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## THE MATING AND NESTING HABITS OF FREGATA AQUILA.

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Among the many interesting birds to be found on Laysan Island, perhaps, one of the first to attract the attention of the visitor is the man-o'-war, *Fregata aquila* (Linn.). Floating gracefully a few feet over head it follows a new comer about with curious interest. One cannot fail to be impressed with the beauty and grace of these creatures. The male is especially distinctive with its jet-black body, iridescent scapulars, long forked tail that opens and closes at intervals like a pair of shears, and its unique gula-pouch, that, during the mating season, is inflated into a large sack-like affair, bright red in color, and for all the world like a toy balloon.

Naturalists have speculated long as to the use of this gula-pouch of the man-o'-war bird. During a several weeks' residence on Laysan, which fortunately fell at the season when the mating and nesting of these birds was at its height, a careful scrutiny of their habits convinced me, at least, that while it served primarily for the attraction of a mate, the gula-pouch may be used also as an aggressive feature with which to frighten an enemy.

Man-o'-war birds were found nesting in large colonies, many acres in extent, building their nests on the tops of low bushes. In some places their nests were so close together



Bush Gannet—*Sula piscator* (Linn.).

The gannets are persistently chased by the man-o'-war birds and made to disgorge their hard-earned prey.

that the occupant of one was often disturbed by the flopping wings of its neighbor. The male takes an active part in the nest building and in some instances builds a nest even before finding a mate. In such cases, after his work is finished he sits quietly holding down his claim. If by chance he is frightened from his post, thieving neighbors of the same species will carry away the nest stick by stick.

In the same buoyancy of spirit in which the pea-cock spreads its resplendent tail and the argus pheasant its gorgeous wings, this bird inflates the gula-sack to a size so large that it often conceals from the front the bird's entire body, save only the beak and eyes. Evidently Nature intended this embellishment to take the place of a song as the creature has only a hoarse cackle, far from winsome, which, nevertheless, is kept up incessantly while mating. When a female comes near the nest, the male becomes very much excited, bending back its head, swaying its pouch from side to side, partially spreading its wings and tail, and flopping about in the most ridiculous manner. At times it will rub its pouch against the female, who, true to the instincts of her sex, pretends not to be interested, unless by chance a rival appears, whereupon my lady not only takes an interest but proceeds to drive away the intruder. After the single egg is laid the male does not inflate the gula-sack, excepting on rare occasions.

The birds seem not to mind the presence of man in their rookeries, and will not leave their nests unless the intruder gets very near. One large male refused to leave the egg he was guarding until touched with a stick, whereupon, with gula-sack inflated and open mouth he came directly at the offender. His aspect was not unlike that of an angry sitting-hen, although much more formidable. This demonstration was so unexpected that it was impossible to make a photograph, but most fortunately the year following this incident, Mr. Alfred Bailey, who visited Laysan with a party sent out by the U. S. Department of Agriculture, in making a snapshot of the man-o'-war rookery, caught one of the birds in the same act without being aware of it until the plate was



Female Man-o'-War and Young a Few Hours Old.



A band of thieving pirates watching for an opportunity to rob other sea birds of their prey.



While primarily for the attraction of a mate the gular-sac of the male man-o'-war may be used as an aggressive feature. Note the bird in the upper left-hand corner.



Young Man-o'-War About Ten Days Old.

developed. Through his courtesy the accompanying picture is reproduced.

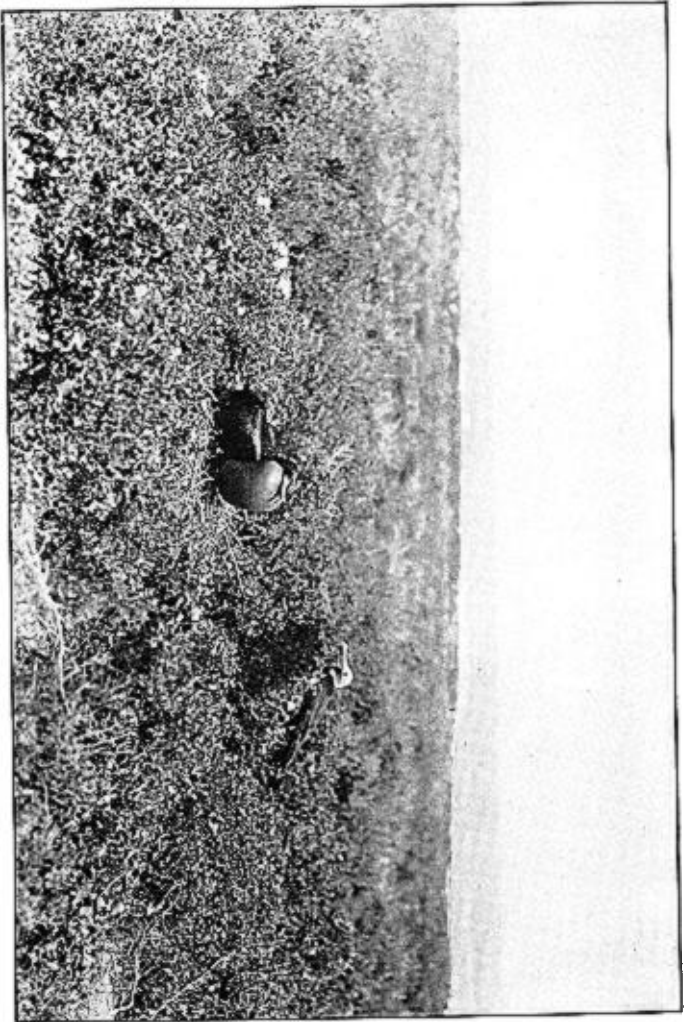
Birds of this species are all cannibals, and will quickly devour any egg or young bird left unprotected; hence constant vigilance is necessary on the part of the parents, who take turns in protecting the nest. Despite this watchful care I more than once saw a youngster dragged from its nest, carried high in the air, and torn to pieces by his harpy relatives.

When suddenly disturbed the parent bird not infrequently disgorges a fish beside its offspring before taking flight. Some observers believe this is to provide food for the young during the parent's absence, but the fact that this fish is never eaten by the young bird would seem to indicate that the parent simply wished to relieve itself of an additional weight so that it could more readily get under way. This inference is supported by the fact that gannets and other sea-birds when disturbed on the beach, some distance from their nests, were observed to act in this same way before taking wing.

Man-o'-war birds are light and spongy in structure, the body, wings, and paper-like bones being filled with a series of air chambers. On comparatively calm days they sail with motionless wings on the air-currents hundreds of feet above the island when it would be necessary for an albatross to fly very swiftly and with much muscular effort in order to keep suspended. Although masters of the air, these birds are almost helpless on the ground, their tiny feet and weak legs affording insecure support for the bulk of their enormous wings; and again, although totipalmate, they never alight on the water. A member of our party once threw a light bamboo stick into the air, thinking that the playful creatures might try to catch it, but unfortunately it came in contact with one of the flyers, and so fragile was its texture that the blow broke both its wings. On another occasion a flying man-o'-war inadvertently collided with an albatross, breaking one of its own wings, while the albatross was apparently unharmed. They are fond of amusement, a fact particularly true of the immature birds that are easily recognizable by

their brown breasts. I saw several of these birds high in the air passing from one to the other a peculiar object, which later proved to be the dead and dried body of a petrel. With little effort they would repeatedly drop one hundred feet or more in a series of mighty swoops and catch the object before it reached the ground. On other occasions, passing close to the surface of the water, after the manner in which they so deftly pick up floating objects, the players would nip at the protruding dorsal-fins of the small sharks that are numerous in the shallow water about Laysan. Frequently I have seen them drink from a small fresh-water pond by scooping up a quantity of water with their long lower mandible as they dexteriously sweep across the surface. This inveterate fondness of play led to the partial destruction of our flag, which we were obliged to remove from its place over headquarters to prevent its complete annihilation. On one delightful occasion a member of the party was startled by having his white helmet, the pride of his heart, abruptly removed from his head. Looking up he saw it sailing swiftly away in the beak of a man-o'-war. They chase other sea-birds and make them disgorge their prey. The gannet especially, being a weak flyer, falls an easy victim to these thieves. I remember one evening observing a gannet that had just returned from fishing, with a crop full of fish, fleeing from one of these birds. At first it seemed as though the gannet would out-fly its pursuer and reach the beach, where it would be more than a match for its enemy; but its load was too heavy. The man-o'-war overtook the quarry, seized it by the tail, and then suddenly raising itself in the air, turned the gannet completely over. When the gannet, thus rudely overturned, lost control and disgorged the contents of its crop, the man-o'-war plunged and actually caught the fish, even as it came from the gannet's mouth.

From previous reports it appears that the man-o'-war birds were less abundant on Laysan formerly than today, the present number being estimated at about 12,500. It seemed strange to us that they should increase in numbers when we observed their wholesale slaughter of each other's offspring;



A courtship affair. The gular-pouch of the male, during the mating season, is inflated to an enormous sac-like affair, bright red in color, and for all the world like a toy balloon. .





Holding Down the Claim.



This youngster objected to having his picture taken and twice it was necessary for the parent to drag its lively offspring back into the nest to prevent it from falling over the edge.

but I believe this slaughter would not be so extensive under normal conditions. Our visits to the rookery disturbing the birds more than was usual, resulted in many a youngster being left unprotected.

It is gratifying to know that these wonderful denizens of the air are not likely to become extinct. Despite their thieving habits they proved to be a constant source of interest, and their unique ways brought forth many a laugh from even the most undemonstrative member of our party.

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## BIRDS BY THE WAYSIDE.

IN GREECE.

BY ALTHEA R. SHERMAN.

We reached Greece by the way of Constantinople. Had the direction of the journey been reversed it would have followed the course of historic Grecian colonization and thus have better pleased those who wish to take everything in its chronological order; but when one has waited more than forty years to visit Greece, it matters little by what route he arrives, so long as a fond dream is realized. This for two score years had been a subject for my dreams, both waking and sleeping, with a difference: The dreams of sleep pictured the Acropolis of Athens in all its ancient splendor. Fulfillment found it, as so often and accurately portrayed by pen and brush of others, leaving little aside from personal sensations to be gained by a visit to it. These proved a surprise for me. It appears that one may know clearly how deeply time and "the unspeakable Turk" have fixed the stamp of death and destruction on this crowning glory of ancient art, and yet in the presence of it be filled with indescribable sadness: such as one may feel at the funeral of a young friend, beautiful, and transcendently noble in character.

With a heart of mourning for the departed race, who wrought so wondrously in art, literature, and national life, one is drawn by a pathetic fascination to solitary wanderings