

## The New Zealand Double-crested Shags ; With Description of a New Species.

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PLATE 24.

THE Double-crested Shags of New Zealand differ from all the other species of shags in the same region in their very slender bill, the height being nearly the same throughout, and in the assumption of two median crests in the breeding plumage. They are further distinguished by the grey under-surface. Bonaparte, in 1855, founded the genus *Stictocarbo* with Sparman's *Pelecanus punctatus* as type. In other parts of the Pacific species of shags are found with similar slender bills. A South American species, *Phalacrocorax gaimardi*, has the under-surface grey, like the New Zealand species, but no crests have been recorded for it. In the North Pacific are three species (*P. urile*, *P. pelagicus*, *P. perspecillatus*) with slender bills and two crests, but the plumage generally is greenish-black. Perhaps these four species are really related and should be referred to the genus *Stictocarbo*. The New Zealand members of this genus differ from the other shags in some of their habits, for instance, they feed largely on crustacea, and utter whistling notes.

Hitherto only two species of Double-crested or Spotted Shags have been recognised in the New Zealand region, *S. punctatus* in the main islands and *S. featherstoni* in the Chatham Group. Now, through the investigations of Mr. Edgar F. Stead, of Christchurch, a third species has been discovered. Though this shag has been considered to be distinct from the Spotted Shag for some time by some of the residents of Stewart Island, where it is known as the Blue Shag, and a specimen was collected some years ago by Mr. H. H. Travers and passed with his collection to the Dominion Museum, the credit of recognising it as an undescribed species belongs to Mr. Stead, who, in December, 1929, spent a month on the islands to the west of Stewart Island and procured two specimens. Mr. Stead's specimens were adults in non-breeding plumage, Travers's specimen is in breeding plumage. Mr. Stead has been generous enough to forward me for description his two specimens. His observational work over the past twenty-five years has added much to our knowledge of the birds of New Zealand and I do not think I could choose a more fitting title for the new species than one founded on the name of this ornithologist. It will serve, too, as a deserving compliment to one who has played no small part in bringing the bird protection law to its present efficient state.

The genus *Stictocarbo* now includes within the New Zealand area three species which may thus be distinguished:



*Stictocarbo punctatus.*



*Stictocarbo steadi.*

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White band over eye and down side of neck:

Broad behind eyes	.....	.....	.....	<i>S. punctatus</i>
Narrow behind eyes	.....	.....	.....	<i>S. steadi</i>
No white stripe on side of head and neck	.....	.....	.....	<i>S. featherstoni</i>

1. *S. punctatus*—Spotted Shag.

*Pelecanus punctatus* Sparrman, Mus. Carls. fasc. 1, No. 10, 1786, Queen Charlotte Sound.

Distinguished from *S. featherstoni* by the presence of a white stripe on the side of the head and neck; and from *S. steadi* by its much lighter upper surface and broader white stripe on the side of the head produced forwards as far as the bill.

*Distribution*.—North and South Islands as far south as Banks Peninsula, but discontinuous in its distribution. It is, or was, most common in Hauraki Gulf, Hawkes Bay, Cook Strait, and Banks Peninsula.

2. *S. steadi*—n. sp. Blue Shag.

Differs from *S. punctatus* in the white stripe on the side of the head and neck, being narrow throughout, and not advancing in front of the eye, and the upper-surface being dark greyish-brown instead of light brownish-grey.

*Adult male in breeding plumage*.—The feathers of the forehead and occiput elongated, forming two crests. Long white filoplumes on back of neck, shorter ones on foreneck, mantle and flanks. Top of head, crests, back of neck and mantle black glossed with greenish-blue, the crest feathers brownish-grey at the base. On each side of the head a narrow white stripe begins over the eye and passes backward but distant from the occipital crest and continues down the sides of the neck to the shoulder. Upper back, scapulars and wing coverts dark greyish-brown, each feather with a black spot at the tip. Lower back, rump, upper-tail coverts, flanks, lower abdomen and under-tail coverts dark greenish-blue; quills dark brown; tail black. Sides of head, throat and foreneck sooty black glossed with green; breast and abdomen grey. Length 71, bill 6.3, wing 26, tail 11.5, tarsus 5.5 cm. (Type specimen from Otago, in Dominion Museum, Wellington).

*Adult male in non-breeding plumage*.—The crests are absent, also the large filoplumes, though small ones are present on the neck and flanks. The white stripes on the sides of the head are mottled with black. Remainder of plumage as in summer. "Bare skin on cheeks and throat sea green. Pimples near eye verdigris green (vivid). Feet lemon yellow with dark brown knuckles." (Stead). (Specimen from S.W. of Stewart Island, 20th Nov., 1929, in Stead Collection).

*Distribution*.—Stewart Island; Otago. The northern limit of this species has yet to be determined.

3. *S. featherstoni*—Pitt Island Shag.

*Phalacrocorax featherstoni* Buller, Ibis, 1873, p. 90.

Distinguished from both *S. punctatus* and *S. steadi* by the absence of a white stripe on the side of the head and neck.

*Distribution*.—Chatham Islands. Almost restricted to Pitt Island and the off-lying islets.