another adult female, possessed 4 small dark pebbles, one small piece of white mollusc shell, and one dark feather, probably swallowed when preening, but no food remnants.

MEASUREMENTS (in Millimetres) OF ADULT NODDIES COLLECTED

(Measurements are those used by the O.S.N.Z.'s Beach Patrol Scheme, and described by Heather (1966).)

Dominion Museum Number	Date Collected	Locality Collected	Sex	BILL Length	BILL Depth	BILL Width	Mid-toe and Claw	Tarsus	Wing	Tail
12394	18/12/66	Nth.Beach Raoul Is.	F	44.5	7.7	11.2	35	20.7	221	110
12395	18/12/66	" "	"	41.5	8	12.7	34	20.2	223	114
12396	19/12/66	" "	"	41	7.5	11.2	33	20.2	222	113.7
Skeletal Remains	1/12/66	Nth.Meyer	-	42	8	-	33	19	229	102
	20/12/66	" "	-	42.5	8	-	35.5	22	229	119

Of 32 noddy eggs measured on North Meyer Islet their mean was 43.8 x 30.9 mm. They ranged from 40.3 to 47.9 mm. in length (standard deviation 2.1) and 28.9 mm. to 32.6 mm. in width (standard deviation 0.9).

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KERMADEC ISLANDS EXPEDITION REPORTS

THE GREY TERNLET *(Procelsterna cerulea albivitta)*

By M. F. SOPER

Although breeding on all islets of the Herald group and at Smith Bluff, Raoul Island, the two Meyer Islets and Napier Islet (which had a very large population) were the main strongholds of this delightful species. Breeding was well advanced on 19/11/66, which was our first full day on Meyer, and on that date all stages were present from eggs to flying young.

The nests, which were widely dispersed and usually well-hidden, were confined to the coastal strip of the islet. The most favoured sites were cavities, crevices and ledges on cliff faces. A few were placed in the shade of boulders on the beach and others under clumps of vegetation such as grass, *Cyperus* and low growing *Coprosma*

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Plate XXIV — Grey Ternlet.

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Plate XXV — Grey Ternlet feeding chick outside nesting cavity.

petiolata (a plant very similar to stunted taupata). The common denominator of all sites was all-day-shade from the sun. No nest material was used and the clutch was invariably one.

A tally of nests in the vicinity of the camp on 21/11/66 produced 14 with chicks and 27 with eggs. The majority of these eggs hatched over the next few days. One chick hatched prematurely, with a large yolk sac attached, and 2 others died during hatching. Apart from these there was little loss. Over the whole of my stay I found only 4 addled eggs. C. R. Veitch marked a dozen of the nests that were so placed that the chick, when hatched, would be unable to leave the site until it was able to fly, and from these we subsequently obtained fledging times.

The incubation period was not ascertained.

From first chipping of the egg to hatching took about 3 days. The chick was hatched with its eyes open and was active soon afterwards. It was brooded continuously for the first 3 days; thereafter it was left for increasing periods. At 8 days it was unguarded most of the day. At 17 days it was still downy but pin feathers were showing through. At 25 days it had more feathers than down and when the nest location permitted it was wandering freely. At 31 days it could just fly. At 36 days it was flying frequent short distances, though its wing and tail feathers were still short and there were tufts of down still adhering to various parts of its body. At 42 days it was virtually free of down. Beyond this time there are no data but it appeared that chicks were bing fed by their parents for further considerable periods before becoming fully independent. Towards the end of our stay 5 instances became known of adults regularly feeding both semi-fledged chicks (approx. 21 days old), and, at the same time, birds which appeared to be fully-fledged chicks of the year. The latter had wing and tail feathers of full adult length but had calls which were still definitely juvenile in sound. The probability that Grey Ternlets are double brooded needs to be seriously considered.

Chicks of all ages were fed by regurgitation with the chick approaching from the side in the manner of a petrel. The chick appeared to induce regurgitation by pecking at the parents' legs and feet. The chick pecked, and continued to peck, at the parent's feet till the parent leant forward with wide open gape and lower mandible almost touching the ground; only then did the chick transfer its attention from feet to gape. The regurgitated material was obtained from the very back of the parents' tongue and was taken so rapidly that there was seldom any spillage and we were rarely able to see what was transferred. No adult was ever seen to carry fish or other food in its bill and no bird was seen to regurgitate onto the ground. From examination of stomach contents of two adults collected and of droppings, the conclusion was reached that these ternlets feed mainly, if not exclusively, on plankton. The entire stomach contents of one bird collected (D.M. No. 13296), was made up of debris from surface plankton, mainly small crustacea, possibly small *Euphausia.*

The mode of feeding at sea was frequently observed. The birds worked in flocks in the manner and thoroughness of Starlings.

Plate XXVI — Grey Ternlet. Fledged chick soliciting food. [M. F. Soper

They were often accompanied by Noddies. They hovered and fluttered over the water in the manner of Storm Petrels, repeatedly dipping down to pick up minute objects with their bills. They never alighted and apparently never got their feet wet. They worked up-wind and as they ran out of the patch of food-containing surface-water they veered away to the side, circled round, rejoined the rear of the flock and thence once again worked their way forward.

Two aerial displays were observed. In the first, the birds hovered on the wind and followed the pattern of an extended lazy tongs — weaving a criss-cross pattern in unison across each other's flight paths. In the other, a single bird borne on the wind so as to be directly in front of its incubating mate would hover with its wings and tail elevated to an acute angle (about 45°) and execute a series of dipping U-shaped flights. This display was seldom seen in calm weather and seemed to require a fresh breeze. When conditions were suitable the whole series would be done without losing position relative to the cliff face.

The plumage of the Grey Ternlet is in shades of pale grey; the only relief being a short white line behind the eye and a black line in front of it. So far as I could see the eye markings played no part in display procedures. The webs of the feet are pinkish yellow and it is noted that the chick pecks at the parents' feet when it wishes to be fed. The gape is bright orange and though birds were often seen to gape widely, they never did so in circumstances where the action seemed to be significant.

Adult birds were starting to moult by the middle of January and about this time they were noticed roosting in trees — something they had not been seen doing previously.

Measurements (in millimetres) of Adult Grey Ternlets Collected on North Meyer Islet: (Measurements are those used by the O.S.N.Z.'s Beach Patrol Scheme and described by Heather (1966).)

Dominion Museum Number	Date Collected	Sex	BILL			Mid-toe and Claw	Tarsus	Wing	Tail
			Length	Depth	Width				
13296	20/12/66	M	28.5	7	9.9	34.7	25.2	208	107.5
13297	20/12/66	F	27	6.2	8.7	32.5	23.7	199	107

Of 21 ternlet eggs measured on North Meyer Islet, their mean was 42.9 mm. x 28.9 mm. They ranged from 40.9 mm. to 45.7 mm. in length (standard deviation 1.1) and from 27.1 mm. to 30.2 mm. in width (standard deviation 0.6).