

to build in Starling tree, Cockatoos occupying spout in same tree. 8th August, Starlings and Nutmegs arrive. 26th September, egg-shells beneath Starling tree.

On the last day of September this year an attempt was made during a boating trip to compute the number of Nutmeg-Pigeons passing from the mainland to the Family Islands, a few miles to the southward of Dunk Island. The birds in each trailing flock, as well as the number of flocks per minute, were averaged, it being estimated that 20,000 passed in an hour over a strip of ocean a mile wide. Since the aerial pathway favoured by the birds from the mainland to the islets is about three miles wide, not less than 60,000 travelled over it. The parties to the estimate agreed among themselves that it had the merit of being conservative.

Metallic Starlings may be even more numerous than Nutmeg-Pigeons, for their colonies, though not so concentrated as those of the Pigeons, are more fruitful. The Nutmeg hatches a single egg at each successive brood during the season; the Starling's clutch averages four. The first brood may be born in September; the final as late as the end of February.

May both the beautiful and entertaining birds be long one of the most edifying features of the tropical coast!

Further Notes upon Cormorants, their Food, Temperatures, &c.

BY CAPT. S. A. WHITE, M.B.O.U., R.A.O.U.

ONE or two articles having appeared in *The Emu* from my pen upon this subject, it may be interesting to the readers of *The Emu* to see further information upon a subject the writer has been following up for some time past.

The Messrs. Rymill Bros. having most kindly arranged to take Dr. Morgan and the writer to a well-known Cormorant rookery in the mangroves, we left on the evening of 22nd March, 1917, in the motor yacht *Avocet*, and reached the mangrove swamps next day and at once started operations. Only two species of Cormorants were met with—*Hypoleucus varius hypoleucus*, the orange-faced bird, and *Microcarbo melanoleucus* (Little Pied Cormorant). Twelve specimens of the larger species were taken, and five of the smaller. I am indebted to my friend Dr. A. M. Morgan for the temperatures, and we spent Saturday morning taking measurements, dissecting, and making examination of stomach contents, which resulted as follows:—

Stomach contents, *Hypoleucus v. hypoleucus*.—No. 1, leatherjacket (*Monacanthus*, sp.), box-fish (*Aracana*, sp.), weed-fish (*Odax waterhousi*), trumpeter (*Atypechthys strigatus*); No. 2, many fish remains, most likely same as preceding one; No. 3, quite empty; No. 4, fish remains like weed-fish; No. 5, fish remains, parasitic worms; No. 6, portions of squid, one box-fish; No. 7, a small

shell, brown weed-fish, shrimps; No. 8, brown weed-fish, parasitic worms, box-fish; No. 9, fish-bones, particles of shells; No. 10, weed-fish, leatherjacket, box-fish, shell grit; No. 11, a species of flathead, 9 green weed-fish; No. 12, parasitic worms, seaweed, fish-bones.

Temperatures.—No. 1 106.2, No. 2 106.4, No. 3 105.2, No. 4 105.0, No. 5 106.2, No. 6 105.4, No. 7 109.0, No. 8 106.0, No. 9 109.0, No. 10 109.6, No. 11 108.6, No. 12 107.6.

Measurements and Weights.—All measurements are in centimetres and weights in lbs.:—No. 1, ♂, weight $5\frac{1}{4}$, length 83.50, spread 129.90, wing 58.25; No. 2, ♂, weight 4, length 79.75, spread 126.75, wing 55.60; No. 3, ♂, weight $4\frac{1}{2}$, length 81, spread 128, wing 56.75; No. 4, ♀, weight $3\frac{1}{2}$, length 74.75, spread 121.75, wing 53.25; No. 5, ♀, weight $3\frac{3}{4}$, length 75.80, spread 118.25, wing 53.25; No. 6, ♂, weight $3\frac{3}{4}$, length 82.25, spread 126.75, wing 56.75; No. 7, ♂, weight 5, length 81, spread 133, wing 58.75; No. 8, ♂, weight $4\frac{1}{2}$, length 78.30, spread 126.75, wing 56; No. 9, ♂, weight $4\frac{1}{2}$, length 81, spread 128.75, wing 56.75; No. 10, ♂, weight $4\frac{1}{2}$, length 83.50, spread 131.75, wing 58.25; No. 11, ♀, weight 4, length 78.30, spread 124.75, wing 55.25; No. 12, ♂, weight $4\frac{1}{2}$, length 81, spread 128, wing 58.

Microcarbo melanoleucus.—Stomach contents:—No. 1, Two weed-fish; No. 2, eight small crabs; No. 3, remains of small fish; No. 4, small fish; No. 5, one brown weed-fish.

Temperatures.—No. 1 105.2, No. 2 107.0, No. 3 107.0, No. 4 106.0, No. 5 105.4.

Measurements and Weights.—No. 1, ♂, weight $1\frac{1}{2}$, length 58.75, spread 87.25, wing 41.75; No. 2, ♂, weight 1, length 58.25, spread 87.25, wing 40.50; No. 3, ♀, weight 1, length 57.0, spread 89.25, wing 40.0; No. 4, ♂, weight $1\frac{1}{4}$, length 57.0, spread 88.0, wing 39.50; No. 5, ♂, weight $1\frac{1}{2}$, length 62.0, spread 97.50, wing 44.25.

As far as we could tell, neither species was nesting, but many specimens of the larger variety showed signs of breeding by having the bill black, bright green under the eye, and gular pouch purple.

Would like to draw attention to the fact that only one (and that doubtful) marketable fish was found out of 17 specimens examined. Where are all those quantities of splendid fish some fishermen tell us these birds devour? The fish here called a trumpeter is not the Tasmanian edible fish, but a non-marketable fish found in South Australian waters.

A Curiosity.—Lately Mr. Frank Mack, of Narromine, N.S.W., sent me a curiosity in the shape of a Welcome Swallow's (*Hirundo neoxena*) nest built upon the flat side of the bill of an Eagle-Hawk (*Uroaëtes audax*). The Eagle's body had hung for some time in an outhouse, and the Swallows had evidently considered the head to be a suitable nesting-site.—HENRY L. WHITE. Belltrees, N.S.W., 5/10/17.