

" SPOTTED SHAGS " IN WESTLAND

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The distribution of the Spotted Shag *Stictocarbo punctatus punctatus* (Sparrman, 1786), around the New Zealand mainland is generally considered to include the West Coast of the South Island. On the other hand the breeding range of the Blue Shag *Stictocarbo punctatus steadi* Oliver, 1930, is considered to be restricted to Stewart, Codfish and Centre Islands (Oliver, 1955: 230-233). The Checklist of New Zealand Birds (Fleming, 1953: 30), when considering the distribution of *S. p. punctatus* in Westland cautiously implies that the subspecific status of the "Spotted Shags" there is uncertain.

The authors of "A Field Guide to the Birds of New Zealand" (Falla, et al., 1966: 73) while discussing the distribution of *S. p. punctatus* in the South Island, state: "Smaller scattered colonies on the west coast, as far south as Open Bay Islands, which may in fact be inhabited not by Spotted Shags but by the closely allied Blue Shag." Both, Fleming, 1953, and Falla et al., 1966, however, follow Oliver and confine the breeding distribution of the Blue Shag to Stewart Island and one or two islands in Foveaux Strait.

The situation as outlined above showed that the status of the Westland population of "Spotted Shags" urgently needed investigation, and a search was started in New Zealand and overseas museums for specimens originating from the west coast of the South Island. Early in 1968, only two specimens had been located in New Zealand, and both of these were at the Dominion Museum. Later during the same year the writer had the opportunity to study the famous Reischek collection of New Zealand birds at the Natural History Museum in Vienna, where five specimens collected on the West Coast were found. Three of these were fully adult specimens in excellent plumage and therefore very useful for this project. In addition, two adult specimens were collected under permit for the Dominion Museum during 1968, and one fresh specimen received

Reg. No.	Date Collected	Sex	Locality	Collector
DM-9166	23/12/1955	?	Open Bay Islands	R. A. Falla
49512 (Vienna)	Nov. 1887	♀	Haast River Mouth	A. Reischek
49513 (Vienna)	Nov. 1887	♂	Haast River Mouth	A. Reischek
49516 (Vienna)	Nov. 1887	♀	Haast River Mouth	A. Reischek
DM-13353	1/12/1967	♂	Roto Creek (Okarito)	A. Wright, R. A. Falla
? Canterbury	30/10/1968	?	Cobden Beach (Greymouth)	T. Hartley Smith
DM-14836	15/7/1969	♀	Perpendicular Point (3m. north of Punakaiki)	J. Yaldwyn
DM-14837	15/7/1969	♀	Perpendicular Point (3m. north of Punakaiki)	J. Yaldwyn

by the Canterbury Museum was inspected during the same year. Thus a total of eight fully adult specimens was finally available for study, and these are tabulated here in geographical order from south to north.

All eight specimens studied, although slightly lighter in general colouring than some Stewart Island specimens, and therewith showing closer affinities to the nominate race, can confidently be classified as Blue Shags, *Phalacrocorax punctatus stedi* Oliver. The range of this subspecies therefore extends from Stewart Island and Foveaux Strait north, along the west coast to at least Perpendicular Point, and possibly as far north as the Steeples and Westport.

Both Oliver (1955) and Fleming (1953) mention five areas along the west coast of the South Island at which "Spotted Shags" allegedly breed, i.e.:

Steeple, Perpendicular Point, Ten Mile, Point Elizabeth and Open Bay Islands. Only three of these breeding colonies could be located during 1969, i.e. Steeples, Perpendicular Point and Open Bay Islands. Enquiries concerning the remaining two breeding colonies failed to reveal anybody in the district able to recall ever having known Shags to breed at Point Elizabeth or on Ten Mile Islet, although they have been seen roosting there occasionally.

There is still very little known about the breeding biology of any subspecies of Spotted Shag. Oliver (1955: 231), referring to the nominate race, states that "the breeding season extends over most of the year but there are indications that laying occurs mostly during certain months, for example April to July at Noises; July and August at Waiheke; September and October at Te Henga"; etc. This implies that colonies throughout New Zealand vary individually as far as breeding seasons are concerned, but that every colony on its own is breeding fairly regularly at a certain time each year. Then, discussing the Blue Shags, Oliver (1955: 233) states only that "Eggs have been seen from November until the end of January," and that Richdale observed chicks during the last week in January.

Turbott (1956: 357-361), in comparing the comparatively regular annual breeding cycle of the Bethells Spotted Shag colony (Nest building in July, egg-laying from early August and chicks flying from November) with other Spotted Shag colonies in the Auckland area, documents the amazing irregularities in breeding at other colonies, such as: Waiheke Island (eggs laid late August, December and March); Noises (eggs laid July, August, and October), and Girdwood Point, where small naked chicks were reported on 20th April, 1946, and nests with eggs were seen on 19th October of the same year. He suggests that some colonies might have several peak breeding periods during one year, or that the irregularities in breeding might be caused by either recent disturbances (involving re-laying), or that they could be remnant effects of early uncontrolled destruction of colonies in the Hauraki Gulf.

A possibly similar irregularity in breeding seems to occur at the colony of Blue Shags on Perpendicular Point (3 miles north of Punakaiki), Westland. The writer had the opportunity to visit this colony on two occasions, for the first time on 14/7/61, and again on 15/7/69. During the first visit all adult shags present were in full breeding plumage (referred to as "Pre-nuptial plumage" by

Turbott, 1956) and were busy flying from the rock ledges to the sea and back, carrying bunches of seaweed. They were nest building, and no eggs had been laid at that time. During the writer's second visit, admittedly eight years later, but at exactly the same time of year, all adult birds were found to have lost their breeding plumage and had reached the stage referred to as "Post-nuptial plumage" by Turbott (1956). The majority were feeding flying chicks, with only a small number of nests still containing nearly fully fledged chicks. Assuming that the incubation and fledging periods are the same with Blue Shags as with the nominate race, i.e. over 4, but under 5 weeks for incubation, and 9 weeks from hatching to flying (Turbott, 1956), eggs in the Perpendicular Point colony must have been laid during early April, and possibly even in March, 1969, whereas August would have been the laying month in 1961. During the latter visit, therefore, breeding was found to be at least four months (and possibly five) earlier when compared with 1961.

Much more information is needed to find the reasons for the seemingly erratic breeding behaviour of *Stictocarbo* sub-species, and any reasons suggested on present knowledge are only guesses. A straightforward study of this particular aspect of behaviour by keeping several colonies under close observation for a series of consecutive years should prove a most rewarding project.

REFERENCES

- FALLA, R. A., SIBSON, R. B., and TURBOTT, E. G., 1966: **A Field Guide to the Birds of New Zealand.**
 FLEMING, C. A., 1953: **Checklist of New Zealand Birds**, A. H. and A. W. Reed, Wellington.
 OLIVER, W. R. B., 1955: **New Zealand Birds**, 2nd Edition, A. H. and A. W. Reed, Wellington.
 TURBOTT, E. G., 1956: Notes on the Plumages and Breeding Cycle of the Spotted Shag, **Rec. Auck. Inst. Mus.**, 4: 343-363.



SHORT NOTES

GIANT PETREL FROM THE INDIAN OCEAN

On 21/5/69 Mr. Paul McIlraith picked up a battered and maggotty Giant Petrel in dark plumage on the beach at Little Rakaia, South Canterbury. It carried a band which read OIS MUSEUM PARIS, C.F. 7.106.

Advice has now been received that it was banded by M. Prevost on 23/2/69 at Ile de l'est, Baie Naufrage, Crozet Archipelago, which lies about 51°E, 46°S. Thus it had taken less than three months to reach New Zealand. It is now a skeleton Av. 22997 in the Canterbury Museum.

— RON SCARLETT



AN UNUSUAL FEEDING HABIT OF A SOUTH ISLAND ROBIN

Recently, in a small tributary of the Pelorus River, I observed, on three occasions, a South Island Robin *Petroica a. australis* taking small aquatic insects from shallow water. On one of these occasions I identified a stick caddis *Pseudonema* which the Robin worked on for some time before shaking the case free and eating the larva.

— C. R. VEITCH