
VERCO—Notes on the Avifauna on St. Francis Island.

Notes on the Avifauna on St. Francis Island from
"Combing the Southern Seas," by Sir Joseph Verco,
M.D., F.R.C.S., 1935.

P. 116, " . . . Lying nearly at the top of the Great Australian Bight, 40 miles west of Streaky Bay, 30 miles south of Murat Bay, and 20 miles south-east of Point Bell, the nearest visible spot on the mainland, is St. Francis Island, one of a group of small islands known as Nuyt's Archipelago. . . . Pp. 128-133, . . . But for interest—absorbing interest—the birds are far and away beyond the reptiles. Of these the Mutton Birds* are an easy first. What Flinders calls the

* *Puffinus tenuirostris*, Short-tailed Shearwater.

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Sooty Petrel. They are about as big as the Silver Gulls, which people keep in their gardens, and as black as soot. They come in millions to the island about October, almost all within a day or two of one another, and begin to dig out burrows in the sand, under the shelter of the saltbush. The burrow may go in for one or two feet. Then the hen lays one egg only, and all the eggs are laid within a day or two. If a burrow has not been dug the egg is laid on the sand. The islanders collect dozens of eggs and preserve them. They can be eaten, and are like Duck's eggs, only rather stronger, but for cakes and such-like they are much used. After six weeks the chick is hatched—a sooty ball of fluff. Every evening, soon after sundown, the birds come back, having been out to sea all day. Sometimes they will settle in the bay for a while, forming a great black patch on the water. As you see them far away in the distance against the rosy sky they look like a swarm of mosquitoes. When the darkness comes and they have gone to their burrows there is a perpetual hubbub, seemingly at variance with the idea that "birds in their little nests agree." This continues all night through. Whenever you wake you hear the birds discussing and arguing. Before dawn they are off to sea again, and then there is quiet. When you go for a walk it matters not how wary you may be, your foot goes through the roof of the burrow with a jerk, and quite possibly you may find yourself flat on your face with all your paraphernalia scattered around. Poor Flinders complains of his distresses, the excessive heat and stepping into the Mutton Bird holes. Almost always you disturb a bird, and possibly your foot comes down on it, and it struggles out of the burrow, and in the most ludicrous manner tries to escape. It cannot rise from the ground to fly because its wings are too long, it is a bad walker, because its legs are too short, and it tumbles about in a very drunken fashion, and falls an easy prey to its pursuer. It is evident that while the egg is hatching there is always one bird in the burrow. Some say the male sits in the day and the female at night; others that one sits for a week and then the other for a week, the one coming home and feeding the other, but I found sometimes a male at home in the day and sometimes a female. Sometimes a male and a female, and once a hatched chick and neither father nor mother at home to watch over him. That chick "was lost to sight though to memory dear," when they came back that night, for I took it. When the chick is hatched one, or both, of the parent birds feed it. And they do feed it. The crop

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is not as in a chicken, just up in the neck, but extends down into the body. When a Mutton Bird chick has had its bottle it is "as full as a tick," its stomach is as round as a cricket ball and as big, too big, to let its short legs touch the ground. To shift its position it has to peck its beak into the ground and haul itself along. The contents of its crop consist largely of oil, mixed with seaweed and shrimps. I examined the solid matter in the stomach contents of the chicks, and found narrow ribbon-like pieces of seaweed, small round green berries, about the diameter of pins' heads, probably from seaweeds, and little pink pieces of the chitinous shells of minute crustaceans. I was disposed to attribute the colour of the oil to dissolved red colouring matter derived from this red chitin, and mentioned the suggestion at a meeting of the Royal Society of S.A. Geoffrey Smith, M.A., in "A Naturalist in Tasmania," 1909, p. 82, writes:—"I believe that the above-mentioned Crustacea" (three kinds of shrimp-like animals) "so richly developed both in point of variety of species, and in number of individuals, affords the chief food for the trout, and account for the great size to which these fish grow. In several instances I examined the contents of the stomach of freshly caught trout, and in most cases they were full of these Crustacea; moreover, it is noticeable that the flesh of these brown trout is almost always of a fine pink colour, and it is held with considerable reason that this colour is due to the decomposition products of the chitinous shells of Crustacea." The above quotation about the red colour of the flesh of the trout rather confirms the suggestion, though one or two questions would need answering before the red tint of the trout's flesh could be attributed only and entirely to such a cause: (1) Do all red fleshed fish live on crustaceans? (2) Do all white fleshed fish not eat crustaceans? Some do, for I have taken a half dozen small crabs out of the stomach of a schnapper directly after I had caught it in Gulf St. Vincent. This shows either that schnapper do not eat crustaceans enough to tint their flesh, or if they eat many, that the flesh of schnapper is not tinted pink though they eat crustaceans. (3) If then the brown trout through eating crustaceans get pink flesh, and schnapper, though they eat crustaceans, do not get pink flesh, the pink tinging must vary with the genus of the fish which eats the crustaceans, some genera will be tinted and some will not? (4) Do some brown trout have white flesh and some pink? (5) If so, do those with white flesh not eat crustaceans, and those with pink flesh eat them? About the Mutton Birds, an

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experiment could be tried. The stomachs of several Mutton Bird chicks could be taken, and emptied of their contents and rinsed with water, and the mucous membrane be stripped and put with water and some dead shrimps and set aside to digest in a warm place, and it could be seen if the pink colours came in the water. It might also be seen whether oil would be derived from the bodies of the shrimps by this digestion process, and whether this oil would be tinted red. If so, two points would be proved: the origin of the oil and the origin of the pink colour. If the red colour did not result another experiment might be performed, using the mucous membrane of the old bird, because the secretion of this, and not of the chick, might be the agent in producing the colour or the oil, or both. That of the chick might be inactive, and the oil and colour might be produced in the gizzard of the parents and be regurgitated by them into the stomachs of the chicks. When the chicks are of a certain age, the lad goes round with a kerosene tin, hauls them out of their burrows, holds them over his tin by the legs head down, gives them a gentle squeeze over the stomach, and so suggests that they shall give him of their oil, which suggestion they immediately act upon. I was able to demonstrate that each chick will furnish in this way nearly two ounces of oil. A dozen would supply more than a pint. When nearly ready to fly they are said to yield nearly half a pint each ("Nests and Eggs of Australian Birds," Campbell, 1900, p. 886). It only needs straining through muslin, and is fit for use. It is a prettily tinted pink, and is said to be a perfect machine oil, and to be worth 3s. 6d. a gallon (loc. cit.). One would think it could easily be made an article of commerce, and would be very payable. This would serve a double purpose. It would bring in a revenue, and would be an incentive to and a means of reducing the number of birds, which could be destroyed in the same act. They are the chief inconvenience and trouble on the island. If an area of saltbush country is cleared, and the holes are filled in while the birds are away on their yearly migration, when they come back in the following October they dig their burrows out again, and before the ground can be ploughed the holes must all be filled in. If not, when the horses are ploughing they keep stumbling into the burrows, and after a certain number of such experiences they refuse to proceed, or will bolt away from the field. Sometimes, when it is proposed to sow a fresh area the saltbush is set alight while the birds are there, with the result that not only is the saltbush

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cleared off, but the birds as well are roasted on the spot. When the young birds are ready to leave their burrows—so we were told—they are as fat as butter, with layers of fat under their skin. Then they are left to shift for themselves for a fortnight, to starve, in fact, and an instinct constrains them to move to the sea (though they may have been hatched in the middle of the island), they struggle and stumble for one or two miles till they find themselves in the water. On this journey they are the victims of every bird of prey: Crows, Seagulls, Hawks, and Eagles attack them without mercy, and it is calculated that not more than one bird in four ever reaches the ocean. It is just at this time, too, they are most suitable for preserving, so humanity joins the rest of their enemies in the work of destruction, and collecting them in numbers, skins them, salts them, when required soaks the brine out of them, fries them, and enjoys them. The enjoyment is, of course, a matter of taste, and not having had the privilege of tasting I can give no opinion. . . .

Pp. 133-135. Another interesting bird is the Penguin,† or as he is quite properly called, "the penwing." These may be found hiding under cover of large rocks just above high-water mark, or in the dark recesses of the limestone caves, anywhere up the face of the cliffs, or in burrows in the sand under the saltbush above the cliffs. They have no wings in the proper meaning of the word as we usually understand it, so that they cannot fly, but their rudimentary wings make efficient paddles and enable the bird, when in the sea, to dive with an almost incredible swiftness through the water so rapidly that they are able to catch the living fish, which form their staple food. Their legs are very short, and placed very far back, and this makes them poor, ungainly walkers, and when they stand up, as they often do, they look very like little fat babies with white pinafores on. I was very interested when examining their mouth to see that the whole of the upper surface of their tongue was covered with row after row of barbs standing up nearly a quarter of an inch, and pointing backwards, and that the roof of their mouth was provided with about six long rows of the same bony barbs, like two beds of fish hooks. The Penguin feeds on small fish, and fish are remarkably slippery, as we all know, but the most slippery fish would have a very poor chance

 † *Eudyptula undina*, Fairy Penguin.

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of escape after once getting between a tongue and a palate such as this. Some people may have a rough side of their tongue, but not so exasperate as the Penguin. Another contrivance is combined with this to render it perfect. Suppose the Penguin's tongue was like our own only covered with barbs, and he had caught by the tail a fairly large fish, which made frantic efforts to swim away, the fish might pull the Penguin's tongue out of his mouth if it were as soft and limp as ours, but it is not. There is a thin, but very strong bone running all along the tongue on each side, and going away back into the throat. This makes the tongue very strong, and prevents it from being pulled out. To effect this, all the structures in the floor of the mouth and in the throat would have to give way, for these two bones are like a pair of reins or a pair of traces to hold the tongue in its proper place. And just here we might refer to a very entertaining and improving experience. On the sloping face of the limestone cliffs round the island, in which cliffs are numerous guano caves inhabited by Penguins, may be noticed very curious vertical scratches or grooves, crowded together, sometimes a quarter of an inch in depth. The usual explanation of these is that they are made by the Penguins with their beaks and claws as they scramble up the sloping rock face to reach their homes in the caves. This grooving is not done by birds. The grooves are tiny watercourses, along which rain-water has slowly trickled and dissolved them out. The rain-water contains a minute quantity of carbonic acid derived from the air through which it descends, and this acid dissolves the limestone as the water trickles over its surface, and so makes the grooves. The same effect is seen in even harder limestones; grooved to an even greater depth, away in Central Australia, where no Penguin ever scabbled. And so we learn how popular tradition, however hoary, and however plausible, must be tested by scientific observation and replaced by accurate scientific explanation. Thus we gradually and happily find ourselves converting fancies into facts, changing error into truth."

Page 74. Althorpe Island. "Penguins are numerous. The men say that at night they climb up from the shore along the tracks they (the Penguins) have made to the top of the island, and go for a walk along the main street! We were too tired to go ashore and climb 380 feet up a ladder to get at the lantern in the lighthouse, and when the proposition was put to the meeting, all elected to go to bed."

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Page 79. Reevesby Island. "When we went bathing in the morning we caught ten Penguins, pulling them out by the leg from beneath the rocks near the water's edge. We kept them on the launch all day, during which they hid under one of the boats and beneath the grating at the back of the launch, occasionally grunting like young pigs, or making a noise like Ducks. In the evening we caught them all, put them in our iron wash tub and tipped them in one act into the sea. In a moment they were under the water, diving in the direction of the land, rising occasionally to take a look and (I suppose) get a breath, then off again, until we lost sight of them in the distance. . . . They walk erect, but if they try to run they grovel on their stomachs, as though their legs were too far back to balance their bodies. Their front is white; their backs of a metallic bluish black."

P. 135. We must not forget the Cape Barren Goose,‡ or Green-Billed Goose. Flinders noted evidences of the visits of these birds, though he saw none while he was there, and conjectured that they came in the winter, when the grass was green and there was water about, but left it when parched during the summer. But now, at any rate, some of these pretty birds remain the year through. During the wet season nearly thirty have been counted, but half a dozen or so spend the summer there as well, and these become fairly tame and feed not far from the house. Three of them allowed me to walk within thirty yards of them and to take a snapshot with my camera, and for days together permitted the farm-hand to drive a pair of horses with a patent saltbush eradicator round their feeding-ground in gradually diminishing circles without taking any fright or stopping in their feeding.

‡ *Cereopsis novae-hollandiae*.