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AN AVIAN CITY OF THE SOUTH CAROLINA COAST.

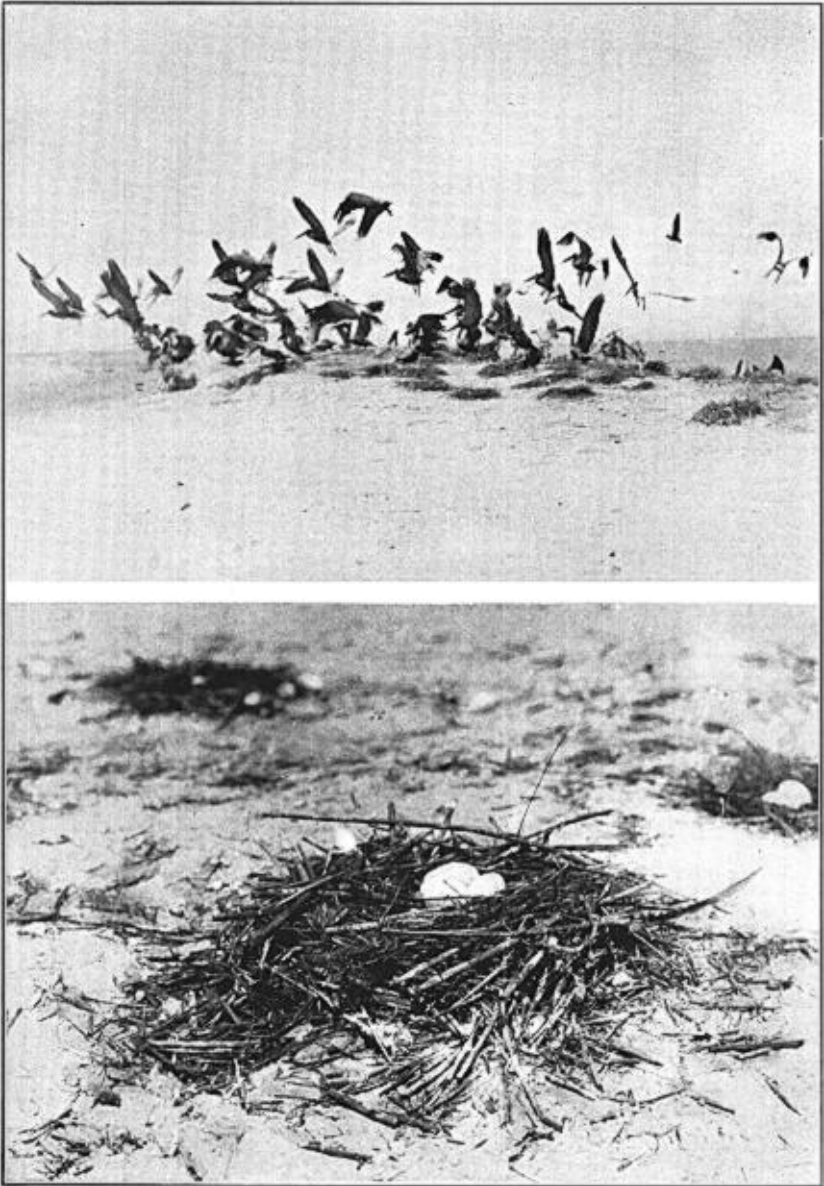
BY ALEXANDER SPRUNT, JR.

Plates XII-XV.

THE coast line of South Carolina is admirably adapted to the wants of the various species of sea birds which visit, and breed, on the out-lying sand bars and banks of our southern shore line. To travelers who have made the trip from northern points to Florida waters by boat, this region will be remembered as a part of the inland water-way, which runs along the Atlantic seaboard, from New York to Miami. The coast line of South Carolina is bordered by a chain of long, narrow islands, broken by inlets and bays, with vast stretches of salt marsh between them and the mainland. These islands are, for the most part, uninhabited, and are grown up in thick forests of pine and oak, interspersed with thickets of cassina and myrtle bushes.

The moss-hung oaks, the dense thickets of palmetto and "Spanish bayonet," which, at times, assume jungle-like proportions, remind one strongly of the tropics. Wild life abounds on these isolated islands, especially the larger ones such as Bull's, Kiawah, and St. Helena, affording a paradise for the sportsman, as deer and Wild Turkeys are common. Bull's Island is noted for the numbers of deer found there with albinistic tendency, and specimens have been taken in which this abnormal condition is total, there being at least one specimen in the American Museum of Natural History, which beautifully illustrates this phenomenon.

Interesting as these islands are, it is the smaller banks and keys



Photos by LeRoy Halsey.

BROWN PELICANS AND NESTS ON BIRD BANK, BULL'S BAY, S. C.

off shore which afford the bird lover rare treats of ornithological delight. For ages past they have been the haunt of the sea birds, and it is gratifying to note that, even with the fast disappearing colonies of so many of these birds in other places, this region is still blessed with its sea bird visitors, and with the strict enforcement of the admirable Federal Migratory Bird Act, these interesting spots can be preserved for years to come.

A trip to one of these breeding colonies is a journey long to be remembered, and well worth anyone's while. Being in museum work, it has been my privilege to visit, from time to time, one or two of these colonies in the vicinity of Charleston, and each visit is always more of a delight than the last. The trip is usually made to banks which lie in Bull's Bay, about fifty miles to the north of Charleston and just south of Cape Romain. The bay is a wide, shallow sheet of water, lying between Cape Romain on the north and Bull's Island on the south. In shape, it is a crescent, the two horns reaching out toward the open sea, and the inner curve bounded by the mainland, with a fringe of marsh extending out for some little distance into the bay. There are winding creeks through the marsh which form a part of the above mentioned inland water-route, which lies, for the most part, behind the chain of islands, which form a natural barrier between it and the ocean, thus making it possible for small craft to make the long journey from New York to Florida.

Leaving Charleston one bright June morning, we crossed the harbor, and entered the water-way between Sullivan's Island and the mainland. This island is a great summer resort for the people of Charleston, and is thickly populated during this season. After running behind it for about five miles, we come to the inlet which divides it from Long Island or the Isle of Palms, the next in the chain. This "link" in nature's great cable is about thirteen miles long and nowhere over a mile wide. As the launch winds its sinuous way along through the marshes, the abundant bird life of the region makes itself known in every direction.

Multitudes of Red-winged Blackbirds flute their musical calls from the myrtle thickets, the bubbling tinkle of the Worthington's Marsh Wren issues from the marshes on all sides, Boat-tailed Grackles wing their way from the mud flats to the bulky nests

among the reeds, and, from the wooded fringe of Long Island comes the note of the Nonpareil, while the soft coo-oo-o of the Mourning Dove echoes from the pines.

A straggling Laughing Gull in all the glory of its pearl gray mantle and slaty hood, floats over us on graceful wing; to and from the vast stretches of the flats, whirl the migrating flocks of shore birds, their white underparts flashing in the sunlight as they wheel and turn like cavalry at drill. There, on a bank of raccoon oysters, stand a pair of American Oyster-catchers, the contrasting black and white coloration standing out against the drab background of mud and ooze. While yet a goodly distance from them, they take wing, whirl off with mellow whistles and alight on a bank half a mile further up the creek.

The shrill call of the Willet is a common sound as these large waders pass over, inquiring in no uncertain terms as to why their domain is being invaded. Herons take wing from the marsh close at hand, both the Louisiana and Little Blue being seen in numbers, and we may even be privileged to see that lovely vision in snow white nuptial dress, the Snowy Egret. There is one now, daintily picking its way across the mud, lifting its yellow feet high, as if disdaining the lowly character of the feeding ground.

As we round a sharp turn in the creek, a magnificent Great Blue Heron springs from the marsh and flaps away with strong wing beats, its long legs trailing behind, while a glance upward discloses a majestic Bald Eagle, soaring in huge circles and waiting for some wandering Osprey to furnish him with a dinner.

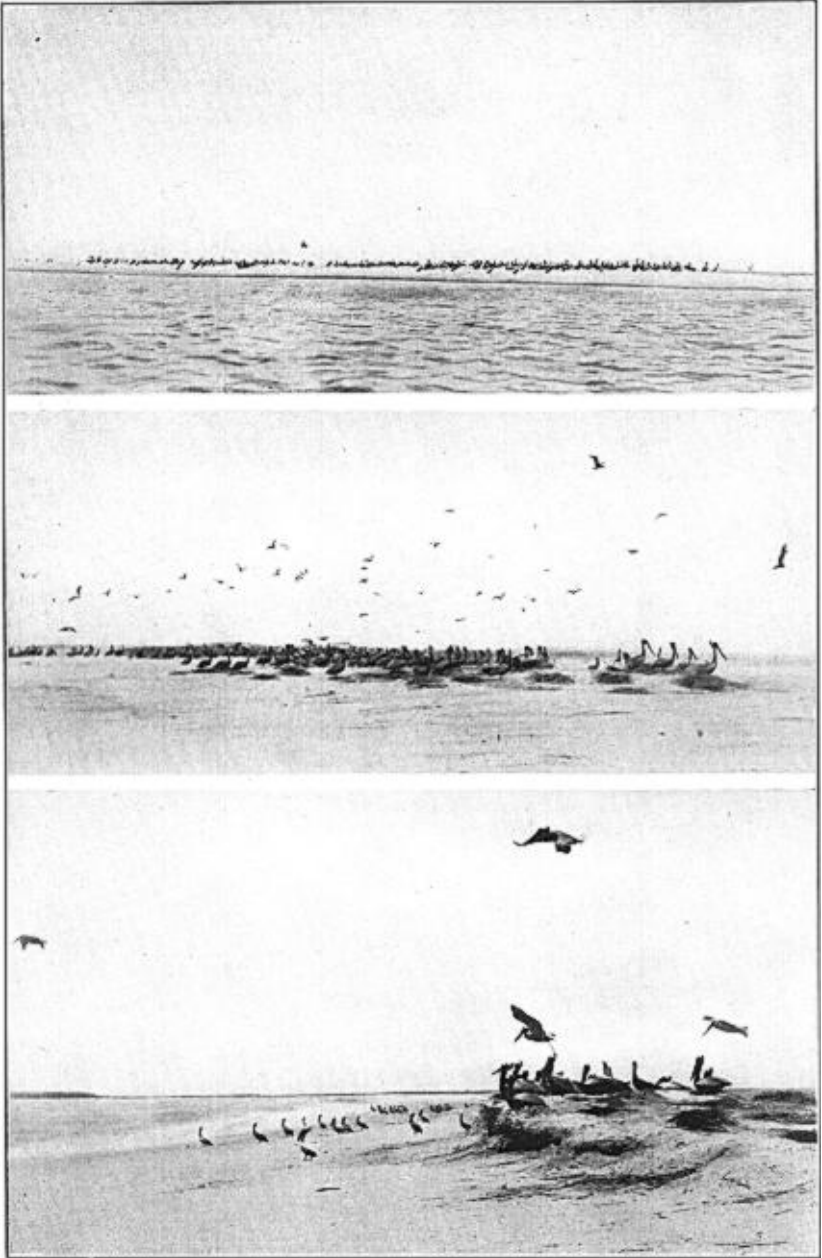
And so on we go along this wonderful water trail, leaving Long, Capers and Bull's Islands behind until we finally round the north end of the last and Bull's Bay lies spread out before us. It is a beautiful sheet of water, but at most times, a dangerous one. Being very shallow, except in the channel, and fronting directly on the ocean, it is wide open to the sweep of the wind, and woe to the small boat caught far out upon its surface when the wind rises, and the swells lift themselves over the low lying sand bars. Only a pilot who knows the winding channel, and is, in a measure, familiar with the shifts of the wind and general look of the weather, should be trusted to take a launch out to the

bird cities on Bird Bank and Vessel Reef, which appear as low dark lines far out in the bay.

The day in question was a beautiful one. A gentle breeze ruffled the surface of the bay into tiny wavelets, the turquoise dome of the sky, flecked with fleecy clouds, arched overhead while the bright sunlight glinted over the ruffled surface with beautiful effect. As we neared Bird Bank, the outlines of the denizens of the city became apparent, (see picture of the Pelicans on the beach). Anchoring the launch about fifty yards from the shore, we got into a skiff and rowed ashore. As we landed on the smooth sands, a wonderful sight greeted us. Fifty to one hundred yards away, were multitudes of those master fishermen of the sea, the Brown Pelicans. There they sat upon their nests, score upon score of them, their long bills resting against their breasts, and eyeing the approaching invaders with solemn curiosity. Off to one side the sand looked as if it was covered with a huge snowy blanket, flecked in all directions with small dark spots. As we neared this strange looking locality, the "blanket" suddenly erupted into the air, with harsh screams, squawks and cries, and, whirling above us, dipping and darting with amazingly complicated gyrations, were hundreds of the beautiful Royal Terns.

There is something in the wild freedom of these magnificent birds that strikes a responsive chord in the breast of every lover of nature. Standing in the midst of the colony, with the natural setting of ocean, sand and sky, at times almost obscured by the cloud of screaming birds, the ground dotted with the eggs and the roar of the surf mingling with the voices of the disturbed and angry terns, one's feelings cannot be described. The clamour is almost deafening as we pick our way between the hundreds of eggs, each lying in its little hollow in the sand, while every now and then, one of the frantic birds swoops with arrow-like swiftiness down almost on our heads, as if to offer fight to these monsters who have invaded its home.

Flocks of Black Skimmers rise from the sand, and wing across our front on long narrow pinons, sweeping and whirling in wide circles, all the while uttering their peculiar barking notes. Coming up to the Pelican city, these great birds rise with a roar of wings to float out over the surf, or to alight further up the beach and stand in dignified groups, and solemnly await our departure.



Photos by LeRoy Halsey.

THE BROWN PELICAN COLONY, BIRD BANK, BULL'S BAY, S. C.

The Brown Pelican is a common breeder on the South Carolina coast, but is very erratic in regard to choosing any one locality as a breeding ground. One year they may be on Bird Bank in large numbers, while the next they may remove to Raccoon Key, further up the coast, and again they may not use either of these places, but pick out a bank many miles to the southward. At the time of our visit to Bird Bank, there were many nests, some well constructed of sticks and sedge, while others had only a suggestion of nesting material. It is not uncommon to find the eggs laid on the sand with absolutely no nest at all. On this bank, the breeding birds have the frequent misfortune to lose their eggs and young through the action of the high tides, which, at times, sweep the bank clean and this prolongs the breeding season in some years, until late in August. Naturally, the Terns and Skimmers share the same fate, and there have been seasons known, in which not a brood was raised on the bank, although the birds made repeated efforts, only to lose each setting by the tides.

The Pelican normally lays three eggs of a dirty white color, and incubation consumes about four weeks. The very young birds are most repulsive looking objects, being entirely naked for the period of nearly two weeks, when a fine white down makes itself apparent in tufts all over the body, to be followed by the light brownish plumage of the wings and back, while the under parts remain white. The feeding of the young is a highly interesting performance to the observer. The parent returns from the sea with the catch, and is instantly set upon by the hungry young, who, one, two and three at a time, thrust their heads down the open pouch and choose a fish to their liking. Their appetites are amazing, and the parents are kept busy throughout the day.

As if to complicate matters for the overworked old birds, the young, when able to walk, desert the nest and wander about over the bank in large droves, which is, to say the least, confusing when the parent returns to look for its own young. The latter are perfectly willing to be fed by any and every old bird which comes, but the old bird is much averse to feeding any save its own individual offspring. The fish taken by the Pelican in this locality are, in the main, menhaden, which are not used as a food fish, and are therefore useless as a commercial asset.

Mr. John T. Nichols has published¹ the following interesting observations, made by Dr. Russel J. Coles on the method of fishing. "When the birds are feeding, the distance of their flight above the surface of the water is carefully regulated by the depth at which the fish are swimming and one, who has not especially studied this point by many careful observations, does not realize how accurately this is gauged. I have often seen a Brown Pelican suddenly dart forward and upward ten to fifteen feet higher and circle back over his prey before making his plunge, indicating that the fish was swimming at a greater depth than expected.

"The plunge is interesting in that it is always headed down wind. As it thrusts its head down, its wings are three quarters closed and extended backward as far as possible, thus throwing the center of gravity in front of any wing support, and the following wind instantly catches in the partly closed wing tips and completes the inversion, then by deft manipulation of its almost closed wings, it maintains its perpendicular position as it volplanes downward.

"It is necessary for such a heavy bird to rise against the wind, therefore, it is only a case of instinctive preparedness that the Brown Pelican always rises to the surface headed up wind in order to be ready for instant flight."

It is a great sight to witness several of these birds over the breakers engaged in procuring food. The quick dart, the resounding splash, and the upthrowing of the bill tells that, in almost every case, the fisherman has landed his catch. Complaint has been brought against the Pelican that it destroys food fish, but the fish taken are useless to man in almost every instance, and this fine species deserves rigid protection, which should be accorded it at all times.

All the inhabitants of this bird city are finished fishermen. The Black Skimmers feed their young almost exclusively on small fry, the bill of the young being highly specialized in its make-up for this purpose. Their habit of immersing the lower mandible, which is longer than the upper, and literally skimming the surface of the water, has given them their name. This species breeds in abundance on the bank. The "nests" are mere hollows in the

¹ Abst. Proc. Linn. Soc. N. Y., No. 30, pp. 20-27.

sand, with a few bits of shell around the three to five eggs, which are of a creamy white ground color, handsomely splashed and blotched with shades of brown and black. The eggs vary in limitless fashion, I have found them almost totally unmarked, while others are very heavily blotched with the colors mentioned above.

The Royal Tern usually lays but one egg in this locality, although sets of two eggs are not uncommon. They are of a light grayish white, evenly dotted all over the surface with small spots of brownish, these spots of course, vary in size, being small, however, oftener than they are large. The young of both the Terns and Skimmers are covered with down when hatched, and are very hard to see when they squat, with outstretched neck, upon the sands. They are adepts at remaining motionless and are a fine example of protective coloration.

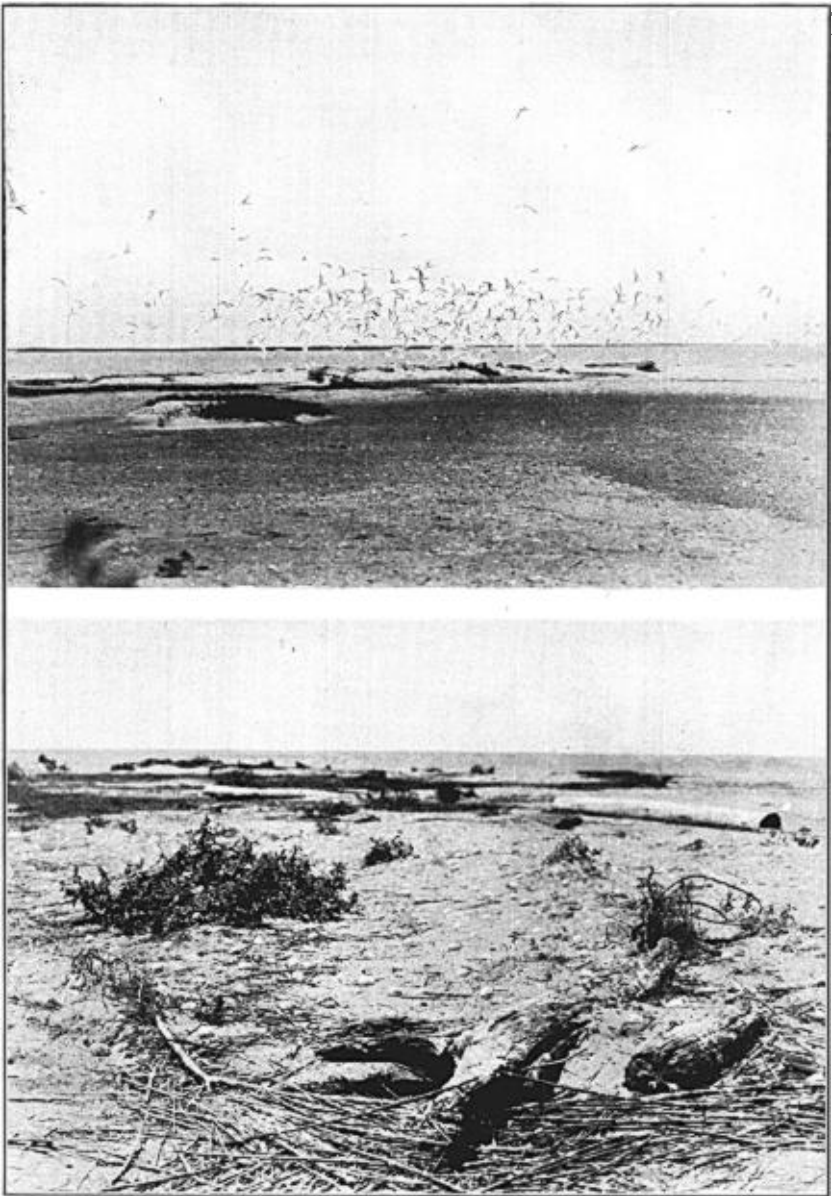
While walking through the Skimmer colony, I noticed large numbers of small, spherical objects dotting the sand around each nest. Examination proved them to be compact little balls made up of the scales, bones and vertebrae of the small fish which form their food, and which had evidently been ejected by the birds, in the same manner that Owls eject the pellets of fur, bones etc. of the small mammals which they prey upon. And so on we walked through the colony, picking our way between the numberless eggs, and the thought that kept presenting itself over and over was, how in the world was it possible for the birds to return and cover their own eggs without getting hopelessly confused in the hundreds that lay about. It is one of those wonders of nature that vies with the uncanny ability of the various species of birds that follow the trackless trails of the air in their wonderful journeys during the migratory season.

On going to the end of the bank, the birds wheeled and settled down upon their eggs with many screams and cries, but with far less confusion than would be expected from so vast an assemblage. The only other birds breeding on the bank were a couple of pairs of Willets, and their nests were found in the small clumps of beach grass that grew just above high water mark. After a couple of hours in this highly interesting locality, we walked back to the skiff, again causing the mass of birds to rise and circle over the sands in a deafening snowy cloud, then pulling out to the launch,

we hauled up the anchor and set out for Raccoon Key, a few miles to the northward to look for a colony of Least Terns.

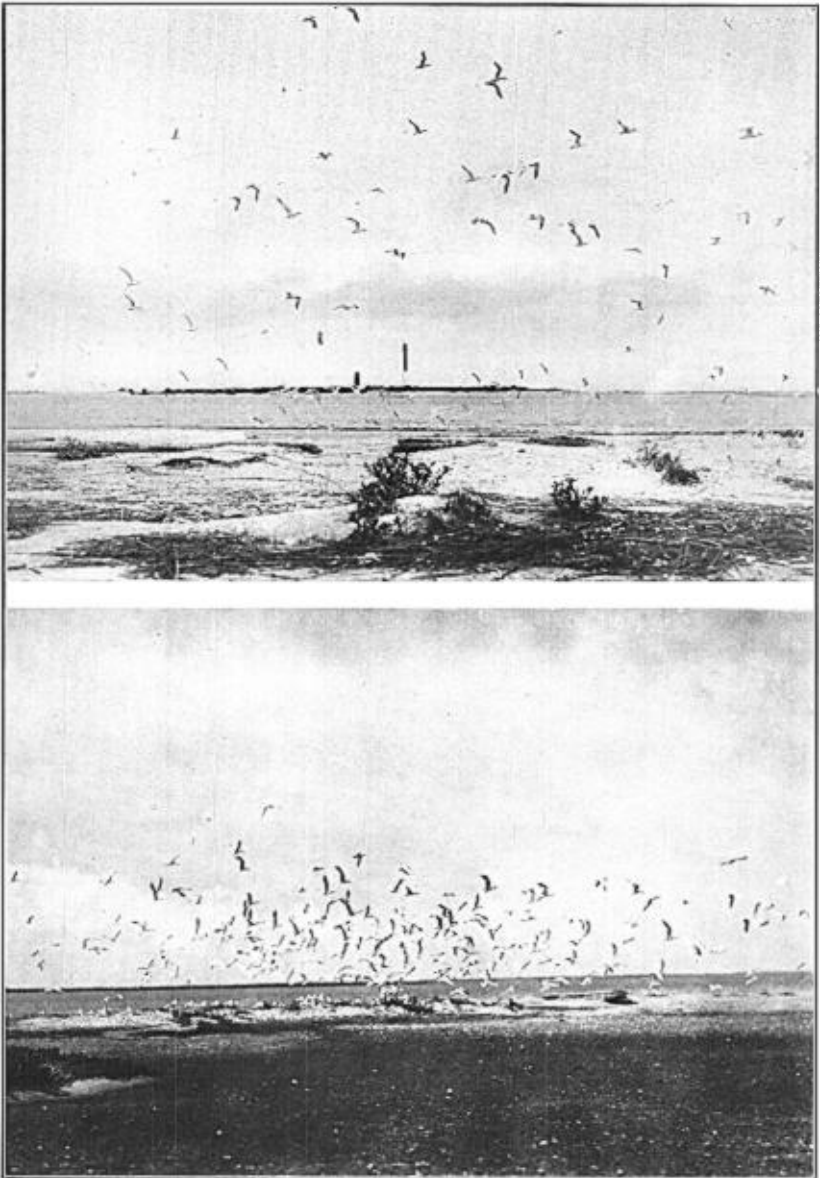
Raccoon Key presents a very different appearance from Bird Bank, and is of much greater size. It is a long, narrow strip of land about thirteen or fourteen miles in length, and from a quarter to a half mile in width, while Bird Bank is only a few hundred yards long and not nearly so wide. The ocean side of the Key is fringed by a small bluff-like eminence, four to six feet above tide mark, and shelves down to a broad flat expanse covered with coarse grass and weeds, which forms the center of the Key, while the landward side is bordered by a stretch of salt marsh.

Landing on the southern end, we walked toward the beach and soon came to a last year's breeding ground of the Pelicans. The mound like nests were everywhere, in various stages of dilapidation, in some cases only the mound of sand marking the spot where one of the homes once stood. Coming out upon a broad expanse of sand, covered with broken bits of shell, we saw the graceful forms of the little Sea-Swallows (Least Terns) springing from the sand on every hand. It seemed at first as though we had stepped into a land of pygmy Terns, when comparing them with their large relatives of Bird Bank. These beautiful little birds are marvels of grace on the wing and do not differ in behavior from the other species in regard to the actions they indulge in when their homes are being investigated. This was not a large colony, about seventy-five pair were all that we saw, but it was a gratifying sight to see even this number as this species was all but exterminated a few years ago by hunters for the millinery trade. Mr. A. T. Wayne writing in his 'Birds of South Carolina,' says that, "hunters came from the north with regular outfits to wage war on these poor, defenseless creatures and in one season alone, all the Terns breeding on Bull's Island were killed." For years after they were very rare and it is only in the past three or four seasons that they seem to be regaining, in a measure, their lost estate. The breeding habits do not differ from the larger Terns except that, the eggs being more protectively colored, are harder to locate against the neutral background of sand and shells which compose the "nest." The number of eggs is almost always three, but sometimes only two are laid. They are very handsome, being marked heavily, or lightly, with dark brown and lilac on



Photos by LeRoy Halsey.

ROYAL TERN COLONY AND ROYAL TERN NESTS, BIRD BANK, BULL'S
BAY, S. C.



Photos by LeRoy Halsey.

ROYAL TERN COLONIES, BIRD BANK, BULL'S ISLAND, S. C. CAPE
ROMAIN LIGHT HOUSE IN THE DISTANCE.

a grayish buff ground color. The birds were, as usual, much disturbed by our invasion, and after a short time we left them in peace and walked along the beach near the high water mark. Two or three nests of the Wilson's Plover were located here but not without a good deal of critical search, for they are very difficult to find, even when only a foot or so away. The eggs are so marked with fine black dots that they harmonize perfectly with their surroundings and often baffle the combined efforts of two or three searchers. These birds are very apprehensive while the nest is being examined and frequently try to lead the observer away by the well known ruse, practised so extensively by many of the shore birds, of feigning a broken wing and fluttering off over the sand with the most plaintive whistles.

More interesting was a nest of an Oyster-catcher, which held an incomplete set of two eggs, and which was found by the merest accident. Willets swarmed in the grass grown portion of the Key, several nests being located in a short time, and in two instances the sitting bird was all but trodden upon before flushing from the neat cup of dried grasses which held the handsome olive-drab eggs. The Willet is extremely noisy, and while at first the notes are pleasing, they rapidly amount to too much of a good thing, and one is glad to leave them and hurry on to a less loquacious community.

The only land bird breeding on the Key was a Nighthawk, and there was the egg, lying on a bare stretch of ground with no nest at all, but perfectly concealed by its coloration, which matched to a T, the ground about it. It seemed a far cry from the roof of a city building, where some Nighthawks rear their young, to a lonely Key of the ocean, but who can question the choice of this individual, who preferred the open spaces of sea and sky, to the roar and grime of the city.

The evening shades were falling as we made our way back to the launch, and soon after pulling up the anchor, and heading southward toward Charleston, the curtain of a southern summer night softly closed around us. The brilliant lamps of the velvet sky blazed and twinkled in multitudinous splendor, while a pair of Skimmers glided by the boat on silent, fitful wing as if to cap the climax of a day which had been nothing but a delight.

*92 South Bay St.,
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