

WHITNEY SOUTH SEA EXPEDITION

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September 13

17-25 N, 122-14 W. Six red-billed tropic birds and
few unidentified ones of phalaropes; 2 light-backed and others
dark-backed; flying close together.

September 14

17-25 N, September 14, 1920. Six red-billed tropic birds

Left San Francisco with Mrs. Beck and E. H. Quayle for
Papeete, Tahiti, to collect for American Museum of Natural
History. Few Sooty Shearwaters few miles out; 3 phalaropes
seen in the afternoon, also 2 terns and 3 blackfooted alba-
trosses. Foggy inshore but clearing, and clear outside.

Called along shore to water, occasionally flapping wings. And
whimsical and September 15 rapid and a half dozen flights

Nice weather, light wind 32-51 N, 125-17 W. Quayle saw
2 terns and 2 blue herons; I noted 2 blackfooted albatrosses.

September 16

27-49 N, 128-13 W. Single blackfoot gooney seen.

From ship, looking toward shore south-east off ship.

September 17

22-39 N, 130-38 W. A shore bird, surf bird probably,
flew about steamer few minutes in forenoon.

September 18

17-28 N, 133-14 W. Six red-billed tropic-birds and few aestrelatas size of phaeopygia, 1 light-backed and others dark-backed; flying-fish plenty.

September 19

12-22 N, 133-41 W. Two small black petrels trifle larger -- Wilsons? Half dozen dark-backed, medium sized, white-breasted aestrelatas seen.

September 20

Three or four dark-breasted cuneatus (?) seen. Birds sailed along close to water, occasionally flapping wings. Few white-breasted aestrelata, two tropics and a half dozen frigate birds,--one tropic on the water. Heavy rain at 8 o'clock. Light breeze from south-east in P. M.

September 21

Small grayish Aestrelata seen at long distance, half a dozen seen. Strong breeze from south-east all day.

September 22

2-37 S, 142-59 W. Not a bird noted all day. Good breeze.

September 23

7-59 S, 145-8 W. Good breeze all day. Couple gray-back aestrelata and couple sooty terns seen.

September 24

No birds noted.

September 25

Reached Papeete 9 A. M. Passed Tetuaroa Island after daylight; no birds seen till entering Papeete when a single tropic-bird was seen in distance.

September 26

In Papeete minah birds are common about the town like English sparrows in Cal. towns; they light on tables in hotel. Fights between pairs of birds are common on the ground. Two birds grab each other's feet and hold on. One usually lies on its back and the other sits on its own tail, keeping upright by holding to other's feet or legs.

September 27

Three or four gygis terns fly over town or high in air toward hills; a pair of them lit in tree close by Governor's residence. A pair of wandering tatlers and a reef heron seen

a few hundred yards from mouth of Papenoo river. Several small flocks of weaver birds seen along road to Papenoo.

Minahs often call like blue-fronted jays.

October 2

Waiting shooting permits. Quayle went to Fau-Taa water-fall and saw tropic-bird fly to nest on cliff. Also saw two kingfishers, two swifts (?) and wandering tattlers. I saw a reef heron fly along water front and light near consul's home. Minahs building nest under eaves of house in town.

October 6

Permits to bear arms and to hunt have been granted to Quayle and myself. Today we went out Mission valley. Minahs were only birds noted along bottom of canyon, being seen principally about cultivated ground, though several were about cattle in a coconut grove. We spent three hours climbing through brush up onto a ridge that led into the higher part of the island. Two or three tropic-birds were seen in the distance sailing along rocky cliffs or over the canyon. A hawk sailed high overhead calling, but returned to heights farther inland. We were fagged out after getting through the brush, so returned down the ridge to town, seeing only the three species.

October 7

Quayle went up same canyon as yesterday, following trail in bottom of canyon up to water, where he secured four kingfishers. I went along road to the west and got a large tern,

the only one seen (rectirostris?). It was fishing close to shore. Wandering tattler in worn summer plumage and a reef heron (one of three seen) were secured. Minahs were common and several weaver-birds were seen feeding on seeds of weeds near a house. A pair of gygis terns sometimes fly along shore or light in trees near our cottage. Minahs noted nestbuilding under roofs of two houses.

October 8 and 9

Getting ready to go up the Punaruu river.

October 11

Left Papeete with outfit and provisions for two weeks and met our two men at mouth of river. They made four packages of the material and tied them to a couple of strong poles. Each shouldered a pole and we traveled for three hours up the river bed, stopping at 11 o'clock for lunch. After eating we began climbing up a steep trail rising one thousand feet in a mile. Rain began at noon and continued three hours. Thoroughly soaked

we made camp at 4:30 near a spring and put up our canvas
wild pig almost up and I shot one. Quayle built a fire, heated
sheets for a tent. I shot a dove and Quayle shot a swallow
some love rocks, scraped the hair off on the hot rocks and
and kingfisher.
took it to camp, cooking it there Tahitian style with hot rocks
and green leaves. I skinned the birds in the P. M.

October 12

Sunny, and hunting near camp got three kingfishers.

Quayle got three doves with aid of guide who called them.
Rain began at daylight and continued till after 5 P. M.
Yesterday passed a depression of three acres with a little
Quayle went out with guides in rain. Minahs sing in forest
water in center and twenty golden plover there. Shot one
and a kingfisher heard a couple of times,--the only birds
and rest circled out high and left. Quayle saw three more and
heard today. Minahs in town gather in trees and sing like
shot a swallow over the water (only one seen). Kingfishers
blackbirds just before dark. Gather in public market, especially
call a lot, pairs set together at times; they dart out after
about the butcher shop; while in forest they are wary, flying
insects like flycatchers. Minahs (two to six) in companies
out of tall trees when noticed by a person. They sing many
about the forest calling and singing. Two or three weaver-
different sounds, being mistaken for other birds. First camp
birds heard and seen. Tropic-bird flying along cliff and
at 1,200 feet.
hawk flew around where I called for small birds. Minahs pay
no attention to calls and leave when I call in squeaky tones.

October 13

Quayle up trail with guides and returned with three doves
and guides with two bunches of fowls. In evening Tafia went
Out with Tafia, the guide, along base of cliffs where
down to creek in the rain and came back in an hour with two big
trees are tall. Heard doves calling and secured four. Two
sold over two feet long; boys caught a few shrimps in the brook
or three came when I called to them. Call is a prolonged coo
just below camp.
coo to begin and gradually quickens; usually ten or more coos.

While eating oranges under a wild orange tree a

October 13
wild pig showed up and I shot her. Tafia built a fire, heated

some lava rocks, scraped the hair off on the hot rocks and
and wrapped the wels in green leaves, put on hot stones, covered
took it to camp, cooking it there Tahitian style with hot rocks
with stones and leaves and left an hour to cook. Fine eating,
and green leaves. I skinned the birds in the P. M.

Rain every day so far. West places hard traveling except on
trail. Camp 1,200 feet. Pictures of mountains taken at 1,700

October 14

feet.
Rain began at daylight and continued till after 3 P. M.

Quayle went out with guides in rain. Minahs sing in forest

October 15
and a kingfisher heard a couple of times,--the only birds
heard today. Minahs in town gather in trees and sing like
blackbirds just before dark. Gather in public market, especially
about the butcher shop; while in forest they are wary, flying
out of tall trees when noticed by a person. They make many
different sounds, being mistaken for other birds. First camp
at 1,700 feet.

October 16

Quayle out with guides to look at other cliffs. I went
down trail a couple of miles and heard only minahs, two or
three doves, and kingfishers. Finally shot one dove and one
kingfisher. Quayle returned at 4:30 having located five or
six old cheewater burrows by the cliffs under the Bladen.
eels over two feet long; boys caught a few shrimps in the brook
just below camp.

direct movements of Quayle and other guide. At times the two

October 17

Sunday. Guides made a fire, heated stones, cleaned, and wrapped the eels in green leaves, put on hot stones, covered with stones and leaves and left an hour to cook. Fine eating. Rain every day so far. Most places hard traveling except on trail. Camp 1,200 feet. Pictures of mountains taken at 1,700 feet.

October 18

Move camp to 3/4 mile from Diadem which lies east by north. Went up to base of cliffs 2,800 feet, following dangerous pig trail for a mile and saw but one possible shearwater nest which might have been used last year. Pigs may dig out many that nest below cliffs. No birds heard at night.

October 19

Quayle out with guides to look at other cliffs. I went down trail a couple of miles and heard only minahs, two or three doves, and kingfishers. Finally shot one dove and one kingfisher. Quayle returned at 5:30 having located five or six old shearwater burrows by the cliffs under the Diadem. He worked on cliffs where one guide had to climb a tree to direct movements of Quayle and other guide. At times the two

had to use a rope to lower themselves from dangerous cliffs. A red-bill tropic-bird was flushed from the nest but spot was unapproachable. The steep mountain tops are surrounded by cliffs and the sides are too steep to climb with safety. The old shearwater nests were dug in the soil on short steep ridges close under the cliffs on the main mountains. The pigs perhaps unearth quite a few of the birds, but judging by the one nest I saw under a tree root some birds would go too deep for the pigs. and it is very rare today. I discarded all weight, and with the aid of two sticks made the roadside at mouth of Punaruu canyon by five October 20 the evening, traveling eight and on Packed up, and, cutting trail, worked across toward head of Punaruu canyon to stop at two o'clock on southeast side of main stream just as rain began. Built a camp in the rain, covering it with large leaved ferns which shed water perfectly, though perhaps a heavy downpour would work through. Two swallows flying over and along a ridge were noted and one secured. A hawk was seen and two or three kingfishers heard. and they were not plentiful. Minnows were common in the hills, but weaver-birds were few.

October 21

Quayle and guide went to top of ridge east of us, reaching 4,000 feet and seeing swallows, kingfishers and doves, while I went up the stream about three miles till going became too

rough. Cliffs and steep, dangerous mountainsides run up in places 4,000 feet to tops of peaks and main ridges. The ridges sometimes have cliffs 20 to 100 feet high on their tops, thus preventing continuous approach to the highest peak. Elevation of last camp 2,300 feet, present one 1,300 feet.

October 22

A stick ran into my foot through the sandal yesterday P. M. and it is very sore today. I discarded all weight, and with the aid of two sticks made the roadside at mouth of Punaruu canyon by five o'clock in the evening, traveling eight and one-half hours. Reached Papeete at nine P. M. as motor car ran out of gas two miles from town and chauffeur had to walk in to get a can. The trip of twelve days yielded thirty-nine birds, which is less than half as many as I have collected in one day alone at Juan Fernandez Island which lies some hundreds of miles to the eastward of Tahiti. The swallow, kingfisher, and dove were the only native birds seen, and they were not plentiful. Minahs were common in the hills, but weaver-birds were few.

October 24

Sunday.

October 25

Quayle left at five A. M. to go up the Faa-Taa creek and returned in evening with a dove and a kingfisher.

October 27

Quayle stayed out in hills last night and returned with one reef heron, two green herons and a hawk. The latter looks like a marsh hawk and was shot in the bottom of a canyon as it flew over Quayle's head toward the ocean.

October 28

Quayle went to Pt. Venus. Stayed all night.

October 29

Quayle back with two doves.

October 30

Quayle out on lagoon; back with gygis and yellow-bill terns.

November 1

Quayle to rice fields and got a dozen weaver birds, 2 kinds.

November 2

Quayle to rice fields and got about fifty weaver-birds,

three kinds. I skinned twenty-five of them, the rest being too ripe. He orders Quayle to stay in bed. My feet still sore.

November 3

Quayle along shore, got two terns, three tattlers, and one golden plover. He cut the sore place open and said to keep off till healed. Quayle still in bed.

November 4, 5, 6.

Quayle into mountains with guide and found few shear-water nests unoccupied. He heard one bird, he thought.

November 8

Quayle out to Maesa, shot and sent in to me one dove and eight noddy terns. I skinned the lot.

November 9 and 10

Quayle got few noddies; they seem to be nesting by organs. Three gygis terns fly around cottage here and light in trees over the cottage.

November 11

Quayle back with several rotten rectirostris terns and a sore knee scratched in crawling through brush while hunting ducks.

yards from where I am November 12 The young are still
follow Doctor orders Quayle to stay in bed. My foot still sore.
and struggle with the neighbors' chickens.

November 16

I visited Doctor's office, the first time in my life for
medical assistance. He cut the sore place open and said to
keep off till healed. Quayle still in bed.

November 18

Doctor dressed Quayle's knee. A pair of gygis terns
seem to be nesting about a block from here, as they often
call during day and night,--"Keek, keek, keek!" is the call.
Minahs were introduced to combat a large wasp that frequents
the houses in town. Though I have watched the minahs getting
food for their young have seen no wasps captured, though they
were flying about the minahs while the latter were hunting
small worms in the bark of a tree in front of our house. Have
recognized calls of several California birds in singing of
minahs. Two or three people have said but one pair of minahs
was brought here from seven years ago to over twenty years ago.
They are now common up to 3,000 feet. The California cuckoo,
California and blue-fronted jays, yellow-breasted chat, and
western robin have notes that are duplicates of sounds uttered
by the minahs. A pair raised a brood in a coconut tree twenty

yards from where I am typing this. The young are still following their parents, flying down in our back yard to eat scraps with the neighbors' chickens.

Water was misty in some of the ponds and he was storm-bound two days in a November 23 gave out before he could go

Quayle out again and got few minahs, reef heron and rectirostris tern.

November 24

Quayle shot four tatlers, one with few summer feathers in breast.

November 20

Five fresh minah eggs received from Mr. Yerex at Maaea; the nest was under eaves of house roof.

November 30

Quayle went to Papenoo River to go into mountains. though primaries not fully grown. He also had a black fly-catcher,--the first December 1 and several more warblers.

Quayle sends back letter saying thrushes (warblers), swallows, doves and green herons are present five kilometers from road. I still walk with stick in hand.

December 7

Quayle returned from Papenoo with over 12 warblers, 2 swallows, several green herons and kingfishers,--35 birds.

Water was waist deep in some of the fords and he was storm-bound two days in a cave. Food gave out before he could go over the top of the ridge.

December 6

Doctor cut my foot open again with shears for second time and a log 15/16 of an inch long came out of the cavity.

December 9

Quayle starts for Papenoo again. My foot healing rapidly.

December 23

Quayle returned from Lake Vahiria today without shearwaters, though he heard several. He got a young rail feathered, though primaries not fully grown. He also had a black fly-catcher,--the first we have seen, and several more warblers, doves, kingfishers and swallows. The nests he thought were swifts' nests last trip up Papenoo he now thinks are swallows' as he got birds from one of them this trip. I still walk with stick in hand.

A single G. vanaghe and a single white-breasted shearwater noted. Two red-footed boobies, few noddy terns and gulls seen.

Passed a steep bound for Tahiti. Little rain in P. M.

December 26

Quayle put on diet by Doctor,--dysentery the cause.

January 1

Sailing NNE all night and at four P. M. off the Phoenix

December 27

Company's wharf at Makaloa Island. A few noddies, red-footed

I hired a launch and went out on ocean and saw flocks of noddies and gygis terns seen fishing before and after passing of noddies terns, a few gygis, and five lunatus terns. Red-footed boobies were in flocks fishing; most all were gray birds, though a few were white-tailed and not one was in the white plumage out of the 200 seen.

North of island and three white boobies seen flying together

may have been *P. gramineus*. Makaloa is 200 feet high on the

December 30

western end with cliffs rising straight from the water.

Quayle went to the rice fields and got a few weaver-birds, one young of the red-bellied kind and several young of yellow-rump.

At six A. M. Rangiroa Island sighted ahead and we bent

to the eastward close along shore till three-thirty P. M., when

Papeete, January 7, 1921.

we passed the eastern point. Patches and clumps of trees and

Left on schooner "Moana" for Christmas Island via Marquesas with Quayle at 4:30 P. M. Outside the reef a few noddies were plenty. Patches of sandy beaches were seen inside the reef at the eastern end. Two or three birds sighted but no boobies.

perched. Noddy and gygis terns and four frigate birds fishing

near east end. A single young phalarope in flock of fishing

January 8

birds was seen in morning. Along the W. E. shore coconuts and

In P. M. sighted Tahiti 20 or so miles to the southward. low bushy trees extend as far as the eye can see. A light wind A single *P. cuneatus* and a single white-breasted shearwater noted. Few red-footed boobies, few noddy terns and gygis seen.

Passed a sloop bound for Tahiti. Little rain in P. M.
all day and the motor was started at daylight.

At sunset several small flocks of sooty terns seen fly-

January 9

ing toward Arutua Island. Most fly close to the water, but

Sailing NNE all night and at four P. M. off the Phosphate
sometimes a bird was higher in the air but would descend to
Company's wharf at Makatea Island. A few noddies, red-footed
join others flying low.

boobies and gygis terns seen fishing before and after passing
the island. A wandering tattler seen alighting on shore and as

January 11

we left the island several common boobies (S. l. plotus) flew

At sunrise a few miles north of Arutua. Sooty terns were
near the vessel. A single sooty tern was seen few miles to
flying northward fishing bound, a dozen or so in two parties.
north of island and three white boobies seen flying together
Sailed close along west shore of Arutua last night after dark.
may have been S. cyanops. Makatea is 200 feet high on the
smooth sea. Little wind. Stopped engine in night but started
western end with cliffs rising straight from the water.

At five in the morning. Terns fly higher in morning than at

night when returning to island. Fine weather, no coast on since

January 10

starting. Quays and priest discuss French Tonson while row

At six A. M. Rangiroa Island sighted ahead and we beat
in cockpit made cigarettes.
to the eastward close along shore till three-thirty P. M., when
Sakote is sighted at 4:30, a long line of trees on the
we passed the eastern point. Patches and clumps of trees and
bushes reminding us of the line of trees along a river bank in
many barren coral rocks were visible from the ship. Coconut
the San Joaquin seen at a distance on a hot day. Very sooty and
trees were plenty. Patches of sandy beaches were seen inside
lagoon (?) noddies during day, but not a tropic-bird seen yet.
the reef at the eastern end. Two or three huts sighted but no
sailors fired with bangs, barbeds, but with nothing. Life-
persons. Noddy and gygis terns and four frigate birds fishing
like ball of hair tied to tail of hook.
near east end. A single young plotus booby in flock of fishing

birds was seen in morning. Along the N. E. shore coconuts and
low bushy trees extend as far as the eye can see. A light wind

fair breeze all day, heading NNE, only half dozen birds

all day and the motor was started at daylight.

At sunset several small flocks of sooty terns seen flying toward Arutua Island. Most fly close to the water, but sometimes a bird was higher in the air but would descend to join others flying low. in straight line. One skipjack

caught by Captain, lost two others by breaking pole. Dozen or more sooty terns and some January 11 seen in evening, all working

At sunrise a few miles north of Arutua. Sooty terns were flying northward fishing bound, a dozen or so in two parties. Sailed close along west shore of Arutua last night after dark. Smooth sea, little wind. Stopped engine in night but started at five in the morning. Terns fly higher in morning than at night when returning to island. Fine weather, no coat on since starting. Quayle and priest discuss French lesson while crew in cockpit smoke cigarettes. something like a night hawk for

Takapoto is sighted at 4:30, a long line of trees on the horizon reminding me of the line of trees along a river bank in the San Joaquin seen at a distance on a hot day. Few sooty and lesser (?) noddies during day, but not a tropic-bird seen yet. Sailors fish with bone hook, barbless, but catch nothing. Life-like tail of hair tied to tail of hook.

January 12

Fair breeze all day, heading NNE, only half dozen birds and at eight o'clock an old and young red-bill came around.

They drifted off and three white terns joined them for a couple seen, sooty and gygis terns.

of minutes. A sooty tern also flew past and a small shearwater seen in distance. Good sailing breeze in morning; motor went

January 13

wrong last night, so sails spread at eight o'clock. Crew holy-Some wind all day. Made 112 miles about NNE. About stoning deck with fire bricks and cabin washed out.

300 miles from Marquesas in straight line. One skipjack

At three o'clock three frigates, three or four sooty and caught by Captain, lost two others by breaking pole. Dozen or several white terns seen fishing. Two or three Bulweria (?) more sooty terns and couple gygis seen in evening, all working slow seen. The latter fly more like petrels than *Phaethon*, toward windward, possibly toward island 170 miles away in that keeping close to the water in the strong breeze. No noticeable direction (Napuka).

difference in color on the upper part of plumage could be seen in flight, though good view had several times. Three frigates

January 14

sailed high over the fishing birds and a red-footed booby came

Several sooty terns, a single or two and three yellow-up astern a mile past them. We are just about 200 miles to the billed tropic-birds during day; also one white-breasted and two of *Bufo* island, the nearest land in the Marquesas. Quite small black shearwaters, the last two Bulweria (?). The last a school of flying-fish flashed shortly after passing the birds. one in the evening darted about something like a nighthawk for Position 11 South, 143 West. a short time and then evidently flew away close to the water

like the first one seen, for both disappeared suddenly as though

they might have lit on the water. Lowered sails in P. M. and Sunday. Strong breeze this morning and quite a number started motor as wind light and nearly straight from our destination. Made fifty miles since yesterday noon N by W and our one bulweria, one brown or gray red-footed booby, one large, heavy, port is about NE by E.

gray-headed, black-breasted fulmar-like bird seen at a distance, several albatross and several sooty terns; also two shearwaters that

looked like yellow-bills, white-breasted.

January 15

A couple of yellow-bill tropics around ship at daylight, and at eight o'clock an old and young red-bill came around.

✓ *lepturus*
✓ *rubricaudus*

They drifted off and three white terns joined them for a couple of minutes. A sooty tern also flew past and a small shearwater the heavy shearwater. Small flock of fairy terns and a couple seen in distance. Good sailing breeze in morning; motor went wrong last night, so sails spread at eight o'clock. Crew holly-watching the ocean frequently reveals not a single bird. Wind stoning deck with fire bricks and cabin washed out.

not so strong in the evening. Made 120 miles since yesterday.

At three o'clock three frigates, three or four sooty and several white terns seen fishing, two or three Bulweria (?)

January 17

also seen. The latter fly more like petrels than Pterodromas. Good breeze all day and two or three squalls in the keeping close to the water in the strong breeze. No noticeable evening. First rain for three or four days. Couple of small difference in color on the upper part of plumage could be seen puffins seen in P. M., black back and white below. One large in flight, though good view had several times. Three frigates sailed high over the fishing birds and a red-footed booby came up astern a mile past them. We are just about 200 miles to the SW of Huayu Island, the nearest land in the Marquesas. Quite a school of flying-fish flushed shortly after passing the birds. Position 11 South, 143 West.

can't say it at twenty miles at six P. M. No white red-foot boobies out of seventy-five seen. Some had whitish breasts and

January 16

a couple had white tails. A single phalarope also flew Sunday. Strong breeze this morning and quite a number

of birds seen by 6:30. Three frigates, one yellow-bill tropic, one bulweri, one brown or gray red-footed booby, one large, heavy,

January 15

gray-backed, light-breasted fulmar-like bird seen at a distance, several fairy and several sooty terns; also two shearwaters that looked like puffins, white-breasted.

at eight o'clock other birds seen; a flock of terns, sooty and fairy seen

Later saw a booby two or three times that may have been the heavy shearwater. Small flock of fairy terns and a couple of sooties. Two bulwerias seen at one time, but hours of watching the ocean frequently reveals not a single bird. Wind not so strong in the evening. Made 120 miles since yesterday.

January 17

Good breeze all day and two or three squalls in the evening. First rain for three or four days. Couple of small puffinus seen in P. M., black back and white below. One large shearwater dark, possibly dark cuneatus, also three or four bulweria. One showed brown band on wing. Few white terns and many noddies, also red-foot boobies in small parties and singles and four frigates. In evening birds were working toward island of Eiao some thirty miles to windward, supposedly, though we can't see it at twenty miles at six P. M. No white red-foot boobies out of seventy-five seen. Some had whitish breasts and a couple had white tails. A single plotus booby seen also flying alone.

January 18

Light wind during last night, but breeze started at sunrise and motor started also. Sooty terns frequent and at eight o'clock other birds seen; a flock of terns, sooty and fairy seen

and a little later a flock with several puffins and a couple of cuneatus shearwaters and a single white-rumped petrel resembling Wilson's in size and flight. Couple of plotus boobies and a couple of red-footed, also one or two bulweri. Couple of red-billed tropics, old and young; single frigate noted. During the day several plotus boobies seen and half a dozen red-feet, several small petrels, couple seemed larger than Wilson's, but could see no white on underside. Saw two larger terns than sooties with slower wingbeats, flight similar to gull. Sooties and fairy terns all day.

At five the Captain sighted Huapu Island about 25 miles away and later Nukuhiva. Huapu showed the tops of two pinnacle peaks, the highest over 4,000 feet. Heard several doves and warblers, the latter in coconut trees usually.

January 19

Light wind all night and motor busy; sails down but fore-sail up. Smooth sea in morn and light wind. Huapu Island 15 miles to NW at daylight and Hivaoa 40 miles or more ahead. Few birds,--a sooty or two, red-foot boobies and plotus boobies (a couple) and one or two each of Bulweri and Puffinus auricularis.

Nearing Hivaoa fairy terns were the commonest birds some miles off, with frequent red-foot boobies, but when near the SW end flocks of noddy and lesser noddies were fishing with frigates and the fairy terns were all along. Sailing close

along shore with motor several small gray terns were seen fishing and a reef heron and several wandering tattlers were noted on the rocks. Trees were white at the base of steep cliffs with guano from red-foot boobies and frigates. Entering the bay many fairy and noddy terns were seen and a warbler was heard singing as we anchored at five P. M.

January 20

Ashore in morn and met Mr. and Mrs. Hanly and Mr. Linton here for Bishop Museum of Honolulu after anthropology. Mr. Hanly introduced me to the Administrator who gave us permission to collect. After lunch went ashore and got several flycatchers, a warbler, a dove, and a kingfisher. Heard several doves and warblers, the latter in coccomt trees usually.

January 21

Ashore at six o'clock and up stream several miles, passing three or four old tombs built of rocks about 8 by 12 feet and four to six feet in height among big trees and brush. A few doves were heard, but the flycatcher was the only land bird seen beyond the coccomts where several warblers sang. Fairy terns were sailing about clear up the canyon and several noddy terns were also seen five miles up sailing about cliffs. A pair of tropics were seen at one cliff. Wandering tattlers

are common along the rocks on shore and reef herons also occur. Minahs were brought here three years ago,--sixteen birds my informant said, and now there are a thousand. A red-crown as well as white-crown dove occurs, but we have only taken the white so far.

Skinned birds with two lanterns and four candles giving poor light until 9:30 P. M.

January 22

Skinned birds all day. Quayle up to plateau for the night. He sent down several birds by Linton which I skinned. Fairy terns were seen everywhere, sailing about and alighting in trees, and several swifts were also feeding along the trail.

January 23

Sunday and I took few pictures ashore. Quayle back with few birds same as collected near shore.

January 24

I went up onto the plateau and on up to Mt. Ootua several miles to the eastward, and around its base saw several red-capped doves of which three were secured. They were as reported, found near the heads of canyons and usually seen when flying to or from the canyon where the stream of water was flowing. As I stood on the top of the ridge with a brisk breeze sweeping over,

one flew back and forth to windward of me several times looking at me. Their call notes did not seem to have the half dozen rapid "Cooos" at the end of the cooing as does the white-crowned and the Tahitian species. The white-crowned seemed to be very much like the Tahitian bird in its call. The red-crown would come to my calling occasionally, but in the thick forest would fly past or light unseen. No white-crowns were seen where the reds were found, but they occurred just below them. The warbler and flycatcher were not as common as at lower levels, but two pairs of noddy terns were flying about and lighting on the tops of rocks near the highest peak. Fairy terns were seen everywhere, sailing about and alighting in trees, and several swifts were also feeding along the trail. Signs of cattle, pigs and horses were observed, and a small rat was seen in the trail at the watering place.

Quayle went with guide to look for red-crown doves but struck none. He got three or four swifts and guide promised to take him to cave where they nested if he would promise not to touch the bones or relics of dead men placed therein. I shot a couple of swifts in the evening along trail returning to the vessel.

Light wind all day and at daylight to westward of Beqa Island with Nukuhiva farther out to west. A few sooty terns and few red-foot and

January 25

Quayle up to caves and got a number of swifts while I

skinned birds in forenoon and went out in P. M. and picked up a few. The warblers in the valley live largely in the coconut trees, while on the uplands they live in the pandanus trees, singing throughout the daytime. The flycatchers were commonest near the stream; one nest supposedly of this species I noticed in a hibiscus tree twenty feet up by a trickle of water near Mt. Ootuna. Quayle got a couple of nestling swifts and a newly hatched kingfisher. Kingfishers are much wilder and scarcer than at Tahiti, but warblers and doves much commoner.

January 26

Quayle with sore knee stayed aboard and skinned birds while I went ashore and got a few birds, including two plotus boobies shot at head of bay as they circled around fishing.

January 27

Left about ten A. M. for Christmas and saw fewer birds fishing in channel than when we entered.

January 28

Light wind all day and at daylight to westward of Huapu. Island with Nukuhiva farther out to west. A few sooty terns and few red-foot and couple of plotus boobies flying around fishing. One very grayish backed sooty tern seen. In evening

In leeward. Sometimes two were seen together; once a pair was
flock of 300 or so lesser noddies and some sooty terns fishing
on the water but flew when neared. Three red-foot boobies
fifteen miles, more or less, off Hergest Rock; the thirty or so
and a frigate bird were seen about dark, but bound nowhere in
red-foot boobies all headed for Nukuhiva Island in the evening,
particular. A fairy tern seen at dusk.
while the plotus birds, a half dozen, are headed for Motu Itu
or Hergest. A cuneatus (?) and a single auricularis were seen.

February 1

A single booby and frigate were the only birds seen today.
January 29

though the ocean was watched for hours. One Bulweria in evening.

A few red-foot boobies and sooty terns, four frigates,
two fairy terns and a couple of white-rumped petrels with no
discernable white on under parts seen to leeward of north
island of Marquesas group. In P. M. with fair breeze birds
are scarce.

Light wind and smooth sea, plenty of flying-fish last couple
of days, schools of twenty or so being flushed at times; these
January 31

are usually small ones of four or five inches in length. A half
A day lost somewhere. 120 miles N. W. of the northern
Marquesas at noon. At four P. M. a couple of red-foot boobies
shearwater similar in color but larger than *peruvianus* were
swung past toward them. Three or four sooty terns seen singly
during the day. Four or five petrels noted; part of them white-
rumped, but no white below seen. A single auricularis flushed

February 3
from water at a distance; after we passed it flew. It seemed
heavier and shorter than a booby, like a skua. Good breeze all

A single fairy tern and several sooty terns noted in the
day. Petrels do not follow in wake of vessel as Wilson's often
morning; the sooties were straggling along to the N. E., possibly
does; two or three flew along in our direction a hundred yards
following a school of fish, though flying close to the water
rather than as usual well up in air. A red-tail tropic flew

to leeward. Sometimes two were seen together; once a pair was seen on the water but flew when neared. Three redfoot boobies and a frigate bird were seen about dark, but bound nowhere in particular. A fairy tern seen at dusk.

February 1

A single booby and frigate were the only birds seen today, though the ocean was watched for hours. One Bulweria in evening.

February 2, 1921.

3° 26' S., 147° 33' W.

A frigate bird working along to windward only bird seen. Light wind and smooth sea, plenty of flying-fish last couple of days, schools of twenty or so being flushed at times; these are usually small ones of four or five inches in length. A half dozen porpoise passed in the forenoon. A small petrel and a shearwater similar in color but larger than auricularis were seen in the evening at a distance.

February 3

2° 15' S., 150° W.

A single fairy tern and several sooty terns noted in the morning; the sooties were straggling along to the N. E., possibly following a school of fish, though flying close to the water rather than as usual well up in air. A redtail tropic flew

around ship and I shot it. It circled around and lit ahead of the ship and was picked up, skinned in the afternoon, and eaten at suppertime, being relished by all.

Malden Island, the nearest land, is 300 miles to the S. W. the vessel several times in the forenoon just before a heavy squall. Shot a redtail tropic dropping him on deck just before

February 4

1° 15' S., 150° 53' W.

A sooty tern in the morning and a cuneatus (?) in the afternoon. Light wind and cloudy most of day. Few, hardly any fish. Blackbacked and whitebreasted and shorter tailed than cuneatus is shearwater as seen the second time later, possibly a trifle larger. Seen some distance away. A redtail tropic and a petrel seen in evening.

February 5

12 S., 152 W.

Sooty terns several times during the day seen fishing. A redtail tropic came near the vessel and a petrel and a shearwater were seen at a distance. Fair ESE wind. Little rain in early morning.

blackbacked shearwater seen in forenoon. Strong breeze from east.

One hundred miles east of ... at noon. A single ...

February 6

Sooty terns were common in the forenoon, over fifty being in one flock; they were usually working to windward and nearly

always flying close to the water, although a few were up in the air. One that came up astern was nearly black on the breast and probably was a young bird. Five frigates drifted across in front of a squall and a redbill tropic flew about the vessel several times in the forenoon just before a heavy squall. Shot a redbill tropic, dropping him on deck just before dinner; he had a nice red feather in his tail which one of the sailors pulled and stuck under a box before Quayle could traverse half the length of the ship, but Quayle secured the feather finally. Four whiterump petrels feeding together on the water at one spot, and later two more were seen. Saw brownish or grayish terns come around the ship. A single tern wing coverts on a couple. In P. M. a cyanops booby flew around and swung off toward Christmas 250 miles away. The tropics seem to head that way too. Into eastern bay and headed out at dark. Two or three gulls seen.

February 7

1° 30' N., 155° 48' W.

Bluefaced boobies and sooty terns all day. 75 or so sooties seen fishing a couple of times with several boobies. One cuneatus (?) and one dark-headed, white-breasted, dark-mora till eight o'clock. Sooty terns, noddies and a few backed shearwater seen in forenoon. Strong breeze from east. One hundred miles east of Christmas at noon. A single gygis seen.

Near anchorage one or two gygis and a couple noddies seen. Ashore after lunch and saw twenty or so sooty-terns on edge of lagoon, young and old. Several of the

little gray warblers seen in bushes. Several parvirostris flew

February 8

over land toward inlet in lagoon where they nest. Sooty terns

1° 47' N., 157° W.

also fly across land to nests on east side of island.

Blue-faced boobies common and sooty terns abundant.

Several black-headed, white-breasted shearwaters during the

day and nativitatis common in the afternoon fishing with sooty

We hired a boat, two boys and a man and sailed out to and boobies. Some looked like cuneatus and one showed whitish Note Upon where P. malinensis, P. pusillus and P. parvirostris axillaries. In P. M. birds abundant and Christmas sighted at were found nesting under coconut leaves, grass roots and other five P. M. with sooties flying to windward and returning all cover. Several pairs of birds were seen in some nests without the time in P. M. A few plotus and redfooted boobies seen and eggs. Redtail tropic-birds were nesting commonly with eggs frigate birds were chasing sooty terns. Three or four small and young, and two or three young gygis terns were taken and brownish or grayish terns came around the ship. A single tern one egg from nests in low trees. Whether the nests were built that looked like rectirostris flew about. Redtail tropics were by the gygis or by lesser noddies which were plentiful about common, sometimes three at once circling the ship. We sailed the nests I was uncertain. Some noddies were present also, but into eastern bay and headed out at dark. Two or three gygis not nesting. Several redfoot boobies and frigates were sitting terns seen.

in bushes or trees and on the flats surrounding the island golden plover and wandering tattlers as well as a couple of bristle-

February 9

thighed curlew were seen. The shearwaters had eggs or small

Christmas Island

downy young as a rule, except the cuneatus, of which only three

Arrived here at eleven o'clock. Island out of sight in were taken. Warblers were common and a number were secured as morn till eight o'clock. Sooty terns, nativitatis and a few they were very tame.

parvirostris shearwaters about vessel fifteen miles off. Many cyanops and a few redfooted and two or three plotus boobies also.

Near anchorage one or two gygis and a couple cerula terns see

n. frigates. Ashore after lunch and saw twenty or so recti-

rostris terns on edge of lagoon, young and old. Several of the

little gray warblers seen in bushes. Several *parvirostris* flew over land toward islet in lagoon where they nest. Sooty terns also fly across land to nests on east side of island.

February 10

Sunday. Ashore at eight o'clock with Captain for lunch. We hired a boat, two boys and a man and sailed out to Motu Upoa where *P. nativitatis*, *P. cuneatus* and *P. parvirostris* were found nesting under coconut leaves, grass roots and other cover. Several pairs of birds were seen in some nests without eggs. Redtail tropic-birds were nesting commonly with eggs incubated eggs in most cases. The terns had their nests on and young, and two or three young gygis terns were taken and the ground in the grass and thick bushes where they found it one egg from nests in low trees. Whether the nests were built difficult to rise into the air very often. Twenty or more by the gygis or by lesser noddies which were plentiful about the nests I was uncertain. Some noddies were present also, but of rockhopper penguins in the Falklands. The young were just hatching and either laid flat on the ground as we walked near in bushes or trees and on the flats surrounding the island golden or tried to hide under something convenient. Old birds were plover and wandering tattlers as well as a couple of bristle-thighed curlew were seen. The shearwaters had eggs or small downy young as a rule, except the *cuneatus*, of which only three were taken. Warblers were common and a number were secured as they were very tame.

February 12

Ashore for awhile in morning and got a few *rectirostris*

terns and saw a couple of red turnstones with some plover and several bristle-thighed curlew seen and a couple shot. To reach it was required, a number of parvirostris were nesting under the bunches of grass. February 13. A red-legged turnstone that Sunday. Ashore at eight o'clock with Captain for lunch with manager. We took the Ford and drove out to end of coconut grove where a large colony of sooty terns were nesting, passing several nesting redfooted boobies on the way. The boobies had nests in trees from four to twenty feet high with incubated eggs in most cases. The terns had their nests on the ground in the grass and thick bushes where they found it difficult to rise into the air very often. Twenty or more fluttered ahead of me in the trail at one place, reminding me of rockhopper penguins in the Falklands. The young were just hatching and either laid flat on the ground as we walked near or tried to hide under anything convenient. Old birds were returning to the colony from all directions and a flock was circling above it all the time. Quayle stayed at the colony in preference to returning for lunch. When no more were found I offered ten francs and crew got busy, resulting in eight or nine birds. February 14. Some were under grass roots like. Took the Ford and went twenty miles down the island, seeing golden plover and bristle-thighed curlew flush along under bushes along shore, while the parvirostris favored the

side redfooted and bluefaced boobies and frigate birds' nests. On an islet where wading knee deep for a hundred yards to reach it was required, a number of parvirostris were nesting under the bunches of grass and Quayle shot a red-legged turnstone that lit near us on a point. Many red-pouched frigates were sitting in bushes and a few were on nests. Three or four blue-faced boobies were standing at nests, but most of this species probably nests nearer shore. Shot a black cat scared from a thick bush. Shot a six curlew along road. Not many warblers seen, though a few.

Left also out of commission, so finally took ship's boat and with load of fresh water aboard went to Duck Island. Found ~~parvirostris~~ February 15 ~~sea, noddies, lesser noddies,~~ ~~many~~ Skinned birds on board all day. ~~sea being lighter below~~

~~than the old birds. Twenty or more young tropics were under bushes and small trees~~ February 16 ~~old birds were also sitting~~ Took sailboat and three boys and went to Motu Tabu where owner of island reported unidentified shearwater nested under leaves of coconut trees. We finally found a young bird and one more by offering five francs to finder. When no more were found I offered ten francs and crew got busy, resulting in eight or nine birds being located. Some were under grass roots like the many nativitatis and parvirostris and several cuneatus shearwaters found nesting. Nativitatis were sitting in places under bushes along shore, while the parvirostris favored the

grass roots for nests and the cuneatus usually dug a burrow in one part where the soil was sandy. Two or three gray terns' nests were found on the ground under grass stalks, and two or three noddy nests with eggs seen under bushes. Tropic-birds had fresh eggs and young in all stages and lesser noddies have finished nesting.

Is all day. Having over 200 from this island in eight days, but the Captain and engineer skinned quite a few for us and we made February 18 those they skinned.

Ashore and found sail-boat broken by heavy sea this morning and motor boat also out of commission, so finally took ship's boat and with load of fresh water aboard went to Cook Island. Found rectirostris, sooties, noddies, lesser noddies, gray and gygis terns, the young noddies being lighter below than the old birds. Twenty or more young tropics were under bushes and small trees, and a few old birds were also sitting around and several were taken. Twenty or so redfoot boobies were sitting in trees, and a couple of eggs of gygis were seen on limbs of trees with no nest but bare wood. Sooties were sitting in flock in grass. Quayle shot a tattler and I saw a curlew on the island. Three hundred or more lesser noddies sitting on trees in flocks; a few nativitatis seen but very little grass on island to hide under.

Ashore in P. M. and said good-bye. Took a dozen of the natives whose contracts had expired and sailed about three

o'clock down the west side of the island. A few miles from the lagoon entrance another big flock of terns was seen circling over shore, indicating another rookery there. Strong wind in morning but lightened and light at sunset.

February 19

Skinned birds all day, having over 250 from this island in eight days, but the Captain and engineer skinned quite a few for us and we made up most of those they skinned. Day, making a little better than south but far to west of Malden, though heading NE. A half dozen sooty terns and a single frigate were birds of day.

February 20

120 miles south of Christmas Island, having left day before yesterday. Sooty terns frequent, several blue-faced and red-footed boobies, two cuneatus, one redbill tropic, and one white-throated petrel recognized and several other petrels seen. Heading about SE1/2S. Little drizzle in evening. Birds from ahead, and at eleven o'clock I saw Starbuck four miles or either heading toward or from direction of Christmas. One parvirostris seen in evening.

a frigate and one young plotus booby were only birds seen.

February 21

Jib-boom carried away and mainsail dropped to deck this morning at one o'clock in a squall, but mainsail hoisted at eleven o'clock again. Two or three Lays or blue-faced boobies and a sooty tern or two only birds seen. I skinned four small birds after lunch. One gygis tern was very thin, but two downy

parvirostris were very fat, much fatter than a downy nativitatis. All these were taken five days ago on Motu Tabu. "Wahou, wahou!" is the call of nativitatis, while "Kik, kik, kik!" is usual call of parvirostris,--weak resemblance to call of duck hawk. Strong wind in morning but lightened and light at sunset.

February 22

Fair breeze but lightening in evening. Motor going all day, making a little better than south but far to west of Malden, though heading SE. A half dozen sooty terns and a single frigate were birds of day.

February 23

Saw a single aestrelata, dark grayish on back and dark below seemingly at a distance. Sooty terns all morning coming from ahead, and at eleven o'clock I saw Starbuck four miles or so to the west. Low sandy,--no vegetation showing. Sooty terns, a frigate and one young plotus booby were only birds seen.

February 24

Flock of sooty terns, three hundred or so, seen in morning, and smaller flocks seen all day fishing. Eighty-five miles south of Starbuck at noon and at five o'clock over a hundred and terns heading that way at sunset. Three gygis terns seen at four o'clock

fishing with twenty sooties and a couple of frigates seen in morning with flock of terns. A bonita caught in P. M. light wind all day, but only gasoline for two days' steaming, so will save it till a little later.

February 25

9° S., 154° 30' W.

Dozen or so sooty terns in morning heading back toward Starbuck 150 miles astern. In P. M. a gygis tern, a yellow-bill tropic and a dark red-foot booby around vessel. These work off ahead and probably come from Penrhyn or possibly Vostok, as we are nearer them than Starbuck.

February 26

Several flocks of sooty terns during day and gygis terns seen. One flock, four or five boobies, two frigates, and a shearwater or two. In P. M. a couple of bulweri flew across bow and I shot one of them, the first of the tubinares to be secured in the South Pacific this trip. A white-rump petrel and a cuneatus (?) seen also in P. M. Light wind and calm.

February 27

12° S., 153° W.

A couple of dark shearwaters and a dark red-footed booby were the only birds seen today. Twenty bonita were caught last night at five o'clock in a few minutes, two being in air at one

time on the barbless native hooks. Eight hundred miles west by south of Flint Island and four hundred to Tahiti. Very light wind all day, but only gasoline for two days' steaming, so will save it till a little nearer port.

February 28

Light wind from north for awhile today, but started motor at three o'clock. Very few birds, a gygis, noddy and a couple of sooty terns, a redfoot and an old plotus booby, and a shearwater or two. The noddy was a young one with several fish in crop and was farther from land, a hundred miles further southwest of Flint Island than I remember seeing this species before. It was in company of a sooty tern.

March 1

Variable and no winds today, and motor going all the time. One shearwater recognized as rostrat^{is} by its black head and white breast and larger size than parvirostris. A black shearwater of same size scared from water in P. M. Three or four sooty terns, a frigate and a booby or two were the birds of the day. 240 miles from Tahiti dead reckoning. No sun.

March 2

Fair breeze part of day, but motor going most of time.

Captain thinks he can make Papeete tomorrow night, as we are but 150 miles. Several dark and rostrata shearwaters seen. Dark ones little larger than cuneatus and shorter tailed. A lunatus tern came up to vessel in A. M. and I shot it, the Captain obligingly circling back for the bird as it dropped out of reach of the net. Three or four dark red-footed boobies were noted and a couple or so sooty terns.

March 3

Made Papeete by six o'clock, but Doctor kept us on board all night as we came from a foreign port. Beat along the west coast of Moorea for several hours in strong breeze. Quite a few redfoot boobies close to reef and only one seen as white as Christmas birds. Practically all had white tails and some were whitish underneath. A couple of auricularis shearwaters as well as several rostratas seen off Moorea in the strong breeze. Couple of lunatus terns and number of noddies as well as white ones.

March 7

Quayle went up in hills to look for shearwaters again and returned on the sixteenth with a single P. rostrata which he got in a burrow. Two other burrows had been entered lately, but the birds were away. I packed birds and shipped them and

developed pictures.

The island,--dark breasted the size of
curculionids or little larger. Two or three sooty shearwaters,
singles, flew past.

March 18, 1921.

Started for the Austral Islands and Rapa Island at five
o'clock, but didn't get the anchor up till eight o'clock, as
anchor of "Moana" and anchor of a small sloop were tangled up
with the anchor of the "Pro Patria", our boat.

Several species were about and along shore were tallies and
reef herms.

March 19

Tahiti far in the distance at daylight and very few
birds about. A sooty tern and a half dozen shearwaters noted;
one pterodroma passed far off,--looked white-tailed or rumped,
dark abdomen. Little wind and smooth sea. Heading south.

150.20 W., 19.04 S. at one place three hundred or more
fish were seen,--swam up a coral way if not to the top. Couple of

March 20
150.40 W. 20.28 S. reef herms and tallies. Couple

Calm or light wind all day. Engine started at daylight.
Pair flying and a single tropic on water; a sooty shearwater
flew past to north in P. M. and one other seen in forenoon.
120 miles from Rurutu at noon, motor stopped during night last
night but going all the other time.

of the island and there are
frequently burned. One old man said shearwaters used to be

March 21

taken and the eggs and young eaten, but not now. Ironwood is
Saw Rurutu at daylight, but motor trouble kept us back,
so arrived at noon. Saw three or four shearwaters twenty miles

off, but none near the island,--dark breasted the size of auricularis or little larger. Two or three sooty shearwaters, singles, flew past to north yesterday evening. Ashore this P. M. and got permission to collect. Saw a cuckoo just before reaching the Administrator's house, but saw none after. I went up into the hills in the rain but saw no land birds, though about the village were a few minahs. A few gygis terns and several noddies were about and along shore were tatlers and reef herons.

March 22

Ashore at six o'clock in the morning and around several miles through coconut and vanilla plantations. Few mango and orange trees seen. Cliffs at one place three hundred or more feet high,--coral up a good way if not to the top. Couple of redbill tropics seen at the cliff and noddy and gygis terns were along shore as well as reef herons and tatlers. Quayle shot one of several golden plover seen and blew a yellowbill tropic bird to pieces in a cave, of which there were many in the face of the cliffs.

The island has trees principally in the canyons and along shore, ferns covering the upper part of the island and these are frequently burned. One old man said shearwaters used to be taken and the eggs and young eaten, but not now. Ironwood is

the principal tree on the hills; scattered trees on some ridges; many pandanus trees were close to shore. Coconuts did not look plentiful, but many young trees were seen.

March 23

Expected to leave this village at nine A. M., but at noon we are still here. Got away at two and went to other side, picked up a little cargo and left for Rimitara after dark.

Few ducks seen: they seem to spend the daytime on the dry hillsides above March 24 fields where the water is found.

Noddy Reached Rimitara at three o'clock, seeing only a noddy and a couple of gygis terns on the way. A low island (300 feet) wooded along shore but few trees on higher part. Ashore in P. M. and found warbler and parrakeet common and cuckoo rare. Shot one cuckoo and several warblers and parrakeets. Wandering tattlers seen in taro beds in mud. Oranges not quite ripe and mangos nearly gone; bananas plentiful, coconuts all round island on lower parts.

A mile off shore at nine A. M. a cuckoo seen fifty yards above water March 25
3
Went to top of island, which is only ³ miles or so in diameter. Clump of trees on top and ferns cover ground above one hundred feet; clumps of pampas grass near top.

But boat nearly swamped and no engine not in good shape Captain

decided to work on March 26. Few birds taken and skinned. Many of the adult warblers show albinistic tendencies in greater or lesser degree.

April 1

Left the island March 27. Sunday and ashore awhile and got few photos.

March 28

Few ducks seen; they seem to spend the daytime on the dry hillsides above the taro fields where the water is found. Noddy and gygis terns seem to be only sea birds here at present, one hundred or so of each being noted in a day.

March 29

Quayle got three ducks today out of twelve seen and I skin birds.

March 30

A mile off shore at nine A. M. a cuckoo seen fifty yards above water flying toward the island from the west. A flock of terns fishing in the direction he came from, but not unlikely a migrant from the Cook group. Yesterday took some copra from the east side of island, but boat nearly swamped and as engine not in good shape Captain

decided to work only from the lee side where the channel is not wide enough for men to use cars when tide runs out. ~~run the~~
~~M. E. which possibly accounts for the shearwaters yesterday.~~

April 1

Left the island at five P. M. for Tubuai with a dozen or more passengers for Tahiti. ~~ing and we reached Tubuai at noon.~~
~~Shot a red-tail tropic a few miles off shore and a flock of~~
~~fishing maddies and~~ April 2 ~~seen five miles off.~~

At daylight fifteen miles or so from Rimitara heading SE. In P. M. a few dark shearwaters seen, one aestrelata light-breasted and grayish backed and another larger seemed white-headed, dark-backed and white-breasted. The dark birds looked much like sooties, but appeared a little heavier. The dark birds were mostly headed north.

~~I took the small boat and with a sailor went to two~~
~~islets on the reef April 3~~ ~~miles off shore. A half dozen frigates~~
~~left by~~ Gygis tern and several shearwaters and couple sizes aestrelata seen. ~~flying and lighting in the trees, and when I~~

~~shot a tern a cuckoo flew to a tree above the wounded bird and~~
~~was taken. On the~~ April 4 ~~let a number of lesser maddies were~~

~~sitting~~ Four Gygis terns and no shearwaters seen today. Tubuai about fifty miles to eastward. A couple of shearwaters seen last night were probably sooty, as the axillaries were whitish as they swung away from the sun. Many of the others seen last

two days were likely sooties also, though two or three kinds miles farther down the coast may be a more likely spot for a of Pterodroma were seen too. Wind today has been from the N. E. which possibly accounts for the shearwaters yesterday. Last day. Quayle got a couple of ducks and two wedges going to the top of the island, but no other land birds noted. 1921

April 5

Fair wind this morning and we reached Tubuai at noon. Shot a redbill tropic a few miles off shore and a flock of fishing noddies and gygis terns seen five miles off.

Went ashore in P. M. and went above the trees of the lower part of the island, seeing a cuckoo and several minahs as the only land birds. Quayle went in another direction and saw no land bird but minahs which seem to keep about the house.

April 6

I took the small boat and with a sailor went to two islets on the reef three miles off shore. A half dozen frigates left before I landed, but a dozen noddy and a hundred or more gygis terns were flying and lighting in the trees, and when I shot a tern a cuckoo flew to a tree above the wounded bird and was taken. On the next islet a number of lesser noddies were

sitting in the trees and on nests. I climbed one tree with several nests in it, but found no eggs and the nesting season is evidently past. No signs of shearwater nests were found, though a native said they occurred. A small higher islet five

miles farther down the reef may be a more likely spot for a few to nest, but none were seen as we neared the island the last day. Quayle got a couple of ducks and two cuckoos going to the top of the island, but no other land birds noted. The natives say a bird the size of minah is found in grass in marshy places and is probably rail or gallinule. Two or three of which were likely sooty, and one large white-breasted seen.

April 7

Quayle stayed ashore to look for the rail last night and this morning, but could see no sign of them. A native said it was in very rainy weather when they were best seen. We were supposed to sail today and the two pilots came on board, but the two engineers failed to get the engine going properly by noon when the tide had lowered, so sailing is delayed till tomorrow. I skinned birds in forenoon and Quayle waited at outer village till two P. M. Then I went over and got his couple of ducks and a heron, leaving him to look for rail and ducks tonight and tomorrow morning.

April 8

At 9:30 time for pilot to be aboard and the Captain and engineer are so busy fishing over the stern for small fish that it is probable we may fail to catch this tide out. Four small dolphins have been caught in the first hour and a few needle

Weather fine with light wind. Fifty miles from Sapa at

fish (?). The boat returning with a load of water is waved far off to one side as it approaches so the school of fish won't be scared.

April 14

April 9

A gygis tern and a half dozen shearwaters, two or three of which were likely sooty, and one large white-breasted seen.

Steep cliffs hundred of feet high line the coast with tropic-birds and gygis terns along them.

April 10

Perhaps a dozen shearwaters all dark above and one of them white-breasted were noted during day. Some rain and cloudy all day. About 130 miles from Tubuai, heading east by south part of time.

April 11

Five gygis terns and a couple of redbill tropics were seen before noon, but no shearwaters. Calm till noon, when a light breeze began.

April 12

Couple of redbill tropics and an occasional shearwater. Strong wind from west, mainsail taken in at dark.

April 13

Weather fine with light wind. Fifty miles from Rapa at

noon. A sooty shearwater and a white-breasted one seen also. A noddy and a little gray tern came around the boat in A. M.

April 14

A grallaria petrel and a few neglected shearwaters as well as noddy and gygis terns seen as we approached land. Native in canoe came aboard as pilot five miles off bay. Steep cliffs hundred of feet high line the coast with tropic-birds and gygis terns sailing along them. Ashore in P. M. and around bay to head of it and up on hill. Shot four ducks, and a pigeon up in the trees near top of ridge; also got a rail in a taro patch in the evening, and saw several wandering tattlers along shore and in the taro. From the rabbit is April 15 shore of a native boat brought in a Ashore at sunrise and over hills all day, getting but two doves, though dropped two more in the thick forest where they were lost. Quayle got a neglected shearwater and egg and a couple of others; also a cuckoo and a couple of rail. I stayed on board and skinned birds while Quayle spent night ashore looking for rail.

April 19

Ashore early to photo a duck's nest found by Stephen

couple of days ago. April 17 guide us and found it deserted.

Get photo Sunday. Took a few pictures ashore. was too heavy to go out and wind terrific in P. M., overturning

the pilot's boat April 18 and dragging both ashore so we

drifted I got native crew and went around coast five miles to islets where shearwaters nest. Native jumped into water and got ashore on islet and found two downy and one old grallaria petrel nests in grass on top, or near top. Went on to point of Rapa, 2,000 feet high, where neglected shearwaters were flying about cliffs. In rain and wind we jumped ashore and found under a young pandanus bush a pair of birds, the nest having a few green leaves in it for lining, no others being found. Back into boat and lay off point awhile shooting a few neglected shearwaters, a noddy tern and a redtail tropic. From the rabbit island the crew of a native boat brought in a Solanders (?) shearwater and Stephen, a passenger, got one in a hole on Rapa while hunting doves. Two or three or more gray terns flying about the coast and a large flock of noddy terns and one redfoot booby seen at a distance. Back to rabbit island and ashore in rain and wind to look for birds, but found none and returned to ship against heavy wind and rain, having to bail frequently. Two of crew were boys fourteen years old.

afternoon, probably driven off Rapa during blow other day.

April 19

Ashore early to photo a duck's nest found by Stephen a

couple of days ago. Boy to guide me and found it deserted. Got photo and took eggs and back on board at eleven, but storm was too heavy to go out and wind terrific in P. M., overturning the pilot's boat tied astern and dragging both anchors so we drifted toward shore; but wind slackened toward evening and we anchored in better holding ground.

April 20

Got away at one o'clock and with fair wind lost sight of island before dark, seeing a wandering albatross about thirty miles north of Rapa, which swung astern of us from the west and sailed off to the eastward without stopping. One grallaria petrel and a number of neglected shearwaters noted a few miles from island.

April 21

No birds seen in A. M., but a couple of gray terns in P. M. and two tropic-birds 150 miles from Rapa and same from Ravaivai.

April 22

Tropic or two and three gray terns kept about vessel all afternoon, probably driven off Rapa during blow other day.

April 23

An albatross, darkish above but white-breasted flew about schooner few times in P. M. and Quayle shot him astern, but on account of rolling of vessel and light wind the Captain couldn't pick him up. A noddy tern seen in P. M.

Ravaivai seen tonight about ten o'clock.

April 24

RAIVAYAE

Anchored at ten o'clock and ashore in P. M., seeing only a cuckoo in land birds but several redtail tropics about cliffs and few noddy and gygis and one gray tern; also two white and few reef herons and several wandering tatlers. The tatlers were in marshy places along trail and a couple ran ahead of me in the trail for some rods. Pair of ducks within twenty feet of trail and a frigate flew over island along cliffs.

April 25

Went to half dozen of islets on reef at eastern end. Dozen noddy and a few gygis terns and four or five reef herons, one spotted. I got and saw two white ones and two pairs blue ones. Rain more or less all day. Stephen got a couple of white herons I saw yesterday.

April 26

Tobai about thirty miles to windward at daylight on 26 by W.

April 26

Quayle shot a couple of yellow-bill and red-tail tropics. The yellow-bills went over cliff; I got a couple of cuckoos and a duck. Wandering tatlers common and red-bill tropics common along cliff. A plotus booby sailed along over lagoon yesterday and today fishing; only one seen. Quayle got egg of red-tail tropic. Left at three o'clock for Tubuai with light fair wind. some small ponds of open water, and going to it got five. Probably most of birds on island April 27th. Steve in evening got a rail and Qu Ravaivai astern about twenty miles at daylight. A little gray tern flew around ship awhile before seven o'clock. Breeze freshened at nine o'clock.

Seven tatlers flew around in a flock and climbed well up into air as we entered April 28

Rain, fog and light head wind all day. Two gygis terns seen.

Sailed at five o'clock for Papeete.

April 29

Rain, fog and light head winds all day. Six gygis terns at one time in the afternoon fishing near ship. Two or three shearwaters seen in distance during day.

Rainy and birds April 30 red-tail tropic and a noddy
Tubuai about thirty miles to windward at daylight SW by W.

May 1

Island fifteen miles to windward at daylight, but at ten can see flagstaff and houses. Gygis tern or two fishing.

and one *suricolaria* seen south of Moorea.

May 2

TURBUI

Ashore and through center of island and up to near peaks, but heard no chickens. Saw a flock of one hundred ducks near some small ponds of open water, and going to it got five. Probably most of birds on island in the flock. Steve in evening got a rail and Quayle heard some, but didn't get any.

I spend week drying birds ready to pack and get ready

to visit Moorea to collect birds first of week.

May 3

Seven tattlers flew around in a flock and climbed well up into air as we entered harbor.

Quayle returns with a series of flycatchers but no

swifts. Flycatchers were in one canyon and none in canyon

May 4

Sailed at five o'clock for Papeete.

May 5

Gygis tern and sooty (?) shearwater seen at a distance.

May 6

Rainy and birds rare; a red-tail tropic and a noddy tern seen. Got one rail and heard several, but they are in high.

thick ferns and hard to see. May 7. Few wild chickens heard and three at Tahiti in sight at daylight, and reached harbor at four P. M. Only two or three rostrata seen as we neared island and one auricularis seen south of Moorea.

June 2

Return to May 8 and 10 pack boxes for shipment.

Quayle getting ready to go to Lake Valheria, but Tafia, the guide, cannot go till next week, so Quayle goes after swifts.

Went to Moorea; in P. M. up the valley and hear doves,

kingfishers and chickens May 15

I spend week drying birds ready to pack and get ready to visit Moorea to collect. Rain first of week.

Up a long canyon to base of highest peak and got three doves, two kingfishers May 14

for which Quayle returns with a series of flycatchers but no swifts. Flycatchers were all in one canyon and none in canyons on either side.

June 14

Skin birds and out in P. M., but get nothing.

May 16

Quayle starts for Lake Valheria with guide and packer.

Out all day and get nothing but a rat. Saw five yellow-

bills. May 18

I go to Taravao for a week waiting for lodgings at Moorea. Get one rail and hear several, but they are in high,

Quayle goes to other side of island for a couple of days.

thick ferns and hard to secure. Few wild chickens heard and three taken. A golden plover seen and taken on the 31st. No pigeons found though we went far inland to about 3,000 feet.

June 2

Return to Papeete and pack boxes for shipment.

June 11

Went to Moorea; in P. M. up the valley and hear doves, kingfishers and chickens.

June 13

Up a long canyon to base of highest peak and got three doves, two kingfishers and saw a hawk. Quayle out before daylight for chickens and got a couple.

June 14

Skin birds and out in P. M., but get nothing.

June 15

Out all day and get nothing but a rat. See five yellow-bills.

June 16

Quayle goes to other side of island for a couple of days.

I go to Mateia and hear a lot of chickens and get three in wild country where a few pig hunters are the visitants. No pigeons or warblers heard.

June 17

Skin birds and out awhile. Noddy terns come in after dark and roost in trees about village. Rain nearly every day. the hillsides, the males chasing females; a heavy rain in the evening the cause of June 18 illness probably. Five hundred or

so weaver. Out in rain till P. M. and get one dove. wood coo, a few minutes feeding with them the ducks came into the rice at dark and I seldom saw June 25 ing in the daytime. A hawk seen

Quayle got three Nohas on Pierced Peak near top in burrows. He saw three warblers on other side of island, but weak auxiliary shells prevented capture, in each case a mere fizzle being emitted from gun. I got three chickens. In the forests they very often fly up into trees to spend the middle of the day, and fly down to feed about three o'clock in the P. M. The roosters crow several times a day for periods of a few minutes. The chickens fly up and feed on the ripe bunches of feis and bananas that natives do not pick, though they feed principally on the ground. When disturbed suddenly some run away, while others may jump into the air and fly off through the trees. Only one white one was seen out of a goodly number noted.

he got a couple of miles from here on the beach. It seemed a young bird.

The natives catch many roosters by entangling them in a long string tied to the leg of a tame rooster which is carried up to fight the wild birds. and at about 2,500 feet found four burrows of *P. rostrata*, taking two birds from each of two holes and a female from another. A couple June 27 very slight enlargement of sexual organs. We move to Temai by the lake and I get one duck and were see about fifty others. Pairs and three, four or more fly along the hillsides, the males chasing females; a heavy rain in the evening the cause of the evolutions probably. Five hundred or so weaver-birds in rice fields feeding on rice and weed seeds, a few minahs feeding with them; the ducks come into the rice at dark and I seldom saw them flying in the daytime. A hawk seen flying along hillside hunting chickens (?). six feet from the

entrance and in two of the holes the burrows ran under rocks where pigs could not have felt. June 30 roosting but they were so inclined.

Wild pigs Quayle back from a two day trip after Nohas with three birds,--no warblers. I see seven golden plover and get two; five they keep out on a small islet in the lagoon a few yards in extent. I went yesterday up the trail for warblers but heard none. Got a goat that proved good eating. Lantana is very bad and in many places one can't get far off the trail. called. Four hawks seen about this vicinity and one of them got a load of sixes in his tail when he was flying. July 3 a close in crossing the ridge.

A boy brought in an emaciated dead *P. parvirostris* which he got a couple of miles from here on the beach. It seemed a young bird.

July 4

I went to Mapita and went up a ridge, striking a goat trail at 1,500 feet and at about 2,500 feet found four burrows of P. rostrata, taking two birds from each of two holes and a female from another. A couple showed very slight enlargement of sexual organs, the others practically none, though a male and female were found in the same hole. One hole had a few leaves for lining, the others had none. The nests were just below top of ridge with only a small spot of probably three feet diameter for landing place through the low trees, the landing place being six feet or so below the top of ridge; three of the birds were not three feet under the trail, though the trail was seldom used by the goats. The nests or end of burrows were in five or six feet from the entrance and in two of the holes the burrows ran under rocks where pigs could not have followed by rooting had they been so inclined. Wild pigs probably range through mountains of Moorea where the birds nest, but they do not seem to bother the birds in any one of five colonies examined. A little excrement was noticed at entrance of one hole. A hundred yards below along the ridge a rail was heard in the ferns and bushes but impossible to see it, though heard several times in answer to my insistent calling. Four hawks seen about this vicinity and one of them got a load of sixes in his tail when he unwittingly flew too close in crossing the ridge.

Quayle went into Cook's Bay section for a week in search of warblers and pigeons. I heard roosters crowing a half mile or so below the shearwater nests in thick jungle.

July 6

Return to Afearito and look for warblers again, but find none.

July 11

Return to Papeete, but Quayle stays till I arrange another trip.

July 14

Holidays till 18th and no business possible.

July 18 to 30

Two owners to see me about schooners which I am considering, and that with cabling Museum prevents leaving Papeete. Quayle visits motu off Moorea and finds red-foot boobies roosting and a couple of shearwater burrows, but no shearwaters; also heard the auricularis type about cliffs in Cook's Bay, but could not reach nests.

August 1

Awaiting cable from Museum re schooner and discussing

with mail company here regarding chartering the boat.

August 12

Quayle back a couple of days ago without rail from Moorea, though he heard them often near camp. The dense cover prevented securing any. We go to Papiere and in P. M. go up canyons and I strike warblers, frequently getting several in bamboo thickets. Heard three at one spot and got one melanistic one,--the second we have taken from this island.

August 15
night

Heavy rain last [^] and we go on to Taravao where Quayle gets a fine plumaged rectirostris tern.

August 16

To Hitia and up canon where pigeons reported, but find none, though hawks were present and several warblers were heard.

August 17

On to the village, arriving at dark and see a pair of swallows about the church and several others during our stay.

August 18

Up canyon but found nothing of interest except the

absence of warblers about the bamboo patches. In P. M. around to Mahaena district and up river and back.

August 19

We took camping outfit and went up the Mahaena River. I went far up river while Quayle stayed near camp and hunted, but he saw nothing till cutting bamboo for water carrying when he heard a pigeon nearby and succeeded in getting it after calling it and having it fly around him. I saw green and reef herons and three wandering tattlers far up the stream.

August 20

Hunted all day, but no sign of pigeons. Saw three or four warblers in bamboo patches and green herons up small streams. Rain in P. M. and we return to Hitia. I saw three yellow-bill tropics up river.

August 21

Sunday.

August 22

With Quayle again up another valley in Mahena district, and when calling for pigeons a hawk swoops over hill to investigate. Fire gun in likely looking places, but no pigeons seen. Got a white

reef heron well up stream several miles from ocean.

One went into hole in cliff and after I shot at entrance and called while it came out and August 23. Another lit on a ledge and

Up stream again and see yellow-billed tropic flying around. A hawk was flying high over the canon circling so he could see the whole valley.

August 24

Follow guide around Lowlands back of village for pigeons, but found none so he showed me a trail up onto the hills and I went up into the feis. Saw no pigeons, though a hawk flew over me as I called for them. Heard warblers in bamboo thickets up in hills, though could hear none lower in the canons while at Paperi.

They were not very far up the stream. Saw four kingfishers fly into air at once. Quayle went out with another guide in different direction and saw four pigeons, getting three of them. They were in small canons but a short distance from shore.

August 25

I return to Papeete, leaving Quayle to search other canons as gunstock is cracked and unsafe to use.

August 30

Go up the Punaru and spend night, looking for swifts but

find none. Got two yellow-billed tropics of half a dozen seen. One went into hole in cliff and after I shot at entrance and called awhile it came out and was captured. Another lit on a ledge and scurried back to a nest, but though I shot four times at rocks over its head I could not get it to leave.

Shearwaters were heard at night coming in, and in the morning just before daylight they were calling about cliffs. At daybreak I saw three or four circling about, all of them seeming to be P. obscurus, but they went out to sea before fair light.

called along the lee shore and up to village where landing is made by running boat August 31 and sailors jumping out and hauling See a black-bellied golden plover along beach near church in Papeete, and in P. M. go up Mission Canon, hearing wild chickens and seeing minahs high up in hills. happy with them.

On landing three dozen people went along with me to show the birds of the place September 9 saw a dove in a tree a few yards from me Fail to hear from Quayle who changed his plans about meeting mailcoach, so leave for a trip with Mrs. Beck to Marquesas and Tuamotus for six weeks. Three or four obscurus shearwaters seen at dusk a couple of miles off reef just after leaving Papeete.

dozen secured. They perch and often in the coconut trees, but three or four were not September 10 the bushes. Warblers were singing about A red-foot booby and a couple of P. rostrata only birds seen.

September 11
Light breeze and no birds seen before three when this is written.

September 12
Few ghost terns and two or three sooty seen during day.

September 13
Niau Island seen at daylight as well as last night, and sailed along the lee shore and up to village where landing is made by running boat in onto reef and sailors jumping out and hauling up a few yards to beach. Not a bad place with a strong boat. A flock of lesser noddies and a few ghost and noddy terns fishing off lee shore and one plotus booby with them.

On landing three dozen people went along with me to show the birds of the place. We soon saw a dove in a tree a few yards from me, which was missed, but later others were taken, most of them being called up as they were in thick forest growing on rough coral. Three or four killed had pink berries in their crops. Kingfishers were not uncommon, as several were heard and a half dozen secured. They perch most often in the coconut trees, but three or four were seen low down in the bushes. Warblers were singing about the houses of the village as well as in the forest. They

were the commonest bird of the three land birds seen. Paroquets were not heard and the natives did not know of them. A reef heron was feeding in a marshy spot near some houses, and a wandering tattler flew from the same place as we approached and two other tattlers were seen near the landing place. A frigate bird was noted sailing high over the island. Several sailing boats were on the lagoon, but as I had but about five hours ashore I did not get a chance to go far from the settlement. All the birds taken, 25 in number, were secured within a half mile of the village. A dozen or more geckos were taken from under the bark of a dead coconut tree and several eggs were also taken from the same spot, these probably belonging to the geckos, though they might have belonged to lizards of the skink species as a couple of that kind were taken under the same bark. We left about five for Fakarava 35 miles to the eastward.

As we sailed out of the lagoon a phalarope flew over the lagoon, and outside near September 14 noddies were seen. A squall. A breaking reef ahead at daylight but no land in sight. Tacked off and after dinner saw Fakarava, but light wind and current make progress slow. Toau Island ahead at eleven, a small bunch of coconuts and a long reef marking it. Ran into lagoon of Fakarava Island about 8:30 in the evening and anchored in front of village. Bright moonlight.

September 15

Sailed along Takapoto Island after dinner with engine going. Ashore at Fakarava at six in the morning but had only a couple of hours ashore to collect, for a boatload of copra and a few loads of water were soon taken aboard. Warblers were the only land birds seen and they were not plentiful, though a dozen were seen or heard in a two mile walk. They were all either in minute in morning and a few noddy and yellow-bill terns were flying or near pandanus trees except one singing about the administrator's house. The bushes were very thick in places and I had to crawl

over the top of one patch to look for a warbler shot; seemingly a good place for ground doves, though cats have probably cleaned out those that lived near the village. A white and a dark reef heron, a gray-backed and a couple of yellow-billed terns were seen near the village on the lagoon. The terns were fishing back and forth close along shore and one fine plumaged yellow-bill was secured as he flew along within a few yards of the shore.

As we sailed out of the lagoon a plotus booby flew over the lagoon, and outside noddy and lesser noddies were seen. Few rain

squalls in the P. M. Sailed up to Aratika at sunset and along it for several miles, seeing a flock of plotus boobies lighting on one little patch of green and a flock of noddies (lesser) and a

few large going to another. Sooty terns flew along coast and a tattler and reef heron lit on edge of reef.

Two P. M. A couple of terns were the only birds taken, though I saw two or three white reef herons. Big 2,000 ton iron ship

'County of Rutland' on reef where it was thrown in hurricane of

1934.

September 16

Sailed along Takapoto Island after dinner with engine going, trying to get to Takaroa before dark. Saw three cutters in lagoon of Takapoto over the two foot shoreline where hurricane in 1906 swept the lowest part of the island clear of vegetation the same as it did on Aratika. A red-tail tropic came alongside for a minute in morning and a few noddy and yellow-bill terns are flying along the reef as we sail along. birds flying like a sooty shear-water.

September 17

Takaroa.

Got in here last night and today went several miles along shore to the north, but failed to find a land bird, though heard a cuckoo. Saw a couple of white reef herons and got one. Tatlers were common, several being along the reef and a couple of rectirostris terns as well as a half a dozen noddy fairy terns were noted.

September 22

Couple of small September 18 terns and several ghost terns. Took a few pictures. as well as three or four Brewster's boobies seen. A Brewster's booby came aboard and was caught by a sailor and skinned. September 19 flew about the ship at dark.

Out over same ground as Saturday, as I have to be back at two P. M. A couple of terns were the only birds taken, though I saw two or three white reef herons. Big 2,000 ton iron ship 'County of Roxburgh' on reef where it was thrown in hurricane of

1906.

a larger tropic. A couple of small gray-back petrels came near the vessel, one at least having dark head markings. Time

September 20

getting light and we are about eighty miles or so SW from
Got away at 11 A. M. and sailed for Marquesas.
Nukuhiva.

September 21

Flock of dozen sooty and ghost terns fishing and a couple
of shearwaters seen, one of the birds flying like a sooty shear-
water.
water.

tropics and a couple of red-tails, as well as a number of sooty
terns and a dozen or more fairy were seen during day.

September 22

Flock of a hundred sooty terns with a half dozen frigates
and several ghost terns fishing at one place, and several dozen
terns and a single frigate and a tropic seen later. A couple of
three or four frigates. Several lesser noddies fishing in the
red-foot boobies also seen.

P. M. Several red-tail and yellow-bill tropics also. A dark
shearwater a little larger than ~~shearwater~~ seen and one ~~shearwater~~.

September 23

A little gray tern flew alongside and was secured at dark last
night. Fine weather and island forty miles to windward all day
terns and red-foot boobies as well as three or four Brewster's
boobies seen. A Brewster's booby came aboard and was caught by a
sailor and skinned. Three red-footed flew about the ship at dark.

September 24

Two pair, three sooty terns and a couple of ghost terns
and a half dozen lesser noddies in a flock seen. A red-tail
were seen as well as three yellow-bill tropic birds in a group, and

a larger tropic. A couple of small gray-back aestrelata came near the vessel, one at least having dark head marking. Wind getting light and we are about eighty miles or so SW from Nukuhiva.

September 25

Three Bulwer petrels, one cuneatus and one P. obscurus, one plotus and several red-footed boobies, several yellow-bill tropics and a couple of red-tails, as well as a number of sooty terns and a dozen or more fairy were seen during day.

September 26

Sooty and fairy terns all day and several boobies and three or four frigates. Several lesser noddies fishing in the P. M. Several red-tail and yellow-bill tropics also. A dark shearwater a little larger than cuneatus seen and one obscurus. A little gray tern flew alongside and was secured at dark last night. Fine weather and island forty miles to windward all day supposedly, but unseen yet.

September 27

Esao Island ahead at daylight, so bouted ship and headed SE, seeing Nukuhiva at twelve-o'clock. Few sooty and white terns and a half dozen lesser noddies in a flock noted. A red-tail

tropic or two, several frigates and a few red-foot and plotus boobies. The plotus show yellowish bills, whereas the small brewsteri taken a couple of days ago had a bluish bill and was decidedly smaller.

September 28

Nukuhiva

Started engine last night, but it was four P. M. before we anchored as engine is not powerful and there was a head swell. West side of island dry looking with trees in canons and in higher parts near shore dry grass and some clumps of trees. Few plotus boobies on cliffs at one place and a couple of small gray terns flew along near them. Sooty terns were flying along close to shore but there was a big colony on an islet at east side of bay we entered. Sailors went over and brought back a couple of young nearly ready to fly. In bays on south side the mountainsides were greener than the west side of island. Several rain squalls passed along the coast as we approached bay, but night was clear.

September 29

Ashore at six o'clock and up trail to 2,000 feet or so. Several heavy rain squalls lasting a few minutes each came along and soaked me, the trail being nearly a rivulet in places. When not raining, warblers sang all over the hillsides and two or three minke were noted near shore, but they do not seem to go into the

doves were heard, and after the rain cleared for a couple of hours a dozen flew up high in air and went to various parts of the hillside, probably having had certain trees to feed in. Lack of time prevented my hunting for them, as I returned at noon and we sailed at one P. M. for Hivaoa. Several noddy terns were noted along high cliffs at top of ridge and a couple were seen going there. Fairy terns were common over the land and sea, many lighting in trees in canons, and when we left a couple of small flocks of lesser noddies were seen fishing a couple of miles off shore in the rain. Wandering tattlers were seen and a reef heron taken.

and I lifted it up and placed it against a bush to photograph the nest in the sun. All September 30

A couple of grallaris petrels and a bulwers seen during rainy and windy forenoon; several nohas also noted. A few miles west of Huapu Island at daylight and work slowly toward Hivaoa where we are taking the Administrator and then returning to Nukuhiva. Lighting in the trees, and several noddy terns were

seen flying high, likely coming from cliffs in the hills. Returned to shore at two and boat October 1. HIVAUA

Got into harbor at Hivaoa at two o'clock this morning, and before six I was ashore and had started up the trail toward the center of the island. The day was without rain and warblers were singing full blast from the pandanus trees. A half dozen minahs were noted near shore, but they do not seem to go into the

across throat but chin seemed whiter, more like very clean mountains as in Tahiti, the few birds here probably finding enough Regulated petrels also were common a few miles off the island to eat about the shore.

lot of young plovers hatching were around schooner as we neared land. In a small valley at 1,500 feet doves were cooing and the Fairy terns were common all along, and a half mile from nest of a kingfisher was found with young birds a day old. Parts of the eggshells were in the nest and were white, showing no markings on either end. The nest was in an old rotten pandanus stub six feet from the ground and had two entrances a couple of inches apart. The holes were about an inch and a quarter in diameter, and there were several others higher up in the stub, which was only ten feet high. The tree was nearly ready to fall and I lifted it up and placed it against a bush to photograph the nest in the sun. All the holes above but one had been merely started, but the lowest might possibly have been used last season.

One of the birds came up with a bug in its bill while I was at the nest and perched but a few feet away, but usually they seemed wilder than any of the other land birds. Fairy terns were flying around and lighting in the trees, and several noddy terns were seen flying high, likely coming from cliffs in the hills. Returned to shore at two and boat sailed at four for Huapu Island.

October 2

in the higher part in big trees and along the higher ridges fly- Huapu Island in sight at daylight thirty miles off nearly, but with fair wind we arrived at three P. M. Many Bulwers petrels and several grallaria petrels, the latter showing a black stripe

across throat but chin seemed white; none came very close. Neglected petrels also were common a few miles off the island. Lot of young plotus boobies came around schooner as we neared land. Fairy terns were common all along, and a half mile from shore several small gray and lesser noddies were seen fishing. Sooty terns had a colony on island off north point of Huayu, and three or four frigates were sailing overhead. A sanderling was scared from beach when we landed, the first I have seen on the trip. It flew out along the cliffs out of the small bay. A single paroquet flew from the settlement as we approached. Warblers were singing and several were seen in the hour ashore. A young sooty tern was seen flying near the colony, and several noddies also seen. birds from Huayu Island ashore and skinned them on porch of Brown's house (the botanist from Honolulu). Heavy showers occurred October 3 times during forenoon, and I went ashore early and up trail into hills through forest. Saw paroquets a mile inland, feeding on flamboyant blossom, it seemed. They were in companies of three or four or sometimes a half dozen. Single birds frequently flew high in air the same as doves and sailed around the ridges or across canons, though the doves seemed to enjoy it most in a high wind. Doves were cooing in the higher part in big trees and along the higher canons fly-catchers were found, usually near stream. Warblers were singing and three nests seen, but none had eggs, and one brood had evening for north side of island.

recently left nest, as well as several broods seen a little older.

Got into Matibou Bay late last night and ashore early. A neglected shearwater or two flew around a peak and there may have been several flying around a pinnacle peak a mile away from trail. Sailer shot a couple of frigate birds flying over ridge and looked down the steep canon on the other side. pond just back of beach. Two sanderlings flew out from beach. Right on top of the ridge two rails were heard, but I could not as we neared shore, but could not get a shot. Fairy terns were common about the forests and a noddy seen sitting in a coconut tree way up in hills. We left for Nukuhiva at five o'clock, arriving at twelve P. M.

October 4

Nukuhiva

Took lot of birds from Huapu Island ashore and skinned them on porch of Brown's house (the botanist from Honolulu).

Heavy showers occurred several times during forenoon, and I went aboard in P. M. and skinned a couple of boobies and packed some birds.

October 5

Left at two o'clock this morning and anchored early at Taipei Bay at southeast end of island. Nice warm day and I went up a stream, getting a wild hen and one small chick. Warblers were taken, but only one dove seen at a distance. Couple of swifts seen and fairy terns were common. Left in evening for north side of island.

crossed a small ridge to head of Hatutu Bay on east side of
October 6

Got into Hatuheu Bay late last night and ashore early.
A few lesser noddies were roosting in trees a mile inland and
Went up the trail that crosses to Taipe Bay. Two or three
one nest seen in a nearby tree that belonged to this species.
showers passed over, soaking everything, but I went to top of
ridge and looked down the steep canon on the other side.
Right on top of the ridge two rails were heard, but I could not
see them, though I climbed a tree and called for some time.

Fairy terns crossed the ridge, often going to higher altitudes,

though the pass is over two thousand feet. A noddy tern just
clears the roadway as it crosses to Taipe side, and yellow-
bill tropics circle overhead, often three birds together. Doves
coo along top of ridge and try to locate me as I call to them.
A couple of swifts fly about for a minute and then pass on.

October 7

Move around coast to small Hakapa Bay to get a couple of
tons copra. Get several doves in trees where the birds are
feeding in cañons and watch birds fly from one side ridge to
other, emulating the terns in soaring feats at times. Several
lesser noddies seen flying about trees as well as fairy terns.

October 8

Left the small bay last night and came into Anaha Bay,
where are a half dozen houses and a couple tons copra. I

crossed a small ridge to head of Hatuatua Bay on east side of island. Warblers and doves taken and a swift shot but not found. A dozen lesser noddies were roosting in trees a mile inland and one nest seen in a nearby tree that belonged to this species. Fairy terns were common and wild chickens heard and seen. A sanderling was shot on a sandy beach, and another was seen later in the day on another beach.

To leave the anchorage and the natives told us they were common on some of the drier islands. October 9

Arrived at Uaimaka Island at four A. M. and lay off an hour till daylight, then entered the hole in the cliffs called Vaitake Bay. Pigeons were lighting on the cliffs, but they were from a house on the beach, but being mostly blue reminded me of the wild ones on Juan Fernandez Island off Chile.

It being Sunday I took the camera ashore and took a few pictures. There was a small Catholic and also a Protestant church where services were held. The finest example of tattooing yet seen was exhibited by an old man whose face and body as well as legs were covered with designs in bluish ink. Coconut trees were in the bottom of the canon for two miles inland from the beach, and in places they were well up on the hillside. Oranges, limes and breadfruit were plentiful, and guavas were also ripe, though not as large as the fruit at Anaha Bay and Nukuhiva Island.

October 10

Inland a way and found warblers common, as well as flycatchers, the latter being on the open ridges as well as in the thicker forest. On Hivaoa and Huapu Islands they were found in the bottom of canons usually. Several swifts were flying along top of cliffs in morning, and one was shot and lost in bushes later. Seven curlews flew over boat as we were ready to leave the anchorage and the natives told me they were common on some of the drier ridges. The island is dry looking on the north side but wooded on the higher mountain. Sooty terns are probably nesting on the island at north side, as we heard them as we passed in the night.

October 11

Left yesterday noon for Hivaoa and reached here at nine A. M. this morning. I took a trail to eastward and went toward top for a few miles. Doves were quite common, feeding in small trees having a ripening berry on them. Some doves were noticed sweeping down from the higher parts of the island and a number of green-crowned birds were taken, though a couple of breeding males were also shot.

A couple of wild kingfishers were seen at a distance in a canon, but flew at approach. Fairy terns were circling about the forest in some canons and settling in the trees. Two male

flycatchers were secured in the bottom of a canon, and at the beach a couple of reef herons sat and a frigate bird circled around in bay fishing. We sailed at six in the evening for Fakahina Island in the Tuamotus.

Wind breeze all day. A dark shearwater, possibly *gambeli*.

October 12
Fakihiva? Several boobies as well as several

Off Fakihiva at daylight and kept in sight all day, as the wind was light. A bulwer petrel and a few sooty terns at sunset, and a little gray tern was flying along with five red-foot boobies toward Fakihiva at sunset, two miles away.

ing a half dozen warblers in the coconut trees and seeing a few

Sooty terns in some ~~place~~ near the village. Several

October 13
A yellow-bill tropic about vessel in morning and a couple of red-foot boobies, as well as several sooty terns flying about fishing. Calm all night with some rain. Three red-bill tropics flew around about noon and sooty terns were seen several times, as well as a bulwer petrel.

A couple of bonitas were caught by the Captain and shortly after noon a fair wind came up and we moved onward.

About four P. M. a flock of sooty terns and several red-foot boobies passed ahead fishing and several small Pterodroma were fishing behind them, the latter having dark upper wing marking, though lighter on the back, and the head appeared to

be marked with black, white below. A single fairy tern was with them. A Bulwer petrel or two was also seen.

at 2:30 P. M. and ashore for an hour, but saw only a couple of tattlers and did not see any other land bird.

October 14

Fine breeze all day. A dark shearwater, possibly cuneatus, passed and a couple of red-foot boobies as well as several yellow-bill tropics.

few broken off coconuts show effect of hurricane. Most houses are raised a few feet on coral rock usually.

October 15

Reached Fakahina at noon and ashore for four hours, finding a half dozen warblers in the coconut trees and seeing a few fairy terns in some tall trees near the village. Several rectirostris terns were on a point of land in the lagoon and a couple of wandering tattlers were shot there. A flock of noddy terns was seen circling about some trees at the east end of the island, and a reef heron was shot in the coconut grove just as he caught a lizard and others were seen in his stomach, which was preserved. We left at four P. M. for Hao Island.

October 15

October 16

Island in sight soon after daylight and we sailed along the north side, seeing clumps of coconut trees as well as single trees and 3, 4, 6 etc. together, with barren coral between. No uncertain. Reached Nihira Island at three P. M. and ashore

birds this morning as we sail along, and only a fairy tern was noted as we approached Fakihina yesterday. Reached Hao Island at 2:30 P. M. and ashore for an hour, but saw only a couple of tattlers and did not hear a warbler or other land bird. A couple of dozen houses along the water front and lots of coconut trees not near as high as the trees of the Marquesas. Houses are mostly frame covered with galvanized iron roofs. Quite a few broken off coconuts show effect of hurricane. Most houses are raised a few feet from ground on coral rock usually.

Sailed for Makemo at 9:30 and are now sailing along the shore of Makemo and will go ashore early tomorrow. Spent the night on the ship.

October 17

Ashore before sunrise and went several miles down the coast, but a dozen warblers were the only land birds seen. A couple of white reef herons were noted. A couple of rectirostris terns were taken, one of which was flying over a pond with water a few inches deep and containing fish. We left for Makemo at three P. M. and saw no birds after leaving island.

island to windward and to a colony probably to the eastward. A golden plover and a few other birds were seen, and when we

October 18

Tekokota Island seen at seven in the morning and three or four sooty terns. Hao Island yesterday had but few bushes or trees other than coconuts and all vegetation seems but a few years old, whether burned off or swept by hurricane or both is uncertain. Reached Nihiru Island at three P. M. and ashore

till six P. M. and got one warbler, the only land bird seen. Wandering tattlers were common, and a couple of golden plover were seen. A couple of white reef herons seen and several rectirostris terns. I bought a couple of the latter from a native. They were both young birds unable to fly and were taken on this islet.

October 19

Got a couple of white reef herons and a yellow-bill tern. Sailed for Makemo at 9:30 and are now sailing along the shore of Makemo and will go in pass pretty soon. Speared two and caught one fine dolphins just as we left Nihiru.

Ashore at Makemo for a couple of hours and went about three miles along through patches of brush and coconuts. Heard and obtained but one warbler after leaving the village. Heard one in the village singing in a coconut tree, but did not try to shoot him. Lesser noddy terns were flying along over the island to windward and to a colony probably to the eastward. A golden plover and several tattlers were seen, and when we struck the east end of the island fairy as well as noddy terns, frigate birds and a few red-footed boobies were fishing and flying over and near land. Red-footed boobies tried to catch flying-fish, but I did not see any succeed, but the persistency

shown indicates that they must frequently catch fish by following them in the air.

October 20

Left the anchorage at five A. M. and saw the 'Moana' nearing the pass as we left. The 'America' and the 'Sophie' were anchored as we left the lagoon. Patches of brush with clumps of coconuts and stretches of barren coral where hurricanes have swept all vegetation are the features of the north coast, while on the south coast but very little vegetation can be seen as we head out to the southward. A few noddies fly about over the trees at the west end.

Reached Hiti Island at about noon and ashore for four hours, finding fairy terns common and many noddies. Two fairy terns were seen on nests, bare limbs of trees about four inches in diameter. One on pandanus limb other bare? Birds sat on nest till I was within few yards and other birds sat till closely approached. A young red-footed booby was seen in a nest near the beach in a tree about ten feet up, about a month old. Doves were seen in shade of low bushes along beach and a pair were sitting in the open near on the ground near the lagoon shore. Warblers were not common and did not favor the pandanus trees and kept in low bushes very often. A bristle-thighed curlew was shot, as was a golden plover in open bushes near lagoon. A sandpiper flew up to me and was missed flying with the

auxiliary but came right along and lit on a bare limb about eight feet from ground. I backed off to get shot with heavy load of tens, but bird flew toward me before I stopped to shoot and lit on ground near me. I ran back again and the bird ran toward me but stopped behind a bush and I shot it. Similar experience was reported by sailor to whom I loaned gun. He saw four birds and shot two and the engineer got one other,-- all that were seen at this point. They were all in open ground with patches of bushes scattered around a few rods back from lagoon shore. We worked but a mile of the several miles of similar ground and the mate tells me they are common on two other islands where no one lives. A couple of rectirostris terns were flying about the lagoon shore and as we left I shot a gray-backed tern fishing just off the reef. Sailors speared a lot of fine fish on reef, one weighing about fifty pounds. Several frigates flew around and likely as did a number of red-foot boobies have nests. We left at four for Anaa Island.

November 14

Came back last October 21 one ANAA and three

Reached the island at eight A. M. and we got a few island warblers, but they were not plentiful. Three or four tattlers were seen but no other birds, making this island the poorest in sea birds that I have seen on the trip. We got away at

five P. M. for Papeete, but light wind and calm with lack of gasoline makes progress very slow.

October 22

Calm all day. A red-tail tropic sailed about vessel in morning.

October 23

Breeze picked up in morning and we sighted Pt. Venus at sunset, and in dim distance saw island to eastward of Tahiti.

October 24

Reached Papeete at sunrise and found Quayle just in from Varais with some plants and a few birds.

October 26

Quayle left for Moorea hearing of warblers singing.

November 14

Quayle back last week with one warbler and three cuneatus shearwaters which are coming in to the little island off the west end of Moorea to dig holes under the pandanus trees. He marked several trees to visit again. He is now putting up minahs and the like while the dentist is holding him

in town to get his teeth fixed up.

I packed up all material on hand and shipped it last week. Went out of the pass a mile or so yesterday and today, getting a gray-back tern and two red-foot boobies in the two trips. One booby was all white but the wings; they passed occasionally flying east or west, single birds mostly. The gray-back tern was inside the reef fishing and a couple of others were seen outside also. The wind starts about eight in the morning, preventing a long trip outside.

I am now trying to get a boat, but the several looked at have grave defects according to the opinions of the various mariners consulted. None are very satisfactory to me, but may charter one for a few months if can do no better.

November 17

Quayle up Fatau valley for the fourth time and shot a couple of swifts, seeing two or three others. He has taken swallows there on previous visits. In collecting a nest of kingfishers he broke the three eggs it contained. They were fresh. Several young minahs are seen about town and their call for food is often a duplicate of the call of the crossbill as heard in Alaska. Out a couple of times beyond the reef and one day got two boobies, a half dozen terns, and two or three

yellow-bill terns, the others being graybacks. Fairy terns fly out to sea and back frequently, but do not come near the boat.

November 20

Quayle went to Tetiaroa Island finding noddy terns nesting on the ground and in coconut trees. Noddies, lesser noddies, red-foot boobies, frigate birds, reef herons and fairy terns were resident species, while tattlers, curlew and golden plover were noted as migrants. No land birds were encountered, but he did not visit every patch of vegetation as the party he went with remained one day being engaged in fishing.

November 22

Quayle went into hills for a couple of days and I finished up the remainder of the Tetiaroa birds.

November 23

I went up Mission canon and shot a couple of roosters far up the canon and shot a downy chicken, one of three that flew up into trees when I approached them. Eight yellow-bill tropics were seen at one place circling about the cliffs, but all stayed too high to shoot. A kingfisher's hole was seen in a dead stump but was not ready for eggs.

November 24

Out about three miles beyond pass and got a couple of gray-back terns , also one yellow-bill, one fairy, three lesser noddies and a couple of boobies. Saw a single obscurus shear-water. Strong current in pass running out made return slow with the heavy surf on the reef.

November 28

Up cañon to end of it. In a side cañon shot a rooster and a hen. The latter had at least two chickens a month old with her. They were at the head of the cañon, or rather at the base of a cliff where progress upward was blocked. Shot a swallow here also, sitting on a limb of a small tree. It flew back and forth a couple of times before lighting, and a yellow-bill tropic bird flew around high above the cliff a few times. A few days ago two or three pairs were flying here. Farther up the main cañon a pair of yellow-bill tropics were flying around another cliff, flying far out and above the cliff and darting down to some likely ledge and fluttering before it for a few seconds before turning away and repeating the performance. Doves were seen and heard several times and another kingfisher's nest found in a dead tree about forty feet up. One bird was seen to enter.

In another dead tree thirty feet up a nest was located, but could not climb to it on account of rotten wood. The bird perched

nearby and held tail downward like a woodpecker. The kingfisher is very likely the woodpecker of early writers, for it digs holes in dead trees in which to lay its eggs and frequently digs several in the same stump or tree, though using but one of them as a nest. The quail spoken of by an early writer as occurring on Christmas and possibly other islands was probably the native sandpiper, as it resembles a quail when running on the ground and a merchant here told me the other day of quail on Scilly Islands which he is putting into coconuts.

November 30

Up with Quayle to kingfishers' nests and Quayle goes up and gets three eggs in the hole in dead tree in bottom of canon. Bird darted at Quayle several times while he was in tree, which was but a few yards from the stream in the bottom of the canon. Coming back we heard another bird near an old building and I saw the nest in the center of a fine avacado tree, a rotten limb in the midst of fine green leaves being pierced near the top with the small hole dug by the birds. I bought a wedge-tailed shearwater from a boy up town who said it had been dazed by a fire at night and came to the ground and was picked up next morning. It had recently lost a leg. Quayle leaves in the morning for Papenoo to work the country from there to Hitia.

December 2

Went out about three miles and saw two or three gray-back terns and one came up the boat when I called as the terns were calling. I secured it and a Parasitic Jager followed the bird, seeing it fall, and I shot the jager. Am not sure but I have seen one or two before near the Marquesas, but always a good distance from the schooner. Got a dozen red-foot boobies; next two of good size. Four yellow-bill tropics flew around a most of them seemed to be coming from Tetiaroa way, though a few single birds were flying north. All shot had empty stomachs.

A couple of yellow-bill tropics were pulled down from high in the sky. One had a squid in its gullet.

Quayle missed the stage, or the driver would not stop for him, and the next day the same, so he went another direction for a couple of days, working a cañon not visited before. The dog routed out a rostrata shearwater which had gotten sick or disabled and could not fly from its retreat.

On the thirtieth we went out and got a couple of kingfishers' nests back of town in the hills. Both were in rotten limbs of trees not far from the water in bottom of canon.

December 6

Quayle leaves for Mopelia and Scilly Islands for a month or so while I wait around town working on the vessel deal.

December 10

Back in hills to get a kingfisher nest, but find the stump has fallen and the birds gone. Farther up in the canon saw three kingfishers sitting close together, and thinking they were young birds shot and secured two, but these were breeding birds and the female had an egg ready to lay tomorrow and the next two of good size. Four yellow-bill tropics flew around a cliff a few minutes and then went back to sea.

December 13

Start for ocean but cross currents just outside the pass do not look good, so I worked along a couple of miles inside the reef, getting nothing but a single yellow-bill and a gray-back tern, one or two of the latter being seen fishing along the foam streaks inside the reef.

December 14

Stormy looking and went in morning up in hills a couple of miles to take and photo a minah's nest from a tree that I took eggs from a couple of weeks ago. The four eggs this time were on the opposite side of the tree from last nest, being placed just above an old nest in a lower limb. A few green leaves were used for lining, as in the last one. The nest was only twenty

feet up behind a stem and was sheltered from the sun by a piece of dry bark.

December 16

Out a short distance and get nothing.

December 17

Calm or light wind all day, so go out five miles and get a parasitic and pomarine jager, both of them flying up to the boat when I dropped a booby from a flock fishing. No shearwaters and but one gray-back tern seen, though well out.

December 31

Last two weeks have been trying to get the schooner deal through, but unexpected repairs take time, although in a few days the purchase should be completed.

1922

February 1

Started for Rapa this P. M. in the 'France', having spent the last month in getting things in shape and getting the supplies. Have a young New Yorker with us (C. C. Curtis), who goes for 200 francs a month to see the islands and serves in any capacity that I desire.

A pomarine was seen shortly after getting outside the pass, being the second jäger of this species recognized for certain. In the evening I saw what I took to be a parasitic. A couple of auricularis were seen and several rostrata as well as a number of red-footed and a single plotus booby.

February 1

Reveland sighted February 2. Locally no birds about.

Rain most of day and light wind. About 25 miles to S E of peninsula we passed a spot in the water that looked light colored exactly like shallow water, but the light wind prevented our turning back to investigate. Island at daylight. Anchored at night A. M. and ashore to spend the morning with

February 3

An occasional tropic bird and one or two shearwaters, few one in the evening being an aestrelata by its flight, were noted. Weather fair with light wind from north.

February 4

I took boat and went February 4, finding eighteen frigates. A sooty tern flew from water and a tropic or three seen in A. M. and then and went to sea. Noddy and fairy terns were resting on small motus, but no young seen. Quayle found young of noddy, lesser noddy and February 5 on other motus. He spent the Light wind and two or three tropics only birds seen.

February 6

February 6

Quayle got a red-tail tropic in morning and not a shear-water seen all day. Wind light from NNW one hundred miles to Ravaivai.

February 7

Left the island at 11 A. M. and made slow progress all day. Ravaivai sighted at noon. Practically no birds about.

February 8

Noddy terns and several fairy and a couple of gray ones seen going out fishing as we neared the island at daylight. Anchored at eight A. M. and ashore to spend the morning with Mr. and Mrs. Stokes who arrived last week from Rapa by the 'Vahine Tahiti'. Quayle went on top with Curtis and got a few birds and plants, three gray terns being taken along cliffs.

February 9

I took boat and went to motus, finding eighteen frigates sitting on trees along the water's edge, but they flew before I reached them and went to sea. Noddy and fairy terns were resting on small motus, but no young seen. Quayle found young of noddy, lesser noddy and fairy terns on other motus. He spent the night on top of the island, getting one each of neglected

and wedge-tailed shearwaters and three gray terns, as well as two downy wedge-tailed shearwaters. A yellow-bill tropic and egg was also secured. February 14

Good wind and got a red-tail tropic at noon, 145 W. 20 S.

February 10

Left the island at nine A. M. and made slow progress all day, as wind was light. Noddies and fairy terns were seen often a few miles to the eastward of the island fishing, and several wedge-tailed shearwaters seen also. I got seven gray terns at base of cliffs last night about six P. M. as they flew about, evidently coming in to roost. Also saw a neglected shearwater fly along the cliffs and several noddies were resting and flying around, while the fairy terns kept to the trees in the forest below. Cuckoos were heard several times, but none could be seen.

February 11

Light wind and three or four fairy terns and a couple of racifious shearwaters seen, as well as three or four tropics, red-tails.

February 12 to 27

At Paga, ashore in P. M. of 15th and got a rail or two.

On the 15th a boatload of natives came alongside with a lot of

February 12

Shot a red-tail tropic in evening and saw a neglecta and

a pacificus shearwater. Good wind from eastward started. strings, having been taken from their nests on a nearby islet. I skinned the February 14 and Gayle got a few doves. Good wind and got a red-tail tropic at noon, 145 W, 26 S. and got a lot of young birds of which I secured a couple of downy pacifica shears. February 15 Gayle around in boat to visit Rapa in sight at daylight twenty miles off and at eleven we were sailing along the shore on west side and went around the south side, seeing many red-tail tropics sailing along cliffs. At one islet on the south side a large colony of noddy terns were circling and three or four shearwaters were seen; also a half dozen gray ternlets and a few fairy terns. One shearwater seemed to be the rare kind and one or two were seen this morning when nearing land. A few noddies and gray terns were noted flying to northward at sunrise to fish, and last night at fifty miles off a couple of gray terns were seen, also a couple of neglecta shearwaters. Barometer 30.30 with good S E wind. February 16 to 27 At Rapa, ashore in P. M. of 16th and got a rail or two. On the 17th a boatload of natives came alongside with a lot of grallaria petrels and several young tropics which I bought for board a couple of two during our stay. Though hunted for not a

forty francs. A lot of the birds were alive and tied with strings, having been taken from their nests on a near-by islet. I skinned the birds the next day and Quayle got a few doves and a couple of rail. The natives visited another islet and got a lot of young birds of which I secured a couple of downy neglecta shearwaters. Sent Quayle around in boat to visit islets while I skinned birds. He got a couple of puffinus shearwaters, and Monday he went back with traps and set them in the holes where he got his young puffinus and got two old P. nativitatus. I took a boat and went to the islet where the natives caught their petrels and found another lot nesting under rocks all over the islet. Most, if not all, of the nests had a little lining of dried grass stems or leaves in them.

February 20 to 27 1922

Rapa Island

Most of the petrel nests examined had fresh eggs, but one held two birds. Nests were found wherever the birds could find a suitable place nearby to alight and take wing. Several young noddy terns, and a number of little gray terns were seen, as well as a few red-tail tropics.

I made several trips around the taro beds, getting rail on nearly every trip. Several young birds were taken and Quayle heard a cuckoo or two during our stay. Though hunted for not a

single one of the blue petrels or shearwaters were found. Neglected were sailing around the highest cliffs, and I saw one or two birds sailing over the village and along the shore of the bay. The little gray terns were not nesting. In return for a can of biscuits, a can of kerosene and a couple of hundred coconuts the natives gave us forty-five bunches of bananas and several hundred pounds of taro when we left.

March 2

February 27

In a rough choppy sea we put out the boat at Bass Rocks at six o'clock on the leeward side, and at eleven o'clock returned to the schooner, having about sixty-five birds, finding the blue shearwater common and nativitatus not rare. A small Pterodroma was seen a half dozen times and three birds were taken. A couple of adult and three or four young sooty terns were observed, and I shot one adult and a couple of young. The sea was too rough to attempt landing, though the blue shearwaters were nesting. A few fairy and flocks of gray terns were fishing off the islets, and quite a few noddies were about the rocks. No grallaria petrels or neglecta shearwaters were seen about the islands, these two species evidently living at Rapa forty miles to the westward.

March 3

Two or three red-tail tropics and a blue shearwater today.

February 28

A gray tern seen following closely a nativitatus shearwater fifty miles off the islands. Also a couple of tropics.

March 1

March 1

Tropic or two about mid afternoon I put out boat for
A large, dark, long-tailed shearwater seen at a distance.
four hours and kept ahead of the ship a mile, picking up a
single neglected shearwater and seeing three or four others.

March 2

and I thought a couple of dark shearwaters. Light wind from
A good-sized shearwater, white-breasted, flew past, as
east and two hundred miles from island to the southeast.
well as a fairy tern and a pair of red-tail tropics came along,
and I got one. Light breeze from eastward.

March 3

A single neglected shearwater and a tropic came around

March 3

three or four times during day. Light wind making NNE.

A white-bellied petrel and a couple of red-tail tropics,
as well as neglected shearwater seen during day.

March 4

A yellow-bill tropic came up in morning alongside, and

March 4

later a redbill was shot. A neglected shearwater seen in A. M.

Pair of red-tail tropics only birds seen. A small whale
passed and the wind came light from the southeast in P. M.

March 5

Light wind and started motor in P. M., heading for Pitcairn.

March 5

A gray tern, one grallaria petrel, and a couple of tropics.

March 6

Pitcairn in sight in P. M. but wind freshened and we stopped

March 6

Two or three red-tail tropics and a blue shearwater today.

motor, expecting to make island in morning. Couple of fairy

March 7

terns seen and one of two neglected shearwaters.

Red-tail tropics and a neglected (?) shearwater. Wind east.

March 10

March 8

Approached island at daylight and sighted steamer bearing
Tropic or two about and in afternoon I put out boat for
island also. Arrived together and three boats from shore went
four hours and kept ahead of the ship a mile, picking up a
to steamer with bananas and watermelons, and after an hour
single neglected shearwater and seeing three or four others,
aboard sailing and trading goods the steamer dropped them and
and I thought a couple of sooty shearwaters. Light wind from
left, the boats coming alongside the 'France' and I asked per-
east and two hundred miles from Pitcairn to the southwest.
mission of the Governor, Mr. Christian, to collect, which was

granted and we went ashore, finding the warbler camp about the

March 9

village and a few fairy terns flying about.

A single neglected shearwater and a tropic came around

At seven in the morning a dozen or two gray terns were
three or four times during day. Light wind making NNE.
noted flying out along shore about fishing, while but a half

dozen noddy terns were seen around the island. These four

March 10

species were all the birds seen, but the shearwaters were likely

A yellow-bill tropic came up in morning alongside, and
present in small numbers along the cliffs. Goats were seen on
later a redbill was shot. A neglected shearwater seen in A. M.
the hillside, and a single horse is kept. Rain had been scarce

and for our water the natives took their wheelbarrows with ten

March 11

gallon tins and went over the top of the island to a spring

Light wind and started motor in P. M., heading for Pitcairn.
from which they wheeled the water over a mile down to the beach.

We bought a dozen and half chickens at a shilling and a half

March 12

species and a goat for four shillings.

Pitcairn in sight in P. M. but wind freshened and we stopped

motor, expecting to make island in morning. Couple of fairy terns seen and one or two neglected shearwaters.

At three o'clock we sailed for Davis Island.

March 13

PITCAIRN.

Approached island at daylight and sighted steamer nearing island also. Arrived together and three boats from shore went to steamer with bananas and watermelons, and after an hour aboard selling and trading goods the steamer dropped them and left, the boats coming alongside the 'France' and I asked permission of the Governor, Mr. Christian, to collect, which was granted and we went ashore, finding the warbler common about the village and a few fairy terns flying about.

At seven in the morning a dozen or two gray terns were noted flying out along shore bound fishing, while but a half dozen noddy terns were seen around the island. These four species were all the birds seen, but the shearwaters were likely present in small numbers along the cliffs. Goats were seen on the hillsides, and a single horse is kept. Rain had been scarce and for our water the natives took their wheelbarrows with ten gallon tins and went over the top of the island to a spring from which they wheeled the water over a mile down to the beach. We bought a dozen and half chickens at a shilling and a half apiece and a goat for four shillings.

and wings. March 14

A fair breeze from the north blew today, and at three o'clock we sailed for Ducie Island.

Moved to north side today as swell coming in heavy on south.

Quayle and Curtis ashore March 15 skinned birds. Quayle got a

A neglected shearwater seen a couple of times and two or three wedge-tailed (?) also. Shot a dozen of the Henderson shear-

waters, a hundred or so flying and feeding around some bodies of

tropical and frigate March 16. Shot four or five white-

Put out boat in P. M. and I shot several Henderson shearwaters, as well as a neglected, and got a couple of fairy terns which have white feet instead of the regular blue-toed which have been everywhere from Pitcairn to Marquesas and Christmas. Wind got light and at two A. M. tomorrow start engine and head for Henderson, thirty miles north.

Anchored on east side of Henderson Island at eight A. M. and went ashore, finding the top of the island rough, sharp coral rock very hard to travel on. Frigates and fairy terns were common and a few noddies were noted. Along the cliffs on top tropic birds were nesting, several nests being seen with eggs and one or two with eggs. Frequently a neglected shearwater flew across the island. Warblers were common in the trees, many of the old ones showing white feathers particularly in tail

Good wind since yesterday and making seven miles with

and wings. ~~roofed and jst down. Forty miles and more from Ducie~~
~~the neglected shearwaters were common, and twenty miles off a~~
~~couple of fairy terns~~ March 17 Later a red-foot booby and five
miles Moved to north side today as swell coming in heavy on east.
Quayle and Curtis ashore while I skinned birds. Quayle got a
few paroquets and a couple of doves and one rail near the beach.
In evening I put out boat and shot a dozen of the Henderson shear-
waters, a hundred or so flying and feeding around some bodies of
tropics and frigates thrown over. Shot four or five white-
breasted out of the hundred seen, the great majority being black-
breasted. An infrequent neglected flew by and a single wedge-
tailed came along and was secured. Heavy rain in P. M. and wind
changing to north. Quayle ashore for the night to try for rail.
~~and several young flying birds were with them. Fairy terns~~
~~were sitting in the~~ March 18 ~~Quayle and Curtis were found out~~
~~a few~~ Quayle aboard at nine with several neglected shearwaters
shot along the cliffs last night, but no more rail. He got
three gray terns which were roosting on the cliffs and we saw
a flock off the northeast point of the island fishing yesterday
morning. As wind is good from N. W. we head for Ducie and will
finish this island when returning. ~~taken.~~

March 19

Good wind since yesterday and making seven miles with

mainsail reefed and jib down. Forty miles and more from Ducie the neglected shearwaters were common, and twenty-nine off a couple of fairy terns seen and later a red-foot booby, and five miles off a cyanops booby seen as island appears ahead.

March 20 - 1912. Ashore and found neglected and Henderson shearwaters common under the bushes, most in pairs, though a few had eggs. A couple of nativitatus were discovered, young birds nearly ready to fly. At one place red-tail tropics were found under the trees or bushes setting on eggs and shearwaters near them in many cases, while in a few trees red-footed boobies had nests.

Blue-faced boobies were sitting in pairs along the beach and several young flying birds were with them. Fairy terns were sitting in the trees and three or four eggs were found and a young bird also, while a single lesser noddy nearly ready to fly was taken from a nest of dry leaves about eight feet up, and noddy terns were sitting along the beach. A few frigate birds were seen, but one young nearly ready to fly was only sign of nesting. Two curlew, several tattlers, and a single sanderling were seen and the latter taken.

March 21 to 30

At Ducie working on birds, putting up four hundred in the

two weeks. The shearwaters come in to the island in greatest numbers about five P. M., flying around over the colony and the pairs circling high into the air frequently. A few birds were noted going to sea in the evening, but there were not a great number of incubated eggs and only four young birds were seen in the two weeks stay. The birds often climb up a tree trunk and into the tips of the small branches to get a place to start flying. They were often seen sitting on a tree trunk or limb, some feet above the ground. The nests are hollowed out by the bird's slowly pushing out her feet behind while resting on her breast. The two species often form little colonies close together, or rather groups in which one or the other will be the predominant breeder, while a short distance away another group may be largely of the other kind. I collected thirty birds of the small species in a radius of fifty yards when leaving the island, and counted seven nests under one fallen tree, each within six feet of another nest, while often a root or log separates a pair of birds. Sometimes a neglecta would be found nesting close to a tropic bird's nest, the tropics as a rule keeping close to the outer rim of bushes, while the shearwaters went all over the wooded parts.

A fresh influx of tropics seemed to come in the second week of our stay, and at two o'clock or thereabouts in the day

one might count forty or more flying around calling and dropping down to crawl under the bushes. Many had fresh eggs, while a few young birds were seen in downy stage. Gray terns sometimes lit in the trees as well as on ground. ~~Collected~~ ~~about~~ ~~fifty~~ ~~birds~~ ~~to~~ ~~work~~ ~~on~~ ~~across~~ ~~to~~ ~~dispos-~~
Henderson, we left Thursday and arrived at Henderson Sunday morn.

Quayle went in over the rough ground and found the rail not uncommon. ~~Getting~~ April 3 ~~to~~ HENDERSON. They were ashore on the west side of island and find a few coconut trees at beach. I pack birds while Quayle takes camp outfit to stay at night. Paroquets and warblers are taken and one of the sailors goes with him to cut trail into center of island. They cut a short distance to a strip of open rough, jagged rock, finding no rail in the jungle, though one was heard. ~~we did~~
~~found~~ ~~overings~~ ~~as~~ ~~they~~ ~~were~~ ~~coming~~ ~~into~~ ~~the~~ ~~island~~. ~~All~~ ~~were~~ ~~dark~~ ~~birds~~, ~~but~~ ~~on~~ ~~April~~ ~~4~~ ~~to~~ ~~9~~ ~~at~~ ~~four~~ ~~P. M.~~ ~~and~~ ~~got~~ ~~a~~
~~couple~~ I went ashore the 4th and along the coast a short distance and into the rough rock a half mile in, finding a couple of doves and a couple of paroquets, the latter being flying birds called around as they passed overhead in pairs. Fairy terns, noddies and shearwaters as well as boobies passed overhead going farther into the island, and one noddy was seen sitting

on a pandanus tree. Several rats were seen and a few wild lizards. Tropics flew along the cliffs as they did on the east and north sides, and the sailors found several nests. A single white reef heron was seen before we anchored, but kept away from the beach along the cliffs where approach was impossible. A couple of curlew were seen and one very fat one was shot.

Quayle went in over the rough ground and found the rail not uncommon, getting eight the first time he crossed. They were tame, coming up behind him in most cases. Though chased by the dog on one or two occasions none flew, and their wings hardly appear sufficiently strong for flying. Though many of the shearwaters appear to be nesting, no eggs were found, though a pair of birds were taken a couple of times. I shot about thirty a half mile off the island after supper on three different evenings as they were coming into the island. All were dark birds, but Friday I went out at four P. M. and got a couple of light-breasted ones,--the first seen of two hundred or more that were closely looked at. The day of leaving the island for Ducie I shot three or four out of a couple of hundred that were the only white-breasted ones in the flock attracted to some feed. A couple of white boobies were seen, but the major part of the older birds show white tails and

perhaps little white on the after parts. Not many are seen, but a few come in every day at dark, while a few noddies and shearwaters and fairy terns are seen going to sea, though most of the birds are coming landward. We anchored to the reef for four days, but a light breeze from the west Friday determined us to lay to that night.

April 10

Quayle ashore on west side to go after rails and doves while I went around to north end to try for terns and paroquets. A couple of blue ternlets (called gray terns previously in our notes) flew along the cliffs and lit once but could not be shot as they kept over brush where finding them if shot would have been unlikely. I could not find a noddy dropped thirty yards away, the brush was so thick. Frigates were sailing along the shore and lighting in the bushes along the beach, one male being noticed waving his red pouch to whom it might concern.

With the Captain who had one of the guns, I returned to the vessel with a dozen paroquets, four frigates and a couple of bristle-thighed curlew,--the only curlew seen, and tattlers also are now scarce. Quayle got four rail and same of doves, and we left island when he got aboard at 5:30 P. M. A small steamer passed a mile off toward the west as we were leaving.

and a large one was seen yesterday bound the same way.

April 11, 12, 13.

Sailing with light wind for Oeno Island. The twelfth didn't see a bird all day, and the thirteenth when nearing island saw a yellow-bill tropic, and at dark three miles from the island five sooty terns and a blue-faced booby went by to the island higher in air than boobies are often seen. A fairy tern was seen in morning and a couple of dark shearwaters during day.

April 14

Laid off Oeno Island last night and this morning Quayle and Curtis went ashore while I finished up egg datas and packing. They came back with report that the Pitcairn men had left a few days before and had eaten a lot of birds, leaving the feathers near camp. Tropics were the common birds, with a few sooty as well as fairy and both noddy terns. A few blue shearwaters as well as neglected and Ducie birds were present, the latter in no numbers.

April 15

I went ashore, leaving Quayle to skin birds as he had not brought enough to keep us busy all day. Very few birds are

seen outside the reef,--an occasional sooty tern or possibly a tropic. Few coconuts were growing, but all the nuts had been taken by the Pitcairners who came up here to get some lumber from the wreck that lies on the sandy island near the wooded one. Lumber of various kinds lies around the shores in worn condition. This makes the eighth wreck that has been recorded on this island. The reef being nearly a mile from the low island makes it doubly dangerous.

Blue-faced boobies were standing around in the shade of low trees and often standing on low limbs, in the center of the island instead of on the beach as on Ducie. The only nest with an egg was seen under a tree, though many nesting sites were seen with birds by them in open places in the interior, which is about a quarter of a mile across and a mile long, this comprising the wooded part of the island. One red-foot booby nest with young was seen and many birds not nesting were sitting in trees. Lesser noddies' nests with young nearly ready to fly were noted, but most had left their nests. Tropics were nesting under bushes all over island, many small young being noted, but the shearwaters were just beginning to lay. Three pairs of blue birds were hunting sites and were sitting near the beach in probably nests, but one pair left when I neared them as they were with a couple of feet of the open, rocky beach. Another pair crawled from their site in the ferns

to shelter of a hollow tree while I went for the camera. I saw but one pair of Ducie birds, though Quayle got six yesterday. I saw one white heron as we saw one on Henderson. A curlew and a couple of tattlers were noted. White terns seem to have blue toes here. Few frigates here, but one young able to fly seen resting on bush. Two blue-faced young seen flying and the sooty terns kept high in air over one place but no nests seen.

April 16

Sunday and stay on board.

April 17

Ashore with Quayle, and as he picked up a dead rail that had been dead a day and had been eaten by crabs (?) he stayed ashore to look for them and I took the birds aboard and with help of engineer skinned them.

April 18

Skinned birds all day, finishing yesterday's as boat brings another lot from Quayle.

April 19

Calm day and sent boat after breakfast at eleven for

Quayle. I went on deck as usual to watch boat cross reef, but Captain said pass was calm and I returned to work in the hold. But the smooth water on reef made the sailors careless and they steered in by another route than the one usually taken, resulting in their being on the reef as a periodic swell came along. This was so heavy that it overturned the boat as it broke and the four men were dumped in the water in the breakers. Being good swimmers they tried to work the boat shoreward, but an outgoing current set them back into breakers and they had to work out to sea, where we picked them up three hours later when we ran in to receive them from the island. The boat was practically submerged all the time, being heavy, but sharks were luckily not around. After hoisting the boat to bale it out they were sent in again, and taking the right pass had no trouble, though Quayle said on coming out good-sized swells were encountered. The Captain of one of the wrecked ships was drowned when his boat was capsized here in trying to get out into the sea, and our experience demonstrates the necessity of having a good and careful boatsteerer and an easier handled boat than the one we have, for many of the islands can only be landed on by going in on a swell and landing on the reef.

Quayle brought off about fifty birds and we left for Timoe at dark. The blue shearwaters appeared to be coming in searching

for nesting sites, as he found more the last day than before, but he found no rail and heard none, though he spent two nights listening and watching for them. He saw but did not get the white heron seen and this one was the only heron noted here.

Arrived at Mangareva, seeing yellow-bill terns about anchor-
age. Ashore and find April 20, 21, 22. terns nesting along cliffs,
the Sailing for Timoe and one hundred miles away at 23 when
wind started. Couple of neglecta shearwaters around at dark
on the 22nd and one or two others seen during trip.

I work Mangareva for birds, seeing a couple two or three
times in the distance and April 24 from the ship, but not
get Timoe sighted about nine A. M. and after lunch Quayle and
Curtis go ashore. Within two miles of island three or four
obscurus shearwaters are seen and an occasional neglecta farther
off. White and noddy terns seem to be the principal birds
viewed from sea, though a single young red-foot booby flies
past. Three or four of the Mangareva Islands as we lay off
Timoe can be seen twenty miles to leeward, the highest looming
up like in the Marquesas. but Quayle found a nest with two

incubated eggs on a rock on the reef. Quayle has been working
the other islands of the group April 25

No land birds on Timoe and few sea birds, red-tail tropics
a couple, couple of blue and a Ducie shearwater were taken and

a couple of white reef herons as well as fairy noddy and lesser noddy terns. A yellow-bill tern or two was seen over the lagoon. warblers or other land birds. The ternlet here is blue-breasted instead of April 27, the eastward and Rapa, and the

Arrived at Mangareva, seeing yellow-bill terns about anchor-age. Ashore and find fairy and noddy terns nesting along cliffs, the fairy in trees and the noddies on the cliffs.

Quayle went to Mangareva Island Monday, the 28th, and found a few puffins about April 28 to May 7 four nearly fledged wedge-tail. I work Mangareva for birds, seeing a cuckoo two or three times in the distance and hearing one from the ship, but not getting a shot. Pick up a few yellow-bill tropics at base of cliffs where they are seeking nesting sites and where some have nests. Sometimes eight or ten fly high in air together and often pairs or three or four may sail about, sometimes so high they can only be heard and not seen. Pairs sail and dart down to nesting sites in the cliffs time after time in the strong breezes, and sail across island from one high cliff to another. Reef herons are infrequent, but Quayle found a nest with two incubated eggs on a motu on the reef. Quayle has been working the other islands of the group, finding sandpipers on two, in Karaka and Makarua, where no cats or people occur. He got the puffins shearwaters also with young birds and eggs, and found

May 10

Rain and strong wind started at midnight last night from

a dead nativitatus shearwater and a white-chinned petrel also dead. Though quite wooded, one of the islands was without warblers or other land birds. The ternlet here is blue-breasted instead of white as to the eastward and Rapa, and the fairy becomes blue-toed as to the westward.

He seems little acquainted with them.

May 8
As W. P. K. the Quayle went to Manoui Island Monday, the 8th, and found a few ruffinus shearwaters as well as four nearly fledged wedge-tailed shearwaters. Calm and had to row most of way. I went to north end of island and got one cuckoo and shot a tatler in winter plumage, seeing two or three others. Quayle got also three sandpipers and a blue ternlet.

May 9

Quayle, Charley the mate, and Curtis leave for Manoui again, as Quayle got a rail yesterday and Quayle will stay all night if weather looks favorable, while the mate and Curtis will bring back the birds secured and will return for Quayle tomorrow. I skin the birds, about two hundred, brought by Quayle yesterday. Boat fails to return though light breeze in P. M.

Yellow-bill tropic

Red-bill tropic

May 10

Rain and strong wind started at midnight last night from

eastward and this morning I hire a native cutter with two men and send two sailors with them to go to Manoui and the other near-by islands to look up the missing boat. Mrs. Routledge of England, studying the natives here, came on board with her interpreter to get the native names and common names of resident birds. He seems little acquainted with them.

At 8 P. M. the sailors return with report that the missing boat and sailors are at Taravai Island, which they will work tomorrow as rainy today. This will finish this group, as Manoui is a bad place to land in any but favorable weather and this wind will likely hold for several days. December might yield other tubinares, though the man today did not know the blue shearwater of several islands and I saw a pair of Ducie shearwaters over the peak here in a strong wind seeking a nesting site. Ducie shearwater eaten by cat (?) on hillside, near top. Rainy and foggy with but one or two tropics about.

List of native names of birds at Mangareva.

Sooty tern	-----	taraero
Noddy tern	-----	gnolo
Fairy tern	-----	kotake
Blue tern	-----	ngauga
Yellow-bill	-----	tarara
Yellow-bill tropic	-----	tavake huaka
Red-bill tropic	-----	tavake

Wedge-tail shearwater	-----	tiako
Neglected	-----	kavako
Blue-faced booby	-----	kona
Frigate bird	-----	mokoe
Sandpiper	-----	kivikivi
Wandering tattler	-----	torea
Reef heron	-----	kotuku
Cuckoo	-----	kakaveka

May 11

Quayle and Curtis back from Taravai Island with report of petrel and shearwater nests on near-by islets but no birds, as the season is past. I went to top of Mangareva Island and found

May 12

a body of Ducie shearwater eaten by cat (?) on hillside, near top. Rainy and foggy with but one or two tropics about.

May 13

American is in charge of the settlement with three or four

laborers from Bass Island.

Left anchorage for Marutea Island and touched on the reef going northward, though chart gives deep water in vicinity.

May 14

Two or three small aestrelata seen fifteen miles off Mangareva, possibly nigripennes (?) or the one at Bass Rocks.

several doves, bringing back 50 birds for the day's work. He

stayed ashore and I skinned ten of the doves before quitting
for the night.

May 13

With N. E. wind made Maria Island at three P. M. but did
not stop, being Saturday P. M. Blue-faced and red-footed
boobies, frigate, fairy terns and a red-tail tropic seen in the
vicinity, also four sooty terns. Flock of frigate birds sail-
ing over island. One or two shearwaters seen off shore, possi-
bly neglecta.

May 14

Quayle and Currie tried to visit other motu with native
canoes, but too much wind returned and came aboard and re-

May 14

Few fairy terns seen twenty and thirty miles off Maria
and Marutea; also a yellow-bill tropic as well as two sooty
terns. At noon fifteen miles from Marutea, headed for it.

Yesterday a couple of the natives helped the sailors get our
boat off the reef, as the boat was heavy and one of the natives

May 15

Quayle went ashore and got a couple of sandpipers and a
white heron which had a lot of lizards in its stomach. An
American is in charge of the settlement with three or four
laborers from Reao Island.

on board for the night. The landing place is merely a narrow

opening in the edge of the reef, into which the boat is steered

May 16

Quayle stayed ashore last night and today went to a motu
where the sandpipers were common and secured 25, as well as
several doves, bringing back 50 birds for the day's work. He

stayed ashore and I skinned ten of the doves before quitting for the night.

May 17

I finished up the rest of the birds and Quayle sent in a dozen and a half more, including a frigate.

May 18

Quayle and Curtis tried to visit other motus with native canoe, but too much wind, so returned and came aboard and we sent over the Fan fan, our small sailing boat, and carried this across the island and put in the lagoon where they started out in the afternoon to go to farther motus nine miles away. Yesterday a couple of the natives helped the sailors get our boat off the reef, as swell was heavy and one of the natives was washed off the reef into the breakers, where he was knocked unconscious against the sharp coral and his clothing caught on a projection under water. He was drowning when his companion dove after him and hauled him to the boat, which brought both on board for the night. The landing place is merely a narrow opening in the edge of the reef, into which the boat is steered in the intervals between the heavier swells. As soon as they are in the sailors jump out onto the reef and hold boat from returning in outrush of water. It is then guided across the

reef to shore, or as far as water on reef will permit.

Also very dry, the first for a week. Call in P. M.
Parquet caught at 10:00 May 19 lives principally on sugar water.

Strong wind all night and laying to we drift ten miles or so away from island. Few birds, a fairy tern and several sooty terns were heard in the night passing to or from the rookery.

A nigripennis shearwater came up to ship at daylight, but none seen after. A single obscurus, probably young, was seen a couple of times near shore fishing with a small flock of terns. Heavy wind all day and Quayle unable to get back from across lagoon, as we saw his lantern after dark across the lagoon.

Three and a dozen obscurus. Quayle went to shore and of island to work this morning May 20 about mid skin birds.

Pair of obscurus shearwaters seen at daylight, and a half dozen with a flock of terns fishing at ten o'clock two miles off shore. At ten A. M. I noticed a sail in the distance, and as it nears us the Captain says 'Moana', which will be told in a half hour more. The boat has gone ashore for Quayle, as the wind is light this morning. 'Moana' comes up and we go aboard for an hour, after which she heads for Reao Island, 160 miles to the north. She had 60,000 oranges on board to sell to natives, having paid thirty francs a thousand in Mangareva yesterday.

at low tide picking small fish out of shallow pools. Also got a couple of reef herons, one white

and other birds. Dashed May 21 still terms were fishing in water
just Nice warm day, the first for a week. Calm in P. M.
Paroquet caught at Henderson lives principally on sugared water,
while a dove caught here eats the large white berries the size
of cherries and white in color that grow wild on islands.

Quayle and Curtis left again last night to visit several
places that they left May 22. Quayle heard several rail and
got Ashore and to southward along shore. Got two sandpipers
that flew 150 yards to meet me, and two or three terns. Quayle
and Curtis took Panfan and two sailors in a canoe to eastward
and sent sailors back at three P. M. with 35 birds, eighteen
doves and a dozen sandpipers. Quayle went to eastward end of
island to work that while I go aboard and skin birds.

May 23

Quayle got back May 24 with a few birds and a turtle
in. Skinned birds yesterday while sailors went ashore in
P. M. and got a load of water, the water in a well four feet
deep being very satisfactory to the taste. Quayle didn't
show up. For Maria Island forty miles to the southwest. Heavy
winds and much rain delayed us here, but today promises better
weather.

May 25

Ashore and got few lesser noddies, several of which
sit and fly along the reef at low tide picking small fish out
of shallow pools. Also got a couple of reef herons, one white

and other dark. Dozen yellow-bill terns were fishing in water just at edge of reef. Saw four wandering tattlers in a flock,--all appeared in winter plumage.

May 25

May 26 the grand day, the first we have seen. Quayle and Curtis left again last night to visit several motus that they left last trip. Quayle heard several rail and got one at other end of island, but did not find the sooty terns nesting nor any boobies, though he shot a single plotus. Most of the sandpipers and doves appear to be on the islet where he got a series last ^{week}, though I got three or five on another islet near the settlement.

May 27

Quayle got back this evening with a few terns and a tattler in summer plumage, though its organs show little signs of enlargement. No other rail were heard or seen, and as the one taken seems to resemble the Rapa one closely we will leave tonight for Maria Island forty miles to the southwest. Heavy winds and much rain delayed us here, but today promises better weather. Three curlew and a tattler shot and a white heron seen; fairy terns common, but few others; noddy, lesser noddy, and yellow-bill, and I May 28: blue at sea, though none ashore.

Sunday and approaching the island of Maria at one P. M.

A couple of fairy terns seen this morning and a single distant shearwater, probably obscurus.

Ashore with camera and took photo of blue-faced boobies, several of them nesting along lagoon shore. Sandpipers are

May 29

MARIA

Quayle ashore and finds the ground dove, the first we have seen. He took camping outfit and will stay ashore while I skin birds aboard.

June 2

Skimming birds and sand boat ashore. Saw cactus yesterday.

May 30

Doves are scarce, three yesterday and five today. Frigates and blue-faced boobies are nesting. No warblers or fruit pigeons.

June 3

May 31

Quayle aboard in P. M. with few tropics, neglected shear- I go ashore and take picture of frigate nests which are close to the ground in some bushes, while none exceed ten feet high for Apicacu group fairly miles to S. W. of us. Wind has from the ground. Most eggs are hatching, a couple of dozen nests being seen. Shot a Ducie and neglected shearwater, the only ones seen, and Quayle shot a blue one, though all are scarce here now seemingly. I shot a couple of doves, the only ones seen. Three curlew and a tattler shot and a white heron and yellow-bill, and I saw two blue at sea, though none ashore.

or so at a time. Two live ground doves from Maria are in the

June 1

sack with a parakeet from Henderson and a green dove from
Ashore with camera and took photo of blue-faced boobies,
Maryland. The green dove has a much larger gape than the ground
several of them nesting along lagoon shore. Sandpipers are
doves and can swallow much larger berries than the latter birds.
common and perch in bushes and trees close to me while using
The green dove is beginning to like the sweetened water that
camera.

the parakeet lives on. The parakeet has been living on water
with sugar in exclusively for the last month and is lively as

June 2

over. The ground doves seem to prefer the dropping of the
Skinning birds and send boat ashore. Saw cuckoo yesterday,
green dove to even their natural food, though several of them
and Quayle got one. Sailors caught eleven lobsters under one
had caterpillars in their gullets.
rock on reef and a half dozen coconut crabs in pandanus groves,
the crabs being as good eating as lobsters or crawfish.

June 3

June 3

Quayle aboard in P. M. with few tropics, neglected shear-

waters, etc. Got about 25 ground doves from here and leave to-
night for Actaeon group forty miles to N. W. of us. Wind has
stay. I found red-foot boobies building nests of finer sticks
been to north of N. E. for a week or two in N. N. W. part of
time when we expected East wind. I skinned a tropic in seven-
teen and another in sixteen minutes by working lively. Quayle
turned out a couple of shearwaters in a minute or two more, but
to skin and complete to writing and tying labels on in that time
is rather faster than one cares to work for more than an hour
while packing dove away and twelve in one tree near me again.

or so at a time. Two live ground doves from Maria are in the cage with a paroquet from Henderson and a green dove from Marutea. The green dove has a much larger gape than the ground doves and can swallow much larger berries than the latter birds. The green dove is beginning to like the sweetened water that the paroquet lives on. The paroquet has been living on water with sugar in exclusively for the last month and is lively as ever. The ground doves seem to prefer the dropping of the green dove to even their natural food, though several of them had caterpillars in their gullets.

did not get to boat till dark. As the sun was low, the sailors thought it best to stay June 4 all night. Squalls and strong wind Sunday and laid off Maturei vavao Island till the fifth. we got it launched. The lee side of the island is much worse, so heavy swell from the June 5 is nearly always breaking there.

Quayle and self ashore for day, Quayle taking outfit to stay. I found red-foot boobies building nests of finer sticks than I remember seeing elsewhere. Pairs were sitting by nests, though by eleven A. M. most had gone to sea. Two noddy nests were seen in low bushes near lagoon shore and had young birds nearly ready to fly. The nest was better built than most I've seen elsewhere. Sandpipers thick. Counted fourteen around me while packing dove away and twelve in one tree near me again.

They fly to meet one from one hundred yards or more. Run around in trees as well as a warbler. Three pairs of blue-foot boobies seen by nesting spots. Doves are tame, four sitting near me while eating,--one at four feet. Few yellow-bill terns on sand-bar in lagoon.

June 5

Cocomut crabs common, four being seen under one pandanus tree. Aboard at two P. M., and a heavy swell from the north makes heavy breakers there. Over to Quayle, last island of group, and find a cut June 6 which allows boat to run in easily. Sent boat in for Quayle and birds at two P. M., but he did not get to boat till dark. As the sea was bad, the sailors thought it best to stay ashore all night. Squalls and strong wind from North and as boat lands on north side it is difficult to get it launched. The lee side of the island is much worse, as heavy swell from the S. W. is nearly always breaking there. Sandpipers are not as common as last island and few families found in those skinned. June 7

We got back to landing place at eleven A. M. and the four men ashore tried an hour to get off, finally making it, though thrown back several times before they could get outside of the breakers. They were probably migrating. They were around when we left. Leave at noon for next island six or eight miles to westward. Last night a large flock of fairy terns and a few of Sailer caught five doves and a couple of sandpipers with string

noddy and lesser noddies with several redfoot and blue-faced boobies and half dozen obscurus shearwaters fishing a couple of miles off shore between squalls and rains.

June 8

Sailed along two islands, but strong north wind makes chop too heavy on north side, and a heavy swell from the south makes heavy breakers there. Over to Tenararo, last island of group, and find a cut in reef which allows boat to run in away, so we go ashore in P. M. and get a bag of doves, or Quayle gets them while I work aboard.

June 9

I go ashore and get a couple of ground doves and Quayle gets one. We find boobies (red-footed only) beginning to nest. Sandpipers are not as common as last island and few females found in those skinned. Got eight lesser noddies from a flock resting on beach close to water, which seems to be a favorite place for them when not nesting. Five curlew shot were all males, and in the morning four were seen two miles off island headed north, probably migrating. They swung around when called, but headed out again and flew rapidly close to the water out of sight, though mistaken for ducks when first sighted. Sailor caught five doves and a couple of sandpipers with string

or pole this P. M. in a couple of hours. Doves are tame already and others take berries out of hand less than a week from catching. A sandpiper is running around in hold at my feet as I type this, catching cockroaches and ants. Very tame here, though one put in cage with doves fluttered and was wild. Went to cabin and found piper on table and running over typewriter on return. He is now running over table within two feet of me. (Above written on 11th.)

June 10

Quayle ashore last night and this morning gets five more ground doves and three or four white boobies, the latter being few in number and the standard color being gray with white tails, though gray runs from dark up to the white birds. Got a fair series from here and I put up ten today by four P. M.

June 11

Foggy clouds in A. M. and a drizzle or two with long expected east wind. We work toward eastward island, seeing middle one six miles away.

In P. M. a flock of birds ahead called a sailor and he hooked five bonitas before the school passed. Several obscurus shearwaters were in the flock, but we have not found them on the islands north of Gambier group yet, though they may nest

under pandanus trees. It is not likely, however, on account of the big coconut crabs which are common.

June 12

Stop at Vahanga, the middle island, for a day, but only a few sandpipers and terns seen and no doves, so we go on to Tenarunga Island and find green doves but only one ground dove.

June 13, 14, and 15.

Spend a couple of days here and go back to Tenararo, where Quayle stays ashore all night and finds a half dozen ground doves. A sailor with a short line on pole caught twenty green doves in a couple of hours in the tohunga trees along the shore. They become tame in a day or two and perch on the Captain's hand when he feeds them berries, which they gobble down two or three times a day. A couple of sandpipers were also caught and liberated in the hold, and these in a couple of days run around under our feet chasing cockroaches and ants without fear. One runs around on the table where I skin birds.

June 16

Leave for Island 120 miles to westward with very light S. W. wind.

June 17 and 18

Light wind and calm and twenty miles to go Sunday eve, the 18th.

June 19

Ashore at Tureia Island and I got a warbler and a couple of white terns, while Quayle got four yellow-bill terns. About sixty people live here and cats have cleaned out doves if any ever were here.

June 20

I got seven warblers and a couple of fairy terns, while Quayle went around island and camped part way, getting eight warblers and seeing a cuckoo.

June 21

Quayle back and I skin his birds while he gets another one and a white heron, only thirty birds for two of us in the three days. Leave for Vanavana at eight P. M. We hear sooty terns nearly every night after dark or middle of night.

June 22

Both ashore at eleven A. M. and find quite a plantation these two species. Why no green doves here is surprising to

of coconuts two and three years old and a half dozen natives taking care of the grove and clearing more land. No vessel has been here for eight months and I noted where pandanus had been gathered and a couple of sharks' heads were hanging up by one hut, these being principal food, though they said they caught the ground doves for food. We found the ground doves plentiful in a portion of cleared ground where a creeping plant which furnished food for the green doves on Tenararo Island was growing thickly, covering the ground to a height of two feet in many places. I shot fifteen doves in an hour or so about three P. M. when they came out from the thick cover. Though Quayle was not more than a mile from me he saw none during his trip through the forest. Several of mine were sitting on dead limbs of the fallen trees and some were on grass tops where feeding. The males were seen three or four times sitting on fallen limbs, reminding me of California quail by their actions. When flushed they flew low and quite rapidly a hundred or so yards and lit in the bushes or in the low limbs of thick trees.

Though there were a half dozen dogs on the island there are as yet no cats, and so these birds and the sandpipers have survived, but it will be but a short time till some laborers are brought with and accompanied by cats and that will end these two species. Why no green doves occur is surprising to

us. Warblers are common and Quayle saw a cuckoo. Noddy terns' nests were seen in the tops of several pandanus trees and a few red-foot boobies were sailing around. Three or four blue reef herons were seen, and I got a couple; also saw a couple of curlew and tattlers.

June 23

Quayle went ashore and got seventeen doves during the day and a half dozen warblers while I put up yesterday's birds,-- about fifty being taken. A heavy S. W. swell made boat work dangerous in P. M.

June 24

Heavy easterly wind and the S. W. swell made reef too unsafe to try to get ashore, so we laid to till four P. M. and then sailed for the next island one hundred to westward.

June 25

Reached Ahuni Island at twelve o'clock and lay to till morning. A couple of red-foot boobies, a couple of fairy and lesser noddy terns and a frigate seen as we near island.

June 26

Ashore in morning and find but three warblers in a day's

hunt by Quayle and myself. No sandpipers or doves encountered, but red-footed boobies were nesting along the sea side of the island and birds in various stages were found and eggs seen. A couple of curlew and four reef herons taken. Some of the weed the ground dove eats was seen, but no berries that the green dove likes. Fairy terns common and I shot a female frigate sitting along the lagoon shore. Some hundreds of coconuts planted but seem to lack water though three old trees look pretty good near landing place. Leave after dark for Paraca Island thirty miles away.

June 27

Ashore at eleven o'clock, as wind died during night and had to use motor four hours. A hundred or so bearing coconuts and some hundreds of young belonging to Hao Island people, but birds scarce and find red-foot boobies nesting along lagoon shore instead on sea shore as at our last stop, Ahummi Island. Got a dozen warblers between us and took four or five boobies. No berries seen for doves and doves not found. Few fairy terns about and several yellow-bill terns on point of land by lagoon. Couple of tropics seen near shore and four frigates over lagoon.

June 28

Quayle went around to other side of island and got ten

warblers during day and at eight P. M. started for Nengonengo Island, as rising swell made it unlikely landing on small island to southward of Nengonengo. and plants are just getting foot-hold again. No land birds or mangrove seen, though possibly in other patches of June 29 may night occur. As material aboard still Quayle sick with stomach trouble, so at ten o'clock I and for go ashore with Curtis collecting. Strike a colony of perhaps two hundred pairs of small frigates, the first time I have ever seen them to recognize them. They were nesting in low bushes a foot or two above the ground and were more wild than the common frigate, rising from the nests while I was some ways off in most cases, though I shot a dozen, taking two birds usually as four or five were nesting in the same bush often. The males in the air are recognizable at once by the white on the abdomen and I saw but one young bird in the entire lot,-- a young male which I shot. Birds hung overhead while I stayed in colony, but returned to nests when I left, as there was a high wind and it was squally. noddies. Cleaned up all the Shot four neglected shearwaters as they came in from sea, but had not time to search for nests. Only young poor noddies were sitting on ground in most cases or in low bushes where their old nests were located. Fairy terns were common and several downy ready to fly; redfoot boobies were in nests or

perched alongside of them. Two reef herons, two curlew, two tattlers and several yellow-bill terns seen. The island here has been swept by hurricane and plants are just getting foothold again. No land birds or sandpipers seen, though possibly in other patches of bushes they might occur. As material aboard will be used up when these birds are done and high fair wind for Tahiti is blowing we leave at four P. M. for there. Couple of lesser noddies seen and a single pair of adult blue-faced boobies at nesting site flew at approach.

In port, the first three of them waiting to get on the ship for cleaning and painting June 30 of the ship. We found one

Cup of coffee and biscuit, the regular morning meal, at six A. M. I then tackled the frigates, getting nine done by eleven A. M. when breakfast is ready. In P. M. finished two more frigates and five red-footed boobies and a fairy tern by four P. M., three of the boobies being large, downy ones in different stages. Louis, the engineer, skinned four neglected

shearwaters and a half dozen noddy terns. Cleaned up all the grass excelsior and straw that came around alcohol bottles for

stuffing, using last one half pound of cotton, the last spool of thread, and last magnesia for drying feathers. Have used

the last bit of arsenic and have been using labels improvised for last few hundred birds, as well as using beach sand for

Mrs. Peak doesn't recover readily from seasickness, so we had

skinning since Ducie, though have a sack of ten pounds of cornmeal still. Had a hundred pounds of cornmeal at Ducie when we started to use sand for large birds, and black small ones. Saw two redfoot boobies at noon and hear the sooty terns nearly every night. Made 180 miles from four P. M. to six P. M. today.

August 14

Start at noon for the Marquesas, having spent six weeks in port, the first three of them waiting to get on the slip for cleaning and painting the bottom of the ship. We found one worm eaten spot that required the removal of parts of four planks before all bad parts were repaired. Had the mainsail renewed and added fifteen fathoms of good chain to the equipment.

August 15

Fine breeze from S. E. gradually worked eastward and we made Niau Island after 36 hours sailing.

August 16

NIAU

Quayle and Jones ashore for plants and birds on lee side. Jones joined us at Papeete to collect plants if satisfactory. Mrs. Beck doesn't recover readily from seasickness, so we head

in eve for Makatea for her to take 'Cholita' to Papeete.

August 17

Few noddy terns and fairy seen twenty miles off Makatea, where we anchor at six P. M., tying to buoy after getting per-

August 18

Quayle and Louis ashore and get a few doves and warblers and a couple of pigeons. I finish bills to catch 'Cholita' going to Papeete tomorrow.

August 19

Quayle and Louis get a few more birds of the three land species.

August 20

Sunday. Light winds from NNE last two days.

August 21

Quayle and Louis ashore at five A. M. to go for pigeons and stay all day, Quayle getting three and Louis none. I went along the coast a mile to west of mill and found noddy terns nesting on cliffs and plotus boobies resting on ledges and on

top, a couple of dozen birds being seen. Three or four fairy terns were seen on top and a couple of yellow-bill tropics were seen to enter holes in the cliff, but shooting at holes failed to bring them out. Lesser noddies were fishing along the edge of reef and a flock of a half dozen wandering tattlers were noted along shore as if just from the north. In P. M. I went ashore and got a cuckoo close by village. Doves and warblers were not uncommon, but the extremely rough coral ground makes collecting off trails almost impossible. The Chinamen and Tahitians sometimes go down twenty feet or more into a hole after the phosphate which is being dug on the island. In evening leave for North.

August 22

After lunch the boys go ashore on S E end of Rangioia Island where a large colony of sooty terns are nesting and get a series of old and downy birds as well as a couple of doves and few warblers. A curlew also shot.

August 23

Ashore for four hours at eastern pass on north side of Rangiroa. Get a half dozen blue ternlets and Quayle gets a couple of graybacks. Few warblers and couple of doves.

August 24

Stopped four hours at village by eastern pass yesterday on Rangiroa Island and today at noon went ashore near the S E end and got a half dozen yellowbill terns and three curlew as well as few warblers and four doves. Leave at five and head out N. E. with light wind.

August 25

Ashore on Rangiroa August 25 day. Quayle and Louis work the east Light wind and head toward Ahii Island which we reach at twelve P. M. couple of herons and a couple of tailors. Saw a half dozen yellowbill terns but no noddies or fairy terns.

August 26

Ashore at 6:30 A. M. and find a few warblers and doves. A curlew and plover as well as tattlers seen. White terns scarce, only a half dozen being seen, but a flock of noddies (several dozen) were resting on rocks on windward side of island and were fishing a short way outside of reef, returning to rocks to rest. Several lesser noddies were fishing in shallow water on reef and quite a few were doing the same on Rangiroa Island, catching very small minnows.

Came aboard at eleven A. M. with fifty birds between us, and I skinned by 6:30 P. M. 32 of the lot, Quayle being under the weather and Louis skinning eight sooty terns and making them up.

August 27

Heading toward Takapoto with twelve miles to go at noon. Sooty terns noted at daylight working west and for last three days at sunset noted flying toward the west to Arutu perhaps, as a colony occurs there as well as Apataki. Watched, while many nests were still being built. Several nests were usually

in the same tree of 1. August 28. While the noddies used ashore on Takaroa for the day. Quayle and Louis work the east side and I do the south and none of us see or hear a land bird. Got a couple of herons and a couple of tattlers. Saw a half dozen yellowbill terns but no noddies or fairy terns.

whether looking for nesting sites I could not be sure. They may have been fishing August 29

Ashore on Takapoto for seven hours and get 25 warblers but no doves, though the natives say they occur. I saw a rail, but gun didn't work. It was small and black with slightly different call from Rapa bird. Louis heard a couple and the Captain also. Two or three yellowbill terns seen and a couple of fairy but not low.

Quayle and Louis go up for couple of days and Quayle gets to 3,500 feet, finding Pacific shearwaters flying about and nesting likely on inaccessible pinnacle rock. Several yellowbill tropics

August 30

seen and noddies terns, as well as fairy terns high.

Squalls and wind last night and heavy sea today. Beating toward Tikei. Redtail tropic and couple sooty terns seen.

September 13
Collecting and skinning warblers, doves and paroquets. 1

found a warbler's nest August 31 on like trees and the engineer
found Ashore on Tikei at 6:30 and stay till three P. M. finding
warblers not uncommon and seeing a single rail, but getting
none. Noddy and lesser noddy and fairy terns were all common
and breeding. Some lesser noddies were just hatched, while
many nests were still being built. Several nests were usually
in the same tree of lesser noddies, while the noddies used
cocomut and pandanus trees, and in one case a noddy was seen
on its nest on the rotting top of a dead cocomut tree broken
off thirty feet up. A dozen frigates were over island as we
landed, but left. Sooty terns flew across island all day, but
whether looking for nesting sites I could not be sure. They
may have been fishing from islands to south. *Only petrels, but*
sea was too rough. Ran back and anchored for night.

September 10

Sunday and aboard. *September 10*

Started out again and repeated yesterday

September 11

Line of Marquesas
bettered it, as we found a streak where Bulwer's petrels were
plentiful and a shot about 25, as well as nine white-chinned
to 3,500 feet, finding Ducie shearwaters flying about and nesting
and one Petrel, though the primaries do not correspond to
likely on inaccessible pinnacle rock. Several yellowbill tropics
description. This petrel came up to bait, as several of the
seen and noddy terns, as well as fairy nest high.
white-chinned seemed to do, though the Bulwer's did not appear

always to pay attention to it, although many come up. Petrels

September 13

have quite definite feeding grounds, as we sailed for some

Collecting and skinning warblers, doves and paroquets. I

found a warbler's nest in a willow-like tree and the engineer found a couple in trees a few feet high. Could not get my nest without spilling eggs, as nest is firmly tied to small twigs with strips of bark of which it is composed. The nest is as deep as entrance is broad, about an inch and a half deep. Saw a nest of flycatcher forty feet up in a big tree, but could not shoot the branch down on which nest was placed.

September 14

Started for Nukahiva, but ran into Bulwers petrels south of Huapu, so I spent a few hours in boat and shot several, as well as three white-chinned petrels. Tried to land on pinnacle rock where many sooty terns nesting and probably petrels, but sea was too rough. Ran back and anchored for night.

September 15

Started out again and repeated yesterday's performance and bettered it, as we found a streak where Bulwers petrels were plentiful and I shot about 25, as well as nine white-chinned and one Peales, though the primaries do not correspond to description. This petrel came up to bait, as several of the white-chinned seemed to do, though the Bulwers did not appear always to pay attention to it, although many came up. Petrels have quite definite feeding grounds, as we sailed for some

hours and saw occasional birds but found dozens on water sitting as I did last year, though there was some wind today and last year when I passed them it was calm. Bulwers are nesting and the white-chinned are getting ready. Peales may be nesting from organs.

September 16

Reached Nukuhiva and found the Browns, Bishop Museum people, packed up ready to leave on steamer overdue here for Papeete. Shot twenty Ducie shearwaters day before yesterday with the petrels, and probably they nest high on the mountains. Saw but few yesterday but got an obscurus yesterday and saw a couple of others.

September 17

Sunday and aboard all day.

September 18

Moved around to west five miles and left Quayle to work the upper part of Nukuhiva with a native guide who helped the Browns here. Swifts common about village.

September 19

Got out of bay this morning, it being too rough in narrow

entrance last night to attempt it, and this morning the engine stopped as we were in narrow part, but luckily the engineer got it going in a minute or two and reported a short circuit the cause.

Heading across for Motu Itu. Redfoot and plotus boobies, noddy and lesser noddy, sooty and fairy terns are fishing in flocks less than ten miles from islet which looks rough. One obscurus but no other tubinares seen yet.

Ashore at Motu Itu in P. M. and I find three pairs of wedge-tail shearwaters in burrows under tussock grass and in a cave. Several other burrows under grass roots were examined, but birds were not in. A lesser noddy young was photoed in nest that was built on cliff and gray ternlets were also evidently nesting there but out of reach on cliffs. Several of the lesser noddy nests were close together, guano covered, and are evidently used repeatedly. A pair of Ducie (?) shearwaters or two flew over the island while I was ashore, but I did not go to the top, being too busy and the pathway dangerous if possible. I shot one shearwater as we left the island and a noddy tern also. Three redbill tropics were taken from nests in small caves on the ledges and a dozen or more birds were sailing around on the lee side of island as we neared it. Plotus boobies were also flying about and sooty terns flew in a swarming cloud

from the small island half a mile to eastward of big rock when we rowed to it, but we could not land on it as sea was too rough. The island was covered with tussock grass and a few long brittle-stemmed ferns grew in little caves where water seeped and made moist earth. This was a big island. The small one was guano covered. One tropic-bird egg saved of two taken. Sailors caught some fish near shore. Left for Eiau at dark.

Last three days working on birds in harbor. Sunday today.

September 20

Ashore at Eiau and find warblers and flycatchers common. Sheep and pigs common,--sheep fat and pigs poor. Sooty terns nest around island on cliffs and a few plotus and redfoot boobies fly along and also frigates. Few gray or blue ternlets and lesser noddies noted and four reef herons lit early in morning of the 21st on cliffs near ship. Few eggs. Redfoot boobies also White terns are common around trees and a few swifts are seen along top of island. Many old paepaes seen near top and many piles of chippings from stone instruments that natives were making here. Few discarded incomplete picks or axes (?) noted. Buro forests on top and one grove of six or seven coconut trees in a little flat near top, and a single tree near top seen. Pigs husk mts as they fall at grove and no new trees are starting, the tops being eaten as they grow. Six or eight cattle

seen, but sheep in flocks over island, five hundred perhaps being seen altogether. The pigs are poor looking and find living poor. Pandanus trees grow large on top of island and are covered with Spanish (?) moss where fog or rain often strike along ridge.

September 24

Last three days working on birds in harbor. Sunday today.

September 25

Got a dozen frigates flying over a point of land and on the 27th went to Hatutu where we found ground doves waiting for us at the landing place. In low bushes over the island frigates and redfoot boobies were nesting, and on top the plotus boobies had young birds and a few eggs. Redfoot boobies also had nests in trees where the lesser noddies were nesting and many fairy terns were roosting. Several Ducie shearwaters were shot as they flew over island after two P. M., none being seen before that time. One bird wanted to light at one place, and on going there I found an adult on a nest but no egg. On the cliffs on east side many redbill tropics were nesting and a flock of noddy terns were sitting on an open spot on the cliff. A few warblers were scattered about through the bushes and the

ground doves were common over the top of the island. Few were seen on the west side where we landed.

September 26

Skinned birds and ran close to the coral islands ten miles to eastward, but a barren sand bank, and did not land as it looked dangerous for a boat. Shoal water extends for two miles or so on either side.

September 27

Put out boat in eve and picked up a few Bulwer and white-chin petrels, an obscurus and nativitatus shearwater, many of both working toward the island at sunset.

September 29

HATUTU

Ashore at south end and find thousands of sooty terns resting in flocks in tussock grass selecting (?) nesting sites. Three or four fresh eggs seen. In holes in cliffs found several nativitatus shearwaters, one adult on young, and tropics nesting. Found a large Ducie young under a tussock grass on top and shot some more adults in P. M. Miles of impossible cliffs give breeding places for petrels and shearwaters.

September 30

Found the fresh water stream in Eian Island wrongly located on chart and anchored over Sunday.

October 2

Ashore on Hatutu again and get more birds.

October 4

Stand out to north about twenty miles to find where the obscurus shearwaters go every morning as they pass the vessel at daylight with the lesser noddies and boobies all headed that way. Twenty miles off find a large flock of lesser noddies and a lot of obscurus, and I put the boat out in a choppy sea and worked down on the flock which was resting on the water every few minutes and then taking wing again to fish. Before getting in gun shot the birds were off the water and I failed to get a shot, though picked up a single Christmas shearwater as returning to vessel.

October 6

On Hatutu again and I get two rail and Louis got one yesterday. They seem to keep to the brush patches and are very wary, running along through the brush very rapidly. One missed at ten feet with the auxiliary ran away and cut across

an open spot, raising a foot or two off the ground a couple of times, but seemed feeble on the wing and preferred his feet to wings for escaping. The lesser frigates seem to nest principally along the top of the island on the leeward side just below the top where the wind is not strong, but the frigates nest in bushes from near sea level to near the top. The lesser nest on the ground principally or a few inches above. Lesser noddies nest with the redfoot boobies in trees, and the fairy terns are seen often sitting on lesser noddy nests and probably use them for nesting purposes, though few of either species are nesting now. Many of the lesser noddies sit and rest on their nests though not using them otherwise, while in the trees nearby sit many others. By one clump of trees this morning a dozen or more lesser noddies were resting in bushes out of the strong wind and a single bristle-thighed curlew was standing near them with a couple of frigates within a few feet in the bushes and dozens of redfoot boobies and terns in the trees.

On the cliffs at the north end of the island I found two pair of Christmas shearwaters sitting on a ledge outside of the cave that they expected to use for nesting purposes later. Many spots were seen where the shearwaters went into the volcanic cliffs to lay, but in all cases the nests were in out of sight and impossible to reach.

Sailing about with the numerous redbill tropics I saw a yellowbill tropic go into the cliffs and light and sail again. A couple of yellowbills taken have yellowish tail

feathers instead of white. Found a fairy tern egg on a cliff resting on the rough lava rock without a twig to show for a nest, and see several noddy terns sitting on rocks over the top of the island,--in all cases a few grass stems for lining of the nests which they are getting ready to use. Redfoot

boobies sail over the top and light in the bushes to tear off twigs to build their nest of. One failed to tear off a tough branch, so shifted a little lower and plucked an easy fern stem which he carried off. Golden plover as well as a few curlew hang around the top of the island, while on Eiau wandering

tatlers are often with the plover and curlew in the open sheep range on barren top.

On the 2nd went to south end of Eiau and saw many sheep and twenty or more cattle and several burros. Pigs are common and not wild. I could have shot many had it been desirable. A few chickens are seen, all the roosters being of the same reddish color and size, the hens keeping more under cover and I saw but one.

October 7

Anchor at Eiau again by water for Sunday.

October 8

Sunday in Eiau at anchor.

October 9

Collect a few blue ternlets along the shore and get over to Hatutu in eve. Find a wedgetail shearwater in hole on top under a rock and get a rail in dry bushes, as well as doves.

October 10

Run out twenty miles to northwest and find big flock of fishing lesser noddies and some shearwaters, but birds flew about and I get but three obscurus and few blue ternlets.

October 11

Ashore again and find the wedgetail shearwaters' burrows near east end at top of cliff. Two birds in several holes and others go too deep to get. A dozen Ducie shearwaters fly at one time over island. Saw but a couple of white-chin petrels off shore other day and few Bulwers.

October 14

Pick up Quayle and go into Taiohae for water. Quayle has twenty pigeons and sixty-five other small birds. Paroquets, few flycatchers and a rail.

October 15

Sunday at anchor at Taiohae.

October 16

Leave Taiohae and go around and pick up Quayle's guide, who takes us to canon on west side of island where pigeons are common. In P. M. Quayle takes guide and goes up canon for night, while I go up on ridge and get seven pigeons, most of them from trees near head of a canon where they were feeding. Hoarse call "Craak" reminds me somewhat of crow, and flight is similar, though wingbeats slower. They sail a lot with set wings, and one was noticed to drop down a thousand feet like a hawk or eagle on set pinions.

October 17

Quayle back with thirty pigeons and few flycatchers and paroquets.

October 18

Skin birds.

October 19

I go up canon which ends in a high cliff and find few flycatchers and see a few pigeons and two or three nests which are built of small twigs and put in crotches of small limbs

on little branches high up in tall trees. Climbed up cliff above one and looked into it and saw it was flat but contained nothing. Quite a collection of sticks, much more material than a dove uses. Saw one nest in similar location that belonged to a dove probably. Pigeons fly over canon high up and light in trees on sides of cliffs. Call occasionally the hoarse call and a sort of gurgling, deep cooing also. Groves of tall trees in bottom of canon most frequented, but fly out around in other canons after food. We got about forty and reduced the number in canon noticeably. The guide told of getting forty in a day one time in this canon.

October 20

Up canon and get a few flycatchers and but one pigeon. Quayle gets a dozen, having stayed all night. Fairy and lesser noddies and a few noddy terns are nesting in the canon on the two first in tall trees along the bottom of canon. Few yellow-bill tropics fly along about cliffs also, and a wandering tatler is seen high up along the water which flows but a short distance and goes in ground again, though a small fish and shrimps are in pools that evidently retain water all the time.

October 21

I go up the canon in Marquisene Bay and find plenty of

water but no pigeons or flycatchers or paroquets, which we found in the canon with the pigeons first visited. Go up on top of ridge and get into tree ferns, but find no pigeons or flycatchers and few warblers or doves, though water in several streams. One curlew and a half dozen golden plover seen. Saw eighteen cattle in one herd and a few others scattered along. They were fat and good-looking, while lots of goats and some pigs. Sail at dark for Typee Bay.

October 20

Off Typee at seven A. M.

October 21

October 22

Sunday.

October 23

Nukuhiva?

Ashore for birds, but rain during day makes traveling difficult. Warblers singing and couple of doves heard and few swifts. No flycatchers, though I went far up canon.

October 24

Get seven herons rowing along shore to south end of island. In P. M. take big boat and sailors and get a dozen blue ternlets and few young lesser noddies fishing. Then up

on south point of island where boobies nesting and frigates roosting and get few white boobies from colony after looking over a hundred or so. Several chickens about colony and a rooster shot had a squid in gullet dropped by some booby. Around to Taiohae, as schooner reported to have mail for us.

over cliffs in every little cove. Leave in eve for Patahaka,

fifteen miles from here. **October 25** going to Huapu.

False report, so sail in eve for Hivaoa to land Quayle and Jones for a couple of weeks while I go for petrels off Huapu. Go ashore on Patahaka and find ground doves scarce on

low parts of island and too risky trying to get on top. Get

three doves and see. **October 26** frigates ready to fly and

Between Huapu and Hivaoa and see some birds, but not worth putting boat out, as flock moves a mile or more in five minutes.

Others fly along by their nests. Hang in air and drop slowly with spread wings along face of cliff. A curlew

heard and couple of other birds seen. **October 27**

Start engine at five A. M. for Hana Mema Bay. Wind light and reach it at eleven A. M. Ashore in P. M. and find a few flycatchers, doves and warblers, but natives say no red-capped doves here, so go along coast to Hana Iapa Bay.

to Hana Iapa, where anchor at Taiohae.

October 28

Ashore and find doves and few warblers and get one of

In P. M. ashore and get eight doves from a couple of

three kingfishers seen. Leave Quayle and Jones to collect birds and plants while I go to Huapu for petrels.

October 29

Sunday and heavy rain last night starts water pouring over cliffs in every little canon. Leave in eve for Fatuhuku, fifteen miles from here, before going to Huapu.

October 30

Go ashore on Fatuhuku and find ground doves scarce on low parts of island and too risky trying to get on top. Get three doves and see lot of young frigates ready to fly and few young redfoot boobies in trees. Few plotus and couple of red-tail boobies flying about. Got an egg of blue ternlet on cliff and others fly along by their nests. Hang in air and drop slowly with spread wings along face of cliff. A curlew heard and couple of reef herons seen.

October 31

Lay off Huapu and shoot a few Bulwer petrels and see only a couple of white-chinned, which I get. In eve run across to Nukuhiva, where anchor at Taiohae.

November 1

In P. M. ashore and get eight doves from a couple of

banyan trees in hills where they come at my calling.

November 2

Back at Huayu and calm sea allows going ashore on small islet near pinnacle rock which is too rough to land on. Find Bulwers petrels wherever place offers under scattering grass roots for nests. Couple of eggs laid in open, as likely all available spots were occupied by other birds. Only one young just hatched found; many eggs incubated, though some fresh and some sites not yet laid in. Absence of rats makes this islet desirable for nesting. Three downy white-chinned petrels were found, and probably season is earlier for this species, as fewer birds are seen at sea than a month ago. A few sooty terns were nesting. Few fresh and incubated eggs and young birds. Took about 75 Bulwers and three whitechins with photos of nests. Ran around coast and anchored.

November 3

Skinned birds in A. M. and ashore in P. M. and got few birds.

November 4

Ashore and got few doves, warblers and flycatchers. Leave for Hivaoa. Two colonies of twenty or so swifts seen nesting on cliffs along shore. High cliffs nests inaccessible.

over dry, brushy cane November 6 up of one ridge others feeding.

Ashore for few hours at Hana Menn and get few flycatchers and couple doves and warblers. Few fairy terns in canon also and a couple of yellowbill tropics seen. One, though one was in a while seems to rise over ridge to feed in wooded canons. Flycatchers and warblers November 7, the warblers being partial to cane. Ashore at Hana Iapa and up hill to Quayle's camp and find he has a dozen redheaded doves taken last week. I get a couple along trail and get a couple of kingfishers also. From White-headed doves the commonest by far and few red-headed ones. Not as many as I saw at this point in January, 1921, when here on 'Moana'. Take a native to show us trail to top of Fatuhuka and leave at night, four A. M., for there. Swift nests glued to rocks on leeward side of island. Two or three or more up to dozens November 8 in one place, and many rocks from Quayle ashore with native and sailor and gets about fifty ground doves, finding no warblers. Doves in poor shape, possibly not enough feed for all, as there is little grass. Frigates common on top and some boobies of both kinds. Back to Hana Iapa at dark and get our mail from boy sent to Atuona for it. Leave for Uahuka at dark. were found. A single black-winged cormorant and a single Bulwer petrel also were taken, both from nest November 9 later eggs. Several young

Ashore and find a few flycatchers and warblers, but doves scarce and scattering. Quite a lot of swifts feeding

over dry, brushy canon and on top of one ridge others feeding.

November 10

To top of ridge and find doves scarce, though one once in a while seems to rise over ridge to feed in wooded canons. Flycatchers and warblers not rare, the warblers being partial to pandanus trees. Got a half dozen chickens along trail as they were feeding on the ripe guavas which on top fruit close to the ground, permitting the birds to pick at the fruit from the ground.

November 11

Go to islet close to anchorage and see dozens of swift nests glued to rocks on leeward side of island. Two or three or more up to dozens of nests are in one place, and many rocks from near shore to near top of island were used for nesting sites. Nests were of a reddish moss, probably taken from rocks or trees well toward top of island. This probably led natives to think the birds had red breasts, as we were told that only on this island were the red-breasted opeias to be found. Quite a number of downy sooty terns were found. A single obscurus shearwater and a single Bulwer petrel also was taken, both from nests with incubated eggs. Several young

reef herons nearly ready to fly were seen and some old ones taken. One well built heron nest was seen, but was empty, built under a rock overhanging on a cliff. A few blue ternlets, as well as noddy terns seen and both likely nesting. Leave at noon for Taiohae, as steamer with mail is expected tomorrow.

1.90 by 1.35 inches, egg of P. obscurus pipped. ready to fly. Nests on bare ground or low pebbles. Under grass roots were found many petrels' nests; incubated

November 12
Sunday two P. M. and no steamer in sight yet. white-shinned petrels and an adult on an incubated egg. No boobies here. was a couple of village packages and mailmen came first.

November 13
Sunday at Taiohae.

November 14
Quayle gets a few sooty terns on islet at harbor's mouth. Sail for Uahuka at four P. M. many birds being forced to lay their eggs on the open ground, as suitable sites are all occupied.

November 15
Quayle goes inland and gets a few doves and warblers and I go to islets close by. On one a quarter of a mile long I find sooty terns covering top with most nests containing incubated eggs and many young birds of all ages. Many young dead about colony. I ascend to top by rope twenty feet as up and down all around. Sailor goes up holding by toenails to

place rope.

After a couple of hours and getting few fresh eggs we go to another islet a few hundred yards off and find many sooty terns,--young birds flying and ready to fly, with few younger. Many eggs broken and rotten lying everywhere. Along the cliffs were a few lunatus terns, nests with eggs, three young nearly ready to fly. Nests on bare ground or few pebbles. Under grass roots were found several Bulwer petrels' nests; incubated eggs in most, and in a couple of nests were found young white-chinned petrels and an adult on an incubated egg. No boobies here, as a couple of miles from village perhaps and natives come fishing here.

November 16

Around coast five miles to an islet half a mile off island where Bulwers petrels are abundant, many birds being forced to lay their eggs on the open ground, as suitable sites are all occupied. In crevices in rocks as well as under grass; sometimes three nests under one bunch of grass. Young birds found in several nests and a single dead young white-chinned found under one grass bunch and the nest occupied by a pair of Bulwers petrels settled down. A couple of skeletons of white-chinned seen, but this species has to nest earlier perhaps to

obtain a site. I examined dozens of birds to find those that showed unusual wear on their bellies, getting several from a hundred or so birds looked at. Sailors gathered a couple of dozen birds and we got some fresh eggs as well as seeing many pairs of birds in holes where no eggs occurred. A few blue ternlets nest on the island and a nest with a couple of eggs of plotus booby found and a nest of reef heron seen well built under rock,--18 inches wide and 6 inches deep. It was empty, though birds hung around and I photoed, putting a rotten sooty tern, a booby and petrel egg in nest as accessories. Quite a few sooty terns nest here also.

November 17

Anchored again in Shavey Bay yesterday, and today went up to ridge and along it to near the mountain top. Warblers feed in grass along top and swifts also feed along ridge, while doves flew over and sailed out of sight on set wings. Found a banyan tree loaded with fruit and got several doves in morning and again in eve at it. Few fairy terns in trees.

November 18

Got to Taiohae yesterday and took Administrator aboard for Atuona and arrived this P. M. and find two letters from land

owners here prohibiting me from hunting on their property.

Get permission to visit Motane, our next island.

November 19

Sunday and aboard.

November 20

Leave Quayle to go up to top of island and we take one of owners and dogs to Motane for three days. Land in P. M. and find doves, warblers and flycatchers. Flycatchers the most common and larger than other places. Doves were in bright plumage, mostly males taken and were found largely at a few bushes with green berries on which they were feeding. #1733 is number in plant catalogue of bush. Old nests of warblers and flycatchers were noticed in trees well out on limbs. One young fairy tern was taken and several noddy terns with grass in bills were noticed. One noddy was seen flying over dead grass on hillside trying to pick up nesting material while flying, but finally lit for a moment to get a long streamer of grass, with which it flew away to pandanus tree. Noddies were using pandanus for nesting, as on many other islands, while the lesser noddies were nesting high up in the commonly used tree. Most lesser noddies were sitting in trees, but few nests being seen. A

noddy was taken on the ground entangled in the seeds of the tree in which the lesser noddies and boobies nest. A fairy tern was flushed from its nest along the trail on top of the island. The nest was a small limb of breadfruit tree two and a half inches in diameter. The top was rotted out into a hollow, the hollow being one and a half by four inches and twelve feet up from ground. A few boobies were sitting in the high trees on top of island. One hundred to two hundred feet are the trees. Chickens are common in the forest and we shot several to eat. Two hundred or so sheep range on the island and we took two live and two dead to eat, the owner catching them with his dogs. A few swifts fly about the top of island and one shot. Saw several wedgetail shearwaters off island in early morn. They likely nest on a rock at south end, which is too steep to land on. Left Wednesday for Atuona fifteen miles away.

November 23

Paid the owner ten francs each for the sheep taken and went to Tahmata Island where we anchored at noon and went ashore in P. M. Warblers were singing in trees, but not common in forest. Got a kingfisher and saw another. Several doves heard and seen, but none taken as hard to see in forest.

Quayle gets 23 warblers November 24. Go to Riverton and finish
bird I go to top of island and see eleven yellowbill tropics fly-
ing about one cliff, but none near me. Doves heard near top, but
see no redcaps. Few swifts fly about ridge and likely shear-
waters nest somewhere, but top is sharp ridge and heavy vegeta-
tion covers it. Get few doves and kingfishers lower.

walk few yards on trail and flush a pintail drake back from a
small pond. Left from November 25 heavy rain. Probably bird came
in. I skin birds all day while Quayle and Louie go ashore and
get a few birds. Quayed foot elevation and is only waterhole

known to me in the hills, though running streams in many canons.
Bird was fat and in November 26 on.

Sunday. wing day and Quayle stayed to improve acquaintance
with an American artist in Arama, but I was surprised at him
November 27

Up along trail to southern part of island and find flycatchers
ashore. He has decided to accept a proposal of the artist and
in hibiscus forests near top of ridge on steep slopes. Find
some a few warblers in the Mangrove waiting birds' eggs for the
none low down.

artist, hoping the change from ship life will benefit his stomach
which is now bothering him too much for satisfactory work. Sail
November 28

for Pohnpei at eight P. M.
Up in thick forests in canons near base of cliffs, but find
no flycatchers, though Quayle finds a couple in big canon.

December 1
Reach island at November 29 ashore for permission to hunt
Went ashore near north end of island and get few doves and

which was granted. Ashore in P. M. but rain for last four
Quayle gets 23 warblers near beach. Go to Hivaoa and finish
days and heavy rain today make work difficult. Hunt flycatchers
birds in P. M.

and find them much larger than on other islands and warblers
seen larger. While two doves taken show Hivaoa difference.

November 30

Surprised on skinning to find female flycatcher black.

I go to top of island looking for redcap doves and get four.

On way up stop at camp of laborers and talk few minutes, then

walk few yards on trail and flush a pintail drake duck from a
small pond left from yesterday's heavy rain. Probably bird came
in with yesterday's heavy northerly wind. Was a couple of miles
from shore at one thousand feet elevation and in only waterhole
known to me in the hills, though running streams in many canons.
Bird was fat and in good condition.

Thanksgiving day and Quayle stayed to improve acquaintance
with an American artist in Atuona, but I was surprised at six
o'clock on returning to find his things packed and ready to go
ashore. He has decided to accept a proposal of the artist and
spend a few months in the Marquesas hunting birds' eggs for the
artist, hoping the change from ship life will benefit his stomach
which is now bothering him too much for satisfactory work. Sail
for Fauhiva at eight P. M.

December 1

FATUHIVA

Reach island at ten A. M. and ashore for permission to hunt

which was granted. Ashore in P. M. but rain for last four days and heavy rains today make work difficult. Shot flycatchers and find them much larger than on other islands and warblers seem larger, while two doves taken show little if any difference. Surprised on skinning to find female flycatcher black.

with a whew. The call of the young bird is "Chi chi" repeated,

while the call of the old bird is "Chi chi" repeated, but little singing

December 2
Ashore with Louie to hunt and he strikes a tree where doves are feeding and gets a dozen, while I get but three that called from forests into bushes on ridges where I can get them. But a couple of flycatchers found in a place and well scattered in canons. The young have similar call to the birds of other islands, but the rare call of the old birds is different. Think I heard cuckoo call a couple of times, but possibly it may have been this flycatcher. Warblers are scarce here, but the valley is small and runs in a mile from shore to end in little canons that run up on to the base of cliffs that form backbone of island. Yellowbill tropics are common. Birds sailing about many cliffs high above valley.

December 3

Sunday and take few pictures.

December 4

I take trail to top of island and go along ridge for a

mile on trail that leads to windward side of island. Scattering warblers, flycatchers and doves are seen, and about cliffs on top yellowbill tropics fly, as well as a pair of noddy terns. Rain most of day. But few birds seen. One call of flycatcher starts like the wail of a cat when tail is stepped on, ending with a whew. The call of the young bird is "Chi chi" repeated, while one call of male is "Creu re a reek". But little singing is heard as young are flying or ready to leave nests probably. "Kik kik kik" rapidly called is note of old birds when disturbed. Warblers as in other islands seem to fancy pandanus trees to sing in, but do not know if they nest in these. Doves feed in several kinds of fruiting bushes as well as trees, some birds eating the ripe guavas also. A wild pigeon is reported as formerly living on this island, but is now rare if not extinct. As forested ridges comprise the highlands of the island one would need weeks to properly hunt for them and the mountain guide of the island is busy with copra now, so I do not try to get up highest peak where a few shearwaters may nest.

December 5

Move to other bay couple of miles to southward.

December 6, 7, 8.

Collect same birds as on first days. Find warblers keep

to the more open hillsides and seldom in the mope forests, while the flycatchers are in the mope and hibiscus forests. Take the small boat and go along coast, finding lesser noddies and blue ternlets fishing with a few noddies and scattering fairy terns. A few sooty terns are flying about the thousand foot cliffs forming the shore and redfoot boobies nest in trees high up in hills, while a few plotus boobies fly about and frigates are seen also. A couple of the latter were taken. Leave in evening for Papeete, having put up about 2,300 birds in the three months in the Marquesas.

December 9

Sooty and fairy terns during day as well as yellowbill tropic and a Bulwer petrel. Also saw a shearwater with grayish back and wings browner. Ten sooty terns in one flock 120 miles from land.

December 10

Nearing island at ten A. M. and ashore at three P. M., but chief says very few birds. See a couple of yellowbill terns off landing, but hear no warblers ashore. Take a few pictures and aboard till tomorrow. The people are more copper colored than other islands, but are no worse looking. Quite a bunch of children in comparison with Marquesas. Night before last a

sailor fell overboard about ten P. M. losing balance with roll of vessel, but boat was put out and he was picked up in a few minutes, with his overcoat and the bird net which he grabbed in going over.

December 11

Ashore at Napuka and find very few birds, the warblers only being found at the east end of the island where there are still thick groves of pandanus. I went along the south side, while Louie took the north side. He found no warblers, though he went nearly to the east end. I passed many clumps of trees and brush, though had to wade to the knees over much of the reef which is barren. Cocomits are planted in many of the motus. Fairy and noddy terns were found at one or two spots and a couple of nests of the latter were seen in pandanus trees and fresh eggs taken from them. A cuckoo flew from near me when I shot the first warbler but was not seen again. A couple of lesser frigates were noted high in air in the P. M., and a few yellowbill terns were flying over the lagoon and resting on the bars on the edge of it. The natives say rails formerly occurred but the cats have exterminated them. The noddies and fairy terns were together, the pandanus trees being but a few yards from the high ^{trees} that the fairy terns were roosting or nesting in. The houses of the natives are covered with pandanus leaves,

and the doors are of coconut slabs in most cases.

We leave in the evening for Tikei on the way to Papeete. Only got five warblers, all males, and a half dozen noddy terns.

December 13

Reach Tikei at two P. M. and ashore for afternoon. Find natives making copra. They say a few days ago that a lot of ducks were here coming in with heavy rains. I saw four in a flock and think they were spoonbills as they flew over me out of gunshot. All were females, or at least no males were noticeable. Quite a few golden plover were present with the wandering tattlers which were about the ponds in the center of the island. Young noddy terns were common, and I got a young lesser noddy from a tree which contained a couple of nests, and also an egg from a nest in the tree. Fairy and lesser noddy terns seemed scarce, but it might be that I did not go where they were. A couple of herons were on the reef, one white and the other blue. A warbler's nest was found in a tall bush containing a single bird just hatched. The parent stayed close by but made no sound. Several young birds were heard calling for food, and a couple were taken. Some adults have molted and some are in old plumage. Two taken with short tail feathers. Louie saw a rail but could not shoot it. Left in eve for Papeete with light NE wind.

January 23, 1923.

December 14

Left this afternoon for the Mamotus, expecting to work in the western islands till April and the chances from Lurimanan is found only three warblers. Louie got a dove, the only one seen. Lesser noddies were nesting, and many nests contained the young and we stand a better show for our lives than if we were at sea in the Archipelago.

the ground and pick up dead leaves just after it rained. They likely do this so the dead leaves of which the nest is made will hold together. Nests varied in height from eight to sixty feet, and I noticed three placed in a dead leafless tree forty feet from the ground. Noddies nest in palms.

were the only birds seen. The engineer and cook spent eight days

Arrive at Papeete December 16.

hunting pigeons, but saw none in country where the birds were formerly common.

Several redfoot boobies, lesser noddies and fairy terns are seen fishing off Pointe Veuve and a small flock about ten miles off. Toward sunset several small flocks, eight or fewer birds in each, of redfoot boobies fly toward Belline Island to the west, and perhaps a dozen scattering sooties are seen within twenty miles of Pt. Venus. Weather is getting settled, though a heavy shower passes over Papeete and for the last week much rain has fallen. Light wind today and calm eve.

January 22

Sailing slowly ENE and in P. M. have Mahitia to windward, where we may stop to collect. A couple of yellowbill tropics have

January 27, 1923.

Left this afternoon for the Tuamotus, expecting to work in the western islands till April and the danger from hurricanes is past for the year. Most of the western islands have passed into the lagoons and we stand a better show for our lives than if we were at sea in the Archipelago.

For the last forty days we have been in Papeete waiting most of the time to get into drydock to paint the bottom of the 'France'. A couple of trips outside the pass yielded no birds and a half dozen redfoot boobies and a few lesser noddy and fairy terns were the only birds seen. The engineer and cook spent eight days hunting pigeons, but saw none in country where the birds were formerly common.

Several redfoot boobies, lesser noddies and fairy terns are seen fishing off Point Venus and a small flock about ten miles off. Toward sunset several small flocks, eight or fewer birds in each, of redfoot boobies fly toward Tetiaroa Island to the west, and perhaps a dozen scattering rostrata shearwaters are seen within twenty miles of Pt. Venus. Weather is getting settled, though a heavy shower passes over Papeete and for the last week much rain has fallen. Light wind today and calm eve.

January 28

Sailing slowly ESE and in P. M. have Mehitia to windward, where we may stop to collect. A couple of yellowbill tropics have

been seen, one rising from the water ahead. Fifteen miles from the island a plotus and a redfoot booby fly past and a couple of fairy terns are seen fishing. Weather clear.

January 29

Ashore at Mehitia and I go first to the top. Teri forest of large trees (hotu) covers the lower slopes and reaches well toward the top on the west side where we landed. The island being volcanic is covered with broken lava stones and on top is a crater over 300 feet in depth and possibly 300 yards across the top. Hibiscus trees and a large banyan (?) tree with ferns grow plentifully in the crater, and in the bottom are a dozen or so feils. One might possibly go to bottom but small cliffs nearly encircle it. Three or four fairy terns were flying about the trees near the bottom, and over the top three or four yellow-bill tropics sailed around. Two nests were found, one only three feet below the top and the other five feet. One nest had a fresh egg and bird, while the other on a little ledge behind some grass and vines had a bird. Three or four frigates sailed over the top and in the lower levels fairy and noddy terns were flying about the trees. On the west side a lot of redfoot boobies sat in ironwood trees above the shore, not a pure white one being seen; most of the adults had white tails. Louie found a wedge-tail

shearwater that the dog pointed out to him in a hole in the rocks on the east side of the island, and I saw several of them in the early morn as we neared the island. No land birds were encountered except a cuckoo which we managed to call up to us in the forest. Little or no underbrush occurs for the goats, a few being seen,--are now beginning to eat bark from the tree roots which run over the ground. A dozen people were on the island, having come from Tahiti to make copra. They had about ten tons ready for the boat they were expecting.

Left in the evening for the Tuamotus with squally weather.

for about three miles to the eastward on the north side. Coconuts

January 30

Rain and squalls during night and first on one tack and then on other. A wedgetail shearwater and fairy tern seen during day. Half dozen fairy terns seen fishing in eve.

January 31

Good weather and reach south side Rangiroa Island in afternoon. When I stood up they went off. Another time noon, but stand off and work to eastward during night as landing not good.

A few redfoot boobies and fairy noddy and lesser noddy terns along shore.

six foot swordfish was also startled from one pool waist deep and was rapidly toward the lagoon.

Parakeets were heard calling in the trees and flew circling

February 1

Light wind during night and twenty miles to west of Kaukura Island in morn. Tack back toward the north at daylight. Light wind all day and beating north to get to Arutua Island. Occasional fairy or noddy tern and three plotus boobies flew past in afternoon. Saw Rangiroa and Arutua Islands at four P. M. and hope to get ashore on Arutua Island tomorrow morn.

February 2

Landed on Arutua at eight A. M. on the west end and collected for about three miles to the eastward on the northside. Cocomuts had young birds in were bearing on most of the islets, though many young trees had been planted within last ten years. Here the land is broken by frequent channels into the lagoon where the water is about knee deep. In crossing one of these channels I stumbled and partly fell, catching myself on one hand. Like a flash when I fell three sharks were darting around me, one two feet long and the others four feet. When I stood up they swam off. Another time I heard a splash behind me and turned to see a six foot shark making off. One four foot one came straight at me till I waved my gun in the water toward him, and he then circled about. A six foot swordfish was also startled from one pool waist deep and swam rapidly toward the lagoon.

Parakeets were heard calling in the trees and flew circling

about to light near the tree from which they started. Two or three usually flew together, not many being seen. The pairs usually sat in the trees close by one another. Warblers were mostly silent, only a couple being heard singing sparingly. They were scarce and came to calling in the thicker parts of the woods. The common atoll plants were here, but few plants bearing the berries eaten by the doves were seen, and no doves were found. A flock of five or so yellowbill terns were fishing in the shallow water water on the reef near the edge and they were joined by three lesser frigates, one of which I shot. The frigates fished part of the time for themselves and sometimes chased terns that had perhaps caught fish. Lesser noddy terns had young birds in scattered colonies in different places in the highest trees, but on one islet where noddy terns were nesting I found a couple of dozen nests of lesser noddies in tohum trees, closer to the ground than they usually are, except when built on cliffs. A single egg was seen, but this was ready to hatch, judging by the sound emanating from it when touched. The young were of all ages and stood upright in their nests when I approached, thereby differing from the young noddies in nearby nests, which squatted or tried to escape by getting out of their nests and running off on the ground under the bushes.

The noddy terns' nests were in low mickymicky bushes usually,

some but a couple of feet off the ground. Of several very young ones noted, there were more of the white phase noted than the dark. A couple of young birds coughed up two or three small blue fish when I neared them. As I passed one thick bush in which several nests showed I heard a squawking on the other side, and looking through saw a young night heron grabbing another by the neck. A crying young noddy ran toward me and stopped in the open alongside, and the two young herons, followed by a white one, came to my feet, then seeing me scuttled and flew away through the bushes. Possibly the young herons rob the noddies, which should be easy as the noddy nests are exposed to the open sun on top of the bushes. One noddy nest had two or three pounds of small coral pieces hanging to it, evidently for decorative effect, and one nest had in it a large white smooth dried shell much larger than the egg which was under the nest, caught in the twigs. Noddy terns sat in flocks near the nests, and in one of the clumps of tall trees in one islet lesser noddies were sitting in flocks and in pairs in the trees. I shot seven at a shot from one place and later saw a couple sitting in a group with one wing extended as one often does when lazy or the weather is calm and hot.

A few fairy terns were about the trees and a couple of curlew, golden plover and wandering tattlers were seen. A white and blue reef heron kept together near where the three young birds were

seen. A warbler nest was seen in top of a tohutu tree twenty feet up, but no bird nearby. No boobies seem to nest here, but several native huts may account for their absence. No natives were seen.

A few ladder noddies and several fairy terns were observed as we came through. February 3 is island, as many others, is Louie went ashore and got one dove and a few warblers and parakeets about five miles to east of our yesterday's landing place. I skinned birds all day. Sooty terns fly along the island and may come from the large colony on Rangiroa Island, though they might nest on this island also.

February 4 to a dozen notes and found Rainy and calm in the morn and at ten start engine to reach Ahii Island twenty miles away at four P. M. to enter the pass at slack tide. At three P. M. go into lagoon and across to anchorage which is tying up to a rock a few inches below the surface of the lagoon, a sailor going overboard and making the line fast under water. Young and old yellowbill terns are sitting on stakes and flying about fishing. The young have a shrill cleek as a call, quite different from the cry of the adults. Going ashore for an hour find the dozen or so frame houses deserted, as the people

are at Manihi Island ten miles from here. They live here awhile to make copra and then go back to Manihi, having houses on both islands. Several warblers and a dove were heard on shore and a reef heron and a golden plover seen. ~~fishing. The call of the~~
A few lesser noddies and several fairy terns were observed as we came through the pass. This island, as many others, is broken up into small patches of vegetation separated by barren reef. Coconuts seem to be pretty well scattered along the whole strip. Weather is hot with occasional heavy showers. Calm all day.

February 5

Louie took motorboat and went to a dozen motus and found very few warblers or doves. I went ashore and walked a couple of miles finding six or eight warblers and a half dozen doves. A single dove sat in a coconut tree near a pair sitting in a tohumm tree and a young bird flew a few yards along shore looking for berries. A couple were seen flying across a wide barren part of the reef from one motu to another. The warblers sang but little, usually two or three times and then quit. They were usually in or near the thick uncleared jungle, though occasionally one was in a coconut tree. Noddy terns were sitting about in many coconut trees and some were flying around over pandanus trees. Heard a young one in a coconut tree and saw one in a

pandanus. They were undoubtedly nesting in both. A dozen or two fairy terns were seen and a few lesser noddies were fishing along the reef in shallow water. A dozen or so yellowbill terns sat on the lagoon shore or flew over it fishing. The call of the young is weak for a bird its size. Three or four golden plover, two curlew and several tattlers were along lagoon. Reef herons, blue and white, were fishing on outside shore on reef close to edge as well as on lagoon side. Weather calm and hot. Showers at night and a couple during day.

February 6
Louie went in motorboat to motus not visited yesterday and got a dozen warblers and four doves, while I skinned birds in A. M. and at two P. M. went ashore and looked for warblers, finding seven or eight in thick jungle and coconut trees not yet bearing. Saw three or four nests and took one to describe, being built recently, the others old worn ones. Finally saw one twelve feet up in a tohumu tree with a bird on it. Bird first sat low, but when I approached it looked over at me while I stood under and snapped the Small Ica at it. Then climbed the tree with camera but could not stand six feet off so climbed down again. Then went up and took out eggs, three being in nest. The bird hopped off and stayed within three or four feet, uttering not a sound but moving around watching me. The nest was in the forks

Louie shot a lesser frigate yesterday, but in falling of a small shoot running up alongside a dead limb. Before I from a great height it burst open the entire brood when it hit went up to the nest the male came and lit in the tree and I shot him, the female remaining on the nest. When I cut off the limb with the nest in it the female stayed in the tree and I collected her also. The nest was fairly well hidden by the thick leaves that hung down below it. I broke off three or four before photoing the nest later, sticking the branch in the sand by the lagoon shore and using water for background.

One bird sang quite awhile this P. M. sitting out of sight in a tall coconut tree, and one or two were heard practicing as though they were young birds. Noddy terns swing along over the trees to nests farther along the island, and the yellowbill terns fly about fishing and resting on stakes in the water, as well as using isolated sand beaches or protruding rocks.

February 7

Louie ashore in A. M. and got a few warblers and after lunch we moved down near the pass and he went ashore again and killed a dark and against black rain clouds so distinguish white on the big pig as well as four doves. The warbler eggs were slightly incubated, showing the bird sat from time of laying first egg. Sailors caught a few fish, while we were tied to a rock which showed above the surface of the lagoon. A few lesser noddies and several fairy terns were fishing in the lagoon near us in a strong the island. Fairy terns also were frequent between Ahil and Manihi.

breeze. Louie shot a lesser frigate yesterday, but in falling from a great height it burst open the entire breast when it hit the water.

Flies are thick here and at Arutua, while mosquitoes are swarming in the calm thickets due to rain lately. One has to keep moving in the jungle, for mosquitoes are ravenous. Warblers are molting now and several had no tails. A couple of young ones are quite white-breasted, while the freshly plumaged adults are more buffy in color. Two warbler nests examined were made of pandanus and coconut bark shredded and lined mostly with hairlike threads of coconut fibre.

February 8

Leave at five-thirty for Manihi twenty miles away to the eastward. Going out the pass we see many lesser noddies and a few white terns flying about the trees and a circling flock of thirty-eight frigate birds sail around, climbing into the air to head out to sea. These may be lesser frigates, but it was too dark and against black rain clouds to distinguish white on the underparts. Outside the pass lesser noddies were flying about just over the water, but not finding many fish as far as I could see. One flock of sixty was counted and a larger flock was seen farther out. A few were seen fishing till five miles or more off the island. Fairy terns also were frequent between Ahii and Manihi.

Reach Manihi at eleven o'clock and see several small houses with galvanized roofs near the beach. A stone wharf affords a place for the vessel to tie to. Few lesser noddies and a couple of fairy terns are birds seen entering the pass. The village is on east side of pass and wharf is on edge of pass.

Tied up at one P. M. and on inquiry found that the chief was up at other end of island and the old men here did not want to give permission to hunt without the chief's say-so, so I went with Louie in motorboat to the motu where he was supposed to be but he was still farther, and being nearly four then we collected two or three birds and started back. Three miles from town the motor broke a spring and I rowed the outfit back to the ship. Lesser noddies were nesting abundantly where we landed and I got a couple of young fairy terns. A single grayback tern was seen flying across the lagoon and a goodly number of sooty terns were flying along shore, but possibly they were birds from Rangiroa.

yellowbill tern fishing near ship in return, and at sunset thick flock of several hundred February 9 noddies fishing outside the pass

where I went ashore early, leaving Louie to work on the motor. During the day he got a spring from an old clock ashore and made "a make and break" as he called it. I struck several pieces of coral a mile from village which had been sawed and chipped for house posts, there being no suitable blocks nearer. On the second motu I struck a rail and heard another, both being near pandanus

trees. I climbed a few feet in a tree to see the one I shot as it kept a pandanus tree between us while it called. In the P. M. returning I shot a couple more, both being in open ground with only mickymicky bushes for cover. A female (?) called repeatedly as she walked along ahead of me, and I shot a crab through the bushes thinking it was the rail, but ⁱⁿ a minute the rail passed the same spot and I got her. A little later I saw another by a pool of water and got it as it started off. Louie went there a half hour later and saw a half dozen, but they ran too fast for him or were too far away.

Saw a dove fly with a twig to a tohum tree, and going to it saw two doves on the nest which was only started,--a few fine dry twigs on the branch of a tree (2 inches) and ten feet from ground. Both birds stayed awhile, then the male went and later the female. Nest in young coconut grove. Several lesser noddy nests in tohum and hotu trees. Few young but most old. Old and young yellowbill tern fishing near ship in return, and at sunset thick flock of several hundred lesser noddies fishing outside the pass where current strong. Several golden plover and one curlew and scattering tattlers seen.

counts, and all afternoon people were carrying the strings of nets to their houses, women with wheelbarrows, and poles on the

February 10

I skin birds while Louie goes up lagoon and gets few warblers

and doves. In P. M. I go out for a couple of hours and see a rail as it flies from edge of clearing in grove to thicket. It flew well but a short distance. Louie back with twenty birds at four and we ran those out by quitting time. In the morning a few natives were on board and saw a school of fish on the reef across the channel from us. They took our net and several spears and went across, and with much excitement managed to get a dozen. A couple of dogs swam after them and added to excitement by chasing fish, the water being less than a foot in depth. Six inches perhaps, for one dog caught a sizable fish, shook and killed it and watched it till one of the men came and picked it up. A tame young frigate bird flew across and tried to help in the work, but the fish were too big for it to handle. The frigate roosts on a shed and flies around the village at will. A native brought in a live warbler and nest containing a young bird just hatched and an infertile egg. Early in morning saw a school of fish (bonita?) outside a mile with flock of terns with them. A native went out in canoe but did not see his return.

In P. M. a half dozen cutters came in from up the lagoon a few miles loaded with coconuts, and all afternoon people were carrying the strings of nuts to their houses, women with wheelbarrows, and poles on their shoulders carrying nuts, as well as the men. Chinese merchant was offering 3.75 per 20 nuts, while

the Oil Co. representative offered four francs per 20 nuts.

Heavy squall at night and stormy looking all day.

'France Austral' stopped outside for an hour but no copra ready so she went on to other islands.

February 11

Squally in morning. Sunday. and got him presumably. Spent three hours walking about after rail and saw one under some bushes, and before he saw as I

February 12

Out in early morn for rail but saw none. Back at eleven and skinned birds till three, then out again for rail. Saw one but too far to shoot. Louie went up lagoon a few miles and the dog caught a young one for him. He reported they were numerous, so will have him go tomorrow.

February 13

The spring Louie made from an old clock spring was too weak for the purpose, so this morning he takes a spring from an old graphophone and makes another. He left at eleven for yesterday's ground, while I finish birds and at nine go to look at dove's nest found last week. It has an egg today and the bird was absent when I arrived, but while I was in the tree trying for a photo one dove came and lit in the tree for a few moments. It then flew near water composed of young and old birds.

away and was not seen again, though I stayed over half an hour at the spot. A couple of dozen fine twigs formed the nest and the egg was plainly visible through it from below. Piled up a few coral blocks under the nest, and with forked stick pulled limb down, took the egg, sawed off limb, and took portion of limb with nest. The male (?) called several times from hundred yards away. I went over after finishing and got him presumably. Spent three hours walking about after rail and saw one under some bushes, and before he saw me I shot and secured him. The rail that see the hunter before he sights them run so fast that he never sees them, while the occasional ones that he sees see him usually at the moment of his discovery and usually two seconds places the bird out of sight behind brush or trees. A single curlew was seen at the same spot that one was seen last week,--only one seen here. Yesterday got a young varicolored heron and have seen white and blue ones here. Saw several nests of warblers in tohunu trees, all of same composition,--shredded bark and from ten to thirty feet in height. Saw one yesterday in pandanus in middle of tree and possibly many nest there for the nests would not show often from below. Nests examined seem unused though deserted. Irregular flight of noddly and fairy terns all day flying along land to nests farther to windward and many young noddies heard in coconut trees. Flocks of noddies rest on sand beaches near water composed of young and old birds.

February 14

Louie sent in a couple of rail this morning by a cutter coming in with load of coconuts and this eve returned with a few doves, saying a crowd of people invaded the motu where he was hunting and spoiled the shooting for rail. I skinned birds till three and then went after rail but saw none. Three or four gray-back terns fished along the pass when the tide turned today and I shot one. A couple of kids fought all the way out to it in the current trying to be first to catch it. Then they fought back again with the bird, which went into pickle. A young dove yesterday called so low that I barely heard him at forty feet. His call was "Coo cucu! Coo cucu! Coo cucu!" the second call being lowest. Nearly all the cooing doves here seem to be weaker in calls than in other islands. Yellowbill terns fish along in the lagoon daily but do not allow close approach. Golden plover go well back in pandanus and coconut, hunting where the ground is moist. Tatlers keep more in the open, though both are well back from beach 200 or 300 yards.

February 15, 16, 17

Managed to get a rail and see three others, all being wary. Louie went up to motu again where birds are plentiful. The people being gone he got three more. We will try again before leaving. He called at the lunatus tern colony, finding a hundred birds

nesting amongst the rocks on open reef where vegetation has been washed off. Got downy young and few eggs. Natives bring in young noddy and fairy terns, as well as lesser noddy birds; children play with them awhile till they die I presume, though the young frigate is fed regularly and goes and comes at will. Children play for hours in water alongside vessel,--five years old and up to ten, swimming and diving in the strong current that runs either in or out most of the time. Women work at copra drying as well as men. Saturday several canoes are seen fishing inside pass for half day. After dark with small hooks and couple of white feathers tied on the Captain and engineer catch 30 or so eight inch fat fish for our Sunday dinner. The water is clear alongside and fish of many kinds are seen (at one time sharks five feet long) but they do not bother kids who swim across channel one hundred yards or more wide. Ngangahu is name of old stone axe given me by native of Manihi Island, who found it in old house or where old house used to be. Hunted and got eight in a few hours' hunting. Motu is not more than half a mile long where birds were seen, and it is probable February 18

Sunday. Aboard most of day. Hunt and settlement. First

February 19

Expected to go in motorboat up lagoon, but it wouldn't work so I went usual trail for rail. Saw none though hunted all day.

Saw a dove flying with a twig and followed and found nest with male (?) on in a long-limbed shrub that grew under a tohunu tree. Nest ten feet up and a foot under a dead coconut limb that has not fallen yet. I stood twelve feet away from bird and he cooed once while I watched him. Arranged and picked at twigs and finally I climbed the tohunu tree and stood ten or twelve feet from him; so he sidled out of nest, perched on limb and flew off. Couple of hours later I called again and saw the female (?) fly to nest, arrange a twig, climb around male and fly away, while the male stayed till I neared nest. Female flew to tree a few yards away and picked a crop full of berries, mulberry type, and flew away after watching me awhile. Nest is placed on top of insecure limb with few little cross twigs to hold it.

February 20

Motor won't start, so I take boat's crew and go four miles up lagoon to motu where rail occur and get eight in a few hours' hunting. Motu is not more than half a mile long where birds were seen, and it is probable that no cats occur here as there are several channels of water between here and settlement. First bird shot was a young one under the brush. Hearing another clucking in farther, I climbed a tree and watched awhile till I caught a glimpse of second bird, which was an old one. While birds were

sooty and few fairy terns fishing at six A. M. See south end of Takapoto Island at four P. M. and will lay in for night.

mostly under thick brush one walked across an open place under the trees near me while I was taking a drink from a coconut. It must have seen me before I saw it, for I had been busy with the nut for some time. Another walked along under brush clucking till it got into a clear place and I stopped further progress. Saw but nine birds and got eight of them. Fairy, noddy and lesser noddy terns were common here and a few young lesser noddies and a fairy tern seen. The fairy was sitting on limb of hotu tree and did not move while I watched it. Sooty terns are frequently seen and heard, some flying high, and I think likely all are bound to or from Rangiroa Island. Lesser noddy nests were in a few pandanus trees as well as hotu and tohumm, scattered about, a few in two or three trees and farther on a few more. Intended to run back to Ahii Island to look for rails as natives say they occur, but the people here ask me to wait till next week when they expect to go over for six months. As I don't care to put in five more days here will head for Takaroa.

February 21

Get away at six o'clock and light wind all day. Few miles off north end of Manihi in eve.

February 22

Wind light during night and not much progress. Flock of sooty and few fairy terns fishing at six A. M. See south end of Takapoto Island at four P. M. and will lay to for night.

Talagoto

February 23 *here and a few lesser noddies*
Ashore and tramp several miles for rail and doves but find not a one of either. Pick up four warblers and note perhaps a dozen nests of warblers, one of which may have had an egg in it, but the egg was broken while fresh. Most of the nests were never used. Nearly all were in tohumu trees, and four or five were only four or five feet from the ground in young trees in clearings where the tohumu is starting to grow again. One had been placed in a young coconut tree a few feet up, but the tree in growing had dislocated the nest and it was hanging by a single thread. A few noddy nests and several young noddies observed, while at one place on the lagoon shore on a sand beach there were thirty or more yellowbill terns resting. Three or four yellowbills were shot as they flew along the shore. Half a dozen herons were noted along outside shore. *ones and would have been unnoticed otherwise. Few noddies had young in coconuts and a few fairy terns were* February 24 *seeing lesser noddies flew to*
Out again on other direction and saw a lot of berries that are eaten by doves on other islands, but here bushes seem to be undisturbed. Natives say few rail occur but the cover is so thick that small chance of getting them. Get a sailing canoe and Louie spends day on other side of lagoon, but only secures a few warblers. We leave in eve for Takaroa to try for the third time for land

birds. Some fairy terns were seen here and a few lesser noddies noted flying to the north along shore. Cocomuts do well on new ground, some having nuts on only four feet from the ground.

March 1

February 25

Sunday. Arrive early in morn and tie to wharf.

Tabarua

February 27

Hire launch and go six miles up lagoon, where we leave Louie for few days as we find scattering warblers. I get a couple of doves and see one other. The part of island visited is being cleared gradually for cocomuts, and the warblers and doves seem to inhabit the uncleared parts. One dove was heard calling in the jungle and the other was one of a pair that flew by me in the forest. Warblers were heard singing in most cases and would have been unnoticed otherwise. Few noddies had young in cocomuts and a few fairy terns were seen. Scattering lesser noddies flew to the eastward and sooty terns flew at times along the shore.

Finished birds and went few miles along shore but did not see a land bird. Tatlers and a couple of plover seen.

February 28

Walk along the shore for miles and get one warbler, hearing

him singing in thick jungle where it was difficult to get. I went near and called when he came up to me.

March 1

Went on reef into lagoon and got six yellowbill terns, but all were bloody and put up only two.

March 2

Louie gets back with three warblers and doves for three days' collecting. We leave to collect tomorrow on Takapoto again.

March 3

Ashore at village and find a new lighthouse about twenty feet high erected on the beach, and word that the Administrator of the Tuamotus will be here with the people of Takaroa on the 15th of March to celebrate the erection of the building, which is of concrete. Nicely kept streets and a covered building in center of street at main corner of village. Louie goes one way and I go other, each getting about ten warblers. A mile from village saw a couple of hundred lesser noddies in trees with few nests and young birds in some. Several golden plover along lagoon shore and one male killed in nearly full plumage, the organs not at all

swelling. Few fairy and noddy terns about, and leave at four for the south with light wind.

March 4

Light wind and fifty miles to island. Several sooty terns flying south and a fairy and noddy tern flying to north. At two sailing along Kauehi Island on the west side. Small patches of vegetation and a long strip of it with a few coconuts in places. Two or three patches of rocks above water of only an acre and on both sides the reef is covered with water. A pair of doves seen flying along and a plotus booby flew in and lit on a rock in patch of few yards diameter. Noddy and yellowbill terns fishing outside reef and a few lesser noddies and fairy terns seen. Couple of white herons on motu near where we anchor or tie to rock a half mile inside pass. Much of the atoll is barren of vegetation, and some with low shrubbery.

March 5

Kauehi

Ashore early and I walk along several miles on the west side where noddy and fairy terns are common and a few lesser noddies have nests, one being seen in a tohunu tree about six feet from ground. A couple of nests noted with eggs, but most of the couple dozen looked at had young of various ages. The noddy terns

were nesting in the mickymicky bushes close to the lagoon shore. A few young nearly ready to fly, though two nests with eggs noted. Many young were flying. A single nest of fairy tern seen in a mickymicky bush only four feet above ground, and a little higher in the same bush was a nest of noddy tern with an incubated egg. Noddies frequently use an old nest, for one or two we noted had partly fallen and the birds had replaced the nest on the old site. One nest had a string of old material strung below for two feet that a heavy wind had probably dislodged. Half a dozen curlew shot. Some were fat and freshly molted. A flock of five others were seen later. Wandering tattlers are in fine plumage in most birds observed. Curlew were frequenting a bare alkali spot, though one was flushed from a grove of coconuts, possibly one hit by stray shot before. A couple of blue ternlets were flushed along the beach at noon separately, and Louie shot a couple fishing in the lagoon at five P. M. A few yellowbill terns noted, and sooties fly along shore in scattering bunches and pairs. Warblers were not uncommon and at three P. M. I struck several doves along lagoon shore in mulberry-like trees where they were feeding. Were tame as I got very close to some. Three or four white reef as well as a couple of blue ones seen (herons). Louie found not a dove on the three motus he visited on the south side. A boat comes alongside from the village and the occupants

say rail occur near the village, so we will go there tomorrow,--
a distance of ten miles from the pass where we are anchored.

trip. Getting this bird confirms my identification of the Timal
ducks which I saw but not got. Ducks are reported from many

March 6

Kauehi

Skin birds till eleven when we start for village. Run
up into a sort of cove and put hedges out on small rock that comes
to surface of water. Two or so yellowbill terns sitting on rocks
and fishing, while a couple of lesser frigates hover over the
fishing birds. One frigate got a long fish and couldn't swallow
it, so a tern started after the frigate and chased it for a couple
of minutes, circling with the frigate till the latter, high in air,
downed the fish.

Ashore and get permission to hunt. Walk out behind village
and flush a spoonbill duck from a low marshy place fed by high
water from lagoon. She flew wild and went out into open lagoon
and lit off shore a hundred yards. I went a mile or two down
beach and worked through woods, finding only warblers. One native
reported ground doves as well as rail, but I saw neither.

Skinned birds till eleven, then moved down to where Louis
got a Jason blue terns yesterday. I go ashore but saw only one

March 7

Kauehi

Ashore and flushed the spoonbill at another low spot. She
flushed wild, but I saw her later at another open marsh, and, making
a long detour, crawled up behind some bushes toward her, and though
she saw me she thought she was safe as I was over 45 yards away.

Consequently she lost her life, as the 20 gauge shoots close yet with the left barrel, though I used it much on the South American trip. Getting this bird confirms my identification of the Tikal ducks which I saw but did not get. Ducks are reported from many islands in rainy weather and they are probably northern birds, as we have not found the Society bird in the Tuamotus yet.

Went to north and saw several places good for rail, but saw none though saw several green doves. Land being gradually cleared, but not enough people here (about 50) to take care of all the land. Saw a lot of coconuts growing that should have been picked up. Nice small Catholic church and village in sheltered grove with plenty of old holes dug long for planting taro etc., so the natives say. I see these holes in many islands, but none being used now. Three lesser frigates fishing with yellowbill terns today in the lagoon. Saw a noddy sitting with several yellowbills in the limbs of dead tree in lagoon.

March 8

Skinned birds till eleven, then moved down to where Louie got a dozen blue terns yesterday. I go ashore but see only one where he got his birds. Noddies, lesser noddies and fairy terns as well as sooty terns fly along the land to windward, probably going fishing at two P. M. Ashore an hour, and, finding no blue terns, move along again to where I stopped first day here.

March 9

Ashore and work to westward as far as motu extends. Fairy terns more common here than at any Tuamotu visited. Lots of lesser noddies, and I flushed a half dozen blue ternlets along the beach in a two mile walk. Also flushed a sandpiper along the edge of the forest and it flew up into a tohunu tree away from me and remained without calling till I shot it. On a couple of motus beyond my range probably a few lunatus terns nest as we saw about 20 fishing in the lagoon last night, but the wind is too strong yesterday and today to reach the motus, the small motor being worthless in a choppy sea where it gets wet. Six curlew in a flock flew past me, and one was shot in the shade of a forest tree where it was resting for the sun is hot on lee side of forest.

March 10

Start at six A. M. for Baraka and reach there at ten, using motor as well as sails. Ashore after lunch and get 20 warblers and natives say ground doves occur on the other side of island ten miles away. We will shift there Monday. Ground doves occurred near the village awhile back, but cats were introduced to keep down rats and they wiped out the doves. Sandpipers are reported also to be across the lagoon. But 30 or so people live here and most are living in huts made of coconut leaves. Curlew, tatler and plover seen this P. M. and lesser noddies fly along over the

island to windward to colony beyond. Yellowbill terns are present here.

March 11

Sunday and strong wind all day.

March 12

Start at 8:30 for east end of island. We couldn't start earlier because coral heads below surface couldn't be seen. Lightning and thunder at daylight, but clears at nine o'clock. Going up lagoon see low bushes and patches of coconuts on north side, while on the south little motus are seen but a few hundred yards long. Rocky patches seem nearer the shore, as we are off a couple of miles from north side. Bushes and trees are low except the coconuts and the southern motus show up at seven or eight (?) miles as being two or three miles apart. Island is more than ten miles long and fairly circular from appearance. Notice no birds in passage and terns were much fewer Saturday than on Kauehi fifteen miles away, though a goodly number of lesser noddies were noted as we approached the pass.

March 13

Ashore yesterday and today and find doves rare and warblers fairly common. One of the sailors found a rail a couple of days

old where we landed. The Captain spent a couple of days hunting in the small patch of woods where the young was found, and he got four more, while Louie and myself hunting in other motus were able to secure but one apiece. Lesser noddies have young in many trees scattered along and the noddies also, though most of the young are flying. The noddies rest in various places, along beach and lagoon shores in low bushes, as well as high trees, and the coconuts harbor many. Many noddies nest in the coconuts, while some select low bushes. One nest in a pandanus near lagoon shore was only four feet high. Squid seems to be a favorite food for the young birds, though many fish of different kinds are thrown up by birds when taken. The fairy terns very often bring fish crosswise in their bills to land, and often two small fish may be carried by one bird this way. The yellowbill terns frequently fish close to the lagoon shore in eighteen inches or so of water. A couple of blue ternlets were seen and one taken. A few lunatus terns are seen fishing in the lagoon; one shot was nearly ready to deposit egg. Most are in young plumage. One dove seen carrying twig in bill and followed by mate flew into thicket. Several taken are young birds, and some adults seem lighter yellow than from other islands.

March 15

Move across to west side of lagoon, stopping at several

motus on south side to look for ground doves in the motus of couple of acres size, but find none. Get a couple of sandpipers and a couple of herons. The noddies on these small motus nest in low bushes, often a couple of feet above ground, though there are plenty of pandanus trees within a mile on other motus. Most nests are empty, though an occasional young bird is seen in the nest. Doves seem not to eat here the berries that form the staple food for doves on the islands farther east. Possibly at other seasons of the year they may. I do not remember the fruit eaten here as common or present on islands east near Marutea, but the food of the eastern birds is seemingly not eaten here now. Not many doves occur here and the cats will likely gradually clean them out.

March 17

I went down shore a couple of miles and ran across the native who told us of seeing ground doves here. Took him aboard and we go back to a motu we missed, as he said the birds were there. Both go ashore and find no doves, and I had looked on the others where he reported birds. It is possible a few may be hidden in the undergrowth, but the motus are but a couple of acres or so in extent, and if the birds were common at all I would have seen one. The native says that formerly they would catch a hundred in a day with a string on a pole, but the introduction of cats wiped them out in short order a few years ago on the large motus.

The small motu harbored a few birds for a while, but they may have flown a mile along the sand beach to the next motu and gone to the big brush patches where the cats keep watch.

One small motu has three or four pairs of plotus boobies on it, and one nest being repaired is seen. Cocomut husks and vines, as well as coarse grass, is used for lining. A couple of sandpipers also are found here, and a few noddies unable to fly yet. One nest with a bird in it is only a foot or less above rocks. Golden plover in summer plumage seem to be gone last three days, though a pair of curlew and plover were seen at Kanehi, and I got a couple of black-bellied males here first of week. Found a nest of reef heron on one motu in a tree surrounded by pandanus trees. Nest was of usual heron construction, fifteen feet up on outer limb of tree; two eggs; incubation started a couple or three days. The herons were the wildest seen anywhere on the east side of this island, but the native says he hunts them there, as on his land, with cocomuts. I saw one heron on one small motu crawling carefully through the brush, stalking a lizard in all likelihood, as lizards were frequent there and herons like them. The yellowbill, lunatus as well as noddy terns sit on the low beaches of the shellstrewn strand waiting for fish to digest before flying out a few yards to capture others. The boobies flew around over the motu where the nests were to be located several times. I got an adult and a

and the mate stays at the masthead while we move.
single young bird of last hatch. A couple of frigates sailed
about high in air but did not come near.

March 18

Cabin boy while visiting Lisarua on Saraka Saturday said

March 18

he saw four cuckoos, and I saw one flying southward along over

Discovered yesterday that lunatus tern is described from
the trees but could not find it.

Kauehi Island, so will run in there again to see if we can get
a few. They occur on one of three or four motus that we did not

March 20

visit, and to get the sea birds of these islands it may be

Came across from Saraka yesterday, as I discovered this
necessary to travel clear around an island and go ashore on
island was the type locality of the lunatus tern. We secured
twenty or thirty or so little motus to be sure one misses no
nest while here. Louie took waterboat and went to point we
nesting site of blue ternlet of some other scarce bird. The
flushed up on last time, and I took ship boat and went to other
boobies there were only on one of thirty or forty perhaps
and sawing a half dozen motus strong along for four miles. I
islets in the forty mile ring of this atoll. Very few, six or
found many noddy nests in low wickymicky bushes and a couple on
so, sooty terns were seen here, though they probably nest at
the ground. Most were old, but an occasional one held a young.
Kauehi. While at Takaroa and Takapoto we saw many that nested
but I found only a rotten egg. In one thick bush I found a heron
on island fifty or more miles away. Doves are quite scarce
nest a foot off the ground with an addled egg in it. A few of
here, perhaps due to cats, and warblers are not very common.
the noddy nests had bits of shell or coral in them, but most
Louie found a warbler nest being built. We looked at it a second
were of the small twigs picked up along by the nest probably.
and found one bird in the nest and the other in the bush below.
A lesser noddy had a nest in one tree eight feet above the ground.
It was in a clump of bushes only four feet up.

and a few terns were roosting in low trees. Aboard the schooner

Leave this morning for Kauehi, the wind being light in
which had anchored near us, and after lunch went again to the
comparison with the last few days which have been squally at
most motus and found sooty and lunatus terns sitting about as
times. Many rocky patches are along the shores of the lagoon
though they had nests, but we were unable to find one though

flushed several young lunatus just able to fly. On the beach

and the mate stays at the masthead while we move.

March 19

Cabin boy while hunting lizards on Raraka Saturday said he saw four cuckoos, and I saw one flying southward along over the trees but could not find it.

March 20

Came across from Raraka yesterday, as I discovered this island was the type locality of the lunatus tern. We secured none while here. Louie took motorboat and went to point we finished up on last time, and I took ship boat and went to other end having a half dozen motus strung along for four miles. I found many noddy nests in low mickymicky bushes and a couple on the ground. Most were old, but an occasional one held a young^{bird}, but I found only a rotten egg. In one thick bush I found a heron nest a foot off the ground with an addled egg in it. A few of the noddy nests had bits of shell or coral in them, but most were of the small twigs picked up close by the nest probably. A lesser noddy had a nest in one tree eight feet above the ground, and a few terns were roosting in low trees. Aboard the schooner which had anchored near us, and after lunch went again to the next motu and found sooty and lunatus terns sitting about as though they had nests, but we were unable to find one though flushed several young lunatus just able to fly. On the beach

near our landing place were several rectirostris terns, and going to the spot I found five nests with fresh eggs, the first eggs of this species we have taken. Two nests were within a couple of feet of each other in two cases, one pair being but a couple of feet or so from high water mark in a little patch of sand; while two other eggs were in the coconut drift a little higher, and one nest was back thirty feet from the water in the solid coral with a few small pieces of coral pebbles about the egg. The old birds flew about and along the beach every few minutes for an hour. I finally shot four, all being males. A hundred yards, more or less back, the sooty and lunatus terns were claiming the territory, and I collected with the auxiliary as many as I cared for. Near the outside of the dry land several blue ternlets were sitting on the rocks and I shot four or five of these. I was surprised to see a young fairy tern sitting on a large coral boulder that was surrounded by water near the edge of the reef. This was an unusual nesting place, as the fairy tern as a rule nest in the trees. Though the sooty terns fly along the land both ways from their nesting site, the lunatus were only seen a short distance out in the lagoon in front of the colony. A flock of 75^{so} or lesser frigates was scared by the schooner from its roosting place a mile from the terns' colony, but I could only get one as they rose high in air and went out to sea. Louie came along with

said the boobies roost at night on a small island four miles or a dozen or so blue ternlets and reported no lunatus seen till he reached us on the colony ground. At four P. M. I went aboard and we sailed for Tahanea Island, sixty miles to the south.

March 20

I took boat and went along shore to east and the ship

March 21

followed at nine o'clock when the sun had gotten high enough to reveal the coral heads which dot the lagoon. I got a few pass with a couple of families making copra and waiting for the 'Vaite' to pick up their two tons of copra, after which they will go back to Katin Island. I managed to get a foolish young heron that was resting in the shade of a small bush on the beach, but did not hear a warbler on the motu and was disgusted to learn from the native that it had been several years since he had seen a ground dove here. It begins to look as though this species, if it has a white head sometimes as he said, is now exterminated. On

some of the motus of most islands where coconuts are planted there are some cats left to combat the rats, and they, of course, make short work of the doves. It is probable also that the natives have caught many of the birds for food. Took the boat and went along to the west for a couple of miles and found a number of noddy nests on a small motu in low mikymiky and other bushes,-- a few with young birds in them. Yellowbill terns were fishing along the reef on the outside and sometimes in the lagoon. A single frigate was seen and a booby in the distance. The native

said the boobies roost at night on a small island four miles or so away from the pass.

March 22

I took boat and went along shore to east and the ship followed at nine o'clock when the sun had gotten high enough to reveal the coral heads which dot the lagoon. I got a few warblers and we went to the southeast end to a motu that the native said held rail. We worked three or four motus and saw no rail and only a couple of doves and warblers, though picked up a couple of sandpipers that appeared along the beach. I also shot two separate golden plover in summer plumage, the first seen for a week. There appears to be a small flight on today as weather is windy and promising more for tomorrow.

March 23

Went farther to another motu and got a couple more sandpipers and found a half dozen doves and several warblers, the doves finding plenty of food on this motu at present. They are not eating here the food of the eastern Tuamotu doves, as I mentioned in Raraka notes, but are feeding on the white mulberry-like fruit that is common on this motu and less common on others.

Louie went nearly ten miles to west with the motorboat and found not a dove on a large motu, though he got about twenty

around in their mating flight as do the noddies and various shearwaters.

warblers. I flushed a small dove ahead of me from a pandanus tree, and after securing the bird went back and found the nest hanging in the pandanus where the bird had perhaps fallen with it on my approach. The dove, as most of the other island birds, seems to have no hard and fast rule for a nesting site but selects one very easily. The noddies here are using the pandanus trees and the lesser noddies three species of trees that they use largely on other islands.

March 24
Louie and Captain went ashore early to look for rail but found none. I went to the next motu after breakfast at eleven to get a few birds to work on as our supply was running short, but the Captain wanted to start at twelve for the island where the boobies roost, so I got back and we were unable to head direct as sun on the water prevented the mate at the masthead from seeing the coral rocks that come to the surface at many spots. By heading off a few points we reached the island and saw no boobies till nearly dark, when perhaps thirty birds were seen coming in, and one came along with a frigate bird for companion. I shot a couple from the vessel and the Captain went ashore with a light and shot five in the trees. Fairy and lesser noddy terns were coming up the wind to the island in a scattering stream till after dark, and a couple of the lesser noddies were seen flying around in their mating flight as do the noddies and various shearwaters.

A couple of plovers March 25 up astern the ship at dark but drifted. Rainy and heavy wind this morning, but I go ashore and find no boobies so collect a few fairy and noddy terns to work on today. The lesser noddies are practically all gone from the island, but a goodly number of fairy terns hover over the island while the drizzle lasts, but by ten o'clock most of them have gone fishing and the most of the noddy terns left are young birds. A lot of noddy nests are scattered about in the mikymiky bushes and a few downy young are seen in some. Many of the nests are large ones and are used repeatedly, as are the lesser noddy nests which are common in several trees in the center of the island. One fresh egg of lesser noddy was taken from a nest twenty feet up in a tree containing several old nests. The nest had been repaired by adding a few leaves to the top of the old excrement-covered one. A couple of young lesser noddies were seen in nests, but a hundred or so old nests were unused. One young fairy tern was noted, and one female skinned was just about to lay or had laid. Four wandering tattlers were about the island; a couple of plovers while a heron flushed a couple of times finally left, chased by a couple of noddies; and I have usually seen herons followed closely by noddies when they leave the shore. The island covers a couple of acres probably. Ten frigates hung in the air over the island at daylight but left before I got ashore. A couple of warblers were taken and an old warbler's nest seen.

A couple of plotus boobies swung up astern the ship at dark but fell back into the water. After hunting all day for a rail drifted off without approaching the island, while a young bird it was often necessary to collect the abundant birds at hand came up to the vessel and was shot at ten o'clock. Captain went to have something to do in the evening, working hours extending ashore again at dark but only got two boobies and I got one from the vessel at dark.

A few miles out of Takaroa pass a blue shearwater was seen flying to the westward, this being the first of this species

March 26

Louie went ashore till eight and came back with a dozen planted to accounts. But no noddies are seen flying about as on lesser noddies and we went across to the north side to some west of the motus to the eastward. With a light fair wind we small motus which we worked till three, getting a dozen warblers are passing the west end of the island at twelve o'clock. and no doves. Rail were not found, though the ground looked

In five miles or so of the west end of Takaroa Island I favorable. Several noddy nests were found in mikymiky bushes about nine miles with coconut trees, some with less than a dozen. from one to four feet up, and a few young birds and a couple of Twenty miles south of Takaroa I noticed about twenty (?) sooty pipped eggs noticed. I took a nest and an egg that the bird shearwaters flying SE by S and WSW and two tomorrow morn. was setting on, but she had neglected to take care of it properly and it was rotten though incubation had begun. We moved down to

the pass at three and the Captain went ashore and got some yellow-bill terns and a heron.

A sooty tern and a fairy tern as well as a young noddy which came aboard and left in the morning were seen. A yellow-bill tropic came about in the evening. A couple of sooty shear-

March 27

waters also passed, westward bound.

Got under way at eight o'clock and headed for Papeete with a few over a thousand birds for the two months' trip. Days spent

looking for rail and landbirds on Takaroa necessitated collecting A few redfoot boobies and fairy terns fishing fifty miles more noddy and other terns than would have been the case had the off Tahiti, and at five P. M. twenty miles to SE of Pt. Venus

rail been more in evidence. After hunting all day for a rail it was often necessary to collect the commonest birds at hand to have something to do in the evening, working hours extending to eight P. M. ~~Number seen here it is a migration north. Fine~~

~~weather~~ A few miles out of Tahanea pass a blue shearwater was seen flying to the westward, this being the first of this species seen since leaving Oeno (?). The west end of Tahanea Island is planted to coconuts, but no noddies are seen flying about as on most of the motus to the eastward. With a light fair wind we are passing the west end of the island at twelve o'clock.

In five miles or so of the west end of Tahanea Island I count nine motus with coconut trees, some with less than a dozen. Twenty miles south of Tahanea I noticed about twenty (?) sooty shearwaters flying NW by W and WNW and two tomorrow morn.

March 28

A sooty tern and a fairy tern as well as a young noddy which came aboard and left in the morning were seen. A yellow-bill tropic came about in the evening. A couple of sooty shearwaters also passed, westward bound.

March 29

A few redfoot boobies and fairy terns fishing fifty miles off Tahiti, and at five P. M. twenty miles to NW of Pt. Venus

several sooty shearwaters passed, going to the west north west. I have not seen this bird north of Tahiti before, though saw several on the trip to Rapa, which was made in March; also in 1921. From the number seen here it is a migration north. Fine weather and light wind and expect to reach Papeete late tonight. Two or three puffinus shearwaters seen fifty or more miles off Tahiti. In the fishing birds, but no restraats though two or three of the latter were winging their way over the ocean twenty miles off land. One bonito taken was full of small fish two to three inches long, and the birds were taking these also from their sections. At dark a few of the birds were heading toward Bora Bora Island to the west. Night mild and calm.

April 12 - A light SE wind forced us to the east and Bora Bora showed up clearer as the day passed. But one yellowbill tropic came about during day and two or three boobies seen. At dark three and four boobies were seen heading to island and several flocks of larger also were noted also bound inlandward.

April 13 - Island well beyond us to distant low level. We had on no calm half-tyrant as to distant low level. Headed north with light wind.

Corucia in party

April 11

Left Papeete for the Tuamotus again, expecting to return early in July. In P. M., as we motored a few miles to the north of Tahiti, flocks of redfoot and a single plotus booby were seen fishing with a lot of lesser noddies and a few fairy terns and a few noddies. A half dozen or so obscurus shearwaters were seen with the fishing birds, but no rostrata though two or three of the latter were winging their way over the ocean twenty miles off land. One bonita taken was full of small fish two to three inches long, and the birds were taking these also from their actions. At dark a few of the birds were heading toward Tetiaroa Island to the west. Light wind and calm.

April 12

A light NW wind forced us to the east and Mehitia showed up clearer as the day passed. But one yellowbill tropic came about during day and two or three boobies seen. At dark three and four boobies were seen heading to island and several flocks of larger size were noted also bound islandward.

April 13

Island well astern of us twenty-five miles or so and we headed north with light wind. I noted old nests in the bushes and on the ground, so likely no nests are on this side of the

anchorage. Captain April 14 but missed it. I went ashore

again A wedgetail and three obscurus shearwaters seen in morn.

April 15

Sunday and we passed Niau at eight in the morn, seeing several flocks of lesser noddy and noddy terns with a few fairy and a half dozen lesser frigates fishing off the east end. Reached the west end of Toau Island at two and went ashore awhile, seeing a dove, warbler and four curlew. Louie saw a rail and a cuckoo, while I heard a cuckoo. A few terns of the three common kinds flew along shore. Anchorage is in a former (?) pass with coral in inside part too shallow for vessel to cross. The reef to the south of the part where plants can grow is wider than most reefs, being perhaps a half mile wide in places with a small motu a couple of miles west of the southeast end and no further vegetation as far as the eye can see.

warblers, while Correia got a few terns etc. as well as a couple of herons.

April 16

Ashore and find birds scarce. I got three warblers and three doves, while Correia got three doves and a few terns. I went down the reef a couple of miles to the eastward to a small motu and got a warbler for my pains. A large flock of noddy terns were resting on the reef and I noted old nests in the bushes and on the ground, so likely no cats are on this side of the

anchorage. Captain saw a rail but missed it. I went ashore again and looked for them but saw none. seeing no warblers or doves.

so go aboard at four and go to village five miles on. Correia

got a warbler and we April 17 a wandering tattler, both showing

I went to the southwest end of island about four miles from anchorage and shot a cat and one warbler of two seen, the other escaping. In one motu were a lot of lesser noddies resting in the trees by old nests. A couple of wandering tattlers were shot of several seen, the two being in summer plumage, while the several golden plover seen were all in winter plumage. A couple of curlew were noted also. Shot and organs small, while one of the tattlers showed evidence of enlargement. Most tattlers are in winter plumage. As many white as blue herons seen. Can't account for scarcity of warblers, as quite a bit of likely looking territory seemingly suitable on a couple of motus and saw no doves at South motu, though several at anchorage. Louie got five warblers, while Correia got a few terns etc. as well as a couple of herons. slightly higher about 15 feet up. Redfoot nests are small and new, at collect a couple. Flocks of young noddy terns are sitting on the sand and in bushes on the small motus.

April 18

Started at daylight for Fakarava, which we will reach at noon with light wind and motor going. South side of Toau is water covered reef and a dangerous place for vessels at night. On northeast end is a motu which shows well. in places, but on

Ashore at Fakarava at 12:30 and spend three hours covering two miles of likely looking ground and seeing no warblers or doves, so go aboard at four and go to village five miles on. Correia got a warbler and we both shot a wandering tattler, both showing few summer feathers. Few rectirostris terns seen fishing inside and a few noddies fly along over trees.

April 19

Three of us ashore and work three or four miles both sides of village, getting thirty warblers but no doves. Correia got a couple of herons also.

April 20

Leave early for islets in lagoon and motus on south side where natives say boobies nest. Scare a few frigates from small islet but no nests. Going ashore in P. M. on motus on reef find a few plotus boobies nesting on ground and three or four red-footed in mikymiky bushes about 16 feet up. Redfoot nests are small and new, so collect a couple. Flocks of young noddy terns are sitting on the sand beaches and in bushes on the small motus. Water from sea drops a foot or more in waterfalls when tide runs into lagoon. Many sand beaches on lagoon shore where motus exist. The motus are farther from the outside reef here than on any island yet visited, being 300 yards or more in places, but on

mikymiky bushes were growing on one side and a mangrove was
Toau a motu is farther in than that perhaps. Fairy terns had eggs
and one nest was seen and photoed where the egg was laid on a
rough coral rock a foot and a half off the ground. A couple of
curlew and golden plover and tattlers seen.

April 21

I went ashore for an hour in morn as a lot of boobies
were seen lighting in mikymiky bushes and trees, but majority
rose and flew before we got to the beach. I got a couple of white
ones out of the flock of fifty or so. A few feet below a booby
nest was a fairy tern nest with egg visible from below when bird
was on it. A very small dry dead branch twisted with hole in
bottom, but after three of us had tried in vain to break limb
below nest I shot the branch below the dead one on which egg was
placed and the jar broke the large limb and shattered the nest
limb into pieces.

Started about eight for islets scattered in lagoon and
landed on several, but found nothing till after lunch when we
reached a small islet of 30 by 50 yards in extent and on this
about 20 fresh nests of plotus booby were located. One had two
eggs and three others one each. The nests were mostly of the
grass growing over the top of island and a few small sticks
sometimes. The birds left as we neared islet and sailed around
out of gunshot, one occasionally flying over islet. Three small

miky bushes were growing on one side and a sandpiper was resting here. Collected and male with small organs. Passed close by other islets and saw nothing of interest except on one little beach of one four rectirestris terns sat with a few noddies and a half dozen lunatus terns. Motored across to north side again and anchored for over Sunday. I went ashore for couple of hours and got a dove and three warblers. Some very rough territory here, ragged coral boulders grown over with dense tangled bushes ten feet high in places. Cocomuts are planted on lagoon shore in many places but very seldom do they reach across to the outside shore, though once in a while a row will run across, possibly bounding different tracts of land. A fine cement lighthouse has just been completed at the northern village on the outside of the vegetation and should be seen for ten miles. It is about thirty feet high and should be useful to the trading schooners that may be passing in the night from east to west along the coast.

April 23

Correia and Louie ashore for birds while I blow the booby and tern eggs taken last week. Rain for an hour this morn and collectors ashore get wet. Get but few birds, warblers mostly, tatler and couple of lesser noddies.

April 24

Moved along coast a ways yesterday P. M. and ashore this morn gave us a couple of doves and a couple of herons. In P. M. left for Faaite and arrived after couple of hours' sailing. Ashore and get permission to collect.

April 25

Moved up into the lagoon a few miles and ashore after ten o'clock. A flock of 20 or 30 rectirostris terns were resting on the rocky lagoon shore and others were flying along and often fishing in the lagoon and in the stream of water that flowed a foot or more deep across the reef from ocean to lagoon. Several herons were seen and 1, 3 at one place secured. Warblers were frequent but I found only a single dove that had just eaten one of the large berries that the eastern Tuamotu doves live on. This bird had also eaten a lot of the same food that the western Tuamotu doves live on. The dove was shot close by bushes of both sorts, which were growing close together. Quite a few nests of lesser noddies were seen in trees with young recently hatched.

At sunset a stream of lesser noddies were seen flying along the trees to their nests from the west, it probably being easier flying over the land than the water as the wind was from the east. A few old noddy nests were seen in bushes and a couple

April 25

of warbler nests also were located in a pandanus joined by an
old shred, one nest having fallen and the other having been built
in its place. Reef in places here is only a foot above sea, for
at slack water there is little flow and lagoon level is nearly
that of ocean.

of the land having been washed over. At the settlement close to
the pass were washed out places over six feet deep.

April 26

Moved a few miles to east, as natives said rail were there,
and one sailor said he saw a couple; but the three of us with
guns encountered none. I went along outer shore and found flocks
of lesser noddies sitting in trees, some in leafy tohunu and a
flock near them in a dead leafless tree, those in the dead tree

all facing the brisk wind from the east that was blowing. Noddies
were in a flock on the beach not far from the smaller birds.

Correia found a young warbler unable to fly in a nest.

May 1

April 27

Ashore at Depoto and got several sandpipers and warblers.
Ashore early for rail but none seen. Few warblers taken.

Four or five feet high. Half a dozen Frigateas flew away as I

April 28

Moved toward pass four miles and went ashore where natives
said doves were common, but I found but one and Correia and Louie
saw none. We got a few warblers and Louie shot a cuckoo to pieces
by mistake.

April 29

Sunday. At eleven we went to sea around the south side of Faaite to stop at west end of Tahaena, as natives say the ground doves occur there yet. Before the hurricane they said the birds were common on Faaite and I saw no old soil on the island, all of the land having been washed over. At the settlement close to the pass were washed out places over six feet deep.

In eve a few lesser noddies were fishing three or four miles south of Faaite and these are likely the birds we saw coming across the lagoon daily when anchored on the north side of the island close to where the birds roosted in flocks in the trees.

April 30

Tahanea ahead at 7:30 and a couple of plotus and a young redfoot booby fly about us in fresh breeze.

May 1

Ashore at Tepoto and get several sandpipers and warblers. Redfoot boobies had young birds and eggs. Some nests were but four or five feet high. Half a dozen frigates flew away as I worked along. Few fairy terns and noddies of both kinds were scarce. A cuckoo seen and doves were few, some young birds being taken lately from nests. The east side of island looks as though the top had been washed off into the lagoon, as it is shallow all along for a mile or so.

May 2

Ashore at Tuanake and Correia got a ground dove, and I saw a rail so will let Correia and wife spend a few days here looking for rail and doves while we work a couple of other islands near by. Hiti is only about five miles to east. In a mikymiky bush about 5 feet up I found a dove's nest and touched the wing of bird a couple of times. I then went on and returned later and put hand under her, took out egg shell and looked at young bird just hatched. The old bird struck my hand several times with wing as I lifted her (?) up. It was rainy and that perhaps kept her from leaving. The nest was on outside of motu with several bushes with feed close by.

May 3

Put Correia ashore and motored across to Hiti, as calm for last two days. Ashore in P. M. and I get a ground dove. Was striding rapidly along lagoon shore, headed for landing place and saw bird run into bushes. I stopped and bird turned back and ran back toward me. I took out shell, put in auxiliary and shot bird as it was nearing to get better look. Fat when skinned. Found a colony of lesser frigates nesting on lagoon shore, some nests only a foot from ground. About ten in one mikymiky bush, all being in same kind. The birds are wilder than other species and I shoot a couple of immature plumaged

ones, seeing only a half dozen in flock of a hundred that are not adult. It was so at Nengo Nengo and Hatutu Islands where I saw other colonies of this species. The frigate bird of large species has plenty of immature plumage about the colony and it is so here. A colony of the large kind nesting in same trees with boobies half a mile along shore from the lesser frigates. Downy young frigate birds are seen in the green tree, while the lesser birds are sitting on fresh eggs and some nests are not laid in yet. Took a dozen redfoot boobies' eggs from a few tohunu trees. Three or four nests in some trees and many nests not finished yet in other trees. Young birds of last season frequently roosting in trees which contain setting birds. Ten or so roosting birds in one tree sometimes, and once in a while a frigate bird is in same tree resting that boobies are using for roosting purposes. Walking along sandy beach of lagoon I flushed a dove from a fresh egg in mikymiky bush only three feet high. This nest was away from brush, and later I found another similar nest and wondered if possibly they nested so to escape rats which climb about in the bushes where vegetation is thick. These birds flushed before I reached them and both were fresh eggs they covered. Nests about twenty or so small twigs from the bush which they built in or the same kind, for I saw doves flying some distance with twigs in bills in other places. Roa bush is the Tahitian name for the plant that

is used, but none that seemed to have nests. Put Corrola off in

furnishes food for doves in west Tuamotus. Potea tree is one occupied by nesting frigates and boobies, and is used largely by lesser noddies in some islands for nesting. Lesser noddies and noddies are very scarce here and at last two islands.

May 4

Ashore with camera and Teri, leaving Louie with few birds to skin. While Teri sat under a tree waiting for me to photo lesser frigate a ground dove ran around him and he shot it, and later shot another near the lagoon shore. I took pictures of lesser frigates' and doves' nests and we returned with few birds at four P. M. Saw eight land crabs near where we ate lunch under birds' nests.

May 6

Sunday, and ran up fifteen miles to lay in lee of Makemo Island and will run back at daylight tomorrow to Hiti.

May 7

Wind light and make Tuanake, so pick up Correia who has gotten no more ground doves and has seen no rail, and take him to Hiti. Mrs. Correia found a sandpiper nest with two eggs in it on lagoon shore by side of a rock. I noted birds getting ready to nest, but none that seemed to have nests. Put Correia off in

eve and expected to run down to Motutunga, but calm prevented, and we lay to off Hiti.

May 8

Louie ashore to get a bunch of frigates and returned with ten and a couple of ground doves Mrs. Correia spotted, and one Louie got as well as a rail he captured. Ground doves are very fat and the male taken had several of the mulberry type of fruits that the green doves are partial to, as well as a lot of very small seeds in crop.

May 9

Ashore and find the lesser frigates have left the island after I took thirty or so eggs from them. Correia found three fresh eggs laid probably on Sunday, and he also took a frigate egg; and I saw one in a tree where there were several young downy frigates, and redfooted boobies were nesting within a few feet of the young frigates. The frigate nests looked the same as the boobies' nests within a radius of ten feet. There are a lot of booby nests being built, as well as a few with eggs and some with very young birds. Many booby nests are built on old sites with a lot of old sticks and guano under the nest, but whether the booby destroys the old nest I could not determine, though every stick was new in many nests, but these were possibly new pairs

of birds. The lesser frigates' nests were newly made also from their appearance. Saw one booby standing in a new nest and presently the mate came with a stick and with a lot of talk placed it and then went off while the standing bird stayed. All make a fair warning when ready to light. "Kick, kick, kick, kick" is one usual call, as "Kuk, kuk, kuk" is of the frigate.

Louie found a dove's nest along the beach in mikymiky bush two feet off the ground very similar in position to the two I found. It is possible they nest in the open to escape the rats which run over the bushes, as do the large mice, a couple of which we got here. Coconut crabs are common, and I saw eight where I ate dinner one day. One walked off with a salmon tin that had been emptied. The south side of this island, as many others, is

barren reef, much of it covered with water at all stages of the tide. Light south wind induces us to leave Motutunga Island and head for Takume Island to the north.

May 10

To the north of Taenga Island at daylight, but wind is failing and tack to make headway to destination if chance of arriving tomorrow. Got a series of different plumaged redfoot boobies and string of frigates from Hiti, as well as three or four lesser frigates in plumage not quite adult. Have seen in two hundred or more lesser frigates not more than a dozen that were flying in

immature plumage. Of frigates there are plenty of immature plumage about the nesting colonies. Saw last night at sunset several sooty shearwaters flying to the westward within three or four miles of Makemo and one that I thought was an aestrelata with grayish underparts, smaller than sooties. It was in this region that we saw a few sooties going in the same direction when going into Papeete last March. They do not come near the ship, and appeared to pay no attention to a flock of fishing boobies that were far astern of us. Though boobies were headed toward the fishing birds, possibly the boobies were homeward bound to Hiti twelve miles away. Squally weather and progress slow, though only fifty miles to go.

May 11

Talume

Wind NE today and use motor to reach island by eleven when we go ashore. Find deserted village at north end, where a motu about a mile long harbored a few warblers. Calling for warblers I got a cuckoo that flew near me to investigate. Also found a dozen lesser noddies nesting in tall trees, the nests over forty feet up. Got three herons of several seen, and saw several yellowbill terns fishing along lagoon shore. Three of us got six herons and skinned out the twenty birds in eve.

May 12

Ashore at village and motu a mile long at south end

island and find not a warbler,--one bird for the three of us. Aboard at eleven and motor across to Rairoa, ten miles to south. Why no warblers at south end Takume puzzling, as it is good country for them. Spiders were thicker at north end of island than anywhere else noted. Webs everywhere but only two or three species seemingly.

Takume has a cinema house with nobody living within five miles, used for diving season only. The west side of Rairoa is made up of little motus of few acres with few coconuts and from those down to motus with bushes and single coconut trees. Boulders are seen on reef as on some other islands.

terms are noted, the terns in a close flock resting by a pond near the outer shore. May 13

Ashore in P. M. and walk a couple of miles along through the brush and find no warblers or doves. Get three young noddy terns sitting on a dead tree on outer edge of grove and shoot a fat curlew standing on top of a dead coconut stump forty feet high. See also a couple of herons, getting one.

each being a yellowbill tern. Two birds seen in two hours ashore.

May 14

Sunday and get a few pictures.

Ashore at southwest end and I go for three miles or more along wooded part. May 16

Go across to east side. This island swept by 1906 and land birds perished from lack of food perhaps, if some lived through

hurricane accounts for no land birds here, but expect to find them on north end, if not on motus on east side. Get a few herons but see no landbirds. Golden plover and tattlers are migrating today with a strong northeast wind. A couple of curlew also seen. Wreck of old steamer on east side of the motu we visit. Move down to north end of lagoon in afternoon and a single plotus booby came around the vessel and is shot. It flew along the shore and lit far ahead of me. A half hour later I managed to get near them and shot May 17 male and female, and they were under a tree. Ashore at motu on north end which extends a mile or so, but no warblers are found. Few herons and a big flock of noddy terns are noted, the terns in a close flock resting by a pond near the outer shore. Fairy terns are common, and nests of lesser noddy terns are seen in some low trees. Louie takes motorboat and visits small motus but gets nothing but a lunatus tern of three seen and notes young noddy terns in a few nests. We go out of this lagoon and lay off the southwest end for the night. I go ashore for a couple of hours and shoot a tattler, the other bird being seen being a yellowbill tern. Two birds seen in two hours ashore. one egg. Scattering noddy and fairy terns noted and a heron taken.

May 16

Ashore at southwest end and I go for three miles or more along wooded part and find no warblers or doves. This entire island seems to have been swept clean by the 1906 hurricane and land birds perished from lack of food perhaps, if some lived through

village has nice streets lined with blocks of coral shells, or it. The berries eaten by the doves are thick on the scattering rather blocks of coral in which many small shells are imbedded, bushes noted and many new bushes just starting to grow. Half a dozen young noddies seen roosting in dead trees and scattering fairy and yellowbill terns as well as five herons along the reef. Most of them were fishing on the outer edge of the reef, which is nearly out of the water at low tide. I followed one for over a mile and finally it joined another, when they both flew along the shore and lit far ahead of me. A half hour later I managed to get near them and shot both. Male and female, and they were under a tree in which an old nest was seen. Both were white. Leave at midnight for Taenga. They are reported to be in the section they visited and we will try again Monday to find one or more.

May 17

Ashore at west end of Taenga on largest motu of the island, and between us got about twenty warblers and four doves. Cover about five miles of best ground on island and natives say that this is best place for birds. Correia found a warbler's nest, but though we waited half hour at nest no bird showed up. Birds did little singing and most were secured by calling. Correia's nest had one egg. Scattering noddy and fairy terns noted and a heron taken.

Ashore and find two or three doves and a few warblers.

Plenty of food for doves May 18 Very few present. I got a cuckoo

that flew. Went to motu on which village if located, but no birds seen there as it is small. There are fifty or less people, though

village has nice streets lined with blocks of coral shells, or rather blocks of coral in which many small shells are imbedded, the shells being the principal part of some blocks. In P. M. sail across to Makemo, but light wind keeps us from reaching pass till after dark and lay off.

May 19

Find half a dozen doves in north and at noon move outside north pass and go ashore. *May 19* *nearest Motu* *Makemo* the pass.

Parakeets I go three miles or more to west of village and see no warblers. Hear a cuckoo and get a heron for my day's walk, while Correia and Louie go to east of pass a couple of miles and find twenty warblers. Rail are reported to be in the section they visited and we will try again Monday to find one or more.

May 21

I go to east side of pass where others found warblers, getting twenty by eleven. Correia takes motorboat and goes to rail section but sees none. Return at noon and we move down to west ten miles inside lagoon. a cuckoo heard. Few yellowbill terns were fishing in lagoon and a large frigate flew about the settlement and fished with them.

May 22

Ashore and find two or three doves and a few warblers. Plenty of food for doves but very few present. I get a cuckoo that flew past me and lit in sight for long shot. Couple of boobies flew over me from south, probably coming from Hiti, as

south side of this island is under, not a motu being visible except small sand spits. Couple of lunatus terns fishing with few noddies in eve. or they may come across from Tannake, which is in sight from Katin. Several blue tarulats were flying to windward with lesser noddies May 23 along the land in the early morn.

In eve boy Find half a dozen doves in morn and at noon move outside north pass and go ashore on westernmost motu south of the pass. Parakeets were reported here on Makemo, but natives say they see none. Rail probably occur, but it takes a lot of time to get them usually, and there are few other birds to work on when the rail are not found. Ten years or more ago ground doves were here, but cats or hurricanes have exterminated them. couple of warblers and call by a cuckoo that called ahead of us. Several terns were fishing along

May 24 on the west side of the island. Reached Katin at noon and ashore to find birds very scarce. Correia went to east of pass and found no land birds, and Louie and I went to west and found a couple of doves and four warblers. Half a dozen herons were taken and a cuckoo heard. Few yellowbill terns were fishing in lagoon and a tame frigate flew about the settlement and fished with terns. the southeast end is about a mile long and a place runs through it on the east side. Quite a lot of coco-

nuts are planted, nearly May 25 the suitable land being occupied. Ashore on west side of pass and Correia and self got one superstitious to Katin Island where the noddies nest by hundreds.

warbler and two doves for the day's bag. I got a couple of sandpipers at end of motu, and they may exist on little barren motus on which are no cats, or they may come across from Tuanake, which is in sight from Katiu. Several blue ternlets were flying to windward with lesser noddies over and along the land in the early morn. In eve boobies were flying low over the water north of the island toward Tuanake and Hiti Islands a few miles to the eastward.

not trees, though room for plenty more. I walked around it in about eight hours, collecting many specimens. A few yellowbill terns are seen on

May 26

Move around to west side to try there. A Frenchman gave me a deep water crab, dried, for the Museum. They are said to be rare. Ashore at the southwest end and I find a couple of warblers and call up a cuckoo that called ahead of me. Several lunatus terns were fishing along the reef on the west side of the island, but I could not determine if they belonged ashore or came across from Rarake or Kauehi. A couple of blue ternlets were also seen, and rectirostris terns were common, fishing in the lagoon. The west side has two or three little motus on it, and the south side is barren reef most of its distance, though two or three little motus show. The motu at the southwest end is about a mile long and a pass runs through it on the east side. Quite a lot of coco-nuts are planted, nearly all of the suitable land being occupied. A noddy or two and a few fairy terns nest here, but nothing in comparison to Kauehi Island where the noddies nest by hundreds.

May 27

Reached Taiaro Island after noon, as wind light and calm during night. Laid to five miles south till tomorrow.

May 28

Ashore and find an American young man in possession with a girl and a little boy as helpers. Island contains a lot of coconut trees, though room for plenty more. I walked around it in about eight hours, collecting meantime. A few yellowbill terns are seen on the reef and in lagoon on rocks resting. Only a half dozen noddies and the same of fairy terns, though both nest. Warblers are not rare, and the three of us get about fifty during day. Correia got a dove and Louie a cuckoo, while I picked up a couple of herons. Sooty terns fly by the island as we lay off shore, but they probably come from Kauehi. As we left Katiu a flock of redfooted boobies were fishing and at dusk several were seen flying close to the water, bound for Hiti or Tuanake. The south side of this island is some feet higher than many others, though quite similar in material. A flock of eight tattlers with a single golden plover are seen on the shore of the lagoon. All the tattlers were in winter or young plumage.

May 29

I skin birds till noon while the others go ashore to

collect awhile. Weather fine and not much wind lately. Louie and Correia get twelve warblers apiece and Correia gets a plover with a few black feathers in the breast. Louie saw the flock of ten tattlers near where I saw them yesterday. Leave for Aratika this eve with light wind. Buy six chickens at seven and a half francs each, about fifty cents.

May 30

Sailing slowly along the east shore of Kauhi Island at eight in the morn a mile from the sooty tern rockery to look at the terns and to see whether lesser frigates are nesting. All seven species of terns were here on our visit in March within a few hundred yards of one another, and to note what difference in colonies we are stopping as it is ten miles or so out of our way to Aratika. Sooty terns are flying in couples and small companies from colony as we approach. Small motus with tohum trees principally and six or eight coconut trees; we pass land but four or five feet above sea and between motus water is on reef in some places. "Crk, crk, crk! Creak, crik, crik!" call the sooties over my head as I type this on deck sailing. Couple of fairy terns noted, as well as some of yellowbills over motus. "Crkik, crkik!" is common call also. Tohum trees are but six or eight feet high on some of the small motus, and a pandanus tree stands four feet or so above them on one motu, the only pandanus in sight. Twenty or so bushes

comprise the vegetation on some places and from that up to miles long on the north and south sides. Three feet above the sea are motus here on east side and water between them in some places. Terns other than sooties are not seen, though hundreds of noddy nests are within a couple of miles.

Ashore on reef, where we found the lunatus terns with young in March (?). Kauehi Island and see not a lunatus but 10,000 or so sooty which are beginning to nest, and the sailors picked a thousand or so fresh eggs to eat. While they were gathering them the terns hung overhead and many lit in other parts of the colony, which covered an acre or so. A few hundred lit on the ground a couple of hundred yards away. After taking a few photos I left and they built a fire to cook some eggs, and the disturbance drove the greater part of the colony to leave for a motu a mile or two to windward where the birds were swarming in the evening as we passed for Aratika Island. The lesser frigates were not seen, and the rectirostris terns were nesting within a hundred yards of the place that eggs were secured in March. Eggs were fresh to incubated and a couple of young ready to fly were taken. The nests were close to the lagoon shore among the drifted coconuts hulls, and four nests were within the length of the gun laid alongside of them. The old birds stayed about some time and I shot several. One darting at me was shot with the auxiliary,

and I had to dodge as he swung to the ground. Several darted down straight at me and swerved when close. Some went down the lagoon shore a quarter of a mile and lit for a while till I left. On one of the big rocks near the edge of the reef I found a nest of the blue ternlet incubated egg. Another pair perhaps had a nest on another rock, as the birds hung around. The nest with egg was lined with small bits of coral and shell five feet off ground. Several of the birds were about here on last trip. A nest of fairy tern was seen in tokum bush two feet off ground, egg fresh and bird flushed. Noddies were not nesting on motu visited. A pair of nesting sandpipers were taken. We left in eve for Aratika.

May 31

Sailed up to pass at seven in A. M. but current too strong to go in, so went to west a mile or two and went ashore. Got doves and warblers.

June 1

Moved a few miles and ashore and met a native who said rail were common on motu to south of village, so we went in west pass at slack tide at three P. M. Supper early and ashore hearing two or three rail but saw none. At dark many lesser noddies were flying to south and will tell tomorrow if going to

or from nests. Saw small flocks on beach yesterday and a flock of noddies today on rocks on reef.

June 2

Ashore early and I get a rail standing in the open between two patches of brush where small pools of water stand. Young bird. At eleven get into an open spot under large trees and get three more. I called few times, scared and ran into cover but later secured. I called a while and one walked near me and another headed my way after persistent calling on my part.

Came to same place at three P. M. and got another by watching under the bushes. They make no sound frequently and the lizards and hermit crabs are easier noticed than the rail. The lesser noddies roost in the leafless trees near where the old nests remain in trees. No occupied nests are seen. Young doves are common and Correia gets one just from nest. He got one rail and Louie got two.

Two or three plotus boobies seen fishing in lagoon and sooty terns fly across often, bound to or from Kauehi Island.

June 3

Sunday and aboard.

June 4

Try again for rail and I get four more, the other two

finding none. One came within ten feet of me, looked, and started off, then turned back a couple of feet, and then went off again. Most keep under thickest brush and are perfectly quiet most of time, though occasionally one will call when some distance away and going farther.

June 5

Leave at nine for Toau but stop outside on lee side of Aratika where small motu supports one coconut tree to look for booby nests. The nests are there fresh, but the birds very wild, the most keeping high out of gunshot. Some nests are elaborate with a pile of coconut husks as part of material used. About a dozen nests, though only half a dozen birds seen. One bird taken.

June 6

Ashore and I find but two doves and no warblers in a couple of miles' search. Louie and Correia in the motorboat go to farther motu and get six warblers and a rail as well as six doves. Lesser noddies are roosting in flocks in dead trees as they were on last island. Noddies were on reef in flocks. Pair of blue ternlets and few lunatus terns noted outside pass.

June 7

Leave at six A. M. for Apataki and find coast line wrongly

charted as we sail NW by N along it instead of W by N as course calls for.

Tied up at Apetaki at two-thirty and ashore for couple of hours, finding half a dozen warblers and a dove. Few people (dozen) as most inside making copra. Fish are in schools alongside of many colors and shapes and sizes. Yellowbill terns fish along in the pass and outside was a big flock of lesser noddies sitting on the water until fish were driven to top, when they gathered over the fish. A dolphin followed flying fish for a quarter of a mile, making great long leaps repeatedly in pursuit of flying fish which were in the air much of the time. He finally caught one not far from the ship. The wharf here is best place in Tuamotus for any kind of wind that might blow, being protected by curved channel from swells from lagoon or sea.

June 8

Apetaki

At 8:30 current slacks and we steam inside and will leave by pass in north. Stop at village and find people inside making copra. Get a rail and find parakeets common on east side, so Correia and Louie go there, while I go in opposite direction where little vegetation and in open sandy spot on barren part of land find a dozen or less rectirostris terns nesting. Eggs have no particular nest but laid on sand usually and close together. One and a half feet apart are two, though plenty of similar places within forty feet. Birds fly around for few minutes, then go away,

one or two occasionally flying over. QJW mile farther find couple of other nests, where from tracks in sand they have been disturbed by native and dog. Several nests were here from appearances. At first place three or four lunatus terns acted as though they had nests, but young bird seen and probably nesting over. Coming back about four o'clock there were a couple of dozen or more lunatus old and young flying about and lighting, and others noted fishing in lagoon. Three or four blue ternalets also noticed and one shot which was young. They perhaps nest on some of the larger rocks which stick up three or four feet in places.

June 12

Moved down to west June 9 miles and ashore for day, but found

Moved down or up to northward ten miles or so where people are at work. Find good rail country, but people and cats and dogs make finding birds unlikely. I go couple of miles along coast and native takes me to sooty tern colony where young birds are beginning to fly. All young seem to be of same age within a week or two, though I found a dozen fresh eggs in one spot. The young are mostly sitting on rocks at edge of reef, and as we approached they flew a hundred or two hundred yards farther along and lit again. Old birds were coming in from along the coast usually, and some seen leaving by same route. Some young throw up squid when hard pressed. Five thousand or so young birds perhaps in the colony. Two other

colonies are reported on the island by the natives. A wandering
tattler and a plover seen in summer plumage and expect to take
next ones to see if returning birds from north, though seems early
for a week or two yet. Couple of young blue herons noted playing
along a pond and I shot a couple of white ones that were recently
from the nest. *finding a few of each. No rail, though good looking*
ground. Got a fresh water eel and saw small shrimplike swimmers
common in fresh water. June 10 *wings are an inch long (the large*
ones). Sunday. The small, which are plentiful, range to a quarter of
an inch. Three curlew and few tailors and plover seen. Scattering
lesser noddies and no other birds at this note now. June 11

Moved down to west few miles and ashore for day, but found
only a few warblers and parakeets. Saw a few young and probably
old rectirostris terns fishing, all in winter plumage, while the
birds nesting are in high feather. Sooty terns were working back
and forth, mostly forth in the P. M. along the lagoon shore to the
west with a north wind. They followed the shore much as some gulls
do in California in migrating, but the sooties are probably going
to good fishing grounds, for they fish a hundred and more miles from
home frequently. *find parakeets common and warblers not rare. No*
ducks are seen, though natives say a few occur. Quite a lot of
plover and tailors are June 12 *large flat covered with few*
inches Leave at seven in the morn for Maukura, but reach pass and
being scattered over half a mile of ground probably. I got six

find it too rough to go out, and north wind makes landing at Kaukura unlikely, so tie up near pass.

June 13

Wind still wrong, so stop another day and hunt warblers and parakeets, finding a few of each. No rail, though good looking ground. Got a fresh water eel and saw small shrimplike swimmers common in fresh water pools. Shrimps are an inch long (the large ones), while the small, which are plentiful, range to a quarter of an inch. Three curlew and few tattlers and plover seen. Scattering lesser noddies and no noddies or fairy terns at this motu now.

June 14
Leave at seven in the morn for Kaukura, as wind around to SSE.

June 15
Ashore and get Chief's permission to hunt, so work the motu where village is, as that is the largest and has most birds, say the natives. Find parakeets common and warblers not rare. No doves are seen, though natives say a few occur. Quite a lot of plover and tattlers are feeding on large flat covered with few inches of water driven up by high easterly wind, fifty or so plover being scattered over half a mile of ground probably. I got six

herons, though others got none. One young heron noticed in the village as a pet. ~~seen from policeman to hunt, and sailed across the lagoon to south side, where arrive at one P. M. Lesser noddies were fishing in small~~ June 16 ~~times, and some flocks had lunatus~~ Ashore at another motu, but find birds scarcer. Mail are said to be here, but we saw none in two days. In the center of the large motu is rough lava, same as Henderson and Makatea have, though not so deep cavities. Village here has fences as a mule and horse are kept for hauling copra from far parts of motu a half mile or more to sheds. Motu is well planted and about three hundred people live here. A new church of Jesus Christ has just been completed and evidently has many more adherents than the small Protestant or the weatherworn Catholic churches boast. Breadfruit and bananas seem to grow well, though probably earth from Tahiti is used to plant them in. Fences about some houses are the result of having the work animals here. Flowers grow around some houses, and some houses are well made of lumber. Big flock of lesser noddies fishing off the island, and several seen sitting in coconut trees resting, as do the noddies on most islands; but I do not remember seeing the lesser noddies sitting in coconut trees before.

~~Ashore yesterday P. M. and found birds very scarce. Four warblers for three of~~ June 17 ~~pair of paroquets seen. Louis and~~ Sunday, and head across to Rangiroa Island where we anchor inside at dark. ~~of several herons seen. Plenty of suitable ground~~

for warblers, and why June 18 *Rangiroa* not more plentiful a question.

Got permission from policeman to hunt, and sailed across the lagoon to south side, where arrive at one P. M. Lesser noddies were fishing in small flocks at times, and some flocks had lunatus terns with them, and a flock of blue ternlets was also seen fishing in the lagoon. Quite a flock of lunatus (?) terns was resting on the islet in the pass when we came in last night.

Small and large motus, as well as stretches of reef, form the south side of island, while the most of north side has vegetation. About 1,200 tons of copra is the yield of this island, each year.

June 19
As I write this before sun is up and while we wait for him to rise a little so that coral rocks beneath the lagoon surface may be better seen as we move to another motu, a glance over the lagoon shows a lunatus tern or two flying along to windward at fifty feet above the water, while a couple of lesser noddies hug the surface closely as they flap hurriedly along in the same direction.

Ashore yesterday P. M. and found birds very scarce. Four warblers for three of us and a pair of parakeets seen. Louie and Correia picked up a dozen blue ternlets on the rocks on the reef and I got one of several herons seen. Plenty of suitable ground

for warblers, and why they are not more plentiful is a question. Cats are common by tracks seen, but cover is dense in places. Natives say a few rail are present, but indefinite time would be required to secure specimens. Lunate terns are frequent on the lagoon, and they probably breed on some motu, the sooties having a large colony on this side to the westward, but not a bird of that species was seen as we crossed the lagoon. A flock of a dozen was noted at the pass yesterday, bound north, and they were headed probably for fishing toward Ahi or Manihi Islands, where I often saw them. In lagoons usually have to steam, though Ashore on south side at several motus and find warblers scarce, and no doves or rail, though ground looks good. Herons are common on the reef fishing, and a heavy swell on the south side is noticeable. For miles a ledge of pinnacled coral rocks sticks up on the inner side of the reef, the edges of the rocks being so sharp that they cut the fingers if touched without caution. They are waterworn into all sorts of fantastic shapes, being from one to ten or so feet high. The motus have thick brush and trees on them except where cleared for coconuts. Many coconuts are planted and bear well, and most motus have been planted, though there is much ground for others on the same islets. A grove of high trees is roosting place of lesser noddies, and about four P. M. the birds straggle singly along to roost from the westward. I notice as I am working on that side. Several blue

June 22

ternlets are using the coral rocks for resting and they undoubtedly nest in the hollows of the rocks as was noticed on Kauehi Island. pass is narrow. Barrain gets a dozen tern eggs on north side pass. Scattering yellowbill and lunatus terns fish along near shore of (noddies) and I got two dozen on south side of pass on detached lagoon, but noddies are scarce, and some fairy are seen on certain pieces of brush where cats evidently do not range, for some nests motus, while on others not a bird is found.

are less than a foot above ground. Nests are made of small twigs

from bushes and are often lined with tohunu blossoms, an occasional

June 20

nest having a few small shells or bits of coral in it. Most nests

Perfectly calm, and we leave at eight for Tikehau Island. are old ones, and I saw one newly built of grass largely which was Have but fifteen cases of gasoline left and expect to arrive at picked near site. A pond of fairly fresh water near the colony was Papeete with supply gone. In lagoons usually have to steam, studded with rocks. The birds would sit on these, as well as in though here sailed in and would have sailed out had wind been the bushes where the nests were. A scattering fairy tern or two present. Fishing lesser noddies are scattered over surface of was seen here, but they were very scarce. Three or four lunatus water and few lunatus.

terns flew along the reef. In eve about 5:30 I was walking along

Ashore at four P. M. and find a few warblers where coconuts the outer edge of the reef and a parvirostris shearwater were are planted and fresh growth of bushes after a hurricane of few flying along over the reef and was shot. Female ovaries slightly years back.

swelling. Louis got a rail near the pass, and a native said a few

were found on the island and that formerly before the cyclone

June 21

ground doves were common but now very scarce if present.

I work down to a long motu on east side and get one parakeet and a cuckoo and a few herons along reef. We sailed yesterday

June 23

along the reef for miles on north side, but could see no place to

Arrived here at ten in the morn and find people here from land, as reef was high on outer edge and no break large enough to Tikehau and 'Prince of Wales' getting closer. The west side south run boat in. Golden plover are frequent here.

of pass along the reef is tilted up in small benches, and farther

June 22

in has been tilted (?) straight up, resembling the ground on
Ashore by pass, as Captain does not fancy going in as
pass is narrow. Correia gets a dozen tern eggs on north side pass
(noddies') and I get two dozen on south side of pass on detached
pieces of brush where cats evidently do not range, for some nests
are less than a foot above ground. Nests are made of small twigs
from bushes and are often lined with tohunu blossoms, an occasional
nest having a few small shells or bits of coral in it. Most nests
are old ones, and I saw one newly built of grass largely which was
picked near site. A pond of fairly fresh water near the colony was
studded with rocks. The birds would sit on these, as well as in
the bushes where the nests were. A scattering fairy tern or two
was seen here, but they were very scarce. Three or four lunatus
terns flew along the reef. In eve about 3:30 I was walking along
the outer edge of the reef and a parvirostris shearwater came
flying along over the reef and was shot. Female ovaries slightly
swelling. Louie got a rail near the pass, and a native said a few
were found on the island and that formerly before the cyclone
ground doves were common but now very scarce if present.

June 23

Arrived here at ten in the morn and find people here from
Tikahau and 'France Austral' getting copra. The west side south
of pass along the reef is tilted up in small benches, and farther

in has been tilted (?) straight up, resembling the ground on Makatea. This is only a section a few rods in width for a short distance along the coast. Boobies (redfooted) and frigates are nesting here and several fairy terns noted. A curlew was shot and plover and tattlers common. Herons in blue and white in about equal numbers are seen. Lesser noddies probably nest on side where boobies are. Yellowbill terns are common fishing in the lagoon, and outside noddies are seen fishing, as well as sooties. An old wreck is seen on south side, the after part being thrown up back of the beach against some large trees and others pieces scattered along the reef. An iron ship, three mast ship, says a sailor. The island here is somewhat wider than most of the atolls, it seems at least on the south side where I went today, and coconuts look good, though, like all islands, much land is not planted. The natives, however, have about all they can handle, for population does not seem to be increasing, and the work of clearing and keeping clear the land now planted is a big task. Quite a bit of cutting and reclearing is necessary after trees are planted and they begin to bear, for a strong growth is frequently seen in places where the trees have been planted several years and are ready to begin bearing. Rats take a large toll in some places and dozens of nuts are seen under some trees that the rats have eaten into when they are half grown. Have on two or three occasions seen rats going up trees, and only rarely are some trees

seen bound with a piece of lead or tin to keep the rats from climbing. Great many natives are in debt from the season of 1920 when traders gave long credit in hopes of big profits from pearl shell, but price dropped during season and the natives could not pay off. The Chinese merchants are now in some cases buying coconuts as they come from the tree and drying them themselves,--a method that perhaps appeals to the less thrifty natives, though I cannot see much profit to the Chinaman, for he pays about a franc for four nuts and four thousand make a ton of copra, which is worth about a thousand francs at recent prices. At this island are two frame houses, the rest being made of coconut leaves. Twenty-five or so others at the pass. At Ahi Island are most of the houses made of lumber and usually roofed with galvanized iron. Two cutters are anchored in the shallow pass and two or three hauled up for repairs nearer the huts, the pass not being deep enough to allow them inside lagoon.

June 25

I work to south of pass and Correia and Louie go north to booby colony and a few boobies and frigates, getting three lesser frigates as well as a couple of big birds. I made a speciality of herons all day and picked up sixteen of the wary birds, using a trick learned from a plume hunter in Brazil. Over this same ground Saturday I couldn't get a bird.

June 26

Correia goes ashore and I skin remainder of yesterday's take. Louie is sick. Correia gets a few noddy terns and finds them nesting in pandanus trees.

June 27

I go past booby colony to east end of island, and returning same way visit booby and frigate colony, finding birds nesting, and a few lesser noddies roosting with the other kind. Young birds in many nests. I get four herons, and Correia gathers one and a native gives him a redtail tropic that he found on a nest (?). Few tropics nest, as pigs destroy nests, and I saw no birds of the species. Lesser noddies are also very scarce, not a dozen being seen. We leave in eve for Papeete. Several large fat people here.

June 28

Sixty miles to go at noon, having made a hundred since yesterday at four P. M. Reach Papeete probably early tomorrow, as land in sight at one P. M.

Henderson Island
So. Pac.
Apr. 9, 1922
E.H.Q.



2213 Green Dove
Rapa Is. So. Pac.
Feb. 23, 1922
E.H.Q.



#2412 Black Rail
Henderson Is.
Mar. 1922
E.H.Q.



#2145 Black Rail
Rapa Is.
Feb. 23, 1922
E.H.Q.



#2413 Redbreasted Loon (Young)
Henderson Is.
16 Mar. 1922
CHZ



#2379 Redbreasted Loon (Adult)
Henderson Is. 16 Mar 1922
CHZ



#2357 Redfoot Booby (*Sula piscator*)
 Near Henderson Island,
 March 15, 1922
 E.H.L.
 $\times \frac{1}{2}$



#2582 Bluefaced Booby
 Ducie Island,
 March 24, 1922
 E.H.L.
 $\times \frac{1}{2}$



Tahiti, Society Islands
Red footed booby
R483



♂ 266

#2231 White Tern,
Bass Rocks, So. Pac.,
Feb. 27, 1922
E.H.2.

#2355 White Tern
Lat 25° S. Long 129° W. Sp.
March 13, 1922
E.H.2.



#2436
White Tern (Young)
Henderson Is.
17 Mar. 1922 E.H.2.



Prostrata
#1359

Moorea
Society Islands
July 24, 1931
R.H.B.

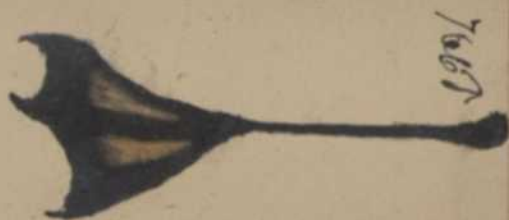
#2297
P. neglecta
At sea (P. Cairn)
Mar 8, 1922
E.H.R.
Rt.
Loc.

#2237
Bass Rocks
Feb 27, 1922
R.H.B.

#2459
Henderson Is.
Chlorina sp.
18 Mar 1922
E.H.R.

#2250
Bass Rocks
Feb 27, 1922
R.H.B.

260



R. H. Beck

Field Notes
of Whitney Expedition
Upu I., Marquesas
Sept. 8, 1922

On the top of ridge about 3000 feet watching neglected shearwaters, noddy terns and occasional yellow-billed tropics swing along to windward of ridge; strong wind blowing from east as swiftly flying paroquets and doves cross from one side to another. Little swifts work back and forth catching small insects. Fairy terns below me sail around and around. Doves on set wings come blowing over the ridge to look for berries. Ripe guavas as large as Bartlett pears are on ridge, while lower green coconut trees grow up cañon a couple of miles.

Flycatcher calls cheewee cheewee. Nest 40 feet up.

Warbler nest 15 feet in willow tree.

Eiau Island
September 22

Top of island peak has house site paepae about ten by eighteen feet. Stone weighs 200 pounds or so. Pigs about everywhere. A Hundred sheep or more in sight. Hear warblers, flycatchers, swifts, and fairy terns. Highest peak on lee side paved with rocks, flat side up; two or three terraces, twelve feet wide, sixty feet long; smaller pile 4 x 15; big natural boulders. Few flint axe heads in process of completion found. Buro trees in grove. Sooty terns below on cliffs.

Lesser noddy terns: tukak tukak

Fairy tern: creek creek creek

Sooty tern: creek cruou

Red-footed booby: cra ouuuuu

A ground dove walks around me at 20 feet distant.



1350

1351

1350

Another flies over and lights in tree, while one on ground flies up and preens itself; both fly down and pick leaves, both in the same spot facing each other.

Hatutu Island
October 5

Lesser frigates, young, are near top of island on lee side, small nest of sticks, guano covered, placed on ground, weeds, or tussock grass. Most young with yellow heads, downy breast, and back feathers. They snap bills when neared. Sometimes an old one sails over, a few yards below frigates in bushes.

Many lesser noddies' nests, but no eggs, in trees with downy boobies.

Uahuku Island
November 9

Sooty tern island, 1/4 mile long, 300 yards wide, covered with sooty terns, young of all ages and few fresh eggs. Some nests of a few small pebbles; young crawl under small twigs. A nearby island of sandstone had lunatus terns nesting on ledges; cavac cavac is the call. They nest in red soil on lee side of island. Under tussock grass on lee side we found Bulwer and white-chinned petrels' nests. Young sooty terns flying here, while on other island birds are younger. First island was undermined along banks by waves, and we used ropes to lower specimens 1/2 mile from Uahuku Island. Cree u reek cree u reek: call of sooty terns; young call was cruk cruk.

On small islet many fresh deserted eggs of Bulwer petrel as not enough nesting sites. Some birds when pulled from nest sit a few minutes and then walk away; others fly.



♀ 1612



Rt Beek

Fine, dry grass is nest of petrel usually, pulled from overhead perhaps. Island covered with sooty terns sounds like frog pond at 8:30 P.M. Dozens of dead young were noticed on rookery, cause unknown.

In morning nine red-footed boobies fly along coast, with one plotus booby flying along with them but above them; calm, fly close to water.

Blue ternlet calls soft low cre e e e e

Doves circle about from banyan tree loaded with small fruit. Coo coo coo coo u u

Flycatcher calls chee weu chee weu chi chi chi
chi - flirts tail.

Noddy tern on ground tangled in seeds of large tree.

Kingfisher: kaou kaou. Tahuata Island.

Fatuhiva Island
December 4.

Rapid kik kik kik kik warning cry as well as call of young for food is flycatcher. Chi chi chi repeated rapidly call of young for food. Male calls cree re a reek.

Dove's nest of dozen fine twigs. Saw dove fly from nest in tree. I went over and saw both birds on nest ten feet up in fork, resting on main limb, two inches in diameter. Watched five minutes; one bird flew away and then when I went under the nest one watched me from twenty feet, afterward flying away.

Rail call was whau uk whau uk trilling.

Ducie Island
December 22.

Kik kik kik kik kik kik kik not greatly unlike

Atto Beck

21509

15098

16748

44448

44446

21515

the California flicker is call of Henderson Island shearwater flying or sitting.

Tic kee ou ou ou like ou in you is call of neglected shearwater. Under trees on dead leaves eggs are laid. Birds walk well but not upright, waddle slightly. One walks out fifty feet or so to edge of trees and tries to take flight. It touched feet to ground but once lightly after springing into air. Light breeze to head into.

Of twenty or so red-footed boobies nesting in trees fifteen feet up not one was white.

Fairy terns were nesting on trees and one young seen.

Neglected shearwater dozed six feet from me.

Gray tern called crewwww

Blue-faced booby called creeeeeeeeeeeuu

As a rule tarsus and upper toe were more pinkish on small shearwaters. Over dozen nests were in 60 foot radius. No big shearwaters in lot. Seven nests six feet apart. Fresh egg at base of tohunu tree was in nest of dead leaves and twigs.

Cavak call of cuckoo

Crok ok crok crok call of red-tailed tropic bird.

Rapa Island
February 15, 16, 1923.

Native names:

Rail tabuensis	Coto coto
Fairy tern	Taki taki
Petrel	Kome
Neglected shearwater	Kaea
Dove	Coco

A rail's nest on islet 1/4 mile off shore in tall coarse grass on top of ridge. Hollowed out nest of dry leaves

2184

1864

1810

1533

R. H. Beck

of the coarse grass, ten inches up in clump of grass.

Petrels nest under clump of grass on top of ridge, with rock just outside entrance to fly from. Few dry leaves of low shrub in nest. Other nests under rocks.

Noddy terns, young, seen on cliffs of islet.

Boom boom is sound heard from pounders of poi-poi at dark on the 22nd, as I hunt rail and listen to shearwaters sailing along cliffs.

February 23.

Weeeooooo, long drawn out, is call of neglected shearwater circling cliffs of Rapa Island. A pigeon comes flying along fifty yards below me. I drop pencil, grab gun, and drop pigeon. A little gray tern beats its way along the high cliffs to windward, as fairy terns circle over the bananas and clumps of tree ferns in the sheltered cañon.

Girls in taro with torn dresses pull weeds and taro at same time; wrap the taro in bags fashioned of grass, and carry on back over ridge and along shore to homes. The poi-poi makers pound poi-poi, smashing root with one pound. Women pick panful of small clams at water's edge and eat them instead of poi-poi. Small boys rig canoes with sails since seeing our Fanfan work with sail. Roots are pulled from taro before being thrown onto levee. Water grass is pulled by roots. Taro plants are a foot apart and have six or eight leave like a lily; in muddy water one or two inches deep. Ducks alight in taro beds and nest in ferns on hillside. Beds are terraced even to tops of hills. Girls pick a little long grass to form a sack and tie

white chin
 black fulmar
 Ancon, Penn
 April 28, 1913
 upper brown, blackish

Rock

one end, spreading out top to hold taro roots. They break into song sometimes and laugh wholeheartedly at little jokes. They tie tops of grass sacks with long grass stems. Boys come along at dark with bunches of dry grass for burning and sing finely in unison. Fishing boats in good weather go outside bay in morning at 6 a.m. Bananas grow around taro beds in places.

Manihi Island, Tuamotus
February 16.

Fairy tern call: cauk cauk. Lesser noddy tern: crrrk crrrk; they sit in trees, some by nest or in it.

Dove nest ten feet up on shrub with red and black berries just under dead coconut limb; bird cooed on nest while I stood twelve feet away; moved in nest to arrange twigs and tuck twig in nest; then flew in other direction.

Lunatus tern: cavikavik cavacavaca

Yellowbill tern nest just above highwater mark by small box, two eggs. Two other nests two feet apart on coral strand, with washed up coconut husks strung along shore. One egg on rocky, wind-swept coral beach; few coral pebbles placed by bird for lining.

Fakarava Island
April 20.

Plotus booby nest of few grass stems, pandanus leaves, and coconut husks on small motu near bushes in open. Another 1/2 on islet grass and few small sticks. Nest 1 1/2 feet wide. three other single eggs in fresh nests. Twenty birds on islet 30 yards by 50 yards in extent.

1466
25

1467
25

1466
25

1466
25

Hiti Island
May 5.

Standing under mickymicky tree with camera set for lesser frigates while birds soar over and across again and again. I wait twenty minutes, then as I get ready to quit they suddely drop over nests and I pull slide and away they go.

A dove nest four feet up in mikymiky tree or bush on beach near boobies and frigates. Possibly got out on beach to get away from rats which climb about in the thickets. A bird on but wild. Another nest was only two feet above the ground or sandy beach, incubated egg; about thirty twigs comprise nest.

Tuahane Island
April 3.

A dove in a mikymiky tree on nest allowed me to lift her off her young and look at it. She struck me several times with her wing. I rubbed and felt her wing a couple of times also. Drizzly rain. Red-footed booby nests in potea potea trees ten to twenty feet up; well built nests. Some with eggs, and some not laid in yet. Four or five nests in seve trees, some close to shore. Kick kick kick, rapid calls of red-footed booby as ready to light. Crau crau, when on nest. Frigates flying over nest call tick tick tick. Roa, name of bush that furnishes berries for doves. Kuk kuk kuk kuk, call of male frigate as it nears nest to light. Two young frigate birds in nest over booby nests. Five booby nests within ten feet of frigate bird nest, built after the frigate nest was. Many old sticks under nests; used nests seem to be of entirely new twigs.

Kauehi Island
May 30.

A fairy tern nest was two feet above ground on tohunu stump against small limb; bird on nest. Yellow-billed terns' nests in coconut husks for lining, above high water near where we got five eggs in March. Two young nearly ready to fly and six incubated eggs. Blue ternlet nest of small bits of coral and broken shells on top of big coral rock on reef. Five feet above reef. Several birds.

Apataki Island
June 8.

Yellow-billed tern nests in depression and other in no depression alongside coral floor in sand, usually 200 yards from reef and 300 yards from lagoon. Eight eggs here and two others farther along, as natives evidently disturbed first nesting place. Two nests 1 1/2 feet from the other, though plenty of good spots anywhere in forty feet or more. Birds leave the vicinity in few minutes. Fly over and circle long time before alighting.

June 9.

To cavaca colony and find young birds flying; good looking rail country but no birds seen. Vinis not uncommon. Warblers common. Few yellow-billed terns, young, ready to fly and most fly a few yards. Few fresh eggs found but nothing between them and the flying young. Young ones walk out to rocks on inner side reef and sit there. Few fly back and forth.

