



Diomedea immutabilis

Ocean Island, April 17-19, 1923. About 50 pairs present, nesting on sand beaches at the edges of the bushes, either alone or with the colonies of D. nigripes. The opening in the center of the island proved a trap for them, as attracted by the space they alight only to be sensible a rise in the wing again. The surface of the ground is uneven and grown with grass & vines. As the birds ~~run~~ awkwardly in their take off they stumble and fall before they can gain sufficient momentum to rise.

I found bodies of a dozen in a casual walk where they had starved. Only one did I see one able to get away against the wind. I caught one and tossed it into the air but it fell to the ground like a sack of mail.

April 20-22. common. a pair taken. These birds frequently associate with nigripes on the beach. There is a young albatross in front of our tents here that we have speculated about somewhat and a heron that dropped in one day to visit seemed to establish its identity. Later however I found nigripes feeding this young

bird so that the visit (apparently
was merely a friendly one.

Midway Islands, April 23, abundant ^{it}
on Eastern Island. Where the birds
nest mainly in long openings
among the *Scaevola* bushes. It
is difficult to judge their number
but there are certainly more than
1500 pairs all with well grown young.

April 24. abundant on Sardinia Island
seen there are 1000 pairs or more
in openings or along the beaches.

From their familiarity with man
the birds are extremely tame. A
skinned one in the beach a living
bird came up and examined its
dead companion curiously.

The birds
when dancing sometimes resent
interference by a third party who
wishes to participate and I saw
several rough and tumble fights in
which the birds rushed and bit
savagely tumbling their opponents
over and over and returning again
and again to the attack.

April 25. When seen at sea their
birds may swing by but do not
follow the wake with the other gannets.
At Midway they are said to arrive in
October to nest and depart in June.

Pearl and Hermes Reef, April 26. About 300
pairs on Southwest Island. To my great

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surprise as I stopped to examine something in the grass and an adult with a young one near by ran up and bit me severely in the calf of the leg. This is the first time that one has actually taken the offensive. Young here have the white breast feathers fully developed and wing feathers starting.

April 27. One hundred pairs on Grass Island.
1500 pairs on Seal Island.

April 28. Through scattered along the beaches the other grasses the majority nest inland on the higher part of the island.

Laysan Island, May 2. These Albatross have decreased about one third in number since I was here last. Apparently part of those that had lost their young have left the island. Young are growing rapidly and in some cases have assumed the breast feathers of the full plumage. The young birds toward nightfall with outward strokes of their big feet excavate little depressions in which they rest and spend the night. These are dug to a depth of 3 or 4 inches and as at the cabin may be made in the slight lee afforded by a fallen coconut, found on a stone. These may occupied during the day or the young may wander about a little. I have seen them waddle out of one nest and move to another 20 feet

away and then establish themselves.
They have a comical way of tettering
in the nest on the back of the tarsus
with the big feet waving up and
down in the air. They look about
alertly and clatter their bills and
snap at my hand if too closely
approached.

May 3. I am told that during the
heavy sand storm all the albatross left
the island leaving the young to fend
for themselves.

In early morning hundreds of
the great birds beat back and forth
over the outer edge of the reef
or beyond it in front of camp, their
white breasts gleaming in the
morning sun as they turn.

May 4. In swinging over the sand
hills these great birds frequently
swing on one side so that the
tip of the lower wing marks a
thin line in the sand exactly as they
go over the waves. In early morning
the sand is marked by these lines
in all directions.

One seen crouching over an last year's
egg partly buried in the sand, actually
led through on a nest.

May 5. Along the western side of the
lagoon there are a number of young
albatross within 30 or 40 feet of the water.

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edge. The wind, from our easterly direction, whips the heavily alkaline water into a foam on the beach which is blown out across the flat. This strikes the young birds, who creep at the largest masses and keep them continually wet and bedraggled but does not seem to injure them as a number are so large that they are attaining full plumage.

When her sit down in the sand it is usual for ~~the~~ pair or two of these albatross to come solemnly up to inspect us. Any new object at the shafts in camp, a water breaker, a box or a pile of rope is sure to attract the two who have a young on the sand in front and then come walking up to look it over. This afternoon Schlemmer dug a deep hole to bury some bird books throwing up a pile of sand three feet high. One of the birds came over made appropriate movements and sounds as though it had just located a nest and then proceeded to climb to the summit and squat down.

In the level area near the lagoon which is liable to be flooded the birds build their nests up to height of six inches or more. The nests still remain though most of them have no young. Destruction of eggs is very rare.

Bones collected from the margin the lagoon bottom all
were *D. immutabilis*

by flood water: was heavy and
the eggs rotten or broken may
be seen in numbers.

Almost all of these alterations
nest in the inner basin.

1 in

May 7. A female picked with parental
love. Dried hard to hold her baby
two thirds grown, and nearly as large
in body as its mother, greatly to the
disgust of the youngster. She mother
walked about the baby trying
to step up on its back with the
child turned about snapping angrily
and throwing her off balance. Finally
she backed up against the nestling
and settling down turned her head
with one eye up in a ludicrous
attitude of contentment.

4 1

Last night when out with the
flashlight though sometimes young
were accompanied by their parents often
they were sleeping alone. Always
the adults perched several feet away.
When they did accompany their youngsters
adults seemed dazed by the light
of my flashlight and when they
looked behind and saw their own
moving shadows were greatly frightened
by them.

it

Tonight at the well a pair went
through many courting antics, with
their youngsters a few yards away.

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The female crouched low the sand now half rising to look beneath her and now reaching out to feel in bits of sand as though forming a nest. The male while stood or crouched beside imitated all her movements and at frequent intervals the two nipped bills or scratched each other heads with their bill tips. One or two others stopped occasionally to look on and their curiosity satisfied ~~forthwith~~ ^{spreading} along.

The male is decidedly larger and heavier than the female. But both are colored alike save that the coloration of the bill in the male is slightly brighter than in the female. ~~It seems~~ ^{It seems} highly probable from their actions that they remain paired for life. The birds are trim and handsome with stately yet easy bearing as beautiful as any birds I have known with thin soft yet contrasted colors. They seem highly intelligent too and take a friendly interest in me or in anything else that is new. When one comes strutting up to me it looks me over from head to foot looks at my gun and seems to talk in good detail. Certainly a remarkable bird.
May 8. Apparently the egg-eater.

These birds at night is very poor
as one brought with our lantern
blended about into everything in
the room although illumination was
fairly good.

May 9, 12. weights of albatross.

♂ ad. 5 lbs 3 oz.

♀ ad. 5 lbs.

The dance of this species is certainly
peculiar. It is divided into a
number of movements that may
be repeated in varying order. Ordinarily
the dance is between male and
female of a mated pair. Others however
may join in so that three or four
may dance together. The triangle frequently
to be seen in a fight however. As
usually given male and female
approach one another walking
quickly and as they meet with
head erect rise in tip toe and then
sink back ^{and bow quickly several times} they may walk about
one another next with head thrown
in and extended up with each
step. They then nibble at each others
bills first on one side and then
on the other for three or four times
and then raise one wing extending
the primaries and holding the shoulder
in which they form the feathers beneath.
This is usually done with an audible
clatter of the bill, this done the bird

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may raise the head erect and rattle the ~~the~~ lower mandible with great rapidity against the upper following which ~~the~~ with neck erect the bill is pointed straight up while the bird emits a peculiar groan. The action of caressing with the bill is usually accompanied by a high pitched whistled whirring. The movement frequently becomes very rapid and when it is not the birds pant audibly. At times they synchronize in movement at times one does one part of the dance while ~~the other~~ the other is on another. Often one points the bill up and groans or clatters the bill while the other fans the wings. The bill caress when done rapidly assumes a fencing. The two dance constantly unless the young who looks stolidly on merely snapping at either parent if approached too closely.

Either male or female may approach the other and looking down with open bill call Kack Kack Kack Kack a motion evidently raised about the eye. Many are now digging little Crevices in which the

Bones collected from the mangroves on the bottom of the lagoon
on May 12 were all P. immutabilis (det. 9/27/1968)

females crouch as though on
an egg. all this though actual
mating is several months off and
there is no development of the
sexual organs.

When a third bird attempts to
join a dance the others receive it
at first but soon become jangled
and turn rapidly from one partner
to the other. The mated pair usually
try to move away but may resist
the intruder and knock him over.
Last night one received a badly
sprained leg in the way so that
it was unable to stand but still
limped back and rested on its breast
which it attempted to follow part
of the dance movement.

Shortly before day break the adults
fly out to sea and feed and as
the sun rises begin to return. They
may be seen stringing back and
forth off shore or resting half a mile
out in little companies. At night
fall all return to the island to roost.

At this time hundreds who have no
young come in and the number
of adults is greatly increased.

May 13. young are fledging fast.
On my arrival here all were young
with only an occasional individual
that showed an occasional

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incoming ^{contour} feather along the sides.
The birds ^{fly} rapidly in zigzagged
in bulk ^{the} about equating the parents.
Contour feathers spread from the sides
across the upper breast and as they
continued down toward the bottom
feathers appeared on the wings and
finally on the tail. The incoming
contour feathers are contemporaneous with the
down which is plucked off in waves
of tiny filaments still adher-
ing to the feathers giving an appearance
of faint grayish vermiculations especially
on the sides. Nimbuses now have
white shirt bosoms that form
a ridiculous contrast to their
fuzzy ruffled heads.

Nisiansky Island, May 16. Fairly common.

May 18. Laysan Albatross here are
dancing steadily as they were at Laysan.
I have seen one or two loving
mothers trying to hover large young
who snapped and bit to avoid
the attention as a matter of fact
the young never seem to show any
regard for their parents except when
being fed and the parents themselves
usually merely rest near the young
and seldom touch them. The
~~nest~~ nest site ^{choices} and the pretenses
of an egg are seen repeatedly and

occupy much of the time of adults. This morning two were dancing with a third nearby who tried to join without success. The third bird finally turned and assumed dance position with a nigripus who made one or two half hearted returns of the advances with thrusting of bill. The immutabilis danced and bowed slowly for several minutes but as the ~~old~~ nigripus remained stolid finally gave up in disgust.

Young here are just assuming breast plumage and, on the whole, are slightly less advanced than at Laysan.

May 19. Not more than 800 pairs on this island. The birds are as a rule wilder than at Laysan island. Numbers were seen gathering to rest in close company. It was sometimes in company with nigripus. They are dancing steadily like as at Laysan.

Gardner's Island May 22. On the northwestern slopes of the large rock I found two Pinnaculus grown young resting in small Sclerocarpus on the rock face a hundred feet above the water. They remained quiet not moving about as they ~~do~~ do on low flat sand dunes.

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~~May 24-26. Naha Island~~ May 24-26
and seen occasionally soaring past the
western cliffs.

June 14. One reported on Millin's Peak with
the other albatross. Photographed by Cooke.
Naha Island, June 17-19. Common on
the points of the hills. Young are
now almost grown and in many
cases have lost a great deal of the
down on the head and neck. Others
have the body covered with yellow
plumage but the head and neck
downy. Their wings are still
undeveloped ~~and~~ ^{though} the birds sit
about as when younger they
walk readily now and often stand
with wings extended to catch the
breeze. Adults are as attentive to
them as ever and are feeding them
regularly. Adults are dancing still
but not as steadily or regularly
as last month. In one male that
I skinned I noticed a few white
feathers growing on the abdomen. The
plumage of the back is beginning
to appear worn.

Adults often preen the backs of
the young, a custom that seems to
be greatly enjoyed. The affection of these
beautiful birds for their young is
remarkable.

The young at times associate in

pellets of squid beaks.

June 20. 6000 pairs estimated on the island. There is considerable mortality among the grown young with no particular cause evident. I have seen about 75 nearly grown birds dead during my stay here.

King Island, French Frigate Shoals, June 22-24, About 100 pairs nest here. Young in some cases have lost most of the down and extend their wings in the sweep of the trade, especially during showers of rain. Adults are still attentive to them and feed them and are seen dancing occasionally but do this in a half hearted way. One adult taken had begun the body molt.

June 26. One young on Dry Island, one on Kate Island and 25 on Whale Island.

Necker Island, June 29. Some of the young birds now have wings almost grown. They stand and wave them in the strong wind occasionally rising a few inches and supporting themselves in the air. I found two or three dead or nearly grown down near the sea where they had fallen in attempting to fly.

Johnston Island, July 10-18. One young bird nearly ready to fly, apparently deserted by parents is the only one on the island. A photograph taken of it. [This photo well preserved. No print made.]

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Wake Island, Aug. 5, 1923. On the lagoon side of the main large island near the channel separating it from Wilkes Island I found three weathered humeri, heads of 3 others, and a tibiotarsus. These have remained packed away until Sept. 27, 1968, when I have identified them as *D. immutabilis*. Specimens turned in to be catalogued. Of definite importance as a record of this species on Wake.

Diomedea nigripes

Ocean Island, April 17-19, 1923. About 300 pairs nesting. have young well grown though still in down. The birds bred in little colonies in open sandspits or scattered along the beaches. Dead adults were numerous.

April 20:22. Common. The feeding ^{of young} of this bird is interesting. The parent stood by the youngster which uttered a little whistling note and nibbled at the adult's bill. The parent closed its eyes and crouched on its breast with bill partly open. Soon it rose to a crouching position and began pumping the tail apparently deglutinating with great effort. The bill was partly opened and as the food appeared the young thrust its bill in the parent's throat and secured it. Small morsels were brought up at a time and the last ones were thrown up with great effort that produced a groaning note. The parent kept its eyes closed throughout the process.

Midway Islands, April 23. On Easton Island at least 1000 pairs occupy the outer beaches where they have well grown young.

April 24. Fully 1000 pairs of sand
island. Two taken.

April 25. many saw Wake of ship at sea.

Pearl and Hermes Reef, April 26. Abundant
on Southeast Island. The birds nest along
the sand beach and do not go inland
among the grass clumps. Though strong
at everywhere they have a tendency
to form colonies where 50 to 100 nest
a few feet apart, usually near projecting
sand spits. They do not seem to mind
exposure to weather. Some young show
development of breast feathers. About 1000 pairs

April 27. About 800 pairs on Grass
Island. About 1200 pairs on S. Island.

Kayson Island, May 2 many

May 3. The number of these birds has
decreased about one third since I
was here last. I am told that during
the recent severe sand storm all of the
adults left the island leaving the
young to fend for themselves.

The young bird, in seeking food
utters a low ^{drawn} ^{substant} whistle which
is repeated steadily ~~on~~ ^{tree} ^{tree} given
in a slow fashion. At the same time
it nibbles at the bill of the parent. The
later ~~when~~ after crouching etc. as described
above, when ready to feed opens the bill
widely throwing tongue and gullet forward
while the young thrusts into bill.

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crosswise through that of the parent and with a rapid scissoring of the mandibles scrapes up the food as it is regurgitated. Sometimes the latter is simply a thin fluid but is carefully taken up by the youngster.

The notes of adults are ~~low~~ high pitched whistles, uttered excitedly, ~~usually~~ or before the dance, that sound like the squeak of a rusty pump or at running rapidly or at a distance resemble the shrill whistle of a boy. The latter is so close that I frequently have turned to see if some of the men were whistling to attract my attention.

Tips of the primaries show wear from slicing through waves.

May 4. Two females seen. had excavated little nest cavities in the sand in one case besides the half grown young bird belonging to the bird in question. They crouched in these forms turning about and working the sand with the bill as though preparing to nest again.

Another with no youngster made a hole but a similar small hollow which her mate dropped in beside her. For some time the birds scissored one another by working the bill in the feathers of the head of the other.

doing this in alternation. They
then stalked solemnly about looking
down as though peering at an egg.
As I sat in the sand watching them
four Laysan Albatross came up
curiously behind me, one pair of
males joined them and finally the
path diverges watching came stalking
up. In walking the neck is drawn
in the head bowed and the bill
pointed forward while the bird walks
along with a stiff and awkward
waddle.

come

May 5. The majority of the
Black footed albatross nest along
the south and east beaches. All
the eastern side a few worked down
into the Laysan cove and were in
a while they were among groups
of Laysans. Some young are located
in the edge of the wash run with
trails but others they are not visible
in day but show no inclination to
move. Like the Laysan Albatross the
young excavate little depression in
which they crouch and sleep and nest.

run

May 6. In the past few days of
have examined several hundred and
in only three or four have I noted
light bases on the rump feathers.
None show the white rump seen
frequently in birds at sea. It is

was

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possible that the latter are immature birds and that they do not come to breed until they are two years old. Females are distinctly smaller than males and are often lighter in color.

May 7. Occasional individuals drop in among the Laysan Albatross and take an active interest in the young of that species. Frequently on cruises I hear a nesting *immutabilis* with a distinctly proprietary air. Though individuals of the two species quarrel somewhat among themselves I have observed no clashes between *immutabilis* and *nigripes*.

May 8. This afternoon I made the entire circuit of the island while making a count of the young albatross. During this I remarked four *nigripes* that showed the white rump patch and white under tail coverts prominently. The first of these a male was very wild and flew when I came near. This bird I collected with the shot at the lower end of the back that seems fatal to these birds. The other three were females, two of these with young. One of these birds then was evidence of an arrested molt so that apparently its plumage had held over several months longer than usual.

The vast majority of albatross here are
in full dark plumage with only
occasionally an individual that
shows a little white at the base of
the upper tail coverts. The dark plumage
then must be assumed to be the
adult.

One old female charged me savagely
today with spread wings and snuffing
both from a distance of 40 feet though
I was passing quietly, being paying no
attention to her. I had to fend her off
with the gun and she returned several
times to the attack.

I saw one feeding today raise a
noise the entire size and shape
of the stomach (and transfer it in
pieces to the young.

May 13. One flew into another and
proceeded it over on its back and the
prostrate bird had difficulty in
righting itself again.

Subianky Island, May 16, common

May 18. Some young are well fledged, others
are merely assuming breast plumage.
I saw one standing today with
wings spread in the shade in which
the wings were almost as long
as in the adult. The young are
moving ~~young~~ about considerably.
One young bird had a prolonged
sparring match with a young

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immutabilis in which the two clattered their bills and junced without actually doing one another any harm. One young bird threw the bill up today and uttered a chirping cry in imitation of that of the adult.

These birds are more wary here than on Laysan and are difficult to catch.

May 19. Today a female came flying in the alight near her young to which she hastened with evident affection. The youngsters began tearing at food and the female settled herself to satisfy it. A young Laysan Albatross resting innocently twenty feet away caught her eye and she ran so fast it shook it by the neck vertically while the youngster snuffed his bill and then in fear bowed his head. The large bird ran at this youngster and another near by several times until they managed to shuffle far enough away when with backs discreetly turned they managed to avoid detection.

This morning a bird marked seriously with white was taken on the flats in front of camp.
About 1000 pairs here.

May 20-27. Albatrosses being obtained
the ship circled for some time
to the shores of the Bay. Never seen on
land at present.

m
to

Nihoa Island, June 11-16. Only one or two
albatrosses hung over the deck of our
ship as we came west past Kauai
to Nihoa. Is this due to the fact that
we had a following wind?

On Nihoa there is a colony of
60 pairs on a small flat below
the pinnacle point of Millers Peak at
a point about 850 above the sea.

The young are well grown and a
number have the wings fully
feathered so that they should
be on the wing in a short time.

born

The colony occupies a slight basin
with stony bottom that is free
from bushes. A few of the young
had wandered out into the shrubs
on either side. 8 or 10 were in full
feather and showed no down but the
majority had down about the head.

On June 14 I saw three adults among
them but did not actually see them
feeding. The majority of the young sit
about as they do when young but

m

a few were walking in the erect position.
All had black rumps and heads with
no sign of white. Attempting to find
them so high in the air.

Diomedea nigripes

Nedon Island, June 17-19. Many young practically grown are found on the higher slopes with the Laysan Albatross. A few have down clinging to the head and neck but many are seemingly adult except for a slight lack in wing development. During our stay here I have seen no adults with these birds and believe that they have been deserted. They seem healthy enough and walk about without difficulty.

June 20. About 100 pairs seen. No adults seen whatever.

King Island, French Frigate Shoals June 22-23. About 75 young on King Island, about 90 young on Round Island a half mile northwest. On King Island a few adults are still feeding young that have not quite attained adult stature but the majority now will grow birds with only small patches of down on head and neck have been left to their own devices. Though some of the smaller ones, perhaps those expanded too early whistle plaintively and tease their elder brothers for food the larger ones seem undisturbed as they walk about rest in the sun or play with sticks and pebbles. At frequent intervals they extend their wings and either hold them stiffly or flap them in the steady breeze. A shower of snow always

starts this repetition among them.
Some rise on the breeze and fly
sail a few feet. This tendency ^{to} sail with the wind is their protection ^{the}
in learning mastery of the air. As they
approach the edge of the island
and finally sail but over the water
to drop on its surface after a
few feet. The breeze then flows
them back to shore where they
may essay another attempt. If they
won't fly with the wind they
would drift away from land
and finally perish.

Mortality among young albatross on the
high islands must be very heavy. ⁱⁿ
One may wonder for example how
^{many} the birds on Miller's Peak on Nihoa
survive to the adult stage.

Anderson tells me that last Nov.
he saw one missives with an egg
on Johnston Island but that he
had never seen the birds at
Christmas, Fanning or Washington
Islands, nor at sea.

June 24. 150 young on little gin island.
Several adults banded and a number of
dead young.

June 26. 50 young on Trig Island, 30
young on Skate Island, 90 young on
Whale Island.

June 28. 8 young on Fern Island. I
never watched these birds carefully during

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the period of our encampment here but
had seen no feeding by adults. The
young birds wander about seeming
perfectly contented, picking up bits of
stick and tossing them about, occasionally
as some strong gust of wind comes
puffing along the sand with
wings extended. Scarcely they
regurgitate the collected seed
beaks in their stomachs and find
large pellets of these.

This afternoon I saw a few adults
resting on the water. Comparatively few
are seen however compared to the number
present over the ship's wake earlier in
the season.

Nekes Island, June 29. Young somewhat
more developed.

Johnson Island, July 10. W. G. Anderson states
that when he was here in November, 1922
he found one with an egg on the beach
of Sand Island.

D. R. Dickie Mus.

9/2/23

Diomedea immutabilis nigripes

♂, Laysan Island, April 21, 1923

Has central portion of abdomen
and extreme lower breast white
part of axillars white.

Otherwise is typical *nigripes*

8/24/23

Diomedea

specimen not catalogued.

Hayan Island, March, 1905, Paul Bunke
 ♂. "Hybrid."

Throat, sides of head, and foreneck
 pale gray; crown and hindneck darker
 gray; posterior portion of loreal region
 adjoining eye black; a dark gray streak
 behind eye; back and wings ^{coverts} light gray
 flight feathers and tails blackish;
 lower rump and upper tail coverts
 white; lower parts white save as
 noted and also for gray markings
 on flanks. Bill yellowish; tarsus
 and toes brownish in dried skin.
 Under wing coverts & axillars with
 more or less white.

wing 505 mm., tail 140, culmen from base 107.5
 depth of bill at base 38.0; width of bill at base 31.8
 tarsus 90; middle toe with claw 108.0

This bird has the robust bill
 and apparent large size of *D. nigripes*
 but a tendency toward the lighter
 coloration of *immutabilis*.

There is at this writing some doubt
 in my mind as to whether it is a hybrid
 or a throwback of *nigripes* to an ancestral
 type.

(over)

#765 coll. H. Palmer June 1891.

an immature bird has more or
less nothing of gray about the
head, as unquestionably an
immutabilis.

Pterodroma hypoleuca.

Laysan Island, April 8-13, 1923 seen
occasionally in evening.

Ocean Island, April 17, a few seen.
April 18. This evening late sunset three
remarked a few of these birds
kiting about over the Scaevola
bushes and occasionally darting out
over the beaches. I killed three after
several misses. Their flight is swift
and batlike and they have a
disconcerting way of slipping sideways
and banking first on one wing
and then suddenly on the other
that is not conducive to accurate
marksmanship. After dark Grand & I
went out with flashlight and
found many circling over the
Scaevola bushes. They started about
overhead attracted by the lights and
I killed four more. The birds were
pursuing one another with snarling
scroaks that remind me of the
call of the leopard frog. Though
circling in two & three they are
not breeding as their sexual organs
are not developed. The sandy opening
in the center of the island is
honey combed with the burrowing so
that in traversing it I fall in to
my knees continually. Could find no
birds in the burrows. I heard the
snarling calls of three in the air.

frequently after I had gone to bed.
April 19. Petrels circled inland
and did not come out to the beach
because of the high wind.

April 20. ~~20~~ This evening (see journal)
I crossed to the central spring and
remained until after dark. Three petrels
appeared at dusk and about it was
fully dark the air was filled with
their swiftly moving forms and I heard
their snarling cries constantly. I shot
a number 1 by the aid of a flash
light but later came across this
breeding colony and caught a number
in my hands.

April 21. Large numbers of petrels
were out at dusk in the dark low.
In flight they raise the wings
above the body and then bring
them down just to the center.

This appearance and motion on
the wing is decidedly *batlike*.

Midway Islands, April 22. One picked
up on a ledge at the cable station on
Sand Island. I examined one young
bird still in down resting at the
entrance of a burrow below the light
house. It kept the eyes tightly closed
while being handled. The feet showed
the characteristic markings of the
adult.

April 24. Many circling in stiff breeze overhead
before this evening.

Pterodroma hypoleuca

Pearl and Hermes Reef, April 26. The body of one picked up on Southeast Island. A number seen off the reef from the ship in morning and evening.

April 27. Our grass defand one of the sailors with me stepped through a petrel burrow and when he withdrew his foot saw one of these petrels struggling in the sand with only its head exposed. Later on this same defand we found two young young at the entrance of burrows, animated gray powdered juffs that kept their gray eyes tightly closed and uttered low whinnies when handled.

April 28. Several seen over the reef in early morning.

Laysan, May 4. The colony of these birds subso abandoned.

May 6. An adult juvab with ovaris somewhat enlarged picked up at night in the Sesuvium patch.

May 7. A bird dead ten days picked up near the Cagon.

May 8-12. Occasional numbers of this species found.

May 13. Large numbers of skulls of these birds fly ~~aback~~ out of the sand attesting to their former abundance.

On half a mile along the beach this afternoon I picked up 25 and passed as many more.

Lisiansky Island, May 15. One seen at dusk.

May 16. a mummy found and the skull collected.

May 17. An expedition to the grass plot with flashlights tonight yielded five of these birds and I saw several more. Unlike the shearwaters they seem to require vegetation and which to burrow.

Those collected were sexually inactive. They contain quantities of oil which it is difficult to keep from oozing out on the feathers, but which is somewhat volatile and when cleaned off carefully with absorbent cotton it sometimes almost disappears. It is orange in color.

Perhaps 50 birds now on island.

May 20-21. Noted occasionally at sea between Lisiansky and Gardner.

May 23-24. Seen occasionally at sea between Gardner and Necker.

Bishop Museum
8/23/23

Aesturata hypoleuca

a series of 10 birds all from Laysan Is.

Q. stralata large, dark
Ocean Island. April 20, 1923 Three large
dark pitules flew back and forth across
one of the openings sealing with set wings.
They were wild and it was with
difficulty that one was secured.

Bulweria.

Laysan Island, April 29 to May 14. On my

return here the evening of April 28 I found this little petrel common though it was not seen from the 8th to the 12th.

The birds appeared at dusk fluttering low over the sand and alighting near the buildings to investigate nooks beneath that might serve for nest holes.

At frequent intervals they uttered a muffled barking call that resembled exactly the barking of a little dog.

As they passed me on the wing I caught the strong musky odor characteristic of petrels. They are ~~soft~~ ^{small} youth little creatures that do not attempt to bite when handled but rest trustingly in the hand seldom even struggling to escape.

When placed again on the ground they ^{often} rest quietly not at all alarmed by this unusual experience. One

evening one was brought in to the light three times in ten minutes to settle some point under discussion but when returned to the ground began its calling again undisturbed. On

the ground they rest prostrate on the breast and move by shuffling along scarcely rising above the earth. When they have any distance to move they prefer to rise in flight. They

are found in pairs. I then but
no other mating demonstration than
their call was noted.

^{during the day} Many were found after May 1
in cracks in the rock ledges where
they were found always in pairs
the two sitting close together.
Such pairs were found under flat
rocks, or in little cracks (often
little protected from light. When
pulled out they shuffled back to
cover.

At night when the birds were
active they sometimes came to
investigate my coat sleeves or
trousers legs as I sat on the
ground. They were active at dusk
and swift with light graceful
flight back and forth past their
chosen ground. They were so small
and weak that they gave up
instantly when approached by
the large aggressive Shearwater who
were their neighbors.

On climbing about the bill was
hooked over stones to assist in pulling
the bird up.

Incidentally Collected, May 16 to 19. fairly common etc
at dusk. One captured on the wing by
means of a hand net was not at all abundant.
Nihoa Island, May 24 to 26, seen from ship.
June 11 to 16. abundant. These birds now

Bulweria

have eggs. Incubating females may be found on any rock ledge by raising the flat stones or pushing into the crevices. Males as well as females incubate. One egg is laid. Two were seen attempting to cover Shearwater eggs. Most nested under cover but a few were found wholly exposed.

Necker Island, June 17 to 20. Common nesting as at Nihoa. The parking calls of these birds muffled and amplified by the rock cover surrounding our camp had a supernatural sound at night inducing the statement by a visitor ashore for the night that he heard the spirit songs of the ancient Hawaiians.

Tern Island, French Frigate Shoals, June 25. One taken with an egg under a flat board.

June 27. Common on La Perouse Rock.

Necker Island, June 29. abundant.

June 30 seen at sea off Nihoa.

July 8 seen at sea en route to Johnston Id.

Johnston Island, July 10-12. Common, nesting in the rock ledges along the beach where I hear their warbling calls day and night. They are more advanced in their breeding here than farther north as they have young from a week old to

those growing contour feathers. The
small young are as usual in petrels
very fluffy with heavy down about
the head that almost hides the
eyes. Young beginning to molt into
first plumage appear much larger
than the adult and in reality are
heavier because of the heavy layer of
greasy fat that covers the entire
body. They remain hidden in the
ledges during the day but at night
come out to thisופן shuffling
about on the breast. At day they
seek shelter when exposed to light.
The larger ones resort to handling and
attempt to bite as do adults when
handled at this season. The young
utter a slow whistling whirring
somewhat similar to the note of
a Squab.

Adults delight to rest a few
inches apart and ^{with extended head} ~~with~~ ^{swelling}
throat utter their comical little
~~low~~ barking call, a note common to
both sexes. When quiet they rest
prostrate on the breast and in moving
merely shuffle along barely raising
the body free of the sand and dropping
back at once.

about 400 on Johnston Island.

Fulmarus

Tern Island, French Frigate Shoals, June 24, 1923

A mummy picked up on the beach by
Grant.

Puffinus cuneatus.

Ocean Island - April 17-22, 1923. During the first two days of our stay Grant reported one or two ~~of~~ shearwaters seen at intervals but the birds were far from common. April 20 I saw fifty or more at night, in the beginning and second goss. On April 21 probably three hundred were circling among the burrows at dusk. My impression is that they had just come to their breeding grounds as a few had begun calling and digging out burrows as they did at Laysan. Those taken were approaching breeding condition.

April 22 a few were seen at sea between Ocean and Midway. In flight this species is flapping ~~saw~~ ^{flaps} the wings for an equal distance above and below the median line of the body. They give a number of strong beats of the wings and then sail with wings set. This ~~skin~~ ^{skin} movement when over the meadow suggested that of a flock of night hawks.

Midway Islands, April 23. Common on Eastern Island.

April 24. Fairly common on Sand Island.

April 25. Fairly common at sea.

Pearl and Hermes Reef; April 26, Fairly common

on Southeast Island. 38112197

April 27, noted in Grass and Seal Islands.

April 28. Several eggs from last years collecting found in old holes.

Laysan Island, May 2. During the sand storms that came during my absence many of these shearwaters left the island but now the majority have returned. The thousands of burrows that they had excavated were covered and buried by the sand but they are now busy in excavating them. It is these buried burrows that are falls into constantly in crossing the sandy slope.

May 3. This evening the shearwaters came in great force and were very noisy all night. In early morning before the wind starts the sand cover where is absolutely covered with their holes. Ben reporting today.

May 4. My first impression of these birds was that they were exceedingly stupid but as I watched them the impression grows that their seeming stupidity is merely fearlessness. Tonight hundreds were circling over the ocean outside the reef and many new birds came ashore so that they fairly swarmed over the open.

To-day I saw one starting a nest

Puffinus cuneatus

new burrow. It picked hurriedly away with its bill and scraped alternately with both feet until in a minute or so it had made a depression 6 inches across and an inch deep. The bill is used extensively in digging. Once I saw one drive the bill firmly in the sand and thus started to dig rapidly with both feet in alternation so that a steady stream of sand came out behind. Ordinarily one foot alone is used so that the sand comes out in little jets for a few seconds and then stops. The appearance this makes in spouting out of a deep hole is always provocative of amusement. It is observed most frequently in morning and evening. As I come to know them better I find them aggressive and truculent with dispositions as savage and uncertain as that of a Goshawk. Males fight savagely picking with their bills and springing from the ground to strike at one another with both feet. Finally they secure one another by the bill and with flapping wings roll and tumble about, now one on top the other on top scratching with their sharp claws. Meanwhile

they utter catlike squalls that coming from the door or beneath a cot at night do not lead to pleasant slumber. Tonight a big bully of a male came in and after a prolonged battle whipped a male who had a mate and was excavating a burrow in a sand bank just outside the door. During the battle the female scuttled in and out trying to get near her lord. The victor claimed both burrow and lady and began to call at once in a loud tone. The beaten bird returned to the attack with loud squalls to be heard each time until finally in the interest of peaceful slumber I collected the victor.

May 5. This birds have come in in large numbers and though common about the sheds are found in still greater numbers near the lagoon. In some places there the ground is almost black with them. They are busy mating now and are usually in pairs though many do not seem to be in breeding condition. Twice in the last two days it has been reported that a male curatius was trying to copulate with a female naturalis and this evening I witnessed this myself. The curatius was

Puffinus cuneatus

mounted and was breaking briefly but the bird beneath remained neck of passion with tail flattened on the ground. The wedge-tailed remained unmoved for two or three minutes. Its own mate rested on the ground a foot away.

May 6. Great numbers of these birds congregate in evening in the vicinity of the lagoon. Areas two hundred feet or more across are covered with the birds resting almost against one another and the number revealed by the rays of the flashlight is enormous. In walking care was required to avoid stepping on them and the birds blundered into me at every step.

Several times this evening I saw male make advances toward neighbors of both sexes. males but a hasty retreat but females remained passive though the wedge-tail was not able to effect actual connection.

May 7. These petrels are found in large numbers about the sheds where they rest about in the sand during the day or occasionally give a low call from some hole beneath the floor. With the approach of dark they become more active and come sidling in to their burrows from all directions.

Many seem to fly in from the sea
and alight and then walk or half
walk and half fly to their ultimate
destinations. We derive much amusement
from their maneuvers.

Last night one big ruffian came
sliding in to a burrow partly dug by
a weaker ~~smaller~~ male and his mate. The
two males engaged battle at once
with yowls and screams and carried
on a prolonged rough and tumble
for several minutes until the weaker
one was vanquished and the usurper
sizing wife and home began a
sonorous song of victory. The second
bird returned to the attack several
times and the commotion was such
that in the interest of peaceful slumber
he was finally collected.

This afternoon we came waddling
quietly up to his burrow just out-
side to discover an interloper with
his wife. With a whoop of anger the
irish householders fell on the intruder
gave him a severe trouncing and literally
flung him out and then settled for a
quiet rest. At dusk another male
attempted to wrest his burrow from him
and a noisy battle began that lasted
for ten minutes. The two rolled and
tumbled about regardless of kicking
and tail feathers bracing against the

Puffinus cupreatus

sand. Usually they held one another firmly by the bill while they doubled up and scratched heads and shoulders with their sharp nails. Occasionally one grasped the other by the throat and shook and tore viciously. When they pulled loose they closed against instantly. After ten minutes one had enough and struggled to get away while the other bit savagely at his head back and rump. When he finally got out he was a sorry looking object with feathers ruffled and blood oozing from punctures on head and shoulder. This bird I collected found to be a male. The victor began immediately his song from the log under the barrel that had been the scene of contention. They are naturally combative in spite of their dove like appearance and delight in a fight. We had some amusement from catching other males and threatening them in upon the dauntless warriors under the barrel. Batch followed instantly with company as we named him along the victor.

As the legs in these birds are set far back they walk with apparent difficulty with body nearly horizontal

and head as a bird with the
shoulders which they take short waddling
steps rapidly. After travelling a few
feet they plunk prostrate on the
ground and remain looking quietly about.
Through their walking resembles one of
the scuttling of a beetle when in the
wind they rise and skim along
frequently pattering on the sand less
gracefully as can be. It is common
for them to rest asleep with the
head turned on the back. If touched
suddenly they spring two or fifteen
inches in the air as though a changed
action caused to them at other times
when startled. They fall back at once
and after a remaining start take with
extended wings take flight.

These quietly colored down like
birds have the vicious dispositions of
birds. Even their love making often
ends in a brawl. Females will kill
with the male who may return the
blows and then suddenly strike cruelly
and viciously. Males have sexual organs
well developed but females are not yet near
laying.

They feed off shore in large numbers and are
are much subject to attack by Frigate birds
who harry them and often seize them by
their wing and whirl them over.
May 8. It seems probable that the

Puffinus cuneatus.

family tie in these birds may be very loose. As dusk came on this evening birds began to gather about the cabin and to shift about from place to place. Some seem to have definite holes which they protect from all comers. Other findings partly completed may be occupied for a few minutes by one bird and then left to be taken over by another, until several may have claimed a temporary possession in the course of half an hour.

When a male approaches a hole it sidles off a little bit and eyes the opening vigilantly until it appears that there is no one at home when it may take a chance and sidle down. Upon them or four may gather about and squint backward undecided as to whether to fight or not. Suddenly one will spring at another and spur him with his feet and the whole collection will spring into the air with spread wings and cat-like yowls. After a cluck or two they separate and huddle away.

When a male sidles over to some newly arrived female and begins his usual sorrowful song three or four others may huddle over and join in when they all face one another watching

Alertly. Suddenly, we will move
and then all spring into the air
with loud screams to drop back
and side off. I have seen male
make approaches to four or five
females in succession and it may
be that they do not ^{mate} permanently.
After doing this he began making
overtures to a female nathutalis when
another male forsook his mate nearly
drove him away and began skillfully
paying court to the stranger. I saw
one straight mounted on a female
nathutalis with her own mate crouched
a foot away. Unmindful of him the
male curvates around his copulation
note ~~but~~ ~~with~~ and worked his tail
back and forth across the rump of the
bird beneath but with no response
so ~~the~~ ~~black~~ skinned incubator
rested passive with eyes closed and
tail flat on the ground. When
released finally she began immediately
to bill with her mate.

May 9-12. The ordinary call of this
species is coo-oo-oo x ~~two~~ ^{aw-w} the
first note made with expiration and
the second with inspiration of the
breath. Though they still fight
steadily there is now of a tendency
for them to divide off in pairs. Near
the canyon the ground is black with

Puffinus cuneatus.

them at nightfall.

I have taken one that is wholly gray underneath and his light colored feet. It was found with several colored birds about a hole.

It is amusing to see them waddle up to a hole, crouch a few inches away and then extend the neck to look down over the opening, peering warily to guard against sudden attack by a possible intruder. Their gentle appearance is wholly belied by this character as it is impossible to pick one up without being either scratched or bitten.

Pearl and Heron Island, May 16. As at Laysan this is the most abundant species on the islands. The birds are scattered in pairs or small groups everywhere and I had difficulty in locating a good camp site free from their burrows. I was pleased today to kill another dark gray one and was astonished to see several more in rapid succession. The first of these birds was walking about peering down holes and the others were flushed at random in the flats. There seems to be more variation from light to dark among these birds here than at Laysan.

May 18. Many of these birds are
in sight during the day resting
upon their breasts loosely in
pairs. At dusk there is much move-
ment among them as some go to
sea to feed and others come
sailing in and quarter gracefully
back and forth over the flats rising
and falling lightly, alternating flapping
and soaring before settling for
a roisterous, boisterous night of
hole digging, fighting, howling and
copulation. They remind me strongly
of lumbjacks or coumches come
for a night in town. Fights are
of frequent occurrence and the
two combatants seize one another
fiercely, the weaker unconvinced
of his inferiority frequently returning
again and again for more
punchment. The amount of sand
I moved during a night by one is at
times prodigious and I have seen
birds dig until almost exhausted.

Sex Copulation. The male gets
his large fat plucked firmly on the
humerus of the female and does not
seize her head but swings his bill
quickly back and forth across her.
The flat where we have pitched camp
is about the only spot on the
island free from their holes.

Puffinus cuneatus.

gray-breasted birds seem to run from 3 to 5 percent of those of ordinary type. I see many that appear whiter below than the average also so that variation is considerable. There is apparent regular intergradation from light to dark.

May 19. Abundant. Copulation is frequent among these birds but as yet I have found no eggs. I have seen them here attempting often to cohabit with jungle noddies.

May 21. Common at sea between Mars and Sawatt and Gardner Island.

At a conservative estimate there are 25,000 of these birds on Lisiansky Gardner Island May 22. On the western face of the island below the summit I discovered one in the furthest recess of a deep crevice in beneath a rock fifteen feet from the outer surface. Dr. Ball reported two there.

May 22-24 Common at sea between Gardner and Nihoa.

Nihoa Island, May 24-26. Thousands of shearwaters circled about the ship as we lay at anchor many rising high to circle in over the highest peak at an altitude of over 900 feet. Frigate birds being in wait for them as they circled in rise in the lee of the island and

Puffinus cuneatus

steps where earth has collected. The shearwaters have dug their usual burrows sometimes three or four feet long but ordinarily merely in far enough to furnish shelter. Elsewhere the birds have sought little natural cavities in the rock or have gone in under overhanging ledges. Many, fully half in fact, have simply laid their eggs at random in little hollows or depressions beneath the bushes. The eggs are large and white in color and in general appearance are closely similar to those of the domestic fowl. As I had some one brought me one casually, I should have suspected them of a joke. As I walk through the bushes I see them by the hundred and always am struck by their beautifully clear white color.

The shearwaters themselves are more quiet now than earlier in the season. Occasional groups are still mating and fight and squall as elsewhere and newcomers are prospecting for nest sites. It is not unusual to wake up in the night to find me resting on my legs as I lie in bed under the overhanging rock that serves us for shelter and new members of the party who have not had our previous experience complain

somewhat of their noise but to
the rest of us they seem very
quiet. In passing over the island ^{the}
I see them resting quietly on the
ground usually on an egg but
often merely resting in the shade.
~~At such~~ When incubating they often
exhibit a tendency towards secretiveness
and crouch with head extended
and eyes partly ~~under~~ partly closed.
One held this position for nearly
an entire day a few feet from where
I sat skinning birds. This same
individual seemed to have a poor sense
of location. During the second night
of our stay another shearwater laid
a few feet from the one under discussion
who when she came in from the
sea seemed undecided as to which
egg to claim and waddled from
one to the other several times finally
locating in the wrong one.

As I pass through the brush
they sometimes leave their egg and
hustle awkwardly away with wings
and head creaking in the brush.
After rise and offer fight. When one passes
too near another incubating bird ^{the}
the latter immediately voices his
indignation in a low voice and
sings the intruder by the nearest
part of his person.

Puffinus cuneatus

The eggs cooked are very good eating.

Many circles overhead during the entire day but are most active hovering and circling when the air is filled with them. Parties often rest on the water and occasionally a raft containing several thousand individuals may gather.

Wastage in their eggs is tremendous. Some females apparently lay at random and it would seem to not return to such eggs. Finches destroy quantities of eggs left thus unprotected and I see hundreds of broken eggs. Males share in incubation - all those taken from eggs soon was seen a male. I see occasional individuals here with gray breasts though the great majority are white.

Nesher Island, June 17-19. Common but in less abundance than on Nihoa. The birds have eggs scattered about over the slopes most of them showing slight traces of incubation. I saw one instance where two eggs had rolled together and one bird was incubating both.

June 20. about 3000 pairs. Their calls of these birds echo along the rock cliffs at nightfall with a weird cadence that is ghastly in the extreme and with the bawling notes of the Bulwers Petrel may have

given rise to the belief that the place
is haunted.

King Island, French Frigate Shoals, June
22-23. About 50 pairs on Round
Island. About 1750 pairs preparing
to breed on King Island. Many of the
birds have eggs now on King
Island and I saw great numbers
of others come in from the sea.

Created they rest in little groups
over the entire land surface. Mating
is still taking place and their
moaning makes music all through
the night. Wastage among their
eggs is considerable as many are
laid at random. I was amused in
watching one female with what was
evidently her first egg. She had laid
it and knew that she was opposed
to do something with it. She rolled
it about on the sand with her
bill and pulled it under her breast.
This was uncomfortable as she
walked forward finally falling off
and leaving the egg uncovered. This
process was repeated half a dozen
times until she rested tired out
a few feet away.

June 24. 20 pairs noted on little green island.
June 26. 50 pairs on Trig Island, 20 pairs on
Plate Island, 500 pairs on Whale Island. all with
eggs.
June 27.

Mar...

te

Puffinus curvatus

June 27, 50 pairs on La Perouse Rock.

June 28, 250 pairs on Seal Island. Many eggs scattered about in burrows or on

Necker Island, June 29, no change.

Kauai Island, July 1, Abundant over sea and circling over high slopes.

Tamotou Island July 10-12. One of the abundant birds of the island, now well along in the breeding season. They are still calling at night to a limited extent and I find occasional fresh eggs but the majority are now incubating. I have looked carefully for young but have found none. Apparently this species has a uniform laying season as migration here corresponds to that on other islands visited.

Now that incubation has begun *curvatus* has changed completely in character. It is a close sitter and crouches on its egg motionless with making no sound at all for hours or more. Apparently one adult incubates by day and the other by night. Young terns that chance to fall in for the shearwaters are bitten and driven away as are other shearwaters and occasionally one starts its wailing cry when a

random footsteps starts a rain
of sand for the occupant of
some burrow. Ordinarily they
scuttle awkwardly away with
bill and wings, catching on the
vegetation without making a sound.

Some eggs are laid in the depths
of burrows four feet from the entrance.
Others under little plants of vegetation
above ground. The entire island has
been dug over by the birds and
one falls into their holes every
few steps. The openings of burrows
are usually a foot or more across
as the loose sand falls in at a touch
enlarging any hole that is made.

~~at that time~~ By day the only ones
visible are the few whose nests
sites leave the incubating bird
visible wholly or in part. At
dusk scores come sailing in from
the open sea and after dark the
flashlight reveals them on the
ground in all directions: an swarming
gracious frigate birds cause many
to disgorge all disagreeably fast
that the shearwater postpones to the
last possible moment & have seen
many a one driven down repeatedly
by its broad winged pursuer until
it struck the water. Then it judges
about and attempts to swim.

Puffinus cuneatus

but makes no attempt to dive.
I see a fair number in the
gray-breasted phase and secured
one mated pair, both dark in color.
The white breasted individuals are
greatly in the majority.

At dusk the paired birds sit
next facing one another, ~~are~~ ^{are} ~~carries~~ ^{carries}
head with a nodding motion of the
tip of the bill.

The sea off shore

About 2500 on Johnston Island, about
500 on Sand Island.

Wake Island. July 30. a colony of perhaps
50 pairs found in loose soil ~~and~~ in
openings among the trees on Peak Island.
Males apparently ~~have~~ settle down after
sowing a few wild oats during ~~mate~~
mating as I found several males
incubating among those taken today. Eggs
appeared hard set but I found no
young.

Aug 2 - a few burrows in the
northern portion of Wake Island.

Bishop Mus.
8/23/23

Puffinus cuneatus

~~Two~~ ^{Two} young about a week old taken
by Bryan "Aug." 1902.
One other about 3 days old.

#4536. Laysan Is. April 17, 1906, P. E. H. Bond
adult ♂ in full gray phase.

Puffinus nativitatis

Laysan Island, April 8-14, 1923. Fairly common.

Found in pairs and a number collected. One fresh egg found under a board and another taken from the vicinity of the jungle.

Pearl and Hermes Reef, April 26, Mr. Cayson saw one amid the grass but I was unable to locate it.

Laysan Island April 30 - May 4. Common. Another egg taken from vicinity of female. This morning I witnessed a rough and tumble when one male attempted to take possession of the burrow of another that lasted five minutes. The two seized one another by the bill and scratched and rolled with beating wings in and out of the burrow. The former finally victorious crouched on the sand where he could guard his home and uttered his cooing call weakly in mind of the fact that his eyes were full of sand and his plumage ruffled. The other, twenty feet away, also began to call and I tried to drive him back for another battle but he flew precipitately.

May 5. *Alimna*.

May 7. These shearwaters are fairly common but are much more likely birds than the vicious *cineratus*.

In spite of their heavy bodies they spring into the air and fly without difficulty especially if there is a little breeze.

A female today was found covering an egg in a hole in a slab of rock. The egg white egg was deposited in a little hollow in the sand with no nest material.

The birds begin activities toward dusk and move about constantly after dark. One evening they were seen but not two or three rows to enjoy the warm rays of the sun. While walking the body is held upright with head and neck level with the shoulders. Progression is effected by a slight but constant undulating walk and after a few minutes the bird stops and with its feet and tail all time have part to go they prefer to fly.

May 8 a number about

May 9-12. The call of this bird is O Kah-h. Koo-oo-oo. Koo Koo Kah repeated and varied according to circumstances. As the male gives its he extends his neck and raises his head. When the female is beside him she responds immediately with the first part of the call and caresses the head of her mate. She may return the caress or may bite her savagely.

Puffinus nativitatis.

Their love making seems wholly confined to a rude and rather rough preening of the head and a touching of bills. In evening and in the morning before day they are alert and active. As the sun rises in the morning they frequently drop down into the shade of rocks. As it rises higher they may rest and sleep for a time but as its rays become stronger disappear quite ere they find a rock or other shelter and are seldom seen during the day.

They rise easily in flight from a resting position and as the wing resembles pigeon's. The wing stroke is quick and rapid and the wing is flapped with short quick strokes in which the wing tip is not brought below the center of the body. In walking they rise and waddle with body horizontal - as they stop they drop heavily on the breast.

Kisiansky Island, May 16, fairly common.
A nest egg found under a board in a hole nearly broad and deep enough to conceal the bird.
May 17. a female taken with an egg.
May 18. seen

May 19. One fresh egg taken. About 300 pairs on this island. Much less in evidence than at Laysan. Gardner Island, May 22. One or two seen circling about ship but none seen on shore.

Nihoa Island. June 11-16, about 20 pairs are breeding on the higher slopes on Miller's Peak between 800 and 900 feet elevation. The birds nest in little shelters beneath overhanging stones or tussocks of grass where they may or may not be entirely covered. Both male and female may be found in the nest. Some have eggs others nothing. I found one nest containing a young bird in grey down, about as well as which I collected. It regurgitated a quantity of oily fluid & bright orange in color when killed.

King Island, French Frigate Shoals, June 22-23. Two pairs seen.

Johnston Island, July 10-19. There are two small colonies on the island where these birds congregate and the wedge-tailed Shearwaters and have nests in holes dug to a shallow depth in the sandy soil. During the day all are hidden under ground but at dusk they creep out and remain active all night.

Puffinus nativitatis

Adults are calling and caressing one another though all have large young brooding in the first plumage. They squawking notes which included and with a curious call coo - (given with expiration of breath) oo-oo (made as breath is inhaled). The call is like that of adult *P. creatus*.

At dark the young creep out of their holes and remain in the open but seek shelter either in heavy grass or under ground when the sun get high. There is one colony on Sand Island.

Adults show some wear in plumage.

The note of the adults is a curious crowing call coo-coo-oo-oo Koo Koo Koo. The first part drawn out and the last given rapidly. They are especially vociferous at daybreak in the morning and ^{for an hour after.}

About 300 on Johnston Island, about 100 on Sand Island.

Wake Island, July 30, a pair taken on Peale Island in an open growth of *Townsonia* near the center of the island.

Puffinus gravis.

Laysan Island, May 3, 1923 One washed
up in the beach, too far gone to
skin. Very thin, dead for about ten days.
Had wings & feet preserved

Puffinus Newelli

#4292. Maui, H. I., taken from burrow,
breeding, native name "U" M. Newell, coll.

The specimen bears three labels of which
one with printed label "Collection
of H. W. Henshaw" is marked "Puffinus
Newelli Henshaw, Type".

wing 220, tail 78.0, culmen from base
33.0 tarsus 47.5.

Description given in Auk, 1900, p. 276
is excellent (especially Mr. Ridgway's
quoted remarks).

The black back and sharp line
of demarcation between white and black
are especially notable.

#1100, Kauai, H. I., Francis Gay, coll.
wing 233, tail 84, culmen from base 34
tarsus 48.0.

Sula leucogastra

Laysan Island, April 10, ¹⁹²³ One seen by D. R. Peck
in the surf.

Ocean Island, April 17-19. Fairly common.
Probably 50 pairs present. The birds are
nesting in the slight opening near
the northern end of the island.
The nests are placed on the ground
in the form of small slight
mounds of dead Scaevola stems
mixed with green leaves of "Baccharis"
all apparently gathered within a
radius of a few feet. Nests contained
one or two eggs. Some of the latter
were hard set. These boobies were
rather wary and usually rose
when I came within gun range
to scold back and forth in the
wind. On the male the face
and gular sac are purplish blue
while in the female these areas are
bright yellowish green. Characters
that distinguish the two readily.
The eyes do not differ in the sexes.
Occasional individuals scold over
the beaches. One, when killed regurgitated a
blue flying fish.

April 20-22. ~~Not~~ fairly common as
indicated above. The reef on the
western side of the island approaches
within 100 to 300 yards of the beach.
These boobies seem to feed mostly on

This side of the island and
comparatively few are recorded on
the opposite shore where we have
our camp. They approach readily
within gun range but are much
wilder than either of the two species
Midway Islands, April 23. A dozen
seen, including one in first year
plumage. One taken. Birds found along
beach.

Pearland Hermes Reef April 26. About
10 pairs nest on the ground on a
large area of eroded limestone rock.
Nests were made of bits of grass
arranged to form a nest with a
slight depression at the center. Eggs
invariably two. Have seen one nest
with small young.

April 27. Seen flying over the reef.

April 28. Recorded on Southeast Island.

April 29. One pair have a nest east the
Edgson's near the Sesuvium patch, apparently
first record for island. (not so noted by Schauer.)

May 5. bird seen on nest.

May 7. male seen on nest.

Historically island. May 15 seen on nest.

May 16. a number of pairs nesting
in grass tracts have eggs, and hatched
young to young 10 days old. Are
immature molting into adult plumage.
taken. The present species is less noisy than
cyanus or pinnatus and seen on the nest.

Sala leucogastra

ordinarily is silent. A female today however uttered a loud quok quok quok

May 18. Fairly common. Mr. Phasam brought in a pair, with flying fish of the common species, one of which regurgitated by me of their beak.

May 19. About 40 pairs on this island. A pair taken today. Nests contain 2 eggs, sometimes newly hatched young. One or two seen that contained two young ten days to two weeks old, one young in each instance. Part of the nests here are located in the grass, on the ground in spaces between the clumps and part on bare ground on a slight elevation near the eastern side of the island.

Gasparis Island, May 22. Several reported a single body in the small western rock.

Nihoa Island June 11-16. About 50 pairs nest on the island most of them on open ledges above the cliffs 50 to 100 feet above the sea. These boobies are much more wary than the other species and rarely seldom be caught by hand. I have seen one nest containing two eggs but most have young many of which are half grown. These stand about on the rock ledges and are

afraid so that they attempt to slide
away when approached. One at camp
maintains a precarious perch on the end-
very edge of a rock projecting over a
precipice and several times has slipped
and almost fallen as it moved about.
Another farther in slipped and fell and
was killed on the rocks below.

On the warm morning sun one
sometimes sprincled out on a rock ledge
with wings flat at its sides - to bask
in the sun.

Ncker Island, June 17-19. A few seen on
the lower rock cliffs. One or two
half grown young recorded.

June 20 About 50 pairs inhabit the
ledges on the rock cliffs.

King Island, French Frigate Shoals, June 22,
two seen and one taken.

June 24. One on spit near Round Island.

June 27. About 30 pairs seen on the Pinnac
Peak.

Kauai Island, July 1. Seen on cliffs.

Johnston Island, July 10-18. Common. A
small part of the birds now have
young. From two weeks old to bird
on the wing. Adults are wary as
usual and when resting grip
perches off shore on projecting rocks
where they can take flight at the
least indication of danger. Numbers
come to the island to roost at
night but are much more

Sula leucogastra

wary than others and usually fly before they can be approached. Some were young from two weeks old to nearly able to fly. These young delight to climb about on rock ledges when they perch easily on polished stones. They are decidedly nervous when approached and attempt to pick up small females at the nest site about with loud quacking calls and if disturbed too much take flight. Nests are all on the ground.

About 75 on Johnston Island.

Wake Island. July 27 - August 4. There are fully ~~one~~ ~~hundred~~ ~~and~~ ~~five~~ ~~hundred~~ ~~more~~ mainly found on the windward side of the large island. On the western end of the north half of Wake a few pairs have young from half to nearly grown in ground nests. Other pairs nest in perches in the trees and apparently another breeding season is approaching. At evening many of the birds bat in to the island from some fishing ground to the southwest and pass low over our camp. Many are robbed by the frigate birds. On the windward side of the atoll the birds rest

on logs or lumps of coral
frequently in little groups. They
are much more wary than
other boobies.

Like the other species they fly
with neck outstretched and
just straight behind. The flight
is steady. Their heavy neck
slope gradually into the long
slender bodies.

Bishop Mus.
8/24/23

Sula leucogastra
4535. Laysan I., Jan 6, 1906, ♀, P. E. H.
Bumpke
adult bird.

Sula ^{dactylatra}
~~cyanoops~~

Naysan Island, April 8-12, 1923. Scattered birds are found over the island usually where some faint trace of vegetation remains. The majority were incubating one or two eggs but few were young. I though I have seen no young more than a week old. The parents are very solicitous and only edge away when their eggs under great attack. They are even more willing to give their young. It is usual to see ~~the~~ one bird covering eggs with the mate standing close beside and with in protection at one interval.

Ulean Island, April 17-19. Common in the great space at the northern end of the island. The birds are nesting here on the ground where they have scraped away their vegetation and deposited two eggs on the bare soil with no nesting materials. Some have young two weeks old. The male frequently rests near his mate. As it approach they greet me with protesting squawks leaving their eggs with evident reluctance sidling awkwardly about near at hand. At camp they pass frequently to or from expeditions for fish.

About 200 pairs present.
April 20-22. These great birds were

nesting wholly in the ground. They are much agitated at near approach but seldom show much fear.

Midway Islands, April 24, Two seen on Sand Island.

Pearl and Hermes Reef April 26. On South east island about 50 pairs are nesting in areas on the sand beaches or on the barneroad limestone at the eastern end. They do not cling in the strict sense of the word as they are scattered over considerable areas. Cassin has called my attention to the fact that the voice of the female is a harsh quacking squawk uttered loudly which that of the male is high pitched and whistling. When disturbed they frequently regurgitate large flying fish.

April 27 seen flying over lagoon.

April 28. The steady wind was banked in the water on the eastern end of southeast island and I found one booby nest in a little depression floored out. The female still sat on her single egg though it was under an inch of water. She cut my thumb nearly to the bone in a single bite today.

Haystack Island, May 2. Some with eggs and some with young. As the birds nest on

Sula dactylatra
cyanops

The nest is a tiny ^{two} about with the long tail scraping on the sand. This forms a tiny with the egg at the center in slight depression about 3 inches across.

May 3. The fish swallowed by these birds are truly enormous and frequently measure 10 to 14 inches long.

May 4. A bird in second year plumage taken.

May 5. Some have eggs in the nest while others have well-grown young. One sheared the end of its tail with a single clip of its bill.

May 7. Birds that have no nests remain still in pairs in some cases. They are very attentive to their young and remain always on guard near them. When driven away they soon return.

May 8-12. New pairs are coming in to nest in different localities. I took one egg that was fresh but had the misfortune to break it.

May 13. A young bird less than 24 hours old did not have the eyes open.

It is already covered with a sparseness of white down and uttered a low buzzy call.

The adult female in addition to being larger than the male has the bill and feet slightly dusky beneath.

Liziansky Island, May 16, Fairly common.
Some young here as large as adults.
May 18. Several young on the island
are fully grown and able to fly.
One taking to show the dark beard.
Some of the adults are now mating
and choosing nest sites. They stand
near one another point the bill
up and then wave the head
and neck about with a
silly expression that is very
characteristic. One of the parents is
nearly always in guard with
the young at the nest.

May 19. About 100 pairs on this island.
All nesting on the ground though
mainly concentrated near the
grass plot.

May 20. Several pairs seen nesting on
the open sea near one another.

Gardiner Island, May 22. This body
was the most prominent of the
larger birds. About 400 pairs nested
on the island. Nesting varied from
birds that had just selected nesting
sites to others that had young on
the wing. Perhaps half had well
grown young. For nest sites the
birds congregated on the upper third
of the island where they were
so numerous that their excrement
formed whitish or yellowish washings.

Sula ^{dactylatra}
Cyanoops.

over the black volcanic rock that
as we came in the first evening
appeared light as snow. Progress
up the slope was slow. The
ledge appropriated by the birds
was at every step we were
created by harsh bumps, ~~for~~ jarring
joints & (males) sand interests
with sharp mouths. Where the
birds had young they were
often attacked as I was going up
the ledge a severe bite and at
all times were fearless. The narrow
ledges where passage was narrow
it was necessary to chase the birds
away to avoid possible attack
that might lead to a fall. We
slapped them with our hats
and pushed them with our feet
while they struck and resisted
with great turmoil often only when
literally pushed over the edge of
the rock when they had to bite to
their wings.

Nhoa Island May 24-26. Common
seen dotted over all the slopes.

June 11-16. Though scattered blue faced
Boobies nested in occasional small
open spaces over the island the majority
were gathered in a scattered colony on
the little depression below Miller's Peak

They had young here from newly hatched
to birds in the wing. ~~And~~ ^{And} ~~where~~ ^{where}
flying fish seemed to be their main
food. I estimated their number
at 125 pairs.

Neken Island, June 17-19. Common over the
higher slopes of the island where they
have young from half to nearly grown.
When ~~un~~ ^{un} ~~disturbed~~ ^{disturbed} the females and
young frequently utter their loud
gracking calls in a contented tone.
June 20. about 500 pairs here.

King Island, French Frigate Shoals, June
22-23, about 30 pairs in Round
Island 150 pairs on King Island.

All have large young. Anderson claims
that one egg is infertile and that
he has seen the parent feed it to
the newly hatched young. I saw one
here attempting to feed a well grown
young. The "chick," a mass of
down nearly as large as its parent
crouched with wading head nibbling
at the parents bill. The latter finally
opened the mouth and extended the
beak while the young thrust its
bill down the capacious opening
as far as possible to seize a large
flying fish by the tail and draw
it up. As the tail of the fish
protruded from the adults' mouth
the young's foot held and the

dactylatra
Sula cyanops

coated food was promptly swallowed again. This process was repeated half a dozen times before the exchange was made.

One adult swallowed two fish 8 inches long that George the Cook handed to it.

Males frequently waddle off and then raising tail and wing tips elevate the bill in the air and emit a steady sighing whistle. After repeating this for the edification of the female several times they come waddling back to the youngsters with an abashed, *ottobal* manner of anxious solicitation.

June 24. 8 pairs with well grown young in little gin island. One dead young seen.

June 26. 20 pairs on Ding Island, 40 pairs on Kate Island, 70 pairs on Whale Island, all with well grown young.

June 27, 20 pairs on La Perouse Rock.

June 28, 8 pairs on Fern Island.

Necker Island June 29. A fine big female seen anxiously guarding a runt egg the size of the egg of a Bulwers petrel.

Her attempts to roll this tiny egg about were very funny.

Kaula Island, July 1, seen.

Tomaten Island, July 10-17. Common. A few pairs still have young as the

down but the majority have
completed nesting. A small
number roost, at random
on the island. A flock of
one hundred adults gathered
each night at dusk. Saw a
rock ledge on the eastern shore where
they roost closely together like
cormorants. Young in first
plumage are fairly common.
Two pairs still have
eggs.

About 200 on Johnston Island
20 on Sand Island.

Wake Island, Aug 2. Two young and
one adult shot on the inner island
side of the

Sula piscator.

Laysan Island, April 8-12, 1923.

Small colonies occupy two low bushes where they have constructed stick nests that now contain eggs or small young. The birds' breath definitely and strikingly at my intruder. They have been more or less disturbed since our arrival and eggs of a number have been destroyed by the juncos. A curlew sits on the nest sleep in the hedge of the buildings and old frames on the prows of the two coconut palms sleeping with head securely tucked under a wing.

Ocean Island, April 17-19. The present species nests in the *Scaevola* bushes throughout the island and is the most abundant of the three boobies as about 1000 pairs are present. Many have not yet chosen sites for nests but are merely resting.

April 20-22. Do stand on the higher dunes and look out across the dense growth of *Scaevola* with green of the shrubbery here and there is punctuated by ^{the} spots of white made by these boobies. As these rest quietly on the branches. Seldom are more than half a dozen gathered in one place and are sitting on

Two localities are small colonies
of a dozen to twenty pairs found.
They seem not to follow their
usual gregarious habit on this
island. A few have eggs now
but the majority are either not
building or choosing nest sites.
I observed two prospecting among
the branches until they found a
spot to their liking. This search
was made with many posturings
in which the wings were partly
spread and quivered and the
bills pointed up and waved about
while they uttered smooth whizzing
calls and rolled awkwardly
about on the small limbs. The
birds pass camp continually to and
from their fishing excursions. Two only
immature plumage were noted
one of which was taken.

Malwayabinds, April 23, A colony of
25 pairs nesting in bushes on Eastern
Island. One taken.

Pearl and Hermes Reef, April 26, About
ten pairs nest in clumps of grass on
Southeast Island. Nests contain eggs
or young.

Layan Island, May 20. Many eggs still
unhatched.

May 3. A bird in full immature
plumage seen. Schlemmer caught it at night.

Sula piscator

May 4. Saw carrying nesting material at night & inspected the colony in the Drimwood by aid of a flashlight. The birds slept soundly with head ~~slap~~ back under the wing and when disturbed merely blinked sleepily and then went back to sleep. Males in some cases rested on branches and inch or two from the nest.

May 5. Two immature birds shot this evening from roosts in the coccol tree. They were in here at night to get food their feeding excursions. Nesting birds do not seem to spend time in these young cocoons but nest here.

May 8. Heard their harsh call at intervals during the night.

May 9-12. The call of the male is higher pitched than that of the female. In addition his gular sac is black while that of the female has a bluish tinge. Both male and female remain on nest constantly day or night. Another young bird has hatched. They grow rapidly.

May 13. A number of nests seen were placed on the ground about the stems of old tobacco plants. Made of collected twigs two to fourteen inches long. These nests contained one egg or were empty. A number were still under

construction. The note of the male is distinctly higher pitched than that of the female.

An immature taken was molting into second-year plumage. These young birds rest about on the breasts of the adults without protest in most cases.

Nisiansky Island, May 17. Tonight with the flashlight I came across 25 of these birds gathered closely together to roost in the grass plot.

May 18. Two nests containing eggs found in the grass plot. The single egg was laid in the crown of a grass tuft without other nest material. The embryos from one preserved.

May 19. About 40 inhabit this island. Most of them are not breeding now and seem to spend the day at sea. At night they come to roost in the grass plot or on stakes at the old Japanese camp.

Garbiner Island, May 22. A dozen circled about nest & yelped. This way I found a roost on the island. None seen on shore.

Mikoa Island, May 24-26. Seen frequently. June 11-16. Numbered about 2000 pairs. Their babies ranged over the entire island.

Sula piscator.

gathering at times in little colonies
and again spreading over broad areas
of hilltops. In looking across the
Valleys their white forms showed
very true as little spots. Their nests
were built on the tops of low
spreading shrubs, these were four feet from
the ground and were made of flat
structures of small twigs and sticks
2 to 3 feet across with a shallow
depression in the center lined with
a few green leaves plucked from
adjacent shrubbery. The birds laid
but one egg. Many nests were newly
constructed, others contained eggs
from fresh to nearly incubated
and young in others ranged from
newly hatched to half grown. A
few birds found. Nesting sites in
the crests of the palms (*Butchardia*).
The adults were amusing in their
movements. As I approached they
turned to face me with ruffled feathers
and reached out constantly with
necks fully extended as though to strike.
When really irritated they squeaked
loudly and flew. I saw one framing
a young bird attentively working carefully
through the down on its back.
One bird in gray plumage with a
pure white tail flushed from a

containing a newly hatched young
bird
Nicker Island, June 17-19 common. Nests
in some cases are just built, a few
contain eggs and the majority young
one third to half grown. I saw one
young bird almost adult with
only a trace of down on the head.
There is something decidedly serpent like
in the appearance of the adult
as they protrude and retract their
snouts when disturbed.

June 20. About 1000 pairs here.

June 22 (see journal)

King Island, French Frigate Shoals, June
22-23. About 20 roost on the island.
Thasman which was working on the reef
in early morning had one alight
on his head and remain there until
he twacked its tail

June 26. one pair on Skate Island,
15 pairs on Whale Island when they
nest in the tops of *Chenopodium*. Some
have eggs while others have nearly grown
young. A bird a year old alighted
on George Higgs (Island Cook) shoulder
as he sat waiting for the boat one
evening. One adult seen brooding a young Frigate bird.

June 27. 30 pairs at Ra Person Rock.

Nicker Island, June 29, no change.

Kaula Island, July 1. abundant over high
cliffs

Sula piscator

Island July 10-18.

Abundant species. Found his seen at
~~night~~ day but not dark bands
gathered to find the night on
rock ledges along shore. They rest
in social groups almost
rubbing wings and sleep with
the head turned on the back.
Often I find them engaged in
the (care) of their plumage being
after dark. The great majority are
young in fact I record four
of the same I have ~~seen~~ seen only
three or four with adults. I
first examination by flashlight
with much noise I did not
not seem greatly alarmed. After
them in good nights disturbed
however the majority moved to
ground level.

One bird with a single
egg in a ground nest was an
indistinct dark band on the breast
and a white tail. I examined
all ~~immatures~~ grayish birds
seen for those with white
heads but failed to find more.
Frigate birds etc. they have
birds commercially with other
boobies plus with for straying
Squawks. When I was not too busy
with food the red-t.

July with flocks of thin larger
neighbor as they soar in the
steeply - trade winds -

About 250 on ~~Isometric~~ island
There are six nests containing
eggs there.

Wake island, July 27 - August 4. The
red-footed booby is the ^{in flocks} most abundant
species of bird here, as it numbers
at least 5,000 perhaps many more.
The birds are so scattered through
the trees that it is difficult to get
a true idea of their number. They
are distributed everywhere but are
most common around the shores
of the lagoon when they gather
during the day in Spartina on
the open limbs of the umbrella
trees ~~was~~ in companies. Preferred
perches are those exposed to
the gentle sweep of the easterly trade
winds. The birds preen or
sleep here or rest quietly in the
sun. When approached in the fern
they usually fly a short distance
some distance away but when
I come on them suddenly in the
bushes they seem wholly unconcerned.
No occupied nests have been found
but many of the adults have
chosen nest sites among the trees
and are beginning nesting activities.

Sula piscator.

One rests below the other and utters a peculiar whirring or wheezing call. While it throws the head up and the neck back. And waves around in the air. At other times the two rest near one another uttering loud clucking calls.

The birds delight in soaring overhead in the strong breeze when it is a delight to watch them with spread wings they soaring back and forth often in company with their enemies the frigate birds now bent on the same pleasures. When I startle the boobies from perches in the bushes 8 or 10 feet from the ground they frequently fly out heavily and fall to the ground without being able to gain sufficient headway to rise from the ground.

At evening bands of the boobies come in from the sea toward the southwest beating steadily toward the island. Many are intercepted by frigate birds and often are forced to the shore. Other boobies flying low and swiftly gain shelter of the trees where the frigate birds are not so bold.

The broad-winged tyrant flies
steadily along above its victim,
following its twisting flight with
the greatest ease. The body
does not give up altogether, it
is usually seized by the tail
and shaken while it squawks
protestingly.

At camp we amuse ourselves
as the boobies pass overhead by
imitating their raucous calls when
they flare and dodge in excitement,
never looking below but perching
behind for the

Phaeton rubricaudus.

Laysan Island, April 8-12, 1923. Fairly common. The birds are frequently seen flying high in the overhead or are found seeking nesting sites in the sand about the rock piles or inside the buildings. Females (presumably) rest with ruffled feathers and heads down in or near sites selected as a nest tugging the sand closely so that I thought at first they were covering eggs. Approach of a mate or male individual by this or a species is greeted by a series of harsh grunts or squawks that may or may not be heard but are certainly heard to an extreme in this species in particular though at sight of the beating of the wings the birds do not seem to react as if they are disturbed.

Ocean Island, April 17-19. A number seen. One fresh egg taken from sand beneath a *Scaevola* bush.

April 20-22. The Tropic-bird is more abundant here than casual observation would indicate as the birds are now nesting and spend much of their time beneath the *Scaevola* bushes. We suppose there are 100 pairs here though rarely are more than six or eight individuals in sight at any one time. They

fly about with rapidly beating
wings uttering harsh explosive
squawks that also greet me
whenever I disturb one on the
ground. Occasionally one will
display in the air by hovering
in one spot while it lowers
and spreads the tail at the same
time calling vociferously. When
tired of flying they swing down
past their nest site for a
time or two, hover then like for
a few seconds and then drop into
the dense growth. As they pass through
the bushes they protest as near
approach by harsh calls or may
become vociferous at a gunshot
fired a few yards away. After
painfully forcing a noisy passage
through the brush I come upon
them resting on the ground beneath
the densest growth where I must
break away the branches to get
at them. They rest with wings
spread slightly and make other
birds do not eye me closely
but seem rather indifferent though
they squall loudly as I put my
hand near and bite savagely. Eggs
vary from fresh to hard set. Grant &
Cairne report downy young.
The long tail feathers of this

Phaethon rubricaudus

are in demand in Honolulu and many of the handsome birds have lost their ornamental plumes at the hands of the men. One fact I have been guilty of plucking a pair or two myself.

Midway Islands, April 23. A dozen recorded on Eastern Island. First taken - April 24. A pair at Sand Island.

April 25. A dozen or more seen flying about between Midway and Pearl and Hermes Reef.

Pearl and Hermes Reef, April 26. About ten pairs found on S. West Island.

April 27. Two pairs recorded in grass island, 15 pairs on Seal Island nesting amid high clumps of grass.

April 28. seen.

Waysaw Island, May 2. A number have come in since I left on April 14. are now seeking some shelter beneath which to rest.

May 3. Scoured sun along the beach where they have bred. They looking ledges prospecting for suitable nesting holes. I am that I took all proved to be males. They are hard put here to find any shelter for nests and I doubt if many succeed in breeding successfully here. A few find suitable spots about the buildings or under

rocks where they are safe. They sit so close by that it is necessary to push them aside to examine the egg. One near the bird room has an egg with longer end narrowly pointed. The egg laid after nightfall found in the open near the cabin.

These birds are extremely awkward in progression on the ground. They bring both feet forward raising the body and then sprawl forward on the breast with a thrust and so move slowly and laboriously forward.

Bill in male a dull red becoming orange on rami of mandible; a sooty black line extended back from the nostril to the line of the feathers; iris deep brown; tarsus and basal joints of toes with web between olive gray; outer side of inner toe light nearly to tip; outer side of outer toe light to end of second joint.

In flight the feet are extended back so that the black on the end of the toes forms a black patch on either side of the tail continuous with the black tips of the posterior flank feathers.

The upper mandible opens widely when the mouth opening is completely closed posteriorly, the lateral margins of the choanae are closely approximated and the fleshy tip of the tongue slips in behind the fleshy knot in front of the choanae completely

Phaeton rubricaudus

closing opening of nostrils.

May 4. May 4. One that I captured regurgitated part of a squid. The ingenuity of these seem have one median rectrix developed, the other still in sheath.

May 5. The upper end of the tarsus in these birds is frequently worn and abraded from friction with sand and stone.

May 7. The eggs of these vary considerably in size and form as shown by sets collected. Males hover in the air uttering their harsh, explosive, barking calls and are answered frequently by females concealed in the nest. The majority of these seem have one median rectrix partly developed and the other fully grown.

Hisiansky Island, May 17. Two passed over camp, were attracted back by the flutter of a handkerchief and one killed. None are nesting here.

Gardiner Island, May 22. About 15 pairs nest here in crevices and little caverns below the summit. One or two had eggs others young four days to a week old. As usual the adults sat closely protecting over approach with harsh squawks.

Mhoa Island, May 24. 26 seen.

One immatures on the wing taken

June 11-16, Caranx over the entire island. At least 400 pairs nest here. Ncker Island; June 17-19. abundant eggs and recently hatched young seen. June 20. about 500 pairs. Some have fresh eggs now. The birds seek small cavities for nesting or several may range along beneath a log over hanging ledge 8 to 20 feet apart. Occasionally both parents are found at the nest. Cuckoo and chimney at the ground.

King Island, French Frigate Shoals; June 22-23. Four pairs about. One young bird not quite able to fly found in shelter of low Chenopodium. Bill black. June 26, one pair on Skate Island. June 27, six pairs seen on Ma. Pinnac Rock.

June 28, one pair on Den Island. Ncker Island, June 27. Many now are shedding and trimming their rectrices. Kaula Island, July 1, a number seen. Johnson Island, July 10-17. A few pairs were found about the rock ledges of the shore line. An egg ready to lay was taken from a female that I collected. Also secured one young bird not quite able to fly. Its notes resembled those of the adult.

8 on Johnson Island 4 on Sand Island.
A pigeon seen in pursuit of one

Phaeton rubricaudus

Wake Island, July 27 to August 4. About
30 seen on the island. One taken
July 29 was incubating a fresh egg.
Allthens are seen flying in pairs and
circling while they utter their
harsh explosive note.

Phaeton lepturus. July 21, 1923

Long. $174^{\circ}W$, Lat. $17^{\circ}10'N$. One circled

over the ship several times.

Wake Island, Aug. 2. One flew over
the island high in air and passed
on north. Decidedly smaller and
lighter in appearance than the
Red-tailed bird which was in the
air at the same time.

Fregata

Laysan Island, April 8-12, 1923. These graceful long-winged pirates are more or less nocturnal as their dim shapes hover or wheel overhead ^{occasionally} long after sun-down. Fronds the coconuts furnish resting places which they perch also upon the buildings. They are tame and unsuspecting so that I caught one at camp as it was engaged in preening its feathers in the morning sun. They are now establishing their breeding colonies, choosing sites where scant vegetation remains or finding these about slightly elevated ridges. The nest site apparently is chosen by the male. As true are lacking he crouches on the ground watching quietly until overcome. By his amatory feelings he inflates his gular sac now a brilliant red and spreads his broad wings on either side. His head is tilted back and he keeps a sharp lookout overhead with beady eyes. Should a female pass he immediately throws his head farther back to display the bottom. He shakes his long wings vigorously and utters a liquid trilling call that is very pleasing. At dawn nearly one hundred make resting on one rock pile with balloons distended while hundreds more were distributed

along a ridge behind them, truly
a beautiful sight. They do not seem
pugnacious as they rest in close
proximity. Two were caught by hand
on the nest.

Ocean Island, April 17-19, common
about 100 pairs nests in the
Scaevola at the northern end of the
peninsula. One male zigzagged through
the air with the full pendant
feathers blowing wildly in the wind
while he uttered a rattle purring
rattle. They frequently hang in the
wind over camp, rising the
human activity below curiously.

April 20-22. A pair taken. They
all nest in a close colony near
the meadow.

Midway Islands, April 23, a colony
of 50 pairs nesting in Scaevola on
Eastern Island. One taken.

April 24, sailing above Bird Island
Pearl and Hermes Reef, April 26. About
150 nest on low spreading shrubs
on Southeast Island. Nests were empty
or contained one egg. Grey backed
 terns nested immediately below them
in some cases.

April 27. Seen on Gears Island but
not nesting there. 80 pairs breeding
on Seal Island.

April 28 on South Island.

Fregata

Laysan Island, May 2. Many eggs have been destroyed by storms since I was here last. Males that have enticed a female to the nest extend the balloon fully and swing them from side to side rubbing them against the breast of the female who reared opposite apparently inattentive. With mating however the male takes on part of the duty of incubation. The pouch shrinks steadily and fades from red to orange in color. I found in one that the pouch could be extended only one fourth as much as in a breeding male.

The balloon in a mating male showed slight scratches apparently made by contact with the sticks of the nest. For further notes see records of description.

Seen harrying wedge-tailed shearwaters, seizing them by one wing and turning them over. One poor little *Megalopterus* half grown found on the ground, a full jet from its nest had the bad wound in the head from the same source.

May 3. Several fresh eggs taken.

May 4. A lot of the large colony south of the lagoon 650 dead have been reported. Examined about 50 today - the others had been buried in sand - and found most of them ^{immature} young. I believe that they have been killed during a storm and not

by human agency as supported by
Harris.

Collected a series of immatures. The ^{first} plumage the head is white, ~~down~~
~~throat~~ then fringes brown in on the
throat and later on the head.

Raising these immature birds requires
care and experience. The ovaries in the
female are very small, somewhat flattened
dark reddish in color closely applied
to the kidney; they are shaped and colored
like little leeches. The first one that
I examined had both right and left
ovaries persistent. Testes in the male
are very small.

May 5-12. Saw herring gulls and
Shearwaters.

May 13. a young bird not more than
24 hours old taken from one nest.
nearly naked purplish in color. skin
smooth and shiny, eyes open, a few
tufts of white down show on the back
of the head a few more on the side of
the thighs and over the tibio tarsus,
and on the humeral tract with a fringe
along tail, posterior margin of wing
as far as elbow, and posterior margin
of alula. Active but wholly silent.
About 30 mallophages, cling to the
axillary region and the groin where
the skin was fractured by their bites.
Viriansky Island, May 16. A number

Fragata.

have nests in which the single egg is laid on the summit of a ^{straw} bundle of grass without other nesting material. The birds were very restlessly this morning from the heavy rain of last night and rested with wings spread in an attempt to dry themselves. They flopped off across the grass over ferns and boobies some of them unable to rise. When I threw them into the air they flew however without difficulty. One male on a nest protested my approach with a high pitched ^{arguing} k-h-h-h. One drove into blue faced boobies into the sea in evening.

May 18. Abundant. Eight came at night to rest on a frame put up to dry seal skins so conspicuous are they for elevated perches. The birds rise from the nest heavily and many times throw eggs or young from the scanty nest platform. I have seen two nests here containing two eggs but in both instances one egg appears older and more stained than the other. I assume that one egg was infertile and then deserted for some reason or other and that then another female laid in the same nest.

May 19. many. Spent much time in circling high in air. About 800 pairs resting

here now with probably 500 additional
birds roosting on the island.

Gardiner Island, May 22. About
185 pairs. One taken.

Nahoa Island, May 24-26. Merganser
robbing wedge-tailed Shearwaters and
Blue-faced Boobies.

June 11-16. About 600 pairs present. Only
one male frigate-bird was seen with
the throat swollen distended. Others were
incubating or had young and the throat
sac had shrunk to small size. Young
ranged from newly hatched to a few
birds half grown. The terns begin to
appear when the chick apparently
is three weeks old and grow rapidly
perhaps to aid as a protection against
Dian. When undisturbed old and young
rest with heads hanging down and
backs to the sun to obtain what relief
from the heat they may. At an early
age the young appear squeaking and
extended the head and rattle the
bill with a clattering call when
approached. Diptera and flies swarm
about the nests, 25 or 30 being often
seen at once. When the birds are
disturbed these insects fly about
frequently alighting on my hair.
Nests were built of small sticks in
the tops of low bushes.

Nicker Island, June 17-19. Common. Nests
contain eggs or young. $\frac{1}{3}$ growing.

Fregata

June 20. About 300 pairs on the island.

June 22 (see journal)

King Island, French Frigate Shoals, June 22-23
Two or four roost on the island. Others
pass during the day.

June 27, 66 pairs with eggs or young
on Whale Island. Two had nests
of sticks built up like a turret nearly
three feet tall.

~~Kecker~~ Necker Island, June 29. no change.

Kaula Island, July 1, At least 5000
rise from the high slopes at a blast of
the Surager's whistle.

Johnston Island, July 10-19. Abundant.
A few males are pairing and exhibit the
inflated gular sack. Some few have
eggs but the majority have
young already in the wing. Birds
able to fly are in many cases
still fed by the parent. As the
young bird sees the adult approach
it spreads its wings and utters a
begging call. The parent after circling
just several times alights on the
ground and opening the beak
discharges while the young bird
plunges its bill down the parents
throat to seize the food. After
feeding the old bird flies out over
the water and swoops down to
dip its bill and wash it in its
open mouth.

A flock of these birds may be
attracted easily by throwing small
fish in the air. When the great
Frigates swoop and circle about
often seizing the fish in the air.
When one perceives such a morsel
others pursue it and frequently snatch
the fish from its bill. It usually
happens that they arrange in a line
the fish falls into the water and
is lost.

I see them pursuing terns
wedge-tailed shearwaters and boobies
often driving the unfortunate
down into the water.

At nightfall they gather in
flocks to roost on the terraced ledges
on the beach. They sleep with the
head turned to the back but often
stand an hour or more after
dark in the care of their plumage.

The adult female has a dull
red rim around the eyelid. In
the male this is black.

Many are now molting extensively
so that the beach is strewn with
their feathers.

The birds remain active at night and
are continually overhead.

800 on Johnston Island, 100 on Sand
Island.

The young come down to examine

Fregata

curiously and projecting pole and
bite at it with their large beaks as
the hang before the lip.

Wake Island, July 27 to August 4.

2000 or more are found. A
few have partly grown young in
stick nests placed 8 or 10 feet
from the ground. The majority however
are not nesting. When not resting
in the low trees they spend much
time in soaring overhead. I see them
pursuing terns and other birds.
Rather wild and difficult to approach.
Many were killed by the Japanese
trappers.

Bishop Mus.
8/27/23

Fregata

4767. ♂ Fanning Island, July 28, 1922. S. C. Ball.

2nd year? has whitish patch on breast.

wing 565, tail 362, culmen from base 98.0

~~tail~~
Bill much smaller than other specimens
in collection.

Fregata

Laysan Island, May 2, 1923.

Dissection of pouch in adult male. One individual mating with pouch fully developed was killed, the body inflated through the trachea and until the throat balloon was fully distended.

Another incubating male with pouch shrunk to $\frac{1}{4}$ full size was treated in a similar manner.

The first dissection along the back of the head and skinned carefully down on either side. ~~As the~~ The cells beneath the skin were felt to be fully inflated and at the first cut the pouch began to deflate until it was limp. As long as I could reach up from in front of the breast into the pouch but on this specimen ~~there~~ I was not able to determine the opening below. There was no indication of an opening from the trachea direct into the pouch.

The large veins led from the pouch to the neck all distended with blood. These divided all over the surface of the sack and though pigment is present blood imparts more than half of the red color seen in this specimen. Laid on its back the color faded appreciably as blood drained out from the capillaries in the veins.

On the second bird, I removed
the skin as usual in the preparation
of specimens. The pouch deflated
at the first cut into the cells on
the abdomen. On skinning forward,
I found a passage at the shoulder
on the inner side of the external
(distal) end of the furculum, where
an air canal led out from the
thoracic cavity, enlarged and turned
down to open out as single
elongate canal that enlarged and
led forward beneath the trachea
to terminate in the pouch.

This bird had a single testis
as usual on one side, one of similar
size opposite to it and attached to
one end closely a smaller one! A
distinct case of trochism. The
first I have seen. Truly a bird
for the ancient greek augurs.

Anas laysanensis

Laysan Island, May April 8-14, 1923. It was with great relief that I saw three of these teal on my first day afield on Laysan as I had feared that they were extinct. They were found near the Sesuvium patch and once in a while on the lotweed patch. Seventeen were noted at one time.

April 30. May 5. Pao was reported seeing 20 at one time and today I was able to verify this. The birds were spread out over rough ground among rocks and were sitting or sleeping. A number were divided off into pairs, others remained four or five together. When approached they waddled slowly away. When hard pressed they flew but seemed rather heavy on the wing.

May 6. This evening I went out and I caught four teal with a flashlight and a dip net. As dusk came on the birds walked out for a quarter of a mile across the flats to a little lagoon where after dark they found feeding along the margin. The call note of the male is a high-pitched tremulous whistle, trilled to some extent and with the other teal known to me. The female utters a high-pitched quack.

May 7. This morning the teal were

back again among the rocks where they were resting quietly, asleep or preening their feathers. Splummer and I ran down and caught ^{two} two males. They were able to fly for a distance of 125 yards, aided by the wind which helped sustain them but then dropped to the ground and began to run. I find that they show the effects of inbreeding as the feathers of the wings in some are imperfect or missing. In one case, the primaries, quills, had developed the shafts only and lacked the shafts and webs which one female lacked most of the breast color feathers. The nasal gland above the eye in these birds is considerably larger than usual in Anatinas of this size. The feet are remarkably large.

The birds were not at all alarmed by our pursuit and returned at once to a station within 60 yards of us.

Males have the testes fully developed but penis small, females will lay in two or three eggs. They are usually found divided off in pairs.

Bill: thin, culmen for width between nostrils, nail, and base of lower edge of maxillary tibia dull black. A faint slaty gray band across tip of bill behind nail; rest of upper mandible dull olive

Anas laysanensis.

gray; lower mandible brown color
head storm gray. web between ramidull
orange brown mottled with blackish;
tarsus and toes orange brown mottled
with blackish. Tarsus and toes orange,
nails fuscous. iris Vermilike brown

~~For~~ ~~♀ ad.~~ Upper mandible dull blackish
with a faint orange wash on sides.
a faint staly gray band across tip;
lower mandible dull orange brown,
nail fuscous; iris brown

tarsus & toes dull orange; nails fuscous
May 8-13, Saw as usual sleeping
during day or feeding in small
lagoon in evening. May 12 while
on the big lagoon on a raft two
circled fast on the wing examining
me curiously.

Japan Teal - 24.25 brought
to Honolulu by Geo. D. Frazar
about 25 years ago, released
by Mr. Whitney in the
Kewalo marsh in the outskirts
of Honolulu. Birds strong &
flew well but none taken since
I was released in 1894.

Bishop Mus.

8/8/23.

Anas laysanensis.

		wing	tail	culmen	tarsus
767, ♂ ad.	Laysan Id., Jan 18, 1891, H.C. Palmer	205.0	75.0	38.5	35.2
2967, ..	.. .. Apr. 10, 1903, W.A. Bryan	208.0	86.0	38.2	35.8
* 766, ♀	Laysan Id., Jan 19, 1891, H.C. Palmer	188.0	79.0	34.5	35.0
634 ..	.. .. Sept. 1895 Hall	184.0	65.0	32.0	31.5
2966 ..	.. .. Apr. 9, 1903, W.A. Bryan	191.0	76.5	35.2	34.0

* marked in red ink "one of the cotypes":

Eight other skins collected in April, 1903 by W.A. Bryan do not have sex marked. wings in the series of thirteen are in good shape and evidently birds flew well. There is no indication of the deterioration evident in the present day Laysan teal in this respect.

All these specimens show an indication toward albinism in more or less irregular markings of white about the head. On one the ~~greater~~ ^{conspicuous} part of the head is white. Others have only a few scattered white feathers on the neck.

Spatula clypeata

Lagoon Island. Eric Schlemmer tells me
that in November or December 1916 he
killed one of these ducks, unmistakably because
of its broad bill, on the lagoon. Wild
ducks of two kinds are reported to
occur here.

Nycticorax

Palolo Valley, Oahu, May 31, 1923. One at
1500 feet.

Muana Reservoir, Oahu, June 5, Two seen.

Hypotaenidea wakensis

Pail

Wake Island, July 28, 1923, see journal.

July 29, see journal. July 30 see journal

July 31. No birds on Pail Island

Aug. 2. These birds seem very sedentary.

Shown that it takes on dusky areas when there is only scattered areas of shade are very worn and pale colored above, those from certain sections where there are extensive dead-falls have the wing feathers worn and abraded apparently from their use in climbing about. This is true though more suitable areas where conditions are less severe may be found was at hand.

The wing claw in this species is very strong and long.
Aug. 2 see journal

Porzana palmeri.

Laysan Island, April 8-13, 1923, One or two
immature young only.

Midway Islands April 22-24, 1923. These
tiny birds are abundant on both
Sand and Eastern Islands where they run
about familiarly in the brush. Mr.
Archard told me that originally
they were found only on Eastern Island
but that about 1906 he brought some
over and released them on Sand Island
where they are now abundant. They
are alert, self-reliant little fellows
that come peering out from under
the branches of Scaevola, but me go-
ing sit on the ground or chatter
with a loud scolding note from
above. They walk about with long
nervous steps or run rapidly
across openings. At full speed the
wings are spread and flapped wildly
but no attempt is made to fly.
We ran down and captured a
number. When held in the hand
they did not seem particularly alarmed
but bit and struck at us and then
viciously when ^{not} held within
striking distance. They fought when
at freedom too and the victor
drove the conquered or about from
place to place chasing it for yards
and yards.

They come frequently to feed with
the chickens.
haysan deland, April 29. Eight brought
from Midway released in the Sesuvium
patch. Two have been seen since.
My departure on in the grass piles
and on in the Sesuvium.
April 30 - May 13. One or two seen at
intervals. Two observed May 12 and
one May 13. The latter the one at
the grass piles. A number of mummies
have been found, two of them probably
those bodies of those brought from
Midway. The survivors seen in
and out of holes in the rock piles.

Larus

Ocean Island, April 17, 1923, Two
mummies found on the southern
end of the island.

Pearl and Hermes Reef, April 27, 1923. One picked
up on Seal Island by Mr. Shannon

Larva

Necker Island, June 18, 1923. Body of one picked
up by Grant on small beach.

Bishop Mus.
8/17/23

Rissa t. pollicaris.

4537. wings, feet, ^{tarsi} and bill of specimen found dead on beach of Napar Island by P. E. H. Bompke during winter 1906.

Wings in partial molt show black tip pattern characteristic of *Rissa*.

Hind toe well developed.

Wing 325 mm. tarsus 35; middle toe with claw 49.

Sterna lunata.

Laysan Island, April 8-13, 1923. common.

A series collected April 13 with eggs ranging from fresh to slightly incubated. The birds nest in colonies choosing sites among small lumps of coral above high tide marks, of the rough wooded surface of exposed limestone in the braches, or sand on little eminences above the braches. One egg is laid with no nesting material. fairly

Ocean Island April 17-19, common.

April 20-22. A few pairs beat back island forth along the braches. One later I was not quite in breeding condition.

Midway Islands, April 23. A colony of 150 pairs seen on Eastern Island when they were nesting in an opening away from the beach. Many had already deposited their single egg. April 24. A few on the braches at Pearl and Hermes Bay.

Pearland, Hermes Bay, April 26. About 300 pairs nest in ~~a~~ scattered colonies on Southeast Island. Colony sites varied from the bare limestone rock to little openings amid clumps of grass. I found some in low opening braches with frigate-birds nests 1 1/2 to 2 feet above them. The terns were 40 pairs.

that I picked up several in my hands.
Some had newly hatched downy young
of which I collected one.

April 27. 150 pairs nesting on Seal
Island with eggs and newly hatched
young.

April 28. On Southeast Island.

Laysan Island, May 2. Because of ravages
of floods and storms of terns and
Curlew I cannot see that these terns have
succeeded in keeping any of their eggs. Conditions
may be worse now because of migratory
movement among Curlew and terns than
during winter when these wanderers are
stationary.

May 3. This morning I examined the
tern colonies along the northwest shore
but of the many pairs that had laid
here in early April I found but three
eggs remaining. Others had been destroyed
by shore birds or storms. The terns were
still about but were not laying.

May 4 seen. May 5. seen.

May 6. In the light of a searchlight
these terns seem paralyzed and merely
turn their backs making no attempt to
fly.

May 8. A colony have established themselves
at the crest of the highest point at
the south end of the island and now
have many eggs.

May 9-13 Numbers of fresh eggs of these

Sterna lunata.

birds are noted again and terns and curlews still work about the colonies. I have seen terns, run in and pull an egg from directly under the parent who made no attempt to defend herself. Though these birds form colonies they nest somewhat at random in the lee of bits of rock, or drift, or blocks of stone or on the open sand Hiscamsky Island. May 16, Found breeding in the grass tract and also in the open flats just from any cover. The majority of the birds now have young from recently hatched to well grown.

May 18. Many eggs and young of this bird seen. They seem best suited for nesting locality in the grass plot. There the young active almost from hatching run about under shelter, safe from enemies and excessive sun. Those hatched on the barren flats must have difficulty in escaping the rapacity of frigate birds. It is a pretty sight at night see one hovering a chick with its mate resting wing to wing with it. The adults run about beneath the grass and may easily be picked up as they get far back under cover from which they call loudly when alarmed as when on the wing.

May 19. About 250 pairs. Nesting
Gardiner Island May 22. About 700
pairs nested on suitable ledges & some
some had eggs but the majority
young. The 16 young ones fresh & well
fed, only occasional activity up
and down the ledges. The birds
tumbling for a few but not always
catching the insects.

May 23. Seen at sea north of French
Frigate Shoals.

Nelson Island May 24-26 common.

June 11-16, abundant. About 5000 pairs
nesting over the slopes clear to the
summit of the island. The majority
now had fresh eggs though some
had newly hatched young and I saw
a very few young about half grown.
When nests were gathered in colonies
sites were ~~located~~ separated from one
another by just a little more
than reaching distance. Adults
were circling noisily in the air
throughout day and night and
frequently blocks were flying out
in company with other terns.

Necker Island - June 17-19 abundant, eggs to
grown young seen. Nesting on ledges of
cliffs and on gentle slopes of island.

June 20. About 4000 pairs nest here.
The young wander about the rocky slopes
after tumbling head first over the ledges
with no apparent harm. A good many

Sterna lunata.

are now in full first plumage
but are loath to fly.

June 26, 15 pairs on Kate Island, 15
pairs on Whale Island with young
well grown or on the wing.

Nickel Island, June 29. Many young now
are well grown.

Kawla Island, July 1 abundant one
taken.

Johnston Island, July 10-19. About
25 on the main island and the
same number on Band Island. Now
many young well grown or on the
wing.

Wake Island, July 27-Aug. 5. About
100 are found in two small groups
one on the south end and one on the
north side of the main island. The
birds are found on the rough coral
of the outer beaches where they rest
in the shade of bushes in company.
They are not now breeding.

Sterna fuscata.

Laysan Island, April 8-13, 1922. A large colony circling east of lagoon. Several taken.

Midway Islands, April 23, a small colony located on Eastern Island.

April 24. July 1500. circle day and night above Sand Island with endless chatter. By day their calls remind me of those of jarrots while at night they suggest frogs.

Pearl and Hermes Reef, April 26. About 100 pairs on Southeast Island a few have eggs.

April 27. 100 pairs on Seal Island, a few with eggs.

April 29. A few noted passing at sea about 50 miles west of Laysan.

Laysan Island, May 2. Seen. May 3 seen.

May 4. Many fresh eggs in the colony at the seaward patch.

May 5. These birds are tame at their breeding sites and may be approached easily. I sat at the edge of the colony and watched them for several minutes this morning. Males seemed to pick the nesting area and protected it from encroachment. Any tern that showed a tendency to crowd in was driven out with open bill but others were disregarded. The battles seemed to be bloodless and ended with a hair

Sterna fuscata

their eggs. These show an infinite variety in pattern and marking. With incubation begun the colonies are much quieter than during the period of pairing and deposition. Pairs are often observed flying about in the air. Apparently selection of mates takes place in the air in pairs accounts for their flocking in the air before breeding.

Lipianaki Island May 16. A colony nesting in the grass tract. The majority now have eggs. The birds cover closely and often allowed me to step over them.

May 18. Many no young yet.

May 19. About 250 pairs nesting from

Procliver Island May 22. About 50 pairs on some of the higher flatter ledges with a few scattered about with the grey-backed Terns.

May 23. Seen at sea south of French Frigate Shoals.

Mikoa Island May 24-26, seen.

June 11-16. About 6000 pairs. bred from the lower rock cliffs clear to the higher summits. They gathered in small colonies on the lower slopes the largest congregations being found on the highest slopes below the highest peak. An inner protected slope here that led steeply through a huge rock chert was

covered with the birds ranged just out
of reach of one another. Distance between
nest sites is determined by reaching
distance and the male often squawks
when two alight too near. The majority
of nests now contained fresh eggs though
in the higher slopes I found a few
young in their curious first plumage
that in some cases were awing.
In early morning clouds of these and
other terns came rushing down the
slopes toward Adams Bay with great
uproar and circled out in the air
for a few minutes as they do in the
breeding season.

Nether Island, June 17-19. abundant. eggs
to grown young noted. They have the
same habit of rushing down the slopes
in early morning in a screaming mass
noted in Nether.

June 20. about 15,000 pairs. Many are
laying and others have young.

King Island, French Frigate Shoals June 22-23
a few pairs occasionally.

Trig Island, French Frigate Shoals June 26
2000 pairs. The birds here had eggs in
most cases a good share of which
were fresh. I collected a series and
as before marvelled at their great
diversity in form and color. As no
two were alike it might be supposed
that difference in marking served

Sterna fuscata

to mark the nests of individuals
birds to test this I exchanged eggs
with two females with adjacent nests
one having a very white type egg and
the other as markedly rufous. The
two returned to their respective nest
sites ~~with~~ and covered the strange
eggs without the slightest hesitation.
The same result was obtained when
I exchanged a nearly plain egg for
one ^{nearly} ~~markedly~~ spotted, ~~and the~~ one with
elongate form for one nearly round,
and one with bold dark markings
for one very finely spotted, in all of
these instances the females returned
to their proper sites and adopted the
strange egg. Finally I placed two
eggs in one nest. The female returned
and after considerable effort succeeded
in covering both. Apparently site
~~and~~ memory and not egg color
serve to enable the female to
recognize its own home. I regretted
that time did not permit detailed
observation to determine if there was
any later reaction. When frightened
from their nests thus at midday
these terns before coming again to cover
their eggs fly out and lift the breast
until it is wet. This water is
then transferred to the egg which it

by evaporation thus counteracting the
excessive sun heat.

For further notes see journal

On Skate Island were 800 pairs -

On Whale Island 125 pairs with eggs and
young. June 28, 3,000 pairs on Sea Island

Nickel Island, June 29, many young arriving.

Kauka Island, July 1, very abundant

Johnston Island, July 10-17, abundant.

A few have eggs but the great
majority have young on the wing
or nearly ready to fly. Besides those
to fly are still fed by the parents
and rest with them at night the
colony at such times being spaced
off as when there are eggs in the nest.
The call of the young is high pitched.

Those that I captured frequently
regurgitate squall.

One group that apparently have
finished their breeding activities gather
in a close flock on a stretch of
open beach to sleep. The great majority
are adults but with them are a
few young.

Partly grown young are possessive
and bite each other savagely.

The main impressions left on the
mind by these large colonies are
number of birds and noise. The
clattering calls are continual, scarcely
day and ~~day~~ night.

Sterna fuscata

about 2500 on Johnston Island, about
2000 on Sand Island.

The birds are especially active and
noisy during rains whether by day or
night.

The young when pursued by frigate
birds give up their job without protest.
Wake Island, July 27 - August 5.

A colony of about 2000 birds
found on the eastern end of Pearl Island,
where they were now nesting. About
one third have eggs, in part fresh
and in part incubated. Their
breeding season here is just beginning
as females are laying or preparing
to lay. They showed chosen a
site on bare sand in part shaded
by Townsendia trees - a small series
of eggs taken July 30.

The ♂ birds fly about over the
entire island in pairs or little colonies,
either groups either as part of a
mating exhibition or in passing to
fishing grounds. The pursuit by
these terns by frigate-birds is
spirited as the birds, though
swiftly and dexter in and out.
The robber follows relentlessly but
is frequently foiled by some land
turn on the part of the "prey".
This species suffers

at the hands of the Japanese poachers
as the bones of thousands becoming
the trees and the shacks on
scale islands.

12.
17.

Bishop Museum
8/23/23

Sterna fuscata.

	wing	tail	culmen from nostril	tarsus
2082 ♂? Marcus Isl., Aug. 5, 1902, W. G. Bynum	295	131	45.5	23.0
2083 ♀ " " " " "	277.0	137	45.5	22.5

44. May 1, 1922

Anous stolidus pilatus

Kaysaw Island, April 8-13, 1922. Bands of a hundred or more gathered in close flocks on the sand beach near the water or rosted in flocks of constant size yet breeding.

Ocean Island, April 20, one taken.

Midway Islands, April 23, a dozen pairs on eastern island. Two taken. Birds here have nearly grown young.

Pearl and Hermes Reef, April 26. About 1000 on island. Young in some nests are nearly ready to fly. I noticed a number about ~~with~~ dead with wounds on the head, probably the work of Frigate birds.

April 27, twenty pairs resting on grass island. And 30 pairs on Seal Island. Young well grown with a good many dead.

Kaysaw Island, May 2. Flocks of 40 or 50 gathered on the beach in close array. One bunch seen near the lagoon gathered closely together on the sand.

May 3. Noddies are spreading out to form colonies near the north end of the lagoon. Here the males rest a yard or so apart or flutter up with spread tail and rapidly moving wings in pursuit of females. One nest of a few sticks noted. This note is a low harsh crawling

Kear... May 4, seen. V...

May 6. Like other terns these birds
when a flashlight remains quiet
and can be stroked without alarming
them.

May 13. Many of these terns are
selecting nest sites and were building
nests near the lagoon but
still see flocks of 50 to 75 gathered
at ~~the~~ high tide right in the sea
shore. And the brulung grounds makes
drop their wings (you find their
sides and strut about like other
terns. When approached they often
elongate their necks in a curious
manner.

Visianthy Island, May 16. Fairly common.

Two nests seen that contained eggs.

May 18. A bird taken at night
while incubating an egg proved to
be a male. Testes of size of
peach. The birds are more
nocturnal than other terns and
I hear them calling continually through
the night as they pass and re-pass.
These birds often gather with the
frigate birds are harassing the shearwaters
and apparently hang about to pick up
discarded food. Large bands rest at
tide mark in the beaches.

May 19. About 500 pairs here.

The birds are nesting mainly in
scattered colonies in the inner basin

June 11-16. About 2000 pairs nested here
nearly half of them in a steeply
sloping cleft between the two divisions
of the highest peak. Small groups
were scattered over the lower rock
ledges above the sea while others
perched along the sides of the valleys.
Most of them were with eggs, fresh
or partly incubated. I collected a
series. Nests were ~~made~~ a flat
platform of straws with a hollow for
the single egg placed on the edge
of a rock or under the overhang of
a little shelf.

The birds are active at night
and called continually as they passed
over our camp.

Neku Island, June 17-19, common. Nesting
or fresh laid Eggs.

June 20. About 3000 pairs

King Island, French Frigate Shoals, June 22-23.
About 150 pairs on Round Island, 400
pairs on King Island. Some have young
hatching now, a part of them dark and
a part light in color. Parents threaten
boobies & shearwaters with harsh notes
when the latter intrude too near.

June 24. 125 pairs with eggs on little
Pin Island. One new hatched young twin.

June 26. 150 pairs on Big Island.

200 pairs on Skate Island.

300 pairs on Whale Island.

Anous stolidus pileatus

June 27 ~~3~~ 800 pairs on La Perouse Rock

June 28 500 on Tern Island

Nicks Island, June 29 no change

Kaula Island, July 1, 5000 pairs.

Johnston Island, July 10 to 17. abundant
Breeding on sand beach, rock ledges
and inland in clumps of grass.

About half have eggs, the rest young
from nests hatched to grown. The
newly hatched young are about
evenly divided between light and dark.

The nests of these birds are
interesting. Some eggs are laid on bare
sand or rock, others are deposited in
a platform of grass with a slight
central depression. Frequently the
nest cavity contains ornaments in
the form of entire shells, bits of larger
shells, the calcareous spicules of
corals, bits of bone, a grain
or a morsel of wood. It is always important
to look over the collection and before
now I have been guilty of selecting
some pretty shells from the lot.

Mature acting same of interest. The
male ~~pattern~~ with neck erect and bill
pointing down to the rapidly of wings
The sand perhaps in a line with a
pair of usually sand. I can see
throughout the nest. No other side or

to his mate and the two rise
and swing off in erratic circles
with a symmetrical movement
that holds them always 15 or 18
inches one above the other.
About 800 on Saint Island, 1500 on

Johnston Island.

The black young number only about
10% of the white here at this island.

Wake Island July 27 - August 5. The

most abundant bird here numbering
at least 6000. The birds are

now nesting and are distributed
everywhere over the entire atoll. Nests
are masses of twigs a foot or

so high and of equal diameter,
sometimes smaller, placed in
Scaevola or Puffer trees from

three to fifteen feet from the
ground. A few young are ready
to fly, many are much smaller &
some about one fourth of the
size contain eggs. A few nests
are placed on large rocks usually
elevated where they are free from
marauding crabs.

As I pass through the trees the
adults show their nests with a
rattle of wings in the branches and
dash out to circle about with
harsh calls. As I pass through the
woods they are continually about me

Anous stolidus pileatus.

The young utter incessant piping
calls.

A few of the young are light,
the majority are dark
adults are active both by night and
day.

Megalopterus hawaiiensis

Laysan Island, April 8-13, 1923 common.

Necker Island, April 17-19, fairly common
April 20-22. Single birds or terns or
three beat along the beaches just
above the wash of the waves
occasionally darting down at small
fish.

Midway Islands, April 23, a few
recorded on Enderby Island.

April 24. Seen on Sand Island.

Pearl and Hermes Reef, April 26. About
50 pairs nest on Southeast Island when
they place their nests on low chunks
of glass or on the ground. I collected
a fresh laid egg and saw young
nearly ready to fly. I picked up one or
two adults in my hand. The adults
are feeding their young on Tanthera
a small purple shell mollusk with
a thin purple ~~egg~~ purple shell the
species that floats on the open sea.
The fragments of shell are cast as
pellets that lie about the nests.
Pellets & some entire shells collected.
Identified by Thomson.

April 27. Twenty pairs on grass island,
26 pairs on Seal Island. with well grown
young. The birds were drinking Chaetium bilida pulled a small
blue-purple shell mollusk to feed their young.

April 28. Some young about ready to fly on
Southeast Island. Considerable mortality among them.

Laysan Island, May 2. The young terns in

L. Jan. Thoma
Bridgette Nuttall
det. J. R. E. Morrison

the bird room has grown suspiciously
since my departure. It was apparently
about a week old when we arrived. The id-
nest was placed in a shelf at the
darkest end of the room. The parents were
not disturbed by our ^{possession of} ~~visit~~
the place but when we closed one
window to keep out sand left the young
bird for two days. Apparently because they
had been passing in and out through
that opening. I fed the youngsters on
bird meat and made a small opening
through which the adults finally
returned. Now the parents have
learned to pass through another window
or the door and go and come while
we are at work. Their arrival is
announced by their harsh clattering
call that has the pitch and sound
of a stick drawn across planks or
the wooden cog wheel and ratchet toy
of children. They are very tame and feed
at my hand when I touch them. As
they alight the youngster begins a low
sibilant whistle which it croaches with
lowered head. It begins then to nibble
at bill of the parent who swallows two
or three times and then opens the bill
and raises a small fish. The youngster
seizes this from the throat of the parent.
After a minute or so the process is repeated.
The pair making a nest with bits of
green + red algae brought up from the beach.

Megalopterus hawaiiensis

Some nest in the ironwood land has trees
beneath and within a few feet of the read-
fostered boobies and there is a colony on
the corrugated iron roof of an old shed.
Others build on suitable sites on rock
ledges along the beach.

May 3. seen.

May 4. The young bird in the bird
room in digging for food assumes
an attitude in which the breast
rests prostrate on the nest while the
posterior end of the body stands erect.

May 7. The young ~~took~~ in the bird
stable or walks about flapping his
wings ~~tracing~~ the muscles. It was
a ^{day or two} old when we arrived.

May 13. The young bird in the
bird room is flying about the
room now and is about ready to
venture out.

Nests in rock piles along shore
in some cases contain fresh eggs.
I took pictures of birds at several
nests today at a distance of three
feet. The birds nest in little colonies.
Some build in the coconut trees at the
house.

Wai'anahā Island, May 16, seen.

May 18. Common bird no nests seen.
Found in flocks on branches with other
noddies.

May 19. About ~~500~~ ¹⁰⁰⁰ resting on branches

No nests seen here. ¹⁹¹¹
Gardiner Island, May 22. About 10
pairs with nests. About 200 other
birds roosted in close flocks on the
rocks near the water.

Nihoa Island, May 24-26

June 11-16, though this tern was seen in
small numbers as noted above on the
rock shelves ~~at~~ below the high cliffs
at the western side of the island, none
were recorded on Adair Adams Bay
during my stay in June.

Ncker Island, June 17-19. About 100 pairs
nesting in rock clefts on the cliffs.

King Island, French Frigate Shoals, June 22
One taken from a flock of a dozen that
passed.

June 25. see journal.

June 27. 150 pairs on La Perouse Rock.

Kaula Island. 0 or 1 pairs

Johnston Island, July 19. one reported by
Grant. I thought I heard one calling
on first arrival there but was not certain.

Wah Island, July 27-August 5. About
200 nest on the *Sonneratia* trees
near the beach, scattered among the
noddis. Nests now contain young.
Adults fly about my head with
their harsh rattling calls. Not found
for inland. But ^{for} very few blackish
for brown to dark orange.

Bishop Mus.,
8/24/23

Micranous marcusii Bryan

2089. ♂. *Marcus* det., Aug. 3, 1902, W. A. Bryan

"Feet yellowish brown". Type.

Wing 228. tail 125, culmen from base 46. tarsus 23

2090. sex? *Marcus* det. "Bot of the jazo".

Wing 217. tail 121, culmen from base 41, tarsus 21

The two specimens above stand in case no. 57.

Apparently a valid subspecies of *hawaiiensis*.

Type locality ~~from~~ of *hawaiiensis* not evident from ~~information~~ *non available*.

Birds from Hawaii and Oahu have the gray of the crown shading gradually ~~into~~ *over* onto hindneck, the back somewhat grayish and the tail distinctly grayish. Sides of neck distinctly grayish.

Bird from Laysan and Midway has hindneck and upper back with less gray, tail darker.

Bird from Marcus has crown patch distinctly delimited behind, the hindneck and sides of neck with little or no gray, the back blacker and the tail darker.

The color of the feet stressed by Bryan as a character of *marcusii*, varies.
(over)

Sharp *Apatoris* delimitation of crown
patch in *marcesi* is evident in
a nearly fledged. nestling # 2091 coll.
by Biggs

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lln

Gygis alba
Laysan Island, April 8-13, 1923, Common.
At our arrival several had eggs about
the old sharks but one by one these were
eaten by the finches. Until none remained.
One bird that had laid on a two x four
in the frame of a shanty that was in a
kitchen, continued to incubate calmly
in spite of their coming and going &
few feet below but I finally lost
bird egg. One or two had nearly
hatched young that clung to my
fingers tenaciously with their tiny
toes, showing no fear of falling. One
bird at the window had a youngster
perched on a little rock ledge in the
shade while three feet below
numerous suitable food swam
back and forth and were available
for the mother at need.

Midway Islands, April 22-24, Fairly
common on both eastern and second
island. One bird had laid on a
large & caudal limb and had a youngster
perched in the branches. Another had
deposited an egg on bit of drift
part of a log near the beach. Two
adults taken on Eastern Island.

Pearl and Hermes Reef, April 26. Observed
on South-east island.

Laysan Island, April 29 - May 12. A
heavy surf during my absence except
the limestone ledges at the blow hole

and destroyed all eggs and young
of this species then. The adults mated
again at once and further eggs were
deposited. These were placed on tiny ledges
in the limestone rock, sometimes exposed
and sometimes well in under overhanging
shelves. Occasionally eggs were laid in
little depressions in the tops of boulders.
Many times their positions seemed
precautions in the extreme. The parent in
incubating sat partly erect behind
the egg and threw the father of the
abdomen down over it to cover it.

The location of this colony seemed very
unsafe and I collected a part of the
eggs. A storm in May 11 was
blow away the remainder.

In addition to the colony at the
blowhole, a few were found about
the old guano piles the southeastern
rocks ledge, at the Serenoan and
along the beach to the northwest and
about the old buildings. They exhibit
much curiosity and come out to hover
in the air a foot to six feet from
one's head giving opportunity to observe
their form coloring at its best. The
dark markings about their eyes give them
liquid orb an appearance of zig
depth that is deceptive. Although they
just at night they appear to
be able to see well in the dark.

Gygis alba

and often fly about long after
sunset. Their notes I do not
compare with this coloration as
they consist of a series of low
frog-like grunts uttered in a peculiar
tone wholly unlike ~~any other~~
bird notes known to me.

They are solicitous for eggs or
young and when the latter have
been destroyed in any way seem
hardly able to realize the fact as far
as they are concerned they may come looking
about to bring it fresh.

heianthly Island, May 15. One seen

May 17 two ~~seen~~

May 19 two hovered over my tent
this evening. Have not found the
birds resting on the rocks on this
island however.

May 21. Seen occasionally at sea today
between Mars and Dowsett and Gardiner
Island.

Gardiner Island, May 22. Common.

in pairs nesting on the steep rock
surfaces about 150-200 pairs. Two
taken were mated and I found
developing eggs in the female.

May 23. Noted occasionally at sea
north of French Frigate Shoals.

~~Nihoa Island~~

May 24-26. The white tern is abundant
on the huge cliff that forms the
western side of Nihoa. ~~Living 2.~~

days here I have had some opportunity
to observe them. Birds were scattered
in pairs over the greater part of
the huge rock surface occasional dots
of white marking breeding sites at
elevations of 700 or 800 feet below
Miller's Peak. Comparatively few ranged
above 500 feet and the greater
part clustered in one colony and
some scattered groups between 20
and 250 feet from the sea. Even
these had their eggs and young
at dizzy heights above the ocean.
In the colony mentioned above was
clustered perhaps 150 pairs in an
area 200 by 100 feet where at
a distance the rock seemed yellow
and of a different nature than the
surrounding stone. On close approach
however I found the yellow appearance
due to guano deposited by the birds
over their nest ledges. 300 thirty to forty
feet above the water the ledges were
washed clean though scattered
pairs of birds were nesting. Evidently
I had reached their high.

There was much activity among
their terns as they fluttered out and
back continually, at intervals the
pair sailed out in a great circle
with out wings, each synchronizing
its movements with the other so

Oygis alba

that they maintained a ~~set~~ set
distances of 10 or twelve inches apart.
Occasional three individuals joined
in these mating flights. A few
came out to inspect the ship
and more to hover with their
curious little grunting cries over
the surf boat but the main colony
went on undisturbed in their
usual activities in spite of loud
shouts intended to frighten them.

I have not seen the frigate-bird
molesting their terns.

June 11-16. Abundant on the high cliffs
of the west north and east sides of
the island but not seen on the slopes
that lead down into Adams Bay.
Those collected were taken on shelves
at the summits of the high outer
cliffs. About 4000 pairs pass my estimate
for the entire island. Some were just
beginning to breed others seemed to have
young.

Necker Island, June 17-19 common. Eggs +
young.

June 20. About 400 pairs
King Island, French Frigate Shoals, June 22-23

Pass occasionally from the high rock
La Perouse Rock, French Frigate Shoals, June 27
300 pairs. Occasional pairs or little
flocks pass the other islands on visits

to some feeding ground at sea.

Nihoa Island, June 29 - no change.

Kauai Island, July 1. About 1000000

Johnston Island, July 10-17. About 20

on the low rock ledges of the main island distributed in two small colonies one on the east and one on the north.

Have eggs or newly hatched young. Bill is bright blue at base in life, shading to black at tip.

About 40 on Johnston Island

Wake Island, July 27 - August 4

abundant. Fully ~~the~~ 2500 on

the three islands. The birds are found in little groups of two or three pairs among the Scaevola trees where they lay their eggs in a little depression or scars in limbs one and one half to two and one half inches in diameter, from two to fifteen feet from the ground. Some eggs are fresh, other parents have nearly grown young.

Though the love birds come and hover overhead as elsewhere they are wild and seldom approach within 20 feet. In addition to their frog-like grating they sometimes utter a high pitched squeaky whistle *tau-cu-cu-cu*.

The skin in this species is black and the feathers mostly all black.

42

5
0
6

10
11

Bishop Museum
8/17/23

Gygis alba.

		wing	tail	culmen from base	tarsus
2338, ♂	Makatea, Paumotu, Jan. 25, 1902, G. Seab.	244	120	42	12.5
2339, ♀	" " " " " " " "	234	111	42.5	12.0
2340 ?	" " " " " " " "	253	122	43.8	13.6

Compared with skins from Laysan bill is ^{slightly} ~~more~~ more slender when viewed from side with gonycal angle somewhat less sharp and pronounced. Measurements of bird from Paumotu are distinctly larger.

		wing	tail	culmen from base	tarsus
1372, ♂	Guam, June 10, 1900, G. Seab.	236.0	122.0	40.0	14.0
1373 "	" " " 15, " " " "	240.0	120.0	42.0	14.0
1374 "	" " " 16, " " " "	236.0	116.5	38.5	13.0
1378 "	" " July 11, " " " "	240.0	120.5	41.5	14.0

Bill averages slightly heavier than in birds from Laysan though difference is not pronounced.

		wing	tail	culmen from base	tarsus
2093, ♂	Marovo Id., Aug. 2, 1902, W. G. Bogen	235.0	104.0	42.0	15.0
2094 "	" " " 5, " " " "	225.0	104.0	40.0	13.5
2092 ♀	" " " 2, " " " "	226.0	109.0	39.5	13.0

Tail in these three is shorter than in those above. Bill similar to birds from Laysan Island, and therefore slightly more slender than in those listed from Guam.

Procelsterna saxatidis

Gardiner Island, May 22, 1923. At daybreak
this morning two or three of these
little terns came about ship when
I was delighted to see them. On
first landing I looked eagerly for their
small forms among the many birds
circling about for the first fifteen
minutely without result. But had I
had reason to doubt my early morning
identification until I found two
fluffing about a little rock ledge
on the eastern face of the island.
These two were soon in hand
and it was admiring their quiet
coloration. The largest size of the
fat was strongly $\frac{1}{2}$ of the $\frac{1}{2}$ to $\frac{1}{2}$
in comparison to their size was
in particular notable. Both of found
them about another rock ledge and
shot one and in all seen about
a dozen.

Nihoa Island, May 24-25. About
100 notes on the rock cliffs at the
western side of the island. The birds
were associated in pairs that
congregated in one spot to the number
of twelve or fifteen couples and else-
where were scattered among the white
terms ^{now} of the ledges that they frequented
were more than 200 feet from the
water. Their flight was as

short fluttering strokes of the wings
entirely different from those of other
terns, and on alighting they
fluttered the wings and tail to
gether the lateral dorsal tertiaries in
a manner peculiar to themselves also.
It was interesting to note that at
times as they passed ~~low~~ over the
waves they dropped the feet and
pattered away all parts of the
feet strokes which explained the
apparent overdevelopment of the lower
members.

June 11-16, common. Probably 8000 pairs
inhabit the island. The birds were
scattered all along the rock ledges
of the cliffs that bordered Adams Bay
where they nested in little hollows and
holes of small size that still gave
these graceful little terns abundant
rooms. The single egg was laid in the bare
rock! Only four eggs were seen and of
these it was only possible to blow one
that was added. The others contained
embryos nearly ready to hatch. I saw a
few young newly hatched some slightly
older and numbers on the wing.
Adults and young were molting and
were not in good plumage. One young
bird nearly grown occupied a hole
under an overhanging ledge where
we skinned our specimens. When

Procelsterna saxatilis.

approached it retreated out of sight but at other times rested at the entrance to the hole erect and dignified. When the parent came in its attitude changed at once and it crouched with lowered head uttering a low sibilant whistle like the call of a squab which it uttered constantly. Got the feet and tarsi of the adult. After a minute or two the parent regurgitated a small fish which the *Tyrannus* seized from the rock and swallowed. These terns ranged along small rock ledges in the valleys to an altitude of 500 feet but were more common on the cliffs fronting the sea. They had one very pretty habit of dropping the feet and then descending toward me in a series of graceful loops with wings held stiffly at a slight elevation above the back. After alighting the wings were fluttered against the sides to fold them in place. Their call was a low wailing *kek-h-h-h-h* or mournful drawn out sound. They were quite graceful little creatures that rested quietly on the rock ledges or sailed about among the other terns. A hundred or more sometimes gathered in little coves under

the intense heat of the weather seen
Necker Island, June 17-19 common. Nesting
season here further advanced as all
young seem to be leaving. This species
frequents little caves and overhanging
ledges and does not come out on the
open high slopes. Many seem now
to spend the day at sea and return
to roost at night. At nightfall they
are common about camp but few
are seen during the day.

June 20. About 400 pairs.

La Perouse Rock, French Frigate Shoals, June 27.

About 20 seen, 3 taken.

Necker Island, June 29. no change.

Kauai Island, July 1, about 25 seen. One
taken.

Johnston Island, July 13. Three found among
clumps of grass along a low hill.
Two taken.

Bishop Museum

8/17/23

Procelsterna caerulea.

B. P. Bishop Mus. 2279. Nukuhiva, Marquesas
Aug. 31, 1902. ♀ A. Seale.

Wing 175 mm.

Tail 100 ..

culmen 23.5.

tarsus 22.0.

middle toe with claw 28.0

Bill more slender at base than in
10 *P. saratilis* from Hecker and Nihoa.
much darker throughout, *

Heteractitis

Laysan Island, April 9, 1923. One taken.

April 10 one seen. April 12. one.

Ocean Island, April 19. One shot on a sand spit.

April 20. one. April 21 two seen. These birds are much more difficult to approach than the other *Heteractitis*.

Midway Island, April 23. One taken on eastern shore.

Pearl and Hermes Reef, April 26. On Southeast Island. A flock of a dozen or fifteen in a flock in the wave line rock at the eastern end. Two taken were in full plumage.

April 27. A few seen on Grass and Seal Islands.

April 28. Seen on Southeast Island.

Laysan Island, May 2. Flocks of 10 or 12 found on limestone ledges near blow-hole. Birds feeding and resting. About 50 seen today.

May 3. About 20 on a stretch of rock ledge.

May 5. common. May 6 seen. May 7 seen.

May 13. common of both along rocky shore and at the lagoon.

Nihoa Island, May 14. Two seen. one taken.

May 18. seen.

May 19. Four seen. one taken.

Gardner Island, May 20. One seen. One taken.
 Ocean Island, May 21. One seen. One taken.
 The ...

Mhoa Island - May 24 - two or three
seen.

June 11-16. One or two seen daily on
the rock ledges of Adams Bay.

Ncker Island, June 19. One taken was
molting the outer primaries. One or two
seen daily from 17 to 19.

June 20 seen

King Island, French Frigate Shoals, June 22
one

La Perouse Rock, ^{g.g. shoals} July 27 two seen

Ncker Island, June 29, seen.

Johnston Island, July 11, one taken.

July 13. one taken. Both above as
breeding birds.

Wake Island, July 31. two seen

Aug 6. one.

Bishop Mus.
8/17/23

Heteractilis incanus

799.

♂

, Laysan

Aug. 27, 1896,

Prof. Schauinsland.

636

♀

"

no date

Crocethia alba

Laysan Island, April 11, 1923. Four seen
and one taken. April 12 a dozen.
April 13 several.

Ocean Island; April 19, one taken from
a flock of four

Laysan Island. One noted by Eric
Schlemmer about April 23 (ask Dickey
for actual date)

May 2. One seen by Grant.

May 4. Two with turnstones at the lagoon
Necker Island, June 19 one reported by Grant.

Jerm Island, French Frigate Shoals, June 25. One taken
alone on beach.

Numerius tahitiensis

Bayan Island, April 8-13, 1923. Common
over the entire island, found singly
or in little groups. Several came about
camp and before my departure were
rummaging staidly about before the door
of the skinning room in search of
scraps of fat thrown out during the
preparation of sea birds.

Like the turnstones these curlew
are devils after terns eggs driving
the bill into the eggs at every
opportunity and running away with
the egg impaled to eat it at leisure.
One I saw fled up to a red-footed
booby nest hidden in a hard bush
beside the cook shack during the
momentary absence of the brooding
parent and impaled the egg and
dragged it off to be devoured. The
juvenile booby was still brooding
disconsolately in the empty nest, two
days later.

I saw one curlew deliberately open
an old albatross egg and eat
from the putrid contents. As this
egg had probably been lying in
the sun since December its condition
may be imagined yet the curlew
was so ambitious for its repast
that it returned time and again
though I approached within

Ocean Island, April 17-19. Several seen.
April 20-22. A few noted at intervals. One
taken.

Midway Islands, April 23. Several seen
one taken on Eastern Island.

April 24, a few on Sand Island.

Pearl and Hermes Reef, April 26, One
taken on Southeast Island.

April 27. Seen on Grass and Seal Islands.

April 28. Seen on Southeast Island.

Laysan Island, May 2. About 30 seen. A dozen
were working about among the gray-backed
ferns in search of eggs. Dickey saw one
seize a frigate-bird egg when the parent
raised and exposed it though the frigate
did not leave the nest. The curlew carried
the egg off in its bill without breaking it.
A good many curlews found dead or sick.

May 3 seen. May 4, two.

May 5. About thirty noted.

May 6. a number picked up this
morning while out with a flashlight.

May 7. seen. May 8 seen.

May 13. About 30 seen today. After
seen in small flocks.

Laysan Island, May 16. Two seen.

May 18. One.

May 19. Four seen feeding along the
beach. One taken was pulling and
shaking at shreds of dried flesh on
an old tern skeleton.

King Island, French Frigate Shoals, June 22. Eight seen.

Numenius tahitiensis

two taken. not in breeding condition.

June 23, several seen.

June 24-27. One or two seen daily.

Wake Island, July 28 on turn from a flock of 3

July 29, two seen

July 30 seen July 31, two seen

Aug. 1. A female in fine adult plumage taken. Shows black streaking of the ovary.

Aug. 2. An adult male taken in full plumage had small sexual organs ○ ○

Bishop Museum
5/17/23

Phaeopus tahitiensis.

2978. Laysan Island. April 7, 1903, W. G. Bryan.

several specimens. Midway, Aug., 1902. W. G. Bryan

801 ♂ Laysan, Aug. 20, 1896, Prof. Schumacher

800 ♀ " 24 " "

Pluvialis d. fulva.

Laysan Island, April 8-13. Fairly common. Many dead birds by stream about and I suspect from alkali poisoning from the inner pools on the island.
Ocean Island, April 18, a beautiful bird shot swimming about among the plant covered hillocks in the center of the island in company with turnstones.

April 19. several April 20-22 fairly common. Found in the little meadow with turnstones, and also on the beaches. At night they cross to the beach to roost.

Midway Islands, April 23, (a few on Eastern Island).

April 24, Common on Sand Islands when it frequents the beaches and comes to the dunes at the cable station. Many seen in nearly full breeding plumage. Others in transition from winter dress.

Pearl and Hermes Reef, April 26. A few on Southeast Island.

April 27. A few on Grass and Seal Islands.

April 28. a few on Southeast Island.

Laysan Island, May 2, fairly common. Many dead were seen the sand storms during my absence. Boobies scattered everywhere. These birds have been seen eating eggs.

May 3. Several. May 4. twenty or more.

May 5, two or three seen.

May 6. Common. At night under the light of a search light these birds seem entirely calm and though they may run about may be picked up with ease. They do not struggle nor do they make any outcry.

May 7. This evening I caught one as it came at dark towards the shack seeking a sheltered place for a nights sleep. It rested quietly in my lap for fifteen minutes while I sat sitting in the dark with one of the men seeming to enjoy a gentle scratching in the feathers of its neck. I placed it beside a box in the bird room where it was sleeping quietly and hour later.

Many in a thin, weak condition are about and numbers have died. I attribute this trouble to the heavy alkali in the lagoon water.

May 13. I saw several feeding in the lagoon. Some in full breeding plumage and others in winter dress.

Thiakiwsky Island May 18. 50.

May 19. a flock of a dozen seen.

Hondub, Laka, June 2. A flock of 20 flew swiftly up the Niwano Valley this evening.

Niwa Island, June 11. Three seen on the rocks of Adams Bay.

Hoker Island, June 20. One taken.

Pluvialis d. fulva

King Island, French Frigate Shoals, June 23

About 20 seen.

June 24, three passed in northern flight.
A few seen are in breeding plumage.

Johnston Island, July 15. Two seen
and one taken on Sand Island. Not
in breeding state.

Wake Island, July 30 about 20 feeding on
rock flats sand bar at low tide. Very wild
Aug. 1 Four.

Aug. 2. A dozen seen.

Aug. 4 common in southward migration.
Found in little fannings among the
Townsonia cr.

Bishop Museum
Aug. 16, 1923

Cluvialis d. fulvus

1311. B. Guam ♂ June 7, 1900, A. Seale. worn winter plumage

1314 " " July 2, 1900 " " molting to nuptial "

1312 " " " " " " slight indication of
nuptial plumage

1313 " " " " " " worn winter plumage

1317 " " " 15, " " " slight indication of
nuptial plumage.

Arenaria

Laysan Island, April 8-13, 1923. common

About the inner lagoon and on the sand beaches. There is migration among the birds at present and I note variation (considerable) among their numbers from day to day. Many are just assuming nuptial plumage.

Like some ~~of~~ ^{the} birds the ~~territories~~ ^{territories} here shows some unoccupied tracks. In the tern colonies I find them very destructive to eggs so that I had some difficulty in securing perfect eggs for specimens. At first I supposed that they ~~were~~ ^{were} eating ground eggs spread by the Laysan finches but on watching on numerous occasions I saw them deliberately drive their bills into eggs and begin to eat the contents. The fact that there were always little scattered bands running about among the forming colonies of Sterna lunata waiting a chance to run in and pierce an egg. When my advent flushed the terns, the ~~territories~~ ^{territories} were not slow to profit by the opportunity. As ~~territories~~ ^{territories} I

Occur Island, April 17-19. common. I find the birds were working back under dense cover of Scalvola bushes to feed under cover far from the beaches. As I know

accustomed hitherto to see them
on mud flats or beaches it gives
me momentary surprise to flush
them from localities suited to
woodcock. many in the grass

grown central guinea.
April 20. 22. These birds regularly
penetrate among the dense growths
of Scaevola to feed. It is always
a surprise to me, when suddenly
to attract the possible land bird
from among the bushes to have
as turn of mind pop out and alight
easily on the tip of a branch
while it eyes me closely. Little parties
remain in the central opening until
after sunset and then fly across
to the beach to roost.

Midway Islands, April 23, common
on Eastern Island.

April 24. Common on Sand Island where
it frequents the beaches and also comes
fairly about the lawns at the station.
Pearl and Hermes Reef, April 26. Common on
Southeast Island.

April 27. At day break two came beating up
from the south; swimming in toward the ship
and then bore away to Seal Island. They
seemed very tired and flew low over the
water to avoid the steady shore of the
trade whenever possible.

April 28. Seen on Southeast Island.

Arenaria

Laysan Island, May 2. Abundant. 75 seen
in a mile on east and south shores
about 300 in lagoon. On a colony of
gray-backed terns I saw two turnstones
run in and ~~break~~ pull an egg from
beneath a tern and break it ~~within~~
six inches of the incubating birds. She
looked about moving her head uncertainly
looked beneath ^{her breast} and finally reached over
took hold of the broken ^{egg} ~~shell~~ with her bill
and drew it nearer to her. One turnstone
continued to run in and out and eat
a little afraid but still bold while
the tern made no effort to protect her egg.
I can see no chance for the terns to
break until their robbers go north.

May 3. abundant.

May 4. These turnstones gather to feed
and refuse at a pile of tin cans
back of the cook house and also run
about the swiv. Though attracted
by fish which are few in number, they
also pick up bits of garbage. They also
gather to look over the coral lumps
that Mr. Shaamu brings ashore and
cracks apart in search for mollusks,
finding in these a rich harvest.

May 5. a thousand or so now on the island

May 6. These birds are readily captured
at night by means of a flashlight.

May 7. Fifteen or twenty may always

be found about the garbage pile
back of the kitchen in search of
scraps of meat or fat.

May 8. A number I have been seen that
I suspected had died from alkali
poisoning and today I examined one
that showed all the reactions of the
trouble, paralysis of swimming membrane,
and lack of extent of fat wings and neck.

May 9. Sixteen seen, legs prostrate
with head prostrate, barely breathing.

May 13. Three or four thousand
present on the island. Birds clinging
to the lagoon, found attractive food
visibly abundant, May 16, four seen.

May 17 two

May 19. Three or four noted.

Garbin Island, May 20. One flock of
fifteen on the rocks near the water.
One killed had just eaten a tern's egg.

Misoa Island, May 24. Two on ledges
below the western cliffs.

June 11-16. One or two seen daily on the
rocks of Adams Bay. Two seen resting
on a cairn on Miller's Peak 900 feet
above the sea.

Necker Island, June 17-19. One or two seen daily.

June 20. A small taken had small sexual
organs, about 25 seen.

June 21. Three seen.

King Island, French Frigate Shoals, June 22-23,
about thirty seen. One taken at Round Island.

Arenaria

June 24-27. Seen daily on sand islands.

One heard giving a low trilling song on the wing.

Johnston Island, July 15. Two seen and one taken on Swift Island. Not in breeding condition.

Wake Island, July 29. Two seen.

Aug. 31 seen.

Aug. 1. a dozen seen. a male taken in adult plumage had testes \circ

Aug. 2 About 20 seen.

Aug. 4 seen.

Tatare

Nihoa Island, June 11-14. Possibly 100 of these little birds were found on Nihoa. They inhabit the heaviest growth of Chenopodium in the bottoms of the gulches, as on the slope above. But range in small numbers to the tops of the highest hills. They moved leisurely and kept well hidden so that it was difficult to see them especially since they kept in the densest cover near the ground. Their curiosity was often attracted by a squeak when they hopped up into the outer limbs to feed about. As they fed out they suggested small vireos and their call was similar to that of a bird of that group.

Adults all lacked tails and were molting otherwise. Young were fully grown and were molting into first full plumage.

Himatione

Laysan Island, April 8-30, 1923, three
seen at intervals about piles of rock at
the southern end of the lagoon.

May 13. These birds have not been
seen since the heavy storm after
the twentieth of April and it is
supposed that they have perished.
I have visited their haunt on
a number of occasions without
finding them.

Scrinus

Midway Islands, April 22-24, 1923. On Sand Island the canary is abundant above the trees and shrubbery about the buildings but does not occur on the wilder part of the island. In early morning their song joined with those of the bayou finches formed a phrasing Morning Chorus. The birds were common in the lawns and shrubbery and also range out through the ironwoods at a distance. All seen are yellow to very pale yellow. Several young just from the nest noted. The canary seems very small and weak birds the aggressive bayou finch. I am struck especially with the small size of the bird in Scrinus.

Telespyza cantans.

Laysan Island, April 8-13, 1923. The first landing on the island seemed such a desert that I had no hope that the finch had survived but in a few minutes we came hopping about the porch of one of the shacks, another on or two, over ponds of the coconuts and one was seen in an out building. Soon six or seven were hopping about us. Within half an hour the little birds had cleaned up the *Megaloptera* and *Gygis* eggs about the shacks as they broke and ate the eggs instantly when they were deserted by the owners.

Following this they increased in numbers about the buildings until 15 or 20 were about and I found them about the Scavenger patch and around rock piles, all hovering in the inner protected rim of the island. At the shacks they flew and hopped in and out with the utmost familiarity or came into our tents. They kept barely out of reach but showed no fears at all. They were greatly taken with water that dripped from the water breakers so we put out little pans of water for them which proved a great attraction. A female began a nest inside one of the windows against a board, and carried in bits of debris. They are in to every thing and discovered an open case of eggs in the store room

in fifteen minutes and had eaten four
or five.

Midway Islands April 22-24. ~~Very~~ abundant.

On eastern island the birds were spread
out through the brush and came out in
the little central openings where they
were protected from the wind to feed.

On sand island they were all about
the houses as familiarly as on Laysan.

Little parties came to feed on broken
corn (chick feed) on the veranda in part

of my rooms and in early morning the
pleasing song of the males made

a beautiful chorus. A considerable
number were captured alive and taken

aboard ship where they began to
feed and seemed at once reconciled to
confinement.

Laysan island, April 30. Four females
taken on Midway released here as the
authorities permit importation of male birds
here only.

May 7-3. The birds come familiarly about
the cabin as before. One or two females
seen prepared to breed and have started several
nests but males pay little attention to
them. Two or three came about and
drank small quantities of water dripping
from my bathing suit at ^{part} my place
post.

May 8. Come in familiarly to drink at water
pail.

Telespiza cantans

May 5. These little birds are found all through the little piles of rocks near the lagoon and are building nests in the crevices in the rocks. They are extremely tame. It is not unusual to have my hop up on my foot as I write or work. At night they roost on beams and window ledges and in early morning hop familiarly about our beds.

May 7. One comes at evening and sings from a rooster during our supper hours repeating his song steadily for fifteen or twenty minutes. They come frequently to the salt water dripping from a wet bathing suit and one even tried to drink kerosene from a cup.

May 8. One has an egg in the nest at the house. May 9 a second egg laid. The female sits closely perhaps to prevent pilage by her friends. Once when she left the nest herself she partly covered the egg with some bits of excrement and plowing.

May 10 a third egg laid.

May 12. Set collected as it is apparently complete.

Tonight I counted 20 at roost in various corners of the store room.

mated pairs nested within three
or four inches of one another;
Nests were scattered about at
random. The song of this species
is varied, sweet and pleasing.
At times it is suggestive of a house
wren or thrasher. The birds sing
a great deal especially during
mornings and evenings.
Scopal pairs are avid with
nest building.

seen

Telespiza ultima.

Nihoa Island, June 11-16, 1923. There are
fully 800 of these finches on the island.
At the present time they have finished
breeding and adults are in molt. The
young birds in their streaked plumage
are everywhere in evidence but adults
are shy and more frequently remain
~~by~~ hidden. The finches range to the
summits of the highest peaks but
are most abundant in the lower strata
of the gulches especially where ~~the~~ pools
of water are found in depressions in the
rock floor of the valleys. They congregate
here in the *Campopodium* bushes where
they rest quietly or climb about
their total number unsuspected until
we tramped through the courts. They
are still in little family parties
~~and~~ the same of them only recently from
the nest. Often 5 or 6 were found about
one water hole. Adult were silent
save for a chirping note but young
frequently uttered a low twittering song
that while not equal to the sound
produced by the adult Laysan bird was
very pleasing.

These little finches were tame and
came without fear about our camp peering
curiously at strange paraphernalia and
pecking and pulling at reeds and strings.
Adults and young relished eggs of other

birds and ~~them~~ literally thousands
of tern, shearwater and petrel eggs
with the sides cut open by the
finches lay about. Their flight
was strong and on the ground they
hopped.

I found one nest that can have
belonged to no other species, in a slight
cavity under a ledge at the summit
of a cliff 500 feet high. The structure
was a cup of fine grasses and
stems of weeds. The rim and the
rock about were foul with the
excrement of the young the filthy
condition reminding me strongly of
the nest of the House finch.

The bill in this species is brown
paler below. The small size of the
eye cavity suggests the condition
found in goldfinches and Eskimoes.

Turtur chinensis

Palolo Valley, Oahu, May 31, 1923. Two
judding in little fields.

The species is common in the
suburbs of Honolulu where its cooing
notes are heard frequently.

Mt. Santaluz, Oahu, June 6. Several judding
in the road in early morning as I
descended to the city in company with
Mr. Widen.

Bishop Mus. 3/29/23.

"Parus Varius"

Bishop Mus. 4791., Kauai, Ter. Hawaii,
Aug.?, 1923, D.T. Fullaway.

Birds answers to description of *Parus
varius* in Brit. Mus. Cat, III, p. 37,
Wing 71, tail 49, tarsus 19, culmen from base 12.5
a memorandum from E. W. Mosely to
Dr. Ball reads as follows.

"The titmouse which is common between
3300 and 3750 feet near the Waimea Cañon,
Kauai, is *Parus varius* Temm. & Schb.
from Japan. It doubtless occurs higher
also, and likely somewhat lower. It was
the most noticeable of small birds
(or the only? one) in that region."

According to Dr. Ball the bird was
brought in about 1900 by a man
named Eisenberg.

Specimen examined is in molt.

Chasiempis gayi.

Pablo Valley, Oahu, May 31, 1923. Fairly common in the trees at an altitude of 1500 feet. The birds hop about with tail thrown up suggesting gnatcatchers in their alert movements. They utter a low chattering call and also a curious song.

Tantalus - Nuuanu Ridge, Oahu, June 5. several

Trochalopteron.

Palo Verde Valley, Oahu, May 31, 1923. Fairly
common in a dense jungle of brush in
the steeper parts of the valley from 500
to 1500 feet. Known as wame. The
male has clear whistled song
delivered from the top of a tree where
the singer sits in shelter of the
leaves. I do know this often suggests
the song of the Fox sparrow. At any
alarm the brown clad singer pitches
down in the brush below and is
lost. I called them near me by
squeaking but found it difficult to
shoot them as at the slightest
movement they dropped out of sight.
Tantalus-Nunamua Ridge, Oahu, June 5,
common. Two taken.

Chlorodrepanis

Tantalus-Nurama Ridge, Alaska June 5, 1923.

3) Three seen flying along a high ridge.

Dryanorhamphus fumerea.
#238 (639) 4,000 ft. Molokai Mts., Bad.
June 1896, R. C. W. Perkins coll. in slightly
worn plumage.

wing 103.5, tail 69.0, culmen from base 56.2, tarsus 32.2.
#4712, Maunui, Molokai, June 1, 1907, ♂, shot
at the head of Moanui valley. in fair
plumage but badly shot. W. A. Bryan.
wing 99.0, tail 68.0, culmen from base 57.0, tarsus 32.7.

specimen has tongue attached which
is long and curved and apparently
reached to tip of bill. fimbriated at
tip with the two sides rolled
upward over center to form a
closed up tube through the overlap
of the thin paper like margins that
opens just above the office base.
Nostrils long and curved, extending
at least to back of skull.

#4714. Moanui, Molokai, June 4, 1907, ♂,
Headwater of ~~Hauka~~ Honealeluwai W. A.
Bryan

wing 105.0 tail 73.7, culmen from base 55.1, tarsus 33.0
in good plumage.

Figure of bill given by Bryan, Key to
Birds Hawaiian group, 1901, p. 42. is enlarged
about $\frac{2}{5}$ and has basal portion of bill
too long as curvature begins
immediately beyond nostrils.
bill black, save for yellowish base of
culmen that extends over nasal region.
Bill strong at base, particularly on

upper mandible, strongly decurved or
to curvature that begins in a
slight arch at base of culmen
and pass up and then down,
becoming straight toward terminal
portion of bill, upper mandible 7 mm
longer than lower, slender but strong
at tip, with a deeply excavated
groove extending clear to tip,
stoma^{with} sharp cutting edge.
Nostrils heavily operculated, the
operculum wide with an extended
anterior pre margin that ~~pre~~ entirely
conceals the nasal opening, operculum
continued forward as a raised ridge
that delimits a slight groove
below that passes ~~down~~ to the
cutting edge of the mandible at $\frac{1}{4}$ length
from distal end. This ridge more
prominent in some specimens than in others.
Lower mandible narrower than upper
grooved, but terminal end becoming
slender and attenuate.

The broad operculum over nostrils
would be pressed firmly over nasal
openings, entirely covering and protecting
them ^{from the bill etc.} when bill was thrust into
deep ~~the~~ tube of flower. Feathers at base
of culmen in one specimen were
apparently from probing.
Feathers of chin with shafts
projecting slightly beyond webs.

D. junco 2.

those of side of head short and
plushlike. About eye. There are
very short right bristles that
do not project beyond level of other
feathers. Rest of plumage normal with
strong luster.

Wing formula 7, 6, 8, ⁵4, ³9, ²1.

sixth and seventh primaries nearly
equal but seventh faintly longer.

Fourth ~~only~~ most nearly equal
to ~~the~~ fourth ^{to} web of 4th to
8th faintly similar. tenth primary
concealed. wingtip long about 19 mm.
feathers of throat with slightly
webbed shafts.

wing appears ~~strong~~ ~~stiff~~ pointed
tail slightly notched, ^{point of} feathers
pointed. 11

rectrices 12.

tarsus scutellate.

basal joint of 4th toe united anteriorly
to middle toe. basal joint of 2nd
toe united to middle toe for 1/2 length.
hind toe long and strong. with claw
equal to slightly more than middle
toe with claw. hind claw long & strong.

Bryans figures of both bill and
tail ~~more~~ rather inaccurate as to
detail.

Drepanorhamphus differs from
Drepanis in ridge on side of maxilla

longer hind toe and lack of
specialized tail coverts.

Bishop Mys 7/24/23

Chloridops Kona

#4457. Kona, Hawaii, 4000 ft., ♂, July 12, 1892,
R. C. L. Perkins coll.

wing 89.0, tail 59.0, culmen from base 20.0, tarsus 23.0

#4460, Hawaiian Is., "Perkins collection."

wing 85.0, tail 53.0, culmen from base 18.3, tarsus 23.5

#4459. Kona, Hawaii, 4000 ft., ♀, Sept., 1892,

Mauna Loa (W) Pulehine

wing 82.2, tail 54.0, culmen from base 18.8, tarsus 22.5

Bill tremendously strong and firm etc.
nostril small oval opening behind in
~~but~~ a depressed nasal fossa behind.
a buttress formed by the swollen bill
base, partly concealed by feathers of
forehead. line of culmen gently rounded.
center upper mandible tumid and
swollen, gape angular, cutting tomia
sinusoidal with about 5 indistinct teeth
in notch at tip.

Lower mandible strong and heavy.
a broad shelf at base of gape.

line of gony swollen and tumid.
cutting edge curved inward to
pass inside tomia of maxilla.

depth of upper mandible 10.0 mm

" " lower " 8.9 "

a very very short rectal bristles.

wing formula 7, 8, 6, 5, 9, 4, 3, 2, 1.

6, 7, 8 nearly equal, 5 and 9 nearly equal.

wing TP 23.5 mm long.

teeth primary entirely concealed

tail notched. rectrices 12.

Carcus scutellatus

hind toe with claw only slightly longer than middle toe without claw.

Basal joint of 4th toe entirely united to middle toe

basal joint of second toe united to middle toe for only about 1/4 length.

1.
0
1.
3.5
0

10

mes

Bishop Mus. 3/30/23

Drepanis pacifica

Three mounted specimens examined. a fourth, on exhibition seen only. Case. all in excellent condition.

All bear data "Mills Collection, Hawaii."

#2. wing 96.0, tail 61.5 culmen from base 44.0
tarsus 31.0

#3 wing 101.5, tail 68.0, culmen from base 43.5, tarsus 33.5

#4 wing 98.0, tail 65.0 " " 41.2 " 30.0

Bill similar to that in *Drepano-*
rhamphus but less heavy, without the
ridge along the side of the maxilla

On one the nasal region has been
eaten away by insects there is
no nasal septum.

Maxilla Bill long and arcuate,
decurved. Culmen very faintly arched
at base and then passing in a
regular even curve toward tip.

About 3 times longer than mandible.
tip acute, underside of tip deeply
grooved.

Nostril completely concealed beneath
a broad leaflike operculum with
a distinct median projection.

Mandible much more slender
than maxilla, attenuated and flattened
at tip.

Pectoral bristles small but distinct.

Feathers of juveniles short and
flesh like.

Wing formula $\overset{6}{1}, \overset{5}{8}, 9, 6, 8, 4, 3, 2, 1.$

6, 7 and 8 nearly equal. 9 distinctly shorter than 5.
10th primary small and entirely concealed. 20.
rectrices 12, tail slightly rounded.

Upper and under tail coverts specialized, with long loose barbs with few barbules. Under tail coverts considerably longer than lower.

tarsus scutellate.

basal joint of 4th toe entirely attached to middle toe.

basal joint of second toe attached to middle toe for about $\frac{1}{4}$ length.

hind toe with claw slightly longer than middle toe without claw.

hind claw strong and heavy.

middle toe with claw extending slightly beyond end of middle toe.

Fourth toe with claw about equal to middle toe.

Bishop Mus. 3/31/23

Rhodacanthis palmeri.

#234 ♂, Kona, Hawaii, 3000 ft., March, 1896,
R. C. W. Perkins. fully adult in perfect plumage,
wing 101.0, tail 72.0, culmen from base 21.0, tarsus 28.0.

#4439 ♂ M. Loa (W) about 4000 ft., 2-9-92
Sept. 2, 1892; Kona. R. C. W. Perkins. fully
adult, slightly worn plumage,
wing 104.5, tail 78.5, culmen from base 19.3, tarsus 26.5.

#233. ♀ ad. Kona, Hawaii, 3,000 ft., III, 96,
March, 1896, (fully adult in good plumage).
wing 102.8, tail 65.0, culmen from base 20.3, tarsus 26.3

#4437 young ♂, Manna Loa, (W), ("Nahuina"),
nearly 4,000 ft., June, 1892, Kona.
R. C. W. Perkins. - (Bird's tail & is not cut).
wing 100.3, tail —, culmen from base 20.5, tarsus 28.5

Nostrils ~~are slit-like~~ elongate opening
in a pit sunk above and behind
swollen base of bill, entirely concealed
by frontal feathers. Bill large and heavy,
culmen rounded, sides of mandible
tapered, tip of maxilla, produced rather
slender, acuminate, tibia slightly sinuate
for basal half, smooth beyond, gaps faintly
angulated. Lower mandible strong, heavy,
tibia gently curved downward forming
a concave outline, gonyx very faintly
concave. Mandibular ramus short!

Depth of maxilla 9.0 of mandible 7.0.

Very small nictal & bristles present.

Feathers of forehead & short and plush like.

Wing formula 7, 8, 6, 5, 9, 4, 3, 2, 1.

6, 7, 8 nearly equal. 9 slightly shorter than 5.

teeth primary on upper side of
wing but 9.5 mm long.

Wing tip 25.0 mm long

pubic webs of 5 to 8 primaries
sinuate slightly at distal 2/5ths.

Tail notched, 12 rectrices.

Tarsus scutellate.

Basal joint of 4th toe is fully attached
to middle toe.

Basal joint of 2nd toe attached to
middle toe for half of length.

Fourth toe with claw reaching to
base of claw of middle toe.

3rd toe without claw extending
slightly beyond base of distal joint of
middle toe.

1st toe and claw strong but in
length slightly less than middle
toe without claw.

Bishop Mus. 3/31/23

Circus anna (Dole.)

#19 (mounted) G. Hawaii, Mills Collection.
wing 83.0, tail 49.0, culmen from base 11.0, tarsus 21.0
Bill comparatively slender.

Nostrils set in a slight depression only
partly concealed by frontal plumes.
Culmen slightly curved downward,
sides of bill nearly straight in
outline, gently rounded.
Upper maxillary tomium faintly concave,
slightly sinuate.

Tip of maxilla acute on sides, slightly
beakward when viewed from above.
Lower mandible with sides rounded.

Line of gonyes nearly straight.

Mandibular ramus slightly less than
half gonyes.

Feathers of forehead short and plush-like.
Small rectal bristles present.

Wing formula 7, 8, 6, 5, 9, 4, 3, 2, 1

6, 7, 8 nearly equal, 9 only slightly shorter
than 5.

Wing tip about 20.0 mm.

Tenth primary on upper side of wing, ~~but~~
8.0 mm long.

Tarsus subulate.

Basal joint of 4th toe wholly adherent to
middle toe.

Basal joint of 2nd toe adherent to middle
toe for slightly more than one third
length. second
toe with claw reaching

beyond base of claw on middle toe.

Fourth toe with claw reaching to base of claw on middle toe.

Hind toe and claw strong equal to slightly more than middle toe without claw.

tail very slightly notched

rectrices 12.

Feathers of throat and ear coverts lanceolate with long slender tips

Birds Mus. 3/31/23

Loxops caeruleirostris (Wilson).

It has been proposed to separate this species as a genus or subgenus.

Chrysomitridops. ~~Such a name seems wholly unwarrented.~~

A careful comparison of find no structural characters to separate it from coccinea.

The type species of Loxops save that the rectrices are somewhat more approximate.

The bill is slightly heavier but details of form are as in coccinea. wing tail, tarsus and toes are identical in the two.

#4441. 4000 ft, Kanai, ♂, May, 1894, R.C.L. Perkins

wing 60, tail 49.5, culmen from base 11.0, tarsus 21.0

#281, ♂, Kaholuamano, Kanai, Oct. 1895, R.C.L. Perkins.

wing 64.0, tail 49.5, culmen from base 11.8, tarsus 21.5.

#585 Kaholuamano, Kanai, May 20, 1894,

"bill light blue".

wing 64.5, tail 49.5, culmen from base 12.0, tarsus 21.8.

1154, ♂ Kanai, April 19, 1900, A. Seale.

wing 64.5, tail 52.3, culmen from base 12.0, tarsus 20.0

1151, ♂, Kanai, April 30, 1900 A. Seale.

wing 60.0, tail 52.0, culmen from base 11.8, tarsus 20.8.

1148, ♂, Kaholuamano, Kanai, April 19, 1900.

wing 61.2, tail 50.0, culmen from base 12.3, tarsus 21.5.

1153, ♂, Kanai, April 19, 1900, A. Seale.

wing 63.5, tail 53.2, culmen from base 12.3, tarsus 22.0

1146, ♂, Kaholuamano, Kanai, April 19, 1900, A. Seale.

wing 64.0, tail 53.8, culmen from base 12.0, tarsus 21.0

The rectrices in all of the series examined are slender and acuminate at the tip, being tapered for 1/5 of length. The tail is deeply notched

The rectrices are much worn
perhaps through bracing and clambering
and are stiff and spiny. In this they
differ from Loxia occid. in which
though the tail is notched the
feathers are soft and normal and do
they exhibit wear.

The species may be separated as
a subgenus at least of the Loxia
occid.

Acridotheres tristis

Palolo Valley, Oahu, May 31, 1923. A few
seen in the forest at 1500 feet but more
common in the lower mountain
country.

Sentabes - Nuuanu Ridge, Oahu. June 5 common
up to 1500 feet.

Munia nisoria

Balolo Valley, Lahar, May 31, 1923. One taken
in a little thicket at 1500 feet. Always seen
quite shy.

Tantalos - Nuwama Ridge, Lahar, June 5, several.

Passer domesticus

Honolulu, Hawaii, 1923. abundant in
the city and its suburbs.

Palo Alto Valley, Cal., May 31, 1923. Common
in the lower more open valley. Nests
seen in mesquite.

Carpodacus m. mutans

Palolo Valley, Oahu, May 31, 1923. Five or six
seen in the lower valley at an altitude
of 300 feet. 2 Males were strictly orange
bred.

Dill, H. R., The Albatrosses of Laysan,
Amer. Mus. Journ., Vol. 13, April, 1913,
pp. 185-192.
¹ popular account of Laysan.

Bryan, W. G., The introduction and
acclimatization of the yellow Canary on
^{Midway} Laysan Island. Auk, 1912, pp. 339-342.
Records the introduction of the canary
in July 1909 from stock bred from birds
secured by D. Morrison from the S. S. Siberia
in Honolulu. Notes the destruction of
wild domestic cats Jan. to May 1910
and the introduction of the Laysan Finch
in May, 1905 from stock secured by Morrison
from Schlemmer at Laysan. These were released
on Sand Island but were killed by cats.
In Sept. 1905 others were secured by
Capt. Pilty at Laysan and placed on
Eastern Island. In Jan. and May 1910 the
finch and rail were brought from Eastern
to Sand Island.

Dole, Sanford B., Birds of the Hawaiian
Islands, Proc. Boston Soc. Nat. Hist., Vol. 12,
Feb. 17, 1869, pp. 1-16 [Expanded separate?]
a compilation from all available
authorities with descriptions either in
Latin or English of each species.

Europe-1930

Temperature records.

Puente de los Hierros, Viredo, Spain, May 2, 1930.

8212	<i>Troglodytes</i>	♂ ad.	108.4	actin 10:00 a.m.
8213	<i>Erithacus rubecula</i>	"	106.4	actin 10:30 "
8215	<i>Sylvia atricapilla</i>	"	108.3	actin 9:30 "
8219	<i>Emberiza cia</i>	"	108.3	act 9:30 "

May 3, 1930

8220	<i>Phylloscopus</i>	♂ ad.	106.5	actin 11:00
8221	"	"	107.6	" 11:15
8224	<i>Erithacus rubecula</i>	♂ ad.	106.3	" 9:15
8225	<i>Scirpus</i>	♂ ad.	105.3	act 12:30
8227	<i>Sylvia atricapilla</i>	♂ ad.	108.5	actin 9:15
8230	<i>Phylloscopus</i>	♂ ad.	109.5	act 8:00
8231	<i>Emberiza cia</i>	♂ ad.	108.6	" 8:45

May 4, 1930

8232	<i>Turdus merula</i>	♀ juv.	107.5	act 10:45
8236	<i>Agriothalpus cambatus</i>	♂ ad.	106.8	actin 8:30
8237	<i>Parus caeruleus</i>	"	106.6	" 8:30
8238	<i>Erithacus rubecula</i>	"	107.9	act 8:45
8239	"	♂ ad.	109.2	" 10:30
8242	<i>Tringilla coelebs</i>	♂ ad.	107.6	" 11:30
8243	"	♂ ad.	107.4	" 11:30
8245	<i>Sylvia atricapilla</i>	♂ ad.	107.2	actin 9:30
8246	"	♂ ad.	107.8	" 9:30

May 5, 1930

8249	<i>Phylloscopus</i>	♂ ad.	107.0	actin 7:00
8252	<i>Parus ater</i>	"	109.1	11:00
8253	"	"	107.8	12:00
8254	"	♂ ad.	106.8	"

temperature records.

8255 *Parus palustris* ♂ ad. 107.2 at sun 12:00
 8257 *Emberiza citrinella* " 108.4 at rest 7.45

May 6, 1930

8260 *Phylloscopus* ♀ ad. 107.5 active 8:00

8261 " " 107.0 " 10:30

8262 *Parus caeruleus* ♂ ad. 106.5 " 9.15

8265 *Carduelis* ♀ ad. 107.0 at rest 7:15

8266 *Fringilla coelebs* " 109.4 " 12:00

8267 *Eithacus* ♂ ad. 107.0 " 9.30

8269 *Ictus albus* ♀ juv. 103.2 " 9.45 R.

Buadonys, near Spain, May 8, 1930

8270 *Saxicola torquata* ♂ ad. 106.7 at rest 7.30 a.

8271 *Saxicola rubetra* " 107.4 " 7.45 a

8272 " " ♀ ad. 107.4 " 8.00 a

8273 *Prunella modularis* ♂ ad. 108.2 " 8.15

8274 " " " 107.6 " 9.30 a

8275 " " ♀ ad. 108.9 " 10.30 a

8276 *Anthus pratensis* ♂ ad. 108.4 " 8.30,

8277 *Anthus* " 108.3 " 8.30

8278 *Anthus* " 107.9 " 7.45

8280 *Acunthis curmalones* " 108.0 " 8.20

8281 *Fringilla coelebs* " 108.4 " 7.00

8282 *Emberiza cia* " 108.9 " 8.20

8284 *Achitis hypoleucos* " 108.6 " 10.45

8285 *Phoenicurus phoenicurus* ♀ ad 108.4 at rest 10.15

May 1, 1930

8286 *Saxicola torquata* ♂ ad. 106.0 at rest. 7.30

8287 *Phoenicurus* " 107.7. 7.15

Temperature records.

8288	<i>Prunella modularis</i>	♂ ad.	108.6	at rest.	9.15a
8289	<i>Motacilla flava</i>	♀ ad.	108.3	walking	8.45a
8293	<i>Oenanthe oenanthe</i>	♂ ad.	107.0	at rest.	7.30a
8294	" "	♀ ad.	107.2	"	8:00a
8295	" "	♂ ad.	106.8	"	"
8298	<i>Alcedo arvensis</i>	♂ ad.	107.6	flying	9.15
8299	" "	"	108.6	"	10.00
8300	<i>Emberiza citrinella</i>	"	108.4	o "	9.00

May 10,

8303	<i>Phoenicurus phoenicurus</i>	♂ ad.	108.4	active	9.30
8304	<i>Motacilla flava</i>	"	108.2	"	9.15
8305	" "	♀ ad.	107.5	"	9.15
8306	<i>Motacilla alba</i>	♂ ad.	107.8	at rest	8.00
8307	" "	"	108.2	"	9.00
8308	<i>Anthus</i>	"	110.6	"	7.30
8309	<i>Anthus</i>	"	108.4	"	9.30
8310	<i>Oenanthe isabellina</i>	♀ ad.	109.8	"	12.30p.
8311	<i>Emberiza cia</i>	♂ ad.	108.2	feeding	9.15
8312	" "	♀ ad.	108.4	"	"
8313	<i>Emberiza citrinella</i>	"	108.8	at rest	7.20
8316	<i>Motacilla saxatilis</i>	♂ ad.	107.5	"	10.00
8317	<i>Pyrrhuloxia pyrrhuloxia</i>	♀ ad.	107.4	flying	10.30
8319	" "	♂ ad.	107.4	"	11.30

Riaño, León, May 13, 1930

8319	<i>Phylloscopus</i>	♂ ad.	106.8	feeding	9.00
8320	<i>Parus caeruleus</i>	"	100.5	"	7.30
8321	" "	"	107.3	"	9.30
8322	<i>Parus cristatus</i>	"	108.4	"	7.45

Temperature records.

8325	<i>Parus palustris</i>	♂ ad.	108.2	feeding	9.45
8326	<i>Sitta europaea</i>	"	108.6	"	9.15
8328	<i>Anthus</i>	"	108.5	singing	9.00
8329	<i>Lullula arborea</i>	"	108.6	at rest	8.00
8330	"	♀ ad.	107.2	"	"
8331.	<i>Tringilla coelebs</i>	♂ ad.	107.8	"	10.30
8332.	<i>Emberiza hortulana</i>	♂ ad.	108.2	"	10.15
8333.	<i>Dryobates major</i>	♀ ad.	109.0	"	7.45
8334	<i>Geothlypis glandarum</i>	♂ ad.	109.6	"	7.45
May 14, 1930					
8330	<i>Phylloscopus bonelli</i>	♂ ad	107.2	active	8.15
8337	"	"	107.0	"	9.15
8338	"	"	107.6	"	10.45
8339	<i>Sylvia conspicillata</i>	"	108.3	"	7.30
8341	<i>Parus ater</i>	"	107.0	"	10.45
8342.	<i>Parus cristatus</i>	"	107.5	"	12.00
8344	<i>Renanthe oenanthe</i>	♀ ad	107.0	at rest	11.30
8346	<i>Lullula arborea</i>	♂ ad.	108.7	"	7.30
8348	<i>Tringilla coelebs</i>	"	107.6	"	11.45
8347	<i>Emberiza cin</i>	"	108.2	"	9.50
8351	<i>Cuculus</i>	"	107.9	flying	8.30
May 15, 1930					
8352	<i>Phylloscopus bonelli</i>	♂ ad.	106.6	active	7.30
8353	"	"	108.2	"	8.00
8354	"	♀ ad.	107.0	"	8.00
8355	"	♂ ad.	110.5	"	12.00
no apparent reason for this temperature. Bird killed dead.					
8356	<i>Mniotilta stricifilla</i>	♂ ad	106.0	active	7.15

8357- *Sylvia caesia* ♂ ad. 109.9 active 11.15

20

177

11

17

Temperature records.

8357.	<i>Sylvia cinerifrons</i>	♂ ad.	107.9	active	11.15
8358.	<i>Erithacus rubecula</i>	"	108.1	at rest	11.30
8359.	<i>Sitta europaea</i>	"	107.7	active	11.30
8360	<i>Tringella coelebs</i>	"	108.9	"	11.45
8363	<i>Sturnus merula</i>	♀ ad.	109.2	"	8.15
8365	<i>Pegophthalmus gracilis</i>	"	107.8	flying	10.30
May 16, 1930					
8364	<i>Regulus</i>	♂ ad.	107.3	active	11.00
8372	<i>Parus ater</i>	"	107.6	"	9.00
8374	" "	"	107.7	"	9.15
8378	<i>Sylvia atricapilla</i>	"	108.4	"	8.30
8382	<i>Salix urtica</i>	♀ ad	107.6	flying	11.30
8383	" "	"	107.7	"	11.45
8384	<i>Emberiza cia</i>	♂ ad.	107.4	at rest	8.00
May 17, 1930					
8385	<i>Certhia brachydactyla</i>	♂ ad.	107.0	active	8.00
8388	<i>Phoenicurus phoenicurus</i>	"	107.6	at rest	9.45
8389	<i>Muscicapa atricapilla</i>	"	107.0	"	9.15
8390	" "	"	107.0	"	2.45
8391	<i>Anthus campestris</i>	"	108.1	"	7.15
8392	<i>Prunella monticola</i>	"	107.8	"	10.15
8395	<i>Senecio leucura</i>	♀ ad.	108.1	"	2.00
8396	<i>Parus major</i>	♂ ad.	107.7	"	2.30
8397	"	♀ ad.	107.7	"	"
8398	<i>Anthus</i>	♀ ad	107.2	"	1.00
8399	"	"	107.7	"	1.45
8400	<i>Alandia uronsis</i>	"	108.1	flying	1.20
8401	<i>Dryobates medius</i>	♀ ad.	107.6	active	3.45

Temperature Records.

8403 *Geothlypis trichas* ♂ ad. 107.6 active 3.00

8404 " " 108.0 flying 4.15

8405 *Myiophobus* ♂ ad. 106.9 active 11.45

May 19, 1930

8408 *Parus cristatus* ♂ ad. 107.0 active 8.00

8409 *Parus major* " 107.2 " 8.15

8410 " " 106.8 " "

8413 *Erethacus rubecula* ♂ ad. 107.2 at rest 7.30

8417 *Lullula arborea* " 109.6 " 8.00

8418 *Embiza hortulana* ♂ ad. 109.0 " 7.00

8419 " " 108.8 " 7.00

May 20, 1930

8427 *Parus cristatus* ♂ ad. 108.3 active 11.15

8428 *Sylvia conspicillata* " 108.3 " 9.00

8430 *Pannella modularis* ♂ ad. 107.0 at rest 10.15

8431 *Sitta* " 109.1 active 8.00

8432 *Anthus* " 108.5 at rest 10.30

8434 *Alcedo cervinus* " 109.0 " 9.45

8435 *Junco collaris* " 107.6 " 1.00

May 21, 1930

8436 *Regulus* ♂ ad. 107.3 active 10.15

8438 " " 105.4 " 9.45

8439 " " 105.7 " 10.00

Low temperatures on these two miles apparently O.K.

8440 " " 105.7 10.30

8441 *Saxicola longata* ♂ ad. 106.0 at rest 7.50

8442 " " 109.5 " "

8443 *Mniotilta strickfelle* ♂ ad. 107.5 singing 7.20

Temperature Records.

8445.	<i>notaeula alba</i>	Pod 107.4,	at rest	7.00 a.
8446	<i>antenna</i>	Pod. 108.7,	"	9.30
8447	"	" 106.8	"	11.00
8450	<i>embrya citrinella</i>	" 108.3	"	7.15
8451.	<i>humis collaris</i>	Pod. 107.5	"	12.15

Colymbus c. cristatus

Irving, England, June 15, 1930 I had
a glimpse of two on the reservoir
at Irving.

Moxis bassana

Vigo, Spain, April 23, 1930 several adults
seen in the outer portion of the
Bay of Vigo.

Phalacrocorax carbo subcormorantis
- *gouilust*, Netherlands, June 4, 1930. A
considerable colony nesting in the
tops of tall trees at Blaarnes
- *stall*.

Ardea cinerea

Haarlem, Holland, June 1, 1930. Several seen
from the train. The counterpart of our
great blue heron in appearance and
action.

Gooilust, Holland, June 4. A large colony
resting in the tops of trees at Blaauw
place.

Overijssel Island, Netherlands, June 5, several

Ciconia ciconia ciconia

El Escorial, Spain, April 25, 1930: One
flew overhead with a stick in its bill.
Briano, hem, May 12. Today I counted
six occupied nests in the village
all placed in poplar trees from
40 to 60 feet from the ground.

Then into which I could look
from the hill back of the village
contained small young that showed
white as though covered with
down.

May 13. One seen soaring far
as high in air above the
village.

May 14. I saw more nests in a
little grove around the hill from
the main portion of Briano. I saw
one bird feeding in an open meadow
in a distant valley.

May 15. Seen. May 16 seen.

May 17 seen

May 18. In a Puerta just
outside Briano one had a nest
on the wall over of the church
and another was only fifty feet above
a well used trail in a poplar
tree. Several seen soaring
in a strong breeze today.

May 19. Six soaring in small
circles of over a warm hillside
this morning.

May 20. Noted striking rapidly
through wet meadows picking up
what were probably frogs.

May 22. The nests seem to contain
two young which now are as
large as domestic fowl and
show clearly above the edge of
the nest. Twelve adults seen
scattered over the wet meadow.

Platalea l. leucorodia
^{Nelder}
~~Fox Island~~, Netherlands, June 5, 1930. One
seen. The birds appear very white.

Anas p. platyrhynchos

Seel Island, Netherlands, June 5, 1930. Several
seen - included one flock of a dozen
drakes with only one or two females
with them.

Melospiza crecca

Sexed ad. Netherlands, June 5, 1930 two
seen. This bird ~~swinging~~ appears
decidedly larger in body than
carolinensis.

Querquedula querquedula
Texel Island, Netherlands, June 5, 1930.
Several seen.

Tadorna tadorna

Texel Island, Netherlands, June 5, 1930. Common in a sand dune ~~area~~ on the western part of the island. About fifty nested on an open flat bare of vegetation scattered in pairs or little groups over an area of several acres. Nesting holes seen in the dunes were barely larger in diameter than the birds body

Neophron percnopterus

Riáño, León, Spain, May 16, 1930. One flew up from a gravel bar in the Rio Estia and circled about to alight again on an open rocky hillside. As it came out I again saw it sailing with set wings in broad circles. I had a clear view of its creamy white plumage with black primaries, and long, wedge-shaped tail.

May 21. Unseen at the same point I had a very good view of it. 1

Hier aëtus pennatus

Cercadilla, Madrid, April 28, 1930. A small eagle circling high over the pine forests at 5500. showed light patches on the upper side of the wings and was believed to be this species.

Puente de los Hierros, Oviedo, May 3
one seen high in air.

Buteo buteo

Puerto de los Fierros, Orizaba, May 2, 1930.

at least one started out over the high hills bordering our valley.

May 3, one seen soaring high in air

May 4. One resting on a pole along a little stream where I could observe it clearly.

May 5. Four seen about a high projecting rocky point. The call is a harsh Kee-ee-ee-ee.

May 6. One circling with set wings high in air.

Bushongo, Vera, May 8, Two seen circling about a high rocky point.

Piñón, Vera, May 13, one seen.

May 14. A pair soaring over a hillside in typical Buteo fashion.

May 15 seen. May 17, seen.

May 20. a number seen from the forest on the Sierra del Pantón.

Accipiter nisus

Puente de los 7 cerros, Oriedo, May 3, 1930
Two seen at 3000 feet flying about
in the open. Exactly like sharp-shinned
hawks.

May 4, a pair seen.

Belano, León, May 13, One seen in
some low brush

Milvus milvus

Pinaro, near Spain, May 21, 1930. One
seen over the Estal below town. At
a distance its appearance was
remarkably like that of a marsh
hawk. I noticed the deep forking of
the long tail was peculiar. It
flew slow circling back and
forth of the low ground and
the gravel bars watching below
and foraging over the same area
several times.

Elanus caeruleus

Piñón, León, May 17, 1930. A beautiful
birds came swooping over the high
slopes at 5500 feet above the Monte
de Almas and hung in the
wind - just out of gun range.
Its handsome color seemed
particularly pleasing against a
background of white snow and
black rocks.

Circus pygargus

Texel Island, Netherlands, June 5, 1930, several seen in central area of sand dunes. A nest containing five eggs was placed on the ground. The bird is like our marsh hawk in habit and appearance.

Falco tinnunculus
Cercadilla, Madrid, April 27, 1930. Several
seen along the road.

April 29 noted.

Puente de los Hierros, Oviedo, May 2, one
seen.

May 5 one seen

May 6. one seen.

Burdungo, León, May 11 One circling about
a rocky point at 5000 feet.

León, León, May 11 a pair circled
about the great tower of the cathedral
in company with jack-haws and
jays.

Pikino, León, May 15, Three seen about
some high rocky peaks.

May 16 seen.

May 19. A pair about high limestone
peaks. See notes under *Synchocorax* for
observations on one apparently chasing
a crow.

Texel Island, Netherlands, June 5, One
nest on ground in a clump of
grass. Another in an old may-pole
nest two feet from ground. On
this island when there are no
high trees these are usual sites.

Haroby, Buckinghamshire, England, June 18, one.

Tetrao urogallus

Riáño, León, Spain - May 12, 1930.

This evening I examined a fine male killed this morning about 14 kilometers distant. The circumstances were such that I could not secure but I took the following measurements. wing 300, tail 310, culmen from base 45, tarsus 89. Known as faisán.

May 13. A fine female killed nearby brought to me this afternoon. Known as faisana as distinguished from the male.

May 20. At the Cuerto del Portón it was told that these birds were fairly common in the oak forests. They are hunted at night or moonlight nights the hunter following the call of the male. Several have been killed this spring.

Alectoris

Cipiente, Leon, May 11, 1930 A pair flew
up before the motor bus and with set
wings scaled away into low brush at
one side

Phasianus colchicus

Tessel Island, Netherlands, June 5, 1930
seen crowing in an area of dunes.

Phasianus

Fawley, Buckinghamshire, England, Jan 19, 1930.

A male of the darkest form
that has appeared in England
recently seen.

Gallinula c. chloropus
Texel Island, Netherlands, June 5, 1920
one seen in a ditch.

Fulica a. atra
Helder, Netherlands, June 5, 1930. Common
in pools and ditches.

Haematopus g. o. stralegus

Texel Island, Netherlands, June 5, 1930.

Very common, tame and nesting.

Found scattered through wet pastures grown with dabsies, a most unusual situation for birds of this genus in my experience. Gourdain suggests that they have remained in their original sites as these have been gradually changed by draining from marsh flats to cultivated fields. One nest seen on the ground in a field - 4 eggs.

Vanellus vanellus

Haarlem, Holland, June 1, 1930 many seen
in wet fields from the train. The
broad wings with their blunt ends
are very characteristic taken with the
narrow tail and white rump.

Tessel Island, Netherlands, June 5, common.
nearly grown and several young and
one nest with eggs seen.

Lewsey, Buckinghamshire, England, June 10
very common, seen gattered in
scattered companies in open
pastures, flying about with
conforming calls.

Numenius a. arquata

Texel Island, Netherlands, June 5, 1930.

Several seen in an area of dunes.
note a rolling call.

Limosa limosa

Haarlem, Holland, June 1, 1930, numbers
seen from the train.

Texel Island, Netherlands, June 5, fairly
common. one nest seen.

Actitis hypoleucos

Budongo, Leon, Spain, May 8, 1930, one shot
and several others seen on gravel
bars in the river. The constant
tipping of the body, the light
wing bar and the method of
flight are so closely similar
to those of the Spotted Sandpiper
that recognition is instantaneous.

May 9. Two seen on the Beasoga
River above town.

May 10. One seen.

Piñero, Leon, May 16, one along the
Rio Gela.

May 17. One. May 21 seen. The
note is peculiar

Totanus fuscus

Santander, Spain, May 24, 1930, a bird
seen from the train near at hand in
a wind bar. Shape of yellowlegs, dark
almost black underneath. Near at hand
and seen clearly as train was passing
slowly.

Recurvirostra avosetta

Dezel Island, Netherlands, June 5, 1930.

Locally distributed about open ponds.

Habitat like those of Americana, and notes similar but not so loud.

Saw one adult swimming with three small young following me.

Larus argentatus

Texel Island, Netherlands, June 5, 1930

Several seen.

Larus r. ridibundus

Texel Island, Netherlands, June 5, 1930
common. Several breeding colonies
with eggs and young seen. These
birds were seen regularly along
the canals leading through
the city of Amsterdam. Their call
and habits are like those of
Franklin's gull.

Columba palumbus

Cercadilla, Madrid, April 28, 1930. Several single birds seen among the pines at 5500 feet, and one flock of fifteen circled high overhead.

Puente de los Hierros, Oviedo, May 2, One scaled out with set wings far above us turning in a great circle.

Bizans, Leon, May 13, one seen.

May 14, 8 or 10 observed in pine woodland. They perch mainly in the tops of the taller trees at the tops of the slopes. very wild.

May 15 seen.

May 17, a number seen. One making flight observed.

May 21. Heard cooing. a throaty, guttural call.

Paris, France, May 26. Several in the park beyond the Hotel Continental across the Rue de Rivoli. Large and heavy in body. Do not nod the head in walking as rapidly as the domestic pigeon.

Brussels, Belgium, May 27-31, seen

Texel Island, Netherlands, June 5, several seen

Fawley, Buckinghamshire, England, June 10, one seen

Erving, England, June 14-15 seen.

Columba o. oenas

Fawley, Buckinghamshire, England, June 10
1930, several Note very guttural.

Streptopelia t. turtur

Fawley, Buckinghamshire, England, June 10
several seen.

Irving, England June 14-15 a number
noted & they feed in open fields
like mourning and appear
like that & bird in flight.

Cuculus canorus

Arcadilla, Madrid, April 28, 1930. The call of this bird coming from pine covered slopes at an elevation of 5500 was unmistakable, its cadence and tone being exactly that of the cuckoo clock.

Riñón, Leon, May 17. In an open stretch of woodland on a hill top in early morning I heard the steady cack Koo Koo of one of these birds and climbed steep toward it. The bird called regularly and seemed restless as it flew repeatedly along the slope from one side of the grove to the other, flying with quickly beating wings, its hawklike appearance belittled by its long rather broad tail. Occasionally it called once or twice while flying usually when coming in toward a perch. Finally it passed me within easy range and I dropped it with a broken wing to find that it could run on the ground with considerable rapidity. The skin was tender and the feathers very loose so that a patch was knuckled from the neck.

of the breast when the bird struck the ground.

I was struck by the bright yellow feet and tarsi and yellow eye. The inside of the mouth was deep orange. On skinning it I noted that the upper end of the oesophagus for about 25 millimeters was full and wrinkled being capable of considerable distension noticeably more so than the lower part. Evidently I saw a nest. The skin over this part was covered with loose fatty tissue.

May 13 One noted in an area of wooded slopes. It flew over the trees from side to side of a selected area pausing at intervals to call.

May 17 on.

Arvids, Sweden, May 23 heard calling at daybreak from the wooded hill just back of the post.

Texel Island, Netherlands, June 5 common. Flying with hawklike flight over fields.

Barby, Buckinghamshire, England, June 10 heard calling.

Strix aluco

Puente de los Fierros, Oviedo, May 6, 1930. As I crossed through open brush on a steep hillside near the river I came upon a pair of these birds, a family able to fly but not yet fully feathered. One was taken (8269). The stomach contained remains of

^{one}
Rabbit. ^{Lein}
May 20. One flushed from the ground into beech forest at the Puerto del Portón.

Asio o. otus

Deval Island, Netherlands, June 5, 1930. One
flushed from a nest containing
small young in an old magpie
nest in a plantation of small
trees growing densely - twelve feet
from the ground.

Asio f. flammeus
Texel Island, Netherlands, June 5, 1930
one flushed in a growth of
grass among dunes.

Microtus apus apus

Madrid, Spain, April 29, 1930. One seen
April 30 fairly common. These birds
seem to have just arrived in
migration and they were not here
last weeks. Typically swiftlike

in appearance, careering rapidly
about the buildings they are
to be mistaken for no other bird.

Villamanin, ~~to~~ León, May 11. Common
in all the towns. Seen in considerable
numbers and probably just arrived
in migration.

Cistierna, León, May 11-12, very common.
The note is a slight hissing
whispering call that in tone is suggestive
of the notes of a waxwing.
The birds swing tirelessly overhead.

Riáño, León, May 13, common over
the village and occasionally
swinging high over the hills beyond.

May 14. Seldom seen in the country

May 15 seen.

May 16 common over the town.

May 17. Common. Seen frequently in
threes. A few noted flying over high
mountain slopes at 5000 feet.

May 19. common in town. A few noted
over the hills but none came within range.

May 20 seen. May 21 seen

May 22 seen.

Cangas de Ouis, Oviedo, May 22 seen

Corruandas, Oviedo to Santander, May 23

common about the towns.

Santander to Hendaye, France, May 24 common.

Hendaye to Paris, France, May 25, seen regularly
about the towns but less common than
yesterday.

Paris, France, May 26, a few over the city.

Brussels, Belgium, May 29-31, fairly common
over the city.

Amsterdam, Netherlands, June 5, common
over the city.

Tring, England, June 14-15 common.

Alcedo atthis ispida

Mardenhead, England, June 10, 1930. On the
Thames a Kingfisher flew out
from some shrubbery over the water
showing a flash of color as it
darted off over the river.

Upupa epops epops

Arenae, Spain, April 24, 1930. One flew
to alight on a fence, with erect
crest, a beautiful bird.

Palazuelo, Leon, May 11, one seen in
flight across a field.

Picus vividis

Puente de los Hierros, Oviedo, May 5, 1930,
A clear piping whistle repeated
several times in rapid succession
announced the presence of one
of these handsome birds in
a clump of trees on an open
side hill. Later the bird flew
with rattling calls and bounding
flight into a woodland about
1/2 mi. It was quite flicker-like
in action. I believed this
bird to be an arriving migrant
as it ranged calling across
a considerable area of hillside.
It is the first woodpecker seen
though I have noted one or two
old holes in the Cargen trees.

Puerto Leon, May 15. Half a dozen
were calling with high pitched
laughing notes from the slopes of
the valley but very shy so that
I was not able to get a shot.

May 17. Several heard calling.

May 19. one noted

Fardley, Buckinghamshire, England June 10
Several heard calling.

Dryobates major hispanus
Piano, Leon, Spain, May 13, 1920, A
female shot and three others seen
in cow trees on a hillside.

May 14. Several seen in the Canger
trees in oak groves. One was feeding
beside and old nesting hole.

May 15. An adult male taken. The
breath is medium rapid, of rather
short duration and decreases slightly
in rapidity toward the end.

May 17. An adult male taken
in heavy timber in the Monte
de Armas. SKdet on # 8402

Dryobates medius

Siñeo, Leon, Spain May 17, 1930. An adult
breeding female taken at 4500 feet in
the Monte de Armas. The bird
uttered a low call ~~which~~ similar
to the notes of our smaller *Dryobates*
pubescens in nature and worked
quietly among the larger limbs
of the trees.

May 20 Two or three calling in
the branches at the Puente del Porton.
They seem shy and become silent
as soon as I move near them.

Galerida

Orientalia, hem. May 11, 1930. One seen
from the motor bus at the roadside.

Lullula arborea

Raño, León, Spain, May 30, 1930. A pair flew up from the ground in a very brushy pasture on a high slope and perched together four feet from the ground in a bush. The short tail was very evident as they flew 8329, 8330. Later I flushed a female from a small mat of broom where she was making a depression in sphagnum for a nest while the male rested on a limb a few yards distant.

May 14. A number seen and two taken. The latter were shot from the tops of low shrubs or open hill-sides and had the sexual organs small: possibly migrants. The song of this bird is considerably varied.

May 15 seen. May 17 seen.

May 19. Several seen and two taken. One male had the sexual organs very small. I found these birds resting frequently on large boulders or projecting rocky points. One on the ground that I approached crouched prostrate with the neck projecting in front.

Alauda arvensis

Cercadilla, Madrid, April 28, 1930 Several males
were singing above the open slopes of
the Estacion Alpina de Biologia.

Bustango, ~~Madrid~~ Leon, May 9 fairly common
the high rolling hills near the
Puerto de Pajares. The birds flew
out to give their flight song a
beautiful display. Two taken (8298, 8299)

May 17. at 5500 feet above the
Monte de Armas one hung in
the air high overhead swinging
back and forth, its breast a
spot of white against the clear
blue of the sky. I flushed one
from a patch of grass just
below the highest bridge and
collected it, the male in breeding
condition.

May 20. Several noted and one
taken on bare upland at 6000 feet
in the Sierra del Puerto. The male
shot rested in the top of a low
stand of heather, crouching prostrate
to escape my vision. Other birds
here were evidently on their breeding
grounds and were singing to
some extent.

Texel Island, Netherlands, June 5, very

Common and in full song. Examined
a nest placed on ground in clump
of grass containing four young ^{was}
in first plumage.

Tawny, Berkshire, England, June 10,
Several seen.

Tring, England, June 14-15 Common.

Hirundo rustica rustica

Vigo, Spain, April 24, 1930, The chatter of a pair of swallows on my balcony was the first sound to awaken me this morning, and the sight of one of the birds my first view of a land-bird of a continent new to me. The note seemed softer than that of the familiar bird at home.

Villalba to Madrid, April 29, Many seen - the appearance and habit is exactly that of our barn swallow.

Puente de los Tierras, Oviedo, May 2, common about the village.

May 3, common. May 4 seen.

May 5. seen in town.

May 6. seen in town.

León to Cisterna, León, May 11, seen occasionally about villages.

Briano, León, May 13, a few noted about the village.

May 14. One seen over an open slope in early morning. Others noted about the village.

May 15 seen. May 16 seen.

May 17 noted in town.

May 19. Males in full song and birds examining nesting sites.

May 20. Several. The song of this

bird to my ear is identical with
that of our barn swallow.

May 21 seen May 22 seen
Cangas de Oiro, Oiro, May 22 seen
Aroandas, Oiro, May 23 very common
Aroandas to Santander, May 23 common
throughout this area
Santander to Hendaye, France, May 24 common.
Hendaye to Paris, France, May 25 fairly
common, less abundant than yesterday.
Brossels, Belgium, May 29-31 seen in the
outskirts of the city.

Texel Island, Netherlands, June 5, common.
Fawley, Buckinghamshire, England, June 10, seen
Trinity, England June 14-15 seen.

Delichon urbica

Madrid, Madrid, May 1, 1930. Fairly common at various points about the city and particularly so over the Palacio Real where I picked up a dead bird in the Plaza de Armas which made a very good skin.

Quinta de los Hierros, Alredes, May 3, several flying over town.

May 4 several seen.

May 5. Three seen flying over an farm slope.

Burgos, León, May 8, two seen.

May 9. Two seen above the old church at Arbas.

May 11. Many were about at daybreak this morning. I believe that they have just arrived in migration.

León to Cisterna, León, May 11 common in all the villages of larger size.

Riáns, León, May 13, fairly common about the village but only a few noted in town.

May 14 seen in town. May 15 seen.

May 16. At 4500 feet half a dozen of these birds were gathering mud for nesting material at moist spots at the edge of great snow banks. Two taken were females.

May 11. seen in town-

May 20 seen.

Terwieren, Belgium May 30, seen.

Texel Island, Netherlands, June 5 seen.

Fawley, Buckinghamshire, England, June 10 seen

Tring, June 14-15 seen.

Riparia rupestris

Arroyos, ^{Spain} Oviedo, May 23, 1930. While casually watching ~~common~~ swallows this morning circling about a bridge over the gravelly bed of a stream I was surprised to note suddenly one among them brown back. This bird was joined by another and I had a very good view for fifteen minutes of a pair of crag martins from my point of vantage. The color of back and breast and the partly concealed white in the tail between displayed as the birds turned and circled above or below me. Typical swallows in habit and action. These two had a nest beneath the edge of the roof of a house adjacent to the bridge and made such regular visits to it, that I supposed that they were feeding young. The nest was a cup of mud stuck against a beam, with straws and feathers from the lining projecting over the edge. Located 40 feet from ground above a busy street.

Corvus - corax

Puente de los Fierros, Oviedo, Spain, May 5, 1930.

a pair observed about a high, rocky
point.

Piñón, León, May 13, one seen.

May 14, Several pairs seen. The birds
feed on the open slopes of bare
hills when there is no opportunity
to approach them and are very wary.

May 16. Several soaring along
rocky cliffs.

May 17. Several above the Monte
de Armas.

Corvus corone

Puente de los Hierros, Oviedo, May 4, 1930, Two
about a rock exposure high above
the valley.

Praño, Lerin, May 19, Two seen in
the hills near town.

May 20 seen in the Sierra del Portón
at 16000 feet.

May 21. Seen.

Arribadas, Oviedo to Santander, May 23,
seen occasionally.

Hendaye to Paris, France, May 25 seen
regularly through the cultivated fields.
A typical crow.

Texel Id., Netherlands, June 5, Fairly common

Corvus monedula

Leam, Leam, May 11, 1930. a number circled about the great spire of the cathedral, their gray kappen parts showing as they turned in the wind.

Helder, Netherlands, June 5, Two seen alighting on a roof in town

Tring, England, June 14, Several flying about the roofs of the museum

Corvus frugilegus frugilegus

Fawley, Buckinghamshire, England, June 10, 1930. Visited a large rookery today at Fawley courts. Nests scattered through trees 40 to 60 feet from the ground, often with several nests in one tree. Stick structures like those of crows. Young just from the nest seen, one having a white spot on the throat.

The birds were seen singly or in pairs scattered through the open fields. The wing appears longer and the wing motion is different than in *C. corax*.

~~June 11, 1930~~

Dring, England, June 14-15. Very common. Though these birds have some peculiar high-pitched notes, they also have a ~~note~~ ^{note} that is similar to that of young *C. brachyrynchos*. There is a rookery in the trees above Rothschild's garden and the birds called in coming in the moonlight. Before dusk forty or fifty perched about high in air flying aimlessly. Very common all through the open country, taking

the place of our crows.

ans

Pica pica pica

Angoulême to Orleans, France, May 25, 1930.

Migrates, absent between Arrondissement, Spain and this point, appeared suddenly just beyond Angoulême and from there on were common.

Saxel Island, Netherlands, June 5, Two birds seen and some old nests - one in a bush two feet from ground seen.

Fawley, Buckinghamshire, England, June 10, Several dead birds that had been killed by a gamekeeper examined.

Pica pica melanota.

Arenala to Madrid, Spain, April 25, 1930, Very common in suitable localities. Seen & more frequently than any other bird.

Cercedilla to Madrid, April 29, common. Puente de los Hierros, Oviedo, May 4, two seen in a valley east of town.

Villamanin, Leon, May 11. In the open valley at 3900 feet I saw two magpies. Below this they were noted regularly to be seen.

Leon to Cisneros, Leon, May 11, seen at intervals along the valley of the Rio Esla. I noted many nests well up in the tops of the poplars along the roads and fields.

Cangas de Onís, Oviedo, May 22, one seen in a garden in town.

Aya-Ovied, Quijmascoa, May 24, one seen from the train this evening. Between this point and Cangas none observed. The birds must be very rare if they occur at all as I kept careful watch for the birds or their nests but observed none.

Garrulus glandarius

Puerto de los Hierros, Oviedo, May 4, 1930.

I had a momentary glimpse of one among the branches of a low tree on a slope at 1800 feet

May 5, I saw several among some chestnuts
Piedra ^{de} ^{León} May 13, half a dozen were found in ^{the} bushy forest and after some trouble I secured one, a male with sexual organs little developed. The birds remained concealed in the heavy growth near the ground for the most part and flew low in passing from point to point. Only occasionally did they fly into the ^{upper} branches of low trees and when startled dropped immediately to cover. When crossing the valley to the opposite side swung low down instead of crossing high in air as a bluejay would do. They were less wild than I anticipated as at shooting they did not travel far away. Their calls were curious and they paid no attention whatever to squeaking. Known locally as Gays.

The first greater count was 10
mm. shorter than the second and
an equal amount less than the
first primary count.

May 14. I called through the
bush and forest in small numbers
rather universally. Today in the forested
area I saw them come up occasionally
into the tops of the higher trees but
for a short time only. A few were seen
flying from one hill slope ^{to the north} ^{one}
above the valley between ^{high}
the whole they stalk in brush
often working out through the taller
growths of Worm in long distance
from trees. In flight the rump
shows very white. I heard one today
imitating the calls of a Buteo buteo.
The birds are shy but not wild, not
being frightened by shooting but taking
good care to keep under dense
cover except when beyond gunshot.

May 15 a number seen, noted
feeding on the ground in cleft openings
in the brush.

May 17. In the Monte de Ormas
jays were fairly common and even
in heavy forest they worked regularly
through the taller trees. It was Thurbit

Garrulus glandarius
with them how to skulk and
they remained well under cover, their
longer flights carrying them from
tree to tree or across openings seldom
taking them high in air. They
are usually in little groups
of two to half a dozen and do
not seem as yet to be breeding.
I collected two.

May 19, several notes:
Fedby, England

Garrulus glandarius rufitergum
Fawley, England, June 10, 1930. 5 skulls of
several obtained from individuals shot
by game keepers.

Pyrrhocorax pyrrhocorax

Bushong, Lem. May 10, 1938. Today I found this species common on our high rocky slopes above a little lateral valley tributary to the Besnegra and shot two on the wing at long distance (see journal). The complaining choo choo of these birds is a most peculiar call. The birds flew high in air, difficult to locate except through their moving shadows on the ground beneath. The tips of the primaries are widely spread. A flock of twenty-five fed in loose company on grassy slopes walking about and digging in the ground with their webbed bills. This was mating season and they spent much time circling in pairs in bounding spirals, rising and falling with the utmost grace. They left a winged companion precipitately however and retreated with querulous calls to higher altitudes. Their plumage had a muddy strong color like that of a woodpecker. Was it nesting in holes?

The membrane incutaneous was opaque
and ~~total~~ prominently white suggesting
that it was used in some display. ^{as}
Pinaro, León, May 13, several seen
on the hills ^{west} of town.

May 15. A number - noted and
a female was being taken. The
♂ birds were found about high
rocky points on bare limestone
hills and descended into the
open grassy slopes below to feed.
Their rather harsh calls were
heard constantly while I was
in this section. One that I took
to be a male displaying before
his mate rested on a rock
two or three feet in front of her
with his back toward her
and wings extended and trembled
while with open mouth he
called continually.

May 16, Several seen. One came over
a high rocky peak curved its
wings back in an arc like that
of a bow and shot down without
pause at an angle of 45° degrees
for fully a thousand feet only checking
when just above the earth and then
alighting as easily as though from

Pyrrhocorax pyrrhocorax
from a flight of only a few
feet. Truly these birds are masters
of the air.

May 19. A party drove a
kestrel from a cliff, darting
down at it repeatedly, but
presently the kestrel came
swinging by in pursuit of single
chough which it circled about
until a second chough appeared
and put the hawk to flight.

May 21 Sun. A pair walking on
the ground close together extended
the wings and trilled them.

Pyrrhocorax gracula
Riario, León, May 15, 1930. From
experience with these birds today
I know now that I saw a single
individual flying over some rocky
peaks at Beldago on May 10.

As Choughs appeared circling
about some some high rocky
points I was delighted to detect
that the majority had yellow
bills I had no idea that I
should encounter this species at
an altitude of 4500 feet.

The birds fifty or sixty in
number kept in two parties
that circled for a time in
a close flock turning and
whirling higher and higher
in the air until they were
above the highest peaks. Their
calls were loud and whistled
entirely different in tone and
nature from those of the other
chough that was flying over
the same slopes. A bird among
the birds up entirely, respectfully,
and turned my attention to
other things when to my
surprise the whole group came

over a nearby ridge, and settled
on the ground to feed. As a
few moments more as I advanced
toward them they circled past
me and I dropped two on
the wing. The others called and
whistled but did not circle over
their falling companions. The
entire flock went again into
the air but soon I saw at
a time came down to feed
again walking about with long
strides and erect carriage
and at intervals digging in the
ground. It was thrilling to
see them come down from a high
elevation with set wings swimming
from side to side and dropping
at ~~about~~ dizzy speed. Regularly
they turned completely over in the
air. Little groups walked about
on the ground in mating display
four or five together trailing the
wings and spread tail on the
ground. While they walked rather
rapidly with open mouths.

May 16, seen.

May 19 seen. May 21 seen in
the Collado de Jesguenã.

Parus major

Cercedilla, Madrid, April 28, 1930. Fairly common. Two taken (8201, 8202). One was shot in low bushes at some distance from pines. The other was taken among pines where the birds were fairly frequent. Their notes were loud and explosive. The birds very active.

Puente de los Hierros, Oviedo, May 2, several seen among low trees in steep valleys. ~~the~~

May 3 one seen near 3000 feet.

May 5. One seen in a bush in the garden at the fonda as we drank our coffee this morning. The call note is loud and aggressive suggesting the chatter of a sparrow.

Riudo León, May 17, a pair taken in the heavy forest of the Monte de Ormaiztegui.

May 19. Four were seen fluttering excitedly through open stone bushes evidently making. Two males taken.

Parus major newtoni

Fawley, Buckinghamshire, England, June 10, 1938
several seen in open woodland; notes
and habits as in Spanish form.

Parus caeruleus

Puerto de los Hierros, Oviedo, May 3, 1930. One taken at 3000 feet. These birds are fairly common but fly rather rapidly round the slopes to alight in the tops of the higher trees and at once move again. I saw them yesterday and today on several occasions but had only this one shot. ~~at them~~ May 4, I an adult male taken.

May 5, several seen. These birds move with great rapidity through the tops of the trees and are secured with some difficulty.

May 6. Several seen and a pair taken. The note of the male is high pitched tee-ee-ee-ee given very rapidly. Unless seen very close at hand these beautiful birds appear plain gray without hint of their soft blended colors.

Piñero, Leon, May 13, ~~come~~ in the woodland ~~traversed~~ today and two taken. The birds work both through the higher tree limbs and near the ground and against the light. Appear much like ~~the~~ ~~the~~ ~~wall~~ many gray, black, and white checkered, only occasionally posing in such

illumination as to give a brief
flash of their ~~soft~~ ^{soft} yellow and
blue coloration. Their calls are
very similar in character to
those of the black-capped and
Carolina chickadees. One seen carrying
nesting material. Two taken.

May 14. Common today in woodland. An
adult male taken.

May 15 seen.

May 16, one taken.

May 17, common - through the Monte
de Orizaba.

May 19 common

May 20 a number seen in the
forests of the Sierra del Pantar.

May 21. Seen but less in evidence
than a week ago. Evidently mated
and nesting. The notes of this
bird are more near those of
chickadees than any of the species
found here.

Parus caeruleus obscurus

Fawley, Buckinghamshire, England, June 10, 1930

Several seen in woodland.

Parus ater

Puente de los Tierras, Oviedo, May 5, 1930. Three taken today were in breeding condition. The birds were found in low shrubs where they worked through the leaves and twigs. They are typical chickadees in appearance and habits.

Riáns, León, May 14. Two seen in open woodland and a male taken.

May 16. Three taken. The birds were found in bush woods, feeding near the ground.

May 17. seen.

May 19. several seen.

May 20. Several noted in the forests of the Sierra del Portón.

Parus ater cabrocae

Cercedilla, Madrid, April 28, 1930, Two taken
are from the type locality near the
Estacion Delimitacion de Biologia at 5500
feet. These birds were among the
most common of those found in
the pines. They were active and
restless calling in low low tones
and singing a pleasant little
song. (At times seen among bushes
near the ground (8199 and 8200.)

Parus atek britannicus

Fawley, Buckinghamshire, England, June 16, 1930

several seen.

Parus palustris

Puente de los Hierros, Oviedo, May 5, 1930, an adult male in breeding condition shot in hazel brush; a typical chickadee in appearance and action.

Riáns, León, May 13, three taken and others seen in open woodland on high slopes. The birds worked quietly and silently through the brush near the ground.

May 19. Several seen and two taken. The notes of this chickadee are entirely different from those of our *Penthestes* in spite of the resemblance in color.

Parus cristatus

Barão, ^{Spain} ~~Spain~~ May 13, 1930, several
seen, and one taken. Working
quickly through low limbs and
brush.

May 14. Several seen in forest woodland
and one taken.

May 17, several seen.

May 19. one taken. These birds have
all the habits and manners of the
other species.

May 20. Several seen and two taken
in the beech forests of the Sierra del
Banton. The birds move actively
through the branches and have a
rapid rattling note.

Aegithalos caudatus

Puente de los Hierros, Oviedo, May 3, 1930. One taken at 3000 feet had light yellow eyes. Another seen and I observed one or two yesterday.

May 4, several seen along hedge-rows east of town and one taken 7

May 5 seen

Puente, León, May 15, one seen.

May 19. a male taken carrying nesting material.

Sitta europaea hispaniensis
Cercadilla, Madrid, April 28, 1930. Two taken
by the man with me among pines
(8203, 8204)

Piñón, León, May 13. Two pairs
seen in open woodland. One
about over the tree trunks in
typical nuthatch fashion. Their calls
are entirely different than I had
expected. One pair taken:

May 14. a pair seen in tall
woodland. The notes of this bird are
a continual surprise to me.

May 15. Two males taken. One uttered
a rapid rattling trill in a loud
tone, being a steady repetition
of ~~some~~ note and not particularly
pleasing or musical.

May 16, seen up to 4500 feet.

May 17, common through the
Monte de Urmias.

May 20. Fairly common in the forests
of the Sierra del Cantón.

May 21. seen

Certhia brachydactyla
Cecedilla, Madrid, April 28, 1930, Two seen
at 5500 among pines climbing over
the trunk in usual creeper fashion.
I shot one but lost it.

Briano, Leon, May 17. I collected
a breeding pair ~~from~~ ⁱⁿ a very
young growth of pollarded oaks
at 4000 feet. The birds were
exactly like brown creepers in habit,
but the note of the male was
louder and sharper. Later I secured
another breeding female in the extensive
growths of the Monte de Urmias.

May 20. Two were taken in
bush forest at 5500 feet above the
Sierra del Ponton.

May 22. This ~~noon~~ I saw a
young bird recently from the nest
following its parent and tending for
food in a row of poplars in
the edge of town. It could not
have flown far but must have been
hatched in or very near the
village.

Troglodytes troglodytes

Puente de los Hierros, Uruguay, May 2, 1930.

Fairly common along the street fences and rather shy. The song is strong suggestive of the winter wren. One taken was near breeding and one was seen carrying nesting material.

May 3, seen to 2000 feet.

May 4. Common in the valley east of town. The song is loud varied and pleasing with numerous sibilant notes. The birds inhabit the hedge-rows mainly. Keep well under cover.

May 5. fairly common. A female taken contained an egg nearly ready to be laid. These birds buzz about like little bumble bees.

May 6. Common. The song of this one is heard constantly and is pleasing and varied in tone. It is very similar to that of the winter wren but does not have the sweetness and softness of tone to the same degree.

Bucadongo, Uruguay, May 11. In a little lateral valley at 4500 feet in a sheltered locality where there were brush

of small size I shot a male.
Water another was singing about some
houses a short distance below the main
town. It seems possible that these
may be migrants that have just
arrived.

Piñón, León, May 13, several seen. during.

May 14. One carrying nesting material

May 16, noted up to 4500 feet.

May 17, a few observed along stream
beds up to 5000 feet.

May 19. Several noted about old
gnashed stumps with many hollows.

May 20. Several at 5500 feet in the Sierra
del Páramo

May 21 seen.

Fawcay, Buckinghamshire, England, June 10
several

Tring, England, June 14-15 several.

Cinclus

Puente de los Hierros, Orinda, May 6, 1930. One seen flying low over the river. It disappeared immediately.

Riario, León, May 17. A single bird seen on a small channel in the barrio of La Puerta just outside of Riario.

May 18. One seen on the Estu at the edge of town.

Casas de Paredes, Santander, May 23, one seen along a stream flying parallel very near to it passed in the train.

Turdus viscivorus

Riario, Leon, Spain. May 19, 1930. Since my arrival here I have heard a gray thrush of this type singing at the upper edge of the forest but today I secured my first specimen. The bird, a male, feeding alone flushed hurriedly at the upper edge of growth of beech at the base of a very long ledge of limestone and dashed off with direct rapid flight until stopped by a charge of shot. Feathers very loose so that many were lost.

The birds sing from the tops of trees but do not permit approach

Turdus philomelos

Brussels, Belgium, May 31, 1930. A song
heard in the Parc leopold at the
Museum of Natural History was
identified for me as this species
by Van Straelen and Dupond. Its
cadence, phrasing and sound
strikingly similar to our mockingbird.

Turdus philomelos clarkii

Fawley, Buckinghamshire, England, June 10, 1930

Common in ~~open~~ woodland. Many young out of nest found on ground beneath broad leaved plants. One taken.

King, England, June 14-15 common.

Turdus merula

Puerto los Fierros, Oviedo, May 2, 1930

Several seen on brush - around slopes near Water - Very shy.

May 3 seen to 13000 feet.

May 4. In the valley east of town I secured a young bird just from the nest and saw another. The old birds did not come near in spite of the scolding notes given by the young as they flew.

May 5 Several seen.

May 6. Several seen. The song is clear and melodious and carries for a long distance, the singers being always concealed in dense thicket. At the slightest movement these birds withdraw into the thicket brush.

Bustamante, León, May 9, a male seen in the edge of the village.

Riáño, León, May 13, several heard and one seen.

May 14. Several seen. Very shy and kept well beyond gun range.

May 15. Had a glimpse of a female on the ground and after watching for a few minutes without moving was fortunate in getting a shot. Ordinarily

I note these birds only at a considerable distance, or as they dash off into some dense covert when they disappear.

May 16 several seen.

May 17, a number seen. Noted especially about clumps of grass.

May 19 several.

May 21 a male seen.

Paris, France, May 26, a pair feeding in the 'jardin' beyond the Hotel Continental across the Rue de Rivoli, - eating bread with the sparrows. First good look I have had of them. Very tame.

Brussels, Belgium, May 29-31, common in the parks. very tame. Make shorter notes than our robin.

Goosdun, Netherlands, June 5, common at Glasius's place.

Fareby, Buckinghamshire, England, June 10 several.

Tring, England, June 14-15 common.

Turdus merula alpinus

Cercedilla, Madrid, April 28, 1930. Fairly common in the densest thickets on the slopes below the Estacion Alpina de Biología. They were very shy and I had the merest glimpses of them as they flew across little open spaces and disappeared in the brush where they were completely hidden. One or two were seen during a snowstorm feeding in an open meadow but flew at once to cover. Long experience as a game bird has made them extremely shy. They notes were heard more frequently than the birds themselves were seen.

Monticola saxatilis

Budengo, Lem, May 10, 1930 The prize of this days collecting (see journal). These birds flew with undulating flight and with their long wings appeared surprisingly large. The song is clear and pleasing and is given from some elevated rocky point. Two others seen were too wild to allow approach. The bird is stocky and heavy in body.

Reiño, Lem, May 21. A male flew across from one rocky peak to the other in the Collado de Jerguena, pausing at intervals to flutter a foot or so a few feet and give its clear song. It alighted on a high point of rock but I could not get near it. The brown tail showed clearly against the sky.

Oenanthe oenanthe

Budongo, Leon, Spain, May 9, 1930. Fairly common on the slopes of rocky knolls and along the stone fences below them. The birds are very showy in flight the tail appearing entirely white. One male taken 5295 is mistaken for a female but found it in breeding condition. The birds were in pairs. The males frequently flew with tremulous wings and widely spread tail while they uttered a curious song which in part resembled the sound made by striking two pebbles together. In the inside of the mouth on the ^{adult} male was jet black carrying the same color as the black mark through the mouth.

May 10 common. The song is quite varied and is given freely on the wing.

May 11. One singing across from the hotel around hotel at daybreak this morning.

Piñón, Leon, May 12, a pair on the hill above the hotel.

May 14. a pair taken on a green slope.

May 15. Several pairs noted on high

Open, rocky slopes.

May 16, several seen on open slopes above the timber at 4500 feet.

May 17, a few seen on rocky areas at 5500 feet.

May 19 seen near the river at 3600 feet.

May 21. Several in the Collado de Jerguena, a female taken.

May 22. One nesting in a rock wall in the edge of town.

Leid deland, Netherlands, June 5, one seen in a field flying from estates of sod near a dyke.

Oenanthe leucura

Riacho Leon, May 17, 1930 an adult female
(8395) shot on a steep slope
at 5500 feet. The bird bobbed to
some extent but seemed quieter than
the ordinary wheatear. It was
extremely fat and showed little
development of the ovary.

Saxicola rubetra

Burdago, Leon, Spain, May 8, 1930. These small birds were fairly common in the brush covering the hills, perching usually on the tops of bushes where they rested silently and quietly. (8271, 8272).

May 9. Several seen on the open slopes above town along stone fences leading through the fields. I see this species and *S. torquata* associated along the same fences.

May 10, a number seen. The males perch on stone fences, the topmost twigs of low bushes or occasionally higher on the tops of low trees or telegraph wires to sing. They rest erectly with tail hanging straight down.

Texel Island, Netherlands, June 5, several seen in brush near sand dunes

Saxicola torquata ~~torquata~~

Cercadilla, Spain, April 28, 1930. Several pairs inhabited the bush covered slopes near the Estacion Alpina de Biologia.

The black males were especially active perching on ^{the} low bushes with quickly twitching tails and singing a few explosive notes. A female taken in the afternoon. What this was one of the few species that remained active during the heavy snowfall of this afternoon.

Buadongo, Leon, May 8. Fairly common in the brush bordering the valleys. A male taken.

May 9. A number seen along the road fences lining the fields above town. One taken (18286).

May 10. Fairly common along the stone fences particularly where there are mats of low brush at hand. They rest on fern fronds or on a stem or top of a fence, or the topmost twig of a bush, or occasionally in the top of a low tree or on a cypress vine. Singing very pleasantly. When perched rather erectly with tail hanging down.

Piand, Leon, May 2. A breeding pair

taken among bushes bordering the
flood plain of Esla below town ✓

Erithacus rubecula

Cercadilla, Madrid, April 28, 1930. One seen at an altitude of 5500 and shrubs in a little meadow near a stream when it kept closely concealed.

Puente de los Hierros, Oviedo, May 2, fairly common in the brush on steep slopes at 2000 feet. Males were singing loudly and a pair taken were near breeding. There is no suggestion of our robin whatever in this species which was more the manner of a chat though not quite so secretive.

May 3, common to 2000 feet. A female taken contained an egg nearly ready to leave the ovary.

May 4. Very common in the valley east of town. The bird is saucy, almost impudent in manner and keeps usually in brush. Although a pleasant little rascal I prefer our own robin.

May 5. Very common. Females taken contain eggs nearly ready to be laid.

May 6 common

Buccongo, lein, May 9. Heard singing on the slopes below the Puerto de Pajares but not found on the lein side of the pass.

Piñero, lein, May 13, fairly common through the woodland traversed today.

May 14. fairly common in woodland. Paltier, Ariz.

May 15. a number noted. a male near breeding taken.

May 16. common through a dense growth of low bushes.

May 17. common through the Monte de Olmos.

May 19. This morning at 4000 feet on a slope in open forest I flushed a female from a nest containing five eggs which I collected together with the parent. The nest was placed beneath a small bush or broom but was entirely open to view so that I could enter it without stooping. A slight hollow contained a foundation of dead leaves in which was built a firm thick-walled cup of moss lined with fine rootlets and a cilla wool. Incubation had barely begun in the eggs. Many males heard singing

Erithacus rubecula

May 20. Fairly common through the
bush forests of the Sierra del Porton.
1 male taken.

May 21. Common.

Erithacus rubecula melophilus
Fawley, Buckinghamshire, England, June 10, 1930
Fairly common.

Phoenicurus phoenicurus

Puente de los Fierros, Oviedo, Spain, May 6, 1930.

One seen among the rocks at the Puente de los Cabras but I was not able to get a shot at it.

Buadonga, Leon, May 7, one seen at the edge of town.

May 8. A female taken flew ahead of me from stone to stone along the ground. She bright brown tail and rufous tail-coverts form a very definite field mark. A nest seen was placed on a shelf under a projecting stone and was a bulky structure with a foundation of moss in which was built a mass of wood, stems, grasses and small twigs surrounded by a cup of finer materials to receive the eggs.

May 9. A male taken above the village on a rocky slope and others seen.

May 10. Several seen. A nest examined was placed three feet from the ground under a projecting ledge of stone on a bank. It was complete except for the lining.

Piñero, Leon, May 14. An adult male taken.

(8348) and others seen. The birds were found in open woodland when there were stumps and logs on the ground and were rather shy.

May 15. Sun.

May 17. Fairly common through open woodland. Males are in song and are found on open limbs. Seen examining holes and crevices. Very shy. (18388)

May 21. a ^{P. ocraceus} nest found in the rafters of a deserted house at an old mine at about 4000 elevation. The rocky slopes usually frequented by this species were immediately adjacent. The nest was a strong well formed cup with the base of moss and the rest composed of rootlets, dried grass and a few scattered feathers. The four eggs were light blue without spots. They were hatching. A young bird not yet dry, had down on the crown and dorsal surface.

Phoenicurus ochrurus

1 Puente de los Hierros, Oviedo, May 6, 1930. A male seen at the Puente de los Cabres at about 2500 feet elevation.

Busdongo, Leon, May 7, a male seen at the edge of town.

May 10 (see journal) several seen along a rocky slope and one taken (19303) after a long & difficult chase. The coloration of black and brown in the body of this bird is quite striking. The one taken was near breeding.

Picasso, Leon, May 15. Several nested on high open rocky slopes but very shy so that I did not get a shot. One flew up to give a brief flight song.

May 16, several observed in open rocky slopes above the timber. They were very wild and constantly flew ahead out of gunshot. The wind blew cold down the pass at intervals and I was interested to observe that these birds dropped down just below the points of the rocks in which they nested so that they had shelter.

May 17. A few seen among rocks above 5000 feet but very shy.

May 19. Two adult males taken

tootay on high rocky slopes and
others seen.

May 21. see notes under P. phoeniceus
written then in error.

the

May 22. one seen at the edge of town

Acrocephalus a. arundinaceus
Alkmaar, Netherlands, June 5, 1930.

a pair in reeds growing in water
beside the track where my train
stopped. Reminded me of some of
the birds of similar habit of
the argentatus.

Acrocephalus s. scirpaceus
Texel Island, Netherlands, June 5, 1930

One seen in a bed of reeds in a
ditch. Very shy.

Sylvia atricapilla
Puente de los Hierros, Oviedo, May 2, 1930
Common. Males were singing loudly
as they rested in pine limbs
in the ~~low~~ tops of low trees or
bushes. The birds are quiet
but move actively. A pair
taken.

May 3. Quite common to 3000
ft.

May 4. Very common in the valley
east of town. The alarm note is
loud and sharp. The birds are
found in the low trees of the
hedges seldom high above the
ground.

May 5. A number seen

May 6. Several seen. These birds
are in pairs now at times and
are usually found along hedges
or about clumps of hawthorn
in pastures in little valleys.

Priano, Leon, May 16. A male taken
in dense bush thickets at 4000 ft.
The song is a loud cheerful warble

Sylvia conspicillata

Pinaro, Leon, Spain, May 14, 1930. an adult male taken (18339). The bird was in a thorn bush in a little gully on an open slope and hopped about quickly ascending with a mew-like *tyun tyun*, or giving a whistling *seu*.

May 15. One found in area of Hawthorn and other brush flying rather long distances and on one occasion giving a slight trilling song on the wing.

May 16, Two taken. The birds were skulking at the base of dense clump of thorny rose. As soon as the thorns are out this species may be difficult to secure as it hops in the dusk cover like a chat.

May 17, one seen in dense broom at 5000 feet.

May 19. Two seen and one taken along the hedge of wild rose east far from the Esda at 3500 feet

May 20. Several seen and one taken in growths of broom at 5000 feet above the forest on the Sierra del Pintor.

May 21. Fairly common seen singing
at the wing.

May 22. One noted in a garden at
the edge of town.

Sylvia simplex

Orión, León, Spain, May 19, 1930. One sang repeatedly from a leafy bush when it worked leisurely about among the branches. The song was a clear, pleasing, melodious warble suggestive of that of some of the thrushes here. Bird nearly in breeding condition.

May 21. One singing in shrubby along a road at the edge of town.

Phylloscopus t. trochilus

Fawley, Buckinghamshire, England, June 10, 1930

Several heard singing and a male
taken - found in rather dense woodland.
Young, June 14-15 several noted.

Phylloscopus

Puente de los Hierros, Oviedo, May 2, 1930
working with quickly flitting wings
like a Kinglet, mainly opening
leaves in a low shrub. (No 821/0)

Piñón, León, May 13, 1930, No 8319
was feeding rather quickly through
the tops of a tree when birds
were jumping singing a song
that may be written chip chip
chip chip chip given very rapidly.

May 14. Sixty seen in woodland,
the males singing constantly. As a
display they spread the tail and
shook the wings. 3 taken.

May 15. Came on through jun woodland.
One came down occasionally to feed
near or on the ground in early
morning when the sun was warm
on the earth. These birds are mating
now and I believe are on their
breeding grounds. They range through
woodland, fairly well up on the
slopes.

May 17. in number seen. These birds
are very evidently on their breeding
grounds.

May 18. in number seen. Much less
active than on May 15 and

we believe that they are mated
and nesting. Their call is a
plaintive little note that may ^{one}
be heard for some distance. Males
are singing constantly but are
less easily seen because of the
increased growth of leaves.

Phylloscopus collybita

Puente de los Hierros, Oviedo, May 2, 1930

Fairly common at 2000 feet among the opening leaves of Cow trees. The birds were active and alert and wagged the tail steadily as they worked quickly through the limbs (No. 8211)

May 3. Fairly common to 3000 feet. (8221). A second bird (8220) may be another species.

May 4. This type of warbler is very common in the trees in the lower part of the valleys particularly and sings constantly. The song is a clear chiff, chiff, chiff, chiff followed by warbling notes.

May 5. Very common and singing constantly. I have taken none near breeding. The wagging tail of these birds suggests that of Wilson's warbler. They move actively through the brush and low trees flying quickly through the twigs and leaves and then flying without pause to another site so that it is almost useless to try to follow them, as in fact it is any bird in this rough area.

May 6. Common. In several localities
I noted these birds in pairs that
scolded me sharply and remained
in one locality indicating that they
are on their breeding grounds. Usually
this was in open brush on a
sheltered slope. The call note was
tee-a tee-a, surprisingly loud for
the size of the bird. Two taken were
adult females with the ovaries large
but without developing eggs.

Pinto, Peru, May 16, a male taken
in bush thickets at 4000 feet.

May 21. One heard singing.

Phylloscopus c. collybita

Fawley, Buckinghamshire, England, June 20, 1930.

Fairly common. The song is a repeated chip chap chip chap chip chap and does not have the trilling warble noted in the bird of Spain.

Irish, England, June 14-15, several heard and the peculiarities of the song again noted. Found in woodland.

Regulus

Cerdeña Madrid, April 28, 1930 several seen and a female taken (No 8198) near the Estacion Alpina de Biologia at about 75500 feet. The birds were working about the smaller limbs of the pines.

Piñón heir, May 16, three were taken in a fine stand of beech at 4500 feet, among trees heavily hung with moss. The birds fed silently but actively through the limbs. Males were in fully breeding condition. May 20. A number seen and one taken in the beech forests of the Sierra del Portón.

May 21. Very common in the beech beech forests on the north slope of Collado de Jerguena. The birds are in pairs now and are examining nesting sites. First taken. The song of the male is a high pitched wewee we see we see we see like that of the chestnut sided warbler. I find them rather silent occasionally uttering a call note rather louder than ordinary in this type of golden crown. They work actively through

the smaller wings flattening the
wings.

Muscicapa atricapilla

Riacho, León, May 15, 1938. An adult male shot in Jun woods.

May 16, one taken

May 17, a number seen and two taken. In the Monte de las Alamos these birds range up the slopes to the limit of trees. They are found in the outer and upper branches of the trees when they rest in the Jun as there are as yet no leaves occasionally making a sallie to capture some passing insect for the wing. The song is loud and melodious.

May 21. Two males seen at the upper edge of the timber in the Collado de Terqueña. The song is a cheerful pleasant warble. The birds are found mainly in the upper limbs of the trees.

Muscicapa g. grisola

Fawley, Buckinghamshire, England, June 10, 1930

Two resting on a fence running
along a hedge flew out after insects
and then returned with a flip
to their perches.

Prunella collaris

Budongo, Ken, May 10, 1930 Two taken (8314, 8315)
see journal. There were seen all told
along a projecting ridge of rock at
5000 feet. The birds flew with undulating
flight, uttering low & scuttering calls
also perch on the rock ledges.
An stocky form, short tail and
long wings. These birds are quite
similar to the blue rock thrush.
The male taken was in full breeding
condition and I believe that it was
mated and on its breeding grounds.
Buana, Ken, May 13, only one seen
today.

Prunella modularis occidentalis

Irving, England, June 15, 1930. A pair
opposite ♀. Found in a hedge.

Prunella modularis

Cercadilla, Madrid, April 28, 1930. In the bushes near the Estacion Alpina de Biologia hedge sparrows were fairly common and one of these was my first specimen collected for Spain followed a few minutes later by another (8205, 8206). The birds were in dense cover when they were actually about, singing a low twittering song. The flight was ~~straight~~ ~~undulating~~ quickly ~~lively~~.

Puente de los Hierros, Uviedo, May 2, several seen and one taken among low bushes.

May 3, several seen, ranging to 2500 feet.

May 5. seen.

May 6. Several seen along hedges and one taken.

Bustango, León, May 8, Very common in the brush bordering the valleys. The birds are tame and frequently come out near at hand to rest quietly on an open twig. They seem to be in pairs and the breeding season is near. At present this is the most abundant bird of the area.

May 9. Fairly common over the slopes clear to the summit of the pass at Puerto de Pajares. Found usually in pairs and the most characteristic bird of the heather, brown and gorse growths that spread over the hillsides.

May 10. A few seen to 5000 feet on the hills below here where they inhabited the mats of low brush.

Occasionally we flushed directly under foot as though it came from a nest but in the spring gorse I was not able to find such a structure. Nests are in constant search of the highest tops of the low brush and invariably on their breeding grounds.

Riño, León, May 13, only one seen today in a considerable area that seemed favorable to them.

May 16, a few noted at 4500 feet on open slopes above forest where there were low mats of a juniper and brown.

May 17. Fairly in growths of brown on the slopes above the Monte de Armas at 5000 feet. A few seen in similar growth along stream beds leading down into the forest.

May 20. at 6000 feet these birds were

Prunella modularis

fairly common on the open slopes above
the timber in the Sierra del Parton.
one taken

May 21. Several seen and one taken
from 4500 to 5500 feet in the
Collado de Jerguena.

Jesús deland, Netherlands, June 5, one
singing in bushes in scrub chus

Anthus pratensis

Fawley, Buckinghamshire, England, June 10, 1930

Common in rolling open pastures

Anthus pratensis

Texel Island, Netherlands, June 5, 1930.

Several seen.

Fawley, Buckinghamshire, England June 10
Several noted in grass fields.

Anthus campestris

Riáño, León, May 17, 1930. An adult
male not yet in breeding condition shot
in pure pastured land on the
summit of a hill just above
town. (8391)

Arthus trivialis

Piñón, León, Spain, May 13, 1930, several males noted in trees on the slopes of open pastureland. The song is sweet and pleasant in tone and character strongly suggesting that of the Canary. The flight song when the bird flies quickly upward until it reaches an elevation of 50 to 75 feet and then sets the wings and ~~throws~~ throws the tail up at an angle of more than 45 degrees above the back and then sails slowly down to a perch in the upper twigs of a tree is highly interesting. Singing continues from the perch. (See letter 8328)

May 14 several seen.

May 15 seen. May 17 seen.

May 19, several noted.

Anthus

Cercedilla, Madrid, April 28, 1930. A juv. that took to be *phalaenopsis* (8207) was shot from a little tree on an open brush covered slope.

Puente de los Hierros, Oviedo, May 4. One circled out with spread wings and then settled slowly into the top of a tree where it remained singing. (8240)

May 5. One found in a small meadow singing from the top of a tree that gave lookout over the country. The song is sibilant and insignificant, only its manner of delivery and the wing as the bird descends with spread feathers and vibrating tail being impressive.

May 8. Several seen and one taken. Found about rock exposures on steep slopes. The flight song with spread wing and tilted tail is very characteristic.

May 9. seen.

May 10. (8308) was shot from a perch on a telegraph wire next the roadside.

Anthus

Bus dongo, beam May 9, 1930. Two males and a female were shot from a number seen above the village near the Puerto de Pajares. The birds were found among rolling knolls where the males often rested quietly on projecting points of rock. Their flight is strongly undulating and occasionally rattling as twitting, sibilant and insignificant song. The tail is undulated occasionally as they walk. The various clouding on the breast varies considerably in different individuals. The female taken contained a nearly formed egg.

May 10. One taken and several seen on rocky slopes up to 4500 feet. The birds are found in pairs and are quiet and unobtrusive.

Anthus

Budongo, Leon, Spain, May 8, 1930. Two later

(8278, 8279) and several others seen.

These birds were found on open ground usually perching on commanding rock exposures.

Anthus.

Busdongo, Leon, Spain, May 8, 1930. One shot as
it perched on a small stone on
a rolling slope. (8277).

Anthus "cervinus"

Riario, Lein, May 16, 1930. An adult male shot among stones on an open slope at (4500 feet (8381)).

May 17. A number seen at the crest of the slope above the Monte de Armas at 5500 feet. Two males were near breeding. The birds were found on stony ground and were quiet and unobtrusive.

May 20. Fairly common at 6000 feet in the Sierra del Puerto. The birds ranged on stony ground along the crests of bridges perching on projecting masses of rock or on low bushes. Occasionally I saw one at the edge of a scrub bank. Two males in breeding condition were taken and one female was observed carrying nesting material to the top of a mass of rock twenty feet above the ground where she nested on a small patch of turf. The song is sibilant and insignificant. Males in display droop the wings and elevate the tail while they strut about on show stones. Occasionally the tail

is ~~swaying~~ ^{swaying up and down} three or four times
but this is not done regularly in
walking the tail being usually
motionless as in a lark. If this
bird proves to *Anthus spinolletta* then
certainly our *Anthus rubescens* is
not a geographic race of it. The
two differ entirely in habit.
May 21. Two taken and others
seen at 5500 feet in the Collado de
Jerguena.

Motacilla alba

Puente de los Hierros, Oviedo, May 3, 1930.

Fairly common in town along the little stream that runs through the village. As they alight they twitch the long tail vigorously a dozen times with great rapidity and then stop to remain motionless. An attractive bird.

May 4, a number about town.

May 5, seen.

May 6, One seen on a gravel bar in the river in the country. In town they come regularly into the yard at the foot of

Bushings, here, May 9, several seen in the village.

May 10. Fairly common on low rocky ground near the river below town. Two adult males taken.

Piñano, here, May 13, several seen in the outskirts of town on the stony flats bordering the Rio Esca. One comes occasionally in a little open space between the houses below my window.

May 14. These birds walk with quickly nodding heads but only twitch the tail when alarmed or excited and then usually stop.

While they move it up and down
very rapidly.

May 15. several seen

May 16, several seen along the river

May 17, seen in valleys along streams.

May 18. a number noted over
the stony flats near the river.
One flattened over a mass of
water weed covering the surface
of a little side channel, trying
various points until finally
it found a clump that would
support its weight when it settled
to rest. Others were seen standing
on small stones sometimes only with
only thin slabs of four inches of surface
projecting from the water.

May 20 a number seen along little streams.

May 21. Several feeding on gravel
bars along the Est. A female taken
contained a developing egg.

May 22 seen.

Arvicolas, Bolivia, May 23, one seen.

Arvicolas to Santander, May 23, observed
regularly from the train in the gravel
bed of the streams.

Tervueren, Belgium, May 30. Several seen
in the court of the Congo Museum, flying
up under a balcony where they may be nesting.

Motacilla flava.

Puente de los Hierros, Oviedo, May 3, 1930
One seen in town along the little
stream. Distinctly yellow as it flew.

May 4, a pair seen.

Budongo, Lem, May 9 Several seen
above the village, and a female nearly
ready to lay taken.

May 10 Several pairs noted and
a breeding pair taken with the female
about to lay. The birds were found
on few rocky slopes near the
Rio Beanegra in the main valley.

When flushed they flew for rather
long distances with undulating flight
showing a flash of yellow with
the long tail and elongated
tertials and inner secondaries showing
plainly. The note is tee tee tee
given sharply and quickly.

Biaño, Lem, May 13, Several seen in
the outskirts of town on the stony
flats bordering the Rio Esca.

Boya, Lem, May 22 one seen.

Motacilla yarrelli

Fawley, Buckinghamshire, England, June 10
a brood of young, on the wing
seen in a road running between
hedges. An adult taken.

Lanius collurio

Briano, near Grain, May 20, 1930. One shot from a perch near the top of low dead alder in a small thicket in a meadow. I was struck by the fact that the bird perched just below the top of the bush when it had slight concealment instead of resting on the top as our Gray Stripes do.

May 21. A female containing an egg (nearly ready for the shell taken). The bird flew near the ground and alighted on an open perch near the center of a bush only four or five feet from the ground.

Santander, May 24. Several seen from the train resting on telephone wires.

Handaya to Tours, France, May 25. Seen at intervals from the train.

Sturnus vulgaris vulgaris

Paris, to Brussels, May 29 seen regularly
from the train

Brussels to Antwerp, Belgium May 31 common
through the country

Brussels to Amsterdam, June 1, common.
Young in first plumage quite common
in little flocks.

Goerlust, Netherlands, June 4 common.

Deil deband, Netherlands, June 5 very
common. Young on the wing.

Fawley, ^{Brick} ~~England~~ ^{the mountain} June 10 common

Irving, England, June 14 and 15 common
young out of nest.

Sturnus unicolor

Villalba to Madrid, Spain, April 25, 1930.

Several seen from the train, in pairs. On this view at a distance they resemble almost exactly the common Starling.

April 29, a number seen. Males in singing stand upright and flutter the wings exactly like S. vulgaris.

Seen to S. vulgaris to Afluente, Leon, May 11, fairly common through the open country. Distributed locally and found feeding in little groups. Except that they do not show as much gray under the wings in flight do see nothing to distinguish them at a distance from S. vulgaris.

Coccothraustes c. coccothraustes

Fawley, Buckinghamshire, England, June 10, 1930

In a heavily shaded section in a tall beech wood a bird flew by me showing considerable white in wings and tail to alight 40 feet from the ground in an open limb. I thought that it would be a hawfinch and was greatly pleased to recognize the present species. Flight undulating. The bird was wary and did not permit a near approach.

Chloris chloris chloris

Tring, England, June 14-15, 1938 Common.

Singing from perches on the
utmost twigs of leafy trees
along the roadways.

Chloris chloris

Piñón, León, Spain, May 21, 1938, several
seen in the edge of town. I have
observed the bird on other occasions
here but always when I could not
collect it.

Carduelis carduelis

Puente de los Hierros, Oviedo, May 6, 1930. a pair seen and a female taken, feeding in an open path on a sunny slope.

Burdaga, León, May 11. a pair seen

Riño, León, May 19, one seen in a little orchard in town.

May 22 several seen in town

Cangas de Onís, Oviedo, May 22. noted in a little park and along a stream.

Acanthis cannabina

Bustingo, Leon, Spain, May 8, 1930. An adult male (8280) shot as it rested on a stone on an open hillside.

May 9. Several seen and a pair taken. The birds fly with strongly bounding flight.

May 10. Several pairs seen feeding on the ground in open stony fields in a district similar to the one. The birds are closely similar in habits ~~and~~ to the house finch.

Piñón, Leon, May 13. A number working along the stone walls and tile roof of an old barn in town.

May 14. Several seen in rocky, open hillside.

May 15. Noted about the stone walls of a house in town.

May 16 seen May 19 seen

May 21. A pair feeding on stony ground in an old field. Others noted at the edge of town.

May 22. A number seen along the road to Puerto del Porton.

Texel Island, Netherlands, June 5. A number seen along roads and in cultivated fields.

Fawley, Buckinghamshire, England, June 10.

Several seen feeding on the ground.

21

Serinus

Puerto de los Fierros, Oviedo, May 3, 1930 One
taken at 1800, near the river flew
up to rest quietly on a shaded
perch. Another of these brilliant
little birds was seen in a garden
in town in the evening (82625)
May 6. One sang a high pitched
trill as it rested on an open limb
(82611)

Piñón, León, May 19. On the outskirts
of the village these little birds are
fairly common. Males are in full
song. They range over low
stone knolls, and along rows
of poplars.

May 21. One seen at the edge of
some fields

Pyrrhula pyrrhula

Puente de los Hierros, Oviedo, May 3, 1930

One taken from a low tree near the river as it rested quietly.

May 4. An adult female taken. Known as cura.

May 5. A pair seen feeding on the ground. The male taken.

May 6. One seen.

Fringilla coelebs

Puente de los Hierros, Oviedo, May 3, 1931. A female taken in the top of a low tree near the river. (82-4)

May 4. Three shot, all found in the tops of fairly all trees. One was flying out to capture insects on the wing. A handsome bird.

May 5. Birds common today. I saw the birds both on the ground when they walk and in the tops of the trees, in open pastures and in heavy woodland.

May 6. Common. A female taken had the bill stained with red buds or leaves that it had been eating.

Buckley's, Leon, May 8, Fairly common. One taken.

May 9, seen

May 10, several seen.

Cistierna, Leon, May 12, seen

Piñón, Leon, May 13, a number seen and an adult male taken.

May 14. Common through the open woodland. a male taken.

May 15. Common. a pair taken.

May 16, Common everywhere in open country and in forest.

May 17. Throughout the heavy forest of the Monte de Ormas chaffinches were common and their melodious songs were heard constantly. The birds are found usually in pairs. May 19 common.

May 20 Abundant through the bush forest of Sierra de Porton and ranging to the upper limit of the trees. Found in pairs feeding on the ground or through the limbs of the trees.

May 21. Common in the bush forest of the Collado de Jerguena

May 22 seen in town
Paris, France, May 26, seen in the park opposite the hotel Continental across the Rue de Rivoli.

Brussels, Belgium, May 29-31, Common in the parks.

Gooidust, Netherlands, June 4, common in the trees at Blaauw's place.

Fawley, Buckinghamshire, England, June 10, common.

Tring, England, June 14 & 15 common. The song of this species is the most common of bird notes in wooded areas.

Emberizac. citrinella

Puente de los Hierros, Oviedo, May 5, 1930.

A fine adult male shot from a little
knowl in a pasture when it rested
quietly on the ground.

Bustings, Leon, May 8, seen in the
village

May 9. Fairly common on the higher
slopes toward the Puerto de Pajares
where two males nearly in breeding
condition were taken (8308, 8301). The
birds feed on open slopes and are
rather wild flying with bounding
flight. Their color is not evident
until they are in the hand.

May 10, several seen and an
adult female taken. (8313)

Riáns hem, May 14, a pair seen.

May 15, a pair noted on open hillsides

May 16, one seen.

May 17, a number seen in the valleys.

May 19 several. May 20 seen near
town

May 20. Several seen at the edges
of fields and in cow lying pastures.
The display of the male which I now
seen here is quite remarkable. The
bird flies slowly with wings
fully extended & flapping them slowly

and frequently changing direction.
~~and~~ sailing. They appear
remarkably like swallows while
doing this. Frequent about
cultivated fields. One taken in
full breeding condition.

Fawley, Buckinghamshire, England, June 10,
second seen.

Emberiza s. schoeniclus

Texel island, Netherlands, June 5, 1930. A
pair along a dyke. Like other
Emberizas in habit.

Emberiza cia

Cerdeña, Madrid, April 28, 1930. Several flushed on grass grown slopes.

Puente de los Hierros, Oviedo, May 2. Fairly common. The birds are found on short turf among low bushes and fly up with rust display of white in the tail to alight in bushes as on the ground. They suggest White-Crowned sparrows ^{or} ^{water} spizilla, remaining principally in the open. Occasionally they perch in the tops of trees - a pair near breeding taken.

May 3 several seen as high as 3000 feet in open meadows. They have a high pitched, penetrating alarm note.

Buodongo, near, May 8 Common along the little valleys, usually found where brush and pastureland join.

May 9. Common to the summit of the pass and up to 5000 feet. The birds fed in open meadows and when flushed flew with tilting flight to the scrub of the hillsides.

May 10, common in pairs. 2 taken evidently about to breed. Seen feeding

in and along roadways.

Pinar, hem, May 14, fairly common today
and a pair taken. The song is closely
similar to that of the oriole but
is given more hurriedly.

May 15 Several pairs seen in open
slopes.

May 16, one taken.

May 17, ranging up to 5000 feet.
one taken

May 19 seen.

May 20 One or two noted at 4000 feet
in the Sierra del Pontón.

May 21. Common in rocky stony
ground. Less regular in occurrence
in cultivated fields but roosting
in the high stony slopes. One
pair always noted.

Emberiza hortulana
Piaño, Leon, Spain, May 13, 1930. ~~Several~~
Two seen among open brush on
a hillside - and one taken 8332. These
birds show the usual flash of
white in the tail as they flew
and alighted in bushes or trees.
The song is sweet sweet sweet see
bur-r-b.

May 19. Two males were taken
in open pastureland among
scattered bushes of broom at 4000
feet - Both birds were on the
ground. One is decidedly grayer
and lighter colored than the
other -

Passer domesticus domesticus
Vigo, Spain, April 24, 1930. fairly common
on the water front.

Madrid, Spain April 25, several seen
at the American Embassy.

Cercedilla, Spain, April 29, common in
the village.

Puente de los Fierros, Oviedo, May 2, common
about the village.

May 3. seen in town. May 4 seen.

May 5, seen in town. None observed
in the village of Villar de Parame
which is away from the railroad.

May 6. seen

Burgos, Leon, May 11. This morning
two or three seen about the station
platform. They are apparently few
in number here as there are the
only ones I have seen.

Villamanin to Leon, Leon, May 11. Seen
commonly at every station and
common in the city of Leon.

Leon to Asturias, Leon, May 11. Common
in all the villages and seen in
places in the open country away
from houses.

Riaño, León, May 13, common in town

May 14 seen. May 15 seen. May 16, seen

May 17 seen. May 19 seen

May 20 seen in Rio de Janeiro.

May 21. Seen. Has exactly the habits of our bird at home, feeding principally in streets and about houses. Rather unobtrusive in habits.

May 22 common.

Rio de Janeiro, Rio de Janeiro, May 22 common.

Arroio das Neves, Rio de Janeiro, May 22 common.

None were seen through the country in coming down from Rio de Janeiro.

Arroio das Neves to Santander, May 23, common in all the railroad towns. Toward Santander where there was a human population or farms ~~thru~~ away from towns I saw occasional birds through the countryside.

Santander to Hendaye, France, May 24 common.

Hendaye to Paris, France, May 25 common in the towns and seen in small numbers through the country.

Paris, France, May 26. One perched on my fifth floor window ledge as I ate breakfast this morning. Several in park adjacent.

Brussels, Belgium, May 29-31 common in the parks.

Amsterdam, Netherlands, June 1-8, common.

Texel Island, Netherlands, June 5. Common in towns and fields.

Passer d. domesticus

Fawley, Buckinghamshire, England, June 10
common in open country

Tring, England, June 14-15, common
in the village.

London, June 10-18, fairly common
throughout the city.

*Mallophaga from Hawaiian trip
of 1923.*

7121	<i>Sula piscator</i>	Laysan Is.	May 7, 1923	<i>Esthiopterum helleri</i> (Kell. & Kuw.)
7041	<i>Phaëthon rubricaudus</i>	" "	" 3, 1923	<i>Alloptes phaethonis</i>
7069	<i>Sula cyanops</i>	" " Hawaii	" 5, 1923	
7079	<i>Sula piscator</i>	" " "	" 6, 1923	<i>Esthiopterum helleri</i> (Kell. & Kuw.)
7084	<i>Diomedea nigripes</i>	" " "	" 6, 1923	<i>Docophoroides</i> sp.
7085	<i>Gygis alba</i>	" " "	" 6, 1923	<i>Esthiopterum</i>
7093	<i>Diomedea immutabilis</i>	" " "	" 6, 1923	<i>Docophoroides</i> sp.
7095	<i>Pterodroma hypoleuca</i>	" " "	" 6, 1923	(<i>Giebelia</i> n.sp.1 (Mites (Analgesidae) (Menopon sp. (<i>Giebelia</i> n.sp.2
7096	<i>Puffinus cuneatus</i>	" "	" 6, 1923	" n. sp. 2
7021	<i>Sula piscator</i>	" "	" 7, 1923	<i>Esthiopterum helleri</i> (Kell. & Kuw.)
7143	" "	" "	" 9, 1923	" " " "
7144	" <i>cyanops</i>	" "	" 9, 1923	(" sp. (<i>Docophoroides</i> sp.
7153	<i>Sterna fuscata</i>	" "	" 9, 1923	
7177	<i>Puffinus nativitatis</i>	" "	" 11, 1923	
7183	<i>Phaëthon rubricaudus</i>	" "	" 11, 1923	<i>Alloptes phaetontis</i> (Gmelin)
7222	<i>Diomedea nigripes</i>	Lisianski Is. Haw.	" 17, 1923	<i>Esthiopterum</i> sp.
7226	<i>Fregata minor</i>	" "	" 17, 1923.	" sp.
7236	<i>Pterodroma hypoleuca</i>	" "	" 17, 1923,	(<i>Giebelia</i> n. sp. 1 (Mites (Analgesidae)
7250	<i>Fregata minor</i>	" "	" 18, 1923	<i>Amyrsidea</i> sp.
7453	<i>Diomedea nigripes</i>	" "	" 19, 1923	<i>Alloptes phaetontis</i> (Gmelin)
7550	<i>Anous stolidus</i>	French Frigatus Shoal, Hawaii	June 25, 1923	(<i>Degeeriella emarginata</i> K. & K.) (Menopon sp.
7530	<i>Sterna fuscata</i>	" "	" 26, 1923	
7632	<i>Sula cyanops</i>	Johnston Is. Haw.	July 12, 1923	(<i>Actornithophilus</i> sp. (<i>Esthiopterum helleri</i> (Kell. & Kuw.)
7635	" <i>leucogastra</i>	" "	" 12, 1923	" " "
7653	<i>Procelsterna saxatilis</i>	" "	" 13, 1923	<i>Actornithophilus</i> sp.
7682	<i>Anous stolidus</i>	" "	" 15, 1923	<i>Degeeriella emarginatus</i> K. & K.)
7688	<i>Sterna fuscata</i>	" "	" 15, 1923	
7842	" <i>lunata</i>	Wake Is.	Aug. 2, 1923	<i>Philopterus snyderi</i> K. & P.)
7845	<i>Phaëthoron rubricaudus</i>	" "	" 2, 1923	
7874	" "	" "	" 3, 1923	<i>Alloptes phaethonis</i> (Gmelin)
1268	<i>Rattus</i> sp.	" "	" 2, 1923	Mites fam. Dermanyssidae

--- *Ornithodoros talaje* (tick) from
Lisianski Id. 18-V-1923
French Frigate Shoal, 26-VI-1923
Johnston Id. 15-VII-1923

Det. H.E. Ewing and E.A. Chapin, Jan. 19, 1931.