



FIG. 1. Nesting Tree of Great Horned Owl. Arrow marks location of nest.

a 3.8-acre woodlot is located 0.2 mile away, and a densely wooded, uninhabited river valley is within 0.8 mile of the nest site. We postulate that the nest site was selected when few people were on the campus (16 December 1967 through 2 January 1968), and that the psychological bond to the site was maintained in spite of the increased human activity.

Other casual observations included occasional harassment of the adult owl by crows (*Corvus brachyrhynchos*) and Blue Jays (*Cyanocitta cristata*); the tendency for the adult owl to roost on the shady north or northwest side of the dome during the daytime; and the tendency for the adult owl to spend more time brooding the nestling on relatively cool, windy days than on warm, calm days. Several searches on and near the campus failed to reveal the presence of more than one adult owl at any time.—EDWIN C. FRANKS AND JOHN E. WARNOCK, *Department of Biological Sciences, Western Illinois University, Macomb, Illinois 61455, 5 August 1968.*

The nest, eggs, and young of the Elepaio.—The Elepaio (*Chasiempis sandwichensis*) is an endemic Hawaiian species of the Old World flycatcher family (Muscicapidae). The three races exhibit a peculiar and unexplained distribution in that separate races occur on Kauai, Oahu, and Hawaii. There is no evidence to suggest that the species ever inhabited the islands of Molokai, Lanai, and Maui, even though Molokai and Lanai can be seen from Oahu on a clear day and Maui is readily visible from the island of Hawaii.

More is known about the life history of the Elepaio than of any other endemic Hawaiian land bird. Nevertheless, there appears to be no published photograph of the

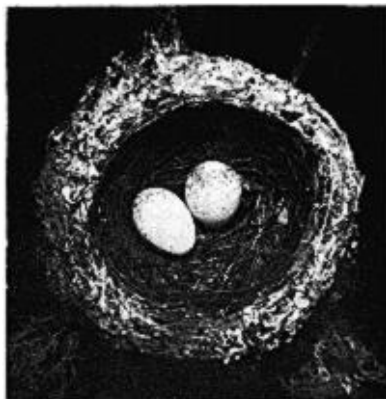


FIG. 1. Nest of the Hawaii Elepaio (*Chasiempis s. sandwichensis*) in a mamani tree; Kaohe Game Management Area, Mauna Kea, Hawaii; 30 April 1967.

FIG. 2. The same nest shown in Fig. 1 with its two eggs; 30 April 1967. This presumably is the first photograph ever taken of the eggs and an active nest of this species.

eggs or young of any race of this species. Alfred Newton (Proc. Zool. Soc. London:890-894, 1897) mentioned the eggs of an unspecified race of the Elepaio, stating that "it would be useless to figure them or to describe them otherwise than by saying that they might pass perfectly for eggs of *Parus* or *Sitta*," which is, indeed, somewhat of an exaggeration. S. B. Wilson and A. H. Evans (*Aves Hawaiiensis: The birds of the Sandwich Islands, 1890-99*) presented three paintings of Elepaio eggs, but these bear very little resemblance to the real eggs. W. A. Bryan (*Bernice P. Bishop Mus. Occ. Papers: 37-49, 1905*) presented photographs of three incomplected or deserted nests, but not of the eggs or young.

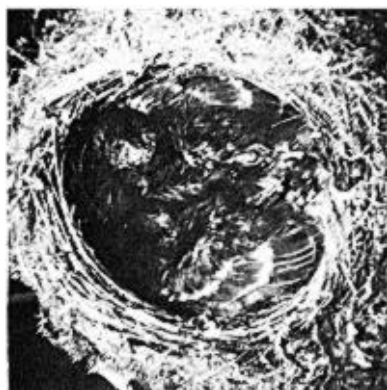


FIG. 3. Three well-feathered nestlings of the Kauai race (*C. s. sclateri*) of the Elepaio. Photograph taken 30 May 1966 in the Alakai Swamp region of Kauai. This is the first photograph taken of the nestlings of any race of this species.

On Kauai and Hawaii, the Elepaio is a fairly common permanent resident in the native ohia (*Metrosideros collina*) forests, which are areas of high rainfall. On Oahu, where much of the native forest has been replaced by exotic vegetation, the Elepaio is found in both introduced and mixed forests. By contrast, the Elepaio is one of the few endemic land birds that nests in the relatively dry (26.9 inches of rain in 1965; 15.6 inches in 1966) mamani (*Sophora chrysophylla*)-naio (*Myoporum sandwicense*) forest on the slopes of Mauna Kea at elevations of approximately 7000 to 9000 feet. Figures 1 and 2 were taken in this latter habitat, whereas Figure 3 is of a nest found in the Alakai Swamp region of Kauai. Over 600 inches (50 feet) of rain have been recorded in a single year on Mt. Waialeale, only a few miles from the site of the nest in Figure 3. (Work supported by NSF Grant GB-5612.)—ANDREW J. BERGER, *Department of Zoology, University of Hawaii, Honolulu, Hawaii, 9 September 1968.*

An unusual nest site of the Starling.—On 16 August 1967 Professor Emanuel Fritz of Berkeley, California, presented the Museum of Vertebrate Zoology with a live starling (*Sturnus vulgaris*) captured in his home. This bird (MVZ no. 15802), a male with an incompletely ossified skull, had testes two mm in length and weighed 76.6 g. It was obviously nearing completion of its post-juvinal molt, for the feathers of the entire head and neck, one primary on each wing, and all the secondaries were of the brown juvenile type.

The nest site from which this bird was obtained was in the basement of the Fritz's home, in the bottom of a vertical ventilating pipe nine inches in inside diameter and approximately 35 feet in height. The pipe, which was lined with unglazed terracotta, led directly to the chimney above the three-story house. Two other smaller pipes joined this one in the basement at five feet above the nest site, one coming from a gas furnace and the other from a gas water heater. By removing one of these side pipes, then by using a mirror and flashlight, the Fritz family was able to count six juveniles, though the brood may have been larger. One juvenile died of unknown causes and could not be removed from the bottom of the pipe; the others apparently fledged successfully.

According to Professor Fritz the young continued to roost with the parents in the nest for several days after fledging. They entered and left the nest by travelling the full length of the 35 foot pipe from the vent of the chimney to the nest, and vice-versa. On several occasions, both adults and juveniles exited into the basement via the two side pipe outlets. Each time they were captured and released into the garden; the one retained was collected in this manner. Locomotion was presumably achieved by a combination of fluttering and clinging to the rough-surfaced terra-cotta lining of the pipe.

That the two gas pipes entered the main outlet five feet above the nest no doubt accounted for the birds' not being asphyxiated (the dead juvenile may have been) since the noxious fumes were lighter than air and rose rather than descended the chimney. Fresh air probably entered via the chimney and the side vents described, permitting dilution of carbon monoxide and other gaseous wastes.

It is only in recent years that the Starling has been observed breeding in the San Francisco Bay region. On 14 May 1965 Gene M. Christman recorded in his field notes that two Starlings were seen in the fronds of a palm tree on Ridge Road near the Pacific School of Religion north of the University of California, Berkeley campus; later they were seen carrying food and the noises of begging young was heard. Banks (Bull. So. California Acad. Sci., 64:11-15, 1965) reports Starlings breeding in palm trees in San