the previous summer, population pressures probably forced them into areas previously occupied by *Peromyscus*, thereby increasing encounters with sandpiper nests.

P. maniculatus and *M. pennsylvanicus* are relatively abundant throughout most of temperate North America. In our opinion they are potentially a major cause of nest loss in patches of highly productive, two-dimensional habitat where dense mouse populations overlap areas of nest clustering. Ornithologists studying small ground-nesting birds in such areas should be alert to the possibility of small rodents causing loss of eggs.

We are greatly indebted to D. Parmelee and the University of Minnesota Forestry and Biological Station for lending support to our research. Judge Miles Lord graciously supplied housing for us. P. Sheldon, D. Bjerklie, S. Hennes, and D. Rubbelke provided field assistance. Financial support was provided by National Science Foundation grant GB 42255 to LWO.

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Received 16 March 1977, accepted 24 January 1978.

Fratricide and Cannibalism in Swainson's Hawk

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Pilz (1976, Auk 93: 838) reported a probable case of fratricide and cannibalism in Swainson's Hawk (*Buteo swainsoni*) based on observations made during a food habits study in 1974. In 1975 a second instance was observed, in which a nestling was actually seen to kill and eat a nest mate.

The study was conducted 40 km NNE of Las Cruces, New Mexico. The nest was in a tall multi-branched yucca (*Yucca elata*) and situated in a fork about 2.5 m above the ground. There were four young in this nest, the largest brood recorded in 31 nests studied during 1974 and 1975. The youngest nestling was 30 days old on 10 July 1975 and its nest mates were 33, 34, and 35 days old. The youngest hawk was less than half the size of its oldest nest mate and looked emaciated.

On 10 July while collecting food samples from the nestlings, L. K. S. observed the oldest nestling standing on the bleeding head of the youngest nest mate, and immediately went to another nest to inform W. R. P. When we arrived back at the nest the youngest hawk was dead and the oldest nest mate was tearing flesh off the neck and eating it. All of this time the two other nest mates were at the opposite end of the nest. When we returned to the nest that evening, no remains of the young bird were found in the

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nest or in the gullets of the nest mates. After searching on the ground around the nest we found part of the synsacrum and a tarsus void of meat.

Ingram (1959, Auk 76: 218–225) hypothesized that fratricide and cannibalism could only occur when there are considerable differences in the ages of the nestlings. He also suggested that the reason for fratricide and cannibalism was the large brood size with an inadequate food supply to rear a well-nourished brood. Our findings support this hypothesis in that the broods in both cases were the largest for their respective years and the difference in ages between the youngest and oldest nestling was 4 days in 1974 and 5 days in 1975, the greatest for their respective years.

This study was supported in part (1975) by the Chapman Memorial Fund of the American Museum of Natural History, Grant #31726.

Received 15 April 1977, accepted 31 May 1977.

Land Birds in the Stomachs of Tiger Sharks *Galeocerdo cuvieri* (Peron and Lesueur)

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The tiger shark (*Galeocerdo cuvieri*) is a large neritic shark (adults maturing at total lengths exceeding 295 cm) with a tropical-subtropical center of distribution in all major oceans. It regularly includes a variety of food items in its diet, rendering its feeding habits distinctive from those of other large western Atlantic carcharhinid and sphyrnid sharks, which are chiefly piscivorous predators. The tiger shark devours such items as birds, turtles, conches, and discarded trash (Bigelow and Schroeder 1948, Fishes of the western north Atlantic. Part I. Lancelets, cyclostomes and sharks. Mem. Sears. Fdn. Mar. Res. (1): 1–576; Springer 1963, pp. 95–113 *in* Gilbert, ed. Sharks and survival, Boston, D.C. Heath and Co.; Clark and von Schmidt 1965, Bull. Mar. Sci. 15 (1): 13–83). Published accounts of land bird species in the stomachs of tiger sharks have been limited to the report of a single Yellow-billed Cuckoo (*Coccyzus americanus*) taken from the stomach of a tiger shark captured on the central Florida Gulf coast (Saunders and Clark 1962, Auk 79: 118).

The stomachs of 315 sharks over 100 cm in length and representing 12 species were examined by the senior author between 19 November 1974 and 6 July 1977. Landings were made within 600 m of shore from Melbourne Beach (28°03.8′N) and southward 20 km along the central Florida east coast. Bird remains were found only in tiger shark stomachs; five of the 15 specimens in which food items were found contained bird remains. Birds were found in tiger sharks landed during February, April, May, and September (twice). Identifiable remains were found in two tiger sharks landed during May and September 1976. On the night of 11 May 1976 a 182-cm female tiger shark was caught 250 m from shore at Melbourne Beach. The stomach of this shark contained a chunk of wax, a piece of turtle shell, two horse conch (*Pleuroplaca gigantia*) opercula, one whelk (*Busycon* sp.) operculum, and the remains of one Yellow-billed Cuckoo, one Bahama Yellowthroat (*Geothlypis rostrata*), and one Mourning Dove (*Zenaida macroura*). On the night of 24 September 1976 a 246-cm male tiger shark was caught 400 m from shore near the southern end of the fishing area. The stomach of this shark contained one octopus, two horse conch opercula, and the remains of two Wood Thrushes (*Hylocichla mustelina*).

The presence of small birds in the stomachs of tiger sharks during the spring and fall and their absence during June, July, and August, when the majority of the tiger sharks were landed, suggests that small migratory birds may on occasion fall prey to tiger sharks during unsuccessful migratory flights over open water. The Yellow-billed Cuckoo, Wood Thrush, and Bahama Yellowthroat are all weak migratory

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