

Acknowledgments.—I thank Capt. Eben Whitcomb, Dirigo Tours, C. Douglas Hardy, of the Southampton College SeaMester cruise aboard the schooner Harvey Gamage, for their hospitality, and Capt. Jeff Bolster for the opportunity to visit small islands of the Bahamas. I especially thank C. Douglas Hardy for his field assistance, extensive knowledge of the natural history of Bahamas, and particularly his enthusiasm.

ROBERT L. NORTON, *Smithsonian Migratory Bird Center, National Zoological Park, Washington, D.C. 20008.* (Present address: 961 Clopper Rd. #B1, Gaithersburg, Maryland 20878.)
Received 25 Feb. 1992, accepted 20 Oct. 1992.

Wilson Bull., 105(2), 1993, pp. 364–365

First documented records of the Arctic Tern on the Pacific Coast of Mexico.—Arctic Terns (*Sterna paradisaea*) migrate from the Arctic where they breed (Alaska, Greenland, and Arctic islands reaching 83°N latitude) to near the Antarctic (at 74°S latitude), traveling a distance of more than 17,000 km. According to the American Ornithologists' Union Check-list of North American Birds (6th Ed. A.O.U., Washington, D.C., 1983), this species "Migrates primarily at sea, casually through the Hawaiian Islands, along the Pacific coast from Alaska to southern California . . . , and off the Pacific coast of South America from Colombia to Chile. Casual or accidental in interior California . . ." Until recently, the only known records from Mexico were sightings from Los Coronados and Guadalupe islands off the northern part of Baja California (Wilbur, S. R. 1987. *Birds of Baja California*. Univ. Calif. Press, Berkeley, Los Angeles and London), but there were no specimens that documented these occurrences.

In Michoacán, Mexico, and specifically at the beaches of "Maruata" (18°21'N, 103°16'W), "Colola" (18°25'N, 103°18'W) and "El Farito" (18°05'N, 102°49'W), nine specimens of *Sterna* were collected from several groups of terns that were resting on the sand during the nights of Oct. 16 and 17, 1983, Oct. 23, 1985, and Oct. 18 and 22, 1986.

Initially it was thought that they were Common Terns (*S. hirundo*), the most common species in the region during the winter. However, when they were inspected carefully and compared with other museum specimens, I realized that they did not correspond exactly with the description of *S. hirundo*. The characteristics that distinguish *S. paradisaea* are the reddish beak, shorter culmen (28.80–29.50 mm, mean = 29.16 mm), and small tarsi (15.25–16.65 mm, mean = 15.95 mm). In contrast, *S. hirundo* has a blackish beak, larger culmen (32–40.5 mm), and longer tarsi (17.5–20.5 mm) (Blake, E. R. 1977. *Manual of Neotropical Birds*. Vol. 1. Univ. of Chicago Press, Chicago and London). In December 1985, four of the specimens were identified as *S. paradisaea* by Dr. Alan R. Phillips, and subsequently I identified the five specimens obtained later, using Phillips' criteria. These specimens are deposited in the Colección Ornitológica of Universidad Michoacana de San Nicolás de Hidalgo (U.M.S.N.H.: Num. 3998–4002, 5054, 5056–5058).

Eight of the specimens are immatures in the first basic plumage, as judged by the descriptions of A. C. Bent (*Life Histories of North American Gulls and Terns*. U.S. National Mus. Bull.:249–255, 1918). The other specimen is an adult male with a worn alternate plumage and in the process of molting. It is probable that all the individuals were migrating, judging by the scarcity of fat reserves and gizzards empty of food. If their winter migratory route crosses from some locations in California directly over the sea to South America, their occurrence on the Mexican coast could be due to some displacement, probably related to unfavorable weather conditions. However, another more likely explanation could be that

this population stops in some sites during the night to rest. Their migration starts in Alaska during late August; they have been recorded along the Pacific coast of southern Canada and the northern United States at the beginning of September and in California during late September and the first days of October. The new records from the western coast of Mexico were in late October. It is possible that this species was not formerly reported because of the short time spent on the Mexican coast and their preference for migrating off shore. The occurrence during the same time period in three different years suggests that immatures and at least some adults of *Sterna paradisaea* may be regular fall migrants along the Pacific coast of Mexico.

JOSE FERNANDO VILLASEÑOR, *Colección Ornitológica & Museo de Historia Natural "Manuel Martínez Solórzano", U.M.S.N.H., Ave. Ventura Puente No. 23, Bosque Cuahutemoc, Morelia, Michoacán 58020, México.* (Present address: *Division of Biological Sciences, University of Montana, Missoula, Montana 59812, U.S.A.*) Received 2 Nov. 1992, accepted 23 Dec. 1992.

Wilson Bull., 105(2), 1993, pp. 365–366

Swainson's Hawk predation on dragonflies in Argentina.—Swainson's Hawks (*Buteo swainsoni*) have a diverse diet consisting of mammals, birds, reptiles, amphibians, and a wide array of invertebrates (Bent 1937, Dunkle 1977, Schmutz et al. 1980, Bednarz 1988, Steenhof and Kochert 1985). A number of observations document extensive feeding on invertebrates, including crayfish (White 1966), crickets (White 1966), grasshoppers (Bent 1937, Taylor 1946, Woffinden 1986), and dobsonflies (Bent 1937). Predation on invertebrates generally involves flocks of Swainson's Hawks preying on aggregations of invertebrates. Here we report on Swainson's Hawk predation on invertebrates in Argentina that was notable because of the taxon involved and the magnitude of the event.

On 17 December 1991, we observed an aggregation of dragonflies (Odonata, Anisoptera) approximately 6 km NE of San Clemente del Tuyu, Province of Buenos Aires, Argentina. The location is approximately 1 km from the coast, and the habitat is a mosaic of salt marsh, freshwater marsh, and pampas. When first observed at a distance of 2–4 km, we thought the dragonfly aggregation was smoke from a grassfire. The aggregation was moving north in association with a weather front that passed our position coincident with the passage of the dragonflies. The wind shifted from the north (40 kph) to the south (30 kph), and the ambient temperature dropped approximately 6–8°C. We estimated the aggregation to be approximately 1000 m in diameter and in excess of 500 m in height. Ground velocity of the aggregation was estimated at 12–15 kph. The density of individuals within the aggregation was estimated at 10–15/m³ in the lower portion of the column, and declined only minimally until near the upper limits. The calculated number of dragonflies based on these estimates is $3.9\text{--}5.9 \times 10^9$ individuals.

Associated with the dragonflies were 200–300 Swainson's Hawks foraging actively in the upper portions of the aggregation. Many individuals were soaring at great heights above the aggregation. The hawks captured dragonflies by soaring into the aggregation and seizing individuals in their talons. They would then proceed to feed on the dragonflies while soaring and maintaining pace with the rapidly moving aggregation. This foraging behavior is similar to accounts of Swainson's Hawks preying on grasshoppers (Woffinden 1986), dobsonflies, and unidentified insects (Bent 1937).

Prior to the passage of the dragonflies, occasional Swainson's Hawks were observed for-