

It is quite likely that such mutual behavioral patterns serve to facilitate the synchronization of the physiological sexual "rhythms" in birds and thus help to insure breeding success. In regard to this opinion, see Armstrong (Bird Display and Behavior, 1947:162).—WILLIAM C. DILGER, *Laboratory of Ornithology, Department of Conservation, Cornell University, Ithaca, New York, February 14, 1953.*

The Incubation Period of the Hutton Vireo.—Opportunity was afforded in March and April of 1953 to check closely on the incubation period of the Hutton Vireo (*Vireo huttoni*). Apparently nothing specific has been placed on record heretofore concerning the length of the period in this species. Van Fleet (Condor, 21, 1919:164) states that the eggs hatch "about two weeks after incubation is started." Incubation in the Bell Vireo has been precisely determined as 14 days (Nice, Condor, 31, 1929:13; Pitelka and Koestner, Wilson Bull., 54, 1942:99). Bent's review (U. S. Nat. Mus. Bull. 197, 1950) of life history data on North American vireos indicates that incubation periods are usually 14 days or less in the family Vireonidae, although the period for many species is reported only in rather general terms or not at all. For the White-eyed Vireo, 12 to 16 days has been recorded, a situation which leaves some doubt concerning the accuracy of the extremes; however, Saunders (Wilson Bull., 27, 1915:321) made a definite determination of 15 days. The period of 16 days which I recorded in the Hutton Vireo was therefore somewhat unexpected.

The nest under observation was in Berkeley, California, at my residence. Its location 6 feet up in a small *Garrya* tree made frequent inspection of its contents feasibly, a matter in which I was aided by my family when I was absent from town. The nest contained two eggs on March 22 and the birds were not sitting continuously on this date. On March 23 when there were three eggs the nest was covered apparently all day in a regular incubation routine. On March 24 there were four eggs in the morning. The first egg hatched sometime between 8:30 and 3:25 on April 8. Two more eggs had hatched by 8:30 a.m. on April 9 and by 12:30 on that date all four eggs had hatched. For the last egg hatched, assuming it was the last laid, a minimum incubation period of a few hours greater than 16 days is indicated. None of the other eggs would appear to have hatched in any less time. As is normal in this species the eggs were continuously covered, one parent slipping on the nest the moment the other left it. The incubation period was not therefore prolonged by any unusual regime of inattentiveness.—ALDEN H. MILLER, *Museum of Vertebrate Zoology, Berkeley, California, May 12, 1953.*

Recent Records of Some Hawaiian Honeycreepers.—For a number of years it has been common belief that many species of the Hawaiian honeycreepers (Drepaniidae) have become extinct. This strongly pessimistic view arose partly because of the obvious destruction of much of the native forest habitat on all the main Hawaiian Islands wherever people live or engage in agricultural industries. Also, it is known that foreign, avian diseases have been introduced to the Hawaiian Islands and it was thought that they might have caused decimation of native bird life. Furthermore, many localities where Hawaiian honeycreepers are abundant were visited by ornithologists seldom or not all in the decades following the extensive bird collecting of the 1890's and the first few years of the twentieth century.

While a considerable reduction of endemic species has indeed occurred on Oahu and Lanai, the loss has been more moderate on the larger islands, Hawaii and Maui. It is difficult to ascertain whether or not originally rare species of the latter islands survive today because of the inaccessibility of large tracts of virgin forests. The authors independently have had unusual opportunities to search for the rarer species on Hawaii and Maui at various times in the past decade. We have succeeded in finding some of them still thriving in restricted localities, whereas we have found no trace of others.

Records establishing the continued existence of *Palmeria dolei* and *Pseudonestor xanthophrys*, not recorded on Maui since the 1890's, are given at this time. These species were generally thought to be extinct. The existence of other species, such as *Psittirostra psittacea* and *Psittirostra bailliei*, reported in the 1930's, is confirmed and established by collected specimens. We are grateful to the Board of Commissioners of Agriculture and Forestry of the Territory of Hawaii for permission to conduct our field studies in the territorial forest reserves of Hawaii and Maui. The scientific nomenclature employed is that of Amadon (Bull. Amer. Mus. Nat. Hist., 95, 1950:157-262).

Palmeria dolei. Crested Honeycreeper. On January 1 and 2, 1942, G. A. Macdonald and H. Stearns saw a bird, probably of this species, near the north rim of Kipahulu Valley, 6300 feet, Haleakala Volcano, Maui. This was communicated to Baldwin who made a trip to the same locality (between Wai Anapanapa and the divide separating Kipahulu and Waihoi valleys) on November 17, 1943,

and found this species. On November 23, 1943, at 5800 feet, one mile northwest of Puu Alaea on the north slope of Haleakala Volcano, he observed several other individuals closely. Telephoto movies, which revealed the crest on the forehead, were taken.

In December, 1950, Richards went into this same area, about $\frac{1}{2}$ mile northwest of Puu Alaea. On December 2, two individuals of this species were seen at close range, and on December 4 three were seen. On the 5th, four were seen and five or six others heard. The area in which these observations were made was about five acres in extent and between the elevations of 6300 and 6700 feet. During this period three birds were found (nos. M.V.Z. 122607-8, 127162).

This species was last reported seen in 1907 on Molokai (Bryan, Occas. Papers Bishop Mus., 4, 1908:68).

Pseudonestor xanthophrys. Parrot-billed Koa "Finch." On December 4, 1950, about $\frac{1}{2}$ mile northwest of Puu Alaea, 6400 feet, on the north slope of Haleakala Volcano, Maui, an individual of this species was found by Richards (no. M.V.Z. 127157). On the same day he observed another individual at the close range of 15 feet. The existence of this species has not been reported definitely since the 1890's (Munro, Birds of Hawaii, 1944:121).

Loxops coccinea coccinea. Akepa. This form, endemic to the island of Hawaii, was reported in August of 1938 to be fairly common at Keawewai, 6800 feet, Kau District (Baldwin, 1940, National Park Service, mimeo.:21). Baldwin saw another individual on July 20, 1941, on the Puu Oo Trail, between 2000 and 3000 feet, South Hilo District. On three occasions in 1941 and 1943 he found this bird on the Kalapana Trail, between 2430 and 2550 feet, Hawaii National Park, and on October 24, 1948, he saw it near Keauhou, at 6800 feet, Kau District. On August 25, 26, September 26, 28 and October 25, 1950, at 4350 feet, on the north slope of Hualalai Volcano, about twelve individuals were observed by Richards. No doubt some of these were observed repeatedly on different days. Another one was seen by him at 5300 feet at Kipuka Akala, Kau District, November 3, 1950. This form was seen previously in Hawaii National Park in 1936-37, and one was found frozen in a pool at 13,010 feet on Mauna Loa in 1943 (Munro, *op. cit.*: 109-110).

Loxops coccinea ochracea. Akepa. On November 24, 1950, three small orange birds were seen in an *Acacia koa* growing in a gulch at an elevation between 2000 and 3000 feet, between Kipapa and Nakaaha areas, Hana District, on the south slope of Haleakala Volcano, Maui, by Amy B. H. Greenwell. These very probably were individuals of this form, which has not been reported since 1894 (Munro, *op. cit.*: 111).

Hemignathus wilsoni. Akiapolaau. This species, endemic to the island of Hawaii, was reported by Baldwin in or near the area of the Hawaii National Park, from 4150 to 5500 feet, in 1938 and 1940 (Baldwin, 1941, National Park Service, mimeo.: 19). He also saw it in the same area in 1941-46. It was found to be rather common locally by both authors (Baldwin, 1948-49; Richards, 1950) on the northeastern slopes of Mauna Kea and the eastern slopes of Mauna Loa, between 3900 and 7750 feet. Specimens are in the Museum of Vertebrate Zoology.

Psittirostra psittacea. Ou. Individuals of this species are reported having been observed in 1936 and 1938-40 (Baldwin, 1941, *op. cit.*: 20) in the Hawaii National Park, Hawaii, and the Upper Olaa Forest Reserve, Puna District, Hawaii. In November, 1944, Baldwin saw approximately six in one day southwest of Napau Crater, 2650-2800 feet, Hawaii National Park, Hawaii. On October 15, 1950, and January 14, 16, 17, 1951, this species was observed by Richards at 4000 feet, again in the Upper Olaa Forest Reserve. As many as eight to twelve individuals were heard and three seen in one day in this locality. Specimens found in this locality are in the Museum of Vertebrate Zoology.

Psittirostra bailleui. Palila. This form, also, was found by both authors to be locally not uncommon in 1943 and 1948-49 by Baldwin and in 1950 by Richards on the western and northeastern slopes of Mauna Kea, Hawaii, at elevations between 7750 and 8300 feet. Specimens are in the Museum of Vertebrate Zoology. This species was last reported seen in 1937 on Mauna Kea (Munro, *op. cit.*:125).

In the field a sharp lookout was kept at all times by both of us for such forms as the Mamoo, *Drepanis pacifica*, the Ula-ai-hawane, *Ciridops anna*, the Akialoa, *Hemignathus obscurus obscurus*, and the Nukupuu, *Hemignathus lucidus affinis*, but without success. Both of us, independently, made several special trips to type localities in an effort to locate the Greater Amakihi, *Loxops sagittirostris*, the Greater Koa "Finch," *Psittirostra palmeri*, the Lesser Koa "Finch," *Psittirostra flaviceps*, and the Kona "Finch," *Psittirostra kona*. These searches proved unsuccessful.—LAWRENCE P. RICHARDS, *Museum of Vertebrate Zoology, Berkeley, California*, and PAUL H. BALDWIN, *Department of Zoology, Colorado Agricultural and Mechanical College, Ft. Collins, Colorado, May 13, 1953.*