

## NOTES

**Northern breeding range extension for the Roseate Spoonbill in Florida.**—The Roseate Spoonbill (*Ajaia ajaja*, Threskiornithidae) occurs along the southern U. S. coastline. Prior to the mid-1800's, it bred on the Gulf coast of Texas and Louisiana, and as far north in Florida as Brevard and Hillsborough counties (Allen 1942). Plume hunting and harvesting for food between 1850 and 1930 destroyed large colonies and reduced the breeding range drastically. The presence of colonies in Mexico, South America, and Cuba probably prevented the species from becoming extirpated in North America in the early 1900's (Allen 1942). Legal protection and the establishment of sanctuaries have enabled the spoonbill to reoccupy much of its former range in Texas and Louisiana (Griffith et al. 1946, Portnoy 1977, Ogden 1978a), and populations have increased steadily since the 1930's. Recovery in Florida has been at a slower rate. For several years, spoonbill colonies were restricted to Florida Bay with only 20-25 pairs nesting at three sites between 1938 and 1941 (Ogden 1978b). By 1979, the population grew to greater than 1,400 pairs and the number of colonies increased to 25, although not every island was used each nesting season (Robertson et al. 1983). Since that time, the Florida Bay population has declined to an average of 450 breeding pairs for the last three years (R. Bjork and G. Powell, pers. comm.).

In 1975, Roseate Spoonbill nesting was reported from two new localities on the Florida mainland. Three pairs nested at Lane River colony in the Everglades (Ogden 1975) and seven nests were confirmed in a well-established colonial waterbird colony at the mouth of the Alafia River in Tampa Bay (Dunstan 1976). The latter sighting represented a northern breeding range extension on the west coast of Florida and was the first spoonbill nesting recorded for the Tampa Bay area since 1912 (Howell 1932). Spoonbills have continued using the Alafia River site annually and increased to 50 pairs in 1987 (R. T. Paul, pers. comm.).

On 23 April 1987, we sighted two Roseate Spoonbills at Peacock's Pocket colony during a helicopter survey of wading birds on the John F. Kennedy Space Center. This colony is located at the mouth of Banana Creek in the Indian River and consists of two small spoil islands ringed by mangroves. One week later (30 April), we returned to the colony by boat and confirmed that the spoonbills were nesting in a black mangrove (*Avicennia germinans*). A quick inspection of the nest revealed three eggs. Two Great Egret (*Casmerodius albus*) nests and one Snowy Egret (*Egretta thula*) nest occupied the same tree. A survey by boat around both islands and two hours of observations of birds flying to and from the colony led us to believe that no other spoonbill pairs were present. Additional nests in the colony were 6 Great Blue Heron (*Ardea herodias*), 37 Great Egret, 39 Snowy Egret, 9 Tricolored Heron (*Egretta tricolor*), 1 Reddish Egret (*Egretta rufescens*), 1 Cattle Egret (*Bubulcus ibis*), 5 Green-backed Heron (*Butorides striatus*), and 9 Glossy Ibis (*Plegadis falcinellus*). Brown Pelicans (*Pelicanus occidentalis*) and Double-crested Cormorants (*Phalacrocorax auritus*) were nesting on the island but were not counted, and a pair of Mottled Ducks (*Anas fulvigula*) and several Fish Crows (*Corvus ossifragus*) also were present but nesting was not confirmed.

On 29 May, during a helicopter survey, we again saw the Roseate Spoonbill sitting on its nest so we returned by boat on 2 June. There were three young that appeared to be between one and two weeks old based on their size, pink skin, and white woolly down (Allen 1942). Only one adult was present.

A final visit to the colony was made by boat on 2 July. The deserted nest was 1.5 m above the ground in the 2.7 m tree. It was oblong-shaped, measuring 61x51 cm, and was more flat than bowl-like. The construction was orderly with a center of dried mud encircled by small sticks. As we were leaving, we saw three juvenile spoonbills perched in the top

of a tall mangrove about 100 m from the nest site. Their plumage was white with fully-feathered heads, a pink cast under the wings and dark tips on the primaries, indicating that they were between 1 and 12 months old (Allen 1942). We did not see either adult spoonbill during the visit.

Brevard County had significant Roseate Spoonbill nesting during the late 1800's with colonies at Seventeen Mile Swamp and Lake Poinsett on the St. John's River. Another large colony existed on Pelican Island in the Indian River just south of the Brevard County line. The use of these colonies diminished greatly in the late 1850's and the last verified nesting occurred in 1874 (Jencks 1884 *in* Allen 1942). The breeding range extension at Tampa Bay (Dunstan 1976) led Allan Cruickshank (1980) to predict that spoonbills would again nest in Brevard County, adding that ". . . such a nesting would be a noteworthy event." Nesbitt et al. (1982:30) reported that five spoonbill pairs nested at Buck Point (colony #612002) in southern Brevard County in 1976. However, an asterisk was inadvertently omitted from the table that distinguished the spoonbills as non-nesting individuals (H. W. Kale, II, pers. comm.).

In December 1986, Roseate Spoonbill nesting in Florida Bay failed completely and a possible second attempt in February 1987 produced fewer than a dozen hatchlings (R. Bjork and G. Powell, pers. comm.). The unusually late nesting date of the spoonbills at Peacock's Pocket suggests that this pair could have wandered north after failing in Florida Bay. Our documentation of this Brevard County nesting is the first in this century and represents a northern breeding range extension on the Atlantic coast in Florida.

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Rebecca B. Smith and David R. Breiningger, The Bionetics Corporation, Mail Code BIO-2, Kennedy Space Center, Florida 32899.

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**Extra-egg clutches and interspecific egg-dumping of the Roseate Tern (*Sterna dougallii*) in the West Indies.**—The usual clutch size reported for Roseate Tern (*Sterna dougallii*) is one or two eggs (Bent 1921), but instances of three and four eggs per nest have been noted in both tropical and temperate zone populations (Bond 1941, Nichols 1943, Nisbet 1978, 1981). Bent (1921) stated that Common Tern's (*S. hirundo*) clutch size is usually two or three eggs, although indiscriminant dropping of eggs by birds unable to reach their nest (egg-laying accidents) has led to clutches of up to six eggs. These observations demonstrate intraspecific brood parasitism as found among other colonial nesting birds (e.g. Brown 1984), but accounts of egg-dumping or interspecific egg-laying behavior for Roseate Terns are not known.

Roseate Tern colonies in the U. S. Virgin Islands are among the largest known in the Western Hemisphere (Nisbet 1980, Halewyn and Norton 1984). From 1980 to 1986, I censused Roseate colonies on the eastern Puerto Rico Bank from Culebra, Puerto Rico to St. Thomas, U. S. Virgin Islands, to Anegada, British Virgin Islands, and counted up to 1,670 nests and eggs in a season. Mean ( $\pm$  s.d.) clutch size of Roseate Terns (Figure 1)



Figure 1. Primary Roseate Tern edge-type nesting habitat on offshore cays of the Virgin Islands archipelago. Note the close proximity of vegetation, although eggs may rest directly on hard substrate of volcanic origin or rock-flake soil.