

of post-nuptial courtship activity (of which one function may be to imprint courtship procedure in fledglings), as the reaction of the third-party was to beat a hasty retreat.

Although the two young (both of which appeared to have black bills) were closely observed for the rest of the morning with 7×50 binoculars, the horizontal attitude with wide-open bill, was not seen. On several occasions, the young were observed to briefly adopt a horizontal attitude, however, this was clearly a flight-intention movement in hesitant novices, as flight immediately followed.

REFERENCES

van Tets, Gerard F. 1965. "Parental feeding of a fledgling Dollar-bird." *Emu*. 65: 79.

"Ashgrove", Swan Vale, via Glen Innes, N.S.W.

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The Breeding Plumage of Two Rare Migrant Waders.—When engaged some few years back in preparing a field guide to the waders, with H. T. Condon (1965), I felt it would be advantageous with migratory species if the breeding plumage was included. In some cases this had not been seen, according to personal observations or through published data, in Australia. However, most of such information was readily available in British and American publications including these species. In fact the only two species then known to visit Australia somewhat regularly from the Northern Hemisphere, which had not been recorded in Great Britain or North America, and which possess conspicuous breeding plumage, were the Greater Knot, *Calidris tenuirostris*, and Large Sand-Dotterel, *Charadrius leschenaulti*.

I have now observed each of these species in breeding plumage on two or more occasions over the past few years on tidal flats close to Sydney, N.S.W. As I cannot locate any published record of such information with either in Australia, data on the observations concerned and a brief description of each species is herein given.

In company with J. N. Hobbs a Greater Knot, which appeared to us as practically in full nuptial plumage, was seen at the old Cook's River estuary, Botany Bay, on April 7, 1963. The upper-parts were strongly and regularly marked with chestnut, brown, buff and grey; the head and neck were strongly striped with black and brown; the throat whitish; the chest appeared mostly black, with the rest of the underparts white with regular-spaced black spots appearing on the flanks, more prominent adjoining the black breast and diminishing towards the tail; the rump was white. This description agrees well with an illustration of a breeding Greater Knot in *Birds of Japan in Natural Colours* (1962). Again on September 1, 1963, one bird was seen at the same place, apparently another that had arrived back on migration, and which retained

much of its bright plumage, although not so well marked as the one noted on April 7.

The Greater Knot and Lesser Knot, *Calidris canutus*, are somewhat similar in appearance in their eclipse plumage. As they also mostly flock together and feed rather alike close relationship is generally accepted. However, when breeding they are quite different in coloration, the larger bird then somewhat resembling a large Dunlin, *Erolia alpina*—in fact occasionally it is called Great Dunlin, as by Iredale (1956), in the vernacular.

The Large Sand-Dotterel and Mongolian Dotterel, *Charadrius mongolus*, look much alike in eclipse plumage, the former being a little larger and apart from the larger bill and longer legs it has little noticeable constant field-characters to readily distinguish it from its relative. I had always held the belief that there would also be difficulty in distinguishing it should one be seen in nuptial colour. The illustration given by Kobayashi (1962) does show diagnostic differences and I now believe that such characters given there between it and *C. mongolus* are even more noticeable when seen in life.

A Large Sand-Dotterel that remained at Quibray Bay, a southern inlet of Botany Bay, for a few months in early 1964 apparently reached full breeding plumage and became conspicuous among the many bright-coloured Mongolian Dotterels associated with it. It was last seen that season on March 6 when I was accompanied by Brigadier Hugh Officer, of Victoria. A brief field description is as follows: upper-parts brownish; underparts mostly white; narrow band across breast, nape, neck and crown rose-pink; centre of crown brownish; throat white; about eye, lores and narrow forehead band black. Apart from size differences already given it differs from *C. mongolus* in the less-extensive coloration on the breast, which is pinkish instead of chestnut and the extensive rose-pink colour on the neck and head. This last-mentioned plumage feature is the main difference in the Botany Bay bird and Kobayashi's illustration.

Again on March 19 and March 28, 1966, another Large Sand-Dotterel was observed at the same place as the one two years previously, but was not seen again on two subsequent visits in April. It was similar in all respects to the 1964 bird.—A. R. MCGILL, 119 Wollongong Road, Arnecliffe, N.S.W.

REFERENCES

- Condon, H. T., and McGill, A. R. 1965. *Field Guide to the Waders*, Bird Observers Club, Melbourne, Victoria, Third, revised edition.
Iredale, Tom. 1956. *Birds of New Guinea*. Vol. 1. Georgian House, Melbourne, Victoria.
Kobayashi, Keisuke. 1962. *Birds of Japan in Natural Colours*. Hoikusha, Osaka, Japan (in Japanese).