

Great Horned Owl Predation on Leach's Storm-Petrels in Maine

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Owls apparently rarely prey on seabirds (Morse 1971, Auk 88: 426) and records of predation on storm-petrels seem especially scarce. Examples of predation on storm-petrels by the Short-eared Owl (*Asio flammeus*) include the diurnal White-rumped Storm-Petrel (*Oceanodroma tethys*) and the nocturnal Band-rumped Storm-Petrel (*O. castro*) on the Galapagos Islands (Harris 1969, Proc. Calif. Acad. Sci. 37: 95), the White-faced Storm-Petrel (*Pelagodroma marina*) on Selvagen Island, Madeira (Schweppenburger 1907, Ornith. Jahrb., Hallein 18: 39) and the British Storm-Petrel (*Hydrobates pelagicus*) on Skomer Island, Pembrokeshire, Wales (Glue and Morgan 1977, Bird Study 24: 111). Other examples include a probable Band-rumped Storm-Petrel that may have been taken by a Long-eared Owl (*Asio otus*) or a short-eared Owl on Baixo Island, Madeira (Schweppenburger op. cit.), the Leach's Storm-Petrel (*O. leucorhoa*) taken by the Barn Owl (*Tyto alba*) on Castle Rock, California (Bonnot 1928, Condor 30: 320), and the British Storm-Petrel killed by the Little Owl (*Athene noctua*) on Skokholm Island, Pembrokeshire (Alexander 1935, Bull. Brit. Orn. Cl. 55: 60).

On 6–8 July and 15 August 1977, 16 pellets of a Great Horned Owl (*Bubo virginianus*) were collected on Franklin Island, Muscongus Bay, Knox County, Maine. These pellets contained the remains of 14 Leach's Storm-Petrels, 7 Common Eider (*Somateria mollissima*) chicks, 1 Herring Gull (*Larus argentatus*) fledgling, and 3 meadow voles (*Microtus pennsylvanicus*). One of the petrels found in a pellet on 6 July 1977 had been banded on Haddock Island, 5.0 km west of Franklin Island, on 23 June 1977.

During the 3-day stay in July petrels were quite active over Franklin Island at night. Although Morse studied Great Horned Owl predation on nesting seabirds in Muscongus Bay and owl kills were found on both Haddock and Franklin islands, each having breeding populations of Leach's Storm-Petrels, no petrels were found in pellets by Morse.

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Colonial Nesting as an Anti-predator Adaptation in the Gull-billed Tern

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It has often been noted that colonial nesting in gulls and terns permits joint defense of the nests against predators (Cullen 1960, Kruuk 1964, Patterson 1965, Lack 1968, Andersson 1976). However, other studies have suggested either that colonial nesting does not contribute to nest defense (Lemmettyinen 1971) or that nest defense is not the only effect of colonial nesting (Ward and Zahavi 1973, Hunt and Hunt 1976). In May 1972, while conducting a study of the breeding behavior of the Gull-billed Tern (*Gelochelidon nilotica*) (Sears 1976, 1978), I witnessed a dramatic illustration of the value of other colony members in the defense of a nest against predators.

My study was carried out during 1971, 1972, and 1973 on an unnamed spoil island 0.5 km south of the port at Morehead City, Carteret County, North Carolina. Each colony was almost free of vegetation, contained 20–30 nests, and contained about equal numbers of Gull-billed Terns, Common Terns (*Sterna hirundo*), and Black Skimmers (*Rynchops niger*). Observations were made from burlap blinds and by means of time-lapse photography.

Late in May 1972, an intense subtropical storm struck the area, bringing rain, high winds, and low temperatures. I did not visit the colonies from 21–27 May. On 28 May, I found only one nest still active.

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