

PARENTAL FEEDING IN A MALE GREAT-TAILED GRACKLE

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In the Common Grackle (*Quiscalus quiscula*) and other monogamous species of grackles of the genus *Quiscalus*, males feed the young as regularly as do the females, but males of the promiscuous Great-tailed Grackle (*Quiscalus mexicanus*) and Boat-tailed Grackle (*Q. major*) normally take no part in parental care of the young (Selander and Giller, *Condor* 63:55, 1961; Skutch, *Pacific Coast Avifauna* 31:328, 1954). Therefore, the following account of an adult male feeding fledglings is noteworthy.

On 29 July 1967 in Austin I saw an adult male walking across a lawn, followed closely by two juveniles, which were directing begging displays to him. This in itself was not novel, since hungry juveniles, especially when newly fledged, occasionally direct begging displays to males. However, as I approached the trio, the adult male, rather than flying away as I expected, became alert and wary, gave *chut* warning calls, and remained with the juveniles, thus exhibiting behavior that is typical of

a female with fledglings. Backing off, I continued to watch the birds, and soon the juveniles starting begging again. The male picked an insect from the grass and fed one juvenile, foraged a moment, caught another insect, and fed the other juvenile. Shortly thereafter the male flew off, followed closely by the two juveniles.

This observation of parental feeding by a male *Quiscalus mexicanus* supplies another bit of evidence supporting the generalization, derived from studies of birds and other vertebrates, that behavior normally manifested only by the female is latent in the male and may be expressed under an appropriate set of internal and external stimulus conditions. In view of the importance of gonadal suppression in the facilitation of parental behavior in birds (see review by Eisner, *Anim. Behav.* 8:171, 1960), it is perhaps significant that the young birds involved had fledged unusually late in the season, when the male had, in all probability, completed gonadal regression and was in a phase of the annual cycle in which testosterone production by the testes is minimal (Selander and Hauser, *Condor* 67:165, 1965). Hence, as far as hormone titers are concerned, the internal state of the adult male may have been similar to that of a female in the post-incubation period of the annual cycle.

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THE EGGS AND YOUNG OF THE PALILA, AN ENDANGERED SPECIES

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The Palila (*Psittirostra bailleui*) is one of the few surviving "finch-billed" members of the Hawaiian honeycreeper family (Drepanididae). The Palila is a large-billed, large-headed, colorful bird about 6.5 inches in total length. In addition to its large cardinal-like bill, the Palila has a bright yellow head and throat, a soft gray back, and a whitish abdomen. There is little sexual dimorphism but the yellow tends to be richer in the males.

The Palila is endemic to the island of Hawaii. Although the species had a wider distribution on this island in the past, available information indicates that the Palila is presently restricted to the mamane (*Sophora chrysophylla*-naio (*Myoporum sandwicense*) forest on the slopes of Mauna Kea, a mountain which towers 13,784 ft above sea level. This, too, is the only large extant mamane-naio forest on any of the Hawaiian Islands (fig. 1). Here the Palila subsists largely on the seeds and flowers of the mamane.

The nests and eggs of the three species of "Kona finches" (genus *Psittirostra*, all of which are presumed to be extinct) were never described, and presumably never were discovered. I am pleased, therefore, to be able to present the first photographs of the nest, eggs, and newly-hatched young of the Palila, especially in view of the precarious future for this species.

The first mention of the nest of the Palila was made in the work by Wilson and Evans (*Aves Hawaiensis*: The birds of the Sandwich Islands, R. H. Porter, London, 1890): "On June 14th I found a nest from which I saw the bird fly; it was placed in the topmost branches of a Naio tree (*Myoporum santalinum*), about 35 feet from the ground, but contained

no eggs, and when we subsequently revisited it we found it deserted. It may be briefly described as cup-shaped, 4 inches in diameter, and very loosely constructed of dry grass, among which is interwoven a considerable quantity of grey lichen; the inside being composed of the same lichen, with a few slender root-lets added."

The only other reference to the nest of this species is a very odd and misleading one. W. A. Bryan (*Occas. Papers Bernice P. Bishop Museum*, 1905, p. 59-60), described two deserted nests (one of which "was evidently a year or more old") found in October as being those of the Palila because Mr. Blacow "was fairly convinced that the egg is that of the Palila, since it was not only a fairly common bird in the locality, but one found usually frequenting Mamani." On the following two pages of the same journal, however, Bryan reported that the two nests were not those of the Palila but had been "originally erroneously identified by the collector, through circumstantial evidence." He quotes Mr. Blacow as writing: "So the Palila that I saw fly out of the tree that I found one of the other nests in was probably feeding and did not have any connection with the nest whatever."

Field work in Hawaii is, for a variety of reasons, very difficult. I saw my first Palila in the Kaohe Game Management Area on 13 June 1966. I did extensive field work there on 32 different occasions during the following two years, but did not find the first Palila nest until 6 July 1968.

I had discovered earlier that the Hawaii Amakihi (*Loxops v. virens*) had begun to nest on Mauna Kea by mid-October in 1966. Consequently, I began again to make periodic field trips to the study area on 17 October 1967, making 14 additional visits during the following eight months. Although I had no difficulty in locating the Palila on each field trip, nor in finding the nests of nearly all other species, I could not find the Palila's nest.

There was no adult at the nest I found on 6 July 1968, and, from the ground, the nest looked as