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XX.—*Notes on Birds in the Western Pacific, made in H.M.S.*
'Constance,' 1883-5. By J. R. H. MacFARLANE, Navi-
gating-Lieut., R.N.

Few parts of the world can be more fraught with disappointment to the ornithologist or entomologist than the inshore passage, known as Smythe's Channel, from the Straits of Magellan to the Gulf of Peñas. Rain, hail, and snow succeed each other, the normal state of this region being one of dampness; but sometimes between the showers a vision of lofty mountains appears in a break of the clouds, or a huge white glacier stands suddenly out in bold relief for a few moments, only to vanish in the mist and rain as quickly as it came. In the brief intervals of fine weather, the snug little harbours look fresh and green, and the heart of the collector is gladdened by the prospect of exploring almost untrodden ground; but this hope is soon dispelled, for so sparsely populated by animal life is this district, that even one having no special interests in that direction would instinctively feel sensible of this great want of animation in the scene. The botanist would probably find a larger field for his researches in the primeval surroundings; but let him tread with caution the mossy banks which look so attractive, for what seems to be solid ground is frequently only a thin green

film spread over the rotten, rain-sodden vegetation of ages, which may be several feet in depth.

The Steamer Duck (*Tachyeres cinereus*), ubiquitous in the Magellan Straits, here shows a great decrease in numbers, and only a few Kelp Geese (*Bernicla antarctica*) are to be seen. At Port Grappler, on the 27th February, three rich ruddy-brown Geese were observed, probably *Bernicla magellanica*, also one or two Shags and Belted Kingfishers, and we shot a few Snipes. Throughout the whole of this channel no traces of human beings were met with. At Grey's Harbour, near English Narrows, a Huanaco was seen and fired at, and in the broad Messier Channel, leading into the Gulf of Peñas, there were a few *Larus dominicanus*.

The change from this damp and verdant country to the dry sandy bay of Coquimbo (30° S.) is very great. Scarcely any green here meets the eye save a few trees round La Serena, seven miles further up the coast, and a small forest of *Eucalyptus globulus* planted round the copper-works belonging to Mr. Charles Lambert, at La Compania, about a mile from La Serena. In the bay there were a good many *Larus dominicanus* in different stages of plumage, but no other Gulls or Terns, also a few Pelicans; and between the 30th March and 2nd April there was a heavy migration, principally at night, of Herons, Egrets, &c.

In the long strip of marsh extending nearly from Coquimbo to La Serena and running parallel to the sea-beach, a few Snipe, Teal, and Curlew may be picked up, and by taking the railway inland fair "partridge"-shooting obtained. These birds look and fly more like a Quail, whistling loudly on getting up; they are really Tinamous (*Nothoprocta perdicaria*), and average about a pound in weight. In March they are somewhat scarce, the rains not having commenced, so that the birds are not down from the hills. In the *quebradas* or ravines there is some pretty shooting in July, August, and September; August being the best month, as the "Tortolas" (*Zenaida aurita* and *Z. boliviana*) are numerous and fly strongly up these gullies in the evenings, giving by

no means easy shots. A migratory fish, called "corbina" (often compared to the salmon, but in reality more like a bass), comes to the bay in November and yields good trolling, a friend of mine having killed one on the rod which turned the scale at 25 lb.

In order of latitude, Arica was the next port visited (October 1883). It lies on another sandy bay somewhat similar to that of Coquimbo, but with a heavy rolling swell at most times, whereas Coquimbo is comparatively smooth. From the bay there is probably one of the finest panoramic views of the Cordilleras to be seen; and close to the southward of the port is the memorable bluff, or "Morro," where during the late war between Chili and Peru, the Peruvians, men and horses, were driven over the cliff, which is several hundred feet high, on to the sea-washed rocks below. A small marsh lies about five miles from the town, the road to it passing the U. S. steamer 'Waterec,' which was thrown up inland by a great tidal wave in about 1876; and there we shot two kinds of Ducks—*Fuligula nationi*, the only Pochard found in the country, and *Dafila bahamensis* of wide distribution—and on the beach Curlew, Golden Plover, Sandpipers, and Skimmers. On the 4th October an immature Arctic Tern, *Sterna macrura*, was found in an exhausted condition in one of the boats on the davits, the most southern locality on record in America for this northern species.

A little more than a hundred miles further up the coast is the miserable village of Mollendo, the sea-port of Arequipa, with which it is connected by rail—being about as ill-suited for the purpose as possible, for the anchorage is bad, and the collected swell of the Pacific seems to hurl itself in upon the ugly black rocks. Landing is difficult and uncertain, being generally effected by a large basket, which is lowered by a crane into the boat. About thirteen miles by rail there is a marsh, probably the largest on the coast, crowded with Coots and Ducks, amongst the latter *Fuligula nationi* and *Dafila bahamensis*, but the last was not in great numbers here.

The bays of St. Juan and San Nicholas, in about 15° S.,

are separated only by a tongue of land. In the former, on the 9th November, Godwits (*Limosa hudsonica*) were exceedingly numerous, eleven being killed with one barrel out of a flock flying past the boat; and in the latter bay, on 23rd September, White-bellied Oyster-catchers (*Hematopus palliatus*) were plentiful. Both these bays are uninhabited, except by a few nomadic fishermen during certain seasons of the year. Independencia Bay (about 14° S.) being only a few miles to the southward of Paracas, where Commodore Markham obtained the celebrated Fork-tailed Gull (*Nema furcatum*), a sharp look out was kept for anything answering to its description, but without success.

Callao Bay and the adjacent island of San Lorenzo (12° S.) would doubtless give very interesting results as regards Laridæ, if observations were extended over a whole year, so as to enable the arrival and departure of birds to be noted. I visited Callao during seven different months, and have tabulated my observations, commencing from my first arrival in April 1883. At that date there were numbers of the North-American breeder *Larus franklini*, the Andean *Larus serranus*, and, especially, the beautiful slate-black Inca Tern (*Nenia inca*) with its curling white moustaches and cherry-red bill and feet. I remained only a couple of days, and on my return in August only *L. serranus* still remained and was in considerable numbers. This is the largest of the Hooded Gulls found on the coast. As we anchored at San Lorenzo towards the end of the month and remained till the middle of September, I had ample opportunities of exploring nearly every part of the island. During my rambles I visited a sandy plateau in the centre, elevated perhaps about 500 feet above the sea, and there found a colony of about a dozen *Sterna exilis*, a species rather larger and greyer than our Little Tern. They were continually flying over one particular part, uttering their short sharp cries, and at one time it looked hopeful as a breeding-place, especially as I picked up one small fragment of egg-shell; but beyond this I could find no traces of nesting. They were exceedingly incensed, either at my general appearance or an old white felt lawn-

tennis hat I was wearing, which, from washing, had assumed the pointed style of a jelly-bag, and they made a combined attack on me, flying straight at my eyes or the apex of the hat, and passing so close that I could almost knock them down with my hand. On the same day (August 28th) I shot a young *Larus belcheri*, a confiding and conspicuous species, which generally sits upon the buoys amongst the shipping. Its breeding-place, like that of the *Sterna exilis*, is, I believe, still unknown. The White-bellied Oystercatcher (*Hematopus palliatus*) and the Black Oystercatcher (*Hematopus ater*) were both exceedingly common on the sandy beaches of San Lorenzo; their native name is "Boquilla," and they are capital eating. I also shot an immature specimen of *Larus dominicanus*.

At this time my ambition was to slay the Condor of the Andes; they were then in fair numbers about the higher parts of the island, and I could generally count from a dozen to twenty at a time soaring over the hills. I soon discovered that at any ordinary distance a 12-bore, although loaded with buck-shot, was harmless, and after firing several times at ranges of 30 or 40 yards with the result of a shake of the tail or an extra flap of the wings, I concluded to resort to stratagem. Taking my spaniel and a short cover-gun loaded with heavy buck-shot, I ensconced myself in a hole at the top of a sandy cliff facing the sea, and tied up my dog; his nature is a restless one, and he shows his disapprobation of any restraint by constant whining, which, as a general rule, is annoying, especially if waiting for ducks, but it suited the circumstances of this case admirably. I had provided myself with a novel, and basking in the sun made myself very comfortable. Soon I perceived that the plaintive noises made by my dog had produced an effect; gradually the Condors passed and repassed in their majestic flight, curiosity bringing them each time nearer and nearer, till at last I saw the most inquisitive bird passing within five yards of my retreat, when to drop the book and deliver the contents of both barrels was the work of a second. To see a heavy bird such as a Mallard suddenly drop with a thud is generally

satisfactory, so my feelings may be understood when my raptorial friend plumped down about two hundred feet below, sliding and rolling down the deep sand of the precipice, at the foot of which I found him lying as dead as a stone. The next question was, what to do with the carcase, being about four miles from the ship with a hill of about 600 feet high to cross, through sand up to the ankles and under a blazing sun. I decided on cutting off the wings at the shoulder for a fire-screen, with his neck, head, and claws as trophies, and with these articles tied round my neck I commenced my homeward tramp. Although triced by the bones close up to my neck the tips of the wings trailed on the sand and, being extended, hung like an immense cloak over my back. Whether for this reason, or owing to the strong smell emitted from the bird, I am unable to say, but I had no need now for my dog's whinings, as all the way in my ascent the Condors wheeled round my head in uncomfortable proximity, and I had to fire at them several times with small shot when they came, as it seemed, almost dangerously near.

In August and September, 1883, the South-American Great Skuas (*Stercorarius chilensis*) were abundant in Callao Bay, and they lead the Gulls a hard life during the time their presence lasts; but I am told that during part of the year they are not seen in the harbour, being probably away at their breeding-places. On the 17th and 18th November, 1883, I shot two specimens of *Stercorarius pomatorhinus*, which Commodore Markham had been the first to obtain in this locality, the most southern on record for America.

Close to the anchorage at San Lorenzo and much in the way, was an old sunken dock; and, partially with a view of seeing if the wreck could be removed, as well as for practice, two large cylinders of gun-cotton were exploded. The number of fish stunned was truly wonderful, the water being literally covered. Scarcely any under a pound weight were thought worth collecting, but the pile on our deck alone must have been about ten feet square and three feet high in the centre. Besides which a heavily laden boat was sent to the foreign men-of-war at Callao, and every fishing-craft off

San Lorenzo was filled. Some private communication seemed to exist between San Lorenzo and the Pelicans (*Pelecanus molinae*) at Old Callao Point, a distance of about three miles; as immediately after the explosion a small number were seen advancing from there in Indian file, and in less than a quarter of an hour there was an unbroken line of these birds right across. I have never seen so many before or since on the coast, but I fancy none went empty away.

From the 22nd January to the 21st February, when lying at San Lorenzo, the place was singularly free of Gulls and Terns, no Incas were to be seen there nor at Callao, and although I went over the hills to look for *Sterna exilis*, it was in vain. In February small fry, called here "sardinas," appeared in such numbers that I have seen a bucket dipped over the side of a boat into a shoal and lifted out filled with them. We found them an excellent substitute for white-bait; and numbers of *Larus serranus* and *L. franklini* came also at this time. In April the "sardinas" appeared again, and were lying on the surface of the water in great patches of dead and dying, being probably killed by the evolution of sulphuretted hydrogen from the bottom, well-known on the coast as "the painter." With them came myriads of Gulls—*L. franklini*, some in fully adult plumage, and *Xema sabinii*, adults in winter plumage; the latter hitherto a great rarity so far south, but here, again, Commodore Markham had anticipated me in the discovery.

On the 10th of April no Inca Terns had appeared in the harbour, the local men assuring me that they would be back from their breeding-place very shortly; and it is worthy of notice that on the 21st April, 1883, they were in crowds in the bay. The Peruvian vessel 'La Union,' wrecked here, seemed to be altogether given up to Cormorants (*Phalacrocorax gaimardi* and *P. brasiliensis*). I have often passed it when it has been so closely packed with them that neither on masts nor rigging did there seem standing room for another bird.

My observations lead me to believe that there is no

breeding-ground of any importance on San Lorenzo; but as both Gulls and Terns appear in the harbour at certain periods of the year, and in large numbers, it looks as if there is some large breeding-place adjacent. Of course this does not refer to birds that are known to breed in North America. My theory is, that since the birds have been driven away from their breeding-places, such as the Chinchas, Lobos de tierra, Lobos de afuera, and other guano-islands, they have gone to the small island of Hormigas de afuera, about 30 miles to the west of Callao, seldom, if ever, visited except by a few nomadic fishermen, as it lies out of the track of vessels. The local fishermen told me that at certain seasons the islands were crowded with birds breeding, and that *Nenia inca* was certainly amongst the number.

At Chimbote (about 9° S.), 2nd to 5th August, there were numbers of *Sterna hirundinacea*, the South-American representative of our Common Tern, on the beach; this is the only part of the coast where I have seen them. We also shot several Curlews (*Numenius hudsonicus*).

The bay of Payta (5° S.) claims some notice for its remarkably pleasant climate; for although the surroundings are sandy, it is probably one of the most cheerful-looking places on the coast,—almost continual sunshine without great heat, cool sea-breezes, and a dry atmosphere: rain having fallen about once in the last ten years, on which occasion it flooded the dry bed of a former small stream and did considerable damage to the adobe-built houses, which were never intended for such a contingency. There is no fresh water in the place, it being all brought in tanks, by train, from the Chira river, and sold by the gallon. *Daption capensis* was plentiful outside and in the harbour in July, and I sent home a specimen for identification, taken in 6° S., as well as a white *Procellaria gigantea*, the only one seen on the coast. The Grey-capped Gull, *Larus cirrhocephalus*, was also obtained here, making the fifth example obtained on the west coast of America, and the most northern locality on record.

Payta, like many other places on this coast, is devoid of verdure. It is said that some years ago a tree was painted

on the gable of one of the houses on the beach, so that the passengers by the steamers might have some green object to look at; but the donkeys were so deceived by the resemblance that they considered it should have umbrageous qualities, and in endeavouring to crowd under the fancied shade, they eventually rubbed all traces of the tree away! The Chira river farther up the coast, from which the water is brought to Payta, is, however, well wooded on the banks. A party of officers from the ship, principally midshipmen, camped out on its banks for four or five days, their bag consisting of 83 Pigeons, 77 Parrots, and 44 Squirrels, the latter the chinchilla-coloured animal; but five of the party were afterwards laid up with fever from sleeping on the ground and not off it!

During the months of May and June 1883 we were moored off the town of Guayaquil, about seventy miles up the river of that name, probably one of the hottest and most unhealthy places on the coast; but fortunately we were there in the dry season. The town being nearly always in a state of siege from civil war, it was impossible to make many excursions. Crocodiles abound in the river, and there is no difficulty in shooting numbers; but as they generally manage to glide off the muddy banks into the river unless shot dead, it is poor sport, for they are of no use, unless a skeleton or head be wanted, and the strong smell of musk emitted from the skin is unpleasant. In the early morning, and again in the evening, there were numbers of *Sterna magirostris*, but I never saw one in the daytime. The pretty spur-winged *Parra jacana* was also obtained; and having noticed a flight-line of Parrots coming home from their feeding-grounds in the evening, I had some capital shooting, until they became too wary and raised their line of flight; they are very good in a pie. In October 1885 I crossed the large bay of La Union in a boat and visited several of the islands, without seeing anything but Pelicans, which were in great numbers.

Leaving Coquimbo in February 1884, for a cruise in the Pacific, the first island visited, if it may be so called, was Sala y Gomez (26° S.), on the 5th March. It much resembles

St. Paul's Rocks, in the Atlantic, and is almost as inaccessible, being a small cluster of low black rocks, over which the sea is generally breaking. As on this occasion the swell was comparatively slight, a boat was sent and a landing effected, but not without difficulty. *Anous stolidus*, *Gygis candida*, and *Fregata aquila* were found breeding, and from an egg of the first I extracted a young bird of such a size, that it seemed a wonder how the shell ever contained it; so, as it could not possibly have been put back again, I preserved it in spirit, and I believe it is now in the possession of Mr. Beddard, Prosector to the Zoological Society of London. To find these birds breeding in this latitude, at this time of the year, upsets one's ideas of seasons.

Innumerable sharks were round the ship, and some curious bright-coloured fishes were killed by exploding a small charge of gun-cotton. The sailor seems always to be imbued with a deadly hatred against the shark, and, as a rule, directly one is reported in the vicinity of the ship, the shark-hook and piece of pork soon make their appearance; but the officer responsible for the cleanliness of the ship seldom sees the force of the quarter-deck being turned into a shambles. So at this island we instituted a plan which satisfied the hatred on the one side without interfering with the purity of the decks. The hooked fish being run up under the counter, was secured with a running bowline, and disembowelled by a sailor sent down over the side, then lowered until about one half in the water, when the blood and offal soon brought scores of his old friends round, but not in a very friendly spirit. Tearing and worrying at their defunct chum, they threw prudence to the winds, and necessarily exposing themselves to get at the parts out of water, became easy shots for the rifle; and as shark after shark floated astern, a cannibal festival, hitherto unrecorded in the archives of Sala y Gomez, was celebrated.

Passing to the southward of Easter Island (27° S.), and using a strong glass, the massive carved stone figures, which have been a puzzle to everybody, could be seen standing on the slope of the hill. How these huge blocks of stone came

there, and who were the sculptors, can be only a subject of conjecture. The inhabitants of the island were occupied in stock-raising, both cattle and sheep. The common domestic fowl is found over most parts in a perfectly wild state, and a few were shot, but their freedom had not improved them as an article of food. Close to the anchorage is the extinct volcano of Rano Kao, which is about 1200 feet in height, and has a most regularly formed crater nearly a mile across. Up to about seven or eight hundred feet from the top it contains water, with a thick covering of green vegetation so strongly interlaced that any one acquainted with the paths can cross; but as there are open spaces of water and some very weak spots in the covering, nearly every year some one is lost, and cattle are frequently drowned. One of these water-spaces was sounded with 300 feet of line, but no bottom was obtained. The only birds I saw in the crater were three ruddy-coloured Geese, but I was unable to get anywhere near them. I also saw a tame *Anous stolidus* in one of the houses, so it is probable that this species frequents the island.

Ducie Island, in about 26° S., which was visited on the 16th March, is a very dangerous atoll, having a sandy beach with some clumps of bushes, not more than 40 feet high, on its northern side; and a barrier-reef, over which a very heavy surf was breaking, fringes the remainder. The lagoon is very shallow, and has a few passages suitable for boats in calmer weather. Landing was effected on the northern side, where the British barque 'Arcadia' was laying a total wreck, having most likely gone on shore during night or thick weather. The Red-tailed Tropic-bird, *Phaëthon rubricauda*, was breeding in great numbers, and our blue-jackets enjoyed themselves greatly in collecting eggs and bundles of the red tail-feathers. The latter operation was rendered easy; the birds being without guile, allowed themselves to be lifted up by the feathers, and their own weight did the rest. *Anous stolidus* and *Gygis candida* were also obtained, and there was also a large Petrel, only the eggs of which I secured.

Pitcairn Island, the happy home of the descendants of the

mutineers of the 'Bounty,' in about 25° S., is a thing of beauty to look on after a long sea-voyage, and does not, as is often the case, lose its charms on closer inspection. In its warm moist climate vegetation runs riot, which is perhaps rather providential, as, whether from climatic enervation or from finding that food comes without toiling, the inhabitants are a lazy, good-natured, happy people. Landing is generally unpleasant, as, with any swell, there is no sheltered place; they have, however, two large whale-boats, in which they manage to land the visitor, safe, if not dry. Here, on the 18th March, I found *Anous stolidus* and *Gygis candida*, but not breeding. The natives, however, say that both species breed on the island—the latter, which is appropriately named the "White-bird," in September—and that when the young are strong enough, they all go away till next year.

Sandwich Islands, September 1884. The Golden Plover, *Charadrius fulvus* arrives in great numbers about the latter end of August in this group. In the island of Hawaii, on the hills above the renowned volcano of Kilauea, there are still fair numbers of Hawaiian Geese, *Bernicla sandvicensis*, and I have seen several in a tame state in Honolulu. It is to be regretted that many of the bright-plumaged birds of the Hawaiian group have become nearly, if not quite, extinct, their feathers being not only used as decorations, but some of the rarer kinds forming a part of the regalia. Some very handsome mantles made of orange-yellow feathers of a small bird (*Moho*) are worn on state occasions, and *leis*, or garlands, composed of feathers are worn round the neck or as a hat-band. Choice flowers are also used for this purpose, and at entertainments in Hawaiian fashion the guests are always decorated with these wreaths, which are made by stitching the flowers on cloth. It is a very pretty custom; but as *leis* made out of valuable feathers, although only about two inches in width, command such high prices as \$50, or about £10, it is easy to imagine how soon the handsome-plumaged birds have become exterminated. Mr. Bishop, a banker in Honolulu, has a case of these birds, some of them now very rare.

During the months of October and November 1885, the

Fanning group of islands, lying between 150° and 160° W. long., were visited. Proceeding south from Honolulu, we anchored at Washington Island, but only remained three hours, as, although we were in 50 feet of water, the natives said that, with any wind and swell, it would be breaking at our anchorage. *Anous stolidus* was the only bird shot here. The population consists of one white man and thirty natives; and copra, or the dried kernel of the cocoa-nut, is exported.

Fanning Island is a pretty atoll, being fringed with a sandy beach, on which are numbers of cocoa-nut trees. A portion of the lagoon is quite shallow, but there is a deep entrance and sufficient mooring-ground to accommodate a few very large ships; the tides are, however, exceedingly strong. The inhabitants consisted of four whites and twenty-one natives, occupied with the exportation of guano. *Anous stolidus* and *Gygis candida* breed here, and the lagoon is filled with numerous brilliantly-coloured fishes, amongst which the peculiarly-marked *Acanthurus achilles* and *Julis lunaris* may be mentioned.

Christmas Island, reached on Oct. 6th, is a very large atoll, shaped like a horse-shoe, with the toe to the eastward. The N.W. heel of the shoe, if it may be so described, is a sandy spit on which the few inhabitants, consisting of one white man and five natives, live, and export black-edged pearl-shells. Quite close to their houses I shot two of the little Grey Noddy, *Anous caruleus*, and I picked up an egg, which from its small size and appearance, must have belonged to that species. Being told of a breeding-place about five miles on the north side of the lagoon, I pulled over there in a heavy shower of tropical rain, and found it to be a large "wideawake fair." *Sterna fuliginosa* was breeding there in great numbers, and we collected buckets-full of eggs, off which we had in most cases to push the birds. A few pairs of *Phaëthon rubricauda*, *Fregata aquila*, and *Sula fusca* were also breeding; but there was not a sign of the little Grey Noddy, whose large breeding-place I was so anxious to discover. One of the natives, however, volunteered to pilot me next

day to a small island about ten miles, he said, in the lagoon, and where, according to his account, the Grey Noddy was breeding in great numbers, but unfortunately we sailed next morning. It was here that F. D. Bennett* first found and described this little-known species.

Jarvis Island has been worked for guano; but the works have been abandoned on account of its inferior quality. We found a cat in possession of the house, and signs of the inhabitants not having long evacuated the premises. Malden Island is the most extensively worked for guano, eight white men and one hundred and sixty natives being employed. No birds were seen at either of these islands. In passing Starbuck Island on the 15th October, I could see a "wide-awake fair" from the ship, and landing was attempted in a life-gig; but the risk was too great, especially as the sharks were in strong force and, actuated either by rage or hunger, snapped at the blades of the oars as the boat neared the reef. One *Sterna fuliginosa* was shot from the boat for identification. At Caroline and Flint Islands no birds were obtained, the former having five human inhabitants and the latter, apparently, none.

At Vostök, which was also uninhabited (22nd Oct.), I obtained two specimens of the small Black-checked Noddy, *Anous melanogenys*, and some of their eggs. At Penrhyn Island (25th Oct.) no birds were observed. This island principally supplies the others with natives for labour, having a population of three whites and 370 natives exporting black-edged pearl-shells and copra. A tour of the Hervey or Cook group completed this trip, so far as these islands were concerned; and as no anchorage was found at any of the six visited, our stay was short, and no information could be obtained.

Christmas day 1884 was spent at Juan Fernandez, an island which might be to South America what Madeira is to England. At present it is only used for stock-raising, but enterprise may some day utilize it as winter-quarters; and apart from its associations, it might become a charming

* Narr. Whaling-Voy. round the Globe, ii. App. p. 248 (1840).

resort. Humming-birds are numerous, there being two kinds on the island, viz. *Eustephanus fernandensis* and *E. galeritus*. Fish are very plentiful; any number of cray-fish may be caught; and there is splendid covert for game if introduced.

In concluding these notes, I regret exceedingly that they are so meagre, and that they principally refer to sea-birds, which is not surprising, considering that my life leads me mostly amongst them. It is true that in the necessarily short visits to many places I have been unable to collect or make observations except in a cursory manner; but I still reproach myself with many opportunities lost, and I would especially warn any one collecting against procrastination in shooting specimens. Nothing in this case is so fatal as to put off to to-morrow what can be done to-day.

I have to tender my sincere thanks to Mr. Howard Saunders for kindly revising and assisting me in these notes*.