNET

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A plumage character traditionally regarded as a subspecific character of the so-called Red-vented Blue Bonnet *Northiella haematogaster haematorrhous* actually occurs most prominently in males of eastern populations of *N. haematogaster*, i.e. generally, those east of 147°E. It is readily observable in the field.

Introduction

The Blue Bonnet *Northiella haematogaster* occurs in drier parts of south-eastern Australia west of the Great Dividing Range (see Lendon 1973, Forshaw 1981 for details). Forshaw (1981) noted minor sexual dimorphism in plumage, females having less red on the underparts and being a lighter blue about the face than males. In this note, I discuss a previously unremarked sexually dimorphic character in plumage in this species, one that is clearly recognizable in the field. However, it does not occur throughout the entire geographical range of the species and to appreciate its significance, it is first necessary to summarize the distinguishing features of the currently recognized subspecies of *N. haematogaster*.

1. *N. h. haematogaster* (Gould)

The nominate subspecies is characterised by yellow undertail-coverts, olive yellow greater wing-coverts and pale violet blue lesser wing-coverts.

2. *N. h. haematorrhous* (Gould) **Red-vented Blue Bonnet**

Distinguished from *haematogaster* by red undertail-coverts, red greater wing-coverts and green lesser wing-coverts. Forshaw (1981) remarked that females are generally duller than males. The range of this form has been inadequately defined but eastern populations of *N. haematogaster*, generally those east of approximately 147°E, are usually ascribed to this subspecies (see Lendon 1973, Condon 1975, Forshaw 1981).

3. *N. h. pallescens* (Salvadori)

Similar to but markedly paler than *haematogaster*, this form is confined to the Lake Eyre Basin. Its connections, if any, with other subspecies are poorly documented.

4. *N. h. narethae* (H. L. White)

This distinctive, isolated form is of debatable status, some workers regarding it as a separate species. It is distinguished from nominate *haematogaster* primarily by its smaller size, red undertail-coverts, wholly yellow abdomen and turquoise frontal band. It occurs in south-eastern Western Australia and extreme south-western South Australia (see Forshaw 1981).

MATERIALS AND METHODS

I examined specimens held in the following museums and collections: S.A. White Collection, Adelaide (SAW); South Australian Museum, Adelaide (SAM); Museum of Victoria, Melbourne (MV), The Australian Museum, Sydney (AM); Queensland Museum, Brisbane (QM), and H. L. White Collection, Melbourne (HLW). Specimens with no locality data and those in which the feathers of either the lesser and greater wing-coverts or the undertail-coverts were damaged, stained or missing were not included in the study. Of the 112 specimens remaining and used in the study, sixty were labelled as male, twenty-six as female and twenty-six were unsexed. Because my original aim was to assess geographical variation in *N. haematogaster*, the data I took from each specimen

described the colour of the undertail-coverts, the greater wing-coverts and the lesser wing-coverts. The extent to which age determines these colours was not addressed in detail and remains a subject for further study.

I observed *N. haematogaster* (excluding *narethae*) closely throughout its range between 1976 and 1982 and noted plumage differences between birds that appeared to be paired.

RESULTS AND DISCUSSION

No specimens labelled as female, including all those from eastern populations, had the prominent light green lesser wing-coverts that are supposedly a subspecific character of *haematorrhous*. The colour of these feathers in females was either pale violet-blue as in nominate *haematogaster* or, as in some but not all eastern females, pale violet-blue with a faint wash of light green. Specimens with such prominent green lesser wing-coverts, all males from eastern populations, are:

HLW 306 HLW 307 AM 0.28384	Buckiinguy, New South Wales
AM 0.27609, SAM B20186	Garah, near Moree, New South Wales
AM 208386	Trangie, New South Wales
QM 011442	St George, Queensland

Notably, females collected with some of the above specimens on the same days have the feathers of the lesser wing-coverts pale violet-blue in colour as in nominate *haematogaster*. They are SAM B20187 and AM 0.27610, O.27611, all from Garah.

Between November 1976 and September 1982 I observed at least 15 pairs of *N. haematogaster* in which only one bird had clearly visible green lesser wing-coverts; the same birds were often noticed to be the larger, but never the smaller, of the pair and were therefore most likely males (see Forshaw 1981). Localities involved were: between Talwood and Meandarra, between Nyngan and Warren, 20 and 45 km S of Come-by-Chance, 30 km SE of Walgett, 22 km SW of Carinda, 62 km NW of Coonamble and 19 km NW of Nyngan. I have never seen a pair in which both members had green lesser wing-coverts. In all of the above sightings, the lesser wing-coverts of both members of each pair were seen while the birds were in flight.

Some specimens, also labelled as male but from much more western localities had some feathers of the lesser wing-coverts green and some blue. Examples are SAM B24167 from 40 km N of Whyalla, South Australia and MV B5621 from Benetook, Victoria.

I therefore conclude that the green colouration of the lesser wing-coverts, previously thought to occur in both sexes of *haematorrhous* is found most prominently in males of eastern (i.e. east of approximately 147°E) populations of *N. haematogaster*. Females of the same populations have these feathers pale violet-blue as in nominate *haematogaster* or, in some individuals, with a faint wash of light green. I consider that the broader question of whether it is valid to separate eastern populations of *N. haematogaster* as the subspecies *haematorrhous* requires a more thorough, quantitative analysis than is possible using the data I have collected.

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