

SEA TURTLES - MARCUS

G. H. BALAZS

USCGC Loast  
Marcus Island  
FPO Seattle 98782  
14 May 1983

Dear Mr. Balazs

I am sending you an updated map of Marcus with our turtle sighting noted. As you can see the reef has three distinct openings in it now. The toilet bowl has a small awash area and the wave action is indicative of a toilet's flushing action.

Sharks alley is where the sharks come to mate in May, June or July. (none yet!) The Jetty area is or was man made for ships to resupply the Island.

I would enjoy helping you in any way possible! I am very interested in your work. Please drop me a line as I will be here until April 6, 1984.

Thank You,  
John W. Conway MKC, USCG.



TURTLE SIGHTING REPORT

(Please return to: George H. Balazs;  
Hawaii Institute of Marine Biology;  
P. O. Box 1346; Kaneohe, HI 96744;  
Tel. 247-6631)

Observation made by: MKC Conway  
MKI Zubore

Address & Tel. No. (optional): USCGC Longta Marcus Island  
FPO Seattle, 98782

Date: 13 May 83 Time: 1830 Location (Indicate on map)

Observation made from: \_\_\_\_\_ shore;  
\_\_\_\_\_ boat; or while  skin \_\_\_\_\_ SCUBA diving.

Estimated size (shell length): 36"

Turtle seen on: \_\_\_\_\_ surface; or at depth of  
approx. 10-15 ft. Distinguishing

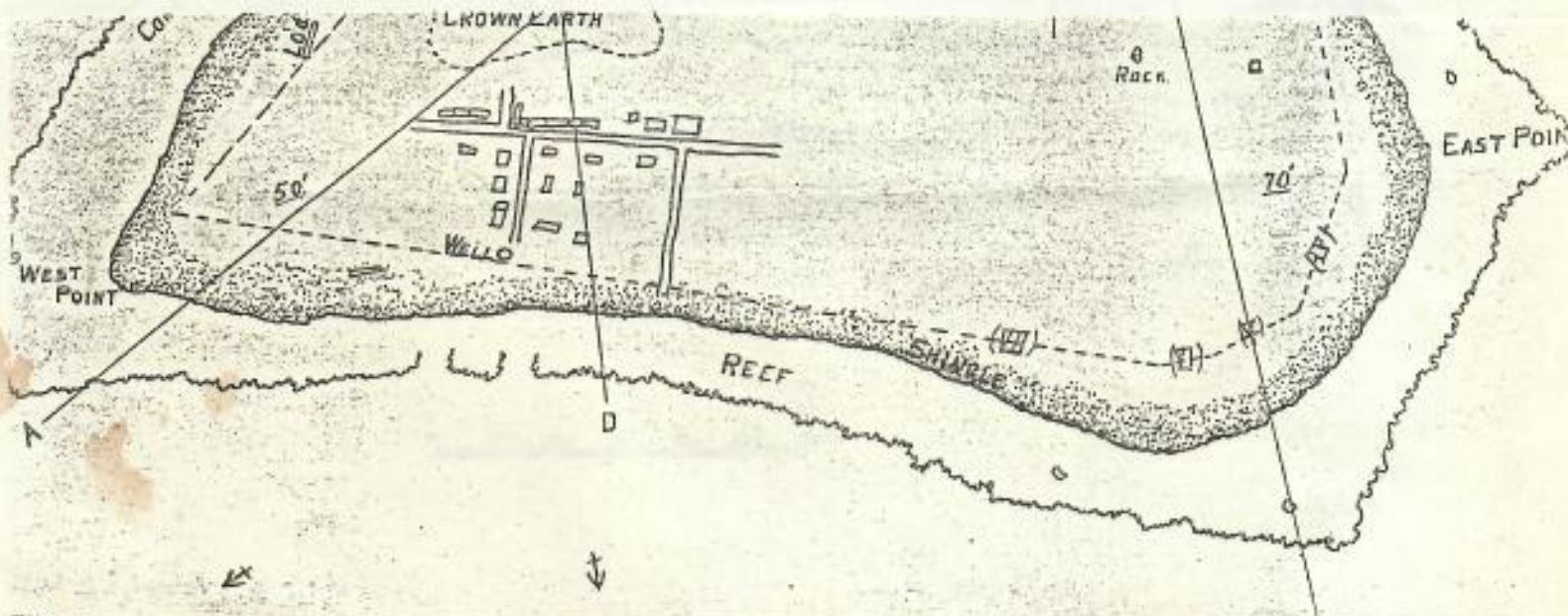
characteristics (species I.D. if known, long  
tail, shell color, tags, injuries, etc.):

Possible Green Turtle, shell green + brown, Turtle condition  
excellent - it swam away very fast upon seeing us.

Other comments: We will try to make better observation  
if seen again.

THANK YOU FOR YOUR COOPERATION

Please write us & let us know what we can do to help you.

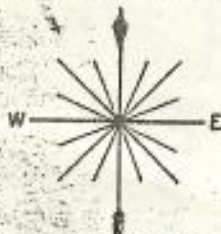




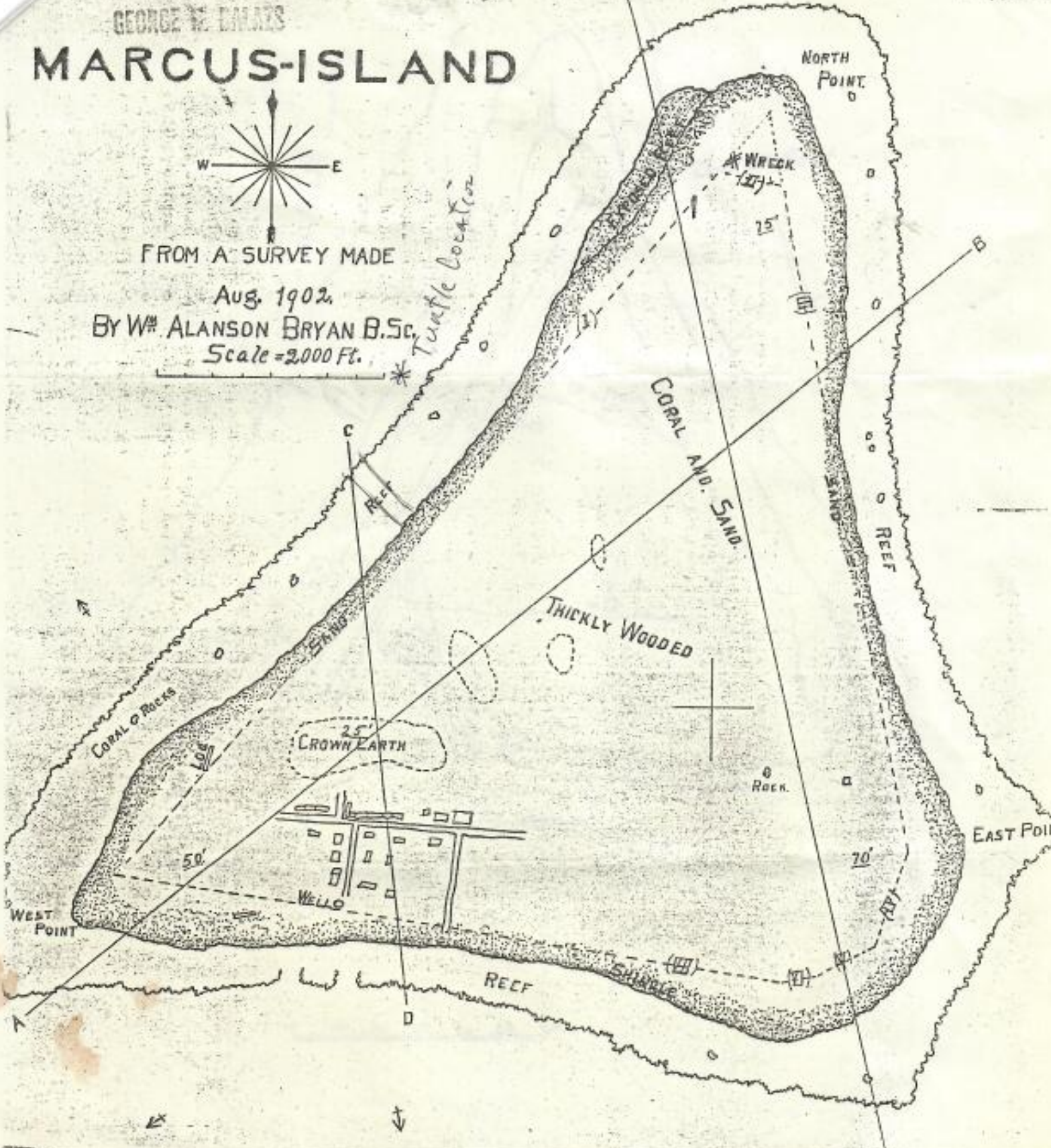
*A monograph of the ...* B.Sc.

LIBRARY OF  
GEORGE W. BARRETT

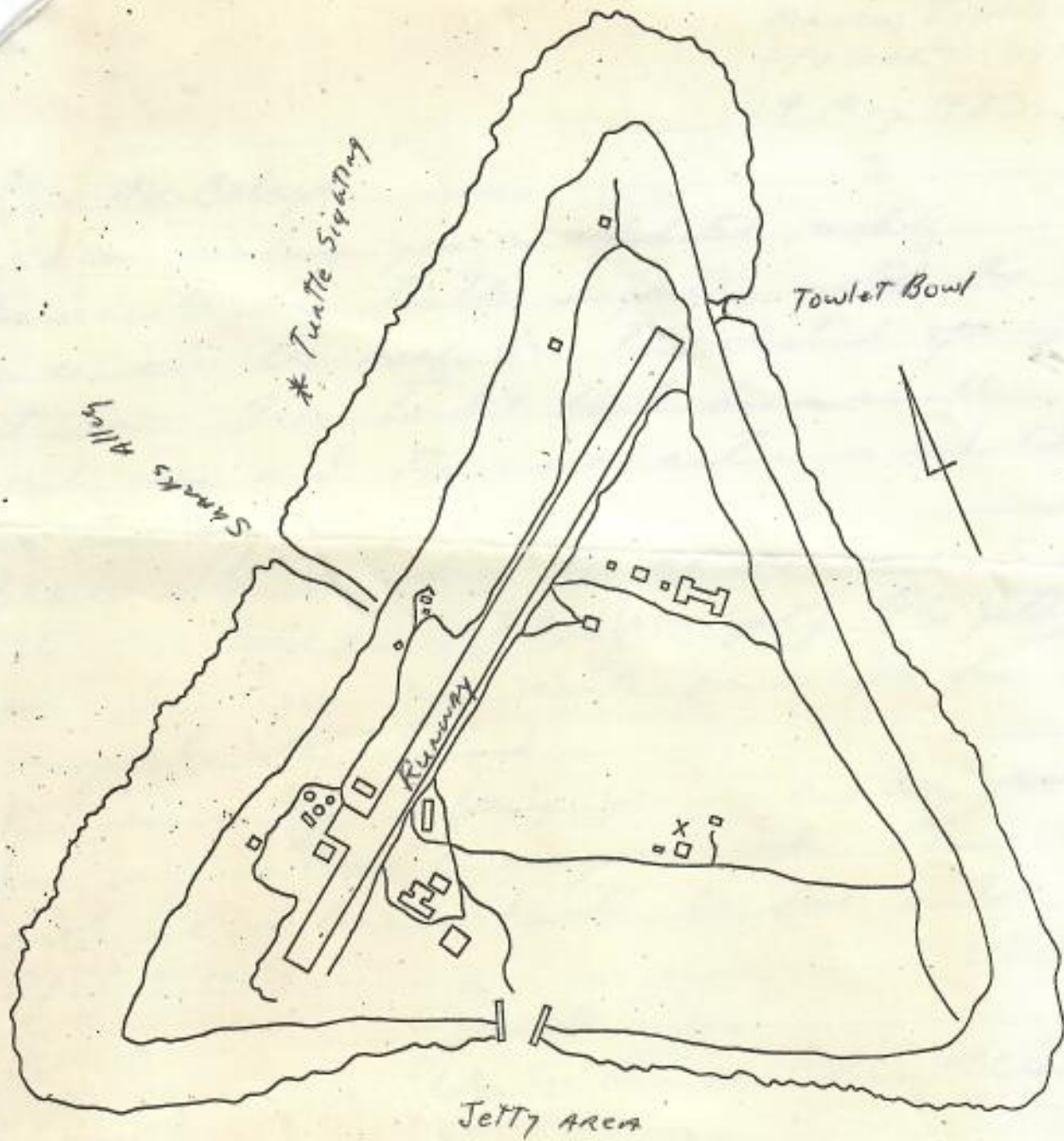
# MARCUS-ISLAND



FROM A SURVEY MADE  
Aug. 1902.  
BY W. ALANSON BRYAN B.Sc.  
Scale = 2,000 Ft.







Honolulu 19 JUNE 1981 D-18

# Japan Is Urged to Rebuild Its Iwo Jima Base

*Newhouse News Service*

WASHINGTON — U.S. defense officials are urging Japan to rebuild its air base on Iwo Jima — site of some of the bitterest fighting between U.S. and Japanese troops in World War II — to help protect the Pacific sea lanes from Siberia-based Soviet bombers.

The United States wants Japan to station an F-15 fighter-inceptor wing on the tiny island in a strategic location 600 miles south of Japan.

Russian Backfire bombers now could reach the major Pacific shipping lanes from Siberia without flying in range of allied land-based interceptors in Asia.

And the U.S. Navy has only one aircraft carrier operating in the area most of the time.

F-15S BASED ON Iwo Jima could control the air space from southern Japan to the northern Philippines, a distance of 1,000 miles, according to Pentagon officials.

About 20 long-range Backfires currently are based in Siberia, but the number is expected to increase as the Soviets build more of the new bombers.

Japan will buy 14 F-15s directly from the United States and will build 86 of the advanced supersonic jets in Japan under an agreement between McDonnell Douglas Corp. of St. Louis and Mitsubishi Heavy Industries of Japan.

The first two U.S.-built planes were delivered to Gifu Air Base in Japan last March with six more scheduled to arrive within the next year.

Mitsubishi has begun assembling F-15s from parts supplied by McDonnell Douglas and plans to manufacture one plane a month by the end of 1982.

SENIOR U.S. AND Japanese defense officials met in Honolulu last week for an annual conference on mutual security.

No official statement was issued at the conclusion of the conference, but Pentagon sources said the stationing of Japanese air defense force F-15s on Iwo Jima was one of the items discussed.

The Reagan administration has been urging Japan to assume more of its own defense burden.

Earlier this month, however, the Japanese cabinet voted to fix austere limits on all government spending, including defense, next year.

Under the plan, military spending would rise 7.5 percent — an amount that would provide little, if any, growth above anticipated inflation.

Since the Soviet invasion of Afghanistan in December 1979, one of two U.S. carrier battle groups that formerly patrolled the western Pacific has been diverted to the Indian Ocean, leaving the Navy spread thinly between Hawaii and Singapore.

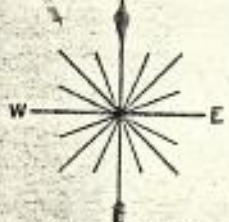
An F-15 base on Iwo Jima could cover thousands of square miles of the Pacific, taking some of the pressure off U.S. carrier-based planes, Pentagon officials said.



GEORGE W. DALZG

B.Sc

# MARCUS-ISLAND

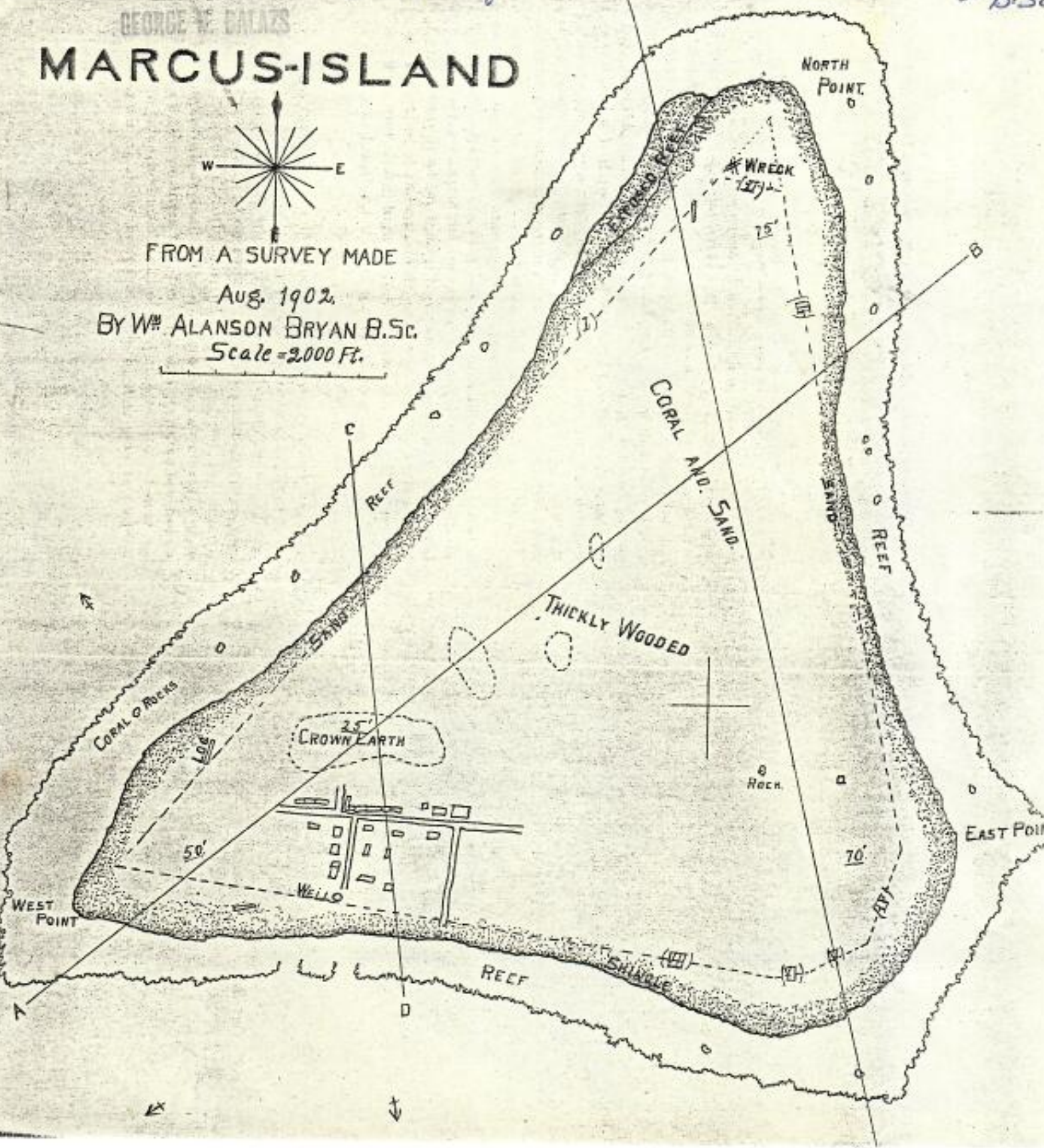
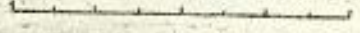


FROM A SURVEY MADE

Aug. 1902.

BY W<sup>o</sup> ALANSON BRYAN B.Sc.

Scale = 2,000 Ft.





US Coast Guard from A/c  
Iwo Jima, FPO Seattle 98781

# Iwo Jima's 'Special Feeling'

By Robert Trumbull

**IWO JIMA, Japan** — From the air the famous island is just an irregular green blotch on an empty sea, girdled with white where the surf splashes ceaselessly over the beaches of pulverized black lava.

On the neglected runway that is a spider web of deep cracks in an asphalt surface kept warm by volcanic fires far below, half a dozen passengers from Tokyo are met by breezes laden with fumes from the smoking pits that give Iwo Jima its name, which means "Sulfur Island" in Japanese.

Watching the landing of the weekly plane bringing mail and movies, among other supplies, for the 26-man U.S. Coast Guard detachment is an officer in the white uniform of the Japanese Maritime Self-Defense Force, as Japan calls its small but growing navy.

The officer is Cmdr. Kazushi Shinozaki, the newest in a line of Japanese navy men who have been in charge here since the five-mile-long island reverted to Japanese control in 1968 after more than 23 years under American military jurisdiction.

The 60 men under his command are the vanguard of a garrison to be stationed in the next few years on this lonely outpost 800 miles southeast of Tokyo and the same distance from Guam as it becomes an important link in the budding Japanese defense program.

"THERE'S A SPECIAL feeling about being here," the English-speaking officer remarked to an American visitor, alluding to the reverence in which the island is held

by countless countrymen who lost members of their families in the furious battle that swept Iwo Jima for a few memorable weeks in February and March of 1945.

The bodies of the 6,821 Americans who perished on these grim sands were removed to the United States soon after the war.

Most of the 22,000 Japanese who died in a tenacious but fruitless defense against an overwhelming American force are still entombed in a multitude of man-made caves, part of an elaborate underground defense system that was sealed with bulldozers and high explosives by the attacking marines.

Japanese recovery teams continue to conduct searches of the cave network, now covered with thick jungle.

## A New York Times correspondent revisits the site of an important World War II battle.

to reclaim the dead. Several times a year a ship from Japan brings relatives, who leave bouquets, bottles of wine and other offerings in accordance with Shinto ritual at the tiny shrines that now dot the island in small, carefully tended clearings.

At the northern end is a labyrinth of sinister gullies where the Japanese made their last stand. A few yards from the entrance to a secluded gulch where Lt. Gen. Tadashi Kurbayashi, the Japanese

commander, had his last known command post, a neat little compound with closely trimmed lawns and palm trees houses the last Americans, the Coast Guardsmen who run the air-navigation station.

"THAT POLE is our whole reason for being here," said the detachment commander Lt. Rex Buddenberg of Gothenberg, Neb., pointing to a slim 1,350-foot tower anchored in the sand with a lacework of cables.

Navigators in ships and planes check a periodic signal from the tower against identical pulses from similar towers at other Pacific stations.

The technicians stay on Iwo Jima and at similar isolated posts for 12 months without seeing their families except for a short leave after six months.

"The rewards for this duty certainly aren't great," said Donald Station of Las Cruces, N.M., a chief warrant officer who is in charge of the electronic functioning of the base. Besides the extra leave, "which we could do without," he said, married men receive a family separation allowance of \$1 a day.

There is little to do for either the Americans or the Japanese, whose job at this stage is to take care of the runway and other housekeeping chores.

Members of the two groups drink beer together, attend each other's movies, play softball, which the Americans usually win, and are training for a program of foot races, which the Americans expect the Japanese to win.

There are some good beaches, but swimming has to be supervised because of treacherous currents. There is fishing, but this requires an expedition.





**Joe Rosenthal's famous photograph of the flag-raising on Iwo Jima.**

The men are somewhat isolated from the daily news because of poor radio reception, Buddenberg said, and the *Pacific Stars and Stripes*, published by the American forces in Tokyo, arrives in batches with the weekly plane. There is exploring and sightseeing, of course, but the Americans stay away from caves thought to contain soldiers' remains out of consideration for Japanese sensitivities.

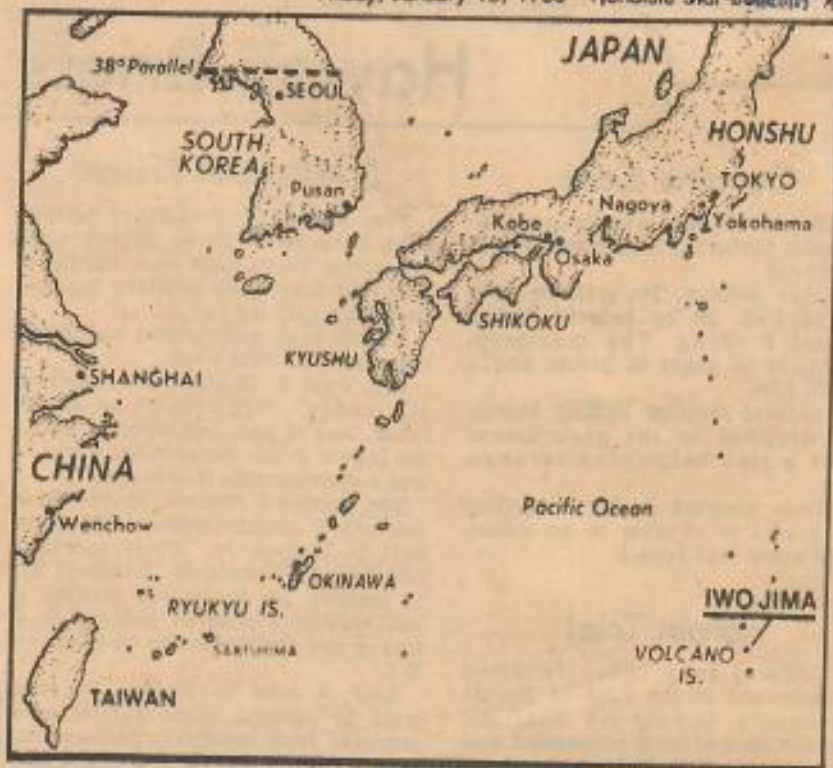
VISITORS FROM TOKYO, consisting of airplane crews and the occasional traveler who can obtain military permission for the flight, are invariably conducted by Buddenberg to the 546-foot crest of Mount Suribachi, scene of the famous photograph by Joe Rosenthal of the Associated Press that shows the American flag being raised after the Marines took the height on Feb. 23, 1945.

The site of the flag-raising — the one pictured was the second that day, when a larger flag replaced the original — is marked by two monuments, one Japanese and one American and both maintained by the American-Japan Society of Tokyo.

The custom of keeping the American flag aloft 24 hours a day, one of few places where this was permitted, ceased when the island was turned back to Japan.

The thick growth that has covered most of the battle sites since the U.S. Air Force seeded the island in the 1950s with a fast-growing plant locally known as tangan-tangan has left little to be recognized by a re-





porter who was here for the campaign nearly 35 years ago.

Soon much will change again with the construction of important Japanese military installations. According to plans of the Japanese Defense Agency, the airport will be upgraded as a base for major reconnaissance, antisubmarine operations and night flying.

The prospect of the reconversion of Iwo Jima to an important military base approaching its status before and during World War II is reported to be one reason why the Tokyo government has prevented perhaps 300 prewar civilian residents, mostly fishermen and small farmers, from returning.

© N. Y. Times-News Service



# Japan's Easternmost Island

By Robert Trumbull

**MINAMI TORI SHIMA**, Japan — Little things can be memorable on an island as small and isolated as this 740-acre dot in the Western Pacific a thousand miles southeast of Tokyo.

Joel Gustafson, a Coast Guard petty officer from Mandan, N.D., says he will remember Minami Tori Shima, which the American military calls Marcus Island, as the place where he came back from a walk with a bad case of sunburn under the chin, the effect of the reflected glare from the dazzling white coral that is underfoot everywhere.

The 26 Coast Guardsmen are spending 12-month duty tours on this three-cornered natural platform, smaller than Central Park in New York and surrounded by empty sea.

Twenty-eight Japanese naval airmen and meteorologists are on the other side of the island.

"We have a better deal than the Americans," said Lt. Hideo Ukita of the Japanese Maritime Self-Defense Force, who heads the Japanese detachment and is island commander. While the Americans get 30-day compensatory leave at the end of the year's tour, the Japanese receive a 20 percent pay bonus.

**THE AMERICANS** and Japanese have a lively softball rivalry. Other than that the principal pastime

seems to be collecting shells and the glass floats from Japanese fishing nets that drift ashore.

The island, which has no permanent residents, was in brief contention between Japan and the United States when the Japanese annexed it in 1898 on the basis of a visit by a Japanese ship two years before. They made it an outpost of the Tokyo metropolitan government, as it is today.

Washington was irritated because an American missionary ship had called here 32 years earlier, but the

---

*American and Japanese contingents now jointly occupy a lonely outpost once disputed by Washington and Tokyo.*

---

United States never pressed its claim.

How the island acquired either of its names, Minami Tori Shima, literally translated as South Bird Island, and Marcus, is a mystery. An earlier name, Weeks Island, is equally untraceable in available reference works.

A cemetery containing the graves of early Japanese settlers who perished here, presumably from lack of drinking water, is a melancholy reminder of unsuccessful attempts at colonization.

The present temporary residents drink rainwater — rainfall is about 40 inches a year — and have a small seawater evaporation plant for emergencies. The one well is brackish.

**THE ISLAND** was a bustling place during World War II, when the Japa-

nese maintained an air and naval base with more than 4,500 men. A U.S. carrier task force raided it in March 1942 and it was bombed occasionally.

"The minute damage incurred speaks highly of the defensive preparations made by the Japanese," says a Coast Guard pamphlet for new personnel.

U.S. forces occupied the island from the end of the war until 1968, when it was handed back to the Japanese. The Coast Guard, by agreement with the Japanese government, operates a loran, or long-range air navigation, station.

This easternmost point in the Japanese empire is one of the most isolated inhabited places on earth, with the nearest neighbors 700 miles away on Wake, an American atoll with manned aviation facilities, but it is not without attractions for some.

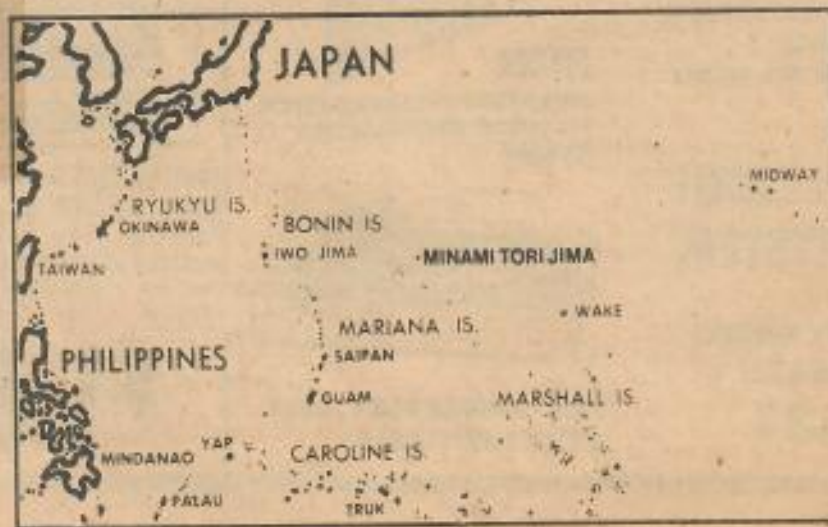
Francis Martucci, a Coast Guard cook from Whitehall, N.Y., volunteered to come here to "get away from the confusion and noise." "Besides," he added, "I'll go home with \$5,400 in the bank."

Lt. Bruce Tate of Burlington, Wis., who heads the Coast Guard unit, considers this a choice assignment because "there aren't many billets for a lieutenant to be the commanding officer." His detachment is supplied by a weekly plane from Yokota Air Base, near Tokyo, which makes the trip down and back on the same day.

"I used to think the C-130 was the ugliest aircraft I'd ever seen," said a Coast Guardsman of the squat, wide-bodied cargo carrier, "but when she arrives here on Thursday she's the most beautiful plane in the Air Force."

© N.Y. Times News Service

Honolulu Star-Bulletin Monday, January 14, 1968





SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs,  
Hawaii Institute of Marine Biology;  
P. O. Box 1346, Kaneohe, HI 96744;  
Tel. 247-6631)

Observation made by: Daniel TREMBLY

Address & Tel. No. (optional) USCG LORAN STATION MARCUS ISLAND

Date: 17 Jun 77 Time: 1100 Location (indicate  
on chart): 60yds off shore from jetty

Observation made from:      shore;  
     boat; or while      skin  SCUBA diving.

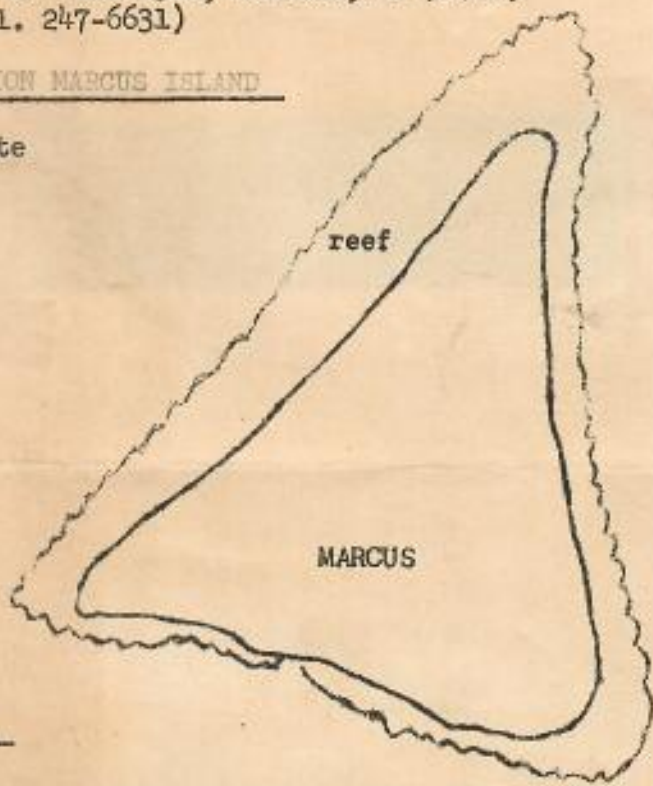
Estimated size (shell length): 22-24 inches

Turtle seen on:      surface; or at depth of  
approx. 12-15 ft. Distinguishing

characteristics (species I.D. if known, long  
tail, shell color, tags, injuries, etc.):

Same as attached report however larger and  
within 40-50 feet from previously sighted turtle. Believed to be a Green Sea Turtle.

Other comments: \_\_\_\_\_  
\_\_\_\_\_



THANK YOU FOR YOUR COOPERATION



SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs,  
Hawaii Institute of Marine Biology;  
P. O. Box 1346, Kaneohe, HI 96744;  
Tel. 247-6631)

Observation made by: Daniel TREMBLY

Address & Tel. No. (optional) USCG LORAN STATION MARCUS ISLAND

Date: 17 June 77 Time: 1100 Location (indicate

on chart): 60yds off shore from jetty

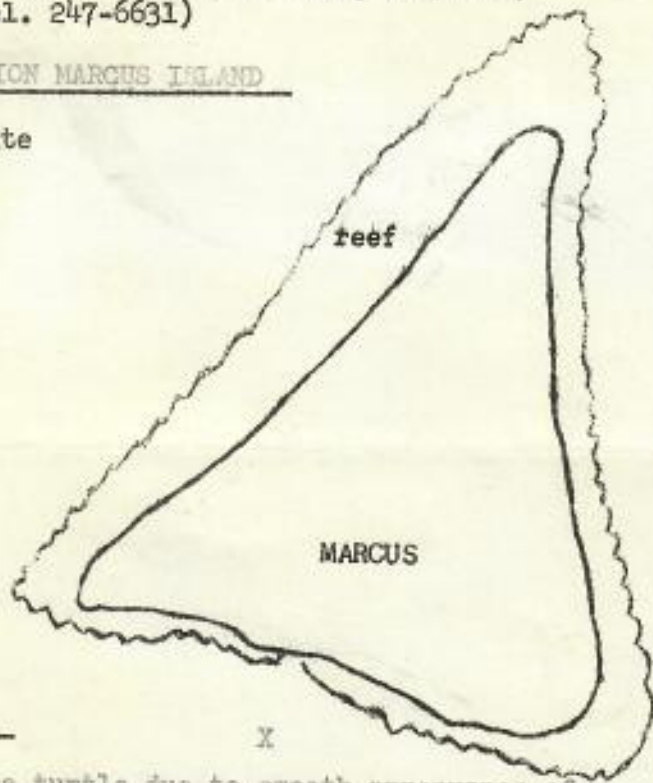
Observation made from:      shore;  
     boat; or while      skin   x   SCUBA diving.

Estimated size (shell length): 14 inches

Turtle seen on:      surface; or at depth of  
approx. 6-8 ft. Distinguishing  
characteristics (species I.D. if known, long  
tail, shell color, tags, injuries, etc.):

None of the above was noted as it quickly  
swam away. However believed to be a green sea turtle due to smooth appearance of  
shell.

Other comments: \_\_\_\_\_  
\_\_\_\_\_



THANK YOU FOR YOUR COOPERATION



**DEPARTMENT OF TRANSPORTATION**

**U. S. COAST GUARD**  
**Commanding Officer**  
**USCG Loran Station**  
**FPO Seattle, Wash. 98782**



*[Faint, illegible text and markings on the envelope flap, possibly bleed-through from the reverse side or very light handwriting.]*



SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs,  
Hawaii Institute of Marine Biology;  
P. O. Box 1346, Kaneohe, HI 96744;  
Tel. 247-6631)

Observation made by: A.H. REINERTSEN, ET3, USCG  
A.R. MACLEOD, HM1, USCG

Address & Tel. No. (optional) USCG LORAN STATION, MARCUS ISLAND, FPO SEATTLE 98782

Date: 6 JAN 77 Time: 3 PM local Location (indicate  
on chart): Southeast side of island (Lee side at present time)

Observation made from:      shore;  
     boat; or while XX skin      SCUBA diving.

Estimated size (shell length): 20-24" x (18-20" wide) APPROX.

Turtle seen on:      surface; or at depth of  
approx. 25 ft. Distinguishing

characteristics (species I.D. if known, long  
tail, shell color, tags, injuries, etc.):

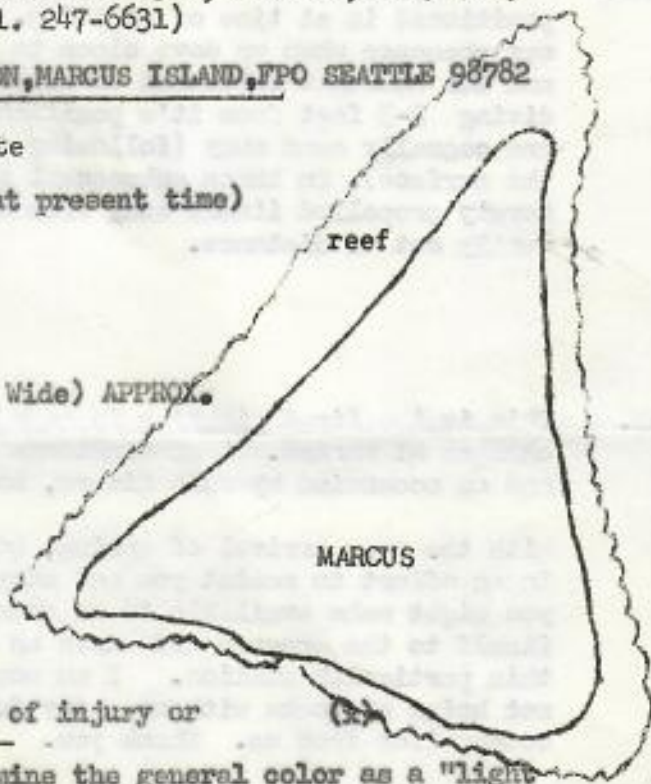
Casual observation revealed no marked evidence of injury or

tags/markers. Visibility was adequate to determine the general color as a "light

Other comments: olive-green with lighter (chamois/yellow) markings on head and carapace.  
No tail was noted. A notch-like indentation was noted at posterior of  
carapace (? sex identification); the plastron was not visualized. The "design" of the  
carapace (although not ornate) was morphologically similar to that of a terrapin, realizing  
no confusion exists between a terrapin and sea turtle.

THANK YOU FOR YOUR COOPERATION

(OVER)



CONT.

The specimen was "at rest", partially obscured by the whole it was positioned in at time of sighting. The subject was apparently aware of our presence when we dove close to it, but showed no outward alarm/fear, and was somewhat reluctant to move until we exhibited active gestures diving 2-3 feet from it's position. The turtle finally left it's place and casually swam away (following the contour of the bed and not towards the surface). On three subsequent attempts to touch the creature, it merely propelled itself away from our reach and then glided rather confidently out of distance.

N.B.

This is the first sighting in some time, perhaps due to the seasonal "winter" changes at Marcus. Other sightings have been made from our recreation craft, and on occasion by skin divers, but usually in the warmer season.

With the near arrival of spring, more sightings might well be anticipated. In an effort to assist you and cooperate with your program, I request that you might make available to us some form of illustrated text. This will lend itself to the program and serve as informative information to all hands at this particular station. I am somewhat of a reptile/turtle 'buff', but did not bring my books with me. Any further help from you will encourage further cooperation from us. Thank you.

*A. E. MacLeod*  
A. E. MACLEOD, RMT, USCG

C/O COMMANDING OFFICER  
USCG TORAN STATION  
MARCUS ISLAND  
FPO SEATTLE, 98782



SEA TURTLE SIGHTING REPORT

(Please return to: George H. Balazs,  
Hawaii Institute of Marine Biology;  
P. O. Box 1346, Kaneohe, HI 96744;

Observation made by: A.H. REINERTSEN, ET3, USCG A.R. MACLEOD, HM1, USCG Tel. 247-6631)

Address & Tel. No. (optional) USCG LORAN STATION, MARCUS ISLAND, FPO SEATTLE 98782

Date: 6 JAN 77 Time: 3 PM Location (indicate  
on chart): Southeast side of island (Lee side at present time)

Observation made from:        shore;  
       boat; or while XX skin        SCUBA diving.

Estimated size (shell length): 20-24" x (18-20" Wide) APPROX.

Turtle seen on:        surface; or at depth of  
approx. 25 ft. Distinguishing

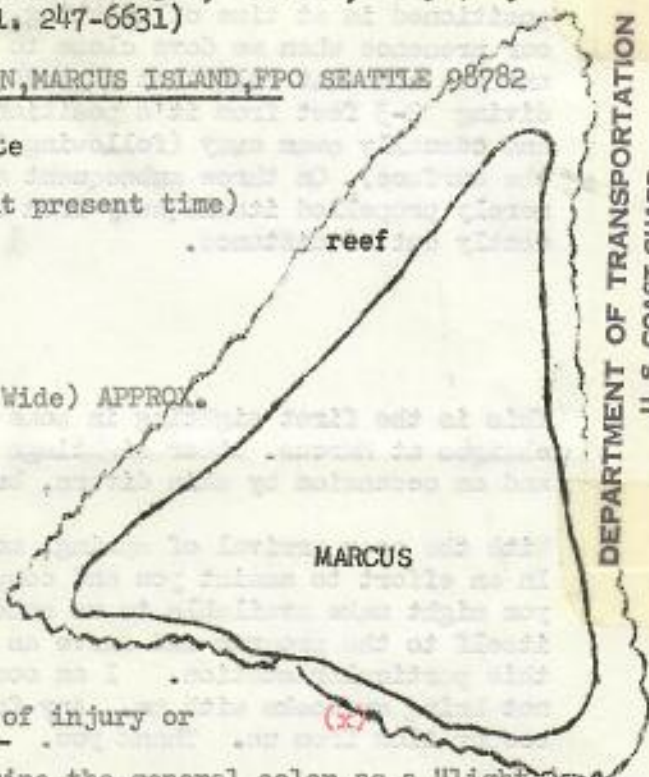
characteristics (species I.D. if known, long  
tail, shell color, tags, injuries, etc.):

Casual observation revealed no marked evidence of injury or

tags/markers. Visibility was adequate to determine the general color as a "light

Other comments: olive-green with lighter (chamois/yellow) markings on head and carapace.  
No tail was noted. A notch-like indentation was noted at posterior of

carapace (? sex identification); the plastron was not visualized. The "design" of the  
carapace (although not ornate) was morphologically similar to that of a terrapin, realizing  
no confusion exists between a terrapin and sea turtle. THANK YOU FOR YOUR COOPERATION (OVER)



DEPARTMENT OF TRANSPORTATION  
U. S. COAST GUARD

Commanding Officer  
USCG Loran Station  
FPO Seattle, Wash. 98782

CONT.

The specimen was "at rest", partially obscured by the whole it was positioned in at time of sighting. The subject was apparently aware of our presence when we dove close to it, but showed no outward alarm/fear, and was somewhat reluctant to move until we exhibited active gestures diving 2-3 feet from it's position. The turtle finally left it's place and casually swam away (following the contour of the bed and not towards the surface). On three subsequent attempts to touch the creature, it merely propelled itself away from our reach and then glided rather confidently out of distance.

N.B.

This is the first sighting in some time, perhaps due to the seasonal "winter" changes at Marcus. Other sightings have been made from our recreation craft, and on occasion by skin divers, but usually in the warmer season.

With the near arrival of spring, more sightings might well be anticipated. In an effort to assist you and cooperate with your program, I request that you might make available to us some form of illustrated text. This will lend itself to the program and serve as informative information to all hands at this particular station. I am somewhat of a reptile/turtle 'buff', but did not bring my books with me. Any further help from you will encourage further cooperation from us. Thank you.

*A.R. MacLeod*  
A.R. MACLEOD, HM1, USCG

C/O COMMANDING OFFICER  
USCG LORAN STATION  
MARCUS ISLAND  
FPO SEATTLE, 98782

(REVO)

*addendum: what sort of markers or tags are we likely to encounter?*





DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

MAILING ADDRESS  
Commander, USCG LORSTA  
IWO JIMA  
FPO SEATTLE 98781

22 February 1980

Mr. George H. Balazs  
University of Hawaii  
Hawaii Institute of Marine Biology  
P.O. Box 1346, Coconut Island  
Kaneohe, Hi. 96744

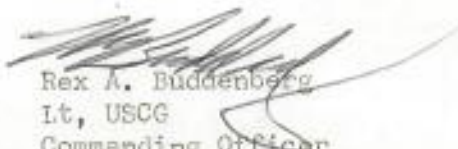
Dear Mr. Balazs;

I have received your letter of 1 February 1980. Thank you for the copy of the clipping.

To my knowledge, there has been no turtle activity on Iwo Jima. No beach tracks have ever been reported by the present crew. It should be noted that prevailing currents past the island travel about 2 knots. In addition, neither our station nor the Japanese Maritime Self Defense Force here permit scuba diving, nor do we permit swimming except under closely supervised conditions. This is due to both beach conditions and the heavy current, in addition to shark activity.

We will keep your enclosures and try to report anything we do see.

Sincerely,

  
Rex A. Buddenberg  
Lt, USCG  
Commanding Officer



DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

Address reply to:

Commanding Officer  
USCG Loran Station  
Marcus Island  
FPO Seattle, 98782

15 December 1976

Mr George H. BALAZS  
Hawaii Institute of Marine Biology  
P.O. Box 1346  
Coconut Island  
Kaneohe, Hawaii 96744

Dear Mr. Balazs,

In response to your letter of November 30, 1976, I will be pleased to offer my assistance to your monitoring program. Sea turtles have been sighted on rare occasions by our recreational snorkel divers. We will document future sightings and forward reports to you.

  
R.W. BRANDES  
LT., USCG





DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

MAILING ADDRESS:  
KEVIN L. RAY  
Commanding Officer  
USCG Loran Station  
FPO Seattle 98782

5 August 1974

George H. Balazs  
Hawaii Institute of Marine Biology  
P.O. Box 1346 Coconut Island  
Kaneohe, Hawaii 96744

Dear Mr. Balazs,


This is to acknowledge receipt of your letter of 26 May 1974 requesting information about the Hawaiian green sea turtle. Please forgive the delay in reply.

I have studied the information booklets which you provided and have in turn released them for the perusal of the other crew members assigned to this station. They have also been instructed to report the sighting of any sea turtles to me and to obtain pictures of same if possible. Your request will be passed on to my relief when he arrives four months from now.

I have now been stationed on this Island for 9 months and during this period have become an avid devotee of beachcombing. I usually walk the perimeter of the island at least once each day and in the preceding 200 or so circumambulations I have yet to see a sea turtle on the beach. In fact the only sea turtle I have seen since I have arrived here was caught by two members of the Japanese Maritime Self Defense Force detachment who are also located on the island. That turtle was sighted and caught by the aforementioned Japanese personnel while they were snorkel diving outside the reef which encircles the island about 100 yards from the beach.

I believe that the reason we have no turtle population is because a sand beach is almost nonexistent. The majority of the beach is composed of coral, pieces of which range from  $\frac{1}{2}$  inch in diameter to 6 inches in diameter. It would be all but impossible for a turtle to dig a hole in this beach. (It's damn hard for us using picks and shovels when we have to dig up or bury a line or something). Also the presence of the previously described reef would make it extremely difficult for a turtle to get to the beach.

I will pass your information request on to the contingent of Japanese stationed here. I hope the information I have provided will be of some assistance to you. If I can be of any further assistance, please don't hesitate to ask.

  
KEVIN L. RAY, LT., USCG  
Commanding Officer

March 7, 1978

Lt. Art French  
Commanding Officer  
U. S. C. G. Loransta Marcus  
FPO Seattle, Washington 98782

Dear Lt. French:

It was a pleasure to make your acquaintance over the MARS system during my recent study visit at Kure. As I mentioned, the periodic occurrence of green sea turtles at Marcus has attracted my attention for the past several years. I was therefore pleased to learn that your station still has a supply of my sighting report forms which were sent to the previous Commanding Officer. Your assistance in this work will be most appreciated. In order to stimulate additional interest, I have enclosed line drawing identification sheets for four of the more common species of sea turtles, as well as a color booklet on Hawaiian wildlife which I recently published.

I greatly appreciate your offer to host me for a one week visit. Hopefully my research schedule will permit this in the not too distant future in conjunction with scheduled Coast Guard C-130 flights from Honolulu.

Sincerely,

George H. Balazs  
Assistant Marine Biologist

mk



UNIVERSITY OF HAWAII  
Hawaii Institute of Marine Biology  
Cassini Island • P. O. Box 1346 • Kaneohe, Hawaii 96744

January 15, 1980

Lt. Bruce Tate  
Commanding Officer  
U. S. Coast Guard LORAN Station

Dear Lt. Tate:

I thought that you and your men would like to have a copy of the enclosed article that appeared in yesterday's Honolulu newspaper.

I am still interested in receiving reports on the sights of sea turtles in the waters around Marcus. Any assistance that you can provide in this matter would be greatly appreciated.

Sincerely,

GEORGE H. BALAZS  
Assistant Marine Biologist

GHB:ec

Enclosures

Pacific Science V8  
Jan 1954

LIBRARY OF  
GEORGE H. DALZIEL

## Report on a Trip to Marcus Island with Notes on the Birds

NAGAHISA KURODA<sup>1</sup>

MARCUS ISLAND, situated about midway between the Bonin Islands and Wake Island in the western Pacific, is a small, remote island which belonged to Japan until World War II and is known to the Japanese as Minami Torishima, the South Bird Island. It is now in the possession of the United States, but a Japanese weather station, constructed after the war, is the only establishment on the island.

A zoological survey of this island was planned by Hokkaido University, which sent Mr. M. Yamada (for the litoral invertebrata) and Mr. S. Sakagami (for the insects). I joined them to make bird investigations, through the kindness of Professor T. Uchida, Hokkaido University, Dr. S. Wadachi, head of the Central Weather Station, and other gentlemen of the Station—Mr. N. Yamada, the Chief Secretary, Mr. Y. Nakada, head of the Marcus Island Section, Mr. T. Doi, the head, and Mr. S. Kitada, the secretary, of the Supply Section, and other people concerned. My cordial thanks are due these gentlemen and also Dr. H. E. McClure of the 406th Medical General Laboratory in Tokyo.

Taking advantage of the supply ship, "Kuroshio-maru" (450 tons), in charge of the Central Weather Station of Tokyo, we left Tokyo Harbor on April 25, 1952, arrived at Marcus Island on April 30, and stayed for a week until we embarked on May 7 to return to Tokyo. It was an intergrading season, the weather ranging from winter to summer type, and the sea was rough with N.N.E. winds which prevailed in about 4-day cycles,

<sup>1</sup> Yamashina Museum of Birds, 49 Nanpeidai-machi, Shibuya-ku, Tokyo, Japan. Manuscript received January 29, 1953.

alternating with a summer wind from S.-S.S.W. which calmed the sea and brought hot atmosphere. Navigating southward through latitudes of about 28-33° N., far east by south of Hachijo Island, the change of temperature and the color of the sea showed the demarcation between temperate and semi-tropical waters. The southerly rear-guards of the Black-footed Albatross, *Puffinus carneipes*, Storm-Petrels, and Skuas, which were migrating to the temperate zone, were already in the cooler area north of the aforementioned latitudes. To the south, tropical species such as *Puffinus nativitatis* and *Pterodroma* were encountered. Sea birds in general, however, were scarce, the main group of oceanic migrants having passed north already, and the tropical species were probably concentrated around the breeding islands. Only the following species were seen en route:

*Oceanodroma tristrami* (or *matsudairae*)

A few were seen scattered over the ocean and followed the ship but were distributed north of about 27-28° N.

*Oceanodroma castro* (or *leucorhoa*)

Two were observed closely on May 10 at about 33° N.

*Puffinus leucomelas*

Many were observed near the mouth of Tokyo Bay on April 26, and a few were seen north of 30° N. on May 10.

*Puffinus carneipes*

Six birds in all were seen north of about 33° N. on May 10.

*Puffinus tenuirostris*

Two or three were seen as far south as about 26-27° N. on April 29. They were later



individuals, as the early birds can be seen along northern Japan in late April.

*Puffinus nativitatis*

Small compact flocks and a few individuals were occasionally encountered south of about 27° N. and also around Marcus Island.

*Pterodroma brevipes hypoleuca*

Occasional individuals were seen sailing over the sea south of 27-29° N.

*Diomedea nigripes*

A few were always seen, sometimes floating on the water, and they followed the ship south to about 28° N., but none was observed to the southward. *D. immutabilis* was not seen; its occurrence in Japanese waters is earlier than *nigripes*.

*Stercorarius pomarinus*

Two birds were seen in Tokyo Bay on April 26, and a bird followed the ship for a while on April 28 at about 28° N.

*Stercorarius longicaudus* (?)

Three birds, probably of this species, were seen at a distance on April 27.

On arriving at Marcus early in the morning on April 30, *Sterna fuscata* and *Anous stolidus* were seen flying about the island but were never observed offshore.

GENERAL FEATURES OF MARCUS ISLAND

The island is situated over 1,000 miles from Tokyo, 600 miles S.E. by E. of the Bonin Islands (Chichijima) and 790 miles N.W. of Wake Island at 24°14' N. and 154° E.,<sup>2</sup> in the same latitude as the north point of Formosa.

According to Yoshida, the former Japanese garrison (crew of "Kasagi") recorded a summer temperature of 87-88° F., rarely over 100° F. The colonists recorded over 130° F. outdoors, at the most 92-93° F. indoors, and in winter never lower than 60° F. Bryan, during a week's stay in August, noted a low of 72° F. and a high of 82° F. The spring temperature during our stay was as shown below:

Date	Temperature	
	Maximum °C.	Minimum °C.
April 30.....	25.5	20.0
May 1.....	27.5	21.2
May 2.....	25.9	19.8
May 3.....	24.6	20.9
May 4.....	25.5	20.7
May 5.....	26.7	22.0

It was, however, very hot indoors, and the sunshine was strong and glaring against white coral gravel, the earth temperature reaching about 45-50° C. The brooding terns and noddies seemed to sit on their eggs to protect them from being overheated, as the eggs were cooler than the gravel. The weather was fine, and the only precipitation was on the night of May 2. Rainfall is rare, and, as fresh water is lacking, the drinking water is said to be obtained mainly during the rainy season in August.

The whole island is formed of coral gravel and is flat, being only a few meters above sea level. It has a triangular litoral line, a little over 4 miles in extent, the white beach being particularly extended at the western point. The coastal reefs are to be found along the northern and northeastern beaches, and the island is surrounded by scattered coral rocks about 200 meters offshore, especially on the northern coast. Formerly, the island must have had some elevated parts, as Bryan reports that "Near the north end the land attains a height of seventy-five feet which was the highest point found," and, "In the middle of the island along this side the highest point is not to exceed forty feet, while at the southeast point an elevation of sixty-five or seventy feet is attained." However, at present the whole island is almost entirely flat as the result of war destruction, and the central planted part is low, reminding us of former lagoons, which he mentioned. At these places he found "four separate deposits of loose black alluvial soil," which were a few feet deep according to Yoshida, but we found such soil to be entirely lacking at present, and there was no sign of

<sup>2</sup> Various other records have been made of its position. Cf. Bryan, 1903: 78-79; Yoshida, 1902: 674.

University of Hawaii



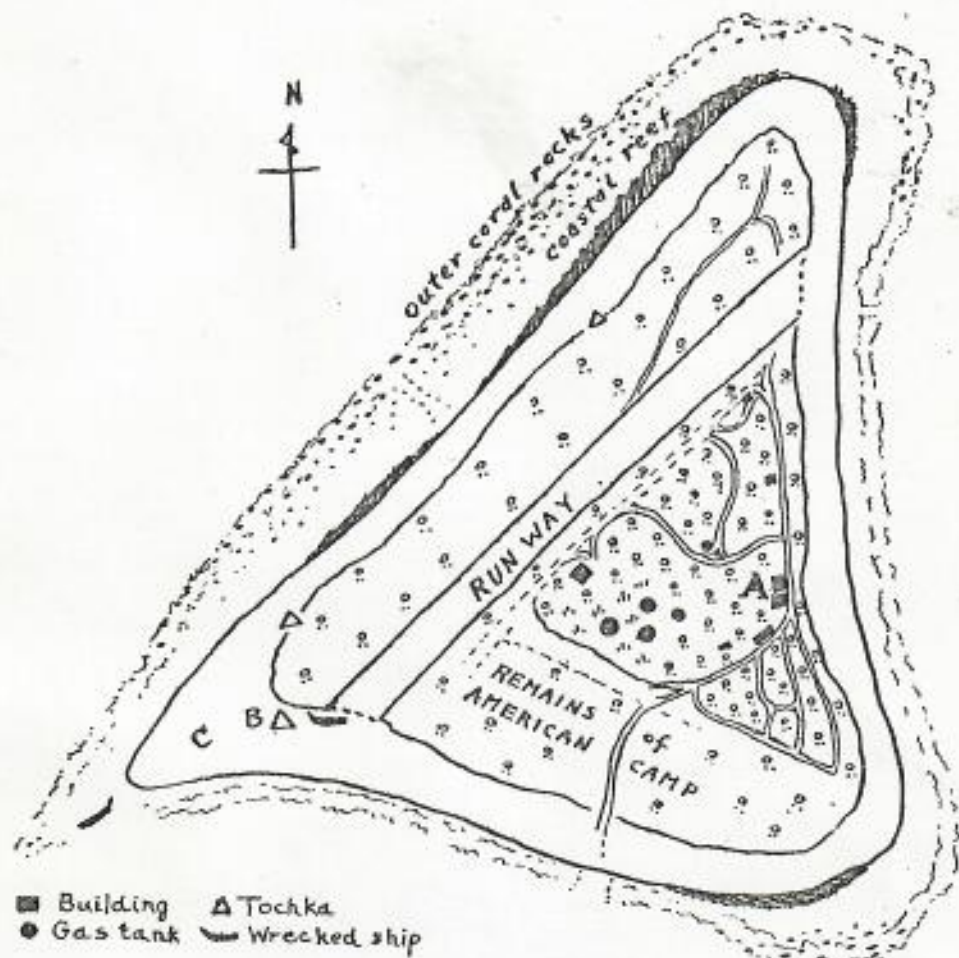


FIG. 1. Map of Marcus Island. A, weather station; B, a tochka on which noddies are breeding; C, main breeding place of the Sooty Tern, which also breeds on the outer coral rocks and flocks on the coastal reef.

the *Cocos nucifera*, which is said to have been thickly planted at these lagoons in an area of about three acres.

The central cover consists chiefly of *Messerschmidia argentea* ('Monpanoki'), a brushy plant, mixed with a few *Pisonia grandis* ('Togemi Udonoki'), with a dense creeping undergrowth of *Ipomoea Pes-caprae* ('Gunbaihirugao') and a few grasses. There were a few poorly grown papayas and five bananas, the latter having recently been brought from the Bonin Islands. It is interesting that Bryan reports no natural papaya, but states that he gave some seeds, together with those of sev-

eral other plants, to the Japanese colonists to plant. Bananas were also introduced formerly, according to him, but have never fruited, and tobacco was then cultivated to be smoked by the colonists. Small land crabs, locusts, skinks, and geckos as well as Oedemeridae were particularly abundant, and we saw a dragonfly of *Sympetrum* type, said to be common in summer. We also obtained a young specimen of *Rattus rattus alexandrinus*, an unhealthy animal, found wild among the *Ipomoea*.

The above general features of the island, however, are now in a devastated state as the result of the recent war.

It is the isl  
Island  
cus is  
taro S  
Japan  
"Era"  
Anoth  
Kinka  
accide  
United  
its cor  
in Dec  
chief o  
Bird a  
island.

former  
tives o  
to Mar  
of the a

This  
mitaki,  
the tra  
fishing  
Mizuta  
ment, w  
cus Isla  
under t

In Jul  
commar  
to the i  
of Dr. B  
lulu, wh  
July 30,  
other Jap  
Shinpo.  
yer, and  
around  
Marcus.

Both  
history,  
and the r  
Bryan is  
ogy. As  
P. Bisho



## BRIEF HISTORY OF MARCUS ISLAND

It is said that an American priest discovered the island first, naming it Marcus, or Weeks, Island (whether Weeks is identical with Marcus is not clear). In November, 1883, Tsunetaro Shinzaki landed on the island as the first Japanese, coming on board the British ship "Eta" of the Yokohama Konshiro Company. Another Japanese, an offshore fisherman of Kiakazan (N. Honshu), reached the island accidentally. In 1889, Captain Rosehill of the United States visited the island and suggested its commercial value to his government, and in December, 1896, Shinroku Mizutani, the chief of the South Pacific section of the Tokyo Bird and Mammal Company, explored the island, followed by Haruzo Kobayashi, a former navy officer. They emigrated the natives of the Bonin Islands and Hachijo Island to Marcus, to engage in collecting feathers of the albatross which was then very abundant.

This trade was assisted by Shichigoro Kamitaki, a trader merchant of Yokohama, and the trade patent for bird-feather collecting, fishing, and salt production was given to Mizutani by the Tokyo Prefectural Government, which, on July 24, 1898, declared Marcus Island to be in the Bonin Islands section under the name Minami Torishima.

In July, 1902, a Japanese cruiser, "Kasagi," commanded by Lt. Akimoto, was dispatched to the island to receive the expedition party of Dr. Bryan of the Bishop Museum of Honolulu, who stayed on the island the week of July 30. On August 28 of the same year, another Japanese cruiser, "Takachiho," with Dr. Shinpo, Mr. Yoshida, newspapermen, a lawyer, and others on board, visited Marcus on a round-trip cruise from Yokosuka-Torishima-Marcus-Bonin Islands.

Both Bryan and Yoshida reported on the history, geology, climate, fauna, and flora, and the more scientific and detailed report by Bryan is of particular importance in ornithology. As curator of ornithology at the Bernice P. Bishop Museum, he gives valuable data

on the bird life of the island, reporting many species which are not found on the island now, including *Micranous marcusii*, which he described as a new species. Yoshida, a geologist, only reports some birds in vernacular names used on the island. According to him, there were 29 colonists (including four women) making their living by catching the birds which they stuffed for exportation. The birds, about 20 species in all, were all sea birds crowding all over the island and were exceedingly tame. They were caught with a bamboo pole with a round net at the end and were stuffed in fast procedure. This regrettable slaughter, chiefly of *Sterna fuscata*, which was the most numerous species, is further described in detail in Bryan's report. Most regrettable is the fact that the albatrosses, *Diomedea immutabilis* and *D. nigripes*, for whose feathers the colonists first settled on this island, were already all gone by that time. The sad history of their disappearance is also recorded in detail in his report.

## PRESENT CONDITION OF THE ISLAND

Until how recently the colonization existed is not certain. However, World War II was undoubtedly the second and decisive crisis for many species of birds, as the physical topography was entirely changed. About 5,000 Japanese troops were garrisoned on the island, and after severe bombardment by United States planes they retreated from the island before the end of the war to be replaced by American troops. The newly constructed camps and materiel of the latter were then all destroyed (a few trucks and jeeps have been repaired and are now in use on the island) by a violent typhoon, accompanied by storm waves which washed out almost one third of the island. (Bryan reports typhoons of particular violence in October, 1901, and September, 1902.) Subsequently, a weather station was constructed on the eastern coast by the Japanese under the supervision of American occupation forces (construction was begun in December, 1950). About 30



persons are now working at this station, supplied every 3 months with foods and materials from the Tokyo Central Weather Station.

Now being totally disfigured, Marcus Island, which lies peacefully and beautifully with green cover and white beach surrounded by deep-colored semitropical ocean, impressed us as a disappointment as soon as we landed on it. Everywhere on the island are to be found residues of war. All along the coast are trenches, with tochkas here and there on which rusted anti-aircraft guns are still pointing to the sky. On the northern coast, from the eastern end to the western, a broad runway was constructed for occasional visits of airplanes, and almost all the southwesterly one third of the island is left as it was devastated by the typhoon, the ruins of United States camps and trucks scattered everywhere. Thus, the brushy jungle which formerly occupied four fifths of the island (*vide* Yoshida) is now restricted to a small central section through which roads pass and which in many places is dug up for air-raid shelters, while ruined, rusty gas tanks are conspicuous among the green cover.

Under such circumstances, with continuous human intervention, many sea birds which formerly bred abundantly on this island have disappeared completely. The burrow-nesting shearwaters (*Puffinus pacificus*) lost their breeding place in the soily regions, and the ground and tree nesters such as *Puffinus nativitatis*, Frigate Bird, Tropic Bird, and Boobies as well as the beautiful Fairy Tern have abandoned the island. The island, formerly crowded by these birds, is now nothing but a ruined coral elevation. In fact, Bryan reports (August) 18 species of sea birds, including migrant waders, of which 9 species were breeding, and he secured 56 specimens without using a shotgun (the use of a shotgun is said to have been prohibited by the Japanese cruise officer).

On my recent trip (early May) I found but eight species, of which only two, *Sterna fuscata* and *Anous stolidus*, were breeding. The length

of both Bryan's trip and mine was a week, and, although my visit was seasonally earlier, I was told by the workmen of the station that none of the other species come to breed in the summer.

The Sooty Tern (*Sterna fuscata*), which I estimated at about 1,000, should have been at least several times as many formerly. They are unfortunate survivors, because, to my regret, their breeding is still being disturbed. Their whole flock was gathering at the western beach when I landed on April 30, but it was a surprise that only three eggs were found left and few females were about to lay eggs. At this beach many eggs were said to have been taken until just a few days prior to our visit. Two days after, I noticed that the whole flock had given up this beach, scattering to the outer coral rocks of the northern side where wading is necessary to reach the eggs. They seemed to have soon laid eggs at these new, safer places, and this habit has apparently retained their present number. However, if this condition continues, their future decrease to the point of extinction on Marcus is quite certain, and, therefore, I hope that my friends on this remote island will pay attention to the future of their birds.

The noddy (*Anous stolidus*), on the other hand, is a species that has found new egg-laying places on war remnants which are safer than their former favorite sites on the trees, as reported by Bryan, where the eggs were likely to be disturbed by people. A few of them still breed on the coral rocks with the Sooty Terns, but they now breed principally in small colonies on abandoned gas tanks, tochkas, and the like, and even high up on the wireless towers. All these colonies are, therefore, inaccessible, or at least hard to reach, and, though their number is only about 200 in all, this species may increase in the future until these few safe places become crowded. However, compared with the former population their decrease is evident.

Only a few other species of birds were found on the island. Two *Gygis alba* were seen and



FIG. 2. Rusty Tern  
nest photograph.



mine was a week, seasonally earlier, of the station that come to breed in

*fasciata*), which I should have been formerly. They because, to my re- being disturbed. ering at the west- n April 30, but it e eggs were found about to lay eggs. ere said to have days prior to our ed that the whole ch, scattering to e northern side o reach the eggs. aid eggs at these habit has appar- number. How- ues, their future ction on Marcus ore, I hope that island will pay ir birds.

), on the other ound new egg- s which are safer es on the trees, the eggs were ople. A few of rocks with the eed principally ned gas tanks, en high up on e colonies are, least hard to er is only about ncrease in the places become with the for- is evident. rds were found ere seen and

obtained, but they were nonbreeding individuals as both were females with small ovaries; none of the *Anous minutus marcusii* originally described from this island by Bryan was found. About 20 Golden Plovers were the only familiar birds living on the ground, and five American Wandering Tattlers were staying on the coastal reef on the northern side. A Turnstone and a Whimbrel showed up for a 1-day rest on their migration, and a Great Skua (probably) was unexpectedly seen.

According to the station workmen the island is only occasionally visited by the Frigate Bird, and recently an *Ardea purpurea* (probably) and three white Egrets were obtained or noted on the island as stragglers.

#### ANNOTATED LIST OF BIRDS

Although the island was formerly crowded with sea birds, the species known from this island are very few, 32 so far recorded. Situated out in the ocean apart from other islands, Marcus seems to be visited by only a few of the migrant shore birds in very small numbers, but casual migrants or stragglers will be added in the future. Land birds are entirely lacking, and this might be correlated with the history of the formation of the island. It was surprising that we found skinks and ground insects, including ants, on this small coral island. That land birds can not thrive on this island is easily explained by the lack of fresh water and foods such as fruits and a variety of insects,

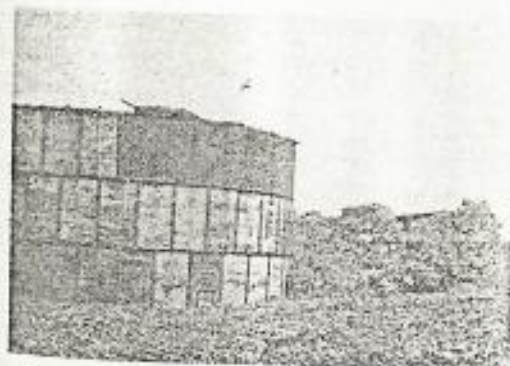


FIG. 2. Rusty gas tanks on which noddies are breeding. Photograph by author.

spiders, or earthworms. Moreover, the only trees are two kinds of small, tropical, brushy ones, and, though they make a rather thick jungle, it is too simple a cover without any big trees which will offer a good, cool shelter for arboreal birds.

Bryan reported 18 species mostly collected by himself, and there are a few species to be added to his list based on specimens formerly preserved in the Tokyo University and in the Matsudaira, Kuroda, Sr., or Takatsukasa Collection, some of which are now deposited in the Yamashina Museum but others were destroyed during the war. These specimens were mostly obtained from stuffed-skin dealers in Tokyo. On the present trip the only species new to the list were sight records of *Numenius phaeopus variegatus* and *Catharacta skua* (not definite) and the herons of which I was told by the station workmen.

The list of known species are as follows:

1. *Fregata minor minor* (Gmelin)

Bryan reports, under the name *Fregata aquila*, a full note on nest and chicks and mentions how it attacks the boobies. There are three specimens, in the Yamashina Museum, one adult and two juveniles obtained in 1911, and there were six more specimens (1911 and June, 1910) in the Kuroda and Takatsukasa collections (all destroyed). A bird is said to have appeared in May, 1951, and late April, 1952.

2. *Sula leucogaster plotus* (Forster)

Bryan observed only a few individuals on the rocks but saw a young bird which had been captured and kept alive by the colonists. He reports this gannet under the name *S. cyanops*.

3. *Sula sula rubripes* Gould

Thousands were breeding in August when Bryan visited the island. A detailed field note on eggs and chicks is given by him.

4. *Sula dactylatra personata* Gould

Under the name *Sula piscator*, Bryan reports a few observed specimens of this



- booby and one specimen given to him by colonists.
5. *Phaethon rubricaudus rothschildi* (Mathews)  
Bryan reports in detail on its breeding, eggs, and chicks but mentions that it was already decreasing at that time. Two specimens are now in the Yamashina Museum, one a former Tokyo University specimen, September, 1902, and the other from the Bernice P. Bishop Museum, August 5, 1902.
  6. *Phaethon lepturus dorotheae* Mathews  
No record is found in literature except in the *Hand-List of the Japanese Birds* (1922, 1932, 1942). The source has apparently been the specimen in the former Kuroda or Takatsukasa Collection, now destroyed.
  7. *Oceanodroma furcata furcata* (Gmelin)  
Also reported only in the Japanese hand-list, 1932 and 1942.
  8. *Puffinus pacificus chlororhynchus* ('cuneatus') Lesson  
Bryan found this species nesting in burrows at soily places, and many were seen by him resting under bushes or logs. Eggs and chicks are also reported.
  9. *Puffinus nativitatis* Streets  
Young of all stages are reported by Bryan, who found this species under bushes or roots, together with *P. pacificus* and tropic birds, but never in burrows. There is one specimen, dated November, 1913, in the Yamashina Museum (former Matsudaira Collection).
  10. *Pterodroma* (?*brevipes*) *hypoleuca* (Salvin)  
[For specific name cf. Austin, Jr., 1952: 393.]  
Not reported by Bryan, but in the Yamashina Museum (former Matsudaira Collection) there is one specimen obtained in October, 1908.
  11. *Bulweria bulweri bulweri* (Jardine and Selby)  
Only recorded in the Japanese hand-list, 1932, 1942.
  12. *Diomedea immutabilis* Rothschild  
Only one was seen and another was secured by Bryan, who reports the former abundance and slaughter by colonists.
  13. *Diomedea nigripes* Audubon  
None of this species was seen or secured by Bryan, but he reports that he was told that it was as abundant as the above species.
  14. *Tringa incana incana* (Gmelin)  
Few of this subspecies probably visit Marcus Island regularly. Bryan observed several birds in August and secured a specimen from the colonists. I saw five birds during my stay, obtaining one bird on May 1.
  15. *Calidris ferruginea* (Pontoppidan)  
Only recorded in the Japanese hand-list, 1922, 1932, 1942.
  16. *Pluvialis dominicus fulvus* (Gmelin)  
This species is a familiar plover on Marcus and is said to be seen in almost any season. About 20 were on the island, and I obtained two samples on April 30 and May 5. They were seen all the time on the hot surface of the runway or on the roads through the jungle, only appearing on the beach to bathe and drink water. Bryan observed a flock of 11 birds on August 4.
  17. *Thalasseus bergi cristatus* (Stephens)  
Only recorded in the Japanese hand-list, 1922, 1932, 1942.
  18. *Sterna hirundo longipennis* Nordmann  
Only recorded in the Japanese hand-list, 1932, 1942.
  19. *Sterna lunata* Peale  
There are seven specimens (dated October, 1910) in the Yamashina Museum (former Matsudaira Collection) and one in the Game Management Bureau, Tokyo, with the same date.
  20. *Sterna* an  
Only re  
list, 1922,
  21. *Sterna fu*  
Bryan n  
most abun  
slaughter b  
to Septem  
birds are s  
men date  
Yamashina  
versity Co  
birds and  
mens are l  
Islands, Pa  
About 1  
beach and  
have arrive  
visit on Ap

FIG. 3. A pair  
in company with



(Jardine and

Japanese hand-

Schmid

another was

the former

colonists.

Bon

seen or se-

ports that he

ndant as the

melin)

probably visit

an observed

d secured a

s. I saw five

ing one bird

ppidan)

Japanese hand-

s (Gmelin)

plover on

n in almost

the island,

on April 30

all the time

nway or on

e, only ap-

e and drink

of 11 birds

(Stephens)

Japanese hand-

s

Japanese hand-

(dated Oc-

a Museum

n) and one

ureau, To-

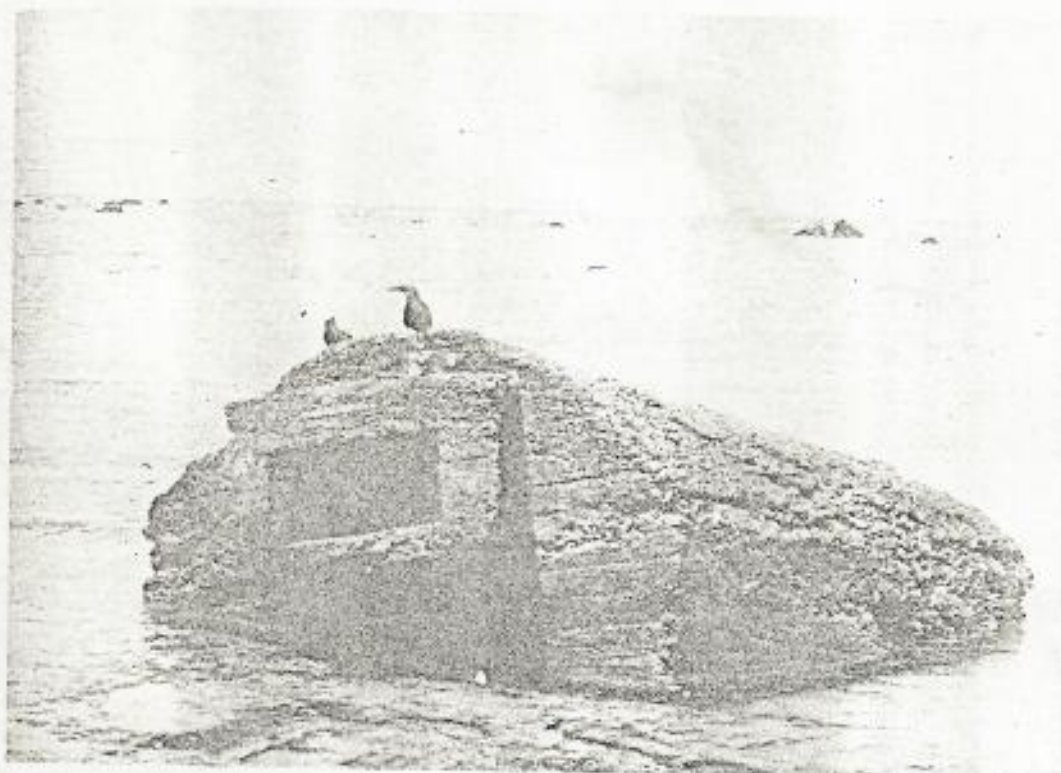


FIG. 5. A pair of noddies on a broken tochka near the shore. An egg lies below them. They are also breeding, in company with Sooty Terns, on the rocks in the background. Photograph by author.

20. *Sterna anaethetus anaethetus* Scopoli  
Only recorded in the Japanese hand-  
list, 1922, 1932, 1942.

21. *Sterna fuscata oahuensis* Bloxam  
Bryan reports this tern as by far the  
most abundant bird and mentions its  
slaughter by the colonists. During March  
to September alone not less than 50,000  
birds are said to have been killed. A spec-  
imen dated September, 1903, is in the  
Yamashina Museum (former Tokyo Uni-  
versity Collection), and I secured eight  
birds and three eggs. The Marcus spec-  
imens are larger than those of the Bonin  
Islands, Palau Island, or Riukiu Islands.

About 1,000 were breeding on the  
beach and coral rocks. They are said to  
have arrived about a week before our  
visit on April 30. The female lays a single

egg. No chicks were seen. In the early  
morning they were scattered around the  
island and gathered in a flock on the  
beach or coral reef. All day long, almost  
always in pairs, they were flying high and  
low, sometimes soaring at a great height,  
over the island to and from the coastal  
breeding place. Their white underparts  
and underwing coverts are quite beau-  
tiful when seen from below against the  
background of deep blue sky. Toward  
the evening and at night they were par-  
ticularly noisy around the colony. When  
the colony is intruded upon, they crowded  
noisily over the intruder with harsh cries,  
almost attacking his head, and always  
from behind. Once a flock was observed  
fishing a little offshore on the northeast  
side of the island where squid (and, con-



sequently, big fishes) are abundant. All the birds obtained, including also *Anous* and *Gygis*, had small squid in their proventriculus. They never seemed to go far from the island.

22. *Procersterna cerulea saxatilis* Fisher

Only one specimen (purchased in Tokyo) obtained in August, 1911, was in the former Kuroda, Sr., Collection.

23. *Anous stolidus pileatus* (Scopoli)

This noddy was found by Bryan breeding in good numbers preferably on trees, and all stages of the young were seen in his visit in August. I found about 200 birds breeding in separate colonies on ruined gas tanks (four in number, about 10 pairs on each), a small wooden tank, and an abandoned tochka, and a few birds high up on the top of the wireless tower. A few isolated pairs were nesting on the beach and coral rocks. Seven examples and four eggs were obtained.

Their flight is different from that of the Sooty Tern (slower wing beats), and their edged, pointed wings often looked like those of a falcon; their large tails are very characteristic. They often skim near the water surface which they touch with their bills, probably to drink. A pair was often observed to make a rapid circling flight, almost touching each other, with very rapid flapping, then to rise higher and higher into the sky. This is apparently a kind of pleasure or courtship flight. Pair after pair were flying rather low over the island between the colony and the coast and were often observed picking up nest materials—small sticks, dried grasses, etc.—from the ground while fluttering their wings. At their colonies they sat closely on the eggs, and now and then the whole group took wing to circle around the colony for a while and then settle again. A few were seen at a great height on the wireless tower, sitting and bringing back nest materials, and flying until after dark.

Their voice is quite characteristic, rather resembling that of a crow though much weaker, and they make two sounds—a call note of one syllable and an alarm note, translated by Bryan as K-r-uk, K-r-u-k. These voices, heard in hot atmosphere, are very impressive.

*Anous* differs from *Sterna* in various respects besides external characters and voice. The body fat and yolk of the egg are yellow instead of orange as in *Sterna fuscata*; the sternum, which is double notched posteriorly in *Sterna*, is single notched in *Anous*; the syrinx, correlated with the characteristic voice, is peculiarly provided with a gelatinous cover; and the caeca are long, not being the small attachment usual in the gulls and terns.

24. *Anous minutus marcusii* (Bryan)

The original description is given in Bryan's report based on two adults and fledged young. He reports that this species was much less abundant than the previous one. The Yamashina Museum has two specimens obtained in 1910 (former Tokyo University Collection), and another is in the Game Management Bureau Collection, dated December 4, 1908. None of this species was found during my visit.

25. *Gygis alba candida* (Gmelin)

Bryan reports this species as quite common, breeding in jungles, and he observed many grown chicks. Now it apparently does not breed, for the only birds seen, which were obtained, were two females with reduced ovaries. They were flying over the wooded parts and resting in *Messerschmidia*. The basal half of the bill is a beautiful cobalt blue, the rest being bright black; the iris is almost black; the feet are bluish white with creamy white webs and black claws; and the skin is grayish black.

There are two specimens in the Yamashina Museum, dated September, 1900 (Tokyo University Collection), and No

vember,  
and ano  
is in th  
Collectio

26. *Larus* and

A Mar  
by the c  
reported  
four time  
He was  
gull had  
The follow

27. *Numenius*

(Scopoli)  
I obse

28. *Calidris*

Bryan  
served o

29. *Arenaria*

Bryan  
August -

30. ?*Cathartes*

One b  
in the ear  
at a poc  
was prec  
soon so  
Sakagam

In addition

species are re  
by the weath

31. ?*Ardea*



ember, 1910 (Matsudaira Collection), and another example with the latter date is in the Game Management Bureau Collection.

26. *Larus argentatus vegae* Palmèn  
 A March specimen was given to Bryan by the colonists, who are said to have reported to him that it had been obtained four times previously in the winter season. He was told also that another species of gull had sometimes occurred.  
 The following are sight records.

27. *Numenius phaeopus variegatus* (Scopoli)  
 I observed one bird on May 6.
28. *Calidris acuminata* (Horsfield)  
 Bryan reports a single example observed on August 6.
29. *Arenaria interpres interpres* (Linné)  
 Bryan observed a flock of 11 birds on August 4, and I saw a bird on May 1.
30. ?*Catharacta skua*

One bird was observed from a distance in the early morning of May 3 (after rain) at a pool remaining on the runway. It was preening its feathers and flew off soon so that I could not see it, but Mr. Sakagami saw the white part on its wings.

In addition to the above, the following two species are to be added, of which I was told by the weather station workers.

31. ?*Ardea purpurea*

A bird was caught in mid-April, 1952. It was in an exhausted state and was finally caught by hand, apparently a straggler.

32. *Egretta* sp.

Three white egrets stayed on the island during the summer of 1951 and disappeared after a typhoon.

REFERENCES

- ANON. 1902. (Historical notes.) *Chigaku Zasshi* [Jour. Geol.] 14(166): 567-568, 683-690.
- AUSTIN, OLIVER L., JR. 1952. Notes on some petrels of the North Pacific. *Harvard Univ., Mus. Compar. Zool.* 107(7): 391-407.
- BRYAN, W. A. 1903. A monograph of Marcus Island. *Bernice P. Bishop Mus., Occas. Papers* 2(1): 77-126. [With appendix of fish list.]
- INOMA. 1904. (Historical note.) *Chigaku Zasshi* 16(191): 730.
- KURODA, NAGAMICHI. 1913. (Record of *Procersterna*.) *Dobutsugaku Zasshi* [Jour. Zool.] 25(298): 419.
- NAME, M. 1905. Animals of Marcus Island. [Review of Bryan report.] *Dobutsugaku Zasshi* 17(201): 218-226.
- ORNITHOLOGICAL SOCIETY OF JAPAN. 1922, 1932, 1942. *A band-list of the Japanese birds*. Ornithological Society of Japan, Tokyo.
- YOSHIDA, O. 1902. Minami-Torishima Shisatsu [An Inspection to Marcus Island]. *Chigaku Zasshi* 14(166): 674-678.

UNIVERSITY OF TORONTO LIBRARY