

THE CAPE SABLE SEASIDE SPARROW: ITS FORMER  
AND PRESENT DISTRIBUTION

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THE Cape Sable Seaside Sparrow, *Ammospiza mirabilis* (Howell), was first discovered on the Cape Sable salt prairie by Arthur H. Howell on February 18, 1918. Howell (1919) gave a complete description of the bird and stated his reasons for believing that it should be given specific rank. He later (1932) gave the history of the bird as known up to that time. Although giving the range as, "an area about six miles in length and not more than half a mile in breadth" on the coastal prairie near Cape Sable, Howell mentioned Nicholson's (1928) finding of a singing male about six miles northwest of Pinecrest and stated that "further search in this region may show that the species has a wider range than our present knowledge indicates." At the same time he stated that "there is no country suitable for seaside sparrows on either coast for a long distance northward." This last statement was born of ignorance of the real conditions along the southwest coast of Florida, perhaps excusable at the time. The two statements are entirely contradictory, but in the light of present knowledge, the former was a true prediction. Later investigations on the Cape showed that the sparrows there ranged from Flamingo to behind Northwest Cape, Semple (1936) and Samuel A. Grimes (oral). See map.

Sutton (in Holt and Sutton, 1926) described the labor involved in finding this species and published an excellent colored plate of the bird. However, observations in the field with 7× binoculars at a later measured distance of 36 feet did not disclose the amount of black in the sub-orbital region displayed on the plate but did show the area as described by Howell (1919). Any ornithologist, or bird watcher, who must now rely on sight could do no better than to study both Howell's 1919 description and Sutton's plate before attempting to make a field identification.

Nicholson (1928) recorded finding a singing male of this species in an open grassy savannah about six miles *northwest* of Pinecrest. Although not doubting Nicholson's seeing of the bird at some point, the location as given was so fantastic as a habitat for a Seaside Sparrow that no one actually familiar with the Pinecrest area could give the location much credence. Pinecrest, in 1928, was a small village located on the southernmost segment of the Loop Road (originally surveyed to be the Tamiami Trail). The location is 20, or more, miles from the nearest point on the Gulf of Mexico. Any point northwest of Pinecrest would be, moreover, in the very heart of the cypress

(*Taxodium distichum*) swamps covering the area. Nicholson (1938) again mentioned this place, writing that in 1932, with Joseph C. Howell, Jr., the sparrows had again been found there; but that in 1937, with Arthur H. Howell, John B. Semple, and others, no sparrows could be found,—“in the savannah 7 miles north” (sic) “of Pinecrest.” Correspondence between the author and Nicholson and J. C. Howell, Jr., in 1952 established the fact that the actual location was on a savannah extending out towards the coast from the Lostmans Pine Islands area *southwest* of Pinecrest, the confusion apparently having been due to the windings of the Loop Road and failure to study a map of the area. In Sprunt (1954) this location was more correctly given by the author but lack of space prevented any explanation of the change from Howell (1932).

During the years from 1918 to 1935 many specimens of this bird were taken on Cape Sable for various museum and private collections. Nests, eggs, and young were found; and some determinations of the food habits were made from stomach analysis, see Howell (1932) or Sprunt (1954). It would be interesting to know how many people actually saw the live bird during that period.

On September 2, 1935, the most violent storm on record in the western hemisphere struck the Keys and the Cape Sable area (Tannehill, 1945, and the United States Weather Bureau, 1935). The center of the storm passed over Long Key at 9:20 P.M., and traveling at ten miles per hour, it must have reached the vicinity of Cape Sable about midnight. The center of the storm passed Cape Sable at an undetermined distance at sea, but supposedly within a few miles. At Long Key the center was preceded by a hurricane wave of 15 to 20 feet and accompanied by winds of 150 to 200 miles per hour with gusts exceeding 200 m.p.h. “Reports agreed in the description of the great rapidity with which the rise of the sea came in from the southern side of the Keys as a ‘wave of water’ or a ‘high wall.’” Cape Sable was buried under a wave of eight feet or more. Members of the Roberts family then living at Flamingo had received radio warning and started to walk out just prior to the arrival of the hurricane wave. On December 6, 1935, the elder Mrs. Roberts told me that when they reached the road along the bank of the Flamingo canal the water in the canal was very low, but within a few minutes the water was up to their armpits; and the only thing which saved their lives was the recent elevation, of about two feet, of the road along the canal bank. Going westward from Flamingo that same day I found a line of bleached seaweed festooned for long distances in the trees about eight feet or more above the normal high water mark.

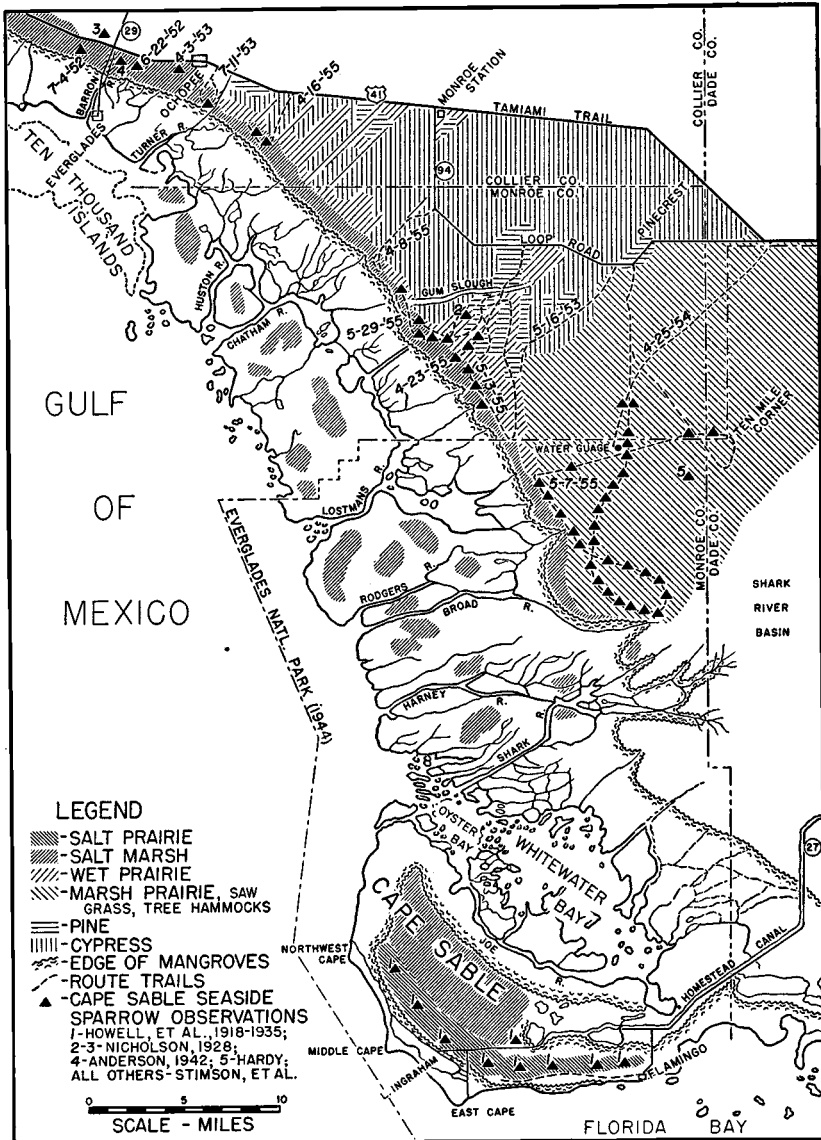


FIGURE 1. Map of the southwestern tip of Florida, showing the range of the Cape Sable Seaside Sparrow.

It seems incredible that any small sparrow could have escaped alive. If any sparrow did manage to get into the air when that eight foot wave struck, it would have been blown to sea towards the center of the storm and would have dropped from exhaustion into the waters of the Gulf long before the storm again crossed land in the vicinity of Cedar Keys, far up the west coast of Florida. To my knowledge no reports have ever come from that part of the coast of the presence of this species since the storm. Semple (1936) does state that the bird was in its usual haunts on Cape Sable in April, 1936. That he must have been mistaken in his identification seems apparent from later information. Nicholson (1938) states that Mr. Semple was with a party consisting of Arthur H. Howell, Thomas D. Burleigh, and others on May 19, 1937, at Cape Sable, and though they all searched areas where they had formerly found the bird, none could be found. Burleigh (1939) states that he and Mr. Semple searched the area on December 8, 1938, but no sign of any sparrow was found. During the winters from 1946 to 1950 many reports came from the area of the presence of the Cape Sable Seaside Sparrow. In most cases the bird seen was simply the common-in-winter Savannah Sparrow (*Passerculus sandwichensis*). In other cases, Sharp-tailed Sparrows (*Ammodramus caudacuta*) having a similar flight pattern may have been mistaken for Cape Sable Seaside Sparrows. In fact scratch feed was put out near the fishing camp and boat livery on the canal near Flamingo which attracted the Savannah Sparrows. Many people were told, or believed, that they were Cape Sable Seaside Sparrows. On May 14 and 29, 1949, Robert Woodmansee and I combed the entire prairie from Flamingo to a point about 11½ miles to the west where the Homestead Canal enters Lake Ingraham and could find no trace of any sparrow. Both were familiar with *A. mirabilis* and its song in its Collier County breeding area. If present in winter, this bird would be present in summer. The irrefutable fact remains that since the 1935 storm no Cape Sable Seaside Sparrow has been observed or reported from Cape Sable during the period from May 15 to August 1; during which period no other species of sparrow would be present, and the Cape Sable Seaside Sparrow would be in song and easily found. It seems obvious that all sparrows of this species then present on the Cape were destroyed by the 1935 storm.

Many began to feel that the species had followed the Great Auk into oblivion. However, such was not the case. Nicholson's find in 1928, and 1932, preceded the 1935 storm. The error in location as published was unfortunate. However, we now know that the

sparrows were in the presently known range long before the hurricane. They were not blown up there by the storm. It is my belief that they have existed there since their evolution.

The new locations given later in this article were determined by the view of a singing male during the breeding season, and two specimens were taken near Ochopee and were sent to the National Museum for the Fish and Wildlife Service collection, see Stimson (1953).

Anderson (1942) and Stimson (1944 and 1948) record a colony in southern Collier County. The four men who knew of this location felt that it should not be divulged exactly until a definite establishment of more colonies had been made. It can now be told that the spot was in the marsh close to the corner of the Tamiami Trail and the road running north to La Belle from Everglades (city). In Sprunt (1954) I listed two other locations in the neighborhood, together with a location found in 1949 by Lamond Hardy southeast of Pinecrest. The two specimens taken in 1952 were obtained at the location about a mile east of the Anderson discovery point.

Nicholson has written me that in an old notebook for 1928, recently found by his wife, he had recorded hearing several *A. mirabilis* songs on the north side of the Tamiami Trail about a mile west of the Everglades crossroad. Both alone and in company with William G. Atwater, I have searched at several points westward from the most westerly known colony (about two miles west of that crossroad) as far even as the small marsh near Shell Island south of Naples, but no more colonies have been found in that direction. The search was confined to the southerly side of the Tamiami Trail. West of the Everglades crossroad there are several areas of salt and transition marsh on the northerly side of the Trail, and further search may reveal the presence of colonies there.

Soon after its publication, I secured a copy of Davis (1943). The vegetation map accompanying this bulletin showed the presence of salt marsh lying to the landward of the mangrove fringe all the way from Shell Island, south of Naples, to the Shark River Basin. Having known of the existence of the Cape Sable Seaside Sparrow in the accessible marsh near Ochopee and Everglades, I felt that the species probably existed in many suitable places all along that southwest coast, and so stated in Stimson (1948). That supposition has now been proved true.

On April 3, 1953, I found *A. mirabilis* in the salt marsh amongst an extensive growth of marshhay cordgrass (*Spartina patens*) about a mile and a half southwest of Ochopee and since have shown the species to many people at that point. On July 11, 1953, William G.

Atwater and I found the species in high *Spartina* grass west of, and close to, the Turner River near the edge of the mangrove fringe. On May 16, 1953, we walked the old oil well trail from the Loop Road about half a mile west of Pinecrest, continuing southwest through the cypress to one of the Lostmans Pine Islands group, but were turned back by high water on the open prairie beyond and lack of time, without finding any sparrows. On May 2, 1954, we attempted to get to the salt marsh in the vicinity of the headwaters of the Chatham River, starting from the curve on the Loop Road five miles south of Monroe Station, but owing to high water and soft ground, we were unable to get more than half way by noon and had to turn back.

On April 25, 1954, I was allowed by the Everglades National Park authorities to accompany Rangers Erwin Winte and Fred Devenport on a trip by caterpillar tractor swamp-buggy to a water gauge just inside the park boundary about four and a half miles west of the Monroe-Dade County Line. From the saw grass (*Mariscus*) some two miles or more north of the water gauge a sparrow was flushed, which, as it flew away with the sun on its back, showed the characteristic greenish cast of *A. mirabilis*. At the water gauge we heard the song of *A. mirabilis* two or three times in the distance, but were too busy extricating the bogged-down machine to go and check the birds. This point is about four miles from the spot where Hardy found the birds in 1949, and amazingly both were in fresh water saw grass.

In years of normal rainfall this whole southwest coast marsh area during April, May, and later is accessible only by air-boat, or perhaps helicopter. Neither is hardly the type of conveyance from which to seek a small bird. The first four and a half months of 1955 proved to be the driest similar period since 1928, according to the Miami Weather Bureau. Up to 5:00 P.M. on May 15, 1955, the rainfall for the period had been only 3.99 inches, as compared to 4.05 inches through May 15, 1928. Only a 0.15-inch fall of rain during the evening of May 15 kept 1955 from breaking the all time record. The whole region had practically dried up. It became possible to walk anywhere northwest of the Shark River Basin out to the mangrove fringe completely dry-shod. A swamp-buggy could go easily almost anywhere. I attempted to take all possible advantage of this drought condition.

On April 8, 1955, I walked from the Loop Road, five miles south of Monroe Station, southwesterly to the mangrove fringe near the headwaters of the Chatham River. The prairie at that point was quite narrow, and there were only a few small patches of *Spartina*

grass. Being there from 11:00 A.M. to 1:00 P.M. was not the best time of day to find Seaside Sparrows in song. The day was bright and hot, and if any sparrows had been present they undoubtedly would have kept down out of sight. None were found. The area did not look very favorable as a habitat for them.

On April 16, 1955, I found *A. mirabilis* in tall *Spartina* grass near the southerly end of the Barnes Strand (cypress) about eight miles west of Monroe Station and three and a half miles south of the Tamiami Trail. The plan had been to walk completely around the Barnes Strand, but the *Spartina* grass became very high and dense, and extremely hard to force one's way through, so the plan was given up. The back track via swamp-buggy trail held out far more inducements. In all, one Cape Sable Seaside Sparrow was seen singing, several more were heard singing near at hand, and several were heard close by in the grass giving the "zup-zup" call note described in Sprunt (1954). Several were flushed which showed the greenish cast on the nape as they flew off away from the sun. Savannah, Sharp-tailed, and Swamp Sparrows (*Melospiza georgiana*) were also seen.

On April 23, 1955, I walked from the old saw mill site, about six miles west of Pinecrest on the Loop Road, down an old lumbering road to Gum Slough, where only a cupful of water remained in a wheel rut. From there a swamp-buggy trail was followed through the Lostmans Pine Islands and extensive prairie to the edge of the mangrove fringe. *A. mirabilis* were found both in the salt marsh and back up in the prairie-bay between two of the pine islands where the cover was saw grass and other grasses. This prairie-bay was probably within a mile or so of the supposed location of the 1928 Nicholson find. With side forages, the round trip for the day covered about 18 miles. Three hunter's cabins were found in the pine islands, one about four miles from the Loop Road. On May 12 and again on May 28 I packed in food, water, and blanket roll for two nights of camping on each trip at the cabin nearest the Loop Road. On May 13 a route was followed south from camp to the open marsh, thence southeasterly to the Everglades National Park boundary about a mile east of the mangrove fringe. The day was bright and hot. *A. mirabilis* were found at three points early in the morning. At 7:45 A.M. a bird was seen at close view swinging and singing on top of a tall spear of grass. At 8:03 A.M., near the edge of a slough carpeted with purslane (*Sesuvium portulacastrum*) and bordered by an extensive growth of *Spartina* grass, three birds were seen perched in the tops of the grass as they sang. At 9:20 A.M. one Cape Sable Seaside Sparrow was heard singing in the *Spartina* grass to the south.

Thereafter no more Seaside Sparrows were seen during the day, and no other species of sparrows were seen that day. The mangroves extended up into the marsh, or prairie, along the sloughs (apparently the headwater creeks of the Lostmans River) leaving large prairie-bays deep down towards the coast. I walked on a line to miss the points of the mangrove extensions and may have missed many good habitat locations of the sparrows. Lunch was eaten at the Park boundary. Returning in the heat of the early afternoon, a direct line was taken to the nearest point of pines about three miles away, thence through the pines and intervening open prairie-bays back to camp for a day's trip of about 17 miles. On May 29 a route was taken westward from camp through the pine island to the open prairie-bay bordered on the west by a cypress strand, apparently the spot where Nicholson found the bird in 1928 and described to me in a letter from Mr. J. C. Howell, Jr. No sparrows were found in this prairie-bay (grassy savannah), but about two miles nearer the mangrove fringe and within a half mile of the first sight of purslane, *A. mirabilis* were heard singing in an area of *Spartina* grass, one being approached to within a later measured (paced) distance of less than 36 feet. Viewed through 7× binoculars the bird might as well have been in the hand. Altogether 12 Cape Sable Seaside Sparrows were seen and heard singing along the transition marsh, containing in places some saw grass, as far northwest as the wide slough (then dry but apparently a small lake in wet weather) into which Gum Slough empties. More about this spot later. The round trip distance for the day from 6:30 A.M. to 2:30 P.M. was about 15 miles.

On May 7, 1955, Charles M. Brookfield, his brother Richard, William G. Atwater and I engaged Don Poppenhager to take us by swamp-buggy, with permit from the Everglades National Park authorities, down to the headwater creek of the Broad River on the edge of the Shark River Basin. Starting at Pinecrest our course took us within about three-eighths of a mile from the water gauge visited in 1954. At a point about two miles north of the park boundary we flushed a light-colored sparrow. The buggy was stopped and I went on foot to check the bird. It had flown to a perch on a spear of saw grass in plain view, and all heard the song of the Cape Sable Seaside Sparrow. Again at a point about half a mile from the last mangrove clump at the head of Broad River, I checked a bird on foot, and another bird close by sang the *A. mirabilis* song. Having carefully checked their presence in the area, we counted during the day from the buggy 56 light colored sparrows which, as they flew away from the sun, showed the typical greenish nape of the Cape Sable Seaside



Sparrow. Many others flying into the sun were not counted. Also during the day about 20 Swamp Sparrows and 50 Grasshopper Sparrows (*Ammodramus savannarum*) were observed. Atwater and I walked over to the last mangrove clump at Broad River and found water which was entirely sweet to the taste. Atwater was surprised to find pond apple (*Annona glabra*), wax myrtle (*Myrica cerifera*), and cattails (*Typha latifolia*) in association with red mangrove (*Rhizophora mangle*). Along the slough *Sesuvium* was found, indicating the presence of salt underneath, even though the surface water was fresh. From Broad River the swamp-buggy went northwestward across the head of Rodgers River, crossing in water. Far back inland Don had driven the buggy up to the edge of an alligator hole, perhaps 30 feet in diameter, still having water. There were only three places at which water was found during the entire day. However, approaching Broad River the surface was damp and the buggy was inclined to bog down. When it did so we all got off and walked it up out of the hole, Don having left it in low gear. (It was the same swamp-buggy portrayed in the National Geographic Magazine a few years ago in connection with an article describing a trip from Lake Okeechobee across the everglades to the southwest coast. The buggy has two rear axles, each with two large wheels on each side, the tires on the leading axle being equipped with tire chains. The two axles are hooked up in a tandem drive with two transmission boxes of three gears each.) Some distance further up the coast, probably within two miles of the point where I lunched on May 13, we were buzzed by an airplane. A note was dropped requesting that Don go to a point about a mile south of "ten-mile corner" where smoke had been seen rising from two hammocks, check on the fire and report to Ranger Winte on our return. Waving the requested signal of "something white" we spent the rest of the afternoon on that endeavor, noting *A. mirabilis* at three points, two of them again north of the park boundary. See map.

Dr. Sloight, of the Department of Geology at the University of Miami, stated in a public lecture at a meeting of the Tropical Audubon Society that in the last sixty years there has been a five-inch rise in sea level along the southwest coast of Florida. Davis (1943) states that the red mangrove will live in fresh water. Indications point to the fact that red mangrove seedlings float up on the fresh water marshes, take root and grow slowly until the rising salt water reaches them, after which they make more extensive growth and increase in numbers. Nicholson (1950) comments on the disappearance of the Smyrna Seaside Sparrow (*A. m. pelonota*) from a marsh

near New Smyrna owing to mangroves having taken over the entire marsh. On July 11, 1952, Mr. R. J. Longstreet pointed out this spot to me. Twelve years ago the marsh at the Anderson location was free of mangroves, but while passing there on May 21, 1955, I noted that much of the marsh, even up close to the Tamiami Trail, was peppered with seedling red mangroves. In 1950 I noted a tidal action in that marsh right up to the bank of the Trail; the marsh being dry in the morning, and, without rain, being covered by an inch of water in the afternoon. In 1955 a distinct tidal effect was noted in the Tamiami Trail canal about nine miles easterly of the Barron River canal. In rainy seasons the marshes at Ochopee (and probably all along the southwest coast) are covered with fresh water on the surface, but such dominant plants as *Sesuvium portulacastrum*, *Juncus roemerianus*, and *Spartina patens* indicate the presence of salt underneath.

From where Gum Slough exits onto the prairie northwestward to near the headwaters of the Chatham River, the red mangroves have encroached in many places right up to the cypress strands, and most of the existing prairie is broken up by scattered clumps of mangroves. Apparently some cypress has been killed by the recent five-inch rise in sea level, evidenced by the presence of dead trees standing out on the prairie in front of the present strands. The effect of this rise in sea-level seems to be shown very clearly at the mouth of Gum Slough on the north side. The cypress strand comes down along Gum Slough to a point on the edge of the prairie where it turns northwestward. About 200 feet out in the prairie there stands a hardwood hammock, containing also some cabbage palms (*Sabal palmetto*) and some cypress. The whole hammock is surrounded by a fringe of red mangroves. At the point itself there are red mangroves right up against the cypress. The slough from the point outward is carpeted with purslane. Starting at the point a wedge of tall *Spartina* grass widens out towards the northwest. Immediately between the *Spartina* grass and the cypress there is a wedge of tall saw grass which also widens out towards the northwest. Towards the southwest the mangrove clumps increase in numbers, size, and height towards the coast. Water marks on the mangrove roots indicate that in years of normal rainfall this part of the prairie would be almost a river, perhaps fresh on the surface and salt underneath. It looks very much as though a hiatus has built up, or is building up, separating the Seaside Sparrow colonies southeast of Gum Slough from the colonies found in normal *Spartina* habitat northwest to the Ochopee marshes. The hiatus apparently extends from the Gum Slough entrance to

northwest of the headwaters of the Huston River. With the destruction of the salt marsh and the adjoining wet prairie, the dense strands of cypress must have forced the Seaside Sparrows to have moved to the colonies on either side or to have perished.

In the region between Broad River and Rodgers River, the mangroves apparently have destroyed much of the original salt marsh, and the Seaside Sparrows have adapted themselves to a life in the adjoining area, designated by Davis (1943) as everglades marsh prairie. The fact that the growth of saw grass is short and sparse in this region may possibly indicate the encroachment of salt underneath the surface, but since the condition exists at least as far inland as the Tamiami Trail it is probably the result of other factors. Griscom (1944) states that no bird hugs salt water more closely than the Seaside Sparrow and, "In a whole century the individuals that have been found 5 miles from salt water are few and far between and in most cases casual waifs." Yet here in southern Florida we have Cape Sable Seaside Sparrows living amongst saw grass and other fresh water grasses. On that May 7, 1955, trip someone offered the witicism that had the bird been discovered in this area instead of on Cape Sable it might have been named the Saw Grass Sparrow, rather than the Cape Sable Seaside Sparrow. The 1954 and 1955 location north of the water gauge is about  $6\frac{1}{2}$  miles from the mangrove fringe. The Hardy location is at least 7 miles from the mangrove fringe. The Cape Sable Seaside Sparrows last seen on May 7, 1955, were between 9 and 10 miles from the nearest point on the mangrove fringe. Besides these definite points there have been unconfirmed reports of this sparrow much further inland. In other words there is an area of at least 70 square miles, with more available, where the Seaside Sparrow apparently lives in a fresh water habitat. There appears to be a greater concentration of Seaside Sparrows in this area than in the normal *Spartina patens* habitats further up the coast. The final ecological relationships of this phenomenon will have to be worked out by a botanist-ornithologist, and someone with more financial or institutional backing than have been at my disposal.

Griscom (1944) states that *A. nigrescens* has two claims to specific distinctness but that *A. mirabilis* has no real claim to specific distinctness and is probably only an extreme development of the light phase of *A. maritima*. Griscom goes on to say that the pure white underparts of *mirabilis* actually deprive *nigrescens* of one of its absolute characters. The A.O.U. Committee on Nomenclature and Classification of North American Birds does not recognize this viewpoint, and according to its chairman, Dr. Alexander Wetmore, has decided to

treat both as full species in the forthcoming new A.O.U. Check-list. However, in the field I have been impressed by the great similarity of action and song of these two so differently colored birds. Both birds give two or more preliminary guttural clicks before the normal song. These clicks can be heard only if one is within about fifty feet of the singing bird. The songs seem to vary only in the more buzzing quality and strength of *nigrescens*.

It is perhaps idle to theorize on the way in which this sparrow reached Cape Sable. The following ideas are based in part on the geological history of the Florida peninsula. Certainly there were no sparrows anywhere in Florida during the first (Aftonian), or second (Yarmouth) interglacial stages, when according to Cooke (1939) the sea level stood at plus 270 feet and plus 215 feet, respectively. It may have been possible for Seaside Sparrows, if any were then in existence, to have gained a footing on Floridian shores during subsequent glacial stages of the Pleistocene Epoch. Beecher (1955) states,—“The Cape Sable seaside sparrow may have been isolated when the lower third of Florida was inundated by the post glacial rise in sea level.” According to Cooke (1939) this inundation occurred during the post-Iowan interglacial stage of Wisconsin time. Surely no sparrows could have existed in southern Florida during that inundation when the Pamlico Sea stood at plus 25 feet. During the last part of the Wisconsin glacial era when the sea level dropped to minus 25 feet or more, it might have been possible (and probably was) for the ancestral sparrow to populate the west shoreline of Florida then lying several miles out in what is now the Gulf of Mexico. Retreating before the inexorable rise of the sea during the melting of the final glacier of late Wisconsin time, the sparrows caught in the flooding of Tampa Bay, Charlotte Harbor, and estuary of the Caloosahatchee were destroyed, leaving the sparrows north of Tampa Bay to develop the characteristics of the Scott's Seaside Sparrow (*A. m. peninsulae*), and the sparrows south of Naples to develop the characteristics of the Cape Sable Seaside Sparrow (*A. mirabilis*).

To the seaward of the inland bays along the southwest coast there are many areas of salt marsh scattered through the mangrove swamp, pond, and stream region. On July 25, 1952, with Joseph C. Moore, William G. Atwater, and William B. Robertson, I investigated several of these marshes along the Joe River and upper Shark River (Tarpon Bay). Salt-killed saw grass was present in some, and dominant black rush (*Juncus roemerianus*) in all, but no sparrows were found. These marshes are undoubtedly remnants of a salt marsh that at some past time extended all along this coast from near Naples to Cape

Sable. Only in recognizing the presence of such a continuous marsh does it seem possible to explain the former presence of the Cape Sable Seaside Sparrow on Cape Sable.

Davis (1943) states that the deep peat deposits along the southwest coast of Florida in the region between Shark River and Barron River are now interpreted as indicating a rise of sea level of 7 to 10 feet in recent geological times. Mr. Robert Ginsburg, then with the Marine Laboratory of the University of Miami, told me that in 1953 he took a core of peat from 75 to 101 inches deep in Florida Bay near Big Crane Key on which a Carbon 14 dating was made by the U. S. Geological Survey showing an age of 3300, plus or minus 240, years. It is evident that the 7- to 10-foot rise in sea level mentioned by Davis (1943) has occurred within the last 3000 to 3500 years. This rise of 7 feet or more would have flooded the present Shark River Delta, Oyster Bay, and Whitewater Bay region, where the present depth of water except for actual stream beds is now 4 or 5 feet, as shown by the U. S. Coast and Geodetic Survey map No. 598. The Cape Sable Seaside Sparrow had apparently reached its present stage of development prior to that flooding, or some 3000 years ago, since the specimens taken near Ochopee in 1952 were identical with specimens taken on Cape Sable in 1918 and following years. When that flooding occurred the Sparrows on Cape Sable were separated from the sparrows to the northwestward of the Shark River Basin. The present hiatus of water and mangrove swamp in the Shark River-Whitewater Bay region has prevented the sparrows from again spreading back to Cape Sable following the 1935 storm and will probably continue to prevent their doing so as long as present ecological conditions exist.

The map herewith shows approximately all points of observation of the Cape Sable Seaside Sparrow. At present the species ranges in the salt marshes lying to landward of the mangrove fringe along the southwest coast of Florida from northwest of Everglades (city) to near the headwaters of the Huston River; and in salt marsh and fresh water marsh prairie from the mouth of Gum Slough to the Shark River Basin. The Ochopee marshes are now the most accessible location for anyone wishing to see this interesting species.

I wish to acknowledge my indebtedness to Mr. Daniel B. Beard and Mr. Joseph C. Moore, superintendent and biologist, respectively, of the Everglades National Park, for their aid and cooperation in making several trips within the park possible; to Mr. William G. Atwater and Mr. Charles M. Brookfield for their aid and companionship on several investigating trips; and to Mr. Donald J. Nicholson and Mr. Joseph C. Howell, Jr. for cooperation in establishing the approximate location of their 1928 and 1932 site.

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