

(1949) characterized the kingbird's aggressive behavior as a territorial defense against all larger birds and mammals, including man.

Although I do not consider the behavior I observed as predation attempts, Gray Kingbirds have been reported capturing large prey items, including flying vertebrates. Dathe (1971) reported an American Kestrel (*Falco sparverius*) catching bats in La Habana. Although Dathe reported the bat species as *Artibeus jamaicensis* (identified in flight), Silva (1979) suggested that this bat should be *Molossus molossus*. In addition, Seutin and Apanius (1995) reported a case of hummingbird (*Eulampis*) predation by the Gray Kingbird.

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STATUS OF WHITE-TAILED TROPICBIRDS (*PHAETHON LEPTURUS*) NESTING IN CUBA

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DESPITE THE FACT THAT White-tailed Tropicbirds (*Phaethon lepturus*) are known to nest throughout the Bahamas, the Turks and Caicos, and the Greater Antilles (American Ornithologists' Union 1983, Sprunt 1984, Buden 1987), in the interval between the early part of this century and 1975 no reports of this species nesting in Cuba were published. Barbour (1943) noted that on a visit to Cabo Cruz in 1913 the breeding colony of tropicbirds reported by Gundlach in the 19th century was still in existence. Gundlach referenced White-tailed Tropicbirds in 10 publications dating from 1859 to 1893. Wiley (ms.) shows 80 references to these tropicbirds in Cuba in his bibliography of West Indian seabirds. Fifty-three of these references are pre-Barbour (1943) and, with one exception (Cruz and Alayo 1984), the remaining references contain no additional information on the distribution of breeding colonies or the size of nesting populations in Cuba. Garrido and García (1975) listed White-tailed Tropicbirds as breeders on the southeastern coast of Oriente Province, but gave no population estimates. van Halewyn and Norton (1984) reported this species breeding along the entire southeastern coast of Cuba, but gave no indication of the source of this information or of the size of the Cuban population. In 1993, Garrido and Kirkconnell categorized this species as a rare breeder on the southeastern coast of Oriente Province. Morales and Garrido (1996) included White-tailed Tropicbirds in a list of birds of Cayo Sabinal (Archipiélago de Sabana-Camagüey) with no indication of their nesting status. Whereas it is possible that they nest there, González (under review)

made no reference to these tropicbirds in his summary of seabirds breeding on the northern coast of Cuba.

Small numbers of White-tailed Tropicbirds continue to nest along the southeastern coast of Cuba between Cabo Cruz and ca. 50 km west of Santiago de Cuba. However, they are apparently absent as a breeding species elsewhere in Cuba and occur only sporadically along a coastal area smaller than that indicated by van Halewyn and Norton (1984). The area along this coast occupied by nesting White-tailed Tropicbirds may have been more extensive in the past. For example, Cory (1891) noted a pair flying about near the entrance to the harbor of Santiago de Cuba in the spring of 1891. The only recent report is from Cruz and Alayo (1984) who reported about 80 nesting pairs at Punta El Inglés, a few kilometers east of Cabo Cruz. The nesting areas are confined to steep or vertical cliffs rising from the ocean. Viña (pers. obser.) estimates the remainder of the Cuban population along this portion of the coastline to be about 10 active pairs. Another colony of no more than 12 pairs is known from the southern coast of Guantánamo at Loma de los Chivos. It is not productive in all years and the site is used irregularly (Jorge de la Cruz, pers. comm.). Thus, the total Cuban population numbers approximately 100 pairs.

We attribute this small population size to limited availability of predator-free nesting sites. The small population size may, in part, also be explained by the construction of a coastal road between villages at the base of the Sierra Maestras. This road was widened and improved in the early- to mid-

1990s in response to the growing in-country tourist trade, and the grading has had an obvious impact on the sea cliffs and presumably on tropicbird nest sites. During the winters of 1992 and 1997 numerous instances of major erosion and massive rock slides occurred both above and below road grade (Lee and Walsh-McGehee, pers. obs.). Cruz believes the tropicbirds may be abandoning the Guantánamo site because of disturbance from the road adjacent to the cliff they use for nesting. The extent to which this development makes locally nesting seabirds vulnerable to poaching is unknown, but poaching is presumed to be limited for this cliff nesting species. White-tailed Tropicbirds will travel at least 89 km to foraging sites (Pennycuik *et al.* 1990), and adults can travel up to an air distance of 315 km in 6.7 hours, the average time between chick feedings (Schaffner 1990a, b). Strong upwellings along portions of this section of the Cuban coast provide dependable foraging areas (Lee and Viña 1993). We have seen White-tailed Tropicbirds feeding over these upwellings and have no reason to suspect that food is a locally limiting resource. We suspect that lack of adequate undisturbed nesting sites is the primary, and perhaps only, factor restricting population size.

The western Atlantic White-tailed Tropicbird is an endemic subspecies (*Phaethon lepturus catesbyi*) whose total population was believed to number more than 10,000 pairs in the early 1980s (van Halewyn and Norton 1984). Lee and Walsh-McGehee (unpubl.) made a reassessment in the late 1990s and, despite the documentation of additional colonies, estimated the total population to be about half this size. Approximately 2,500 pairs of this population nest in Bermuda, an estimated 2,000 pairs breed in the Bahamas (Walsh-McGehee and Lee, unpubl.), and less than 2,000 pairs nest in the Greater and Lesser Antilles. Except for a few remote sites in the Greater Antilles, most nesting colonies in the West Indies are small and consist of less than 50 pairs. These low numbers clearly result from the introduction of exotic predators by European colonists. These predators have led to the tropicbird's current dependence on inaccessible cliff faces for nesting as is evidenced by a wider selection of nest sites and by higher densities elsewhere in this species' range where predators are absent. The White-tailed Tropicbirds in Cuba, and elsewhere in the West Indies, today appear to be relict populations and provide only clues to former distribution and abundance.

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