

RANGE EXPANSION OF THE CATTLE EGRET INTO INTERIOR SOUTH CAROLINA

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The Cattle Egret (*Bubulcus ibis*) has increased on the coast of North Carolina and South Carolina since 1961, but the first breeding of the Cattle Egret in the interior of the Carolinas was not reported until 1968, from Barnwell County, S.C. (W. Post, *vide* Parnell, 1968). The initial increase of the Cattle Egret in the interior was reflected in the sightings of spring flocks from Richmond County, Georgia, to Richland County, S.C. Overing (1966) saw 18 birds on 9 May 1966 in upper Richland County, S.C. T.M. Rial saw flocks of up to 20 in May 1967 and stated that the species had been increasing in Aiken County, S.C., since 1962 (T.M. Rial, *vide* Parnell, 1967a). At least since 1967, the Cattle Egret has become a regular summer resident in Aiken County. For example, on 18 June 1967 I saw 64 in a small area of Aiken County (W. Post, *vide* Parnell, 1967b).

While running a breeding bird survey route in June 1968, I saw large numbers of Cattle Egrets in central Aiken County, along the fall line, and decided to make an aerial survey. On 8 June Malcolm Lucas, a professional pilot, flew me out of the Aiken airport, heading southeast at 600 feet above sea level. We found flocks of Cattle Egrets around Aiken State Park, and then in the Salley area. We attempted to follow flying Cattle Egrets from about 700 feet, or about 500 feet above them, and they would change course and settle. Common Egrets (*Casmerodius albus*) were also difficult to follow by airplane.

We then flew along the South Edisto River southeastward, and about 4 miles S of Springfield, S.C., on the edge of the river swamp, we saw a concentration of white birds, mainly Cattle Egrets. We passed low over the heronry and the birds scattered from their nests. Not wanting to further disturb the colony, we flew back west, checking the Savannah River swamp down to the edge of the AEC area, before landing at Aiken. During the 2-hour flight we estimated seeing a total of 485 Cattle Egrets distributed as follows:

Aiken State Park area	105
Longleaf Plantation (near Salley)	70
Western Aiken County (near Savannah River)	50
Springfield area, outside heronry	80
Springfield heronry	180
TOTAL	485

Since these birds were seen at widely separated points and all within 45 minutes, duplication is unlikely. Most of the feeding Cattle Egrets were around the cattle on Longleaf Plantation and in the fields around Aiken State Park. Since we found no other heronries with Cattle Egrets, all the birds probably belonged to the Springfield heronry and were making feeding flights of 9 to 13 miles. Hopkins and Murton (1969) found Georgia Cattle Egrets making feeding flights up to 16 miles.

On 9 June, after a 3-hour search on ground, I was able to locate the heronry near Springfield. It was in a small pond formed by a dam across a creek near the edge of the South Edisto River swamp. The circular pond is about 4 acres, with water up to 4 feet deep. The pond has been heavily lumbered.

I found approximately 120 nests of Cattle Egrets and 14 nests of Little Blue Herons (*Florida caerulea*). The nests were located in an area about 150 by 200 feet, in the more open, bushy central area of the pond. The main trees in the center, and the ones used for nesting, in order of importance, were: black gum (*Nyssa sylvatica*), 7 to 20 feet high; button-bush (*Cephalanthus occidentalis*), 7 to 10 feet; and willow (*Salix* sp.), 7 to 12

feet. The heavy growth of these trees afforded low nesting sites, and nests ranged from 4 to 6 feet above the water.

Other trees were bald cypress (*Taxodium distichum*), 6 or 7 specimens about 30 feet high; wax myrtle (*Myrica cerifera*); virginia willow (*Itea virginica*); fetter bush (*Lyonia lucida*); titi (*Cyrilla racemiflora*); sweet gum (*Liquidambar styraciflua*); red maple (*Acer rubrum*); sweet bay (*Magnolia virginiana*); blueberry (*Vaccinium* sp.). All these trees were found around the edges of the nesting area.

Most of the 23 Cattle Egret nests examined had incomplete clutches. The distribution was as follows:

CONTENTS	NO. OF NESTS
0 eggs	6
1 egg	4
2 eggs	5
3 eggs	7
4 eggs	1

In contrast, the Little Blue Herons' nesting was well advanced. In the three nests that were examined there were 3 almost fully grown young, 3 half-grown young, and 2 eggs.

On 21 July 1969 Frederick Post, William Hastings, and I visited the Springfield heronry. We estimated that there were 100 Cattle Egret nests. We also found a pair of Anhingas (*Anhinga anhinga*) with two large young in the nest, two pairs of Common Egrets with five chicks, and one pair of Little Blue Herons. We banded 62 young Cattle Egrets from about 25 nests. As in 1968, the Cattle Egret showed good nesting synchrony:

CONTENTS	NO. OF NESTS
3 eggs	2
1 young, 3 eggs	1
3 to 6 day old young	3
7 to 14 day old young	5
over 14 day old young	25

Cattle Egrets in the Springfield colony are tamer than the birds I have seen in coastal colonies, probably due to the isolation of the colony. There appear to be few predators other than several Fish Crows (*Corvus ossifragus*). Six large young were examined and found to be free of ectoparasites. The Little Blue Herons were seen to dominate the Cattle Egrets in that they displaced them from perches.

The Cattle Egrets nesting at Springfield represent a breeding range expansion of about 90 miles from the coast. An equivalent range expansion has taken place in Georgia. In 1967 Hopkins and Dopson found Cattle Egrets nesting as far inland as Pulaski County, about 130 miles from the coast (Hopkins and Dopson, 1968). Rial and Denton reported over 200 nests near Midville, Burke County, Georgia (T.M. Rial and J.F. Denton, *vide* Parnell, 1968). The Midville site is only 70 miles from Springfield.

I believe three factors may influence the further spread of the Cattle Egret in the interior: 1) continued changes in land use, 2) lack of competition, and 3) presence of suitable sites for nesting colonies. The number of cattle operations on the upper coastal plain and lower piedmont is increasing annually. In the interior there is little competition from other waders. In Aiken County I have observed Cattle Egrets feeding along the edge of ponds, a niche usually filled by the Snowy Egret (*Leucophoyx thula*). The Snowy Egret is largely absent from the interior, and Little Blue Herons are not common. The most important factor may be the presence of favorable colony sites. Davis (1960) suggested that the breeding range expansion of the Cattle Egret may depend on the availability of nesting sites with the proper type of vegetation, i.e. low, thick vegetation close to the water. The Springfield heronry site has this type of regenerating vegetation that should be found wherever timber has been harvested in wooded ponds or swamps. Hopkins and Murton (1969) found Cattle Egrets usually nesting close to the water. For

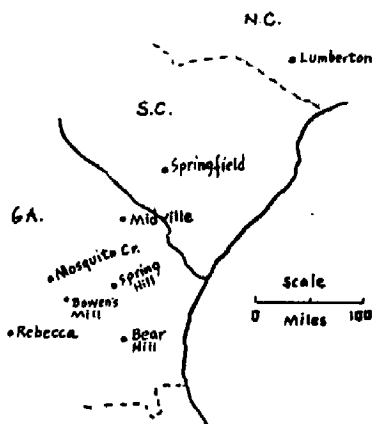


Figure 1. Inland nesting localities for the Cattle Egret in Georgia and South Carolina. Lumberton, N.C., is a predicted nesting site. Georgia localities are from Hopkins and Murton (1969) and Parnell (1968).

example, in the Rebecca, Georgia, rookery 1,800 nests averaged 5.5 feet above the water.

The many nesting colonies of Cattle Egrets on the upper coastal plain of Georgia and South Carolina (see Figure 1) suggest that this species is moving northward near the fall line. The number of birds involved in this expansion is probably as great as that nesting on the coast. Ornithologists in North Carolina should be on the lookout for interior colonies. The heronry at Lennon's Marsh near Lumberton, N.C., would be a likely breeding spot (Quay and Funderburg, 1958).

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SUMMARY

The Cattle Egret has been a regular summer resident in the interior of South Carolina since 1967, and was found breeding in 1968. A colony is described. The nesting birds probably fly up to 13 miles to feed. If suitable colony sites are available, the Cattle Egret should continue to increase and spread northward along the fall line.

LITERATURE CITED

- DAVIS, D.E. 1960. The spread of the Cattle Egret in the United States. *Auk*, 77:421-424.
- HOPKINS, M.N., JR., and W. DOPSON JR. 1967. An aerial search for rookeries in south central Georgia. *Oriole*, 32:39-45.
- and P.G. MURTON. 1969. Rookery data from south Georgia. *Oriole*, 24:1-11.
- OVERING, R. 1966 Cattle Egrets in upper Richmond County, S.C. *Chat*, 30:89.
- PARNELL, J.F. 1967a. Southern Atlantic coast region. *Audubon Field Notes*, 21:494-497.
- . 1967b. Southern Atlantic coast region. *Audubon Field Notes*, 21:555-558.
- . 1968. Southern Atlantic coast region. *Audubon Field Notes*, 22:597-599.
- QUAY, T.L. and J.B. FUNDERBURG, JR. 1958. The Cattle Egret in North Carolina. *Raven*, 29:115-117.

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