

THE WILSON BULLETIN

A QUARTERLY JOURNAL OF ORNITHOLOGY

VOL. XXXVI

DECEMBER, 1924

NO. 4

OLD SERIES VOL. XXXVI. NEW SERIES VOL. XXXI.

SUMMER BIRDS OF BROWNSVILLE, TEXAS

BY M. W. DE LAUBENFELS

Like many others, I got much of my start in studying birds, as a boy, from Reed's "Bird Guide" with its colored pictures. Perhaps many others have, as I did, gazed fondly at certain particularly gaudy pictures there, and longed to see the originals. Many of us may even have doubted that such odd birds really did exist. The years went by, and we saw most of the others, but this group remained unseen and fabulous. There was the unbelievable green jay, the vivid derby flycatcher, the impossible looking groove-billed ani, the bizarre seedeater, and others with such romantic names as cara-cara and chachalaca. At last my dream of years has come true and I have seen the land where kingfishers are green, and roseate spoonbills are common.

The region of extreme southern Texas is deservedly interesting to the nature-lover. My highest hopes for it were not disappointed. The purpose of this article is to give something of an idea as to what one might expect to find were one to visit the Brownsville area in the summer time.

The valley of the lower Rio Grande is emphatically Mexican in type. One notices a very decided change, ecologically, when coming into it from the north, and little or no further change upon passing across the border south into old Mexico, though there is a big change, of course, in the people and buildings. If one enters this region from the Pacific side of our country, one leaves behind deserts studded with yucca; if from the Atlantic side or from the north,—cultivated country of cotton and corn. In either case one enters a wilderness of mesquite. None of the trees are much over a height of fifteen feet, yet few are much under that height. They are so close together that their gray-green foliage interlaces, and as any one who has ever tried conclusions with mesquite knows, they are thorny. A few other trees occur, second place probably going to a related tree—which is locally called "Ebony"; it has foliage of similar shape but much darker, richer green, and is even thornier; third place goes to yet another related tree, which is called "Crown of

Christ" because it is practically all thorns. The palo verde tree occurs, and is thornless, but the undergrowth is pretty bad. There are great quantities of a cactus, *Opuntia lindheimeri*, which has some of the nastiest little thorns I ever had in me, even worse than cholla. Others present are *Echinocereus longhinatus* and *Mammillaria hemispherica*; these have lovely flowers and thorns that are more easily avoided. Where irrigation water is available, as for instance from the Rio Grande, there are clearings planted to citrus fruit, cotton, etc., which show indications of a very fertile soil. There are occasional heavy rains, but in general the uncultivated plants depend for their water on the very heavy dews of the region. These dews are so heavy that with a metal roof (such as corrugated iron) one can keep a rain barrel filled as though a slight shower fell each night. The nights are very hot, and the humidity is so great that anything that will possibly rust, mold or mildew, does so with great promptness and thoroughness.

There are many interesting mammals here: deer and coyotes are numerous, though hard to find in the mesquite jungles. Armadillos and the banded peccary or javeline occur. Snakes are said to be abundant, but I was unable to find many. The collector of insects, or of snails, will find this a rich field.

There are great numbers of birds, but as well hunt for needles in hay-stacks without a good deal of direction. There is only one man in the locality to whom one can go for this help, but fortunately he is both familiar with the country and with the birds and other wild life; this is Mr. R. D. Camp, a true naturalist. He is the game warden for the vicinity. His advice and guidance had a great deal to do with my success in finding the birds and other points of interest.

On June 25th, 1924, I got off the train in Brownsville, Texas. That date is far too late for best results, but was the earliest possible for me; make your trip there in May or early June if you can. The first thing that impressed me was that the commonest birds in town were in this order:

1. GREAT-TAILED GRACKLE—*Megaquiscalus major macrourus*.
2. WESTERN MOCKINGBIRD—*Mimus polyglottos leucopterus*.
3. ENGLISH SPARROW—*Passer domesticus*.

The grackles are comical birds, seemingly barely able to drag their gigantic tails through the air. They have a surprisingly large vocabulary of whistles, squeaks and rasping rattles.

The mockers were as full of songs and noises of every description as mockers usually are. Unfortunately we are all too familiar with the English sparrow.

One takes a street car to the west part of town, and here among beautiful lawns and gardens we found many birds, some not often found out of the town itself, particularly

4. BUFF-BELLIED HUMMINGBIRD—*Amizilis yucatanensis chalconota*.
5. RED-EYED COWBIRD—*Tangavius aeneus involucratus*.
6. SHARPE SEEDEATER—*Sporophila morelleti sharpei*.

None of these three is common enough that one could count on finding it. The hummer, which is the only one ordinarily present in the summer, is much as described, the red color of the bill, however, being much more conspicuous than I had expected. The cowbird is a lustrous velvety individual, with staring red eyes that stand out like jewels in his head. The seed-eater is the one that is called "Morellets" in Reed's Guide. The first one we saw was in the full male plumage as illustrated in the color-key referred to; this was a piece of great, good luck, as the great majority of all our finds are either females or males in the dull immature plumage.

We soon also became familiar with the only two woodpeckers of this region, both of which are common everywhere, and the two thrashers, who were quite as much at home in the yards in town as they were in the "brush" or "forests,"—whichever you call them, out of town.

7. GOLDEN-FRONTED WOODPECKER—*Centurus aurifrons*.
8. TEXAS WOODPECKER—*Dryobates scalaris symplectus*.
9. SENNETT THRASHER—*Toxostoma longirostre sennetti*.
10. CURVE-BILLED THRASHER—*Toxostoma curvirostre curvirostre*.

The Mexicans call the woodpeckers "Carpenters." The first of the two is reminiscent of a flicker, especially when showing the rump in flight; it has a big blonde top-piece, like some Scandinavian maiden's long blonde hair. The other is an inconspicuous little fellow of the nuttall-downy type. Sennett's thrasher is very much like the eastern brown thrasher. The curve-billed resembles the dull colored Palmer's thrasher of Arizona, and is far less curved of bill than some others, such as Crissal's thrasher.

11. SENNETT ORIOLE—*Icterus cucullatus sennetti*.

The vivid gold and black of the hooded oriole vied with the brilliance of the flowers in the gardens, and then we found we

had passed out of the city proper into the country, where cultivated fields were set off by tree-shaded irrigation ditches, but the beautiful orioles were still with us.

12. WHITE-WINGED DOVE—*Melopelia asiatica asiatica*.
13. WESTERN MOURNING DOVE—*Zenaidura macroura marginella*.
14. MEXICAN GROUND DOVE—*Chaemepelia passerina pallescens*.
15. INCA DOVE—*Scardafella inca*.
16. WHITE-FRONTED DOVE—*Leptotila fulviventris brachyptera*.

Among the ranches, or farms, or plantations,—what you will call them depends on which of the three great sections of the United States you come from,—the most abundant summer bird is the white-winged dove, and doves in general are super-numerous. The stubby little ground doves, hardly bigger than sparrows, are common, and show a pretty bit of cinnamon red under their wings when they fly. The mourning doves are even more common, but their soft “cooing” is rather lost in the chorus of the white-wings. These handsome birds challenge each other loudly, “who cooks for you?” and the others send back the same question as their only reply. I did not find the inca dove, which is said to be a commonplace sight in certain sections of the city itself; it does not venture out into the country much. We did, however, have the treat of finding one of the rare big white-fronted doves.

Before we were back from our first short two hour walk in West Brownsville, we had added the following birds to our lists:

17. GRAY-TAILED CARDINAL—*Richmondia cardinalis canicauda*.
18. LONG-TAILED CHAT—*Icteria virens longicauda*.
19. COUGH KINGBIRD—*Tyrannus melancholicus couchi*.
20. BLACK-CRESTED TITMOUSE—*Baeolophus atricristatus atricristatus*.
21. ORCHARD ORIOLE—*Icterus spurius*.
22. YELLOW-BILLED CUCKOO—*Coccyzus americanus* (sub-species=?).
23. SMALL WHITE-EYED VIREO—*Vireo griseus micrus*.

This latter we found very abundant, and its notes seem to me totally unlike those of the white-eyed vireo of the southeastern states. That bird has a rich vireo-like tone, and sings a song of the “Tweedle-oodle-whee-oooh” type; the Brownsville bird has a flat, sparrow-like song of the “Cheep-cheep-chippy-ippy-cheep” type, at its best resembling the vesper sparrow. The titmouse has call notes much like those of the common tits, and habits, and looks, too; his black cap sets him apart, but that is all. The kingbird is like all his relatives in character, but seems even more brightly yellow than the Arkansas kingbird. The

chats of the lower Rio Grande region seemed to me the tamest of any I ever found. The cardinals, indistinguishable in the field from the common cardinal, were here delightfully abundant, an always welcome sight in town and country.

During the following days we found that some of the best places for birds were on the shores of some of the resacas. A professor of Spanish language assured me that resaca meant a swell, or drift of current in the ocean; that is far from being its local usage, however. At various times in the far distant past the Rio Grande has evidently used other exits to the Gulf of Mexico than the present one, and the abandoned courses are still there, full of stagnant water, like rivers that have died. Much of their banks is covered with dense growths of luxuriant semi-tropical vegetation, with vines much in evidence. The air about them is so thick with mosquitoes that one might cut it (or should I say "them") with a knife; but why dwell on the unpleasant? In these jungles occur certain kinds of birds as follows, first what we may call the water birds, then the land birds.

24. MEXICAN GREBE (SAN DOMINGO GREBE)—*Cotymbus dominicus brachypterus*.
25. PIED-BILLED GREBE—*Podilymbus podiceps podiceps*.
26. BLACK TERN—*Chlidonias nigra surinamensis*.
27. ANHINGA—*Anhinga anhinga*.
28. MEXICAN CORMORANT—*Phalacrocorax vigua mexicanus*.
29. LESSER SCAUP DUCK—*Marila affinis*.
30. LITTLE BLUE HERON—*Florida cærulea*.
31. GREEN HERON—*Butorides virescens virescens*.
32. BLACK-CROWNED NIGHT HERON—*Nycticorax nycticorax navius*.
33. PURPLE GALLINULE—*Ionornis martinicus*.
34. FLORIDA GALLINULE—*Gallinula chloropus cachinnans*.
35. AMERICAN COOT—*Fulica americana*.
36. KILLDEER—*Oxyechus vociferus vociferus*.

The least grebes (or Mexican grebes) are rather widely distributed in the resacas, but they can stay under water so successfully, and have so many hiding places, that it is not easy to find them. We did, but it took lots of patience with the clouds of mosquitoes adding their peculiar charm; in the process we found one pied-billed grebe, here less common than the first mentioned. The black terns and anhinga or water-turkey are regular but not very numerous inhabitants of these bayous. We found only one lesser scaup duck, probably unmated, and only one small colony of the little blue herons, but this a very interesting one because

of the varieties of plumage represented: some were in the ordinary maroon and slaty-blue uniform, others in the white phase so that they resembled egrets, while others were in checkerboard mixtures of the two plumages. The green herons were not colonial, but scattered here and there throughout the district. The night herons were nesting in the same clump of trees with the little blues, and out numbered them considerably; I would judge about fifty adults of the former to twenty-five of the latter.

The purple gallinule is a sore subject to me, for though supposedly not rare I was unable to find any, and not for lack of effort. Time and again I patiently stalked or waited out likely marshy spots, finding dozens of Florida Gallinules, even getting some intimate glimpses into the family life of this bird, but with no success in locating its more brilliant cousin. Coots are common, but only one killdeer was found.

37. CHACHALACA—*Ortalis vetula mccalli*.

We did some special hunting for the chachalaca, as it is a very shy bird. First we went with a native hunter who was supposed to be a wizard at finding them; we heard their distant laughter, but that was all. With surprising virtue our guide refused pay, having been unsuccessful. Next I tried sleeping out alone in the brush in order to wake up right in their territory—a method which often gives daybreak views of timid birds not to be found later in the day, but it didn't work with the chachalaca. Finally Mr. Camp led me, both of us doing some remarkably patient stalking, in one of the most mosquito-infested places in the United States outside of Florida, and this time the chachalaca was found.

38. TEXAS SCREECH OWL—*Otus asio mccalli*.

39. GROOVE-BILLED ANI—*Crotophaga sulcirostris*.

40. TEXAS KINGFISHER—*Chloroceryle americana septentrionalis*.

41. MERRILL PARAUQUE—*Nyctidromus albicollis merrilli*.

42. DERBY FLYCATCHER—*Pitangus sulphuratus dcrbianus*.

43. MEXICAN CRESTED FLYCATCHER—*Myiarchus magister nelsoni*.

The only notes I heard from the Mexican screech owl were dove-like, not quite like those of the eastern screech owl, and some conversational calling like that of the southern California bird. The Mexican crested flycatcher is not greatly different from any of the other crested flycatchers.

I was especially interested in the groove-billed anis. I looked in vain for any of the colonial nesting one hears about,

where a large number of females prepare a big nest in common; this, it seems, is not the rule in the United States. I did find them interesting clowns to watch, with amazingly big beaks on which one could see the groove quite plainly. They are as large as the grackles, and as black, so that but for the difference in shape the two species might be confused. The ani looks overloaded in front, while the grackles look overloaded at the other end, and are much the more abundant everywhere.

The derby flycatcher and the kingfisher are two of the most impressive birds, to my notion, in America. The derby seems to fill the landscape, figuratively speaking. He is large, he perches in an exposed place, and he is very conspicuous; the black and white and yellow striping of the head, the vivid yellow underparts, and the venetian red wings and tail are decidedly "loud." A family of four infants that I saw were also loud vocally. The kingfisher, on the other hand, while he perches where he can be plainly and rather easily seen, is rather remarkable for a quiet sort of beauty. His shape is odd, for the head and bill seem larger than all the rest of him put together. The general color is a handsome green, and there is a brick red band, like a vest, across his chest, which is sufficiently patterned with black to keep it from being too gaudy. The parauque is a brown bird of the whip-poor-will type; we found a whole family of them in one place, papa, mama, and three little parauques. They hunt the larger insects at dawn and dusk with the night-hawks.

44. GREEN JAY—*Xanthoura luxuosa glaucescens*.
45. DWARF COWBIRD—*Molothrus ater obscurus*.
46. RIO GRANDE REDWING—*Agelaius phœniceus megapotamus*.
47. AUDUBON ORIOLE—*Icterus melanocephalus auduboni*.
48. WESTERN LARK SPARROW—*Chondestes grammacus strigatus*.
49. TEXAS SPARROW—*Arremonops rufivirgatus*.
50. TEXAS PYRRHULOXIA—*Pyrrhuloxia sinuata texana*.
51. WESTERN BLUE GROSBEEK—*Guiraca cœrulea lazula*.
52. FLORIDA YELLOWTHROAT—*Geothlypis trichas ignota*.
53. LOMITA WREN—*Thryothorus ludovicianus lomitensis*.
54. TEXAS WREN—*Thryomanes bewickii cryptus*.
55. BLUE-GRAY GNATCATCHER—*Poliophtila cœrulea cœrulea*.

The green jay is a guilty seeming bird, and clever at hiding. His bright colors blend with the greens of the foliage, from which he stands out only because of the lemon yellow in his tail, and his jet black bib. His notes, though harsh, are quite different from those of any other jays occurring north of Mexico. They

are hard to describe, being perhaps nearest to certain "chacks" and calls of some of our blackbirds.

The cowbird, redwing, lark sparrow, grosbeak, and gnat-catcher are very much like their relatives with which most American bird students are familiar. The lomita wren is just a sub-species of the Carolina wren, and little different from it; similarly the Texas wren may be compared to the Bewick, of which it is a sub-species.

Audubon's oriole is remarkable, as compared to most orioles, for its pale lemon color instead of golden yellow or orange; it looked to me even paler than the Scott oriole, and more greenish. The pyrrhuloxia is not supposed to be rare, but I saw none, though their notes are near enough like those of the cardinal that they may have been overlooked among the frequent cardinal songs. The Texas sparrow was a bird of which, for some reason or other, I had not heard. It is not obtrusive, but well worth looking for; it may be best compared to the green-tailed towhee, and is of similar general coloration, but lacks the auburn top-piece of the towhee, and of course is smaller, though large for a sparrow.

In taking up the birds as I am doing, by the ecological groups into which they seem naturally to fall, one group may be made of the "over-head" birds, which, because they are flying high, are largely independent of ecological associations within the region, though the region must, of course, be suitable.

56. TURKEY VULTURE—*Cathartes aura septentrionalis*.
57. BLACK VULTURE—*Coragyps urubu*.
58. ASERRI NIGHTHAWK—*Chordeiles minor aserriensis*.
59. TEXAS NIGHTHAWK—*Chordeiles acutipennis texensis*.
60. LESSER CLIFF SWALLOW—*Petrochelidon albifrons tachina*.

The two vultures are both common, and one about as numerous as the other. It is harder to compare the relative abundance of the two nighthawks. One can tell by the notes that both kinds are present in the groups hawking around, and occasionally find one sleeping in the day-time where careful identification is possible; from these indications it would seem they, too, are about equal in numbers. *Chordeiles minor* advertises its presence by the nasal "peelnt" so familiar to most of us; the Texas nighthawk has a bubbling note like the murmuring of a screech owl, and a wild clear whistle "whee-whee-whee ooh." Swallows of any kind are, for reasons I cannot understand, rare in the

Brownsville region; the little one they have, supposed to be a sub-species of the cliff swallow, looks very different from any I ever saw. Its head and foreparts are almost solid dark brown; chestnut, the books call it, but it looked almost chocolate brown to me, and the rump is not conspicuously light in color at all. We found it mostly over the Rio Grande.

The area nearer the Gulf of Mexico is an entirely different type from any described above. Here the ruling ecological factor is lack of fresh water. One of the most conspicuous items is the extreme flatness, and elevation of even two or three feet is noteworthy. The soil is between silt and sandy. The most conspicuous plants are a few yuccas (Spanish bayonet), there are various caeti, and harsh, coarse grass. Much of this plain is under water, with a shore-line that doesn't stay put, since a few inches difference in water-level moves the shore-line several feet. Only a little effect of the tide from the gulf is noticed, a matter of inches, though the gulf is the source of this water. Some of these lagoons are gigantic, particularly the Laguna de la Madre, which is over one hundred miles long, and about five to ten miles wide, and yet but little of it is as much as four feet deep, and most of it is quite easily waded.

Laden with canteens of what proved to be all too little water, we ventured out for a two day exploration of this desert. If anyone else plans such a trip, be sure to take plenty of water, and be sure you have your directions where to go, since you will either fail to find the best places for birds, or at best waste a lot of time in finding them, without careful directions, such as Mr. Camp gave us. The following birds are typical of this plain (taking the raptors first):

61. HARRIS HAWK—*Parabuteo unicinctus harrisi*.
62. WESTERN RED-TAIL—*Buteo borealis calurus*.
63. SENNETT WHITE-TAILED HAWK—*Tachytriorchis albicaudatus sennetti*.
64. APLOMADO FALCON—*Rhynchofalco fusco-caerulescens septentrionalis*.
65. AUDUBON CARACARA—*Polyborus cheriway auduboni*.

The commonest of these is supposed to be the Harris hawk, a handsome mahogany colored bird with a conspicuous white rump. The white-tailed hawk is another noble looking, big, showy bird of prey, its name being descriptive. I found the caracaras the commonest of these four; they are at least easy to find! They take no pains to hide, they are glaringly pie-bald in black and white, with bright red face, and though they are somewhat awk-

ward, I thought them decidedly artistic in appearance, at least at a distance. We did not see the Aplonado falcon during my stay in the vicinity, but Mr. Camp showed me a this year's nest.

66. TEXAS BOB-WHITE—*Colinus virginianus texanus*.
67. ROAD-RUNNER—*Geococcyx californianus*.
68. SCISSOR-TAILED FLYCATCHER—*Muscivora forficata*.
69. TEXAS HORNED LARK—*Otocoris alpestris giraudi*.
70. WHITE-NECKED RAVEN—*Corvus cryptoleucus*.
71. RIO GRANDE MEADOWLARK—*Sturnella magna hoopesi*.
72. BLACK-THROATED SPARROW—*Amphispiza bilineata bilineata*.
73. CASSIN SPARROW—*Peuceea cassinii*.
74. PAINTED BUNTING—*Passerina ciris ciris*.
75. CACTUS WREN—*Heleodytes brunnicapillus couesi*.

This group is less peculiar than most of the others, largely because there are other places rather similar in ecological factors: scant rainfall and heat; this region is noteworthy in that high humidity, instead of aridity, may be added to the list.

The bob-whites that I saw were frequently in pairs, and as I have noted on previous occasions, with other gallinae, often in single file, *with the female always leading*; has this observation been the result of coincidence, or have other observers noted this, too?

We found it necessary to collect one of the Cassin sparrows to be sure of the identification, as the very similar Botteri sparrow occurs here also, though not in large numbers.

At one time curiosity was expressed as to the relation of the songs of the sub-species of meadowlarks, and I have taken pains to observe this carefully, and having lived both East and West, have had opportunity to become familiar with the very different songs of the eastern and western meadowlarks; the birds of the lower Rio Grande region sing exactly like the Ohio birds, but those of extreme southern Arizona, which I understand are supposed also to be the Rio Grande meadowlark, sing a song which is a perfect blend of the tunes and tones of magna and neglecta.

Much could be written about the other birds of this little group, but as they are typically birds of other regions, I don't believe the details are necessary here.

There are islands in the lagoons of this plain, and to avoid the coyotes, the water-birds nest on these islands in crowds. While a man can wade out to these islands rather easily, this shallow water is usually, though not invariably, as safe a barrier as deep water would be. The water is literally swarming with

fish, apparently mostly of the mullet type, and this accounts for the presence of the fish-eating birds in such numbers. Crabs are exceedingly numerous too, on the land as well as in the water, and judging from their excrement, the coyotes live almost entirely on these crabs. Several of these above-mentioned islands have already become famous for their bird life, especially Green Island and Bird Island (The "Condor," Jan-Feb., 1922, and Sept.-Oct., 1922). With directions from Mr. Camp we found an island, nameless, but at least as interesting, if not more so. As one must charter a sail-boat at considerable expense to reach the other "bird islands," the fact that wading a mile or so was all we had to do to reach this one made it worth the long walk over the plain.

When we reached the shore, we found several marshy areas, with characteristic birds, as follows:

76. MOTTLED DUCK—*Anas fulvigula maculosa*.
77. BLACK-NECKED STILT—*Himantopus mexicanus*.
78. WESTERN WILLET—*Catoptrophorus semipalmatus inornatus*.
79. LONG-BILLED CURLEW—*Numenius americanus americanus*.
80. WILSON PLOVER—*Pagolla wilsonia wilsonia*.

The stilts and curlew were probably not breeding, but just left over, unmated, from the migration; the others breed here, though we did not find any nests, being too anxious to get out to the island to look for them. On the island there were present and breeding:

81. LAUGHING GULL—*Larus atricilla megalopterus*.
82. GULL-BILLED TERN—*Gelocheidon nilotica*.
83. CASPIAN TERN—*Sterna caspia imperator*.
84. ROYAL TERN—*Sterna maximus*.
85. CABOT TERN—*Sterna sandvicensis acuflavidus*.
86. FORSTER TERN—*Sterna forsteri*.
87. LEAST TERN—*Sterna antillarum antillarum*.
88. BLACK SKIMMER—*Rynchops nigra*.
89. REDDISH EGRET—*Dichromanassa rufescens*.
90. LOUISIANA HERON—*Hydranassa tricolor ruficollis*.

As we stood on the shore our guide pointed out the location of the island, and then we could make it out with binoculars, as a streak over which thousands of terns were hovering, and to which streams of them were flying in a very business-like manner carrying fish in their bills. While watching I made my notes as to the vocabularies of the various species, for when we reached the nesting grounds the noise was too deafening to distinguish individual birds and species.

After wading the mile or so of water, nowhere knee deep (there was enough sand mixed with the mud so that one did not sink in far), we found several small mud islands, with a general elevation of about four inches, ponds within their own limits, and a total area, including the ponds, of scarcely eight acres apiece. This year all the nesting was on one island; some years others are used, or even two or all three islands. There were few plants present, any as much as twelve inches high were noteworthy; they were of the type common to salt-soaked areas, with few, or very small, or no leaves, thick succulent stems, and rather tough epidermis.

The blazing sun was reflected from the water, so that we felt its effects doubled, and our shortage of water left us suffering with thirst which we only dared partially abate with grudging sips from our canteens, but, thank the Lord, there were no mosquitoes. The birds, especially the skimmers, dove at our heads alarmingly, but in a little while we observed that they always swerved up enough to miss us, each time, just before impaling our skulls,—then we walked about more comfortably. One last hardship needs mention, the need of constant care lest we step on eggs or young; for all our care occasionally an egg would go “pop.”

J. R. Pemberton, in the “Condor” for Mar.-Apr., 1922, took up in detail the nesting of terns in Texas; most of what I might say would only be duplication, as my observations merely confirmed this. For the benefit of those who have not seen his article, however, I will give brief notes.

The terns were commoner than the gulls, but there were more of the laughing gulls than of any one kind of tern. A count of a fraction of their nesting area, multiplied by the estimated extent of their field, (the safest way to get trustworthy estimates of numbers) gave their census as about 2,500 nests, that is to say, about five thousand adults. Their notes do not sound at all like laughter to me, they are loud nasal cries or whines, somewhat like the syllables “queer” or “kay-ear.” Many individuals showed hardly any red in the bill at all. They hid their nests in the thickest part of the vegetation, and their infants hid there too, and so efficiently that it was necessary to “paw over” the plants to find them. For all I know, we may have stepped on some in walking around, though we tried hard not to.

The skimmers went to the other extreme, and seemed to try to nest as far as possible from cover, which placed them in two groups by themselves near the north and south sides of the island. Their notes are varied, are almost like the call of the crow, but instead of just "caw," they say "charrp" or "harrk," etc. To say they had nests is hardly accurate, for they merely deposit the eggs on the ground: full sets were of three or four. We found places where their eggs were just scattered around promiscuously and many of them spoiling. Had other birds, perhaps some of the young terns that were running around, jostled them into this disorder? There was no sign of any attempt having been made to eat them. As there has been a little discussion as to the feeding habits of this species, I spent quite a little time watching the adults "skimming" to see how they ate. The more recent articles state that they do not eat while skimming, but while standing in shallow water. I am convinced to the contrary. I saw none of that either in Texas or Florida, but did see a good deal of what was clearly, unless my eyes deceived me, catching of objects while flying as they do, with the lower mandible cutting the water. The whole operation is performed so quickly that close attention is necessary: the object is first seized as by a pair of scissors, then with the same motion (started by the upward snap of the lower mandible) the object is given a slight toss, and caught in the mouth proper. Note that to leave conjecture as far as possible, the words "small object" are used; I think they were eating small fish, but am not sure. They were certainly not eating any fish over two or three inches long while I watched them.

The terns' nests were scattered all over, and as I am no oölogist, I could not tell from the eggs which was which: they all vary greatly within the species, and all the different kinds have variations similar to those of the other kinds. This may have affected the accuracy of our count of nests. The gull-billed terns were the most numerous (see table of estimates below) and while never quite as demonstrative as the skimmers, they began making a fuss about our arrival the longest time before we reached the nesting area, and kept it up the longest after we started away. The least terns, too, kept about us so assiduously that we made estimates of their numbers far above what the count of nests indicated; this may be due to the presence of other nearby small colonies of this bird, from which the mob about

us was partly recruited; in this case the estimate given below should be increased. With all the terns the large size of the fish brought by the parents was noted, I found four-inch fish in the nest with nestlings only six inches long. I didn't succeed in seeing these youngsters wrap themselves around such meals, though they pecked at the fish when I started to remove said fish from the nest.

Think of stepping over herons' nests! We had been accustomed in other parts of the country to finding them high in trees. Well, at that, they did the best they could and still stay within easy flight of this wonderful food supply. They had the very highest locations available, sometimes as much as fourteen inches off the ground! Like the terns, the inclement season had put back their nesting, so that weeks after all the young should have been flying, some were still in the egg, and others barely hatched. I have seldom had so many fine subjects for the camera just waiting to be "took," and the high school boy who accompanied me on this trip snapped at view after view. Alas for our hopes, after we were far away we found that an accident to the camera had rendered every picture a little out of focus, so that not one was suitable for reproduction in half-tone. Some of the pictures of the dignified army of young terns, just not quite able to fly, and seemingly well drilled by some army sergeant, were very interesting, as well those of the ludicrous young herons and egrets of various ages.

Our estimates of the population of the island follow:

Laughing gull	5000	Gull-billed tern	3000
		Caspian tern	1000
Black skimmer	1000	Royal tern	500
		Cabot tern	300
Reddish egret	50	Forster tern	1500
Louisiana heron	400	Least tern	50

These figures are for adults, and are based on the method indicated in the remarks concerning the counting of the laughing gulls.

Some of the very most interesting to me were not breeding on the island, either being non-breeding individuals left behind in migration (the pelicans) or being strays from other breeding places, attracted here by the abundance of fish:

91. AMERICAN WHITE PELICAN—*Pelecanus erythrorhynchos*.
92. ROSEATE SPOONBILL—*Ajaia ajaja*.
93. WOOD IBIS (STORK)—*Mycteria americana*.

94. WARD HERON—*Ardea herodias wardi*.

95. SNOWY EGRET—*Egretta candidissima candidissima*.

The last mentioned was here the most timid of all: in Florida and California I have found them almost stupidly tame. The Ward herons, too, were quite wild. The spoonbills were to me a decided treat, and as the saying is, I "feasted my eyes" on them. In life they are far richer in color than museum specimens would lead one to expect; specimens must evidently fade much. They were gorgeous, lovely, spectacular. We saw seventy-seven in one flock, and later saw one of about half that size, presumably, but not certainly a second bunch.

There is a happy ending to this that is not always the case. Texas has recently set this island apart as a sanctuary, so that with legal protection, good wardens on the job, few predatory birds, comparative safety from beasts of prey, and abundant food, these birds should thrive. I understand that much credit for all this belongs to Dr. Pearson of the Audubon Society, and to Mr. Camp, "patron saint" of the Brownsville birds.

THE RELATION OF THE CROW TO PECAN CULTURE

BY WILLIAM E. HOFFMANN

Division of Entomology and Economic Zoölogy,
University of Minnesota

The common crow is a widely-distributed and well-known bird. Literature is replete with references to this black denizen of forest and field. It is one of the first birds for which we have critical food-habit studies, but in spite of this fact, its real economic status is still a mooted question. On first thought it might seem surprising that the bird's beneficial and injurious traits have not been listed, and a balance declared either for or against it. When, however, we consider the fact that over 650 specifically different items of food have been identified in the stomach contents of the crow, we can see wherein the solution of the problem might not be as simple as at first thought. If we find grain present in the diet, our principle concern is whether the grain was waste grain or utilizable grain. Even if at times it be other than waste grain, we still might object provided the crow's services throughout the rest of the year compensated for it. But when we come to consider the crow's destruction of the smaller mammals, batrachians, reptiles, insects, and crustaceans the question is not so simple. Our knowledge