Other instances of predation on seabirds have been observed during this project. Occasionally we found Laysan chicks that had been eaten. The exposed heel of the nestling often had been bitten; resultant bleeding may have killed the chick (Wirtz, pers. comm.). Bonin Petrels (*Pterodroma hypoleuca*) lay up to 500 eggs per season on Kure, but as yet no chick has been found. Excavation of petrel burrows has revealed fragments of their eggs. Rats have been observed carrying Sooty Tern (*Sterna fuscata*) eggs away from a disturbed colony. They straddle the eggs and puncture the end of the egg before carrying it off (David Bratley, pers. comm.). In July, 1965, Bratley also found rats preying on Noddy Tern (*Anous stolidus*) chicks. These chicks have been found with wounds into the body cavity. In a two-week period the number of Noddy Tern chicks dropped from 528 to 381, a loss of 27.9 per cent. Of the 147 chicks lost, only 8 were found and all had wounds into the body cavity. Two live chicks were also found with similar wounds. Rat predation may have been the major factor involved in this loss. Reports in the literature of such predation are rare (see, however, J. D. Hague, *Amer. J. Sci. Art,* 34: 224–243, 1862; and L. Howland, *Pacific Sci.,* 9: 95–106, 1955).

The lack of observations of Polynesian rats feeding on Laysan Albatrosses is understandable. Kure, infrequently visited by biologists in the past, is the only island in the world where Laysan Albatrosses and Polynesian rats are sympatric. Also, we found predation only from December through April; thus, anyone visiting the island at other times would probably not detect this event. A. Wetmore (unpubl. field notes) visited the island in April, 1923, and found a dozen Laysan Albatross skeletons in the central plain. He concluded that the large birds landed in the area, could not take flight, and starved to death. Kenyon and Rice (*op. cit.*: 189) also found albatross skeletons. Our observations are that the Laysan Albatrosses experience no difficulty in flying from the plain. Thus, many skeletons found by observers in the past may have been victims of the rats. If so, this predation is long established and of regular occurrence on Kure. Similar predation should be looked for wherever *R. exulans* and seabirds occur together.

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Turkey Vultures attack living prey.—In his review of K. E. Stager's "The role of olfaction in food location by the Turkey Vulture (*Cathartes aura*)," A. Wetmore (*Auk,* 82: 662, 1965) makes the following statement: "It is interesting that while Black and King vultures attack living animals unable to defend themselves, it is doubtful that this is true with *Cathartes,* regardless of published statements to the contrary."

The following contrary observations might therefore be of interest. Both of the incidents listed below were observed from our hawk-trapping blind at the Cedar Grove Ornithological Station, Sheboygan County, Wisconsin. Our traps are not more than 125 feet from the blind.

On 5 October 1961 David E. Seal and Berger observed the following. At 1205 hours a juvenal Turkey Vulture appeared in the north, swooped low over a tethered

Starling (*Sturnus vulgaris*), and then apparently landed on a post atop the blind. At approximately 1215 a Sharp-shinned Hawk (*Accipiter striatus*) was taken in a net baited with a House Sparrow (*Passer domesticus*), and the vulture flew to a post about 20 feet from the enmeshed hawk. After sitting on the post for some time, the vulture dropped to the ground and walked toward a tethered Rock Dove (*Columba livia*). The vulture approached within three feet of the dove, stopped momentarily, turned, and walked about 30 feet to the net containing the hawk and the sparrow. After some time, and with what appeared to be considerable hesitation, the vulture killed and ate the tethered sparrow through the netting. The hawk was confined at a point less than two feet from the sparrow, and it struggled and called frequently while the vulture was eating. After consuming the sparrow, the vulture began to menace the enmeshed hawk and eventually pulled a secondary from one of the hawk's wings. Berger left the blind, crept to within 30 feet of the vulture, and flushed it into one of the hawk nets. The vulture was banded (597-48587) and released. It measured 514 mm (wing, chord) and 262 mm (tail) and weighed 1,729 g. The Sharp-shinned Hawk appeared to be unharmed and was also banded and released.

On 8 October 1965 we saw a juvenal Turkey Vulture at 1526 hours, approaching our station from the north. It hesitated in flight over a tethered Rock Dove and soon landed on the ground about 10 feet from the dove. It walked to within two feet of the dove, withdrew, approached again, and with wings outstretched, pecked at and struck the dove with its beak. The dove flapped its wings. The vulture retreated about six feet, sat for about a minute, and then took flight, disappearing to the south. Charles Sindelar and Nancy Mueller were also present at the time of this incident.

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Main arteries in the neck and thorax of three sun grebes (Heliornithidae).—Recently I studied the thoracic and cervical arteries of one specimen each of three forms of sun grebes (*Podica s. senegalensis, Podica s. petersii,* and *Heliornis fulica*) at the British Museum (Natural History). I have found no previous reference to the carotid or associated arteries of any members of this family. A consistent pattern of the arrangement of arteries (Figure 1) was observed. The family displays the typical B-4-s carotid pattern (Glenny, *Proc. U. S. Natl. Mus.,* vol. 104, 1955; see p. 549). These sun grebes differ from other birds previously studied by possessing a second axillary artery from which the external thoracic artery takes its origin.

Concerning the origin and possible homology of the right ascending oesophageal artery in the B-4-s carotid forms, it is possible that, in some species, it represents a functionally modified right dorsal carotid artery. This remains as a superficial vessel in somewhat the same manner as does the left dorsal carotid of many of the parrots having the A-2-s carotid pattern (Glenny, *op. cit.*: 578–582). It is also possible that the ascending oesophageal artery represents a functionally modified right anterior radix aortae. The ascending oesophageal joins with the cephalic blood vessels of the encephalic carotid complex. However, as shown by A. F. W. Hughes (*Philos. Trans. Roy. Soc. London,* ser. B, 224, 1934; see pp. 75–129), primary and secondary anastomoses of sinuses or embryonic blood vessels in the avian embryo may result in a