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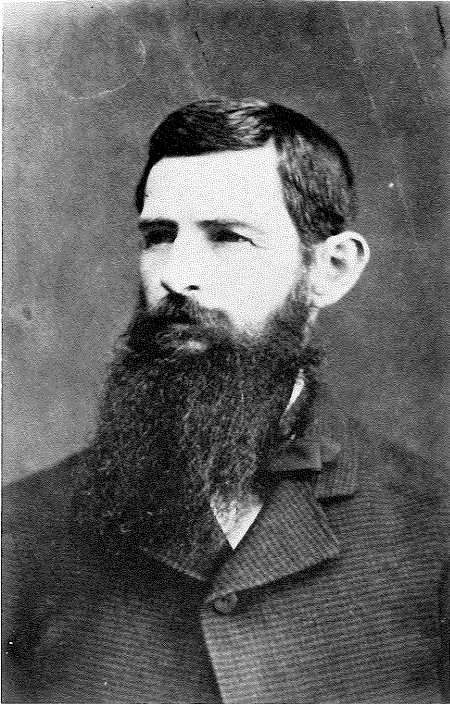
Contents

George Henry Ragsdale: The Gainesville Naturalist. <i>Stanley D. Casto</i>	30
The Cattle Egret in Texas: Range Expansion and Interrelations with Other Colonial Waterbirds. <i>Raymond C. Telfair II</i>	37
Recent Articles About Texas Birds. <i>Tony Gallucci</i>	45
General Notes	
Additional Host Records for the Bronzed Cowbird in Texas. <i>Charles T. Collins, Diana F. Tomback and Glen E. Woolfenden</i>	50
Third Texas Nest of the Mountain Plover. <i>Tony Gallucci</i>	51
Notes and News	Inside Back Cover

George Henry Ragsdale: The Gainesville Naturalist

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GEORGE HENRY RAGSDALE

From the Ruthven Deane Collection, Library
of Congress

"I am a field naturalist of limited education and means."⁽¹⁾ Such was the humble self-evaluation of the man who for 28 years studied the fauna, flora, and geology of Cooke County, Texas. Ragsdale's life as a frontier naturalist was not an easy one. Yet in spite of hardships, he remained convinced that the pursuit of science was both uplifting and beneficial. He was a rational man in his interpretations of natural phenomena, yet deeply spiritual in his personal life and philosophy. The record of his accomplishments and aspirations lives today in his bibliography of nearly 100 titles, numerous unpublished manuscripts and essays, and a voluminous correspondence with many of the great zoologists and naturalists of the 19th century.

The Ragsdale Papers (RP) are in the possession of his daughter, Miss Elizabeth 'Bess' Ragsdale of Gainesville, Texas. Other materials are in the Morton Museum of Cooke County (MMCC), the Samuel Geiser Collection in the Southern Methodist University Archives (GCSMU), the G. B. Sennett Collection in the University of Texas Archives (SCUTA), and the Archives of the Smithsonian Institution (ASI).⁽²⁾ It is from these sources and from his published papers that the following biography of G. H. Ragsdale has been composed.

George Ragsdale's love of nature was nurtured in the green hills of Knox County, Tennessee, where he was born on 1 April 1846, the eldest son of Lewis and Elizabeth Ragsdale.⁽³⁾ Lewis was a farmer of moderate means and was therefore able to provide books and a basic education for his children. George's formal education was probably halted by the death of his mother in 1860 and the beginning of the Civil War. The trauma of these events and of his many "trials and troubles" are recorded in his diary of 1864-1865. At an early age his intellectual interests and self-discipline were already apparent. In his diary, he mentions having read, in the period of about a year, virtually all of the major works of

Shakespeare, as well as various other pieces of literature totalling several hundred pages.

In 1867 the family left Tennessee and moved to a farm 5 km southeast of Gainesville.(4) Cooke County was on the Texas frontier with Indian raids continuing until 1868. George first helped on the farm, but by 1870 he had been elected county surveyor, a position which he held for the next 8 years. During these early years, he corresponded with his childhood love, Elizabeth Letitia Owens, from Knoxville, Tennessee, who consented in 1871 to become his bride.

The duties of county surveyor required that Ragsdale get into the countryside and it was during these years that his serious interest in natural history began to emerge. Apparently he was fond of hunting for his first articles, published during 1875, in *Forest and Stream* deal with "Sports in Texas." In that same year he also published a short note on the "Chaparral Cock at Gainesville, Texas." The die had been cast! Although he would later write and publish on many diverse topics, George Ragsdale's enduring love was to be ornithology. His attraction to birds was of a spiritual nature as evidenced by an article titled "Communion with Birds" published in the *Temperance Vedette* of 1877. Consumed with the fire of his new calling, he reasoned that it should also be the source of his livelihood. In his diary, he reminisces that "In 1877 . . . I had been collecting some bird's eggs and things for my cabinet and had had frequent offers from Parties at a distance to pay cash for specimens, I concluded to collect specimens for market."(5) He forthwith had his name entered in Cassino's *Naturalist's Directory* and Willard's *Directory of Ornithologists of the United States* so that his name might be brought to the attention of others of similar interest.

The years 1877 through June 1881 were times of happiness and productivity during which 2 sons were born and 26 papers were published on Texas birds. The techniques of collecting and the art of taxidermy were mastered and he was in wide correspondence with other naturalists. On 1 April 1878, in company with W. Norris, Ragsdale undertook a collecting trip to south Texas. Leaving Gainesville the party traveled south toward Austin. While passing through Bosque County, a Golden-cheeked Warbler was collected, the fourth known specimen of the species and only the second specimen to be recorded from Texas.(6)

Ragsdale and Norris changed their plans at San Antonio and on 16 April 1878 they headed toward Eagle Pass rather than Laredo. This change of direction was fortuitous for an Indian raid occurred during this time at Ft. Ewell on the San Antonio-Laredo Road.(7) Recollections of the 1878 expedition are found in a letter from Ragsdale to Ruthven Deane describing the collection of a Black-capped Vireo at Camp Verde in Medina County on April 20th, a second specimen in Comanche County on May 2nd, and yet a third specimen on May 3rd in Erath County.(8) In his account of the Golden-fronted Woodpeckers observed on this trip, Ragsdale mentions traveling northeast from Medina County to the Colorado River in San Saba County. A second and much shorter expedition was made by Ragsdale and his companions in the Fall 1878 to the Brazos River and on to Taylor and Nolan counties, returning to Gainesville via Ft. Belknap.(9)

The happiness which Ragsdale had come to know was shattered in July of 1881 when Letitia died of puerperal fever following the birth of their third child, a daughter who also died shortly thereafter. Diary entries from late 1881 reveal a man overwhelmed by grief and sustained only by his inner faith. For nearly 3

years the pen of George Ragsdale did not produce a single paper on his beloved birds.

For several years, Ragsdale was involved in the Temperance Movement with his brother-in-law, Vic Reinhardt, who was editor of the *Temperance Vedette* published at Terrell, Texas. Thus, through family ties, Ragsdale became both a contributor and a corresponding editor of the *Vedette*. He also became acquainted with Reinhardt's sister, Kittie, to whom he was married on 20 September 1883 at Cleburne, Texas. One newspaper account of their wedding wished that Ragsdale's ". . . labors in the interest of ornithology . . . receive all the sweet encouragement that can only come from a loving woman." (10) Indeed, Miss Kittie was to be a true helpmate who often aided in the skinning and preparation of specimens.

As early as 1887, Ragsdale conceived the idea of writing a book on Texas ornithology. He was encouraged in this project by the geologist, F. L. Yoakum, from Tyler, Texas, who offered to help with the writing. Ragsdale proposed to give Yoakum half-interest in the first edition if he would furnish the money to publish and bind the book. (11) Apparently no agreement was reached and the subject was dropped. The next mention of a book came in late 1892 when the local newspaper reported that Ragsdale had ". . . a complete biography of every bird found in this country, besides his geological researches and his zoological observations." (12) Since the manuscript of this proposed book on the natural history of Texas has not been located, it is probable that it existed only in the form of scattered notes.

In December 1886 Ragsdale became interested in the establishment of a natural history museum. Knowing little of the cost of running a museum and wishing to accurately answer the questions of the townspeople, he wrote to the U.S. National Museum for advice. (13) In a lecture manuscript dated 1887, he wrote of the ". . . propriety of bringing together at Gainesville, Tex., a permanent exhibit of the resources of Texas to be used in connection with a scientific library in educating our people in the branches of natural history." The audience was assured that this would be ". . . a laudable enterprise, and . . . will be richly repaid by toning up the thoughts and morals of our people." (14) A little "toning up" was obviously a worthy goal in the rough frontier cowtown, but there was no general support for a museum at this time. Ragsdale, however, continued to contemplate the idea, and in November 1893 he outlined a plan for the financial maintenance of the "Lindsay Institute," named for a prominent family. This plan proposed that the museum be supported by the public school fund, county funds, donations, and the sale of museum bulletins. The functions of the museum would be integrated with those of the public school. It was further proposed that he would rent his collection to the museum and would serve as its chief field naturalist. (15) What action, if any, was taken on this plan is unknown.

Ragsdale's writings suggest that he was intensely interested in public education and that he was basically a teacher without a classroom. In an essay, "The Naturalist's Reward," written in the fall of 1892, he described how he had laboriously arranged his exhibits at the County Fair and had then left for a few moments of refreshment. Upon returning to the exhibit area, Ragsdale saw a small child arranging pebbles in the dust in much the same manner as the specimens of his exhibit. He then realized that his work had not gone unnoticed and

that a new convert had been made to the discipline of collecting and classifying. In his letters, Ragsdale often inquired as to the availability of a position teaching natural science, ornithology, or geology. In late 1893 he conceived the idea of offering a "Summer Institute of Practical Science" for school teachers and interested citizens. J. M. Carlisle, State Superintendent of Public Education, encouraged Ragsdale in his plan, but warned that "our people" are probably not ready to take advantage of such an institute in numbers large enough to make it profitable.(16) Rough drafts of an advertisement describing the institute are found in Ragsdale's papers, but there is no evidence that it was ever held.

Early in his career, Ragsdale made the acquaintance of J. A. Singley, a naturalist from Giddings, Texas. Singley was an ornithologist and conchologist of considerable merit who worked for the Texas Geological Survey. Ragsdale collected molluscs for Singley, and many of his records became incorporated into the mollusc section of Singley's *Natural History of Texas* published in 1893. Ragsdale was a field worker with the geological survey during the spring and summer of 1891 and the summer of 1892. During the latter period the party to which he was attached worked in Lee, Washington, and Waller counties and later near Wharton where Ragsdale contracted malaria and was unable to complete the season.(17)

As his family grew, Ragsdale was placed under an increasing financial strain. His correspondence reveals the regular sale of small lots of specimens, but the income from this source was apparently not enough to support both his family and his aspirations to publish. In the summer of 1889, he wrote to Sennett that he had ". . . not entirely given up publishing, but with a small income, a shattered constitution, and a family . . . to school and clothe, the outlook is not promising."(18) In 1890 he offered to sell his collection of 600 eggs and 218 labels describing nests together with egg data to the Smithsonian.(19) By 1891 his catalogue list of bird skins totalled 165 species and subspecies.(20)

Ragsdale was always ready to exhibit his collection and perhaps his biggest showing came in November 1891 at the Louisiana State Fair in Shreveport.(21) He also donated specimens in 1891 to Ouchita Baptist College in Arkadelphia, Arkansas.(22) Around this time, Ragsdale entered into correspondence with J. W. Congor, President of Ouchita, to whom he wished to sell his collection. In April 1893, Congor asked Ragsdale to quote a price, but the deal was apparently never completed.(23) There is, however, some evidence that the collection was sold to Ouchita following Ragsdale's death in 1895.(24)

George Ragsdale made many contributions to Texas ornithology and 17 of his papers are listed in the bibliography of *The Bird Life of Texas*. Excluding his numerous popular articles, he published over 40 papers on birds in such journals as *Forest and Stream*, *Oologist*, *Naturalist and Fancier*, *Bulletin Nuttall Ornithological Club*, *Science News*, *Ornithologist and Oologist*, and *The Auk*. His bibliography, published on 20 October 1893 in the *Daily Hesperian* shows that the majority of his bird articles were published between 1875 and 1887. During much of this period, he was the only permanent ornithological observer in north central Texas and was, thus, the eyes and ears of the many eastern ornithologists with whom he corresponded and supplied with specimens. Between 1877 and 1884 he supplied data for Cooke's *Bird Migration in the Mississippi Valley* and in 1877 served as a regional contributor to Barrow's monograph on *The House*

Sparrow in North America. He is also cited as a contributor in Hasbrouck's 1893 paper on the distribution of American Screech Owls.(25)

Ragsdale's bird articles are mostly short notes covering the gamut of range extensions, migration, song, anatomy, feeding, nesting, or general behavior. State records for which Ragsdale was both collector and reporter (CR), collector (C) or reporter (R) include the following list: Northwestern Smith's Longspur (CR), Common Lapland Longspur (CR), Rufous-crowned Sparrow (C), Northern Barred Owl (CR, originally reported as Florida Barred Owl), Western Veery (CR), Western Lark Sparrow (C), Western Tree Sparrow (C), European Glaucus Gull (C), and Point Barrow Glaucus Gull (R).(26) By 1894, Ragsdale had compiled a manuscript list of 83 species known to breed in Cooke County. Distribution accounts in *The Bird Life of Texas* also note early specimen records for many birds, e.g. the White Ibis (1879), Lesser Prairie Chicken (1878), Arizona Scaled Quail (1886), Black Rail (1889), Southern Wood Thrush (1880), Northern Barred Owl (1885), Northern Prairie Warbler (1885), Connecticut Warbler (1878), and Northwestern Smith's Longspur (1879).

In 1885 Ragsdale became a member of the American Ornithologist's Union and in the years thereafter he published 7 papers in *The Auk*. At the 1891 annual meeting in Washington, D.C., his paper, "Distribution of the species of *Peucaea* [*Aimophila*] in Cooke County, Texas," was read before the society.(27) At the state level, Ragsdale is also believed to have been a member of the first Texas Academy of Science which was founded in 1880 and functioned until about 1889.(28)

Ragsdale was not only a "natural historian," but also a historian of the social and political events which occurred on the Texas frontier. His papers include extensive notes on the Indian raids in early Cooke County as well as manuscripts on "Neglected Chapters of Texas History," "Frontier Life in the Southwestern United States," and the "Great Hanging" which occurred at Gainesville in 1862. Ragsdale was also intensely interested in Indian artifacts and the life of the aboriginals prior to the coming of the settlers.

Ragsdale apparently had a strong concept of conservation as evidenced by an 1878 article in the *Vedette* entitled "A Plea for the Buffalo." However, in spite of his conservationist views, he was at first opposed to the A.O.U. Model Law for bird protection, believing that it would destroy his trade in specimens. This opposition was apparently broken down through the forceful arguments of George Sennett who contended that the law worked to the benefit of the scientific collector, while penalizing only those who hunted for millinery or market purposes.(29) In popular articles published thereafter, Ragsdale often drew the attention of the public to the decline of many of the wild species of the local area.(30)

During his last years Ragsdale came to be recognized by the local people for his untiring efforts in the cause of natural history. He was respectfully referred to as "Professor Ragsdale" and afforded a semi-regular column in the *Daily Hesperian* known as "Ragsdale's Column." Perhaps the best compliment came when the hometown paper praised Ragsdale for having ". . . labored incessantly to get people to think why things are so It's time this genius was appreciated and an attempt made to encourage the cultivation of an interest in this [Ragsdale's] line of work."(31)

Ragsdale was a philosophical man who often committed to paper many of his

personal and speculative thoughts concerning the human species. In a now insect-damaged manuscript, "The Realm of the Human Intellect," Ragsdale inquired into the nature and relationship of man to the lower animals. Contained within this essay is a statement of belief which may very well characterize its author: "The material universe is large, but it cannot limit the speculations of the human mind." Thus, although handicapped by a "limited education and means" his mind was not intended by his Creator to be shackled by the constraints of his surroundings. George Ragsdale died on 25 March 1895 having made the world a richer place because of this belief!

Acknowledgments

I am grateful to Miss Bess Ragsdale, a lover of both feather and flower, for permission to examine her father's papers. I am also indebted to Margaret Hays and Dora Mae Kelly for their assistance in making available the Ragsdale Papers. Thanks are also due to Samuel Geiser for allowing me to cite his unpublished correspondence, to Wm. Deiss of the Smithsonian Archives, Lee Milazzo of the SMU Archives, and to the staff of the UT Archives. M. K. Rylander, Margaret Hays, and Norma Bentley read early drafts of the manuscript and I am grateful for their comments. This study was made possible by a Developmental Leave granted by the University of Mary Hardin-Baylor.

Bibliography and Footnotes

1. Undated letter to Messrs. Friedlander & Sohn, Berlin, Germany (RP).
2. Ragsdale's papers consist of correspondence, letter copy books, diaries, field notes, newspaper articles, reprints, manuscripts, and a scrap book. The MMCC Collection consists of a diary and correspondence. The Geiser Collection contains correspondence gathered by Dr. Geiser during his study on "Men of Science in Texas." The Sennett Collection contains 2 letters written by Ragsdale. The Smithsonian Archives contain 39 letters written by Ragsdale between 1886 and 1894.
3. Undated letter from Elizabeth Ragsdale to Samuel Geiser (GCSMU).
4. Letter from J. F. Ragsdale to Samuel Geiser, 25 June 1941 (GCSMU).
5. Diary, p. 6, 24 July 1881 (MMCC).
6. Wm. Brewster. 1879. On the habits and nesting of certain rare birds in Texas. *Bull. Nutt. Ornith. Club* 4:75-80.
7. Undated letter from Elizabeth Ragsdale to Samuel Geiser (GCSMU).
8. Ruthven Deane. 1879. *Vireo atricapillus* in Texas. *Bull. Nutt. Ornith. Club* 4:58-59. Also, see G. H. Ragsdale, *Science News* 1878-1879, pp. 134-135.
9. G. H. Ragsdale, *Science News* 1878-1879, p. 320 and the *Auk* 7:401-402.
10. Undated newspaper article (MMCC).
11. Letter from Yoakum to Ragsdale, 23 Nov. 1887. Ragsdale's proposal is written on the back of the letter. In a second letter dated 1 Dec. 1887, Yoakum gives suggestions on how to index and arrange material for the book (RP).
12. *Daily Hesperian*, 29 Nov. 1892, p. 2.
13. Letter from Ragsdale to S. F. Baird, 15 Dec. 1886 (ASI).
14. Manuscript "Natural Science in Texas," 1 Jan. 1887 (RP). The *Morning Register*, 29 June 1888, reports a lecture by Ragsdale on natural history and the need for a museum.
15. Manuscript "A Plan for Financial Maintenance of the Lindsay Institute," 25 Nov. 1893 (RP).
16. Letter from Carlisle to Ragsdale, 7 Nov. 1893 (RP).
17. Undated letter to Messrs. Friedlander & Sohn (RP) and *Fourth Annual Report Geol. Survey of Texas*, 1892, p. XXV.
18. Ragsdale to G. B. Sennett, 2 May 1889 (SCUTA).
19. Ragsdale to G. B. Goode, 27 Mar. 1890 (ASI).

20. Letter from Ragsdale to August Muller, 8 Jan. 1891 (RP).
21. List of damages to the Ragsdale Collection incurred at the Louisiana State Fair, Nov. 3-7, 1891 (RP).
22. Letter from J. W. Congor thanking Ragsdale for specimens donated, 22 Oct. 1891 (RP).
23. Letter from J. W. Congor, 26 April 1893 (RP).
24. Letter from Cliff McMahon to Howard Feevell, 26 Oct. 1938 (GCSMU).
25. E. M. Hasbrouck. 1893. *Auk* 10:250-254.
26. For literature citations of these records see: Wm. Brewster. 1886. *Auk* 3:139; J. A. Allen. 1878. *Bull. Nutt. Ornith. Club* 3:188-189; G. H. Ragsdale. 1877. *Oologist*, Jan. Issue; G. H. Ragsdale. 1886. *Auk* 3:281; and Robt. Ridgway. *Birds of North and Middle America*.
27. "Cooke County at the Capital," *Daily Hesperian*, 24 Jan. 1892, p. 2.
28. S. W. Geiser. 1945. The First Texas Academy of Science. *Field & Laboratory* 13:34-39.
29. Letter from Sennett to Ragsdale, 19 Jan. 1887 (RP). Sennett was chairman of the A.O.U. Committee on Bird Protection.
30. "Save the Rare Birds," *Daily Hesperian*, 9 Jan. 1894, p. 3.
31. Unidentified newspaper article, 11 April 1893 (RP).

The Cattle Egret in Texas: Range Expansion and Interrelations with Other Colonial Waterbirds

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Range Expansion

First Authenticated Observation and Its Significance

More than 20 adult Cattle Egrets (*Bubulcus ibis*) were seen at Eagle Lake (Colorado Co.) on 18 August 1954 (Sprunt 1956a), Fig. 1. The record is supported by a letter sent to Mr. Roger T. Peterson from Mrs. William B. Keeling of San Antonio, Texas, the person making the observation:

Returning from a hurried trip to Mississippi, during which time I scanned all herds of cattle along the roadsides in Louisiana and Mississippi in hopes of spotting Cattle Egrets, I suddenly came on a swampy lake just outside of Eagle Lake, Texas, on U.S. Highway 90-A. In the dead trees . . . were . . . Snowy and American Egrets . . . on closer examination, however, many of the "Snowies" turned out to be Cattle Egrets. I noted the grayish-yellow legs and feet, yellow bill and a hunched appearance as compared with the way in which the Snowies perched . . . I counted over twenty of these birds in as many minutes as I watched through my glasses.

This observation is highly significant for a number of reasons:

1. It preceded the accepted first observation of Cattle Egrets in Texas on Mustang Island, 25 November 1955 (Webster 1956) made of a single egret 8 km south of Port Aransas (Fig. 1). The sighting coincided with the annual Rockport field trip of the Texas Ornithological Society (TOS). By 28 November, at least 30 TOS members had certified identification of the bird. The species description is diagnostic, but it is not possible to determine whether the bird was an adult or an immature (juvenile) because plumage and soft part coloration exhibit little difference during the non-breeding season. At the times of observation and publication of the record, none of the observers were aware of the earlier observation by Mrs. Keeling at the Eagle Lake heronry on 18 August 1954 (Sprunt 1956a).

2. Authenticated records indicate that Cattle Egrets nested for the first time outside of Florida during May to July, 1956 (Sprunt 1956b). Nesting areas were: 1) Drum Island, Charleston Harbor, South Carolina (2 pairs); 2) mouth of Cape Fear River (Battery Island) near Southport, North Carolina (2 pairs); and 3) Lacassine Refuge, Cameron Parish, Louisiana (50 to 60 pairs).

3. However, Cattle Egrets may have nested at Eagle Lake, Texas in 1954. Several facts support this possibility:

a) The sighting there in mid-August, 1954 involved only adult birds (more than 20), i.e., immatures and fledglings (juveniles) have blackish legs rather than yellowish ones, as described by Mrs. Keeling.

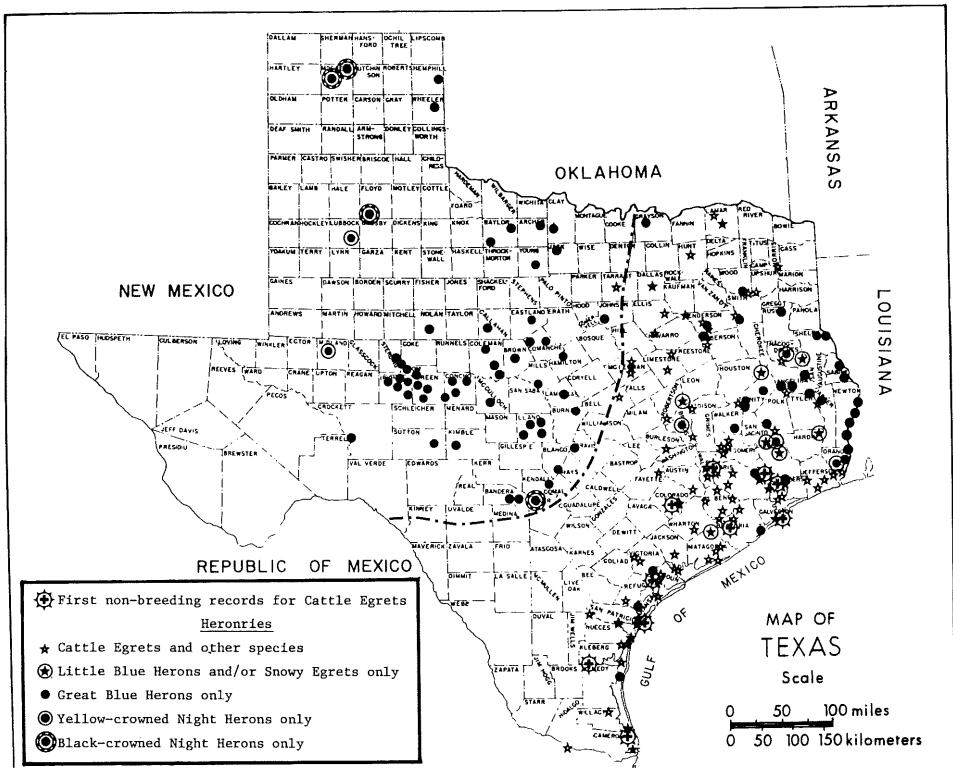


Fig. 1. Locations of the first confirmed non-breeding Cattle Egrets in Texas and their subsequent breeding distribution in relation to other ardeids. The dot-dash line marks location of the Balcones Escarpment. Only 185 of the 288 known heronries (64.2%) are represented because of the small scale of the map. However, most of those heronries omitted are coastal ones, especially in bay systems.

b) But, in 1956, the 2 pairs of Cattle Egrets in South Carolina had nestlings on 9 July; the 2 pairs in North Carolina had nestlings on 15 June; and the 50 to 60 pairs in Louisiana exhibited first signs of nesting on 2 June. The courtship-nest building period of Cattle Egrets lasts about 5–7 days, egg laying requires about 6–8 days, incubation averages about 23 days, and chicks require about 6 weeks for fledging. Thus, it is quite possible for there to have been non-fledgling young in the Eagle Lake heronry in mid-August, 1954.

c) The Louisiana birds began nesting activities on 2 June 1956. Therefore, if, at about this time, in 1954, 20 or more birds immigrated into Texas, they could have arrived at the Eagle Lake heronry with ample time to complete a successful breeding season. For example, in 1956, in North Carolina, Cattle Egrets appeared for the first time and nested—all within a period of 2 months.

d) Migration of adults away from heronries usually does not occur until September, October, and November.

4. Twenty-four Cattle Egrets were seen by Mrs. Norma C. Oates on Galveston Island (Galveston Co.) on 17 August 1958 (Webster 1958), Fig. 1. About half of them were immature birds as is indicated by her description: "About half were immatures—solid white, with dark legs and yellow-orange bills. Adults were still Bull. Texas Ornith. Soc. 13(2): 1980

in breeding plumage.” According to Mrs. Oates: “From the increase in numbers of immatures seen on August 17, I feel there can hardly be any doubt that they nested on Galveston Island this spring.” Mrs. Oates’ observation and analysis are strong evidence that Cattle Egrets nested in the vicinity of Galveston in 1958, probably within a radius of less than 32 km.

5. Mr. Alexander Sprunt IV reported the first nesting records of Cattle Egrets in Texas (Webster 1959). Eight nests were found on North Deer Island in West Galveston Bay on 20 May 1959 (Fig. 1). Two days later, Messrs. Sprunt and John Larson observed 2 pairs of Cattle Egrets in breeding plumage on Green Island in the lower Laguna Madre at the extreme tip of the southern coastal zone (Fig. 1). An adult in breeding plumage was seen on 29 May in a large heronry at Palmer Lake near Cleveland, Liberty Co. (Messrs. V. L. Emanuel and Sprunt and Ms. Katrina Thompson, *in* Webster 1959), Fig. 1. Also, at least 6 pairs of Cattle Egrets were seen at the edge of the Waller heronry on 6 August 1959 (about 2 km north of Waller, Waller Co., *fide* Dr. J. R. Dixon), Fig. 1. Therefore, these records, although few, are scattered over the vast coastal region of Texas and indicate that there were several breeding populations of Cattle Egrets in Texas in 1959. However, the first breeding of this species in the state may have occurred before 1959. How much before is unknown, but it is probable that nesting did not occur before 1954.

6. There are several other spring records of Cattle Egrets along the Texas coast between the first discovery in 1954 and the first nesting record in 1959 (Fig. 1), viz., 1) Mr. John Hildebrant reported 1 bird at Galveston, 25 March 1956 (Webster 1956); 2) One immature bird was observed by Mrs. Conger N. Hagar on Mustang Island, 8 km south of Port Aransas, 21 March 1956 (Webster 1956). She believed it to be the same bird that was seen there on 25 November 1955; 3) One egret was seen by Mmes. Carrie Holcomb, N. C. Oates, and Thelma Smith on the Bolivar Peninsula, 12 May 1957, about 19 km east of the ferry to Galveston: “It was feeding with a large herd of cattle close to the highway” (Webster 1957); 4) Another egret, an adult in breeding plumage feeding with cattle, was found by Mr. and Mrs. C. W. Hamilton and Mr. Charles Lincoln at the old Sheldon Reservoir (40 km northeast of Houston) on 20–27 April 1957 (Webster 1957); 5) One to 5 birds were seen during 7 trips by Mrs. Oates et al. between 22 December and 23 March 1958. The birds were in fields with cattle along “S” road between Seven-Mile Road and Nine-Mile Road, Rockport. Mrs. Oates expressed belief that Cattle Egrets were established on Galveston Island (Webster 1958); 6) Messrs. L. C. Goldman and John Lieftinck observed a Cattle Egret at Laguna Atascosa National Wildlife Refuge (extreme south Texas, Lower Rio Grande Valley, Cameron Co.) on 7 May 1958 (Webster 1958); 7) Twelve egrets were seen near West Columbia, Brazoria Co., 22 March 1959 by Mrs. Edna Haver et al. (Webster 1959); and 8) Mr. Frank Oatman Jr. saw a flock of 10 or more of the birds about 40 km south of Kingsville on Highway 77 on the border of Kleberg and Kenedy Cos. on 12 March 1959 (Webster 1959).

7. During the fall seasons of 1956–1958, increasing numbers of Cattle Egrets were seen along the coast and within the coastal zone of Texas (Fig. 1): 1) Mmes. Carrie Holcomb and Leota Stilwell found one egret in the Hockley area about 48 km northwest of Houston on 6 October 1956. Mr. Horace H. Jeter saw it there again on 7 October (Webster 1957). 2) Mrs. Hagar saw a single bird near Rockport

between 17 and 23 September 1957 and 2 at another location between 26 November and 3 December. "The latter two were in a pasture in close association with cattle, and one was seen perched on the back of a cow (Mr. W. D. Anderson)" (Webster 1958). 3) Mr. A. K. McKay observed the first Cattle Egret at Cove, Chambers Co., on 11 October 1958 and he reported an increase of 100+ on 25 October (Webster 1959). Mrs. Oates reported a progressive increase of Cattle Egrets in the fall of 1958 on Galveston Island: 24, 17 August; 43, 10 October; and 80-90, 16 November (Webster 1959). 4) A Houston field party reported 40+ Cattle Egrets in a pasture about 5 km northeast of Tivoli (Calhoun Co.), 19 October 1958; 30-40 were still present in early December (Mrs. Hagar). Their origin was not known, but it was speculated that they may have been arrivals from Louisiana (Webster 1959).

In summary, nesting records indicate that Cattle Egrets did not breed in Texas before 1959. However, observations and censuses of adult and immature birds in several widely separated localities along the coast and within the coastal prairie of Texas during the breeding and fall seasons of several years prior to 1959, plus breeding records in North and South Carolina and Louisiana during 1956, suggest that nesting of Cattle Egrets in Texas may have occurred as early as 1954, 5 years before the first nests were found in West Galveston Bay.

Chronology of Authenticated Utilization of Heronries

Cattle Egrets nested in June 1960 on Vingt-et-un Island, just north of the tip of Smith Point in Trinity Bay (Mr. Joe Whitehead, *in Webster 1960*), Fig. 1. No nests were found of the 2 pairs of Cattle Egrets seen on Green Island (Cameron Co.) in May 1959; however, 14 nests were located in early June 1960 (J. O. Larson, *in Webster 1960*), Fig. 1.

Apparently, the first observation of inland nesting of this species occurred about 2 km northwest of Waller, Waller Co. (Fig. 1). Between 26 July and 12 August 1960, at least 12 pairs were in a post oak (*Quercus stellata*) mott heronry on a low hilltop that was not directly associated with an aquatic habitat. The site is adjacent to Interstate Highway 290 about 144 km inland. Dr. J. R. Dixon saw at least 6 pairs of Cattle Egrets there on 6 August 1959. Thus, it is possible that nesting had occurred there earlier. On 15 May 1961, Dr. Dixon counted 5 or more pairs nesting in the heronry. By 1965 the number of nesting Cattle Egrets in the heronry equaled that of the Little Blue Heron (*Florida caerulea*), perhaps 1,000 pairs of each species, and all available nest sites were occupied. The land owner considered the large number of birds to be a nuisance and sanitation problem; so, during the nesting season of 1965, acetylene gun frightening devices were used to discourage nesting. The heronry was abandoned and has not been used since.

In 1963, Cattle Egrets began nesting in the Ennis and Dallas heronries (Ellis and Dallas Cos., respectively), located on tributaries of the upper reaches of the Trinity River about 330 and 400 km inland, respectively (Fig. 1). In 1976, the nesting populations of these heronries included 83% and 44% Cattle Egrets, respectively. Inland heronries above the Trinity River have been utilized since 1969 and those below the Trinity River have contained Cattle Egrets since 1960 (Fig. 1).

In summary, during the 22 years that Cattle Egrets have been recorded nesting

in Texas, they have established large breeding populations in coastal heronries (natural and artificial islands, mostly), in heronries within the coastal prairie, and within heronries far inland, particularly in the Trinity River System. No statewide census has been conducted since 1976, but in 1976 there were 167,930 pairs of Cattle Egrets, breeding in Texas (Blacklock et al. 1978). In comparison, census of breeding pairs of the most numerous native ardeids were: Little Blue Heron (21,110), Louisiana Heron, *Hydranassa tricolor* (11,530), and Snowy Egret, *Egretta thula* (10,730).

Climatic Influences

Presence or absence of seasonal drouths in Texas may have influenced establishment and spread of Cattle Egrets within the state. For this purpose, drouths are arbitrarily defined as when a division of the state has less than 75% of the 1931–1960 normal precipitation (Texas Almanac 1980–1981).

Appearance of Cattle Egrets in Texas in 1954 (Sprunt 1956a), at Eagle Lake, Colorado Co., occurred in the middle of the prolonged 1950–56 drouth which was especially severe during 1954–1956. The drouth was broken in 1957 and Cattle Egrets began to nest in 1959 on the Upper Coast of Texas (North Deer Island in West Galveston Bay, Galveston Co.) and in 1960 inland in Texas (Waller, Waller Co.), Fig. 1. In 1963, Cattle Egrets began nesting in the upper reaches of the Trinity River in Dallas and Ellis Counties (Fig. 1). Since 1963, there have been no drouths adverse to the nesting of Cattle Egrets in Texas and only one major hurricane has had an effect upon their nesting in coastal areas (*Celia*, in the Corpus Christi area, 3–5 August 1970). However, the winter of 1973 was mild and birds returned for nesting a few weeks earlier in the spring of 1974 than usual, but the dry spring delayed nesting and, with a dry summer, nesting terminated earlier than usual.

Interrelations with Other Colonial Waterbirds

Extent of Utilization of Heronries

There are about 288 heronries known in Texas (Fig. 1) of which 229 (79.5%) occur within the breeding range of Cattle Egrets (Blacklock et al. 1978). Of the 229, 49.8% are utilized by Cattle Egrets. The remaining 50.2% are those of Little Blue Herons and/or Snowy Egrets or large ardeids only: Great Blue Heron (*Ardea herodias*), Great Egrets (*Casmerodius albus*), and Yellow-crowned or Black-crowned Night Herons (*Nyctonassa violacea* and *Nycticorax nycticorax*). All heronries outside the breeding range of Cattle Egrets contain only large ardeids.

Three native ardeids nest among Cattle Egrets in large numbers and are similar in size, nesting behavior, and utilization of nest-site vegetation: Little Blue Herons, Snowy Egrets, and Louisiana Herons. About 70% of the breeding population of Cattle Egrets in Texas associate with these three species and the remaining 30% associate with Little Blue Herons and Snowy Egrets. Furthermore, the breeding populations of these three native species in Texas are completely within the breeding range of the Cattle Egret. However, in no coastal regions or major river systems do large numbers of all four species occur together.

Cattle Egrets are more evenly distributed throughout Texas heronries than are Little Blue Herons, Snowy Egrets, and Louisiana Herons. However, they prefer

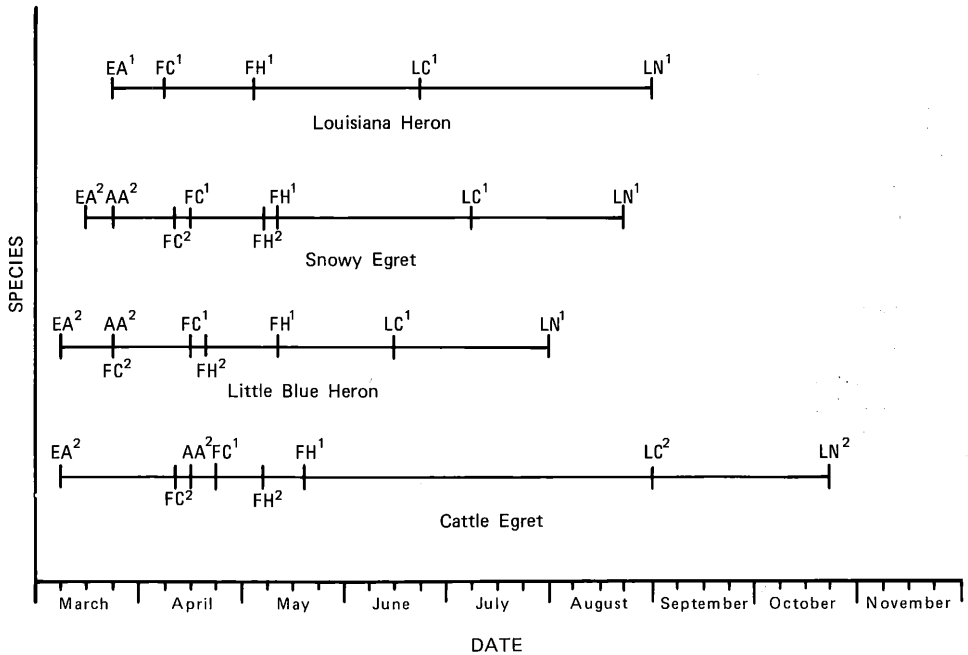


Fig. 2. Average phenologies and sequences of major events during the breeding seasons of Cattle Egrets, Little Blue Herons, Snowy Egrets, and Louisiana Herons in Texas heronries. EA = early arrival, AA = average arrival, FC = first clutches, FH = first hatchlings, LC = last clutches, and LN = last nestlings. Data are from: 1) Oberholser (1974) and 2) Telfair (1979).

the coast and coastal drainages (34.3% of the breeding population). Even so, an almost equal percentage nest far inland in the Trinity River System (33.3%). A slightly smaller percent of the egret population occupies heronries in the Sabine, Neches, San Jacinto, Brazos, and Red River systems (32.4% combined). The species with which they most often associate during nesting are the Little Blue Heron and Snowy Egret. Association with the Louisiana Heron occurs only along the coast and in the coastal prairie, although to a much less degree in the latter region because of the small population of Louisiana Herons.

Affinity of Cattle Egrets for Heronries Already Established by Other Species

In Texas, Cattle Egrets nest in multi-species heronries that are established or re-established by native species. The relationship between Cattle Egrets, inland heronries, and the availability of crayfish has been discussed in detail elsewhere (Telfair 1979; Telfair 1981); thus, the following discussion is only a brief summary.

Inland distribution of Cattle Egrets in Texas appears to be determined by the locations of heronries that have been established or re-established by native species, primarily Little Blue Herons and Snowy Egrets. The latter 2 species usually return to inland heronries in mid-to-late March and Cattle Egrets return to the same breeding areas about 1 month after the return of the 2 native species.

Inland breeding distribution and timing of the breeding season of the Little Blue Heron and Snowy Egret are probably determined in Texas by the availability of crayfish which compose about 73% and 39% of the diets of Little Blue Heron

and Snowy Egret young, respectively. There is no apparent relationship between distribution and density of grazing cattle and the breeding range of Cattle Egrets or distribution of heronries in which they breed, nor is there any apparent relationship between the breeding range of these egrets and maximum availability of grasshoppers and crickets which increases westward.

Thus, it seems reasonable to assume that Cattle Egrets are attracted to inland heronries already established by Little Blue Herons and Snowy Egrets. Breeding distribution of the latter 2 species is apparently limited by the distribution and abundance of crayfish.

Attraction of Other Species to Inland Heronries

Cattle Egrets may be attracting several native Texas species to inland heronries in which the latter species have not nested previously: 1) Olivaceous Cormorant, *Phalacrocorax olivaceus*; 2) Anhinga, *Anhinga anhinga*; 3) White Ibis, *Eudocimus albus*; 4) White-faced Ibis, *Plegadis chihi* (Telfair 1980); and Louisiana Heron (Runnels 1980). Cattle Egrets may be serving as "beacons" via being conspicuous, noisy, and socially stimulating or facilitating. Furthermore, recent creation of additional feeding areas, viz., cattle "tanks" (cattle watering ponds) and reservoirs of various types in inland Texas may, via these Cattle Egret "beacons," increase the breeding range of these 5 native species that have been or are primarily or totally coastal nesters. Also, large heronries containing conspicuous, noisy Cattle Egrets may serve as deterrents to predators, thus being a major factor leading to their attraction to native species.

Significance of Deferred Nesting

Deferred nesting by Cattle Egrets occurred during this study (Fig. 2). Its major significance was minimization of nest-site competition with native ardeids. This subject was thoroughly discussed by Shanholtzer (1972) in relation to the behavior of Cattle Egrets in Georgia and other heronries in the southeastern United States. He reported several advantages for Cattle Egrets by deferred nesting. During the beginning of nest establishment, most species defend relatively large territories (Meyerriecks *in* Palmer 1962). After development of the pair-bond and nest building, the defended territory shrinks to the immediate vicinity of the nest. Species that nest at the same time expend considerable energy during aggressive behavior. Since Cattle Egrets arrive and nest later in heronries than native species, they avoid much interspecific aggression and they can occupy areas formerly utilized by other species. Often this includes abandoned nests that can be used for egg deposition or be torn apart for nest material.

Burger (1978) studied competition between Cattle Egrets and native North American ardeids in New Jersey. She found that although Cattle Egrets arrived in the heronry later than native species, all species initiated egg-laying during the same period. There was competition between Cattle Egrets and native species for nest-sites and nest materials. Cattle Egrets were particularly aggressive and successful in stealing nest-sites and twigs from nests of other species, especially Snowy Egrets. Therefore, although there is deferred nesting of Cattle Egrets in southern heronries in North America resulting in little nest establishment competition, this is apparently not the case in northern heronries unless the situation in New Jersey is an exception.

The data for this article are from my dissertation (Telfair 1979). I am very grateful to the Rob and Bessie Welder Wildlife Foundation for financial support during the research phase of my study.

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Recent Articles About Texas Birds

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- 1977 -

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- 1980 -

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(Editor's Note) Further papers from 1980 will appear in Vol. 14.

GENERAL NOTES

Additional Host Records for the Bronzed Cowbird in Texas

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The Bronzed Cowbird (*Molothrus aeneus*), like several other members of its genus, is a brood parasite. According to data compiled by Friedmann, Kiff and Rothstein (1977) it has been recorded as parasitizing 71 species and 15 additional subspecies of birds. However, as these authors also note, the recent information on host species is "geographically spotty as much of the range of the bird has few or no resident, local observers." Only a few records exist for many of the hosts, thus making it difficult to determine which species are most commonly used or preferred. Furthermore only 20 of the hosts have been observed rearing young Bronzed Cowbirds. The paucity of information suggests our observations, made during a visit to the Rio Grande Valley in Hidalgo Co., Texas in August 1979, are worthy of note.

On 17 August 1979, near the headquarters buildings at the Santa Ana National Wildlife Refuge, Jay M. Sheppard, John W. Fitzpatrick and the authors observed a fledgling Bronzed Cowbird being fed by Green Jays (*Cyanocorax yncas*). The young cowbird, begging vociferously, followed one or more of the jays as they foraged above ground level in the trees. The parasite was seen to be fed on several occasions as we watched. Although several records exist of Bronzed Cowbirds parasitizing the Green Jay, only once before has this jay been observed feeding a young cowbird (Webster 1973; Friedmann, Kiff and Rothstein 1977).

On 19 August 1979 we observed a fledgling Bronzed Cowbird sitting on an elevated firebox in a picnic area of Bentsen-Rio Grande State Park. The cowbird was fed periodically by an adult Long-billed Thrasher (*Toxostoma longirostre*) which foraged nearby in a clump of underbrush, returning every few minutes to feed the persistently calling fledgling. Our observation seems to be the fifth record for this thrasher as host to the Bronzed Cowbird and only the second record of it feeding a young cowbird (Friedmann 1963:179; Friedmann, Kiff and Rothstein 1977:66).

In light of our observations, it is interesting to note that the Blue Jay (*Cyanocitta cristata*) and most thrashers (*Toxostoma*) are considered to be rejector species and are only infrequently recorded as hosts of the Brown-headed Cowbird (*Molothrus ater*) (Rothstein 1975). Clearly, much more information is needed before we can answer the question of how much of the Bronzed Cowbird's total reproductive output is mediated by various host species. Also, the fascinating possibility that these two brood parasites show a differential utilization of host

species (alloxenia; Friedmann 1967a, 1967b) in order to reduce interspecific competition (Friedmann, Kiff and Rothstein 1977:65), remains to be fully elucidated.

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Third Texas Nest of the Mountain Plover

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On 22 May 1979, 3 out-of-state birders discovered the nest of a Mountain Plover (*Charadrius montanus*) in a pasture along Texas Highway 166, ca. 6.3 km west of the junction with Texas Highway 17. This location is in the foothill grasslands of the Davis Mountains of Jeff Davis County. Fortunately, the anonymous birders informed Pansy Espy, a Ft. Davis birder and owner of the ranch where the nest was located, and Pat Warner, a visiting birder from Houston. Warner, upon her return to Houston, spoke with Ted L. Eubanks, Jr. about the nest and he, in turn, called me in an effort to verify and perhaps photograph the nest. I first located the nest on 30 May 1979 and began daily visits to the site. Unknown to me, Espy was making the same daily visits. By the date of my first visit, the eggs had been in the nest at least 9 days.

The nest conformed to that of Mountain Plovers nesting in Colorado (Graul 1975) in each of 4 categories noted: lack of slope; located in Blue Grama or Buffalo Grass patch; located within 30 cm of cattle manure pile; and containing 3 eggs. In addition, the adult present at the nest was seen to give characteristic distraction displays and utter characteristic vocalizations (Graul 1974, 1975). The adult also exhibited typical behavior in the post-hatching period by removing the eggshells immediately upon hatching, moving the chicks away from the nest site, and remaining to feed within 50-100 m of the chicks (Graul 1975).

In the period of observation only a single adult was ever seen near the nest. During about one-half the observation time, the adult was on the nest brooding, the other half it was not in the area, and was presumably feeding, watering or roosting elsewhere.

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On 11 June 1979, the single adult exhibited more intense distraction displays than usual and the grunting and whistled vocalizations were more frequent. Inspection of the nest revealed two spotted, olive-colored chicks, both still somewhat wet. Graul (1975) indicates that chicks are usually dry within 3 h after hatching in Colorado, and that immediately after drying are moved elsewhere. There were no eggshells in the nest, nor trace of the third egg or chick. I assume the third chick had already hatched, dried and been moved away from the nest.

The 2 chicks present were banded and replaced in the nest. I returned on 12 June 1979 to photograph them. By carefully observing the adult I was able to locate the chicks, now moved some 100 m from the nest site. All 3 chicks were present and huddled approximately 1 m from each other beneath an *Acacia* bush. The third chick, easily identified by its lack of a band, had a very prominent egg-tooth. Neither of the other chicks had retained theirs. The third chick was banded, all 3 were photographed (Texas Photo-record File #168, including pictures of the adult and the eggs) and released. To my knowledge they were not seen after 12 June 1979. Based on Graul's (1975) data showing hatching periods of 28–31 days, the eggs in the Davis Mountains nest were probably laid between 12 and 15 May 1979.

Espy (Jones 1979) indicated that 3 or 4 years previously, a partially trampled nest of unknown identity had been discovered in the same pasture as the 1979 nest. After having seen the 1979 nest she is now certain the earlier nest was also of Mountain Plover. Espy has reported finding several nests in 1980 in nearby Presidio County (K. B. Bryan, pers. comm.).

The Jeff Davis County nest represents the third documented nest for Texas, the last previous evidence found in 1933. The first knowledge of this species' nesting in Texas was acquired by Vernon Bailey who located recently hatched young 32.1 km south of Canyon in Swisher County on 31 May 1899 (Bailey 1905). G. M. Sutton collected a downy chick in the Glass Mountains of Brewster County, 16.1 km north of Marathon on 26 May 1933 for the second record (Van Tyne and Sutton 1937). Strecker (1912), Oberholser (1974) and the Texas Ornithological Society (1974) all cite varying degrees of summer abundance of these birds in the Trans-Pecos of Texas, the Panhandle, or both but give no other evidence of breeding.

The Mountain Plover is known to migrate in small numbers throughout the state except the far eastern quarter from early March to mid-May and from early August to late October. Migrants may be locally common (Oberholser 1974). Birds may also winter in very localized areas of the state—the most well-known being the football fields at Seguin and Goodfellow Airbase in San Angelo.

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NOTES AND NEWS

ABOUT THE ARTIST.—The illustration of the Red-bellied Woodpecker (inside front cover) is an original pen and ink drawing by Kelly B. Bryan. Kelly holds B.S. and M.S. degrees from Sam Houston State University and is currently employed by Texas Parks and Wildlife Department. Kelly is well known among the Texas Ornithological Society membership for his song and bird photo quizzes at annual meetings. He currently serves as Editor of the TOS Newsletter and is active in the Texas Bird Banding Association. Kelly, an accomplished bird photographer, has recently expanded his artistic interpretation of Texas birds to include pen and ink drawings. Kelly, his wife Donna and daughter Tiffany, reside at 144 Thunderbird, Conroe, Texas 77304.

EDITORIAL ASSISTANCE.—The editor wishes to thank Keith A. Arnold, Mary Bishop, David Blankinship, Tony Gallucci, Holly H. Hobart, Kirke King, Wendy Leavens, Terry C. Maxwell, Ralph Moldenhauer, Warren Pulich, Raymond C. Telfair, Bruce C. Thompson, Frances Williams, and Mark Witmer for reviewing manuscripts submitted to the *Bulletin* for publication in 1980. I am grateful to Karen Bayley for typing portions of the final copy for Volume 13. Keith A. Arnold, Chairman of the TOS Bird Records Committee and Tony Gallucci provided invaluable editorial assistance for Volume 13 of the *Bulletin of the Texas Ornithological Society*.

RECENT TEXAS COUNTY RECORDS.—Submission of new, substantiated Texas county bird records should be sent to the *Bulletin* editor. New additions will be featured in the November–December number of the *Bulletin* each year. See *Bulletin*, Volume 12(2):55–57 for format and guidelines.

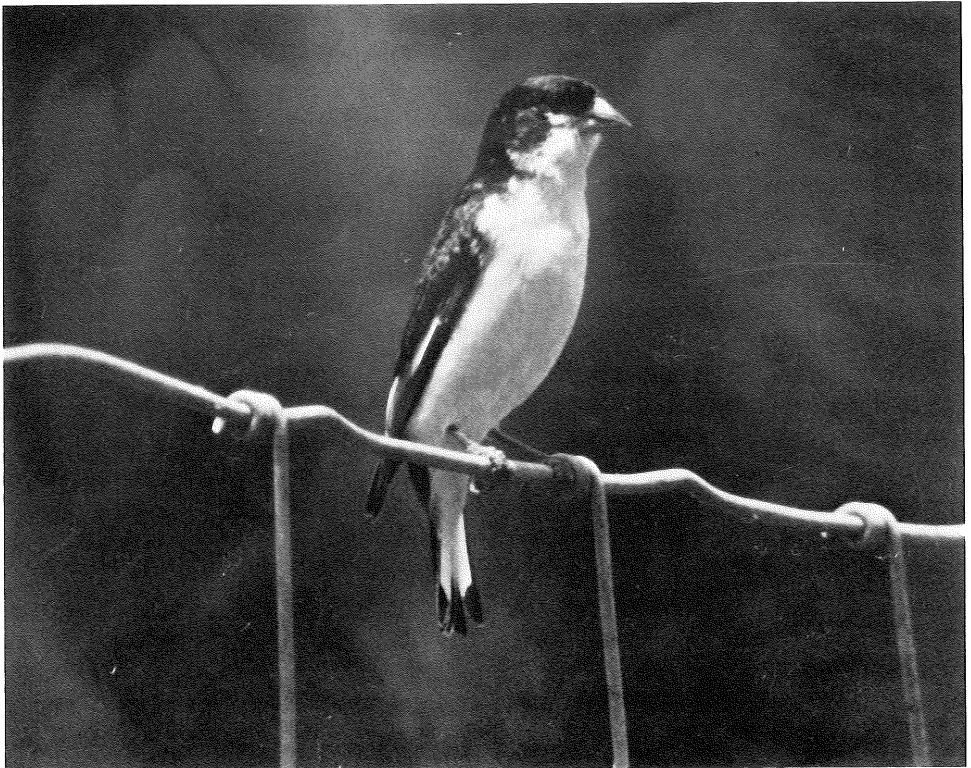
PHALAROPES.—The species of phalaropes pictured on the back cover of Volume 13(1) of the *Bulletin* were: (from left to right) Red Phalarope (*Phalaropus fulicarius*), Northern Phalarope (*Lobipes lobatus*) and Wilson's Phalarope (*Steganopus tricolor*). Greg Lasley took this remarkable photograph at Platt's Pond in Austin, Texas, September 1980.

The *Bulletin* and *Newsletter* of the *Texas Ornithological Society* are issued to all members not in arrears for dues. Membership in the *Texas Ornithological Society* is open to all persons interested in observation, study, and conservation of birds in Texas. Membership dues are \$5.00 per year (student), \$10.00 per year (active), \$20.00 per year (sustaining), \$200.00 paid once, or in \$50.00 annual payments over a period not to exceed four years (life). Inquiries regarding membership should be addressed to Ms. Elaine Adams at TOS, 1736 Albans, Houston, Texas 77005. Original articles, reports and other items submitted for inclusion in the *Bulletin of the Texas Ornithological Society* should be sent to the editor, R. Douglas Slack, Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas 77843.

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Lesser Goldfinch (*Spinus psaltria*) from Live Oak County, May 1979. Photograph by Michael F. Passmore.