

The two rookeries on the northern section of the island could not be thoroughly examined in the time available, but it was evident from the number of birds calling that they are quite extensive.

On March 29, 1960, I returned to the island and banded 20 young of *P. pacificus* and 50 young of *P. tenuirostris*. Culmen measurements of six individuals were:—

<i>P. pacificus</i>	<i>P. tenuirostris</i>
36.2 mm	32.2 mm
37.5 mm	30.9 mm
35.5 mm	33.7 mm

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The Recent Expansion of the Roseate Tern into South-western Australia

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Until recently there was only one record of the Roseate Tern (*Sterna dougallii*) in Western Australia south of the Houtman Abrolhos, viz. a specimen collected in July 1939 at Scarborough, a seaside suburb of Perth.

In late autumn 1958 Storr witnessed a small influx of Roseate Terns into the sheltered seas off Fremantle. On May 24 and 27 at least two were fishing in Thompson Bay on the east coast of Rottnest Island. On June 5 two more were observed on and near the naval jetty at Rockingham, and a further ten were seen fishing in Careening Bay on the east coast of Garden Island. All 14 birds were in nuptial plumage, which, in view of the season, was puzzling, since no autumn-breeding population of Roseate Terns had been recorded in this State south of latitude 20°.

In the following year, on May 3, we briefly watched a Roseate Tern in nuptial plumage flying past Carnac Island, four miles south-west of Fremantle. Meanwhile, on February 28, Ford had observed at Wedge Island (90 miles north of Fremantle) ca. 70 Roseate Terns in full breeding plumage. They were resting on the sandy bar that connects the islet with the nearby mainland. There was no sign of breeding.

In June of the same year (1959) Storr found Roseate Terns breeding in great numbers on small cays in the Wallabi Group, Houtman Abrolhos. Our earlier observations were beginning to make sense, and we prophesied that autumn-breeding colonies of Roseate Terns would be found much nearer to Fremantle. This expectation was realised in the following year.

On April 16, 1960, we visited the Green Islets (100 miles north of Fremantle) and discovered 116 nests of the Roseate Tern, mostly with eggs, but in a few of them one or two chicks had recently hatched. On the previous day we had seen *ca.* 50 Roseate Terns fishing along the edge of the reef off Wedge Island. Another 18, all in nuptial plumage, were resting on the sandpit. Several of them were parading a small fish, but no copulation was attempted in the ten minutes we watched them. The flock was still there on May 14, when E. Lindgren (*pers.comm.*) visited Wedge Island; he found no indication of nesting.

What is the explanation for these recent observations of the Roseate Tern in and a little north of the Swan River district? There are two alternatives: (1) the species has always been there, or (2) it has recently extended its range southwards. The first seems unlikely. With its distinctive outline and coloration, noisiness, and approachability, the Roseate is a conspicuous species, and for many years now there has been continuous observation in the seas and islands off Fremantle. Admittedly the coasts and islands farther north (including the Abrolhos) had seldom or never been visited by naturalists in late autumn and in winter. But in the Fremantle area we find it incredible that Roseates should have been present but overlooked.

In support of the alternative hypothesis that the species is spreading south, we may cite the recent southward expansion of two other tropical seabirds. Over the last few decades the Bridled Tern (*Sterna anaetheta*) has extended its breeding range south to and around Cape Leeuwin. In the same period the colonies breeding on the islands off Fremantle have increased considerably. More recently the Red-tailed Tropic-bird (*Phaethon rubricauda*) has become a regular summer visitor to Rottnest, and in November 1959 successfully bred there for the first time.