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MULTIPLE BROOD FAMILY UNIT OF THE DUSKY MOORHEN IN CANBERRA

The Dusky Moorhen *Gallinula tenebrosa* breeds once a year in the south of Australia and up to two times in the northern part of its range (Beruldsen 1980). Detailed studies of populations in Canberra, ACT, gave no indication that the species is breeding more than once per year in that part of south-eastern Australia (Garnett 1978, 1980).

At Nerang Pool, Commonwealth Park, close to Lake Burley Griffin in Canberra, waterbirds are regularly fed by visitors. On 9 December, 1984 I observed a family of Dusky Moorhens feeding on bread crumbs on the edge of the water. The family consisted of three adults, five not yet full grown juveniles about five weeks old, and six small chicks, hatched not more than five days earlier.

The adult birds fed bread crumbs to the young of both ages. The older juveniles either swallowed some of the bread they had received from their parents or passed it on to their smaller siblings. In addition the older siblings picked up bread themselves and fed it to the smaller chicks independently from the parents.

The observation is of interest for two reasons. Firstly, it shows that the Dusky Moorhen is potentially able to raise two broods in a year also in the south of its range, adding another case to that reported by Fleming (1976) of a family group composed of adults and young from two broods in the Melbourne Botanic Garden. In the Canberra case, however, the time interval between the two broods appears to have been much shorter than in the family group from Melbourne. There and in Canberra, the double

broods took place at sites where humans supplemented the diet of the birds with bread and other food items. Garnett (1980) suggested in his study from Sullivan's Creek in Canberra that food may be the main limiting factor preventing birds from there breeding more than once in a year.

Secondly, the participation of young from the first clutch in raising a second brood is not mentioned in general accounts of the biology of *G. tenebrosa* (e.g., Reader's Digest 1986). Ridpath (1972) indicated, without specifying it, that juveniles of the Dusky Moorhen can act as helpers for the second brood of their parents. Only Fleming (1976) provided another record of such helping behaviour similar to mine.

Helping by older juveniles is well known in other species of *Gallinula*, e.g., *G. chloropus* from Europe (Wood 1974; Engler 1983) and South Africa (Siegfried and Frost 1975), *G. maritima* from Central America (Krekorian 1978) and *G. mortierii* from Tasmania (Ridpath 1972), and a few other species of rails (Wood 1974).

Eden (1987) showed that for *G. chloropus* food availability constrains helping behaviour. First brood juveniles in territories where supplementary food was offered were more likely to be helpers than in territories without any additional food. Food provisioning improved the physical condition of juveniles, and the better their condition, the more likely they were to act as helpers. Also the amount of food helpers gave to chicks was greater in territories with supplementary food than without.

In this context it is indicative that the two records of helping behaviour by juveniles in the Dusky Moorhen originate from urban parks where humans supplement the food supply significantly. It is likely that double-brooding and juvenile helpers may occur more often in this species than the few observations would indicate, since *G. tenebrosa* is common on many ponds and lakes in urban parks and reserves where waterbirds are frequently fed by people.

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REVIEW

South American Birds — A Photographic Aid to Identification.
John Dunning, 1987. Harrowood Books, 351 pp. rrp cloth \$US 47.50, paper \$US 35.00

Though published as a first edition, this book is essentially a second and revised edition of John Dunning's earlier photographic aid to the identification of South American land birds. The earlier work was in two parts: the first with photographs, descriptions and distribution maps of some 1,000 species and the second with only brief descriptions and maps of most of the remaining land birds on the continent. The present work has approximately 1,400 species illustrated with photographs, and all species, whether illustrated or only described, are arranged in systematic order and still accompanied by a distribution map.

As before, the vast majority of photographs are of birds that have been mist-netted in the field, placed in a special holding area for photography and subsequently released. The scale of the work involved is hard to grasp until one leafs through the work and reads the author's description of his methods and apparatus.

This edition includes many more 'non-land' birds with photographs of, for example, flamingoes, herons, shorebirds, ducks, swans and geese. Some useful additions to the present work are a list of birds, grouped in size categories, in which the males appear all or mostly black in the field (79 species) and a section on learning to identify South American birds. The latter includes black and white drawings of the major passerine and some non-passerine groups to familiarize the observer with the shape and posture of many species. Omitted from this edition is the list of localities of where the photographs were taken.

Noted ornithologist Robert Ridgely has helped in the identification of the plates, and a note has been included where his views differ from those of Dunning. (Ah, yes, the joys of identifying birds in a land where the experts even publish their different opinions of the photographs in a field guide — it's wonderful stuff!) The only error I have picked up in my casual reading of the book is that the scientific name of the Blue-headed Macaw on page 44 should be *Ara couloni* not *Cyanopsitta spixii*.

I found the earlier edition of this book to be of great value in the field, especially when used in conjunction with de Schauensee and Phelps's 'Guide to the Birds of Venezuela'. Its usefulness has been enhanced greatly not just by having more species illustrated, but specifically by the inclusion of photographs of some of the species endemic to southern Chile and Argentina. Photos of these were notable by their absence in the previous edition, and the same species seem to have hitherto been illustrated almost only in Claes Olrog's 'Las Aves Argentinas', a book of dubious value. Conversely, the eventual publication of the four volume guide to all South American birds being prepared by Robert Ridgely and Guy Tudor (Volume 1 of which is now available though I have not seen it at the time of writing) may mitigate against the usefulness of Dunning's work. However, when one travels in South America, as anywhere, weight of baggage is a major concern and the fewer field guides the better. The birdwatcher or ornithologist about to visit South America will have to consider the merits of taking Ridgely and Tudor's four volumes against Dunning's one volume with fewer species. This could well be done in the light of the time one is planning to spend in South America and in what habitats, and indeed whether some groups interest one more than others. For these types of reasons it is not as easy for me to unconditionally recommend the purchase of Dunning's book as I would otherwise be inclined to do. For those with a strong interest in South American birds but who do not have the earlier edition, and for librarians of ornithological groups, it is certainly worth purchasing.

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