





ESTIMATED BIRD POPULATIONS

TAONGI ATOLL

Sibylla Island

Great Frigatebird	4,000	
Red-footed Booby	11,000	
Blue-faced Booby	3,000	
Brown Booby	3,500	
Wedgetails	300	
Red-tailed Tropicbird	100	
Crested Terns	20	
Ruddy Turnstones	500	
wandering Tattlers	80	
Golden Plover	250	
Bristle-thighed Curlew	20	
Fairy Tern	300	
Common Noddy	300	
Hawaiian Noddy	100	
Reef Heron	10	
between Sibylla + Breje	{ Blue-gray Noddy	20
	{ Black-naped Tern	15

Breje Island

Great Frigatebirds	2-5,000
Red-tailed Tropicbirds	500-2,000

Kamome Island

Red-footed Booby	5,000
Great Frigatebirds	2,000
wedgetails	3,000
Sooty Terns	250,000
Fairy Terns	2,000
Common Noddies	250

Island between North and Kamome

Fairy Tern	3,000
Red-footed Bobby	<del>750</del>
Common Noddy	1,000















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Itinerary for October-November Marshall & Gilbert Trip

October 1 Depart Honolulu, Hawaii  
(10) 10 Arrive Taongi (Pokak), Marshall Islands  
(13) 14 Depart Taongi  
(14) 15 Arrive Bikar  
(19) 20 Depart Bikar  
(19) 20 Arrive Taka  
(23) 24 Depart Taka  
(23) 25 Arrive Jemo  
(24) 26 Depart Jemo  
(24) 26 Arrive Erikub  
(28) 28 Depart Erikub  
(29) 29 Arrive Kwajalein

November (9) 4 Depart Kwajalein  
(10) 5 Arrive Jaluit  
(12) 7 Depart Jaluit  
(13) 8 Arrive Makin, Gilbert Islands  
(15) 10 Depart Makin  
(16) 11 Arrive Maiana  
(17) 13 Depart Maiana  
(17) 14 Arrive Kuria (or Aranuka)  
(19) 16 Depart Kuria (or Aranuka)  
(27) 25 Arrive Honolulu, Hawaii  
(19) Arrive Aranuka  
(19) Depart Aranuka



Birds Recorded from Taongi (Pekak) Atoll

- Black-footed Albatross \*
- Wedge-tailed Shearwater \*
- Red-tailed Tropicbird \*
- White-tailed Tropicbird \*
- Masked Booby \*
- Brown Booby \*
- Red-footed Booby \*
- Great Frigatebird \*
- Bristle-thighed Curlew \*
- Sooty Tern \*
- Common Noddy \*
- Hawaiian Noddy \*
- Blue-gray Noddy \*
- Fairy Tern \*
- Black-naped Tern \*
- Crested Tern \*
- Reef Heron \*

Birds Recorded from Bikar Atoll

- Red-tailed Tropicbird \*
- White-tailed Tropicbird \*
- Masked Booby \*
- Brown Booby \*
- Red-footed Booby \*
- Great Frigatebird \*
- Golden Plover \*
- Ruddy Turnstone \*
- Wandering Tattler \*
- Bristle-thighed Curlew \*
- Gray-backed Tern \*
- Brown-winged Tern \*
- Common Noddy \*
- Hawaiian Noddy \*
- Blue-gray Noddy \*
- Fairy Tern \*
- Black-naped Tern \*
- Crested Tern \*

\* Recorded by Fosberg.



Birds Recorded from Taka Atoll

- Brown Booby \*
- Ruddy Turnstone \*
- Bristle-thighed Curlew \*
- Sooty Tern \*
- Common Noddy \*
- Hawaiian Noddy \*
- Fairy Tern \*

Birds Recorded from Jono Atoll

- Brown Booby \*
- Red-footed Booby \*
- Great Frigatebird \*
- Common Noddy \*
- Hawaiian Noddy \*
- Fairy Tern \*
- Chicken \*

Birds Recorded from Kwajalein Atoll

- Hatched Booby \*
- Great Frigatebird \*
- Golden Plover \*
- Ruddy Turnstone \*
- Hawaiian Noddy \*
- Sooty Tern \*
- Common Noddy \*
- Hawaiian Noddy \*
- Fairy Tern \*
- Red Noddy \*
- Black capped Tern \*
- Crested Tern \*
- Whiskered \*
- Masked Booby \*
- Crested Noddy \*

\* Recorded by Yeoberge



Birds Recorded from Jaluit Atoll

- Brown Booby
- Golden Plover
- Ruddy Turnstone
- Vandering Tattler
- Sanderling
- Bristle-thighed Curlew
- Common Noddy
- Hawaiian Noddy
- Fairy Tern
- New Zealand Cuckoo
- Semipalmated Plover
- European Widgeon
- Red Leg
- ~~Arctic Skua~~
- ~~Pacific Pigeon~~
- Pintail
- ~~Green Heron~~
- ~~Black-winged Stilt~~
- Whiskered
- Sharp-tailed Sandpiper (flavipes)
- Black-rumped Tern
- Crested Tern

Birds Recorded from Makia Atoll, Gilbert Islands

- Fairy Tern
- New Zealand Cuckoo

No records available for Makia Atoll, Gilberts

Common Noddy only record we have from Makia, Gilberts



Tide Chart for the Marshall Islands - Oct. 1964

Date	Low	High	Low	High
Oct. 10	0000	0550	1150	1809
11	0027	0616	1212	1837
12	0100	0642	1253	1909
13	0144	0714	1354	1956
14	0332	0901	1351	2215
15	0658	1328	1628	-----
	High	Low	High	Low
16	0040	0741	1355	1954
17	0135	0809	1420	2011
18	0212	0836	1446	2044
19	0256	0903	1512	2115
20	0318	0930	1540	2148
21	0351	0959	1611	2221
22	0424	1029	1642	2256
23	0458	1101	1715	2333
24	0533	1132	1750	-----
	Low	High	Low	High
25	0614	0609	1805	1829
26	0658	0651	1841	1913
27	0154	0745	1824	2014
28	0330	0931	1852	2107
29	0603	1231	1759	-----
	High	Low	High	Low
30	0024	0724	1841	1929
31	0135	0807	1921	2018



Lat.	Moonrise, 1964		Moonset, 1964		Moon Phase
	0°	+10°	0°	+10°	
	h m	h m	h m	h m	
Oct. 1	2 15	1 59	14 42	14 57	
2	3 10	2 57	15 35	15 47	
3	4 02	3 52	16 25	16 33	
4	4 50	4 45	17 13	17 16	
5	5 37	5 35	17 58	17 58	New Moon
6	6 22	6 24	18 43	18 38	
7	7 06	7 13	19 28	19 19	
8	7 51	8 01	20 13	20 01	
9	8 37	8 50	20 59	20 44	
10	9 24	9 40	21 47	21 30	
11	10 12	10 30	22 35	22 17	
12	11 01	11 20	23 25	23 06	
13	11 51	12 10	.....	23 56	First Quarter
14	12 40	12 58	0 15	.....	
15	13 29	13 45	1 04	0 47	
16	14 18	14 31	1 53	1 38	
17	15 05	15 15	2 41	2 29	
18	15 53	15 58	3 28	3 20	
19	16 40	16 42	4 15	4 12	
20	17 29	17 26	5 03	5 04	
21	18 19	18 12	5 53	5 58	Full Moon
22	19 13	19 02	6 44	6 54	
23	20 10	19 55	7 40	7 53	
24	21 10	20 52	8 38	8 55	
25	22 11	21 52	9 39	9 58	
26	23 12	22 54	10 41	11 00	
27	.....	23 54	11 41	11 59	Last Quarter
28	0 11	.....	12 38	12 54	
29	1 07	0 53	13 32	13 45	
30	1 59	1 48	14 22	14 31	
31	2 47	2 40	15 09	15 14	



Lat.	Moonrise, 1964		Moonset, 1964		Moon Phase
	0°	+10°	0°	+10°	
	h m	h m	h m	h m	
Nov. 1	3 33	3 30	15 54	15 55	
2	4 18	4 19	16 39	16 35	
3	5 01	5 06	17 23	17 16	
4	5 46	5 54	18 07	17 57	New Moon
5	6 31	6 43	18 53	18 39	
6	7 17	7 32	19 40	19 24	
7	8 05	8 22	20 29	20 10	
8	8 54	9 13	21 18	20 59	
9	9 44	10 03	22 08	21 49	
10	10 35	10 52	22 57	22 39	
11	11 22	11 39	23 45	23 29	
12	12 10	12 24	.....	.....	First Quarter
13	12 56	13 07	0 32	0 19	
14	13 42	13 50	1 18	1 09	
15	14 29	14 32	2 04	1 59	
16	15 16	15 15	2 51	2 49	
17	16 05	16 00	3 39	3 42	
18	16 57	16 48	4 29	4 37	
19	17 53	17 40	5 23	5 35	Full Moon
20	18 54	18 37	6 22	6 37	
21	19 57	19 38	7 24	7 42	
22	21 01	20 42	8 28	8 47	
23	22 04	21 45	9 31	9 50	
24	23 02	22 46	10 32	10 49	
25	23 56	23 44	11 28	11 42	
26	.....	.....	12 20	12 30	Last Quarter
27	0 46	0 37	13 08	13 14	
28	1 32	1 28	13 54	13 56	
29	2 17	2 16	14 37	14 36	
30	3 00	3 04	15 21	15 15	



Lehner, P.  
1964

73

Oct. 1 awakened by Binion at 7:30; up and ate chow with Fleet at Bentley's; returned, packed and waited to take gear to Shearwater; after numerous errands we were ready to depart as scheduled at 3:00 Dr. and Mrs. Ely and David saw us off; after a fine maneuver by the captain to get us turned around in a very small space, we started out of the harbor; while still in the harbor I had visions of sea-sickness but decided I would fight it as best I could when the devil struck; we passed the Iberia out of London and the Phillipine Rizal out of Manila in the harbor; leaving Hawaii was a beautiful sight - it took a long time for Diamond Head to disappear in the distance; we began on a  $252^{\circ}$  wsw course and are still on it (Oct. 2 7:30 P.M.); it was not long before we started our rolling and signs of queasiness began; I managed to laugh them off and through a determined effort have successfully fought it off; I don't believe our greatest rolls have yet reached  $20^{\circ}$  so my sea legs have not been well tested; our photographer Chris was also out for his first time and became slightly sick but seems to have recovered; Amerman, Amerson, Wislocki, Clapp and Huber have all been at sea before and did not seem to be phased.



Lehner, P.  
1964

74

Oct. 2 still heading on our  $250^{\circ}$  WSW course; the weather is raining down little droplets of water from frequent squalls; had the 10-12 and 4-6 watches with Binion (all watches are with Binion); slowly I'm able to pick birds out at further distances with the naked eye; my queasiness is about gone but is recharged by seeing Huber hang upside down from the top bunk

Oct. 3 had the 8-10 and 2-4 watches; still eating hardy; the sausage is ungodly; so far have added the following birds to my life list: Harcourt's or Leaches storm Petrel, Bonin Is., Cook's, Pale-footed and Sooty shearwaters; we are constantly putting up numerous flying fish which exchange environments to avoid the ship - they can glide from 100-150 yards without trouble - they need only enter the lower portion of their tail into the water, take a short burst of undulations and gain enormous momentum again - they seem to be in schools according to their size - the larger ones have reddish pectorals, the smaller have clear pectorals - I am assuming this is a size and not a species difference; weather bad all day with intermittent sunshine from 12-2; night was windier with rain.



Lehner, P.  
1964

75

Oct. 4 up at 5:55 A.M. to go on early watch; deck still wet from last night's rain; rain threatened and caught up with us from the South at 6:35; Binion collected a Wedgetail which Huber immediately started mounting for the ship's wardroom; rain also in P.M.; gained an hour at night; couldn't sleep so I went up on the bridge where I talked to Jim (the huge Hawaiian) about Michener and Hawaii - he informed me that "The Fort", also known as the "Big Five", is composed of the Dillinghams, Castles, Bowins, Waterhouses and Bishops; he said that the Kees in Hawaii were probably the Tongas; finally made it to bed and sleep about 2 A.M. - it appears to be hard to get away from the Sand Is. routine.



Lehner, P.  
1964

76

Oct. 5 up at 8:00 A.M. for the 8-10 watch; a Red-tailed Tropicbird stayed with the ship from 11-11:20 A.M. (this was the first of several that were to do this throughout the trip); at 12:15 P.M. a Ruddy Turnstone landed on the ship was caught by Roger and Huber, banded and released but was determined to stay on board - it was scared up numerous times but always returned on board - it was later found dead on board; at ~ 10:25 P.M. a Red-tailed Tropicbird came aboard, was caught, banded and released although it was reluctant to leave.

Oct. 6 had the 8-10 and 2-4 watches; very few birds in both A.M. and P.M., they are getting noticeably fewer as we get further from land; we are still on the 250° WSW course but are now making 10.5 knots; our previous speed had been about 10 knots; crossed the International Date Line sometime during the late P.M. - THERE WILL BE NO TOMORROW



Lehner, P.  
1964

19

Oct. 7 lost crossing International Date Line

Oct. 8 up at 5:45 A.M.; besides crossing the Date Line we also gained 1 hour last night; at 7:00 A.M. a Red-tailed Tropicbird approached the ship, circled and then flew about 300 yards off the port side where it fed; I observed it making 3 dives from a height of about 80-100 ft. - it did not drop straight down but side-slipped like a goose, possibly controllly its fall to intercept a moving fish; a plankton sample was taken with the sled at 5:25 P.M.; it rained during the period the sample was being taken; late afternoon Huber shot a Cook's Petrel - I think he was more amazed at hitting the bird than the bird was at being shot:



Lehner, P.  
1964

78

Oct. 9 a Golden Plover landed on the ship last night and spent the night even though some of the ship's crew attempted to catch it (I was told of this, this A.M.); a Storm Petrel (Leache's or Harcourt's) followed the ship on several occasions during the A.M. but never came within gun range; several Red-tailed Tropicbirds circled the ship today; one was observed to fly with his bill constantly open; the number of birds is beginning to pick up again as we approach our first island; we should sight Taongi about 8 or 9 A.M. tomorrow; today was laundry and packing day.



Lehner, P.  
1964

19

Oct. 10 today is arrival day for Taongi;  
early A.M. bridge watch picked up numerous  
birds apparently reflecting our nearness to land -  
Fairy Terns, Red-footed Boobies, Wedgetails and Sooty  
Terns in great abundance; also saw many  
Blue-Grey Noddies; 7:45 Taongi sighted - Tanker  
seen off port horizon; birds now seen in  
every direction with Frigates constantly above;  
on several occasions immature Frigates persisted  
in trying to catch the fishing lures dragged  
behind the ship; at 8:10 a storm from the  
east caught up to us and passed over  
obliterating the island (off our starboard),  
cooling the ship and leaving a rainbow across  
the bow of the ship (good luck?); we passed  
south of the atoll on a  $268^{\circ}$  W course; we  
steamed around to the west side of the  
atoll and found the passageway without too much  
trouble; it was tending toward low tide (approx 10  
o'clock, check tide tables) and the water was already  
beginning to pour out of the lagoon through this  
small and only outlet; we cruised up and down  
the reef looking for anchorage which was reported  
as being absent and which we proved to be true;  
one raft with Mr. Ashton, Jim and Al went out  
to explore the passageway and take depth soundings;  
(over)



Lehner, P.  
1964

20

Oct. 10 continued

they returned without finding anchorage and without getting through the passageway which was by now carrying a great current of water; from the ship we could see 4 or 5 of the white phase Reef Herons; we now sat on the ship and waited until 5:00 before making an attempt at the passageway (the crew managed to get through about three o'clock); we had our "last supper" and started out at 5:00 o'clock; the going was easy until we began through the passageway which curves noticeably towards the left (north) as it enters the lagoon; we hit high waves ( $\approx 3$  ft.) which tossed us up and down causing the motor to come out of the water on several occasions; at one instance I glanced back and saw the underside of the raft following us, now hanging about 3 ft. above our stern; Mr. Ashton and Larry pushed it back before anything (like our prop. chipping up there bow) could take place; needless to say we made it; we landed on Taongi at 5:40 P.M.; we finished setting up camp at 7:10 P.M. and set out in two groups to band Boobies; Binion, Ken, Chris and myself in one group; Roger, George and Larry in the other; banding total for the evening - 13 Fairy Terns; 23 Brown Boobies; 64 Masked Boobies; 316 Red-footed Boobies - all the Boobies were  
(over)



Helmer, P.  
1944

21

Oct. 10 - continued

banded with <sup>blue</sup> anodized bands; the beach on the east side is loaded with fish balls of all sizes; we found the remains of one ship wreck (we found numerous large, smashed fish balls near by and piles of fish ball rope); we found an old shack on the east shore, way north of our camp (our camp is just north and east of the passageway on Sibylla); hermit crabs are numerous, ghost crabs; saw some of the rats; returned to camp shortly after 12 midnight.



Lehner, P.  
1964

22

Oct. 11 up at 7:50 A.M. ; Binion ran in grabbed  
a gun and said ducks<sup>(possibly sprigs)</sup> were flying over; saw  
Crested Terns near camp; northwest beach of  
Sibylla had seven Crested Terns on eggs (about  
30 ft. from water among small bunch grass); there  
are many ♂ Frigate birds with gular sacs blown up -  
throughout the day we must have seen 200-300; 9:40  
found Wedgetail burrows about midway up Sibylla (about  
100 yards from West beach; Binion, George, Chris and  
myself began walking up west side of Sibylla about  
8:30 A.M. (above statements occurred after leaving camp);  
there are hundreds or thousands of small (2-4 ft.)  
black-tipped sharks in the very shallow water  
near the beach - they almost beach themselves in  
their scurrying around; saw Blue-gray Noddies and  
Black-naped Terns at north end of Sibylla; at  
12:30 we crossed the three channels separating  
Sibylla and Breje and walked the east shore of  
Breje to its northern end; we saw many small  
black tipped sharks, other grouper-like fish and an  
octopus (about 3 ft.) while crossing channel; we  
found an old <sup>(target plane)</sup> airplane wing and a whale jaw on  
Breje; we left Chris on Sibylla when we crossed the  
channel - he returned to camp on west shore of  
Sibylla; we started back from north Breje at  
1:15; we came down ~~west~~<sup>east</sup> side of both Breje  
and Sibylla through intermittent rain squalls; there  
are hundreds of Red-tailed Tropicbirds and Frigates  
on Breje and from what we could see on Kamone  
(over)



Lehner, P.  
1964

23

Oct. 11 - continued

through the binoculars there are many more there, as well as many Sooty Terns; we hope to take the raft to Kamome tomorrow and band; the return trip was Hell with wet, sandy sneakers and socks; we found 2 ~~unmarked~~ <sup>unchartered</sup> shipwrecks on the east side of Sibylla, one about half a mile north of the old rusted hull shown on the charts and another about half a mile north of that; the northern most wreck is ~~the~~ FUKUJU MARU #5, a Japanese fishing ship; we brought back two life preservers and two sextant boxes found on shore; everything we found on shore was in real good shape - the wreck could not be over three years old; there is also a canvas shelter, survival kit, food, etc. about opposite this wreck on the west shore; the next wreck about 1/2 mile south is the SHOEI MARU, another Japanese fishing boat; there were numerous fish balls, lines and ~~and~~ cane poles on the beach near both recent wrecks; the oldest wreck, furthest south is all rusted out; there is a shelter (house-like shack) on the east shore a little south of the last wrecks; walking with sand in my wet sneaker ground my heels down to where the flesh began to talk back; the return trip was to put my foot in bad enough shape that walking was painful for several days;

THESE TENTS LEAK LIKE HELL!



Lehner, P.  
1964

24

Oct. 11 - continued

at 4:45 returned to camp - wet and exhausted;  
almost constant rain fell; we shifted our tent around  
in an attempt to get the rear of the tent to  
catch the brunt of the wind - however, the wind  
shifted 90° and continued to blow in the sides;  
George set the Sherman live traps - we all sacked  
out under somewhat miserable conditions.



Lehner, P.  
1964

25

Oct. 12 up at 5 A.M. couldn't sleep - rained on my sack all night long - it finally drove me out shiveringggg! - build a bonfire and dried out - Roger got up before 6 A.M., then Binion arose and Roger went off collecting shorebirds; 8:20 A.M. went up west shore (north) of Sibylla collecting plants with Ken - when we reached the survival camp we crossed island to shipwrecks and returned to camp about 11:15 - we collected 10 species of plants (apparently one more than has been recorded); when we returned the ship's crew was waiting to take us to Kamome to spend the night banding birds; left Sibylla in two rafts and all the gear (except some sort of shelter) at 12:30; picked up Al and Figaro (beach combing) along the way; we left Roger at base camp on Sibylla to band Masked Boobies; arrived at Kamome about 2 P.M. and surveyed the immediate vicinity (east shore); George, myself and 3 crew members went to the next island north and found numerous ~~Sooty~~ Fairy Terns but no Sooties - returned to Kamome at 3:00 P.M.; we were told of the thousands of Sooty Terns and Wedgetails on Kamome and how we were to spend an easy night banding thousands of birds; George and I walked north up the west side of the island in an attempt to collect rare shorebirds; we found nesting Fairy Terns with young and eggs but no rare shorebirds; we returned to our Kamome camp and all ate waiting for nightfall to band birds; at nightfall Binion,  
(over)



Lehner, P.  
1964

26

Oct. 12 - continued

George and myself went off to band Sooty terns - Chris came along; Ken and Larry started out to band Wedgetails; all went well, except for George putting 200 number 2's on Sooties; I banded 500 Sooties and Binon had about 700 when we headed back to camp for more bands; up to now we had had only two brief showers; my wet feet were extremely sore by this time and I had to take it real slow going back to camp; George had his rubber suit and many bands and was determined to stay out banding; Binon and I had sat down at camp and begun to eat some chow when the rains came; we headed toward a headlight which was up on the hill toward a Scaevola bush we had used earlier for a poor, but better than nothing shelter from wind and rain; when we reached the light, it turned out to be Ken still banding Wedgetails; turning 90° we headed for the bush which was now barely visible; Binon made it in a hurry as the rains really began to fall - I still had to hobble - as I approached the bush I speeded up for a last burst to shelter, but tripped over a large boulder, tore open both knees and one pants leg; when I finally crawled into the bush I was already soaking wet and pretty well  
(over)



Lehner, P.  
1964

27

Oct. 12 - continued

battered up; from this point on the rain fell almost constantly all night long and the winds blew in perfect harmony with the rain - the only variation we had was the the ferocity with which each element beat upon us; when I reached the bush, Chris and Binion had already dug in, and Ken quickly joined us; it took us only a very short time to begin cursing having not brought some sort of shelter with us; we thought about turning the raft over but decided it was too heavy and we were too miserable to attempt it; George and Larry went on banding somewhere on the island - earlier Larry had caught a Christmas Island shearwater and later caught a mottled phase Reef Heron; it is impossible to describe how miserable I felt and how bleak my outlook was as the rain soaked me from head to foot; the wind beat through my thin shirt and chilled me to the bone and my sore feet throbbed with deadened pain; it was obvious that we were destined to spend the next 8 hrs. in this manner, as it was about 10 P.M. when we first crawled beneath the bush; after about one hour of  
(over)



Lehner, P.  
1964

28

Oct. 12 - continued

this hell with lightning lighting the sky about us we decided that the only way to survive was to build a fire; I got up and exercised as best I could in one spot, in hopes of getting my blood circulating faster; Ken and Binion began searching at great distances for any kind of wood that would burn; after they had collected a fair pile (all of which was, of course, soaking wet), Binion went to the raft and returned with the gas can; at this point I was extremely glad that I had brought my lighter with me - I still break out in sweat and chill at the thought of what it would have been like if I hadn't had it with me; with the aid of the gasoline and some paper sacks from the chow bucket we finally got the fire going; once during the night the rain stopped and we were able to get almost completely dry before the skies opened up again; almost the entire night was spent hovering over the fire, warming one side while the other side froze, and also keeping the rain from drowning the fire; it is hard to believe that one could be so cold on a Pacific Island, but I know my days in the frost covered, mud smeared, snowy, fecal duck blinds were far more comfortable and warmer; it was necessary to make several infrequent trips after wood, and on each trip it was necessary to go further after wood - with my battered, sore legs and (over)



Lehner, P.  
1967

29

Oct. 12 - continued

feet I was of very little help, but did managed to drag back a few small pieces; this is the way we spent the eight hours from 10 P.M. until 6 A.M. on Oct. 13 - with the elements making us pay for our ignorance at not bringing shelter; George returned at 3:00 A.M. after having banded 1000 Sooties - he dragged some wood to the fire and layed down in his rubber suit beside the fire and serenely went to sleep; Larry returned around 4:00 A.M. after having banded 200 wedgetails, 78 Golden Plovers and several Ruddy Turnstones; he didn't appear to be much worse for the weather but readily accepted an invitation to soak up heat from the fire; the sun rose slow on the 13<sup>th</sup>; we trudged down off the hill to our collection of drums and ammunition cases at 6:30 A.M., sought out some sandwiches from one of the drums and made the radio check at 7:00 A.M.; we then loaded our raft and made off for base camp at Sibylla - the rain continued to beat down on us the whole distance;

it was necessary to drag ~~the~~<sup>seven</sup> hours of Oct. 13 into this discourse as it contributed the greatest to the nightmare just related; I can safely say that it was one of the most, if not the most, miserable nights I have spent; despite the unfortunate circumstances which stand out  
(over)



most clearly in my mind and remind me most of that dreadful day, I did make the following observations: the nesting Sooty Terns are concentrated on the Northwest side of Kamome; they are nesting below and between 3-4 ft. high Sida which is thicker than fleas on a dogs back - they are also among the bunchgrass which lays between the Sida and the beach - they have an extremely hard time getting out of their nesting sites and flying up above the Sida to reach the air currents necessary for controlled flight; they were easy to catch - often I could stand in one place and grab as many as eight off the ground; the Wedgetail population seems to be composed of 20% dark phase - they are much more common here (dark phase, that is) than I have seen them before.



Lehner, P.  
1964

31

Oct. 13 returned to base camp on Sibylla at daybreak (actually shortly thereafter - we made radio contact at 7:00 A.M. and returned after that); rain poured down all the way to camp; returned about 8:30 A.M. to Sibylla to find Roger sacked out (in the other tent) and our tent with the insides soaked and  $1\frac{1}{2}$  inches of water on the floor of our tent; all of our belongings, except those in closed metal ammunition boxes, were drenched including the pump shotgun, maps, banding record book, and our cots, mattresses and sheets; also Ken's alarm clock, which was on a cot, ~~was~~ was full of water between the face and the crystal; however, it still worked - in fact, it even gained time; Mr. Ashton, Jim and Ben arrived about ten as the rain continued to pour down; Ben and Jim went to the shipwrecks while we discussed the situation with Mr. Ashton; after deciding that we might as well leave, we tried to get the ship on the radio by sending up smoke bombs - all we could get was a Japanese conversation; after about 45 minutes and 6 smoke bombs we got them on the phone (radio) and told the captain we would probably be out at three with all our gear; we finally decided to pack all our gear wet (the rain never did cease or show any signs of letting up); packed and left Taongi at 2:45 P.M.; when we reached the passage the surf was rolling in pretty good so Mr. Ashton had Ben (a Hawaiian who had supposedly had a lot of experience with surf) take over for me on the other boat's motor;

(over)



Lehner, P.  
1964

32

Oct. 13 - continued

we quickly lost confidence in our ~~new~~ new helmsman when he couldn't find out where the gears were, which way to twist the throttle, how to get out of the surge channel, and his finally changing sides of the raft to operate the throttle with two hands; with Ben's teeth clenched together and our confidence at an all time low we approached the incoming surf, tightened our life-jackets and got a firmer hold on both the raft and our courage; the surf was only 4-5 ft. high, but when we reached the crest of one wave and the motor began to sputter Binion and I both instinctively yelled "gun it" at which Ben said, "don't worry" through clenched teeth; we made it through and to the ship where we piled the wet gear, ate and sacked out for 12 hrs. of hard earned sleep; we were now headed for Bikar a day early and would reach there tomorrow at mid-morning.



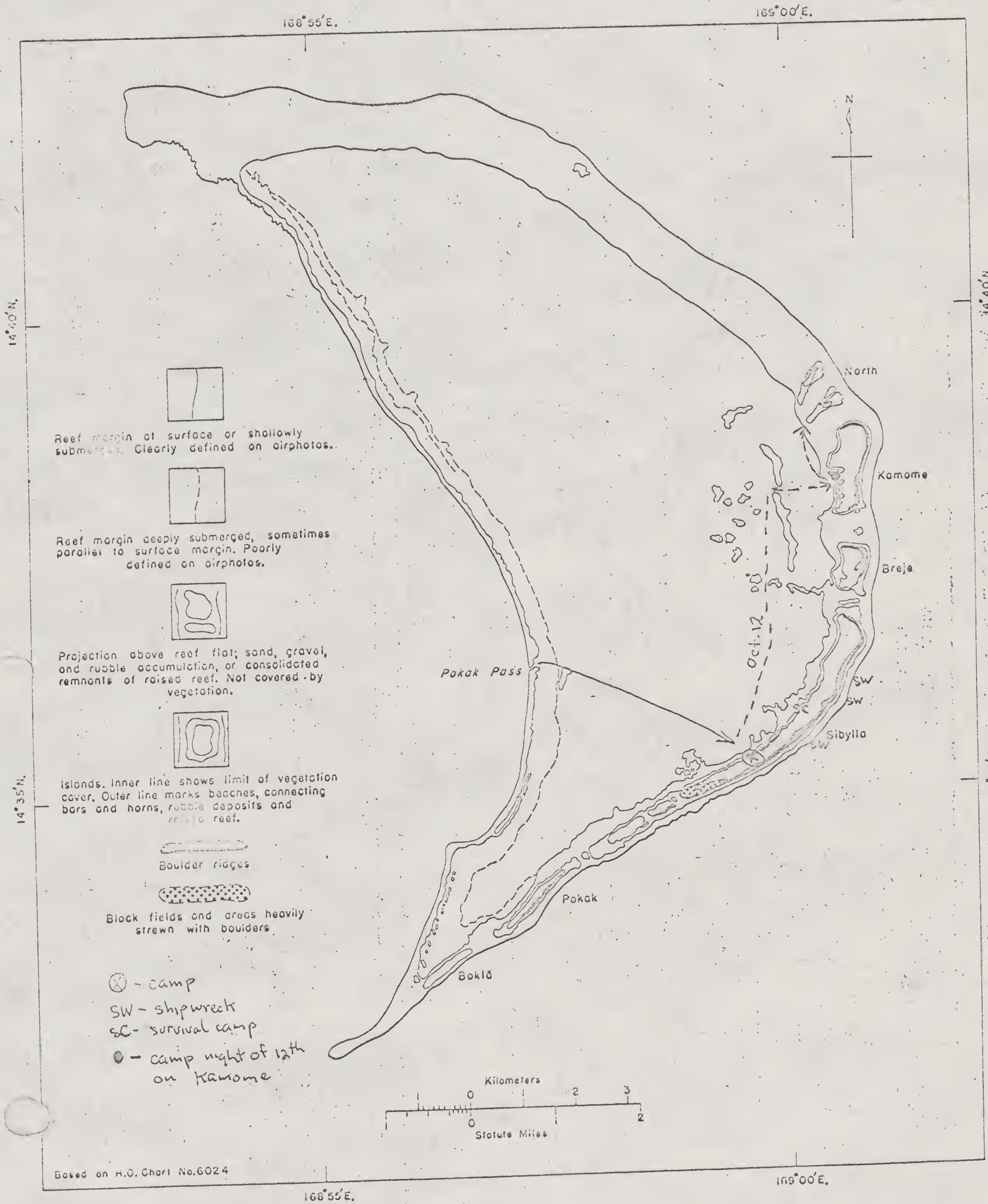


Figure 2. Taongi Atoll.



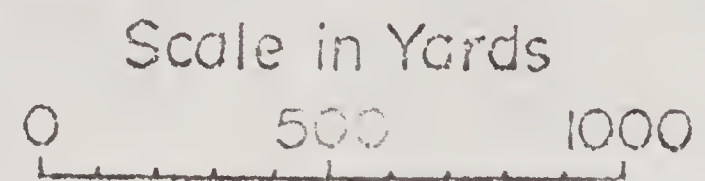
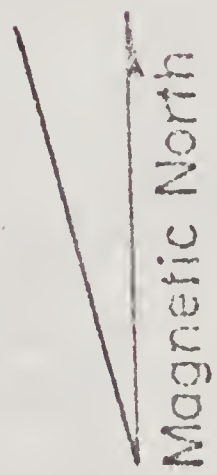
MARSHALL ISLANDS

Taongi Atoll  
(Pokaakku Atoll)

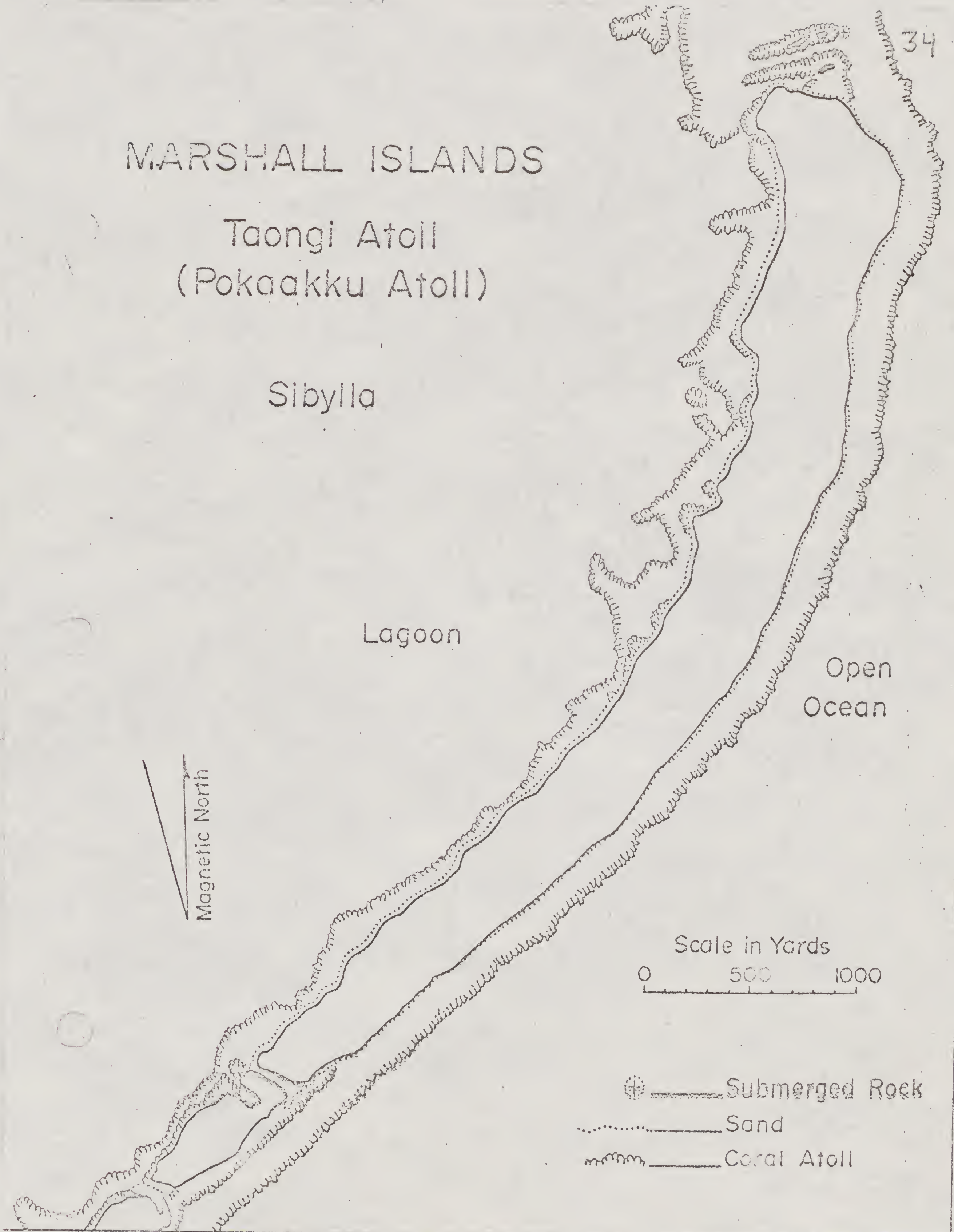
Sibylla

Lagoon

Open  
Ocean



- Submerged Rock
- Sand
- Coral Atoll





35

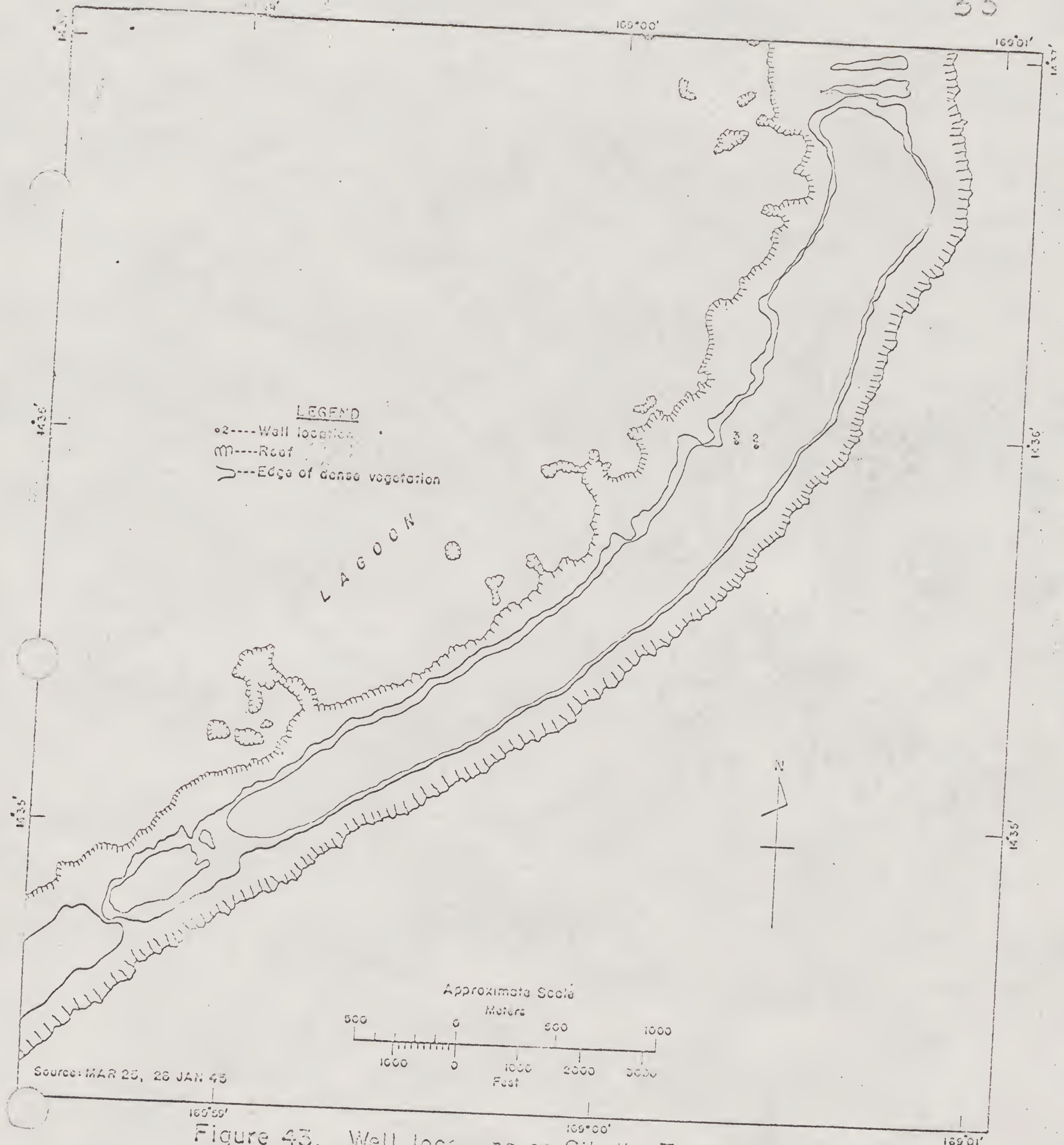


Figure 43. Well locations on Sibylla, Taongi Atoll



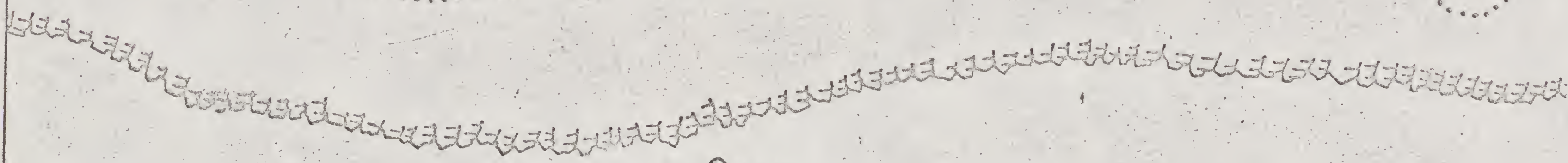
MARSHALL ISLANDS

Taongi Atoll  
(Pokaakku Atoll)

Magnetic North

Pokaakku

Lagoon



Scale in Yards  
0 100 200 300 400 500

Open  
Ocean

..... Sand  
Coral Atoll

11  
6



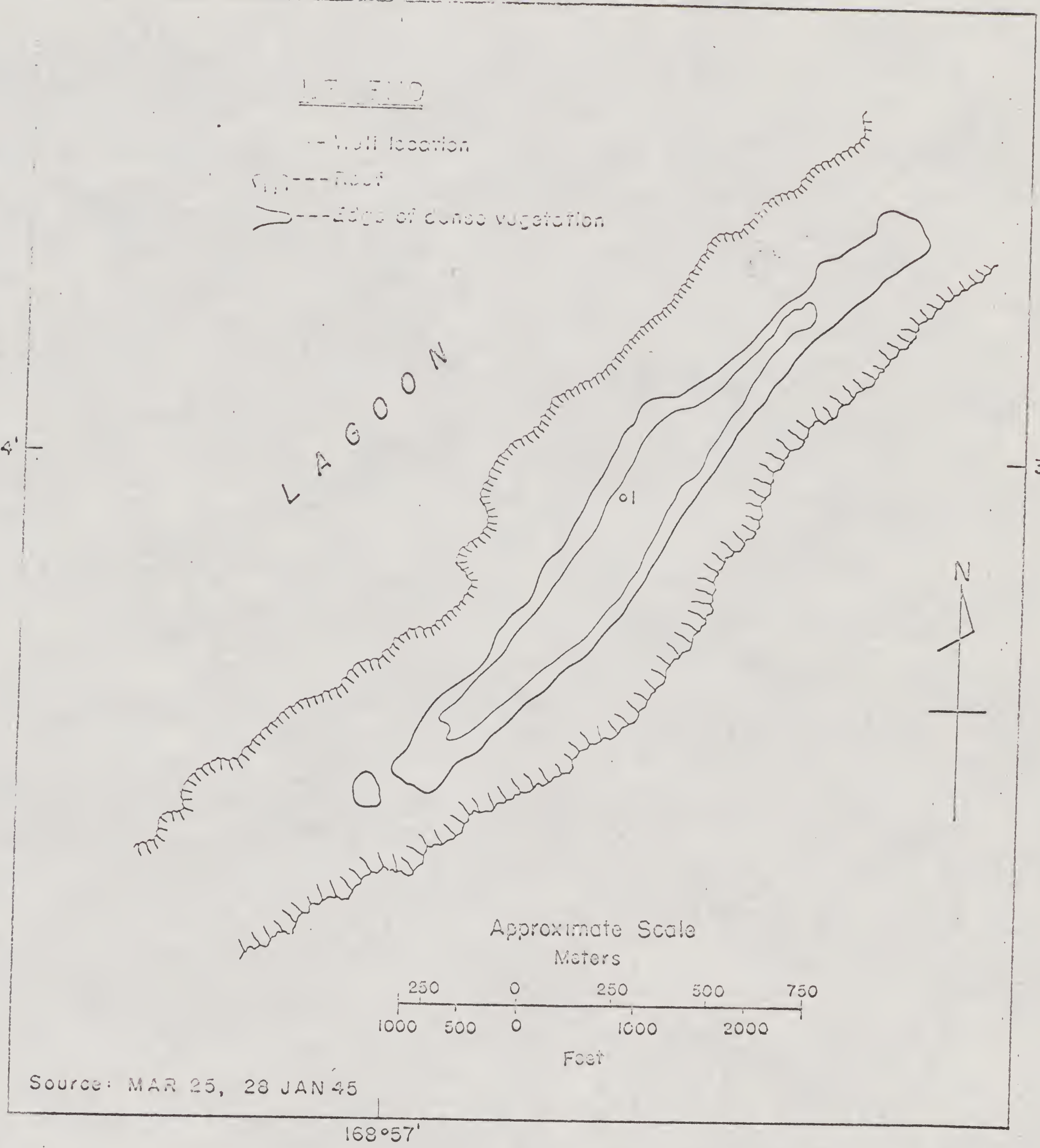


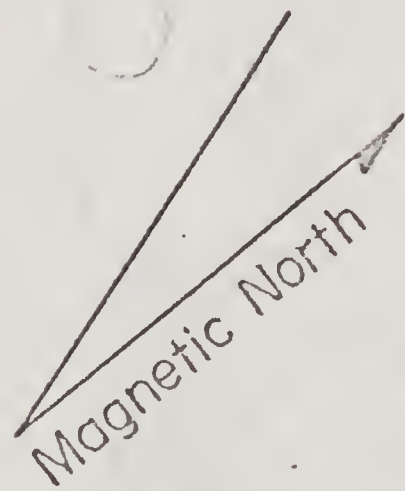
Figure 42. Well locations on Pokak, Taongi Atoll



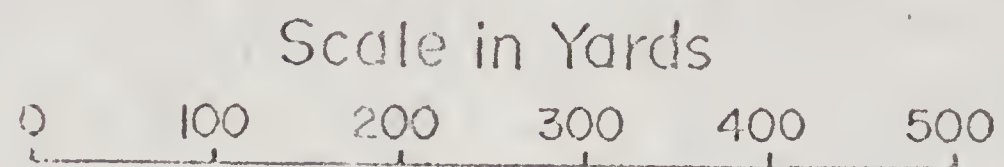
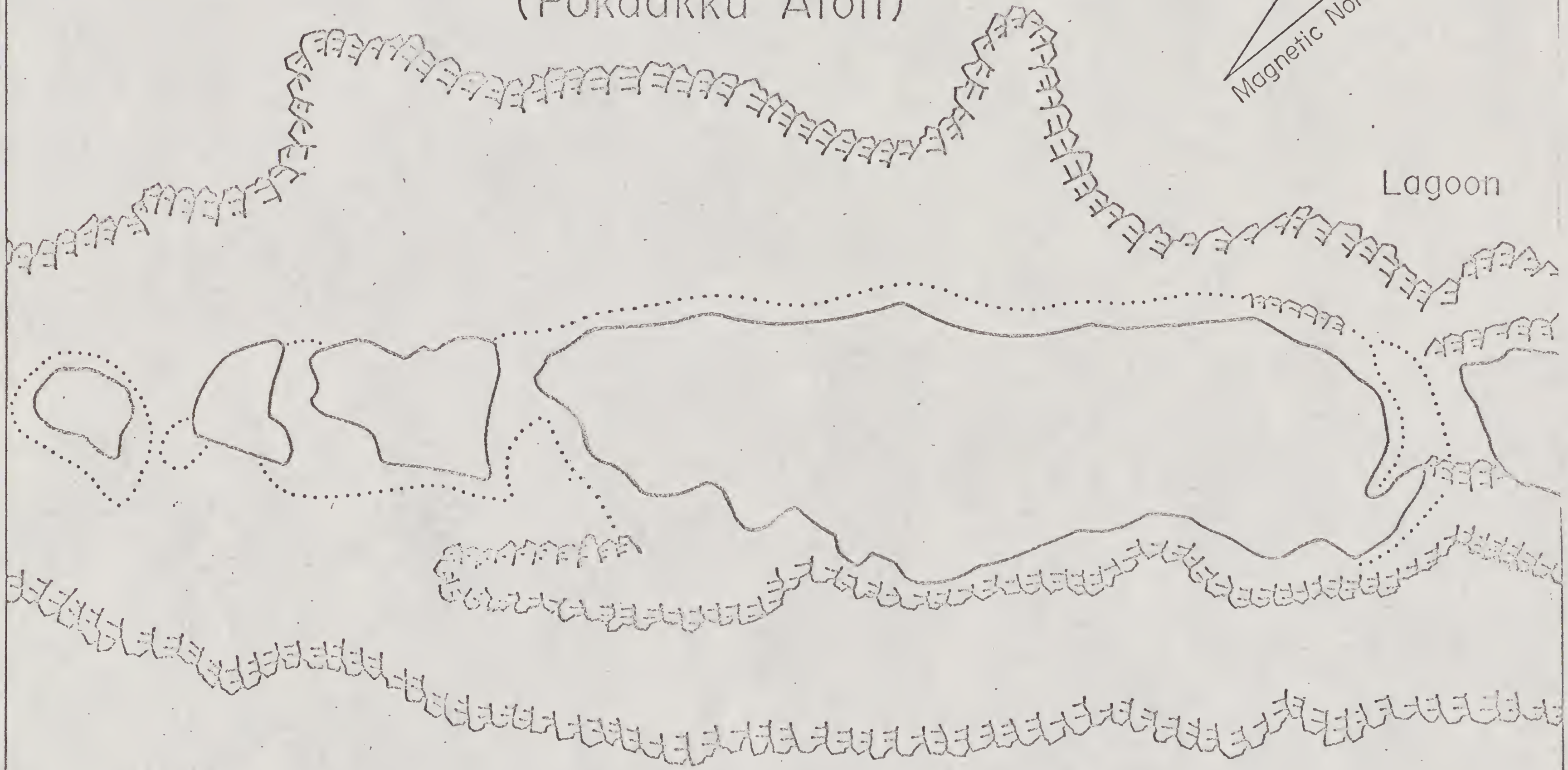
South Islands  
of Sibylla

# MARSHALL ISLANDS

Taongi Atoll  
(Pokaakku Atoll)



Lagoon

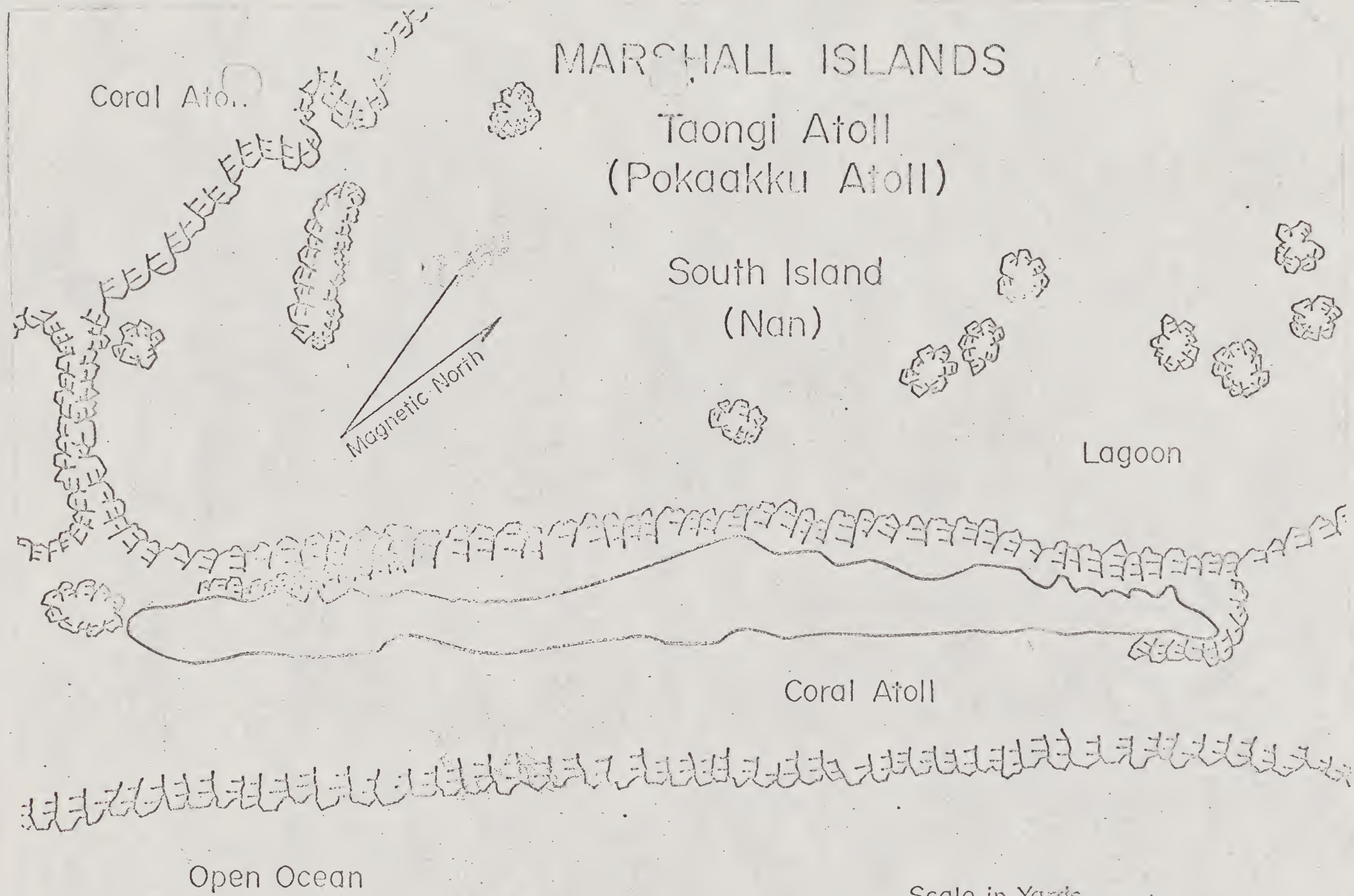


Open  
Ocean

..... Sand  
———— Coral Atoll

W  
OO





MARSHALL ISLANDS

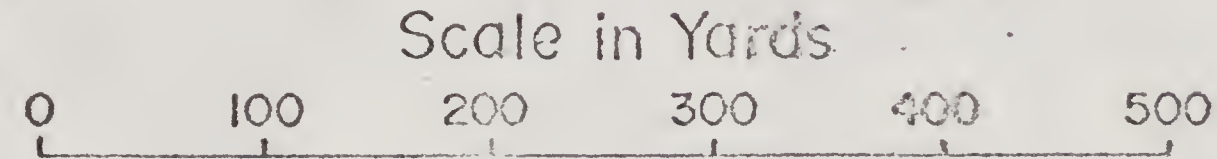
Taongi Atoll  
(Pokaakku Atoll)

South Island  
(Nan)

Lagoon

Coral Atoll

Open Ocean





MARSHALL ISLANDS

Taongi Atoll  
(Pokaakku Atoll)

Kamome

40

Sand

Coral  
Atoll

Magnetic North

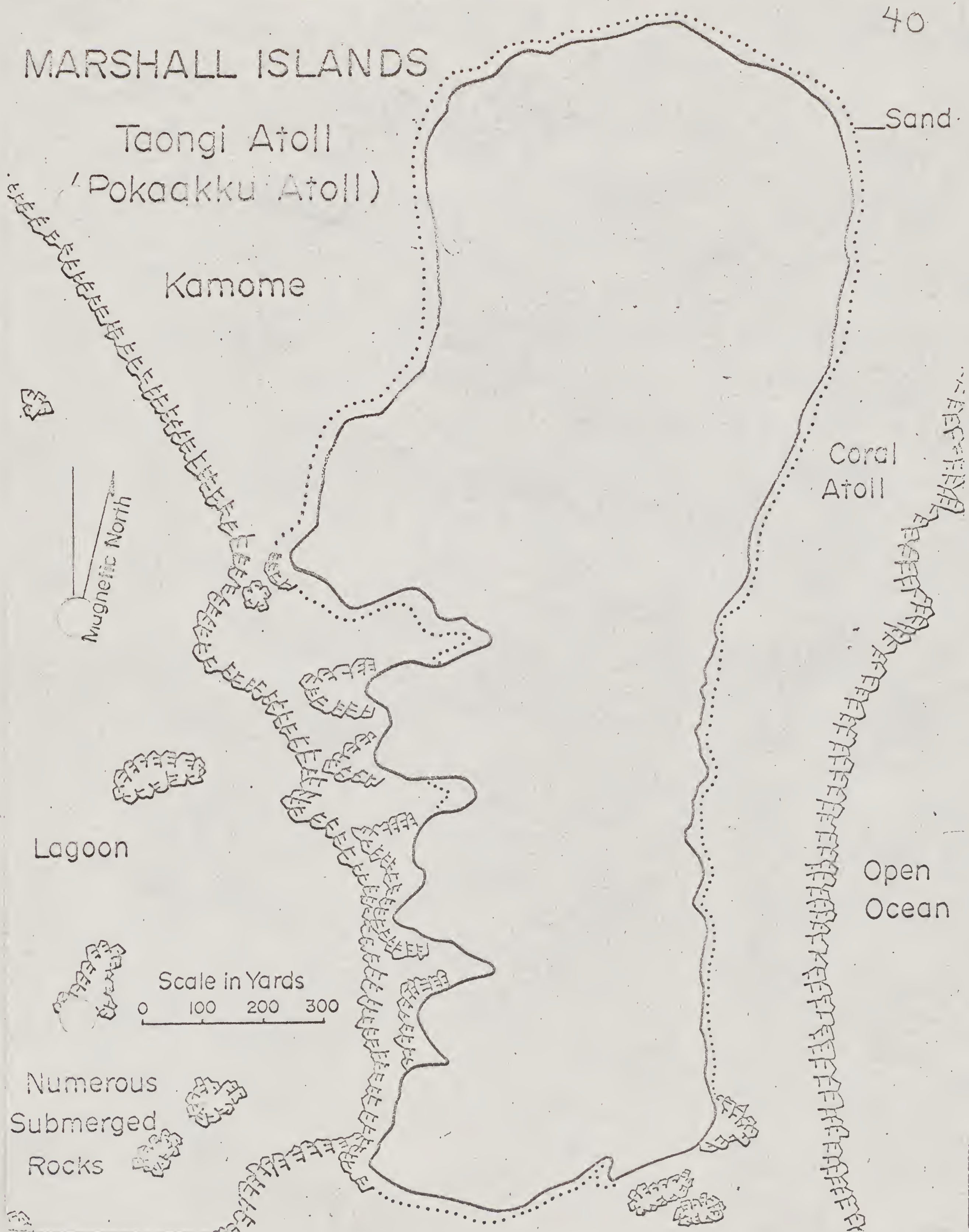
Lagoon

Open  
Ocean

Scale in Yards

0 100 200 300

Numerous  
Submerged  
Rocks





MARSHALL ISLANDS

41

Taongi Atoll  
(Pokaakku Atoll)

North Islands of Sibylla

Magnetic North



Lagoon

Sand

Coral  
Atoll

Open  
Ocean

Scale in Yards

0 100 200 300 400 500



MARSHALL ISLANDS

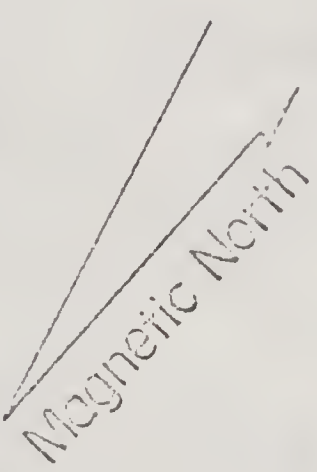
Taongi Atoll  
(Pokaakku Atoll)

North Island  
(Klita)

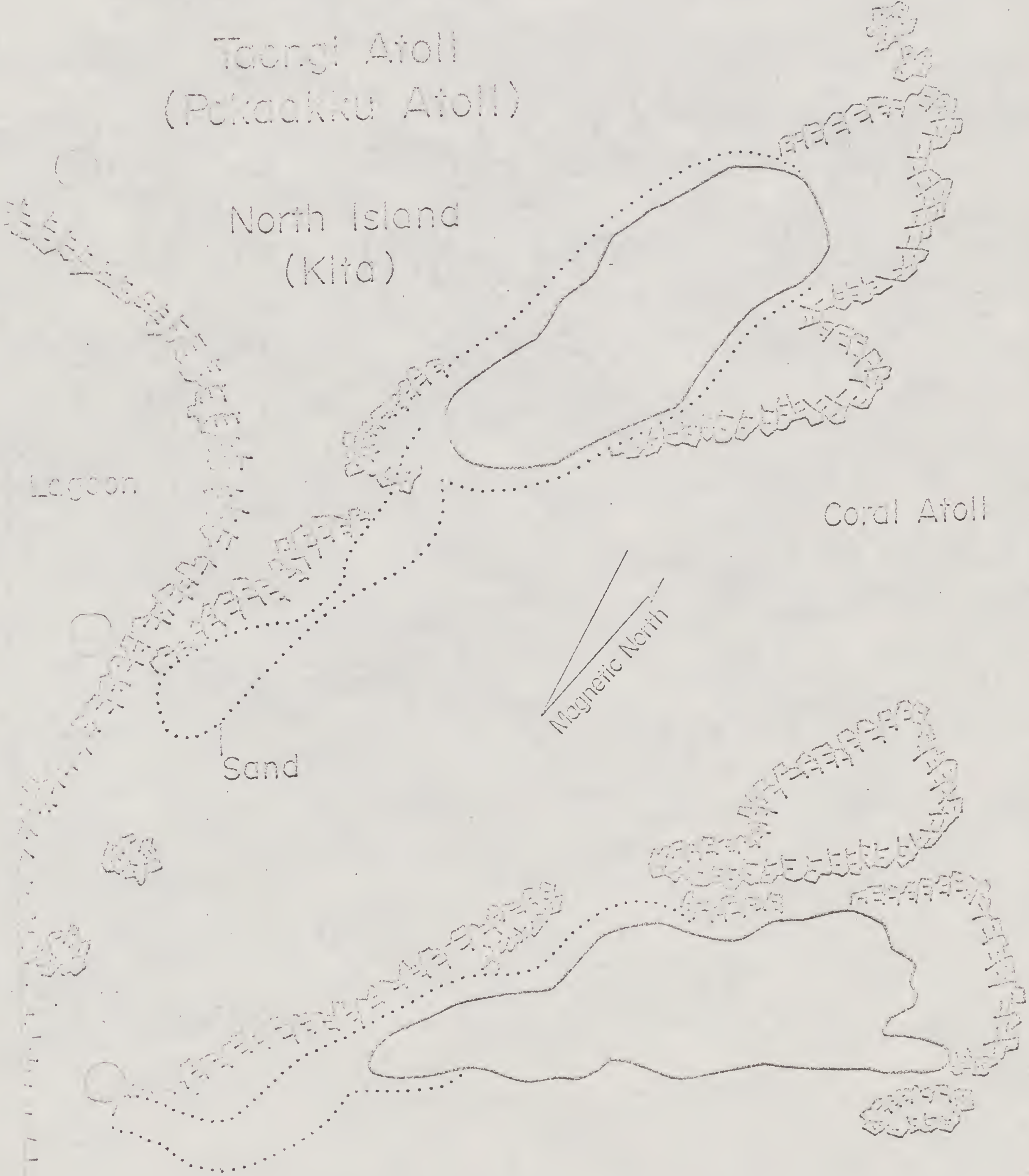
Lagoon

Coral Atoll

Sand



Scale in Yards





Lehner, P.  
1964

43

Oct. 14 Binon woke me up at 4:30 A.M. and we all began reddyng our gear for Bikar; things that had been drying last night in the hold were packed and fresh gear was readied for another try at island living; the tent tops were painted with a canvas preservative by the crew, Binon spun the blood down, and Roger appeared to be dying - he had been sick last night and now felt bad enough that he stayed on the ship when we departed; ~~Ti~~<sup>Bikar Atoll</sup> was spotted about 8:45; we approached the atoll from the north; following the west coast southward we could see three unchartered shipwrecks - two on the windward east reef and one aground in the north fork of the leeward reef passage; we went down to Bikar Island, where we could see Frigates, Red-footed Boobies, Hawaiian Noddies, Crested Terns, and Turtle Tracks on the beach; departed the ship at 12:30 P.M. and entered the passage to the lagoon - there was very little wave action in the channel but the currents are strong and unpredictable; we entered at low tide which exposed most of the reef - we could see numerous <sup>bright</sup> blue colored fish and 3-4 ft. black-tipped sharks in the coral shallows; arrived on Bikar Island at 1:30 at the northwest tip; after surveillance it was decided that the camp should be set up on the northeast side; after setting up camp George, Binon and Larry went off surveying the island, returning about 5:30; a radio check  
(over)



Lehner, P.  
1964

44

Oct. 14 - continued

was made at 6:00 P.M. and plans were laid for visiting the other islands in the Atoll tomorrow; after having some chow Binion, George, Ken and Larry went off banding while I stayed around working on field notes (I was still pretty well crippled up with sore feet); Chris hit the rack early; after circling the island they returned convinced that ~~very~~<sup>very</sup> little banding could be effected - Boobies, Frigates and Terns were all up high in the Pisonia trees; they did band:  
11 Brown Boobies, 2 Great Frigatebirds, 1 Red-footed Booby and 1 Golden Plover; we set out the 25 Sherman Live Traps - checking them later we found only Hermit Crabs in them - in ~~one~~<sup>one</sup> cases they had actually pulled the trap apart - Hermit Crabs are much more numerous here than on Taongi - they are running all through camp; rats are also numerous and can be seen often scurrying across the ground, up and down trees and through camp; tonight I watched Fairy Terns fly among the Pisonia trees with no breeze and am now convinced that they fly backwards - this they seem to effect, not by changing the angle of their wings, but by bringing their body down almost perpendicular to the ground; this island is one of the most beautiful I've seen; it has a dense forest  
over



Lehner P.  
1964

45

Oct. 14 - continued

of Pisonia and Messerschmidia with Scavola  
on the edges out to a fine grained beach.  
There is a coconut tree plantation (planted  
by visiting Marshallese) which provides us with  
small, but good nuts, and other grass I cannot  
identify; the fauna is extensive species wise:  
Red-footed Boobies, Brown Boobies, Blue-faced Boobies,  
Great Frigatebirds, Fairy Terns, Hawaiian Noddies,  
Brutle-thighed Curlew, Golden Plover, Ruddy Turnstone,  
~~and~~ Crested Tern, and others I have not yet  
seen; our camp appears to be in better shape,  
the habitat is more pleasing and consequently I am  
looking forward to a more pleasant stay; hit the  
rack at 10:50 - still no rain.



Lehner, P.  
1964

46

Oct. 15 up at 7:50 A.M. ; the radio check had been made by Binion at 7:00 - the raft was to start out at 8:00 ; by 8:00 the rains started in in small showers (we had showers during the night) ; we checked the mouse traps but found nothing but hermit crabs ; they were re-baited with coconut meat and re-set ; 8:50 the rain set in for good (still raining light at 12:15) ; six of the crew arrived at 9:30 ; we sat around the tents (most of the crew wandered over the island) hoping the rain would cease so George and Ken could go with the crew to survey the other islands ; by 11:25 we gave up and the crew left for the ship ; shortly thereafter the traps were checked again but no mammals had been caught ; the spiders on this island are extremely thick having spun webs between nearly every bush ; I'm constantly brushing webs off my face ; 1:30 rain about stopped ; from 1:30 to 3:30 everyone but me poisoned fish (my feet are still healing) ; the fish-kill was very effective - we turned up possibly 40 species of fish and eels ; the fish were identified to the best of our knowledge for Chris, who took a sequence, and then they were formaldehyded ; had a radio check at 6:00 ; 7:20 we all set out to collect blood but managed to get only a little Booby blood and a little blood from  
(over)



Lehner, P.  
1964

47

Oct. 15 - continued

three rats which had to be pooled because of its paucity; returned from our circuit of Bikar at 8:45; Huber and Binion went in the water to retrieve more poisoned fish from the afternoon's closure; checking the trapline I found one rat, which was our total trapped for the island; turned in without much further ado.



Lehner, P.  
1964

48

Oct. 16

it rained all night; I awoke to rain, so I rolled over only to hear the motor of the approaching raft; it arrived at 9:20 bearing 2 barrels of chow and Roger; Roger stopped at the shipwreck aground in the passage on the way in and saw a couple rats running about - he collected one dead one (mostly just skeleton); we sat in the tents and waited out the rain, deciding that when it stopped we would pack up and move camp to one of the two northernmost islands; at 10:10 the storm abated and we began breaking camp; the max.-min. thermometer read 87-85 (hard to believe); by 11:15 we had started across the lagoon and <sup>were</sup> heading north; the lagoon was calm as glass on the surface with the water crystal clear; a large storm was still threatening to drench us on our journey; at 11:45 we landed on Jaboero-tō, the middle island in the atoll; a sanderingling was seen and shot at twice but not collected; there are only two plants on this treeless island, what appears to be Portulacca and another low succulent; we found 5 moray eels in the tidal pools; at 12:05 we left Jaboero-tō and headed north toward Arumeni-tō, both rafts busily dodging coral heads;

(over)



Lehner, P.  
1964

49

Oct. 16 - continued

at 12:40 we passed on the west side of Arumeni-tō and glassed it from the raft; it did not look too productive bird-wise although Frigates, Boobies and Terns could be seen flying above and around it; the vegetation looked very similar to Bikar, if anything it is thicker; at 1:50 we landed on Jaboerukku-tō and put most of the party ashore to look for a campsite; the southern half of the island has very sparse vegetation and is quite open to sunlight and wind so the party went towards the northern end - we followed in the boats (I was still keeping dry my sore feet); we saw one turtle on the lagoon west of Jaboerukku-tō which broke surface and then dove under the raft; the crew spoke of seeing many more in the lagoon the day before; Bikar has far more turtle tracks on the beach than any other island; however, we have yet to see one on the beach anywhere; the southern end was finally chosen as a campsite because of its level, sandy surface - we landed the rafts at 1:15 and started setting up camp; at 3:30 camp was up and we were relaxed enough to start exploring; there many Brown Boobies and Red-footed  
(over)



Lehner, P.  
1969

50

Oct. 16 - continued

Boobies (according to our banding sample, 1/4 are dark phase and about 1 out of 15 are phoenix phase); Masked Boobies are nesting in the southern open area and on the southeast and northeast shore (one nest on the southeast shore had a chick and an egg); the Frigatebirds are not in this atoll in the large numbers which we found at Taongi - neither is there the extensive mating although I have seen a very few gular sacs expanded and heard one mating call; there are 2-3,000 Sooty Terns nesting on an islet to the northeast of Jaboerukku-tō; Ken and Roger waded over and reported about 100 chicks less than 2 weeks old; Binion and George found a white-tailed Tropicbird nest in the dense growth in the interior of the island about 6 ft. off the ground; at 4:45 we returned to camp - the afternoon remained beautiful, for a change, and we had a visible sunset at 6:15; at 7:30 we set out banding Boobies using the massacre method of long poles, nets and great manpower - they could be knocked from trees, or knocked to the ground while in flight, and then netted and banded; we put a red paint spot on the breast of the banded birds; on this island we banded  
(over)



Lehner, P.  
1964

51

Oct. 16 - continued

62 Red-footed, 61 Brown and 57 Blue-faced Boobies; we returned at 9:30; shortly thereafter everyone but Chris and myself waded across to Arumeni-tō to band some more; we have freshwater pools in front of camp in eroded basins of coral rock - could this be the source of freshwater for migrating shorebirds?

11:35 P.M. the other banding party returned - there is a large club of about 100 Masked Boobies on the northeast end of Arumeni Island; the sky is almost completely overcast, but no rain is falling; 12:15 to the rack.



Behner, P.  
1964

52

Oct. 17 up at 7:50 A.M. ; it's not raining (an extremely rare occasion); checked the Sherman traps but no mice, only an occasional Hermit crab; pressed the plants Ken had collected on Bikar Island; at 10:20 the raft from the ship arrived; Roger went out banding Boobies; Blinnon went collecting insects; Ken and George went to northeast islet and banded Sooty Tern chicks; Chris and myself went to the interior of the island to photograph the white-tailed Tropicbird nest; the island appears to be fully complemented with a gecko, a skink, 2-3 species of spiders (numerous individuals), grasshoppers, ants, moths, mites, and ticks; at 11:45 I observed a Frigate chase between 2 female, adult Frigates; almost all the species have been seen flying beneath the dense forest canopy: Red-footed and Brown Boobies, Fairy Terns, ~~Common~~ <sup>Common</sup> Noddies, White-tailed Tropicbirds and Great Frigatebirds - Frigates leave by dropping down and flying close to the ground until they reach the thicker area near the edge and then they flap along the ground until on the beach; they appear to instinctively head in a direction for the beach in no more than 90° from the wind direction; there are infrequent mushrooms growing in the wet humus layer beneath the *Pisonia* canopy; numerous rotting logs seem to provide for what is a deep, dark, rich humus topsoil; there are also mycologic growths on the sides of *Pisonia* trees;  
(over)



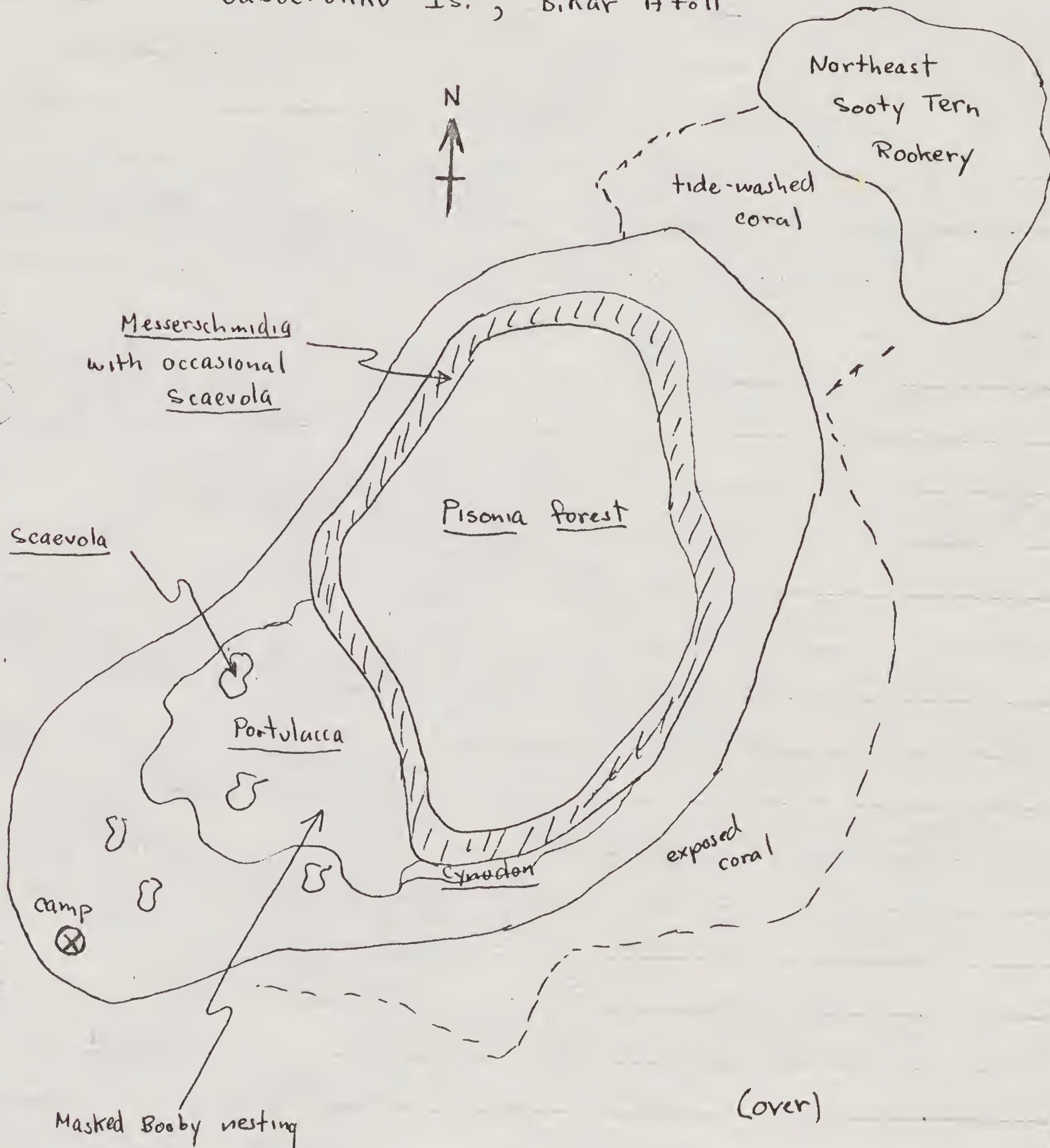
Lehner, P.  
1964

53

Oct. 17 - continued

a definite vegetation gradient is evident on this island, as it has been elsewhere (Bikar and islands in Taongi Atoll); the following map is typical of the situation found in the other islands:

Jaboerukhu Is., Bikar Atoll





Lehner, P.  
1964

54

Oct. 17 - continued

the large population of Pisonia trees in the interior vary in dbh from approximately 2" to 2'; many of the large ones are hollow at the base and up the trunk for 10 feet or more - it appears as though the old heartwood has rotted away and only the cambium and sapwood is supporting the tree; rats (possibly Rattus exulans) abound in both the open areas (where there is Portulacca) on the south-central part of the island and in the Pisonia forest - they have holes in the ground, under rocks and beneath Pisonia roots - in the open areas there burrows are shallow and easily dug up; they can be run down and netted or clubbed; a female Great Frigatebird was observed on a branch 20 feet below the forest canopy and was prodded into leaving to see in what way she would get to the air currents needed for controlled flight (the canopy is very effective in blocking both sunlight and wind - the light reading on my Weston IV light meter varied to a maximum of 3.2); when she decided to leave she dropped to ~~4~~ within 3 feet of the forest floor and glided toward the southern edge of the forest (about 30° from the wind direction); she dodged trees quite well but finally  
(over)



Lehner, P.  
1964

55

Oct. 17 - continued

hung herself up in the thick Messerschmidia at the forest edge; from there she fought her way out and into the wind - it is doubtful that with the forest as cool as it is, that night ambient temperatures would drop low enough to cause sufficient convection currents rising out of the forest to allow her to rise up and out through ~~some~~ one of the few canopy openings in the immediate vicinity; the max.-min. temp. at camp was 96° and 84°; 1:30 returned to camp; Ken and George returned from the northeast islet having banded 600 10 to 20 day old Sooty Tern chicks; at 3:00 I went skin-diving, hoping the salt water would toughen up my still sore heels (I have not worn shoes now for 6 days); the water in front of camp provided several types of aqua habitat with the changes in current between this island and Arumenii; the fish fauna is very extensive; I saw many (Humu humu nukunuku apua's) which I have come to believe are the most bizarre fish in tropical waters; I took several underwater shots with my Nikonos; the sight of a large moray eel (about 6 ft. long) at my heels got me out of the water at about 4:30; it was surprising how  
(over)



Lehner, P.  
1964

56

Oct. 17 - continued

this moray had concealed himself under a ledge so well all afternoon - I had swum around in front of that ledge for a long time earlier and then came over the same ledge unexpectingly later on and caught the moray un aware - a sixth sense made me turn around - when I saw him only two feet behind my heels I made straight for camp - I wish I had had my camera with me at that moment; tonight we broke out sphagetti and pork and beans - with the sterno stoves we had ourselves our first hot meal on the islands; at 7:30 we all set out to band Boobies and Frigates on Arumeni Island; a club of about 100 Masked Boobies was seen earlier on the northeast end of the island - tonight there were 50 to 75 - we caught only about 10; we found that the most effective way to band the Boobies on the islands is as follows: 2 banders, 2 people with poles to knock the boobies to the ground as they fly out and 2 people with nets to capture the low fliers and those that get up and start off again - another person working 30 yards back in the interior with a long pole prodding them out is also very effective; we encountered  
(over)



Lehner, P.  
1964

57

Oct. 17 - continued

frequent rains and had to crawl beneath trees to keep the light head bands dry; we returned to camp at 8:50 P.M., sat around to recuperate a bit and then set out to whack down more boobies on Jaboerutku-tō; we returned from this rather successful jaunt at 12:15, my feet beginning to feel the wear of six days walking over beach, boulders and fish balls in shower-shoes; and so to bed.

P.S. While in the Pisonia forest I recorded my presence for posterity as follows: carved in a Pisonia tree: P.N.L.  
S.I.  
64



Lehner, P.  
1964

58

Oct. 18

arose at 7:15, the radio check already having been made 7:00; we had rain showers and high winds all night which provided a source of constant dripping for our tent's ridgepole - my head lay directly below this nuisance and kept me shifting position all night; I sat around the sterno stove until 8:00 waiting for hot water for coffee and finally made due with slightly better than warm; at 9:30 A.M. George and I set out after mice - we chased them around the open field for awhile and then fought our way through cob webs into the Pisonia forest; the uncommon calls of common species once again reminded me of tropical rain forest habitat with not Boobies, Frigates and Fairy Terns, but with Parrots, Macaw's and Cuckoos; George pointed out the white-tailed Tropicbird nest which I could not find yesterday - it was in a hollow in a Pisonia tree about 4 ft. off the ground - I took 2 photos; today I noticed much more Frigate mating calling and displays - my first estimate of less Frigate mating here than on Taongi may be awry; we had  
(over)



Lehner, P.  
1964

59

Oct. 18

little luck with the fish nets we were using in catching mice, although George managed to club one with the remains of his net; we returned to camp at 10:50; armed with butterfly nets we once more went after mice - this time we were more successful in getting the net down flat on top of them - also we found that when they holed up we could easily dig them up and get 'em going again; we returned with our series complement of 4 at 12:15; while in the interior at 11:25 we observed a male adult Brown Booby in a random nest building, site selecting behavior - he would pick up and move debris, but never concentrated in collecting it at one site; today for the first time I noticed that there are coconut palms on Arumeni Island (they are completely lacking on Jaboerukku); at 1:10 I went skin-diving just as the raft from the ship approached the island; at 2:00 the raft departed with blood samples and bird specimens we had collected; during mid-afternoon we wrapped the fish collected at Bitran Island in cheesecloth and formalin;

(over)



Lehner, P.  
1964

60

Oct. 18 - continued

Sooty Terns have been congregating in the air over the open area behind camp about 3:00 P.M. and remain there circling and squawking until about 2 A.M. when they leave - this has been going on since we arrived - apparently this is pre-nesting behavior; shortly after dark I went out ~~to~~ attempting to collect some, but they were too high yet to be shot; at 3:50 I went skin-diving again in front of camp; this time I saw 2 small sharks, one of which sent George up into the air shouting shark!; both were no larger than 4 ft. long - all sharks we have seen inside the reef have been Black-tipped sharks (~~Carcharhinus~~ Carcharhinus melanopterus) - they are numerous, but all small; some sharks we saw around and in the passage are another species - possibly Mako or White - up to 7 feet long; out of the water at 5:15; 6:00 George and I went back after rats - more successful (see above); 6:25 we returned to camp from rat expedition; 8:15 we all set out to band Boobies on Arumenii Island - using the whack 'em down method we managed to band

(over)



Lehner, P.  
1964

61

Oct. 18 - continued

returned to camp from Arumeni Is. at 9:25,  
rested and then started banding on Jaboerukku  
at 9:40; I was greatly handicapped after  
I accidentally hit George over the head  
with my pole and broke off the end  
3 feet - this happened early on Arumeni Is.  
and after that there were several birds I  
couldn't quite reach; returned from banding  
on Jaboerukku at 10:45; banding total:



Lehner, P.  
1964

62

Oct. 19

up at 6:00 A.M. to pack for an early departure; braking camp went well and we were ready to leave by 6:50; the raft from the ship arrived at 7:30, we loaded and started out immediately; going out the passageway was beautiful - I wished I had had my camera ready - the water was pouring out past the grounded ship (NoHo Maru No. 11) and out the channel at about 10 knots; the ocean was sending great swells up onto the reef which rushed to the sides and came off all around in a waterfall which added more water to the ~~sea~~ torrent surging to the sea; the coral reef sides of the channel was a continuous waterfall for its length - the water dropping about a foot to the channel; we made the ship (sitting just outside the channel) at 8:40, unloaded and had breakfast; we immediately steamed off for Taka, hoping to reach there in time for surveillance before night fall; we arrived off Taka at 3:45; a raft was sent in through the passage way and toward Taka Is. ahead of the ship; this is an atoll where the ship could enter the lagoon and anchor; we anchored about 2 miles off Taka Is. about 5:10; because of the late hour we remained on the ship for the night; a couple of sharks were caught off the Pantail Cone about 4-5 ft. (long) of unknown species; after a late late movie which lasted until 3:15 A.M. I turned in.



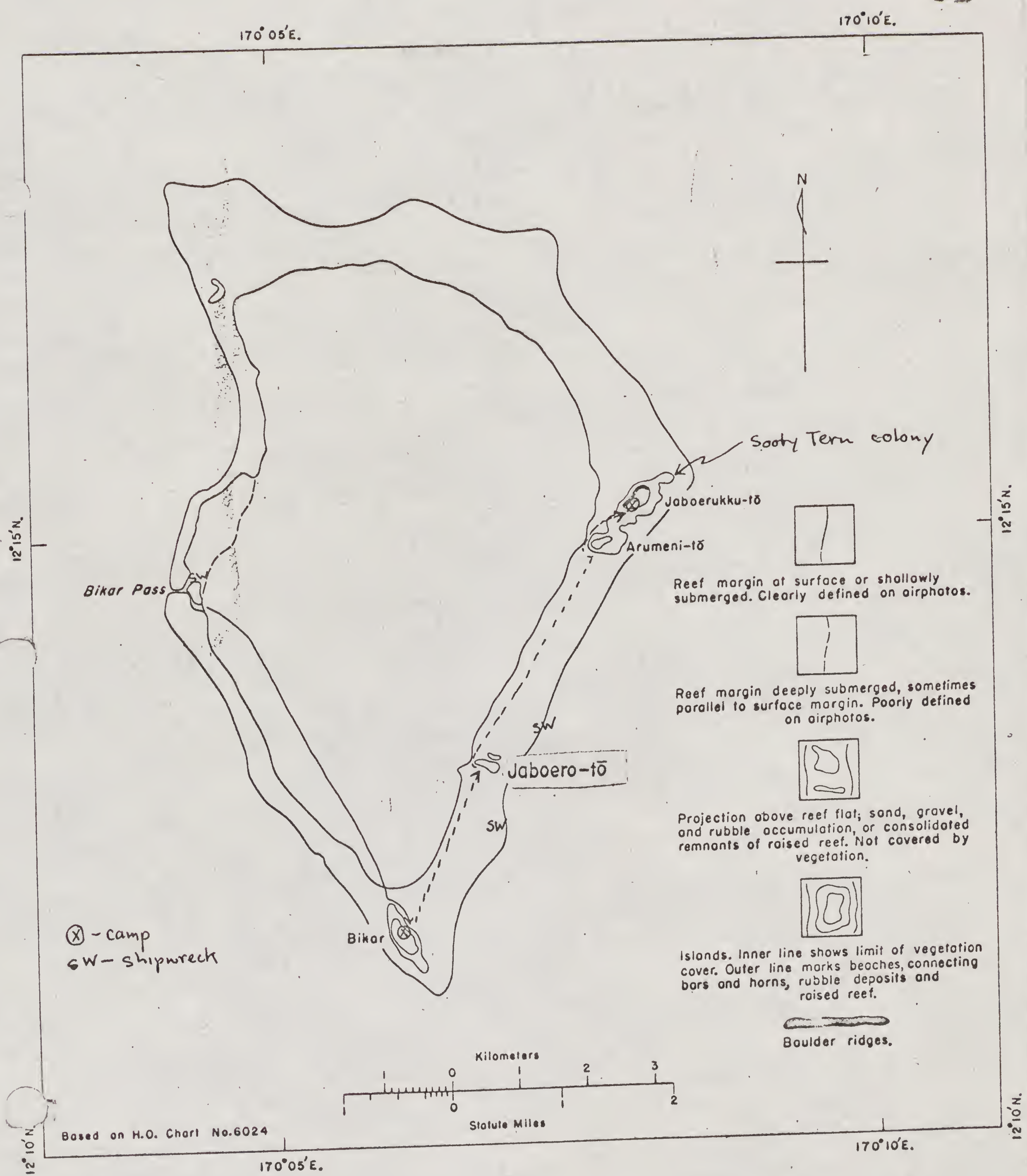
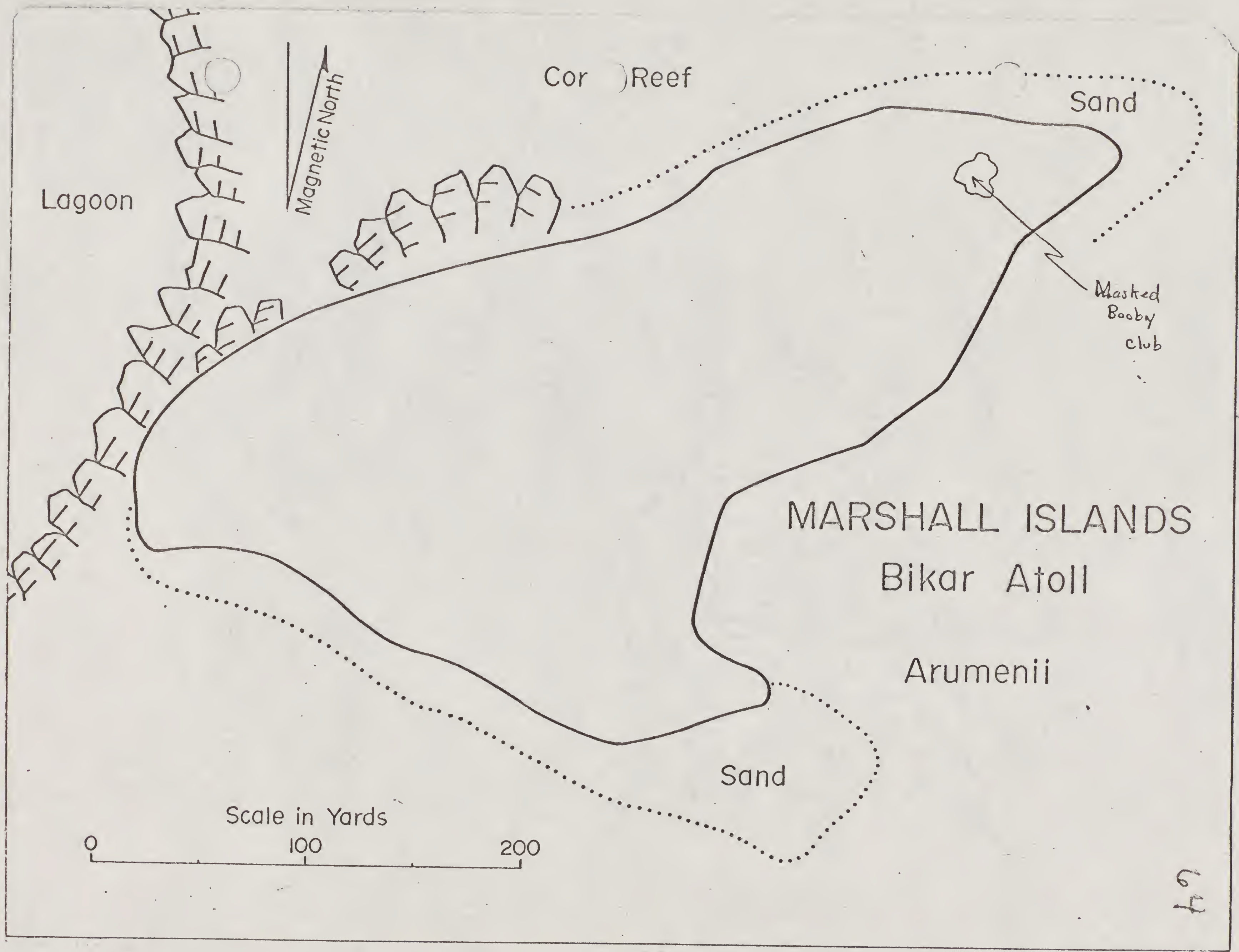


Figure 3. Bikar Atoll







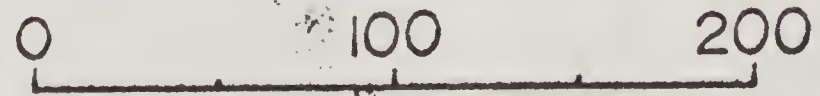
# MARSHALL ISLANDS

## Bikar Atoll

### Bikar

← open boulder ridges and beach  
← Scaevola and Nesserschmidia

Scale in Yards



Sand

Pisonia

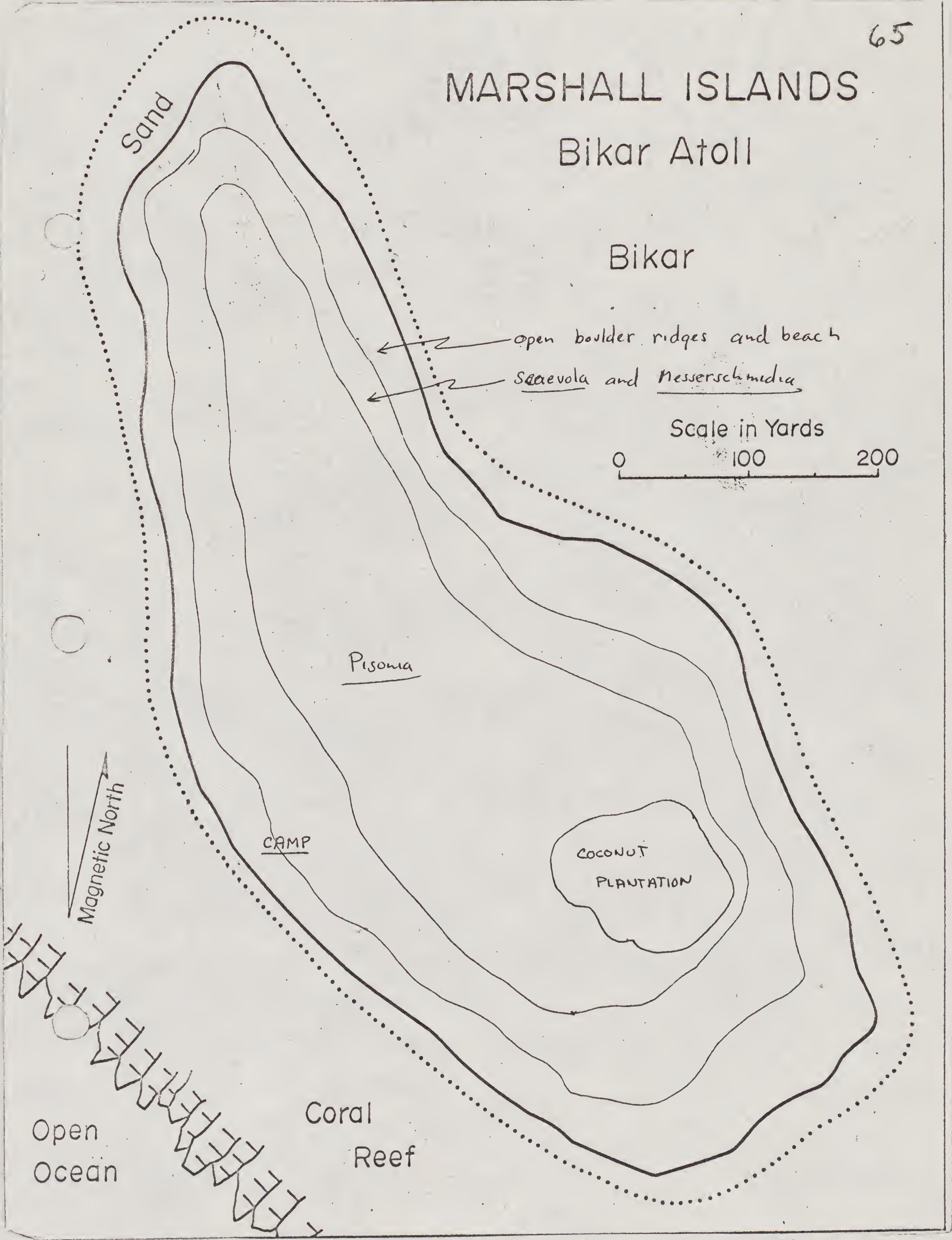
CAMP

COCONUT  
PLANTATION

Magnetic North

Open  
Ocean

Coral  
Reef

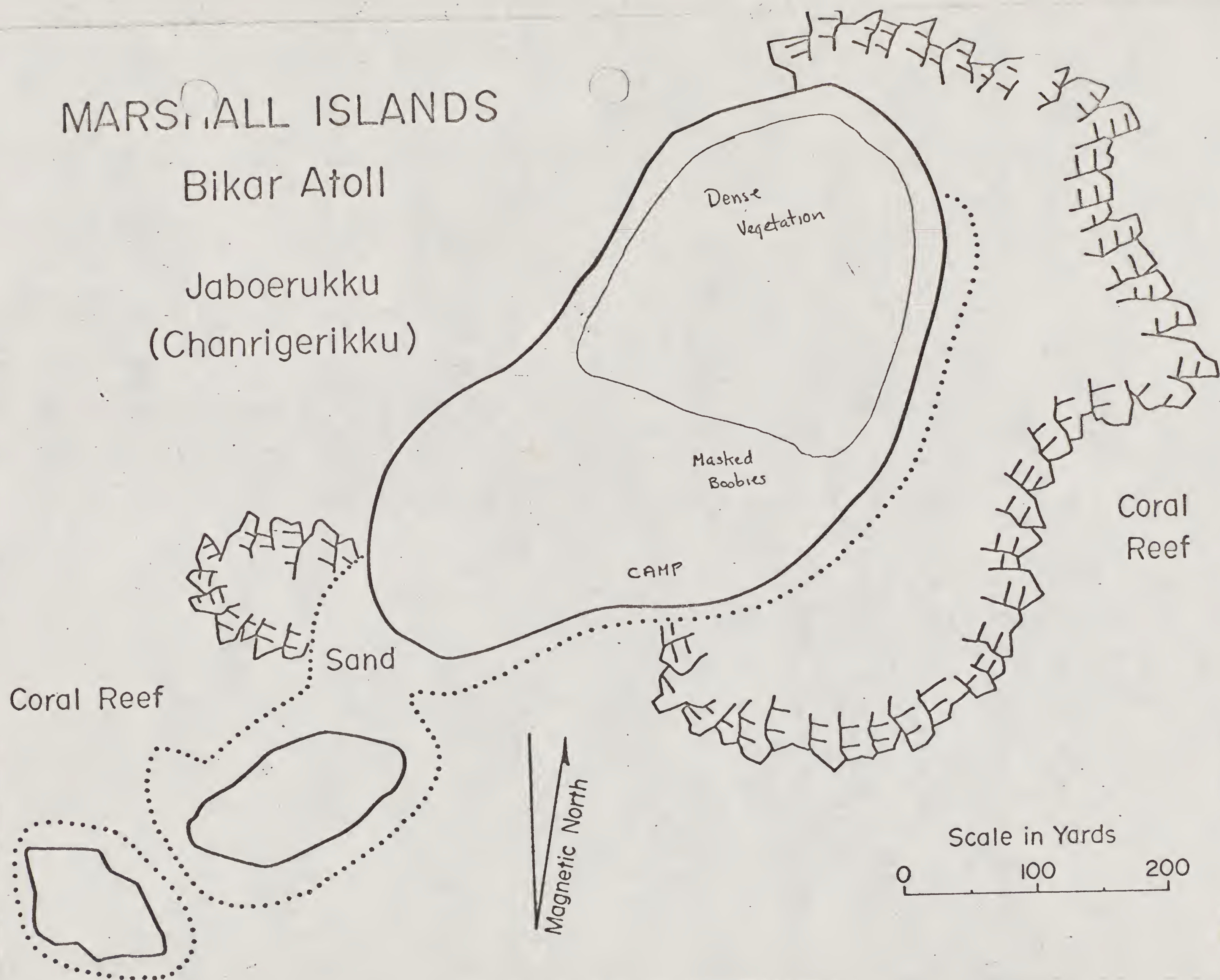




MARSHALL ISLANDS

Bikar Atoll

Jaboerukku  
(Chanriggerikku)



Dense  
Vegetation

Masked  
Boobies

CAMP

Coral  
Reef

Sand

Coral Reef

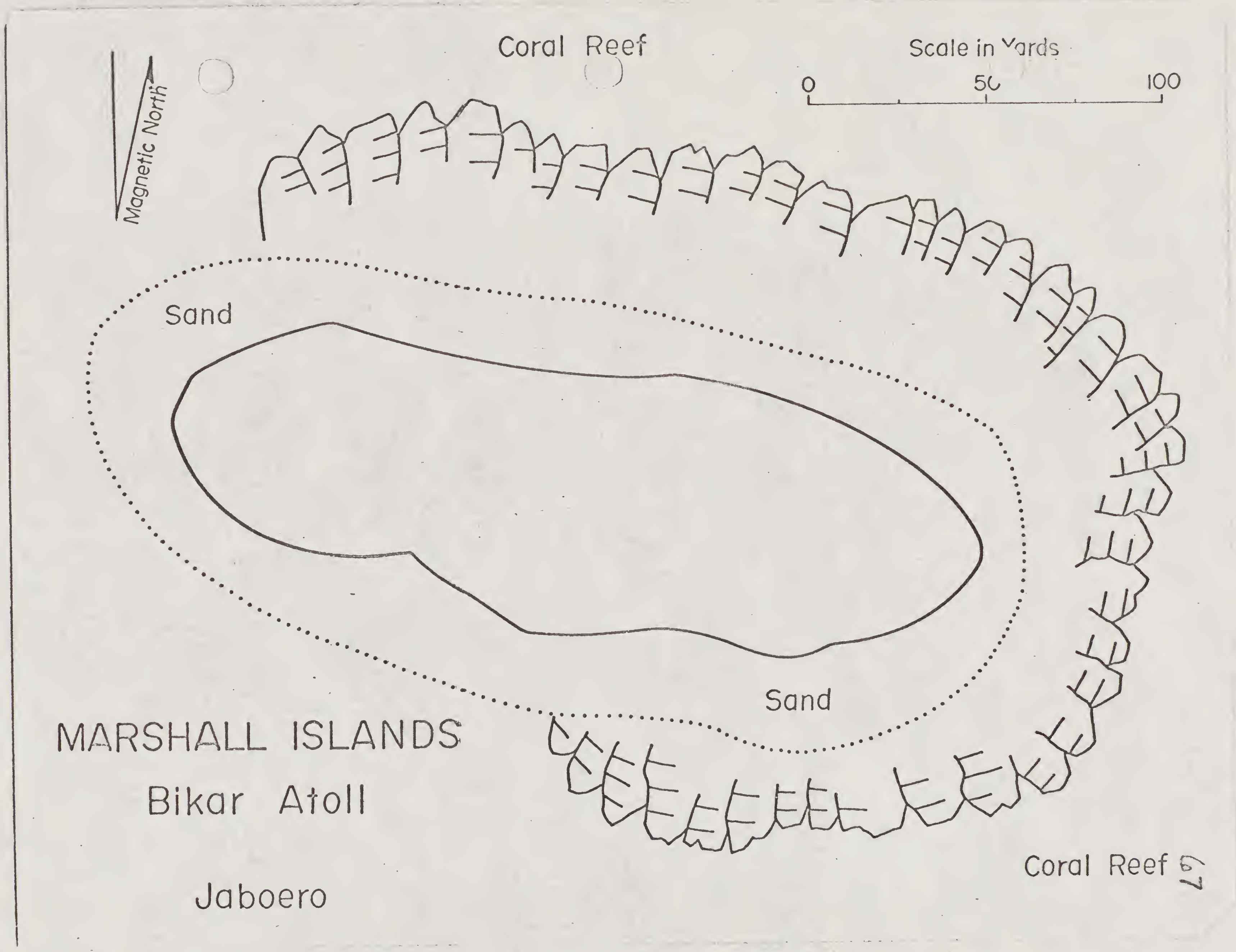
Magnetic North

Scale in Yards

0 100 200

66





Coral Reef

Scale in Yards

Magnetic North

Sand

Sand

MARSHALL ISLANDS

Bikar Atoll

Jaboero

Coral Reef 67



Lehner, P.  
1964

68

Oct. 20

up at 6:00 A.M. ; at 7:15 we headed out in the rafts in two groups to visit and survey the islands for birds and camp sites; Binion, George and Larry went to Tata and Lojiron Islands; Ken, Roger and myself went to Boken and Eluk Islands; the great depth of the lagoon became very evident as we headed for Boken Is.; we arrived at 9:00 on Boken, nothing more than a large pebbly sand deposit on the coral reef; there is no vegetation at all on the islet; we found one dead Green turtle on the north shore and one alive on the south shore - she had crawled from the northeast corner of the islet around to the south side and was headed west along the beach, her underides leaving a bloody trail from scraping on rocks; we saw: one Wandering Tattler, ~ 25 ~~Fairy~~ <sup>Black-naped</sup> Terns, ~ 40 Hawaiian Noddies, ~ 4 Common Noddies, ~ 10 Ruddy Turnstones, ~ 10 Golden Plover, 1 Crested Tern, 3 Brown Boobies; Roger and I walked east across the coral reef to Eluk Island while Ken and Tom Jones brought the raft up; Eluk is a heavily vegetated island with: Scavola, Messerschmidia, possibly Pisonia, a grass and a couple vines; there are Monitor butterflies (black + brown), spiders, ants, <sup>flies</sup> and grasshoppers; the reef extends out for 200 yards on (over)



Lehner, P.  
1964

69

Oct. 20 - continued

all sides of the island; I estimated the following bird populations: 3000 Fairy Terns, 1500 Sooty Terns, 800 Hawaiian Noddies, 400 Common Noddies, 2 Red-tailed Tropicbirds, 1 Brown Booby flying offshore; there are approximately 200 Hawaiian Noddy nests, some with chicks about half grown - they have build nests out of dead leaves in forked branches of Messerschmidia; we found one Common Noddy nest with one egg; also we found a small egg, (mottled) like a Noddy egg, in a slight depression on top of the boulder ridge on the south shore; it was probably a Fairy Tern or Black-naped Tern egg; at 10:55 we left Etuk Is. and returned to the ship, arriving at 11:25; the other raft did not arrive until 12:15 - they had seen a painted Brown Booby (undoubtedly one we had just painted on Bikar Atoll) and found 75-100,000 Sooty Terns with small chicks on Taka Island; at 1:50 we all left the ship and headed for Taka arriving at 2:20; Taka Island has one very large plantation of coconut palms which takes up nearly all of the western half of the island; there are four low grass huts near the west beach which appear to be used off and on by the natives; we found a lot of Pandanus and numerous other species of plants including knee high ferns; the



Lehner, P.  
1964

70

Oct. 20

avifauna is conspicuous by its lack of Boobies, Shearwaters and Frigates; the following are my estimates: Fairy Terns 2000, Sooty Terns 50,000, Common Noddies 300, Hawaiian Noddies 400, Ruddy Turnstone 200, Golden Plover 40, Wandering Tattler 2, Bristle-thighed Curlew 3, Crested Tern 8, Red-tailed Tropicbird 5, Brown Boobie 2, Black-naped Tern 12; wandered about the island most of the day - found a trail running east-west across the center of the island - it runs past a depression which appears to be #1 of the wells described by Fosberg; George and I collected Fairy Terns (4) and saw a small Sandpiper which I fired four shots at but could not bring down; as darkness closed in and rain threatened from the south we sat in the raft waiting for Huber who finally returned with a Golden Plover in breeding plumage he had collected; we left the island at 6:30 and made the ship by 6:40; my Nikonos camera went on the blink; we saw 3 or 4 natives in a sailboat come to the atoll from the direction of Uteriki; they turned south at Taka Is. and proceeded around the atoll and entered the passageway; they sailed by about 100 feet off the bow at 7:35 but didn't stop at the ship; they landed at Taka where we had been; we could see their campfire all night.



Lehner, P.  
1964

71

Oct. 21

up at 7:30 ; natives still on the island ; rain came down constantly and appeared to have set in for the whole day ; we remained on the ship taking care of "odds and ends" in hopes of a break in the weather ; we stuffed rats that had been collected ; at 3:30 P.M. the natives left Taka and sailed toward the passageway far astern of our ship ; we thought they would continue on to the passageway, but they suddenly tacked back and approached the ship ; there were four of them, and as they approached one hollered "Hello!" giving us hope that one spoke English ; one spoke fair English :

ANDY MOOR, MAJURO ATOLL, UTERIK VILLAGE,  
TRUST TERRITORY OF THE PACIFIC ISLANDS,  
MAJURO, MARSHALL ISLANDS.

they traded with the crew, mostly for cartons of cigarettes, then stayed and watched the movies ; the other three were Andy's relatives: father, uncle and cousin ; his father apparently owns half of Taka Island ; Binion, Roger and Ken saw an orange-tagged juvenile Brown Booby fly past the ship about 10 P.M. ; the natives sailed back to Taka about 11 P.M. ; it was also interesting to observe, but difficult to interpret, the natives reactions to buckets of garbage being thrown over the sides - they were not aghast - perhaps pollution is second nature to them.



Lehner, P.  
1964

72

Oct. 22

up at 7:05 ; Binion, George, Ken and Larry were to go onto Taka to collect plants, insects and birds; Roger and I were to do likewise on Boken and Eluk ; Roger and I set out for Boken (with Capt. Krull and Chief Daly) at 8:10 ; we arrived at 8:45 ; Roger collected a Green Turtle skull and Hermit Crabs while I collected 3 Black-naped Terns and one Fairy Tern ; we left Boken and went to Eluk at 9:25, the distance between the islands being very short we arrived in less than ten minutes ; Roger began processing birds while I went off to collect Common and Hawaiian Noddies ; my shooting was poor and I ran out of shells after collecting only 4 birds ; <sup>(2 common Noddies and 2 Hawaiian Noddies)</sup> while collecting I watched three Red-tailed Tropicbirds overhead in their noisy, acrobatic mating flights (the first time I have witnessed it) ; at 11:00 I returned to the ship for more shells, leaving Roger behind to work on the cataloging - Capt. Krull and Chief Daly returned with me ; I got shells, had lunch and returned to Eluk with Roger's lunch at 12:10 arriving there with the wind at my back at 12:30 ; we proceeded to collect 5 more Hawaiian Noddies ; when we returned to where  
(over)



Lehner, P.  
1964

73

Oct. 22 - continued

the raft had been beached we found the tide way up and the raft 150 yards out in the lagoon; I volunteered to retrieve the raft while Roger worked on the birds; I was able to wade all the way out to the raft but on the way encountered two

black-tipped sharks - one about 4-5 feet long was the largest of this species I have seen to date; they were attracted by my movement in the water but were scared off when I threw coral rocks from the bottom at them -

needless to say I was happy to climb aboard the raft; at 1:15 we left Eluk and

and returned to the ship where we put the birds in the freezer, deposited some gear, and then headed for Tatra Is.; we arrived on Taka at 3:10 and the first thing to catch my eye

was the pile of sooty tern feathers, etc. which had remained from the natives meal last night; someone

had cut up a breadfruit which I tasted and found to be very similar to banana in flavor;

just as we were all off to collect sooty tern blood at the southeast corner of the island, Ken

returned saying he had seen a Ruddy Turnstone with a red rump (indicating it had been banded by our field party in the Pribiloff Islands);

over



Lehner, P.  
1964

74

Oct. 22 - continued

Roger, Ken and George went off to try and collect the Turnstone while Binion, Larry, Chris and myself went to the Sooty Tern colony; we had a lot of trouble catching ten birds but finally managed at the expense of several smashed eggs and numerous frightened, downy chicks; this Sooty Tern colony contains about 50,000 adults, the largest number we have seen yet; returning up the beach we ran into Roger, George and Ken who had collected the Sandpiper that had eluded George and I yesterday - still none of us could identify it; while catching Sooties I noticed 3 Crested Terns in the heart of the sooty flock - perhaps they are nesting in the same area; we left Taka at 5:20 with a plant and reptile collection and ten blood samples; arriving on the ship we found that the natives were still trading with the crew; they once again stayed to watch both movies which 3 of them could not ~~see~~ understand but still enjoyed; worked on notes in late P.M. then sacked out about midnight.



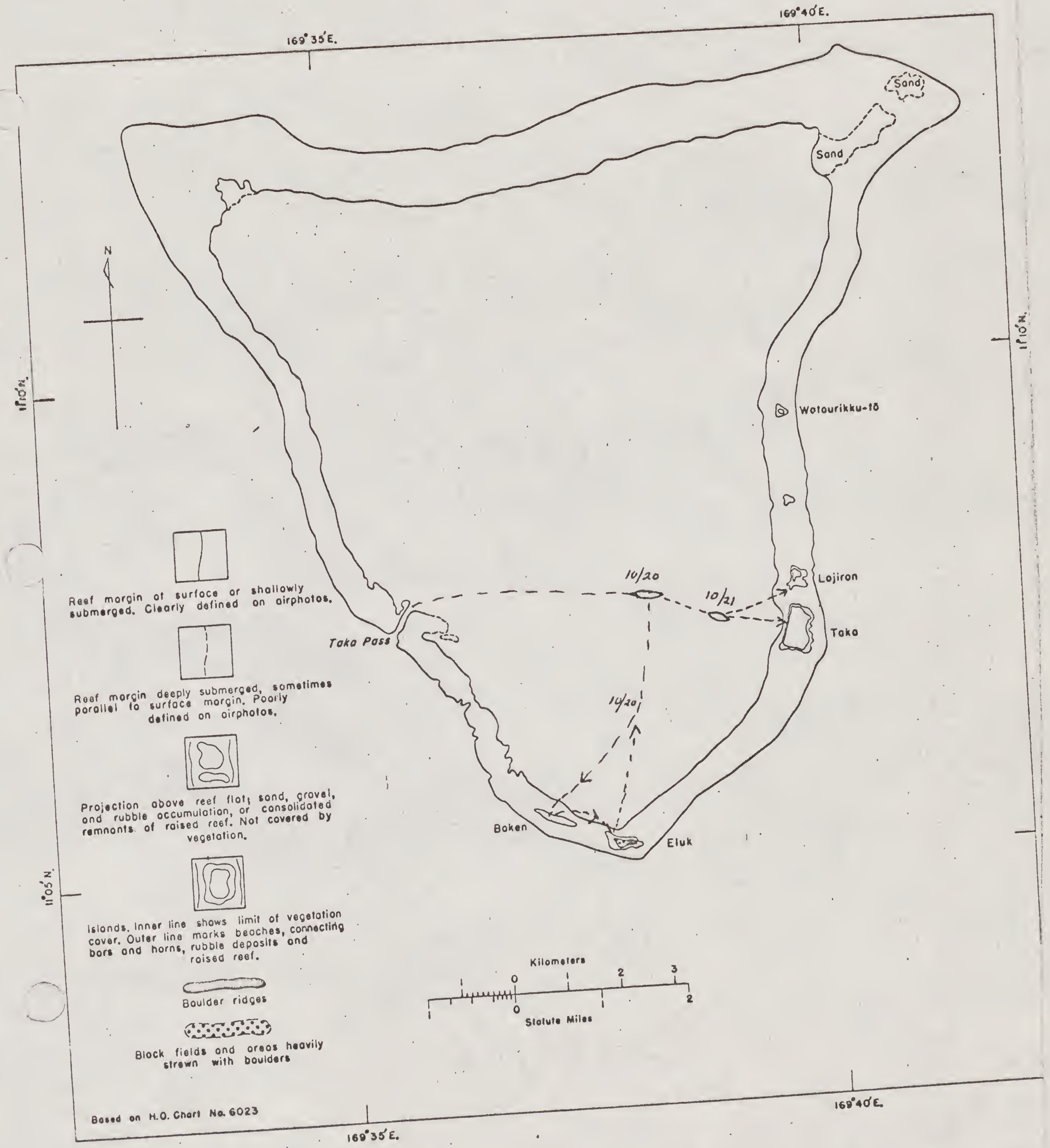


Figure 4: Taka Atoll



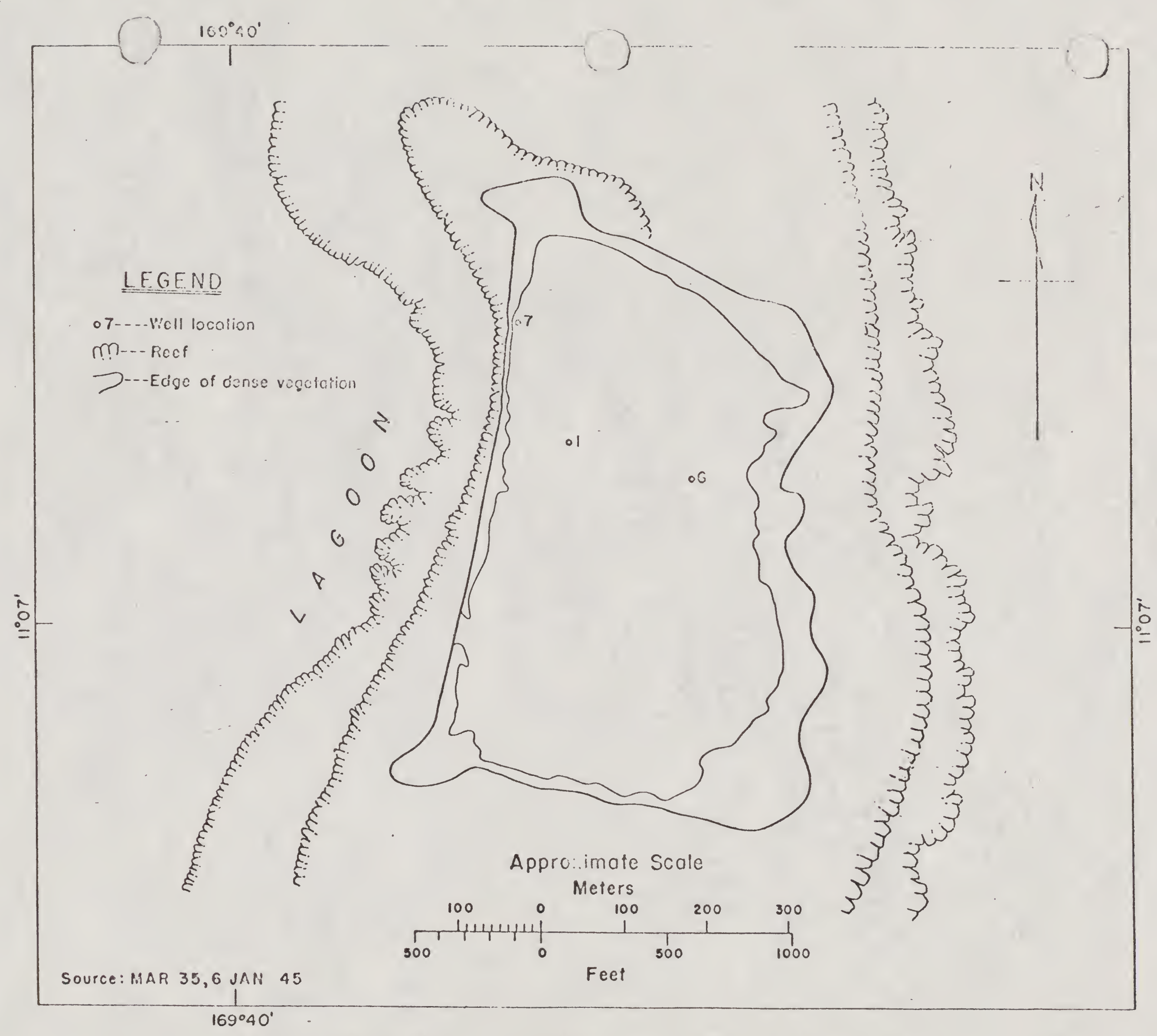


Figure 44. Well locations on Taka, Taka Atoll

76



MARSHALL ISLANDS

Taka Atoll

Eluk (Wadoerukku)

Lagoon

Coral Reef

Sand

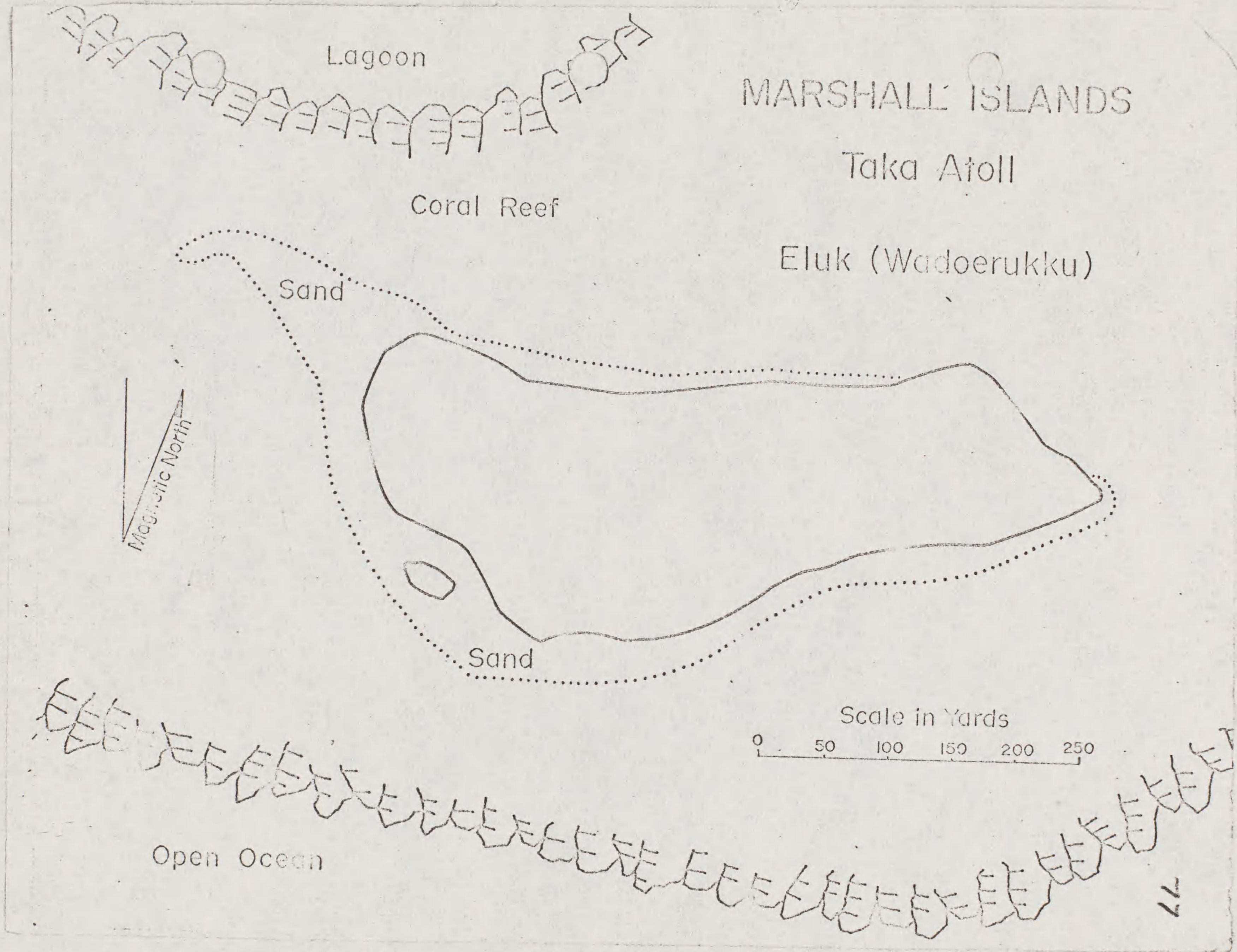
Sand

Magnetic North

Scale in Yards

0 50 100 150 200 250

Open Ocean





MARSHALL ISLANDS

Taka Atoll

Watourikku-to  
(Eerukku)

Sand

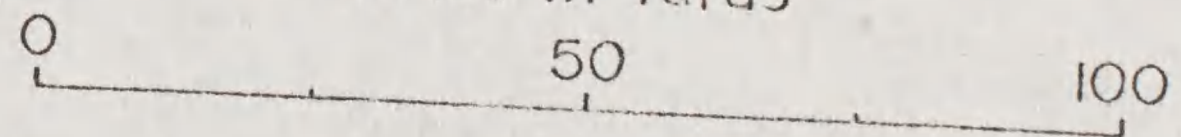
Coral

Sand

Coral

Magnetic North

Scale in Yards





MARSHALL ISLANDS

Taka Atoll

Open  
Ocean  
79

Taka

Sand

Magnetic North

Lagoon

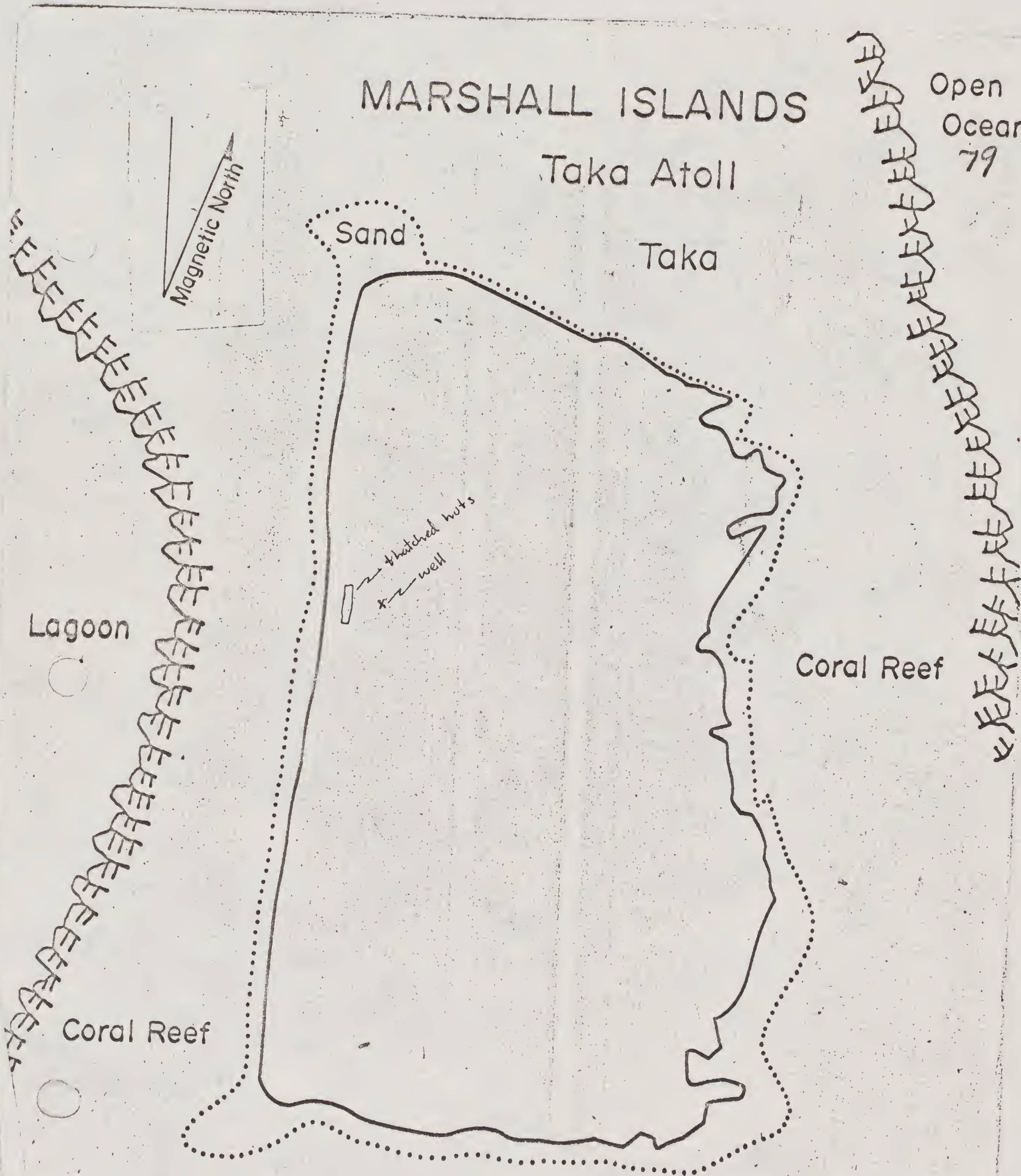
Coral Reef

Coral Reef

thatched huts  
well

Scale in Yards

0 100 200 300 400 500





MARSHALL ISLANDS

Taka Atoll

80

Raajerun

Sand

Coral Reef

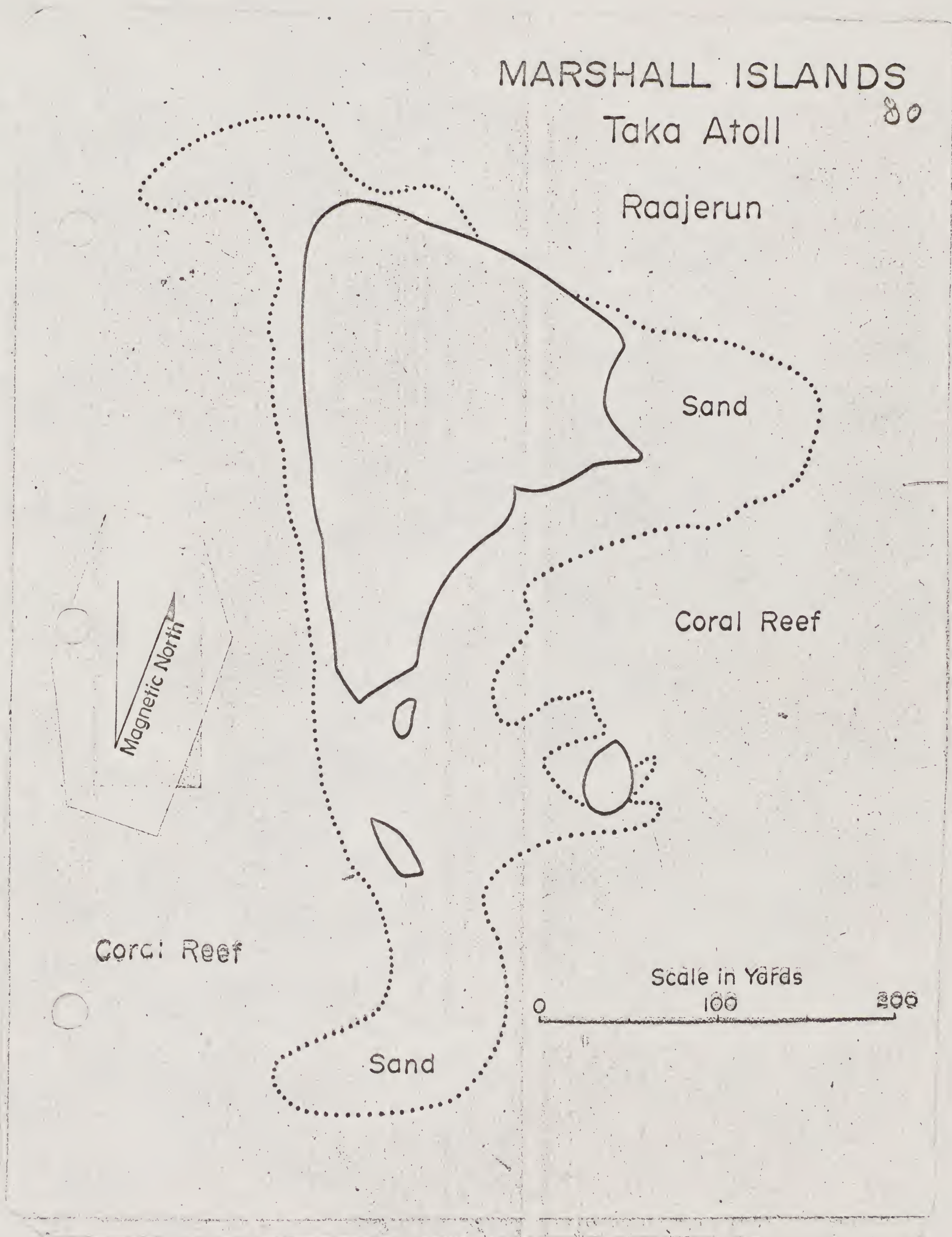
Magnetic North

Coral Reef

Scale in Yards

0 100 200

Sand





Lehner, P.  
1964

81

Oct. 23

up at 6:00 A.M.; we quickly loaded gear in one of the rafts and headed for Taka where we left Roger and Larry off to collect Noddies and the red-rumped Ruddy Turnstone if possible, the rest of went over to Lojiron Is. to look for Wedgetails that Andy (the English speaking native) had described as nesting there; we beached the raft at 6:30 - Ken and George worked around the beach with a shotgun looking for unusual shorebirds while Binion and I searched for burrows; I found one empty burrow while Binion found five, all with chicks; we took one almost full grown ~~adult~~ juvenile back with us for blood and a specimen; the poor visibility of the early morning light made Ken and George's task almost impossible - they returned with only an unusual crab Ken had found; we left Lojiron at 7:05 and beached on Taka at 7:10 where we saw Roger and Larry coming down the beach with the Common Noddy they had collected; we left Taka at 7:15 and arr. at the ship at 7:25 where we began preparing gear for Jemo, which we hoped to land on in the late afternoon; the ship pulled out of Taka Lagoon about 9:00 A.M. and headed toward Jemo on a 185° S course;  
(over)



Lehner, P.  
1964

82

Oct. 23 - continued

Binion and I took the first at sea watch at 10:00 - they were to last until 4:00; at 10:35 we sighted another ship on the port horizon headed north; worked on notes during the afternoon; at 2:45 Jemo was sighted; the island is small with high vegetation (Coconut palms and Pisonia trees); the surf is intense on all sides of the island except on the western side at the center of the island; during high surf, the waves from the NW and SW pinch in here and counteract each others force but tend to set up tricky currents and wave channels; we left the ship at 5:10 and landed on the west shore at 5:20; there is no anchorage for the ship; we had very little trouble with the surf going in; we found the house Fosburg had described sitting about 150 yards inland from the center of the west shore; (the location of buildings is shown on the map); we put the tent-fly over the open shed for a camp; all the buildings are in very ill repair; the house is musty, dirty, and damp; we found a few old medical books, medicine, records, etc. - all of which had obviously been abandoned years ago;  
(over)



Lehner, P.  
1964

83

Oct. 23 - continued

rats, mosquitos and ants are numerous, making the island an unpleasant place to recline on the forest floor and rest; at 6:00 Roger and I took the shotgun to collect unusual shorebirds - we didn't find any; it was immediately obvious that the fairly numerous Red-footed Boobies (I estimated 150-200) were way too high to work with - they were nesting 40 to 60 feet high; the Scaevola on the windward East side shows the marked effect of strong winds and is very low at the beach, graduating to higher bushes for 75 yards back to the Pisonia; at 6:30 we completed our circuit of Jemo and sat down at the camp to discuss possible procedures for the night; at 7:20 P.M. Huber went off to band shorebirds and at 7:30 the rest of us went out to band Boobies, knowing before hand that it was a fruitless effort; at 8:10 we caught up to Huber who showed us a turtle he had found - not enjoying his new found popularity the turtle quickly returned to the sea; there does not seem to be any old Pisonia trees with rotting areas that would serve as nesting sites (we never did see a white-tailed Tropicbird on this island); we returned to camp at 8:15 convinced of the uselessness of future  
(over)



Lehner, P.  
1964

84

Oct. 23- continued

effort on the island birdwise; after deciding to turn in for a good nights sleep, all of us except Ken and Roger decided to chance sleeping on the beach in lieu of the numerous rats and mosquitos that inhabited our camp; at 7:00 the rains drove us off the beach and back to the shelter where we all managed to catch some shut-eye; ~~at~~ Binion made a radio check at this time informing the ship of our desire to leave as early as possible in the A.M.; we were without a raft as two of the crew members brought us in and then took the raft back to the ship - one of the many useless, time consuming, ridiculous moves that has been made in regard to getting us on and off the islands throughout the trip; we slept we until 3:20 A.M. when an extra heavy down pour cause puddles to form on our tent-fly and let streams of water pour in on many of the other fellows - for once I had the best spot and caught very little water; the storm ceased quickly and we were back to sleep.



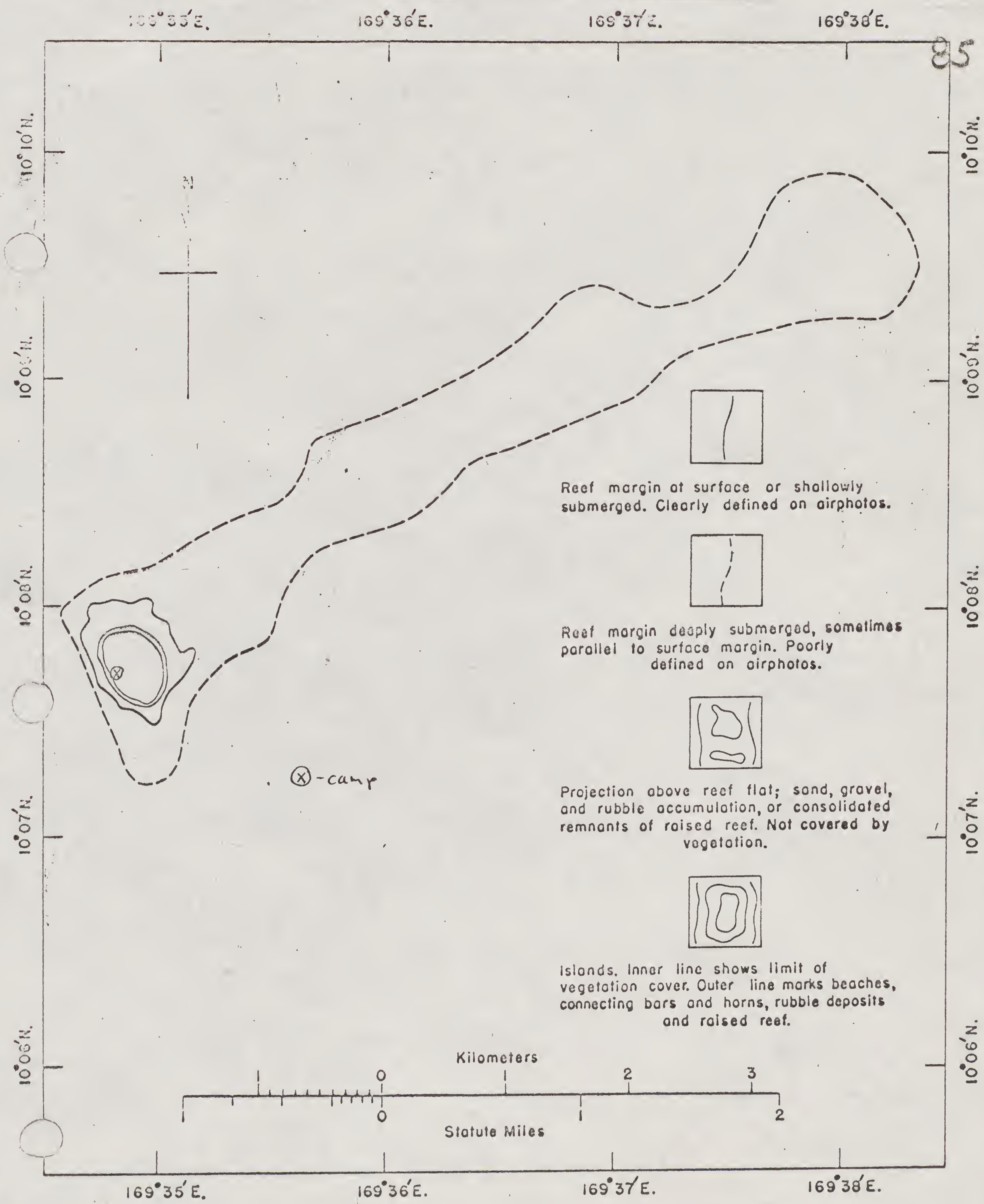


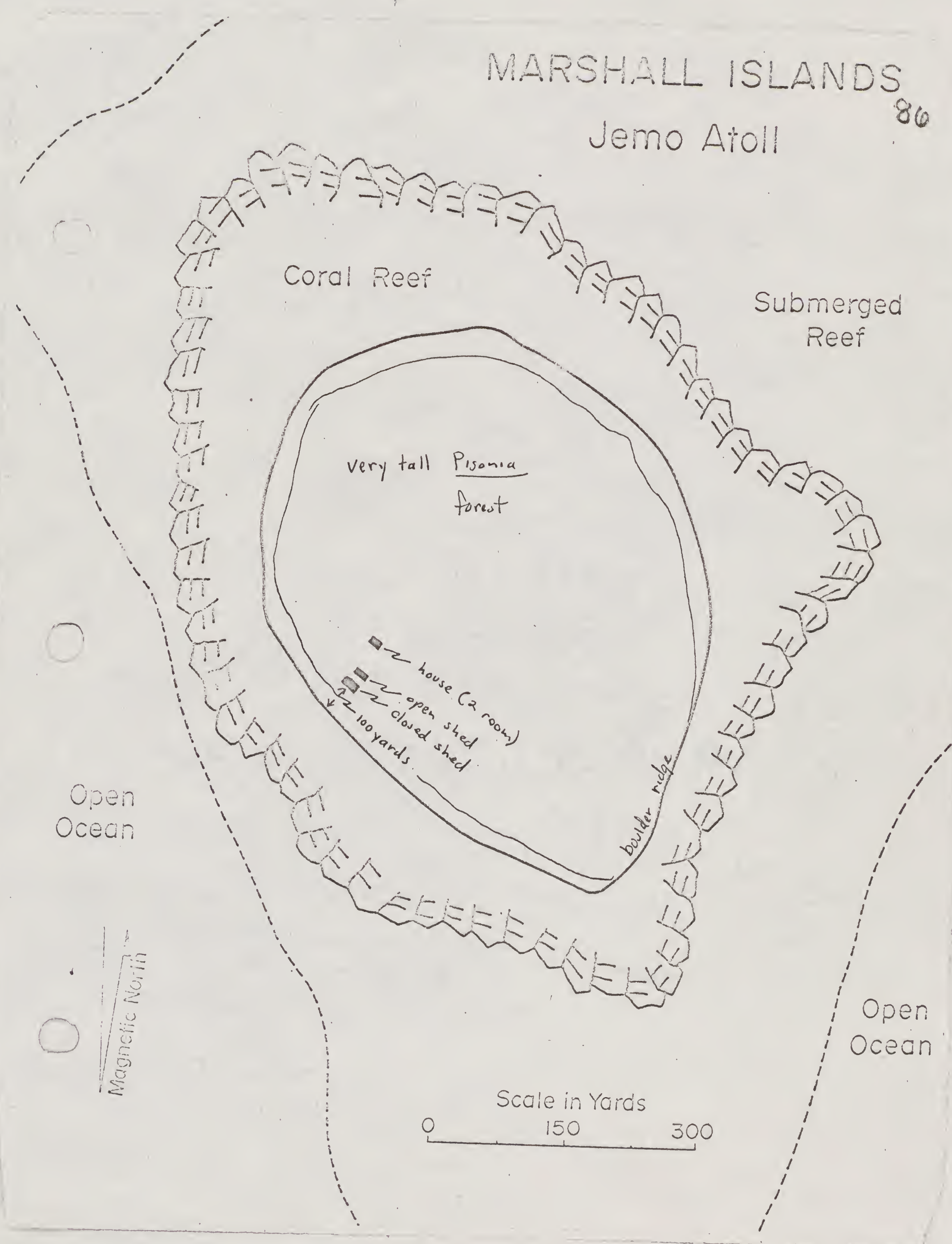
Figure 12. Jemo



MARSHALL ISLANDS

86

Jemo Atoll



Coral Reef

Submerged Reef

very tall Pisonia forest

house (2 rooms)  
open shed  
closed shed  
100 yards

boulder ridge

Open Ocean

Open Ocean

Magnetic North

Scale in Yards

0 150 300



Lehner, P.  
1964

87

Oct. 24

up at 6:50; Binion made another radio check at 7:00; George and Harry went off looking for rare shorebirds, Binion and Ken collected traps (we had caught ten Polynesian rats) and Roger and I began packing and moving gear to the beach; the raft arrived at 8:00 and by 8:10 we were headed back for the ship; the following are my bird population estimates:

400 Fairy Terns	5 Wandering Tattler
150 Red-footed Boobies	70 Hawaiian Noddies
3 Brown Boobies	25 Common Noddies
10 Great Frigatebirds	
60 Ruddy Turnstones	
50 Golden Plover	
2 Bristle-thighed Curlew	

at 8:45 A.M. the ship set out on a SSE course and headed for Erikub Atoll; at 9:00 Ken and George started the at sea watch and at 11:00 Binion and I took over; we had a strong wind from the East all morning; at 11:05 Waije became visible off the port bow; we at once began seeing numerous Fairy Terns, some Hawaiian Noddies and Red-footed Boobies; at 12:50 we ran into a rain squall; about 3:00 P.M. (I was asleep) we entered the northwestern passage (at last someone  
(over)



Lehner, P.  
1964.

98

Oct. 24 - continued

had found the Northwest Passage) of Erikub Atoll; we anchored  $2/10$  mi. east of Loj Island; at 3:15 a sailboat arrived at the ship carrying 6 natives (an older man and probably his five sons) - none could speak English; they tried to trade us some fish but found no takers; at 3:30 we went into Loj Island in the raft - we were followed in by the natives who had set up a fishing camp there; we collected some Hawaiian and Common Noddies, set out rat traps and made a preliminary survey of the island before returning to the ship at 4:35; we arrived at the ship at 4:50 despite some fairly sizeable waves which tossed us around and caused the motor to constantly bounce out of the water and roar in defiance; we remained on the ship all night preparing to land again in the early daylight hours tomorrow.

collected specimens: 1 Hawaiian Noddy, 2 Ruddy Turnstones,  
3 Fairy Terns, 1 Golden Plover, 1 Bristle-thighed Curlew



Lehner, P.  
1964

89

Oct. 25

we were up at 7:30 and by 8:10 were in the raft and headed for Loj Island; we arrived on Loj at 8:20; Binion rounded up the rat traps (we had caught four); Ken and Roger collected plants, Larry went north and George and I went south collecting birds; we saw one adult Brown Booby and one Crested Tern off the north shore; Binion saw a female Great Frigatebird soaring overhead and a Fairy Tern on an egg; Larry collected 3 Hawaiian Noddies and one Common Noddy; George collected one Hawaiian Noddy; we left Loj Is. at 9:20 and arrived at the ship 20 minutes later - the wind had picked up slightly and the waves had followed suit; about 10:00 the ship weighed anchor and headed north in the lagoon to an anchorage off Enego Island; we had chow on the ship and at 12:15 took the raft into Enego Island, arriving on the beach at 12:25; once again Roger and Larry went one direction collecting while George and I went the other, and Ken and Binion made a general survey; both Hawaiian Noddy and Fairy Tern nests were found and 4 white-tailed Tropicbirds were seen overhead; we collected: 3 Hawaiian Noddies, 1 Common Noddy and 1 Reef Heron; at 1:35 we left Enego and headed  
(over)



Lehner, P.  
1964

90

Oct. 25 - continued

out to the ship arriving at 1:50 - the waves were still fairly high; the ship then headed east across the lagoon and anchored off Aradojaren Island about 3:00 (once again I was asleep); we had an early supper on the ship and headed into Aradojaren at 4:15 arriving only 10 minutes later; Binion and Ken set out rat traps, Larry and Roger again headed in one direction collecting and George and I in the other; Larry collected a white-tailed Tropicbird and a Wandering Tattler, while George and I never fired a shot; this island is smaller and shows a greater paucity of birds than Loj or Eneqo; we left the ~~Island~~ <sup>Island</sup> at 5:40 and arrived at the ship at 5:50, content to sit the rest of the night out on board; at 7:30 Jim (of the crew) saw small turtles swimming by the port side of the ship and began netting them; we netted a total of 18 newly hatched Green Turtles about 3 inches long and all with their egg tooth - they were swimming east (against the waves) at a fairly fast pace (about 4 or 5 knots); they were put in the sink with salt water in one of our piggyback labs; the fishing tonight has been very good - could it possibly be a feeding response to this turtle hatching? The turtles still have

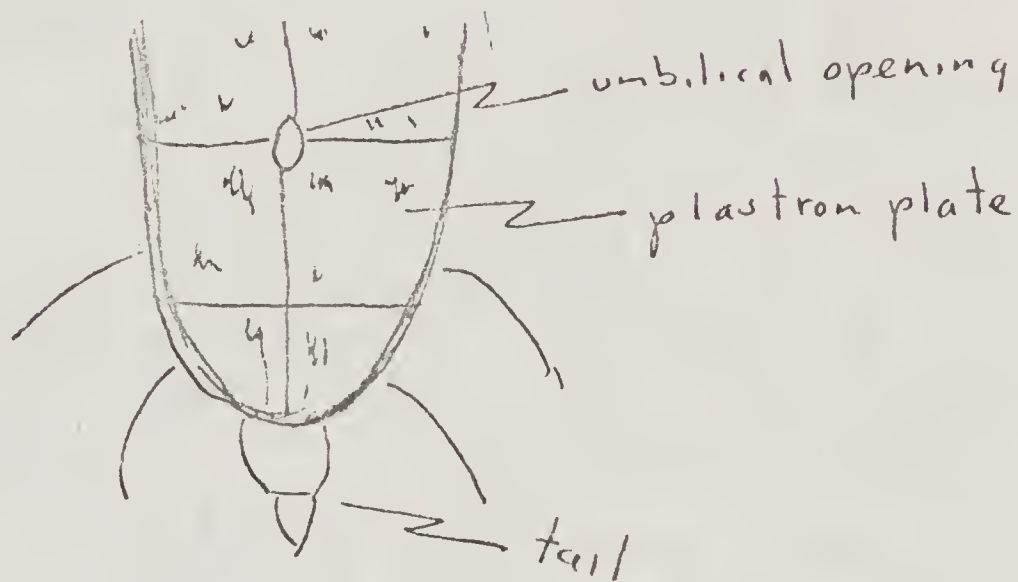


Lehner, P.  
1964

91

Oct. 25 - continued

the yolk sac umbilical opening evident on the  
plastron - it lies at the junction of the 2nd and  
3rd plates from the posterior





Lehner, P.  
1964

92

Oct. 26

up at 7:30; at 8:30 Binion, Larry and George took one raft into Aradojairin and Aradojairik, off which we had anchored all night; the ship then went north in the lagoon to Jabonwar where it anchored; at 9:35 Ken, Roger and myself headed into Jabonwar, beaching the raft at 9:45; this island lacked much in bird life having mostly Hawaiian Noddies and Fairy Terns; the most prominent tree is Messerschmidia (actually a large shrub), with some fair sized Pisonia trees; Scaevola is prominent on the perimeter; on the eastern windward side, the Scaevola is heavily weathered; we departed Jabonwar at 10:20 having collected one Common Noddy; we arrived back at the ship in ten minutes, then sat around, had chow, sat around some more and finally weighed anchor at 12:30; the ship then headed south to pick up the other shore party off Aradojairik; we arrived there and picked them up at 1:10 - they had been waiting a long time and had finally resorted to sleep; however, they had good news from the island of Aradojairik - there are 60-70 nesting Brown Boobies with eggs and young, about 25 nesting Black-naped Terns  
(over)



Lehner, P.  
1964

93

Oct. 26 - continued

with eggs and young, and 70 Frigatebirds; we immediately headed south (still in the lagoon) and anchored off Jeldoni Island, at 3:00; at 3:20 Ken, Roger and I left for Guro Island - we were to check Guro and Jeldoni Islands - Binion, George and Larry went to check Boqweido, Boqella, Joqan and Bokku Islands; we arrived on Guro at 3:40; this island is very similar to all the others in the atoll vegetation wise; we found Fairy Tern eggs, Black-naped Terns which acted as though they had eggs nearby and Hawaiian Noddies on active nests; we left Guro at 4:05 and headed toward Jeldoni, the next island south, arriving there at 4:15; this island is about three times the size of Guro, has about the same vegetation, but contains no more birds; we could find no active nests of any species; we made no bird specimen collections on either island; we left Jeldoni at 4:50 and arrived at the ship ten minutes later; the other party had already returned; they had no better news to report on the four islands they surveyed, than we did from ours; bird population estimates are now being kept on separate sheets.



Lehner, P.  
1964

94

Oct. 27

up at 7:30; at 8:25 Ken, Roger and myself went to Bogenqoa Island while Binion, George and Larry went to Erikub Island; we had rough water going in and had to run parallel <sup>to the island</sup> (east) into the waves and then cut back (south) with them into the island; we collected a Sanderling, Common Noddy, and Brown Booby as well as a Coconut Crab, the first I have seen; we also saw some Black-naped Terns on the S. West Peninsula; the density of birds was markedly greater on the east and northeast ends of the island; I saw what I thought to be a white-tailed Tropicbird, but got only a glimpse of him and could not make positive identification; there are scattered mango trees on the island; we left Bogenqoa at 11:10 and headed straight for Erikub Island on the north shore where we could see the other raft and the native's outrigger which had visited the ship earlier; we hit the beach of Erikub at 11:35; we were immediately told that the other group had collected a goose; it looked like a Snow Goose to me, but I cannot believe that is possible; it began to rain and the father of the native family took us into the now deserted

positive identification later proved it to be a  
Snow Goose



Lehner, P.  
1964

95

Oct. 27

village and got us shelter in one of the huts he keeps reserved for his visits; according to what he said to Binion, his father owns the island; after the rain we showed the goose to the native thinking that they may have domesticated geese on another atoll, but he indicated that he had never seen one before; we left Erikub Is. at 12:15 and arrived at the ship at 12:25; at 12:40 the ship pulled anchor and headed for Ara de jairik Is. on the northeast side of the lagoon; at 3:45 Binion, Roger, Larry and Chris went ashore, primarily so that Chris could take pictures of Brown Boobies; they returned for chow and then at 6:10 all of us went in to band Brown Boobies; we arrived at 6:20 - while we were sitting around waiting for it to get dark, a Red-footed Booby flew overhead, but efforts to collect it failed; at dark we started out banding and took blood from six Brown Boobies - they had taken four samples on the earlier trip in the afternoon; the Boobies were concentrated on the more open northeast side of the island where they were roosting and nesting; they had both eggs and chicks; several of the

(over)



Lehner, P.  
1964

96

Oct. 27

Brown Boobies were nesting in the palm fronds, 50-60 feet off the ground; Fairy Terns were fairly common but I would doubt if there numbers exceeded 40; there are probably 15 Hawaiian Noddies on the island and about 150 Brown Boobies; we banded 46 Brown Boobies, and collected four - also collected one Fairy Tern; at 9:45 we returned to the ship - the Boobies were too stirred up to work anymore; we arrived at the ship at 9:55, unloaded and called it a day.



Lehner, P.  
1964

97

Oct. 28

up again at the usual time of 7:30; Larry and Roger set to skinning birds; Ken, George and I wrapped fish and Binion set off for Aradojairik Island to collect ticks at 8:10; at 10:15 he was back on board and the rest of us were in the process of cleaning up the deck; the immediate vicinity of our labs took on the appearance more of a garbage barge than a transport vessel; at 2:25 we were leaving Erikub Lagoon by the east passage; we turned south headed on that course, then southwest and then almost west directly for Kwajalein; we had strong east winds which kept the seas fairly high and brought us a rain storm at 3:15 which lasted 20 minutes and postponed our at sea watch which Binion and I had begun at 3:00; because of frequent rain squalls throughout the afternoon which cut our visibility way down, the at sea watch was canceled for the rest of our trip to Kwajalein; the rest of the day was spent on various jobs on board - skinning birds, catching up on notes, reading and sleep.



ERIKUB ATOLL

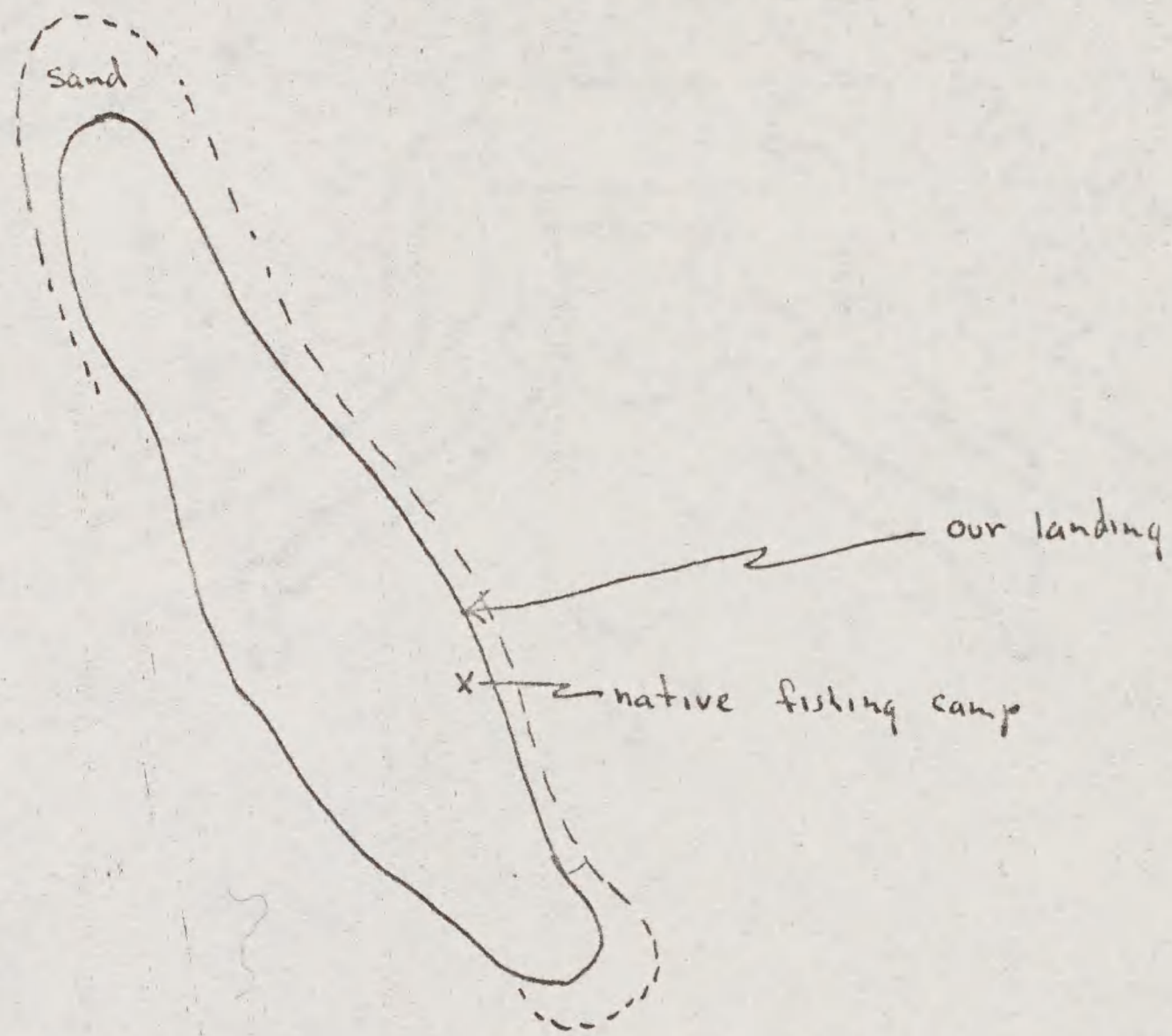
98





ERIKUB Atoll

Loj Island





Lehner, P.  
1964

100

Oct. 29

we were again aroused by Binion at 7:30; shortly thereafter we approached Hwajalein, were boarded by a harbor guide, and headed for the fuel pier; after much maneuvering we docked at 9:20; our only reception committee (a surprise only to George) was three security guards; they boarded and issued passes which became effective at 10:00; our liberty henceforth was 8:00 AM to 10:30 PM; Dave Perkins, an entomologist from Bishop Museum, came aboard in the early P.M.; he had already been on Hwajalein 3 days; for the rest of the day we explored the island facilities - Macy's, the snack bar, post office and barbershop during the day and the Ocean View and Crossroads clubs at night; we were apparently lucky to get into the harbor and dock as most ships have been refused mooring because of trouble with visiting ships - the captain expressed the feeling that the reason we were welcomed was because of the Smithsonian party - I hope we leave as good an impression with them as they had when we arrived; this was the night Big Jim had his trouble at both the Crossroads Club and on board ship - from this point on he was destined to quit his job on the crew; in the afternoon Binion, Dave and Roger had seen four English Sparrows.



Lehner, P.  
1964

101

Oct. 30

Up in late A.M. today; Binion was off trying to make arrangements to get us to some other islands; when he returned with reservations for three of us to fly to Roi-Namur at the extreme northern end of the atoll, Ken and I were the only Smithsonian people on board; we then hurriedly got gear together and hustled over to the airport where we caught a 12:30 flight on an Army C-47; as we had departed the ship and Kwajalein Island, curious residents had already begun coming to the ship and on board, seeking evidence that biologists had actually come to their island, and seeking advice on their own "scientific" endeavors; once on the plane and into our 18<sup>th</sup> century seatbelts we were off and headed north over the lagoon - we had a real good view of the various islands and the reef, but pictures had to be taken through dirt smeared windows which added little to the photogenic view; we arrived at Roi at about 1:00 P.M. and Binion called Mr. Guethlen whom we were told to contact on arrival; Mr. Guethlen sent over a Mr. Hal Hitchcock who was to serve as our guide - he first of all took us to the Security office where the police told us of the large bird population  
(over)



Lehner, P.  
1964

102

Oct. 30 - continued

on Gagan, the ninth island south along the east reef from Roi-Namur; Mr. Hitchcock then took on a tour of the island - we pointed out birds and he pointed out old Japanese bunkers and gun placements; two points of interest about the Japanese occupation and following invasion: we saw British artillery which had been taken at Singapore and brought to Roi-Namur and used - only recently residents skin diving over a Japanese wreck offshore recovered live shells in watertight containers that had been made for the guns; previous to the U.S. invasion the islands of Roi and Namur were separated by submerged reef - after the invasion there were 5000 dead Japanese to bury - this was accomplished by mixing them in with the dredgings used in building a causeway connecting the two islands - in actuality the causeway is also a Japanese grave yard; we saw the following bird species during our stay on the island: Golden Plover, Ruddy Turnstone, Bristle-thighed Curlew, Wandering Tattler, 2 Godwits (sp.), another unknown species of Curlew, Crested Tern, Hawaiian Noddy, mottled and black phases of Reef Heron, Great Frigatebird, Red-footed Boobies and an unknown species of duck; we returned to Kwajalein on the 4:40 flight arriving at 5:05; just before sunset George and I set out the Sherman traps around the buildings north of the runway; the rest of the evening was spent at Ocean View Club.



Lehner, P.  
1964

103

Oct. 31

George, Big Jim and I collected the Sherman traps in the late A.M. - we caught several large black slugs and one mouse that appears to be Mus musculus; the rest of the day was spent at odd and inconspicuous jobs, inconsequential to the project.



Lehner, P.  
1964

104

Nov. 1 or Kwajalein Day

today was the first weekend day that I have spent that was neither Saturday nor Sunday, but instead Kwajalein Day; it seems that there is so much traffic between Kwajalein and Honolulu that being one day different was confusing, therefore today (really Sunday) was called Kwaj. Day and the whole atoll marked time until tomorrow which will be Sunday (really Monday for everyone else on this side of the International Date Line); today was kind of spent in limbo; George and Ken took a ferryboat tour of some of the islands in the atoll at 9:00 and returned at 4:00 - they took binoculars in hope of sighting birds but had little luck; at 1:30 Binion, Roger, Larry, Dave, Steve Michael (an aspiring marine biologist in his last year of high school on Kwaj.) and I took the raft over to Carlson Island (Enubuj Island) to poison fish; fighting strong winds and fairly rough water we arrived there about 2:00; we put Dave <sup>and Roger</sup> ashore and then took the raft out 150 yards from shore, anchored it and began poisoning fish - we got quite a number of species but had a lot of trouble netting them underwater in the strong current; we were paid a visit by only one small shark (over)



Lehner, P.  
1964

105

Nov. 1 - continued

that left about as rapidly as he arrived; we went into shore and picked up Roger, who was collecting Hermit Crab shells, and Dave, who was collecting insects; we started back for the ship at 4:45 P.M. and arrived at 5:25; after chow Binion, Roger and Larry sorted and slit the fish in preparation for their being wrapped; the rest of the evening was spent writing <sup>field</sup> notes and letters.



Lehner, P.  
1964

106

Nov. 2

up at the usual hour; during the A.M. there was little activity beyond Roger's pawing through the fish and Larry's catching turtle food; at 1:00 P.M. Binion, George, Dave, Larry and I went to Orubebbu Island to collect fish while Ken and Roger went over to the runway to collect birds; we arrived at Orubebbu Island in about 20 minutes, put Dave ashore and then took the raft out and anchored it about 200 yards off shore; this time we were on the lee of the island and the current was not nearly as great; we collected a great variety of fish, several of which are species different from those collected off Enubuj Island; Dave had ~~the~~ good success in collecting insects also; we headed back for the ship about 3:40 and arrived about 4 P.M.; Ken and Roger were just returning from their safari around the runway and reported that they had had real good success; they had seen a Shoveller and had collected: 5 Sharp-tailed Sandpipers, 1 unknown species of Sandpiper, 1 Sanderling, 1 Whimbrel, 1 female Pintail, and 2 ducks (one unknown species, the other probably a Tufted Duck; after chow Binion, George and Larry slit fish; about 6:00 P.M. Binion and Roger went ashore to set mist nets in hopes of catching English Sparrows seen earlier, and George and Larry went ashore and set the Sherman traps.



Lehner, P.  
1964

107

Nov. 3

up for early chow 7:30; Roger was off early in the morning to check the mist-net but found nothing had been caught; tomorrow we are to leave port, but will not if a new second mate does not arrive; had a large mail call this morning and everyone busily opened long awaited letters - most ironically expressing the desire to be out here; at 12:30 Roger and I took the C-47 flight to Roi-Namur in anticipation of collecting some birds - however, we were held in check by the Security Guard and were not allowed to use the gun; thus stymied we called Mr. Guethlen on Roi, explained our circumstance (to no avail) and then returned on the 2:00 flight to Kwajalein Island; at 2:30 we put down on Kwajalein and could see Ken, George and Harry on the taxiway with the gun - Mr. Homski (Deputy Security Guard on Roi) was also on the plane - watching his reaction when he saw them was a real pleasure - it was as if he had caught his wife in the bathtub with Mr. Clean; they returned from the runway at 4:20 with 2 Shovellers, 2 duck sp., 1 Black-bellied Plover, 1 Sanderling, 1 Snipe sp., 3 Curlew sp.; as soon as these birds were deposited in Lab #1 Roger and Harry once again  
(over)



Lehner, P.  
1964

108

Nov. 3 - continued

began their warlike ritual of "who's going to get their name on which card and label first;" and so another day ends on Kwajalein, and thus begins another night - the only thing to carry over is the argument in Lab #1; sometime during the evening the water was left running in Lab #2 and flooded it with six inches of water - the baby turtles loved it!



Lehner, P.  
1964

109

Nov. 4

the flooded lab was cleaned in the morning by Binion and myself while George, Ken and Larry went to the catchment basin at the runway to collect birds; we tried to carry our clean up over into the other lab and the immediate vicinity, but the task was insurmountable and we only partially completed the task - I was for dumping most of the scattered junk over the side and starting from scratch, but better judgement and Binion both vetoed it; the collectors returned in the late A.M. with two Sharp-tailed Sandpipers and one Erolia sp.; at 12:30 Roger and I once more departed by plane for Roi-Namur, this time with confidence that the proper authorities were aware of our ambitions and had consented to our carrying them out; when we arrived a security guard was assigned to us and took us where we wanted to go; he told us that a duck had been caught three days earlier and had died shortly thereafter in their freshwater pond; three hours and two ~~two~~ security guards later we were flying back to Kwajalein Island having collected 12 Ruddy Turnstones, 6 Wandering Tattlers, 1 Godwit and 1 Golden Plover; the rest of the day consisted of the usual hustle and bustle in Lab #1, Tom Collins, movies and sleep.



Lehner, P.  
1964

110

Nov. 5

still held over in Kwajalein awaiting a second mate we all arose (except Chris who has become crepuscular and nocturnal to the point where his pupils are enlarging; every now and then the ship rocks violently knocking him out of bed, and since he is too tired to crawl back up and in, he stays up); Roger scampered off in the early morning light to check the mist net but found nothing had yet been fooled; George, Ken and I wrapped three barrels of fish and stored them in the hold; Larry and Roger skinned birds and Binion worked on public relations; the stress and strain of our extended visit is no longer telling only on us but also on the security guards who have required us to turn in or pick up passes as we leave the pier and in many cases have asked for I.D.'s; despite this fact the crew of the Shearwater has poured hundreds of dollars into the PX and an equal (or near equal) amount into the clubs.



Lehner, P.  
1964

111

Nov. 6

woke up to a downpour of fecal weather  
and decided to roll over and play dead;  
Roger got up and went to skinning birds hoping  
to set a record for birds skinned Nov. 6 in  
Kwajalein - I think he made it although no one  
came down to the ship to make the presentation;  
a little later Larry got up and joined  
Roger, both the voices rising in the usual duet  
everyone knew the Smithsonian Party was back  
to normal; today we learned that the  
new second mate would arrive on the ninth -  
although this was three days off at least  
now we had a "definite" date; the weather  
remained fecal until late afternoon when it  
took rest before resuming again later at night;  
George and I went birding-exploring along the  
southern shore of the island - we found the  
Boy Scout camp and the abandoned Country  
Club, another multi-thousand dollar endeavor  
deemed useless by Uncle Sam; Binion and Larry  
tried to find hardware cloth to build a fish trap,  
a new frontier inspired by Security Guard -  
Ichthyologist Myers; after a fruitless afternoon  
looking for the hardware cloth they took a  
taxi to the dump and set out the mouse traps;  
George and I returned having seen nothing  
unusual; the rest of the day slid by unnoticed.



Lehner, P.  
1964

112

Nov. 7

today threatened to be raining all day long but slowed up to occasional sprinkles by mid-afternoon; we did what we could on the ship during the rain - some skinning, some reading and some sleeping; at 3:00 P.M. George and I went to the runway to collect birds - George got his telegram off at Communications Center and I was treated to a wealth of hospitality at the Fire House while ~~I~~ waited for George; they followed us with the crash truck, as they have everytime we collected in the catchment basin, but we could find no waterfowl and consequently made no collections; we returned to the ship and deposited the gear and then went ashore to the Snack Bar for supper; we spent the night on the ship at the cinema.



Lehner, P.  
1964

113

Nov. 8

in the early A.M. Binion (and somebody else) went to the dump and retrieved the mouse traps containing two Mus; at 9:00 A.M. all of us (including Ben Brown and excepting Ken) took a raft to North Loi Island collecting fish; we put Roger and Dave ashore and then anchored the raft about 200 yards out on the lagoon side and began poisoning; there was a house on the island and a yardfull of about 10 pigs which we could see rooting through Roger and Dave's gear; we had good success with the fish collecting several varieties that appear to be new species; one large moray eel (about 5 ft.) also fell prey to the poison - we saw no sharks; Roger collected 2 Common Noddies, 3 Hawaiian Noddies and 1 Fairy Tern on North Loi, and 2 Common Noddies were collected from the raft off Ebeye on the way to North Loi; we returned to the ship at 3:00 P.M., arrived in time for chow, and then slit fish after eating; the evening and night brought forth the usual and not the unusual.



Lehner, P.  
1964

114

Nov. 9

up early; rain again threatening continuously; George, Dave and I tried to get over to Ebeye - this brought on a series of humorous events which at least changed the pace of this tiring layover; we were first told we could not go to Ebeye - when we later pressed the issue, indicating that we might actually make it, the security guard told about one chap who had his heart cut out over there and two others who went over and have not been heard from since - he made it sound like some fire-spitting dragon inhabited the island ready to devour all hawks who trespassed - this of course was even more ridiculous since two of our crew had been welcomed warmly on the island the day before - when we finally found out we could not get back in time anyway we abandoned the issue; Larry was at the runway all morning and returned near noon with 2 duck sp.? and 5 Golden Plover; there was a small squid near the ship; Bimon sighted a Frigatebird high over Kwajalein Island; at 4:00 the new second mate had arrived on board and we were heading out from the pier after 12 days in Kwajalein - relief could be heard or sensed throughout the crew; by this time everyone  
(over)



Lehner, P.  
1964

115

Nov. 9

has given up hope of returning by Thanksgiving; the sea watch was begun immediately after we left the pier; at 4:45 we left the lagoon through the southwest passage and began our southeast course toward Jaluit Atoll; we saw the fishing boats trolling beneath large flocks of feeding Hawaiian Noddies and Frigates - they have been having good luck on Marlin lately - two in the last two days - one over 200lbs; at 6:00 the light began to get bad and the watch was secured; the rest of the night was spent in preparation for tomorrow - each of us approaching this task in our own way.



Lehner, P.  
1964

116

Nov. 10

George and Ken started the at sea watch at 6:00 A.M. and were relieved by Binion and I at 8:00; Binion had earlier shot an immature Red-footed Booby; we had a strong east wind and almost constant rain during the watch; at 9:05 Jaluit was sighted off the port bow; on the whole we saw few birds, but they picked up nearer Jaluit Atoll; a large (~75) flock of feeding Hawaiian Noddies was seen near the passage; we entered Jaluit lagoon through the southeast passage about 1:30 and anchored off Jabor at 2:15; two outriggers came alongside almost immediately and boarded; this included the "king" or head man of the island and atoll, and several other of the "upper crust"; at 2:30 Father Donahoe, the Catholic missionary on the atoll, came aboard; Binion and the captain had a ward room conference with them and tried to get hints on good bird islands in the atoll; at 3:30 all of our crew, excepting Binion and Chris and including Jim went in a raft to Kabbenbock Island and put George and Larry ashore; <sup>at 2:45</sup> the rest of us continued in the raft to Euybor Island and arrived at 4:05; Dave went collecting insects, Ken collected plants, <sup>and set out mouse traps</sup> and Roger and I collected birds;

(over)



Lehner, P.  
1964

117

Nov. 10 - continued.

there are numerous small Black-tipped Sharks in the lagoon ~~off~~ on the west side of Enybor; Ken saw a school of porpoises swim through the passage; we encountered an unusual tree - large, with large leaves and cup shaped flowers - the first seen on the trip; there are many small ponds (20 to 30 ft. diam.) in the interior of the island which catch freshwater rain - they appear to be old shell holes - I found no birds near them; the interior is very thick and hard to penetrate; we started back for the ship about 4:10, picked up George and Larry on Kabbenbock Is. (inhabited by one native couple), and headed for ship arriving at 5:55 P.M.; we collected on Enybor: 3 Common Noddies, 2 Reef Herons, 1 Tern sp.?, 1 Fairy Tern; collected on Kabbenbock: 1 Crested Tern, 1 Reef Heron; estimated island bird populations:

	<u>Kabbenbock</u>	<u>Enybor</u>
Fairy Tern	6	10
Black-naped Tern	6	10
Crested Tern	3	2
Common Noddy	6	15
Hawaiian Noddy	6	—
Reef Heron	5	6
Whimbrel	1	—
Curlew	—	1
Wandering Tattler	10	6
Golden Plover	10	7
Ruddy Turnstone	40	8



Lehner, P.  
1964

118

Nov. 11

I'm tired as hell tonight as I sit down to write this but, the day is one that should be recorded while still fresh in the memory.

Last night we all went to bed realizing what would happen today, for a change, but no one knew their respective assignments. At breakfast Binion assigned Roger and myself, with Dave along, to go to Jalvit and Elizabeth Islands collecting; the rest of the crew was to go north to Lajeron with a tent and collect fish and birds, and band; they were planning to stay overnight since the natives have said that this island is loaded with birds; both groups were to be transported by Marshallese outboards which make far faster time than our rafts (we were going ten miles, the other group twenty) - the Marshallese were to arrive at 8:30 but came at 7:30 to check and then returned for the other boat; we had a 12 foot plywood boat with 10-15 horse Johnson motor manned by O.R. Lanny and "English speaking" native; the other group had a 20ft. boat, large Evinrude motor and a crew of four Marshallese including their 26 yr. old king; after much running around the deck we finally got all loaded (including the two tanks of gas which we supplied) and left the ship at 9:00 - the other  
(over)



Lehner, P.  
1964

119

Nov. 11 - continued 1

boat still in the process of loading; we headed toward Jaluit, introduced ourselves and then listened to an inquiry from Lanny if it was alright if he went back to Jabor for a "Doctor" (I forgot the native name) as there was a baby about to be born on Jaluit; we quickly consented; he put us ashore lightening his load, sped back to Jabor, picked up the "Doctor", returned for us, and we were off again for Jaluit; we sped along close to shore, skimming over and near coral heads in the hands of an expert boatman; old Japanese bldgs. and bomb wreckage could be seen the length of the N.E. to S.W. section of Jaluit Island; the scars of war are still in evidence - and the natives have not forgotten; we arrived at our destination - a village of 100+ on the Northwest extension of Jaluit at about 10:00; people ran down to the beach and greeted us as if the Messiah had arrived; we met the Headman and his band of elderly advisors and took our gear to the dispensary; the dispensary is by far the most substantial building on the island except for the church which is still under construction; we unpacked and shouldered our gear under the surveillance of 75 pairs of bulging eyes; with the Headman as our guide and Lanny as our interpreter we started for the freshwater  
(over)



Lehner, P.  
1964

120

Nov. 11 - continued 2

pond reported to contain ducks; Dave went off  
swishing his insect nets at the various invertebrates,  
much to the glee of the native children; when  
we reached the pond (a muddy waterhole less  
than 1/2 acre in size) we saw no ducks, but we  
did see a large shorebird that reminded me  
of a Willet; it stayed out of range and then  
disappeared when we tried to skirt the pond;  
we continued south along the island passing  
by little settlements which received us with much  
interest; we came to a large tidal flat that  
was exposed (being low tide) and followed the  
tidal channel back into the interior of the  
island where it became a kind of swamp  
with scattered growths of a hydrophytic hardwood  
reminiscent of alder; in the basin-swamp we  
saw a few, Ruddy Turnstones, Golden Plover,  
Wandering Tattler, Bristle-thighed Curlew and Fairy  
Terns; we saw one Crested Tern offshore, one  
mottled Reef Heron and fairly numerous Common  
Noddies; the overall density of birds is very  
low in contrast to the vegetation which is  
extremely thick, except in the coconut plantations;  
we returned to the main village the way we  
came; we were brought to a halt in one of  
the outskirts villages where the women adorned  
us with leis and gave us fans and map cowries;  
(over)



Lehner, P.  
1964

121

Nov. 11 - continued 3

I took pictures of the people who were eager to pose and generous with smiles and laughter; the head of the local Womens Club inquired through Lanny when we were leaving and invited us to eat in the main village; being 12:15 we accepted and arranged to partake of their food at the dispensary where we were to meet Dave; we continued down the path with three small girls following in awe; when I stopped to take a picture of a couple huts the natives immediately ran out into the path and posed, blocking out almost completely the purpose of the picture; just as I was snapping the shutter Roger, half startled, snapped, "what the — is that — excuse me," and pointed to a Brown Booby perched on a window sill; on inquiry Lanny explained that he had brought 20 young Brown Boobies from another island over here, but only 4 or 5 were still living as pets — he stated that although the bird is fed fish by its master, it still fishes for itself and returns home; we returned to the pond in hopes of collecting the unknown shorebird — so far we had collected 2 Golden Plover, 1 Common Noddy and 1 Fairy Tern; on approaching the pond we could see four shorebirds — one of which looked like a Golden Plover, but with a gray head — just as I was about to lower the gun muzzle under a palm frond and  
(over)



Lehner, P.  
1964

122

Nov. 11 - continued 4

push lead in its direction it rose and disappeared; an attempt at another across the pond all failed; we returned to the main village and the dispensary, met Dave, took some pictures and awaited food; throughout the day, from our first gift of fans and cowries, we felt the need to reciprocate but had come unprepared for such an occasion; thus when the women, all in green dresses, arrived with armfuls of food we made our only attempt at reciprocity by handing out our crushed chicken salad sandwiches; this was the tension peak of the day as we did not know whether we were pleasing or insulting them; however, the sandwiches disappeared and the people gathered - I think only the sick and pregnant stayed away - there were over 100 people; one <sup>crippled</sup> woman was wheeled in on a cart but no pregnant women appeared; as soon as the food arrived, a table and three chairs was set up; on the table was put 3 boiled chickens, sliced breadfruit, coconuts with milk and a bowl of "hush puppies"; we were gestured to sit down and ~~eat~~ <sup>dig</sup> in while four women waved palm fronds past us, keeping the flies off the food and the air in circulation; it was a picture of South Seas Paradise, except the multifold eyes and grins seemed like an audience at the Saturday night fights; to say the food was

(over)



Lehner, P.  
1964

123

Nov. 11 - continued 5

delicious would be a lie; with a canteen of water at my side I was able to wash down what the coconut milk refused to flush and we all forced down enough to appear pleased and well fed; I could see that my constant drinking from the canteen was being met with disapproval but the other alternative would have been far worse; when we leaned back and patted our stomachs indicating we could consume no more, they cleared the table and began a procession of gifts accompanied by "singing"; they adorned us with a multitude of leis around the neck and on top of the head and then <sup>each</sup> brought us a cowrie, several tiger cowries and three of another kind unfamiliar to all of us; we were now brothers in the tribe, members of the Women's Club and sick of coconut milk; we took pictures of each other sitting amongst the natives, gathered our gear, shook hands, waved, grunted, smiled and headed for the beach; we loaded the boat, thanked the Headman once more and shoved off for Elizabeth Island at 2:10 P.M.

We arrived at Elizabeth Is. at 2:45 P.M. and were greeted by their young Headman and several of the other natives who helped us carry our gear ashore; here again we were immediately approached by the many natives, but nary a bird  
(over)



Lehner, P.  
1964

124

Nov. 11 - continued 6

bothered to fly overhead; while on the journey to both Jaluit and Elizabeth Islands I saw only a very few Common Noddies and one Fairy Tern; we got permission from the Headman to look around the ~~island~~ pond and collect ducks that we found; <sup>(they had shot four ducks yesterday)</sup> Roger and I started out by ourselves and walked along the pond which sets right behind the village; Dave set off in a different direction, net in hand; as we approached the pond (about two acres in size) Roger spotted a duck; we continued our stalk along the east side of the pond and I went down to the shore and peered under the shrubbery at a point where we last saw the duck; by this time he was on the west side, so I began a poor imitation of the come-in and feeding calls in an attempt to bring him in range; he responded no more than to perk up his head and swim in small circles, looking bewildered; I then noticed a bird hopping through the branches over my head that could be nothing other than a New Zealand Cuckoo, and I so informed Roger who was 50 ft. back up on the bank; the Cuckoo was too close to shoot so when Roger spotted him I moved back up the bank for better position; when I got back to where Roger was standing I could no longer see him, even by sighting down Roger's outstretched arm, so I handed the gun to him, listened to the



Lehner, P.  
1964

125

Nov. 11 - continued >

report and watched the Cuckoo fly away; we circled the pond 1.5 times in vain search of the Cuckoo and duck that had both vanished; returning to the village we found three chairs sitting beside our gear, so we occupied two and waited for Dave; when he joined us and sat down, we heard the singing, turned around and saw the procession of women bearing gifts come out of a hut 200 yards behind us and proceed up the path in our direction; we were once again smothered with leis and presented with cowrie shells and coconuts; we took pictures of the natives, ourselves amongst the villagers, smiled at the adults, patted the children on the head, gathered our gear and proceeded toward the beach; henceforth, came the villagers at our heels still tying leis around our necks and nearly choking Dave as they caught him in full stride with a lei around the neck; we loaded our gear, smiled, took more pictures, shook hands with the Headman, waved and headed out into the lagoon toward the ship<sup>at 4:30 P.M.</sup>; we had been overwhelmed, amused and astonished at the hospitality and its form; we passed mutual feelings of pleasure at our recent experiences and then lapsed into semi-consciousness as fatigue caught up; about halfway to the ship I remembered the luau planned for us by the villagers at Jabor and  
(over)



Lelmer, P.  
1964

126

Nov. 11 - continued 8

asked Lanny if he would take us over after we had unloaded our gear onto the ship; he said he would - and did; Dave and I went - Roger remained on the ship to finish cataloging the collected birds;

We had arrived at the ship at 5:25 and were headed for Jabor Is. at 5:45; Lanny showed us where the festivities were taking place (they were to have begun at 5:00); he then departed and we joined the rest of the crew - eighteen, including the captain had made it; a game of soccer (the style where the ball is kept in motion within a circle and hands are clapped after each kick) was underway; the photographers in the crew were snapping pictures and Jim was sampling fermented coconut juice - I tasted it and found it just about like regular coconut milk - after about 3 days fermenting, it kicks like a mule; I introduced myself to Father Donahoe, the missionary on the island, and found him an easy going, likeable man; he ushered us toward the school house which contained tables of set places, dishes of all kinds of exotic food and the local Women's Club swishing palm fronds to keep the flies away - the Jabor Women's Club uniform is a large red and white square pattern; we were seated, the Father said a prayer and we began; we had taro, boiled bananas, chicken, pork, steak, pickles, fresh baked bread, butter, fresh bananas, coffee and coconut milk;

(over)



Lehner, P.,  
1964

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Nov. 11 - continued 9

all the foods, except the fresh bananas and pickles tasted like paste; by taking a bite of pickle with a bite of something else I was able to override the taste and then wash it down with either coconut milk or the bitter coffee; sitting beside me, Smitty voiced my own feeling by saying, "I don't think I could of made it without the pickles;" after the meal, they gave us each a neck and a head ~~lei~~ lei; four of the Women's Club members played utuleles and sang us four songs and the school children sang us four more, one of which was "On Top of Old Smoky" in English; we reciprocated by having Jim sing two Hawaiian songs accompanied by Figueroa and Ben Brown; we then adjourned outside; several of the crew remained on the island to show the two movies that were taken over; seven of us returned to the ship - I was too exhausted to stay.

The crew will reminisce about today for a long while - for them it was the most enjoyable day, so far, of the trip; for me, it was not only the most enjoyable but also the most interesting; had we been able to collect the unusual birds species we saw it would have been complete; we did not find any quantity of birds but we made a good survey of what was here.

(over)



Lehner, P.  
1964

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Nov. 11 - continued 10

There are lizards on both islands; although, we were unable to catch any, they appear to be skinks; with a wide light tan stripe down the back, the rest of them dark; I believe they are the same kind we collected on the more northern atolls.

The natives keep chickens and pigs - the chickens running free, the pigs penned up; we found no evidence of domesticated waterfowl; The following Marshallese birds names were obtained from Lanny by Roger:

Golden Plover	-	Koloej
Fairy Tern	-	Mejo
Common Noddy	-	Bejwah
Hawaiian Noddy	-	Jkar
Brown Booby	-	Kalo

The other group returned from Logeron Is. about 12:25 A.M.; they 1000+ nesting Red-footed Boobies, Fairy Terns, Hawaiian Noddies, Common Noddies, Crested Terns and possibly Sooty Terns in fair numbers; the natives climbed the trees, broke the Boobies' <sup>wing</sup> and then dropped them to the group - they go to the island about 3 times a year to get birds; with eight  
(over)



Lehner, P.  
1964

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Nov. ~~10~~ 11 continued 11

people they can take 500 birds (Boobies) in 4 hours; when offered sandwiches by our party they refused and in turn roasted a Brown Booby and offered it to our party - the entrails had not been removed - the reaction to eating it varied from Binion's liking it to George's great distaste; almost all the Boobies were juveniles, helping to account for the large numbers we saw at sea approaching Jaluit.

A large typhoon struck Jaluit Atoll in 1958 leveling the main islands; the Trust Territory people replanted coconuts and they have only begun to bear nuts in the last few years; they receive 6 cents/lb. for the copra.



JALUIT ATOLL  
(YARŪTO)

130

From Kwajalein





Lehner P.  
1964

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Nov. 12

this morning we are to leave for Makin Atoll; the island dignitaries came to the ship and asked that our "scientific" group come to ~~the~~ Jabor for a ceremony before our departure; Binion, Ken and Dave went to Enybor in a raft to collect birds, the mouse traps and Dave's insect nets; the rest of us went ashore with the natives to wait for Binion, Ken and Dave; we had a short tour of the island, led by the scribe and then we sat ground talking and drinking from coconuts until the raft pulled into view; we all gathered at the beach where we waited for the ceremony; soon we heard women singing and turned to see a procession of women, all in the Women's Club uniform, coming down the path with leis; they put leis on us and then their president made a speech (interpreted by Father Donahoe) and presented Binion with a box of handicraft gifts; she made a beautiful and humble speech which was quite ~~touching~~<sup>touching</sup>; Binion then gave a return speech which somehow got sidetracked onto a discussion of bird bands and left the poor woman there holding  
(over)



Lehner, P.  
1964

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Nov. 12 continued

her offering of lasting friendship; this was also the moment chosen to call in one of the natives to identify the bird carrying the #2 band given us - still the woman held the box of gifts; by some stroke of genius the gifts were finally accepted and we all started for the raft, greatly adorned with leis; they formed us into a line and we shook each of the women's hands as we left (many of the children were also dragged into the line by mothers who wanted their children to meet the Americans); we thanked Father Donahoe again and headed for the ship; after the raft was unloaded, it was hoisted onto the ship and we pulled anchor and started out of the lagoon (10:35 A.M.); Ken and I started the at sea watch at 11:15 A.M.; we saw few birds, among them, however, were some unusual shearwaters we couldn't identify; I had the watch with Binion at 4:45 and until 6:00 when it was secured; the evening was an uneventful one of note writing and reading.



Lehner, P.  
1904

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Nov. 13 FRIDAY

Not being superstitious, I had no worries about today's happenings, but as it turned out I should have been wary.

Binion and Ken started the at sea watch at 6:00 A.M., and George and I relieved them at 8:00; the weather was fair but there was a marked paucity of birds today; we had a small rain squall during the watch, so I climbed into the cover of the wheelhouse - here I whistled a little to make things seem brighter - Capt. Krull told me that on most ships this whistling would not be allowed as it is believed to bring bad weather at sea - I continued to whistle and brought on nothing worse than more rain; at 9:10 Makin Atoll (Makin pronounced with a short A) was sighted off the port bow; today I noticed flying-fish with different colored fins in the same immediate vicinity; at 11:30 we entered the south passage of Makin Atoll into the lagoon and then headed southeast toward Butaritari Island; by 12:00 we could see the village of Butaritari spread out along the lagoon side of the island; at 12:12 we dropped anchor about 2 miles off the village of Butaritari; while one of our rafts was being lowered into the water, George picked up a Tridacna from the deck with his fingers  
(over)



Lehner, P.  
1964

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Nov. 13 - continued 1

inside the shell - he discovered that it was still alive when it closed on him, squeezing his fingers painfully until Ben Brown pried it open (the shell was about 8 inches deep); almost immediately a native outrigger pulled up alongside and the Chief Magistrate, Chief of Police and Doctor came aboard; these three plus the captain and Binion went into conference in the wardroom; Binion learned on what islands the birds were located and we realized a necessity for two boats; since only one of our three rafts was in good condition and some of the islands were several miles away it was decided to use the ship's motorized lifeboat; the crew then began lowering the boat and readying the engine for operation - everything looked good until the boat settled on the water and then the water started rising in the bottom of the boat; the Chief Mate gave a half hearted order to haul it up again; "Bring it back up, now?" hollered one of the crew; "we've got to haul it up, the \_\_\_\_\_ is sinking," answered the first mate; there is nothing that can instill confidence in your safety on board ship, like seeing a lifeboat sink; they got it back aboard ship and secured it, then put another effort into preparing our raft; at  
(over)



Lehner P.  
1964

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Nov. 13 - continued 2

2:00 P.M. all of our party including Chris and Dave headed for Butaritari in one raft; with the wind only slight we arrived at Butaritari at 2:30 and were greeted by hoards of people; one official looking native stepped forward and exchanged broken English with us; Binion explained our mission and received permission to carry it out; we left George, Larry, Dave and Chris at Butaritari and headed for Kotabu Is. at 2:45; part way there we discovered that we did not have shells for the 12 gauge gun and had to return to the ship before proceeding; we discovered this lack in our supplies by trying to shoot a Crested Tern in the lagoon without ammunition; 300 yards off Kotabu Is. we entered a flock of feeding Noddies and Crested Terns and collected 3 Crested Terns; we beached the raft at 3:50 and exchanged hellos with two natives who were there collecting hermit crabs for fish bait; Binion, Roger and I collected birds, Binion taking blood samples from wounded birds; Ken collected plants; Kotabu is a small island and is easily surveyed - it is about 200 yards in diameter but has high vegetation - this is utilized by Hawaiian Noddies who have built about 1800 nests on the island; we collected 3 Fairy Terns, 3 Reef Herons

(over)



Lehner, P.  
1964

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Nov. 13 - continued 3

(one white, two gray), 1 Golden Plover, and 11 Hawaiian Noddies; during this time at least six more natives came ashore after fish bait; at 7:00, just before complete darkness, we left the island and headed for the lighted ship - we were delayed leaving, because of downed Frigatebird we could not find in the bush; although the lagoon was fairly rough, we had little trouble returning to the ship until we were about 1/4 mile away; at this point we heard a sickening hiss-s-s-s and watched the front end of the boat slowly sink; the other fellows hurriedly threw gear aft in the boat and I reversed the motor to keep from folding the front of the raft under; Ken, Binion and Roger then grabbed the front bow line and pulled the deflated front end out of water and held it up and back while we crept toward the ship - we were lucky in two respects: 1) that the boat had both fore and aft air compartments, 2) that the fore compartment deflated; somehow the valve had come completely out; we were a real sight as we pulled alongside the ship and received a hearty round of guffaws for our condition - we looked like we were riding in a deflated wading pool; we left the

(over)



Lehner, P.  
1964

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Nov. 13 - continued 4

raft for the crew to repair and sat down for some supper; it was after supper that I learned that the ship's radio had been hooked up to their hand phone instead of their speaker - when I called in our radio check in the late afternoon, it just happened that they tried to call us at the same time and consequently our set was on and we made contact - our communications almost became another Friday 13<sup>th</sup> fiasco; after chow, Binion, Ken and Roger worked on the birds and the crew continued to work on the raft; at 8:30 I was ready and the raft was ready, so Ben Brown and I each took a raft ashore to provide ample transportation back for the many crew members who were already ashore; we had a hard time finding the spot along shore where we were to land until a native blinked us in with a flashlight; the native led us to the large meeting hall where the reception party was already well underway; we could hear the music from quite a distance; we entered through the crowd that was gathered outside, ducked under the overhanging roof and walked to where the crew was, setting ourselves down on the mat with them; George and Larry left to take the birds they had collected back to the ship: 1 Godwit, 2 Golden Plovers, 1 Sandpiper; I then surveyed my surroundings and illustrate them as follows:  
(over)

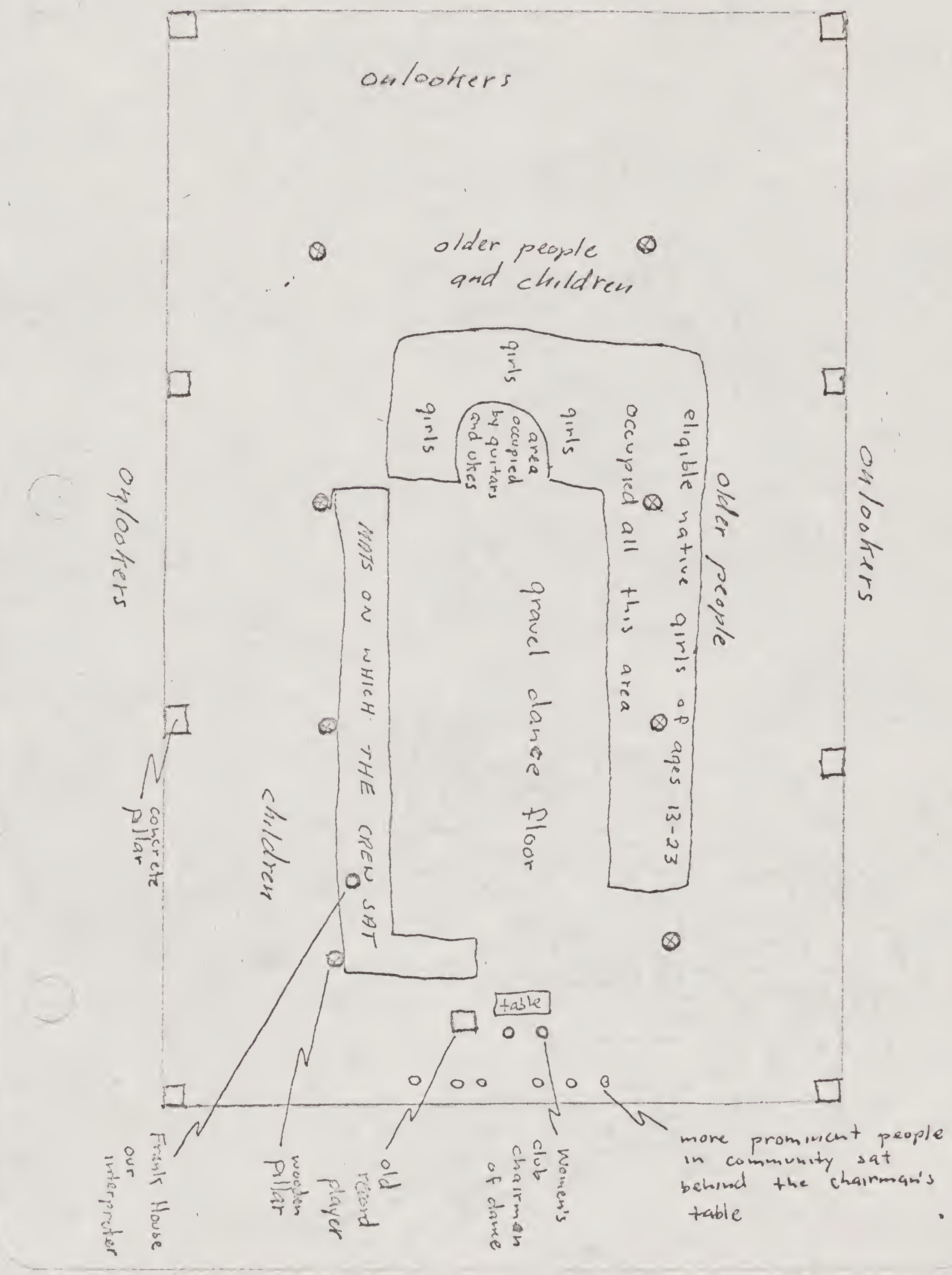


Lehner P.  
1964

Nov. 13 - continued 5

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Butantari Meeting Hall  
Party #1





Lehner, P.  
1964

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Nov. 13 - continued 6

When I sat down they were in the part of the evening where they auctioned off leis; all bidding was done in pence and shillings and almost all were bought by members of the crew, who in turn took them across the gravel dance floor and placed them on a girl; most leis sold for 5 to 10 shillings - if you wanted to stop the auction and start the dancing again you had to bid one pound; Chief Redfeather (Daly is his real name) paid the pound after 3 or 4 leis had been auctioned off and the music began again; there were 3 guitars and 2 ukes in the band; the music was of a fast beat much different than the soft melodious music one imagines coming from every South Seas Isle; dancing was of a spontaneous nature where anyone could get up, bow with open arms to the dance floor and then proceed to dance in any manner your mood moved you; these people have picked up the American "twist" from Tarawa; they have adapted several of their songs to its beat - their pronunciation is "the switch"; their natural rhythm and agile body contortions lend themselves to the dance very well; if a girl is interested in dancing with a partner instead of by herself,

(over)



Lelmer, P.  
1964

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Nov. 13 - continued 7

she will dance slowly over to her chosen partner, bend down before him and make motions with her hands to follow her on to the dance floor; this is the way the greatest percentage of the dances came about; some of the crew (including myself) got itchy feet too often to sit back and wait, so we would often approach a girl and ask her on to the floor; the dances are very long - some seemed to run over ten minutes; not wanting to appear weaker than the native girls, most of us danced the limit, soaking wet with sweat and foot sore from the gravel; by this time my feet were used to exposure and tough enough that I didn't mind the gravel; there was a very short breather between each dance and then the guitars would begin again, and another native girl would wiggle out onto the floor; they seemed to show a marked preference for the same dancing partner time after time so that when a particular girl would dance onto the floor, her usual partner among the crew would mean, "Oh no! Not again!"

Whether they chose the same partners because they took a liking to them or whether they wanted to see if they could wear one man out we did not learn until the next night;

(over)



Lehner, P.  
1964

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Nov. 13 - continued 0

In order to stop the dancing and start the ~~event~~<sup>auction</sup> you had to applaud during a dance, at which point the music would stop and the auction would begin; the auctioning was done by a young member of the Women's Club, who put on the dance; this girl was either the Magistrate or Chief of Police's daughter - she was also a champion comedienne - she threw in asides during the auction that had people roaring; of course, we could not understand them, although the contagious laughter caught us up most of the time; this same girl was also an outstanding dancer who went at it with the fervor of a prizefighter - little did I realize at this time, what this girl and I were to perform the next night; once during the night we were asked to entertain our hosts and Jim, Ben and Figueroa played and sang for them; Jim being a rotund Hawaiian and of light spirit, immediately captured the audience as a clown and played the role to the hilt; when mid-night approached we tried twice to leave, but were asked to sit down for a few more minutes; the second time the chairmen came forth and gave a lengthy speech in Gilbertese to both the natives and us - it was translated for us  
(over)



Lehner, P.  
1944

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Nov. 13 - continued 9

by Frank House; the <sup>speeches</sup> ~~speeches~~ we had heard on Jaluit, here on Makin and were to hear Maiana were all long, but well thought out and spoken - they undoubtedly measure part of the worth of their speech by its length; after her conclusion, Chief Redfeather returned the speech thanking them for their hospitality; we then headed for the ship completely surrounded by mobs of natives who showed great interest in everything we did and said; we departed the island at 12:30 and arrived at the ship about 1:15 - it was then straight to the rack.



Lehner P.  
1964

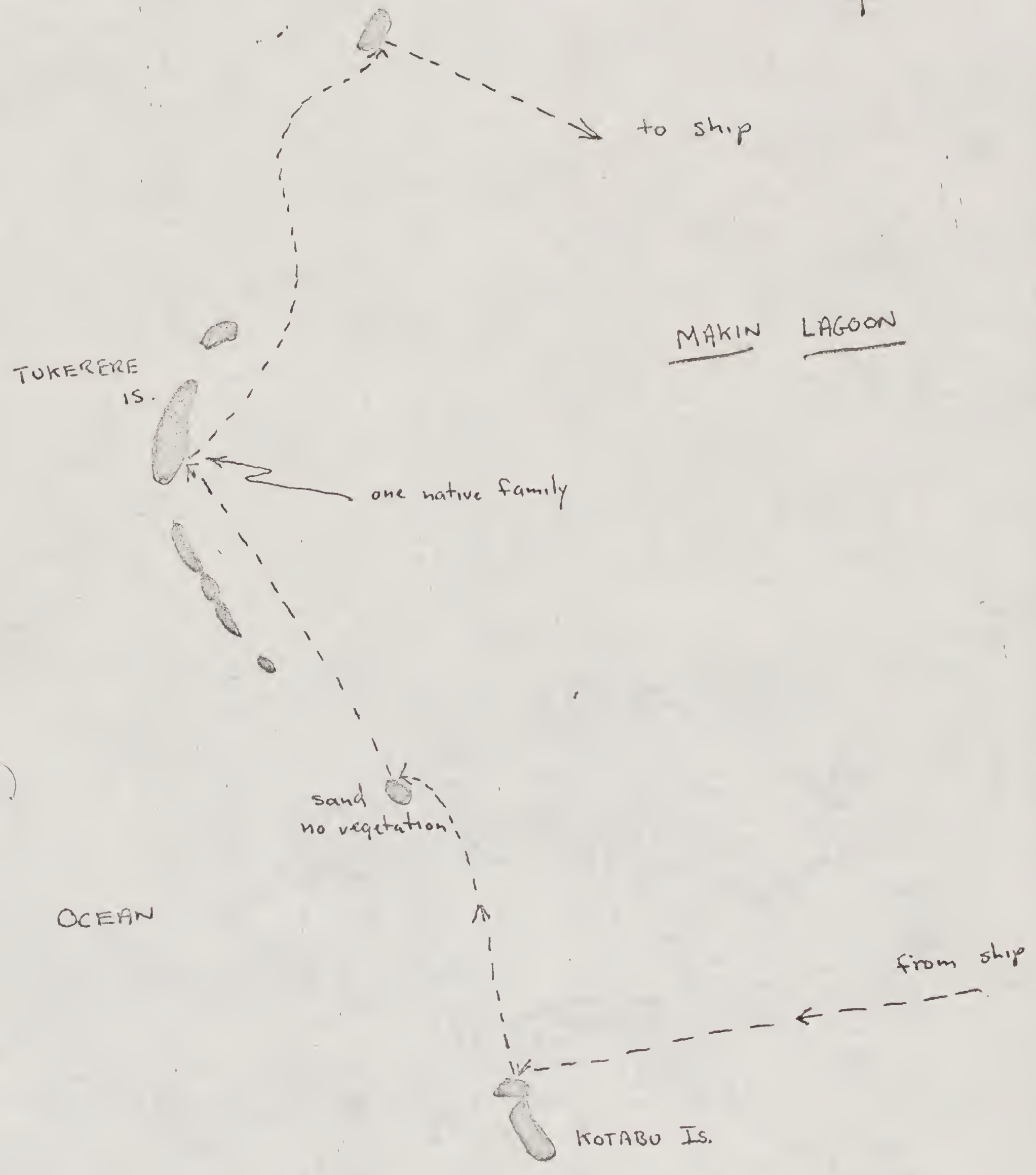
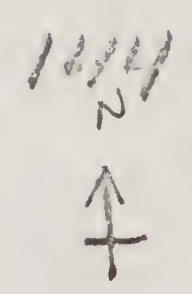
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Nov. 14

Having Friday the 13<sup>th</sup> over with, the first thing thing I should have seen today was a canoe load of native girls heading for the ship, but the first thing that I can remember taking notice of was the turtles' umbilicus - they still have vestiges of it between the plastron plates; at 9:00 George, Larry, Dave and some of the crew went into Butaritari; at 9:10 Binion, Ken, Chris and I headed for Kotabu Is. again and ultimately Takerere Is. and nearby sandbars; Roger stayed on board to skin birds - whether to try to catch up to Larry in number skinned or whether yesterday's experience in the raft and his inability to swim made him apprehensive today I don't know; we beached the raft on Kotabu Is. at 9:50 and prepared to collect birds and take blood; we collected: 5 Fairy Terns, 4 Common Noddies, 1 wandering Tattler and 1 Hawaiian Noddy; Ken also found the Frigatebird that was shot but not found yesterday; at 11:30 we ate some of the sandwiches we brought, I had a swim and then made a radio check with the ship, explaining our plan to continue on to Takerere Is.; we left Kotabu Is. at 12:00 and headed north toward the sandy island between Kotabu Is. and Takerere Is.; we  
(over)



Lehner, P. 1964  
Nov. 14 - Continued - 1



OCEAN

MAKIN LAGOON

TOKERERE IS.

one native family

sand  
no vegetation

KOTABU IS.

from ship

SOUTH CHANNEL



approximate nautical mileage



Lehner, P.  
1964

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Nov. 14 - continued 2

collected 2 Black-naped Terns just east of the sand island; they were part of a feeding flock; we beached the raft on the north end of the sand island at 12:30, scaring off six Crested Terns; there was a flock of about 50 Black-naped Terns on the south end of the island - we collected 4 adults and 1 juvenile; there were 18 nests with eggs - ~~most~~ <sup>half</sup> had two eggs; there were also 3 Reef Herons on the coral awash south of the island; 12:45 we headed for Tuterere, got halfway there, turned around went back for my things and then headed again for Tuterere arriving at 1:25 P.M.; there is one family of natives occupying the island (one man, 3 women, 4 children, and 2 in the hanger); no one spoke English, but we gestured him into showing us the island; we went to the northernmost end of the island where he showed us what I thought at first was a grave - he then indicated something coming from the north through the opening by the edifice and over the island - I then realized that it must be a shrine constructed to protect the island from storms; he picked up a large clam shell that was face down in front of ~~the~~ <sup>the</sup> wreathed column 3 ft. high - underneath was a smaller



Lehner, P.  
1964

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Nov. 14 - continued 3

clam shell face up holding bits of tobacco and matches; realizing that he wanted to make an offering we gave him a pack of cigarettes, one of which he placed unlit amongst the other tobacco and then replaced the larger clam shell over it; he was then quite pleased and we took his picture beside the shrine; we then headed back toward his hut and our raft, but stopped short when we saw that one of a flock of six Ruddy Turnstones along the shore had a painted red rump; this indicated that it had been banded by our project members (Hoeman and Thompson) in the Aleutians; Binion rushed off to the raft and returned with the gun; I suggested he go further down the shore and I would scare them to him; this he did, but as I approached the birds they did not fly; I could see which one was painted and indicated it to Binion as he approached the seemingly calm birds; the painted one was the last to fly and Binion shot him before he could; the band number was very close to the one we were given on Jalut indicating that that one was also banded by our project members; we returned to the native's hut and drank some coconut milk and then went to our raft;

(over)



Lehner, P.  
1964

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Nov. 14 - continued 4

at the raft Binion gave the boy (about 6 yrs. old) a can of peanuts (we later discovered that he had taken one can of peanuts and one carton of cigarettes - the only case of thievery we saw on the whole trip); there were numerous jelly fish washed up on the shore here as there were on Kotabu; we left Tuterere Island at 2:15, decided to look over the next island north, motored towards it and landed at 2:50; there some Black-naped terns and Hawaiian Noddies amongst the tall vegetation, but nothing was numerous; although the island was crowded with tall trees none were palm trees; we left this island at 3:00 P.M. and headed for the ship - on the way we collected a Brown Booby on a coral head marker in the middle of the lagoon; we arrived at the ship at 4:40; while unloading the raft Ken managed a beautiful somersault dive over the side into the lagoon - he also managed to keep his glasses on and everything in his pockets - a fine performance; we ate and at 6:30 P.M. I took the raft into Butaritari and picked up George, Larry and Dave, who were waiting at the pier with their band of faithful followers; they had collected: 1 Bristle-thighed Curlew, 6 Wandering Tattlers, 2 Golden Plover, 3 Ruddy Turnstones, 3 Sharp-tailed Sandpipers, 1 Erolia sp., and saw a New Zealand Cuckoo; on promises to the kids.

(over)



Lehner P.  
1964

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Nov. 14 - continued 5

that we would return later, we went to the ship; at 8:00 we went back ashore and walked immediately to the large meeting hall where the party was already underway; this time when we arrived, everyone on the crew had a lei on his head and a woven dish full of food in front of him on the mat; we seated ourselves cross-legged and were immediately approached by members of the Women's Club who put a lei on each of our heads and gave us each food; there were three kinds of food: fried chicken, taro and a sweet paste made of ground taro, molasses and coconut milk; they also gave us each an open coconut from which we could drink the faintly sweet milk; up to this point all the dancing had been performed by single dancers (male or female) who wanted to display their agility for everyone; shortly we were finished eating and as the food was cleared the girls started approaching the crew for dances; it was obvious tonight that many of the girls chose the same partners indicating a definite preference; there was more participation in the dancing tonight and more vigor displayed by the dancers; this was met with appreciative laughs and  
(over)



Lehner, P.  
1964

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Nov. 14 - continued 6

shoots from the hundreds of onlookers; about 10 o'clock the dancing ceased for a few minutes and we were served coconut juice (taken from the new shoots, not the nut) in mugs - it was very refreshing at this point; had it not been that one of the natives accidentally knocked my mug over, causing me to scramble up, much to the joy of the hordes of natives, I would have relished this particular sequence of refreshing swallows with great pleasure; there was no auction tonight and the record player blared much less of the cracked records; after our drink the dancing took on a new fervor and the became more suggestive of fertility rites, ~~than~~ than rhythmic exercise; the high point came when I was approached by the native girl I referred to before as a "champion comedienne" - she was in fact the "Gilbertese Martha Ray"; this was to be the last dance of the night so the crowd sensed the climax was about to occur; she dragged me to the center of the floor and then began to twist in energetic and erratic gyrations that had ~~to~~ me sweating profusely to match; seeing that I was keeping up with her, she slowly turned herself around while twisting from side to side and then

(Over)



Lehner P,  
1964

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Nov. 14 - continued 7

backed herself toward me, slapping her posterior and indicating that I was to turn around and unite rumps with her; this I did to both my amusement and the crowds; this led into a series of gyrations that would have been called illegal on a football field or at any other public gathering in the United States; the dance was not so much a rhythmic expression of feeling as it was a contest of who could overpower who from what angle; I was enjoying myself no less than the crowd was enjoying us, but I was in far poorer condition when the dance finally ended; we had taken up a collection earlier among the crew and our presentation of this donation to the Women's Club started a series of speeches; the first one was delivered by the local Doctor, who gave a lengthy but well composed speech, addressing first the natives in Gilbertese and then us in English; when he had finished, the crowds new burst of laughter drew our attention from the Chairman's table to the other end of the floor where my recent dancing partner had stepped forward; with a straight face that marked her as a natural performer she delivered one sentence at a  
(over)



Lehner, P.  
1964

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Nov. 14 - continued 8

time which was met by roars of laughter and was then translated for us by Frank House; her speech went something like this: she was greatly moved by this evening's performances and festivities - when we depart it will leave a lump in her throat - she has fallen in love with the one with the beard (at this point everyone turned to look at me and laugh) - she has room in her heart for no one else; during the speech she removed a lei from her head and held it as if she was about to come to me and make a gift of it - I was quite relieved when she merely sat down after her speech; when the laughter had subsided, Jim stepped forth and gave a speech expressing our great admiration for the people, their outlook on life and their most generous hospitality; we then left amid throngs of crowding natives; Jim talked Dave, George and myself into staying on the island overnight with him; the four of us sat around outside the assembly hall for awhile singing American songs to the natives (mostly children); our attempt to sing at the party tonight had been another big flop; as the hour approached 11:00 A.M. we inquired where the S.O.A. (Seventh Day Adventist) School was and

(over)



Lehner, P.  
1964

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Nov. 14 - continued 9

started off in that direction, a flock of children matching us step for step; one of the students staying at the school found us part way and took us to the school; we had to wake up Joe and his wife (Joe is the school teacher, a native from Fiji); they gave us pillows and sheets to keep the mosquitos off and we bedded down in the mat floored classroom; several varieties of insects bit, sucked and tramped over us through the night but our weariness was too strong and sleep overtook us before we could utter many condemnations.



Lehner, P.  
1944

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Nov. 15

We were aroused from beneath our sheets at 7:00 A.M. ; we all poked our heads out to see Joe and his wife with coffee for us ; drinking the coffee, we talked with Joe who told us much about the war years on the island ; George and I kept an eye on the lagoon for the raft that was to come in at 7:30 ; Joe told us that his wife had fish cooking if we could stay for breakfast, but we informed them that we had to meet the boat and regretfully could not ; we shook hands expressed our thanks and then George and I headed back for the pier, leaving Jim and Dque behind and still talking ; we said our good mornings to natives we met along the way and picked up our usual band of 15-20 children before we reached the pier ; the mat salesman came along and inquired as to our day's work and offered to go with us on our journey to the mud flats, south of the village of Botaritari ; the raft was sighted shortly after we reached the pier, and since it was low tide we went to the end of the pier to await their arrival ; they arrived at the pier at 7:45, Al LaPalme and Vic MacAllister went ashore and George, the native, and myself climbed in ; we headed for the mud flats by swinging way out into the

(over)



Lehner, P.  
1964

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Nov. 15 - continued 1

lagoon and then heading straight toward shore - this was the only possible maneuver at low tide, but Larry insisted we could not approach on a straight course and cursed the native's lack of intellect - it was a series of completely undiplomatic, even unmannered happenings such as this occurring throughout the trip that made me often ill at ease; in about 15 minutes after leaving the pier we had tied the raft to an old rusted buoy and waded up onto the flats; Binon, George, Ken and the native went in one group, Larry, Roger and myself in another; we wandered about the flats until 10:30 when we had collected: 2 Bristle-thighed Curlews and 4 Godwits (species unknown); in our meanderings I collected about 25 money cowries; with higher water, we headed almost straight for the Butaritari pier and arrived there at 11:00; Dave, Jim, Al and Vic were there waiting amongst the usual horde of natives; after much handshaking and many "Tiahabo's" (pronounced Sacabo) we headed for the ship; we reached the ship slightly before noon - by 12:10 the raft had been taken aboard, the anchor pulled and we were underway for Maiana Atoll; at 1:00 George and Ken started  
(over)



Lehner P.  
1964

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Nov. 15 - continued 2

the at sea watch; at 3:00 Binion and I took the watch until 6:00 when it was secured; we encountered a lot of rain and reasonably enough, numerous storm petrels; about 4:00 P.M. an immature Brown Booby flew back and forth around the ship and then sat down on the low flagstaff platform - Binion climbed the flagstaff and made a grab for him but could not quite reach him - he remained there until another immature Brown Booby flew by about 15 minutes later; he then arose and flew off with the passerby - I refer to "it" as a "he" not because I knew the sex of the individual, but because only a "he" would leave the comfort of a free ride to chase after another individual; rain squalls were frequent all evening.

Makin Atoll proved to be the most pleasant all around community we visited; it lacked in avifauna only because it did not lack in people; because of the large size of the atoll and the lethargy of our transportation we could not get to some of the islands that would have more complete in bird life; if I was to give advice to future visitors in the South Pacific islands on one piece of equipment that would win them  
(over)



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1964

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more friends than money and cigarettes ever could, I would say, take a Polaroid camera and lots of film - a picture to us is worth a thousand words, to the native it is worth a thousand dollars; on every atoll we visited, the most prized possession was the picture a native had of himself and his friends; it even became difficult for the rest of us with ordinary cameras to escape the accusing looks of natives whose pictures we had taken, but whose picture we could not immediately produce; until they came to understand the difference in cameras, we were fakes and phonies in their eyes; if you can give a native a picture of himself, you have won a friend for life!



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Up at 7:00 and went on watch with Binion; 7:20 Maiana Atoll came in sight off the port bow; we saw very few birds during the watch, mostly Common Noddies and Fairy Terns; our course to Maiana was  $180^{\circ}$  S until directly west of Maiana and then  $90^{\circ}$  due east; we sighted a small ship leaving the vicinity of the atoll on a N.W. course and thought it to be a fishing vessel - we were later informed that it was the John Williams, a Trust Territory ship, on its regular tri-monthly visit; we anchored west of the north passage at 9:05 at a distance of about  $1\frac{1}{2}$  miles; saw one person on the beach; it was low tide and the small boat passage was obviously impassible, but it was decided to launch a raft and have a go at it anyway - at 10:00 we started in and made two approaches at the pass and then went north and left the raft in the shallows with Mr. Hart (second mate) and waded ashore; we saw an outrigger canoe in the lagoon earlier, but he did not approach the ship; the tide was coming in and came so fast that Mr. Hart had to keep walking steadily inland to keep up with the tide - the tide level changes about four feet; Ken and Roger went south across the flats with one gun, Larry went north with the other and George, Binion and I went inland with the radio to try to find the village; the map we were using was undoubtedly outdated and our estimation of where the village should be was some distance off; the other group was greeted by the first natives, as we could see them far down the beach; Dave and Jim

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were some distance behind us, but also looking for the village; we finally found one family who gestured the way and then followed a path to a small village; here we met some natives who could speak some English; they answered some of our questions about the birds and indicated that the main village was on the southeast side of the atoll; we delved into our map and ascertained where the village must be and then came to the conclusion that it would be easier if the ship was moved to the southern passage and we went in from there; I called the ship on the radio, told them of our plan and indicated that we would return to the ship as soon as we could round everybody up; right then Dave and Jim came up the path: feeling that we did not have the situation very well at hand, Dave decided to meet the natives on their own terms and use some of the Gilbertese words he had learned on Makin; he stepped forward and addressed one man, "Which way to Wukiungung?"; the native in perfect English replied, "What does that mean?"; this of course, left Dave feeling knee high to a grasshopper and the rest of us in fits of laughter; he thought he was asking the native which way to the village, but learned later that Wukiungung did not mean village, but is the name of a village on Makin Atoll; we had sent Larry up the beach so that we could explain to the natives what we were doing before birds were shot from in front of them - this, however, did not seem to register with Larry - we heard him shooting just on the other side of the village as we were on our way through; once again diplomacy appeared in the form of a slap in the face; with quick explanations we cleared up the situation, took a few pictures and started up the beach toward the raft; Binion and Larry headed on up the beach

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to meet Ken and Roger, the rest of us waded out to the raft; with more water and the tide still coming in. I started the motor and slowly worked the raft intoward shore and the other four; on the way in Jim picked up a Wandering Tattler that had been wounded and was floundering in the water; we had picked them up and were headed for the ship at 12:30; Ken had spoken with an elderly woman in the small village they had come upon and she had treated him royally - she wove a coconut frond basket and then placed in it the following gifts: dried octopus and clam, a crab, seasell and marine worms that are used as food; Jim and Dave ate some of the octopus, the rest of us abstained; birds collected at this end of the atoll will be included in the list given later for today; at 1:10 we arrived at the ship, the anchor was pulled and we headed for the south passage, towing the raft; at 2:15 we anchored off the south pass in 27 feet of crystal clear, blue water; I was surprised we had anchored in what appeared to be such shallow water, but the captain assured me that the ship drew only 10 feet; at 2:45 we started in toward the main village; we crossed the lagoon and beached at the village at 4:25; the huts here were constructed with sides and windows, and using the ground as the floor; many we had seen on previous islands were raised off the ground and had no walls; also, the men here had more tatooes than I had seen previously; we were met by a throng of natives, among them a policeman who took us to see one of the island dignitaries: the Magistrate was absent to the other end of the island and would return later in the evening; the Magistrate's hut, the wireless station, another hut and a well circumvented a large white flagpole which was set in concrete - there was no flag flying;

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we were to see tall white flagpoles on Kuria and Aranuka atolls later, but we never did see a flag; while Binion was explaining our purpose and that we had hoped to spend the night, I examined the well and found the water table to be 10 feet below the grounds surface - it also appeared as though they had to penetrate a foot thick layer of sedimentary rock to reach the water; dogs and cats ran all around the huts; after all was said that could be said we returned to the raft; Roger and Ken went off collecting birds, Binion set mouse traps, Dave and Jim set up insect traps and George and I sat around talking to the natives; Larry had remained aboard ship to skin birds; among the things I learned from the local schoolteacher are the following: they teach twelve grades of school on each of the Gilbert islands and then the student is eligible to take an exam to qualify to go to Tarawa to school for four more years - there are three Cooperative Society stores on the island and the people in the community can sell their copra to the store and then buy goods - copra sells for 6¢/lb. and the island produces about 100 tons/year - to keep their homes in repair they must replace the pillars once a year and the thatching every three years - they use Pandanus for the pillars as it is much stronger than coconut and more resistant to termites; the Magistrate returned to the village just before dusk and talked with Binion; he wanted to try shooting the shotgun - and did so twice, much to the delight of the other natives; they asked that we stay in their transient hut, we accepted, gathered our gear and walked up the graveled path towards it; one native wanted to buy my diving knife and when I refused he

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wanted to know how many shillings they cost on the ship - our conversation, including my explanation that they were not sold on the ship was conducted with him speaking only two words of English: knife and shillings; I also managed to tell him that I would like to see a guitar in hopes of getting some dancing started - he indicated that he would return later with one, and did; we entered the transient hut in some awe, greatly impressed with the fine workmanship that had gone into building the hut; it was about 20'x40' and separated into two square rooms; the perimeter was enclosed by a low fence about three feet from the hut, forming a walkway completely around it; to one side was a wash house, and setting in back was a smaller hut, completely enclosed and with a ~~roll up~~ door - it looked to me like the honeymoon suite; we were told that the building of this transient hut was a cooperative village project and took only two days; there was one table and chair in each room; we were brought finer mats than were already on the floor, to sit and sleep on; later in the evening they brought in seven chairs; the crowd slowly began to grow larger outside the hut as we sat and talked with the Magistrate, police chief and other dignitaries including the wireless operator (who is usually the best English speaking person on each island); the native brought the guitar (a six string guitar with five strings) - it was tuned different than "normal" so I had trouble with even five strings; I handed the guitar back and asked if someone would play for us; the Magistrate told us that they were not informed of our coming or they would have had a party planned, however, they would try to entertain us some; the guitar began and the singing joined in, and the night was begun; we were brought coconuts from which to drink; sitting back, we experienced a very  
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interesting and entertaining night: Roger chose to read and sleep through the evening which appeared to bother the rest of us more than our hosts; we made a radio check at 8:00 and picked up a conversation from the Richfield before they moved up on the frequency; two men demonstrated the old style of singing for us - they sat facing each other with their tucked under legs almost touching each other - each of them covered his right ear with his right hand and with his elbow extended toward the other singer - staring directly at each other, they then began a chant-like song that had many rapid stops and starts, but both were always singing together; we were told that their sitting position and ear holding is such that they can concentrate both eyes and one ear on the other singer and thus stay with him and at the right pitch - the words of the song could not be translated verbatim, but spoke of love; when I inquired about this kind of singing on Kuria, I was told that only the elderly were taught to sing like this according to a custom; one old man then sang a solo which was another old love song; almost all of these songs were written in the old language which we were told went out about 50 years ago; we were then shown some ancient dances; first, one of the two previous singers put a wreath on his head, a lei around his neck and then put his legs under a mat - with the others singing he then danced by swaying his body, making movements with his hands and occasionally slapping the mat - this dance (as did many of them) slowly speeded up in rhythm and enthusiasm; next they performed a stick dance - they sat in two parallel rows facing each other about four feet apart - there were six pairs, only one pair was women who were on one end - holding a stick in each hand, they began singing and swaying from side to side, hitting each others sticks (those beside them and across from them) in rhythm - after each "verse" they would stop

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and then the leader would say something indicating who would start singing the next "verse", that person would begin, they would start swaying again and the clack of sticks hitting in rhythm could be heard; another dance they performed was by two couples, facing each other as if about to play cards - they then began singing and clapping hands, their own and each other's, in such a rapid sequence that it was hard to discern whose hands were slapping whose amid the blur of movement; after they had finished singing and dancing we were asked to sing for them; our attempt was no better here than on Makin, but they seemed to enjoy our poor attempt anyway - George knew the first three words of many songs and would begin them, the rest of us joining in to help him out and then he would quit leaving us to sing the rest of the song - it was great fun, but was a poor display of American talent; at 11:20 P.M. a gong sounded (an old gas cylinder) and the children left to go home - the curfew was undoubtedly later tonight than usual; shortly thereafter the Magistrate made a speech saying that he was not prepared to entertain us but had done the best he could; Binion expressed our thanks and the natives left us to our slumber; all evening the cool ocean air had been blowing in on us making it slightly uncomfortable and now we were faced with sleeping in it; the room in which the party had taken place had walls only half way to the ceiling while the back room had full walls, so Binion, Ken and myself took a mat back there and joined Roger, while Dave, George and Jim remained in the front room; it did not take long before we had either rolled up in a mat or burrowed under one; the night

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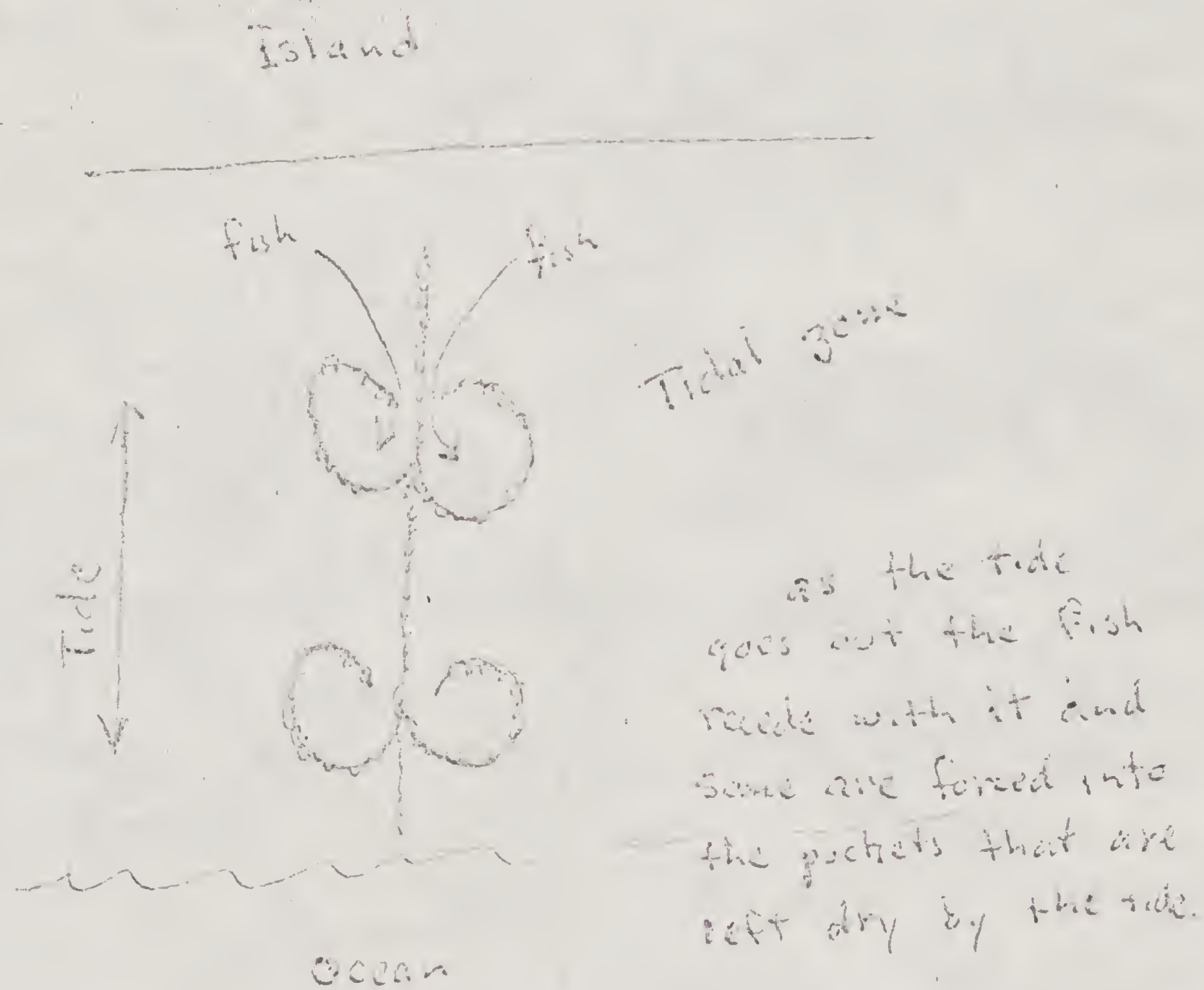
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was far from restful, but we managed to sleep some anyway. Birds collected for the atoll for today are as follows: 2 Godwits, 1 Curlew, 2 Wandering Tattlers, 3 Golden Plover, 1 Common Noddy, 6 Hawaiian Noddies, and 1 Black-naped Tern, and 21 Ruddy Turnstones.

We also saw two fish weirs that had been constructed out of piled stones; they were located in the tidal zone on the northwest end of the atoll - just north of the north passage; they are constructed as follows:





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We were up by 6:15 A.M. and stirred about gathering up our gear; George collected the rat traps which contained one Rattus exulans; we loaded the boat, shook hands and were on our way amid many "Tiakabo's" by 6:35; we had hoped to get down to the southern end of the atoll this morning to survey the birds that we were told were nesting there - they indicated that they all nested in trees and from the description we concluded that they were Hawaiian Noddies; the tide was too low to go anywhere in the lagoon except straight out toward the ship, which we did; about a quarter mile from shore Binion shot a Black-naped Tern (included in the total of yesterday); we covered the distance with little trouble outside of a loose gas line, and arrived at the ship at 8:05; George had left earlier with the island dignitaries in their large outrigger - they went through the south passage while we went over the reef and arrived only minutes behind them; their canoe was the largest we had seen to date and carried twenty men at a time; George told me later that the crew was composed of prisoners of the village who had been convicted of over indulgence in sour toddy and fighting - the island sentences for this crime run from 1 to 3 months and the sentence is served as follows: they serve their time in a local prison and work for the community during their sentence - they spend six nights a week in prison, go home Saturday noon and return Sunday evening - manning the outrigger was part of their community work; we had breakfast on board, the visitors were shown around the ship and then the anchor was pulled at 9:00 and the natives returned to their outrigger; as we rounded the southern tip of the atoll on our way to Kuria Atoll, George and I watched from the flying bridge for birds over the island,

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but could see no birds; at 12:00 noon Binion and I went on watch; earlier there had been many Shearwaters and a Gull seen so both guns were taken onto the bow; at 1:20 Kuria Atoll was sighted dead ahead; about four miles from the atoll 12 to 15 porpoises came along side the ship, breaking water and diving for about 200 yards and then disappeared; at 3:00 we dropped anchor about a mile off the tide flooded area which separates the two islands; immediately several outriggers came around the ship, but none came alongside and boarded; seeing that no officials were coming to us, we decided to go to them and lowered a raft; at 3:50 (during high tide) we went ashore, arriving at the main village at 4:05; we were greeted here by throngs of natives who immediately poked at the inflated rubber raft, as much in awe as the other natives we had seen; one young girl appeared to be almost pure Caucasian but spoke very little English; Binion talked to the wireless operator and explained what we had hoped to accomplish; with the schoolteacher and several other dignitaries all listening intently, the purpose was outlined and we were free to pursue our task; Roger, Ken and Larry went off collecting, Dave went to set up nets, Binion went off in conference and George and I pumped the natives for information and laughs; Chris and Ray also came ashore and wandered about surveying the women; a small girl played with a balloon made by blowing up a pig's lung; I talked with an elderly English speaking man who consented to show around the village; fresh water wells showed a water table of 10 feet as on Maiana Atoll; they have a male and female prison here with a log drum outside which signals the prisoners to work - according to the

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old man, they have very few prisoners a year; he went on to say that a similar drum is used to signal the islands ten o'clock curfew (which was apparently lifted while we were on the island); we wandered about the village, got the rat traps out, learned what we could from the natives about the birds and then prepared to depart about dusk - we had eaten before leaving the ship; Roger, Ken and Larry returned to the raft having collected the following birds: 1 Pacific Pigeon, 7 Common Noddies, 5 Hawaiian Noddies, and 5 Fairy Terns; we returned to the ship at dusk, but George, Dave, Jim and myself came back ashore shortly thereafter; we met most of the crew on shore and three of us were invited to the wireless operator's hut for a chat and accented; he had two cute children and a beautiful wife who served us coconut milk; he taught me the following Gilbertese words which I wish I had known earlier: Yukke - no, Konamauri - hello, Koraba - thank you, Tjakabo - good bye, Konaera - where are you going? we left his hut and wandered down the road; I met George, Dave and Jim and the four of us sat down by the flagpole to sing and entertain the children - we attracted about 30 children and several adults, including the English speaking old man; we sang, got them to sing and then taught them "Row, row, row, your boat" and how to sing it in groups; they learned the song very well and sang it many times while we were on the island - once when three native boys paddled Dave to the ship in a canoe, they sang it all the way out; the children are very quick to learn and are anxious to pick up any English at all - they ask your name and the name of your family members and relatives - they not only ask, but also remember them; the

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children are quick to pick up phrases and repeat them in a voice imitating the speaker, which usually came out low and gruff; after awhile we ceased the singing and wandered down the path in search of the rest of the crew and possibly some dancing; the children followed along repeating our names and the names of our relatives; we did find some more of the crew and a native guitar player who sang western songs he had learned off a record on Tarawa; I twisted with a lovely native girl named Demeth who immediately twisted into the back to back style; she provided a lot of fun until singing practice began next door and then almost all the females left - they are practicing for Christmas festivities; while we were on shore 20 canoe loads of natives came out to the ship, tied up their canoes to the stern and came aboard for the "cinema"; while Jim and I were waiting for the singing practice to stop and the party to begin again, a boy came up to us and said that Dave and George were at a party at the other end of the village and asked us to come; we gathered some more of the crew and headed in that direction; when we got there George and Dave were sitting in a large meeting hall attempting to sing to the 30 to 40 natives who were seated across from them; we sat down and listened while the natives sang songs that sounded like hymns more than the usual lively music we had heard before; we exchanged songs with the natives and danced a little before excusing ourselves and going across the roadway to another party where the music sounded lively; we learned later that what Dave and George had accidentally attended was a church meeting - this they had to live with for some time; across the street Jim and Ben were singing Hawaiian songs; when we entered

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Ben was dancing with one of the native women in a fast two step; no sooner had I sat down then he grabbed me to my feet, thrust me at the girl and sat down on the bench in my place - I had no alternative but to dance - at least I was not alone on the floor, the girl was still there; she immediately swung into a twist which built up in tempo and gyrations to equal the oneon Makin; the crowd and the crew shouted encouragement which kept us both going until the guitars ceased; we had to sing again at this party and did so with little or no more success; we danced and sang until 11:00 when we could see that the natives had had enough; we returned to the raft, leaving Figaroa to spend the night on the island; it was low tide and we had to walk the boat out a long way before we could start the motor - then it was necessary to find the passage out across the reef - this we did with little difficulty and returned to the ship about midnight to find the movies still rolling and most of the natives still watching; I went to bed, but the movies continued until 6:00 in the morning.



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Nov. 18

Up for morning chow and the day's assignment; at 8:20 A.M. we took one raft in through the more northerly passage (low tide) and dropped Binion and Larry off on Oneaka Is. (the more northern of the two islands separated by tidal channels); Prager, Ken, George and myself went on to Kuria Island; we had to go through the southern passage and walk the boat in a long ways, finally abandoning it to native children who brought it in with the tide; we arrived on Kuria at 9:10, Ken and Roger going off to collect birds; George and I picked up the rat traps, containing one Rattus exulans and then walked to the northern end of the island with two young native boys as guides - they also showed us where all the rat traps were, indicating we might have had better luck had the children not known where they were; there are many taro patches on the island, all dug to a depth of about 10 feet, but with very little standing water; the boys pointed out all the sights for us as we looked for birds and were very anxious to ask us the English word for many objects like binocular, camera, beach, stone, rock and sand; they were very quick to learn and remembered well; they took us to see George and as we approached where George was all we could see was a beautiful grave; ironically George asked if George was dead and they said yes - he had been honored in his burial spot and the monument they had chosen as a marker - they had built a picket fence around the spot - his children had been buried behind his grave; I learned later from the schoolteacher that George had been a trader from New Zealand who had been asked to work for the government when the English took control; he had lived on the island for many years, had been a friend to all and had died only two years ago; we headed back for the

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village stopping to drink from coconuts which were provided by a man who was out tanning coconut sprouts for toddy; we followed the beach part way back to the village looking for shorebirds - we saw many Ruddy Turnstones, Golden Plover and Wandering Tattlers, as well as a couple of Bristle-thighed Curlew but nothing unusual; we passed by the school on our way back to the center of the village and saw Chris and Ray inside watching the children sing, so we went inside also: Chris had arranged with the schoolteacher yesterday to come to school today to take movies of the children singing and dancing; we got there just as they were preparing to go outside and dance, so we got to see the children twist and do the Gilbertese hula; the school, the schoolteacher's house and many other huts on the island display pictures of Queen Elizabeth or other members of the royal family; one of the children in the group was carrying a Common Noddy chick - indicating that they are nesting somewhere on the island; we left the school children about noon and returned to the raft, meeting Ken and Roger there; they had collected: 1 Pacific Pigeon, 1 Reef Heron, 3 Golden Plover, 2 Ruddy Turnstones, 1 Bristle-thighed Curlew, and 2 Hawaiian Noddies; Chief Redfeather gave the children who had watched the raft a quarter and then we shewed the scads of little natives off the raft and headed for Oneakai Isat 12:45, leaving Chris and Ray still photographing the children; on the way into the island we approached a sand bar with about twenty Crested Terns on it so Roger grabbed the gun and swung the raft so as the shot would not carry onto the island - somehow Roger froze and the shot was never fired;

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we had four natives with us, who were going out to the ship - they were quite disappointed when the gun did not fire; we landed, met Binion and Larry - they went to the point near the sandbar and collected 2 Black-naped Terns, but could not get any of the Crested Terns we had scared up; they had collected: 1 Common Noddy, 2 Hawaiian Noddies, and 4 Sharp-tailed Sandpipers; we started back to the ship at 1:15 and arrived there at 1:35; the natives were grins all the way with the way the raft rode over the waves, bending to the contour of the swells; Binion and Larry went ashore during the afternoon, chasing birds and talking to officials; the collected birds were weighed, labeled and frozen before supper; at 6:45 P.M. Dave and I took a raft ashore - not being able to find the passage we rode the surf over the reef in fine style, arriving ashore just as Binion and Larry were leaving; we met many of the crew members and wandered about talking to the natives and sitting around bating the breeze waiting for a dance to start; Tom Jones and I went over to the schoolteacher's hut and were invited inside for tea and tuna; here we met his wife (who quickly pulled a towel up to cover her breasts), his two children and his neighbor and his neighbor's daughter - this girl had stood out in the crowd before and she had a name I could not forget, both she and the name being very pretty - her name was Terienga; we talked for about half an hour and then left to find the rest of the crew and see what they had found; as we walked down the path we could see lights and hear music coming from the courthouse (a large hut with a concrete floor, the center floor sunken and the edges elevated to provide seats; there was a table at one end); when ~~we~~ we

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locked-in, there was Dave dancing with the native girl Demeth from the night before; she had been on the ship earlier (with about 50 other natives) for the cinema and had returned to dance; we learned from an elderly man there that she was 19 years old and had been married 5 times - we could see how; we twisted, jitter-bugged and sang until about 12:30 when Dave made a "thank you" speech and we left; he said that he had been there alone for the half hour while we were at the schoolteacher's and they had had an auction, leaving him to buy every lei; we rounded everybody up and headed back for the ship at 12:30; the movies were still running and the natives still had their eyes glued to the screen.

Shortly after we arrived on Kuria yesterday we were informed that a message had been received from Tarawa and the British officials requesting the people there to ask us to wire them as to our business if we did visit the island; apparently no word had been sent to these islands from the British Embassy in Washington and the British received word that we were visiting several of the Gilbert Islands and had sent word ahead to intercept us and inquire as to our purpose; they did not come up on frequency until 9:00 A.M. this morning when a message was sent out describing the purpose of our visit and everything was then squared away; I was informed later by Captain Krull that a Commander in the Navy had also sent a message to the British officials apologizing for the delay in communications; the "gods" are back in their heavens, all's right with the world.



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From the little any of us saw of the island it is difficult to determine bird populations: the most prominent tree is the coconut palm which harbors maybe one Hawaiian Noddy nest for every 15 to 20 trees: the people move about the island and are positive discouragement to bird populations - they are not adverse to eating birds when they are available - therefore ground nesting species have very little chance - we did see Common Noddy chicks, however, indicating that they were nesting somewhere in limited numbers near the village: there are a few Fairy Terns, and some Pacific Pigeons; shorebirds are present in goodly numbers and had we had the time to survey the beaches well, we might have turned up some unusual species: Hawaiian Noddies are the only birds that one might call numerous and their numbers probably do not exceed one thousand.



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Nov. 19

Arose at 7:30 A.M. for breakfast and outrigger watching; at 8:00 Binion and Dave went ashore for insect nets and last minute thanks for hospitality shown us; they returned about 10:00, we got the last of the natives off the ship, secured the loose piles of junk around the lab and were underway for Arunuka at 10:15; Arunuka Atoll was an alternative on the itinerary, but the captain consented to taking us there since it was only seven miles from Kuria Atoll; as soon as we pulled away from Kuria, Binion and I took an at sea watch but saw very little; we dropped anchor at Arunuka Atoll at 11:20 - we were now only about 10 miles from the equator; if we had had more time and the crew had not been quite as anxious with our earlier delays, I am sure they would have gone on across the equator in order to mon the deck with us in the usual equator crossing ceremony; we had chow aboard ship and at 12:25 took the raft in to shore and the main village via the west passage; the reef was very wide and we had to dodge coral heads for a half mile; a Black-naped Tern was collected on our way in - he was sitting on a stick marker above a coral head; at 1:25 we arrived on the island and found the local dignitaries waiting for us in "white" shirts and dark ties; Binion explained our visit to the Magistrate, Chief of Police and Wireless operator; he got consent to collect birds on the island, so George and Larry headed south with one gun and a multitude of native children; Dave went about sweeping the area for insects, Ray looked around the village, and Binion and I went to sign the register and then continue north on the island to collect birds;

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Ken and Roger had remained aboard ship to skin birds; Binion signed the register and then we started down the path toward the denser outskirts of the village - we were halted by the wireless operator who said the magistrate wished to go with us - we consented and ended up with a following of eight men; Binion made some good shots and thoroughly amazed the natives at what the gun could do; we went north to the mud flats and then circled through the interior to the ocean side and then back to the village about 4:30 P.M.; we put most of our gear back in the raft, had some water from the canteens (even though the natives had climbed the trees earlier and provided us with coconuts to drink out of - water still tasted real good), then Binion decided to walk back to the mud flats while wandered around the village taking pictures with Dave and the Chief of Police; the Chief took us to the school where we were surrounded by the children and conned into taking a group photo of about thirty of them in front of the school - then they waited for the finished product which never appeared; we stopped to take a picture of the new church under construction - as I was focusing, children began to appear in the picture from both sides of the frame and I had to include them in the picture; another older boy offered to let me take his picture, but I managed to stall him and rub him off on Dave; we finally lost most of the kids and the Chief of Police and looked for more interesting subjects; we saw many women on the other islands and on this one who wore no blouse but covered themselves when we appeared or turned to take a picture; we were determined that we would get a picture this time since

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this was the last island; once again, however, they always pulled something up to cover themselves whenever we approached; Dave spotted one native girl taking a shower in a stall that only came up to her waste and suggested we try that, but I vetoed the idea (why? - I don't know); we finally decided that the only thing we could do was to say yukke, meaning no when they pulled a towel over their breasts and this worked fine - they were delighted to pose in this way and threw the towel away with great pleasure - they apparently felt they were expected to cover themselves in our presence; our great discovery came too late however, and we only managed to photograph two women, one of which was swimming in the lagoon and we called her out of the water to get in a group photo and then had to say yukke when she reached for a towel off the clothesline; we were focusing on this group of women, one of which had on a topless bathing suit, when George spotted us from a distance and raced over to get in the picture; however, he had not seen the one woman's nudity and was quite aghast when he crowded in amongst the women and came face to face with semi-nudity; he did turn the tide on Dave, however when he saw that Dave still had his lens cap on - the comments that followed both these incidents were only natural; we had succeeded in photographing the original topless bathing suit and were content to return to the raft with one embarrassed photographer and one embarrassed subject; George later accepted a grass skirt from a young native girl, a half woven basket and earlier wrung the neck of fowl that was being shown to he and Larry, all of which added up to a good afternoon for George and public relations; we made a radio

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check with the ship about 5:00 P.M. and told them we were ready to return to the ship and head for Honolulu; hands were shaken, thanks were given, pictures taken and Tiakabo's spoken as we finally launched the raft at 5:25 and headed for the ship on a high tide; we went through a feeding flock of Crested Terns and one Sooty Tern and collected 3 Crested Terns; large flying fish were also leaving the water inside the lagoon - the fact that they came inside the lagoon surprised me; at 6:20 we returned to the ship and I finally committed the act I had so often come close to before - a swell caught the raft as we were approaching the ship and pushed us aft under the generator discharge, soaking most of us with water - with most of the weight forward in the raft the propellor would not dig into the water on the turn and I did not think fast enough to force it under - the last trip of the last atoll I had finally done it! at 6:30 we had pulled anchor and were underway for Honolulu; a great relief would be felt among the crew that we were finally homebound; we all settled down for our ten days journey back - I had leaned back on my pillow to read some when the lights went out around 7:00 P.M. - I figured this was going to be the unexpected delay when on they came, only to go out again twice more - they were finally out in order and the movie could be heard again above the rumble of the engines; the total birds collected for the day is as follows: 3 Crested Terns, 6 Fairy Terns, 1 Black-naped Tern, 7 Common Noddies, 1 Hawaiian Noddy, 2 Pacific Pigeons, 1 Bristle-thighed Curlew, 4 Ruddy Turnstones, 3 Golden Plover, and 3 Godwits.



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Nov. 19 AFTERWORD

Today marked the end of our island hopping journey and we had no land in sight now until we were to see Oahu in ten days; I feel it imperative that I record my thoughts at this time, as to how I felt after having the privilege to visit these islands; our records of avifauna, terrestrial vertebrates and insects, fish and plants have been recorded in books somewhere in Lab #1 and will undoubtedly be uncovered by the time we reach Honolulu and serve as the basis for any forthcoming report; knowing very little about the vegetation, having no way to survey the soils to any depth, being an inadequate ichthyologist and only a fair shot with a shotgun, I spent most of my spare time as an amateur anthropologist-sociologist and studied the natives; this was not a difficult task as they were constantly around; most authors indicate that the Gilbertese were more warlike than the Marshallese - if this is true it has certainly been lost in history - I found the Gilbertese possibly more friendly and fun-loving than the Marshallese; this is a difficult comparison to make since we encountered nothing but extreme hospitality wherever we went: we were not welcomed by individuals or families, but by whole communities and by whole atoll populations - they would come from neighboring islands to wave and smile at us from their canoes, as if to say welcome; also, contrary to preconceived notions, the Gilbertese were perhaps more civilized and effected by the modern world than were the Marshallese; perhaps this is more a reflection on the Trust Territory of the Pacific (in which the Marshalls are included) in contrast to the Cooperative Society formed by the English; whether this increased modernisation is good or bad is a question of further debate; one

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Nov. 19 AFTERWORD - cont.

cannot help but notice the finer but construction, the neater villages, the cleaner people and the more healthy atmosphere as you move from the Marshalls to the Gilberts; the Gilbertese are less lethargic, more anxious to show than to tell and more interested in remembering what you have to say than merely hearing and nodding; we did not get a fair cross section of the Marshallese and must base most of our comparisons of culture on Jaluit alone; however, the contrast was so great that the comparison cannot be completely invalid; everything we saw in the Gilberts gave the idea that the people were striving to get ahead, much in contrast to the Marshallese's contentment with their present condition; nowhere in the Marshalls did we see the school children so inquisitive and anxious to learn as we did in the Gilberts; in one realm, the Marshallese easily matched the Gilbertese - generosity; both peoples were willing to heap gifts upon us without expecting anything in return; of course, we also encountered people who wanted to sell and trade in both cultures, but these individuals had been taught this way of life by previous white traders - this is what they were expected to do and, often then they felt guilty and gave the item away anyway; a reflection on all these peoples is filled with many emotions that cannot be put on paper - they can best be described as warm, sincere, and hospitable people, filled with a vitality for life and brotherhood that is rooted in these people much deeper than the missionaries can account for - they left me with not only the desire to return, but also the feeling that I would be proud to return with a friend.



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Nov. 20

Binion wakened me at 6:00 A.M. and we started the at sea watch; we found the ocean calm as a lake with very few ripples and only long, low swells; we had begun our ten day journey on a course of 053° toward Honolulu; Roger and Larry were to skin birds for the duration while Binion and I, and George and Ken alternated three hour watches - one of us on the bow with a gun, the other on the flying bridge with the record sheets; birds seen were logged as usual with the following entries: species, number, direction, height and remarks; we sighted one whale off the port bow during our watch and George saw another after he and Ken took over at 9:00; we began seeing a great number of storm petrels of different species - several were shot at but missed; about 1:00 P.M. a Marlin surfaced three times off the starboard bow, and a short while thereafter a whale spouted off the starboard beam; about this same time the water took on more ripples as the wind picked up a little; at 1:15 the crew held a fire drill; there being few birds about, I directed some of my attention to the activity stirred up by the fire alarm and witnessed a great display of poorly prepared confusion; I had earlier lost confidence in my chances of survival if we were to abandon ship and now my confidence in fire prevention dwindled; about 15 minutes after the fire drill we encountered a rain squall which did a beautiful job of wetting down the decks - it was as if the "Great Fireman in the Sky" was saying, "sorry I'm late for the drill, hope I don't miss the real thing;" I agreed; the rest of the day was a blueprint of the days to follow - we watched and Roger and Larry skinned.



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Nov. 21

Today existed as a day at sea and very little more: Binion and I had the watch from 9:00 to 12:00 and from 3:00 to 5:45 when it was secured; a petrel, believed to be a Phoenix Island Petrel was collected on the first watch; again today many storm petrels were seen; the sea got a little rougher than yesterday, but not bad enough to slow us up much; the whole crew is now being optimistic about an early arrival at Honolulu.



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Nov. 22

Binion and I started the first watch at 6:30 A.M.; rain fell almost continuously throughout the day and the storm petrels lived up to their name by flitting about the ship at frequent intervals; the 12 guage pump shotgun is now broken and must be reloaded by hand; both guns are a sorry sight, being completely covered with rust, sand and corn meal; the fact that two guages of shotgun (12 and 16) were brought on this trip still amazes me - there is a far greater range of firepower among the different shells of each guage than there is between guages - not only this, but the safety hazard of forcing 16 guage shells into the 12 guage and the time consumed sorting, seems to me to be a great waste - I can remember clearly in one instance having to sort through shells in the musette bag Terns made good their escape in front of me - if there was some method to this two guage madness, it has escaped me; with one gun broken it has now been the procedure to have Larry on the bow with the 16 guage when the spirit (usually a shot) moves him; this morning both Binion and Larry were driven off the bow by heavy rains and retreated to lab #1 where they could leave the door open and see a limited section of the ocean on the port side of the ship; Al LaPalme was startled and I was amazed when Al had to duck back out of the way while walking up the deck in order to avoid a shot blast issuing from a barrel stuck out of the lab - I can say without hesitation that I have never seen a worse display of gun handling and less respect for the weapon and innocent bystander than I have on this trip; the fact that someone was not shot or that a gun did not explode is amazing (we still have

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two days to go); the crew is no longer taking this ridiculous attitude toward the guns as a joke and I have long since learned to watch the gun and not the bird; I cannot help but shudder when I remember the loaded gun I found left in the raft for the native children to paw over; at 9:00 we were received by Ken and George; at 11:45 George took a shot at a Noddy sitting on what they beleived to be a log - the Noddy flew away but the ship swung around to investigate the log and found it to be a dark phase Wedgetail - it was hauled aboard and pickled; at 12:00 I took my first turn on the bow and proceeded to put on a display of wretched shooting; at 2:05 a whale spouted off the port; this afternoon the seas became rougher and the ship began rolling and pitching enough to make me queasy, especially on the bow; at 8:15 P.M. a flock of about 40 to 50 Sooty Terns, including immatures, started flying around the ship, calling as they passed in and out of the light; they remained with the ship until about 8:45 when they disappeared off to the south; none were seen to land on the ship.



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Nov. 23 THE FIRST MONDAY THE 23rd

Today is the first of two days alike not only in date and day of the week, but also in routine; got up for chow at 7:30 and to relieve Ken so he could eat: the sea is rougher yet today and things are beginning to roll and fly about the room; the wind is out of the east, changing only during a rain squall when it usually shifts to the south; White-necked Petrels appear to be the most numerous birds seen today - they are what George calls "the bird of the day" - his prediction is that the large dark petrels we are seeing will take on more bizarre identifications as we proceed (in retrospect, I can say that he was quite correct); flying fish are very numerous, leaving the water near the ship almost constantly; Binion and I took the watch again at 3:00 and found the seas much calmer - the ETA is now Friday the 27th; Larry has now rigged a string from the flying bridge to lab #1 where it attaches to a pair of scissors - the idea is to pull the string when a flock of birds is sighted, this pulls up the scissors in the lab signalling Larry who tears out of the lab up to the bow where he grabs the shotgun and prepares to go bang, bang; I asked him why he did not put a tin can on each end of the string and we could play telephone; it does serve to break up the monotony, however; you can pull the string, watch him tear out of the lab, tell him it was only an equipment check and then watch him get mad and mutter four letter words under his breath; I today took notice again of Dave's insect nets and decided to make a drawing of the setup for possible future reference:

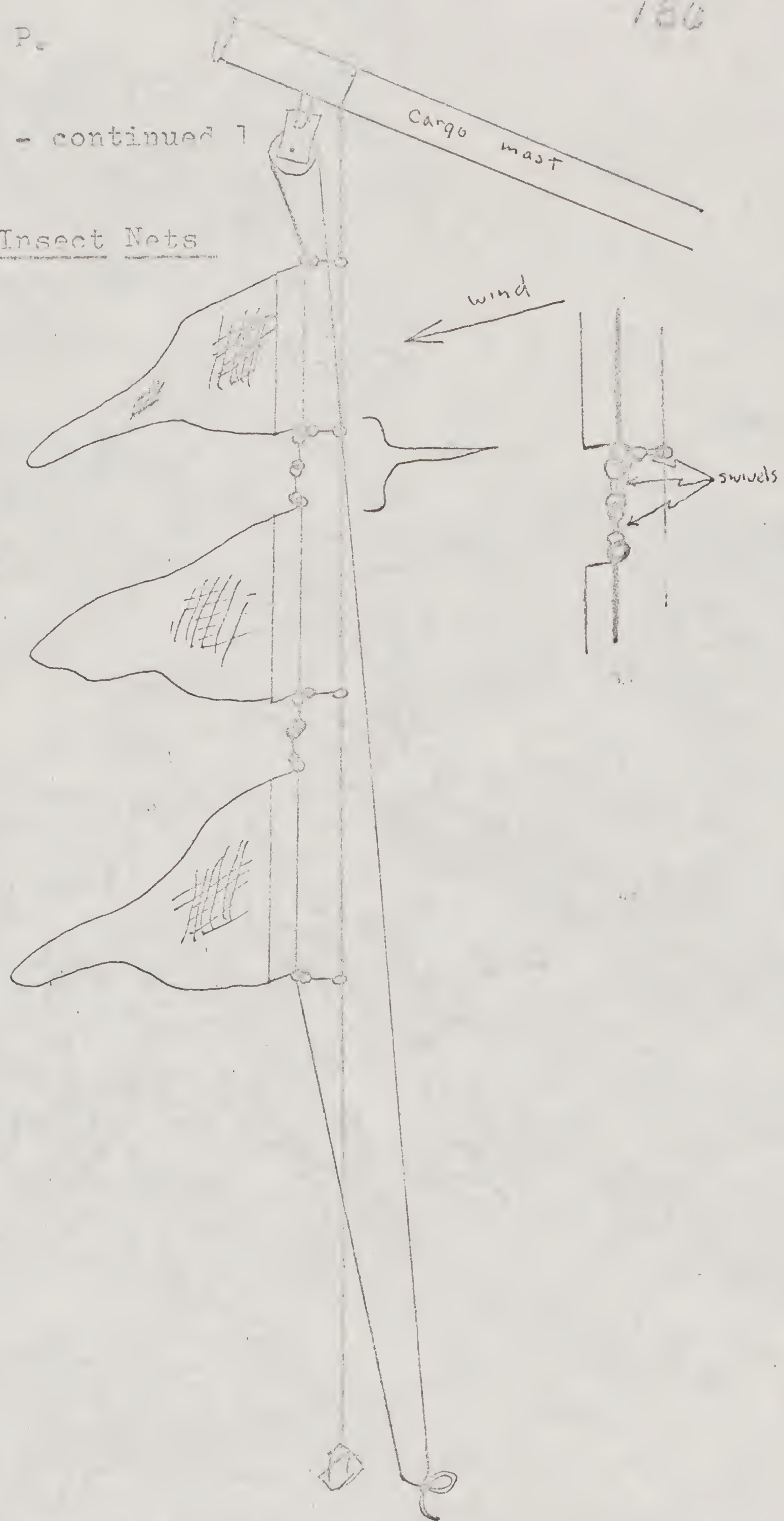
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At Sea Insect Nets



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Nov. 23 - continued 2 THE FIRST MONDAY

rains fell frequently throughout the day; the watch was secured at 5:15 because of darkness caused by overcast skies: today I'm finally getting over the slightly queasy feeling I've nourished since we departed Arunuka Atoll; tonight we gain onehour(set our watches back one hour).



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Nov. 23 THE SECOND MONDAY THE 23rd

Today was almost an exact copy of its twin yesterday; Binion and I started the first watch at 6:20 A.M.; the skies were very cloudy, with the wind blowing almost directly from the northeast, stirring up the water into small choppy breakers; we came upon many birds sitting on the water, most of them unexpectedly; two Slender-billed Shearwaters (identification not positive) were collected during the watch - this was George's "bird-of-the-day" - I saw his point when there was much squabbling over their identity among those people who did not hesitate to identify them skimming across the water; when I inquired about this point I was told that it was often easier to identify them in the air than in the hand - I am still pondering this point; at 7:30 the ship was joined by several porpoises which hurtled through the water off the ship's port for several hundred yards before leaving; at 11:45 the ship circled to pick up a dead bird in the water - before they could maneuver into position a circling sailfish had swallowed the bird, leaped into the air and made off with it; at 12:15 a whale was seen blowing off the starboard bow just beyond a school of milling and thrashing fish - the school of fish moved toward the ship, cut across the bow and on toward the west with the whale close behind - although it is not for certain that the whale was in pursuit of the fish, it certainly appeared that way - especially since the fish moved toward the ship; at 5:30 a White-necked Petrel was collected, just before the watch was secured; Roger and Larry are averaging about 15 birds a day between them and will have most of them up in study skins by the time we reach Honolulu if they keep up the pace.



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Nov. 24

Tuesday finally arrived, bringing with it a calm sea, a light easterly breeze and overcast sky; George and Ken had the first watch and collected what has tentatively been identified as a Kermadec Petrel (it was first thought to be a Herald's Petrel); Binion and I took the watch at 9:00 and 45 minutes later collected a White-necked Petrel - the crew is now beginning to feel we're losing a lot of valuable time by having to maneuver to pick up birds; we passed a long line of fish balls with cane poles and flags - they were strung out east and west and undoubtedly marked a fish net, but no ships could be seen; large swells came at us all morning from the northwest but were of long enough wave length that they did not slow us down; as birds became very scarce on the watch, I began focusing more of my attention on the flying fish that were appearing above the water in increasing numbers; their rapidly swishing tails can be heard when they leave the water close to the ship and their enlarged pectoral fins can be seen to quiver until they gain momentum; I remembered that Mr. Ashton had said he once spent a day timing them in their flight and found that they averaged 7 seconds out of water, the longest being 42 seconds; one could see the results of natural selection on these fish by noticing that the only ones leaving the water at any distance from the ship were large ones, i.e. ones that had learned to flee at an unusual noise or sight and therefore survived; also, I noticed that the large ones very seldom stayed airborne in front of the ship, but dove instead, whereas the small ones would glide just in front of the bow; turning the ship among these fish had produced an interesting phenomenon - although we can give the larger fish credit for nourishing an instinct which says leave the water and flee at an unusual sense reception, the question arises that since the ship is partly in the water and partly out,  
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and since these fish had evolved themselves not only into a new environment by becoming able to glide in the air but also a new host of predators, how does the flying fish know whether to give up to become airborne? After asking myself this question, I felt that I could see fish torn between two instincts - often one would come out of the water near the ship and then dive almost instantaneously straight down into the water and disappear in the depths; I can think of no natural predators that present this constant dual environment attack on these fish; I was in the process of pursuing this problem further when a Shearwater glided by and I was obliged to jump up and grab the gun - it was then time for lunch and I turned the watch and the flying fish over to George; Binion and I took the watch again at 3:00; at 3:45 a Red-tailed Tropicbird was sighted sitting on the water far off the port beam - Mr. Ashton offered to swing the ship over in that direction, which he did and the bird was collected while it sat on the water; we learned upon dissecting the bird why it had perhaps been reluctant to fly - it had a 117mm porcupine fish in its stomach - this would not be very conducive to violent movement; at 5:45 P.M. the watch was secured; the day passed by in the usual manner, but the evening took on a new twist when four of us abandoned the second movie and played cards instead.



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Nov. 25

Arose at 6:00 A.M. to take the first watch; since I had climbed into the pitching and rolling bed only 4 hours before I climbed out, I struggled to get an extra cup of coffee up on the flying bridge with me - trying to climb a ladder that is continually moving in all three dimensions, while you are also attempting to keep coffee in a hot cup is somewhat of a task; the water was somewhat rougher today and the air felt a little cooler, even though it has seemed cool for the last three days; the swells this morning rolled in from the east and found synchrony with the ship, rocking it from side to side to side..... at 8:20 a white rumped storm petrel was collected (the first of the trip); by 8:30 the large swells once more rolled at us from the northwest; we saw few birds, and Ken and George on their watch could boast of little more than a fish ball and frigate; only a few minutes after 12:00 noon, when I relieved George on the bow, I saw a large school of fish leap out of the water at a great distance off the port bow - they leaped only once and I was not able to identify either predator or prey; once again today we experienced a great paucity of birds and I slipped back into my philosophical thoughts on flying fish - this time I tried to attach an I.Q. to their actions, but was slowed in my thoughts when I remembered that I could not judge knowledge or recognize intelligence that I myself did not experience - from here my thoughts skidded to the awful realization that there perhaps existed an intelligence far greater than humans possess, but because of our lack of intelligence we cannot recognize it - at this point I was depressed and began to put all my effort into straining to see birds; at 1:30 both the wind

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Nov. 26 Thanksgiving

Bihian and I were up for the first watch; at 7:20 A.M. a head bolt on the starboard engine broke and the rpm's had to be dropped from 638 to 400; our speed has now been reduced to 8.8 knots; also we cannot shoot any but the most rare birds, as the captain has fear of changing speeds with the engine - they have used up all their spare head bolts, so we are forced to limp the rest of the way; the wind blew in from the East causing a fairly choppy sea; large swells continue to roll in from the northwest; the skies were overcast all morning and the air was a bit chilly; nothing much happened until we again took the watch at 3:00; the wind had now changed and was blowing from the northwest and combining with the swells from the same direction to send the ship into 20° rolls occasionally; the number of birds seemed to pick up throughout the afternoon; dinner was a combination Thanksgiving dinner and Captain's dinner; we had one rain squall at 4:00, but the skies had threatened all day; the watch was secured at 6:07 P.M.; frequently throughout the evening Sooty Terns could be heard flying around the ship - Mr. Ashton said that one landed on the bridge but he could not grab him before he flew; at 11:15 a white rumped storm petrel flew onto the flying bridge and was caught; at 1:30 A.M. on the 27th another flew aboard and was also caught; they were both held alive in Lab #2.



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Nov.  
~~Nov.~~ 27

Up at 6:45; the morning was chilly with a mild breeze from the east; there was nobody stationed on the bow today, as we were trying to make an ETA and did not have time to shoot and pick up birds; at 0754 a whale was seen off the starboard bow going SE; by 8:45 the sun was out bright and the wind had died down; we totaled up the number of birds collected on the trip - 441 birds were collected; in the P.M. the weather turned hot; I began packing in anticipation of our ETA of 1600; at 1240 we saw a sport fishing boat off the port indicating that we were approaching our destination; at 1300 we first saw the mountains of Oahu through the fog; five minutes later (1305) a Black-footed Albatross skimmed across our stern but did not stay with the ship; at 1615 the Pearl Harbor harbor pilot boarded the ship; at 1650 we docked at Pier 39; by 1715 Dr. Ely, Hustel and Standen had arrived and were ready to load our gear aboard their pickup and get us to the hotel; however, we had to wait for the custom and immigration officials to come aboard and clear us; by 1815 we had most of our personal gear in the truck and were headed away from the pier; spent the night out on the town with Standen, but stayed out of trouble; the Marshalls-Gilberts trip was now PAU!