

FROM FIELD AND STUDY

Relationships of the Falconiform Genus *Harpagus*.—The neotropical genus *Harpagus* is usually placed with the kites. It is characterized by two "teeth" on the upper mandible. The scientific names of the two species of the genus, *diodon* and *bidentatus*, both reflect this fact. The latter, which is the more widespread of the two, is called the Double-toothed Kite. Such "teeth," which are doubtless adaptations for dismembering food, are not unusual in kites. Thus the species of the Old World genus *Aviceda* have variously one or two such denticles, whereas the American Gray-headed Kite of the genus *Leptodon*, a close ally of *Aviceda*, has one.

Some early authors, such as Sharpe in the "Catalogue of Birds in the British Museum," placed these toothed kites in the Falconidae, but it was soon realized that they have nothing to do with that family.

Harpagus is less obviously a kite than are *Aviceda* or *Leptodon*. In proportions and color it is somewhat like many accipiters. Loye Miller (Condor, 39, 1937:219-221) in a paper on the affinities of *Harpagus* remarked: "the general appearance of the bird when I picked it up was that of an *Accipiter* with an abbreviated tail . . ." Professor Miller prepared a skeleton of this bird which he compared with those of a White-tailed Kite (*Elanus*), a Cooper Hawk (*Accipiter cooperii*), and a Merlin (*Falco columbarius*). He found *Harpagus* very different from *Falco* in most of the characters compared. On the other hand, in several respects he found the osteology of *Harpagus* more like *Accipiter* than like *Elanus*. These data have recently been used to bring the systematic position of the genus again into question. Hellmayr and Conover (Cat. Birds Amer., pt. 1, no. 4, 1949:32, footnote), although leaving *Harpagus* in the "Milvinae," state: "According to Miller skeletal characters of this form reveal its close kinship to *Accipiter*."

I am not competent to discuss Miller's osteological comparisons in detail but would merely suggest that the similarities to *Accipiter* and the differences from *Elanus* may be superficial adaptations. In one comparison this is clearly stated to be the case: *Elanus* has a type of humerus usual in sailing birds; the other two do not. I feel that if the comparison had been with a kite of more or less similar proportions the results might have been very different. Gurney (Ibis, 1881:118-124) in a paper on *Harpagus* states: "Mr. Ridgway informs me 'it is most nearly related, osteologically, to *Ictinia*.'" The latter, of course, like *Elanus*, is a long-winged gliding kite, but at least it belongs to the same "subfamily" of kites as does *Harpagus*, assuming, as I believe to be the case, that the latter is a kite. In any event, Miller was not at all emphatic about his conclusions. He merely listed certain similarities between *Harpagus* and *Accipiter* without implying that its status was finally settled. Gurney also noted that Nitzsch had found the pterylography of *Harpagus* to be similar to that of *Baza* (= *Aviceda*). In a paper just published, Vesta and Erwin Stresemann (Jour. f. Ornith., 101, 1960:394) state that they found the wing molt of *Harpagus* to be typical of the kites of the milvine group. They also note that Suschkin had reached the same conclusion about the position of the genus in his work on the diurnal raptors.

The "reputation" of *Harpagus* has been influenced by some field notes of the junior author of "The Birds of the Santa Marta Region of Colombia" by W. E. Clyde Todd and M. A. Carriker, Jr. (Ann. Carnegie Mus., 14, 1922:146), where it is portrayed as a very savage little hawk that "feeds entirely upon small birds." We are not told the source of the evidence for this rather sweeping statement beyond the fact that a captive specimen ate small, dead birds. Knowledge of this hawk was enhanced by Laughlin's account (Condor, 39, 1937:137-139) of a pair that nested on Barro Colorado Island, Panamá. He refuted the bird-eating habits and found that *Harpagus* feeds upon large insects and lizards, securing the latter by a chase "up a slanting branch, hopping after it—not flying—with wings spread to maintain balance. This method of hunting, although it looked clumsy, was apparently successful. . . ." I have found four other references to the food of *Harpagus* in the literature or on specimen labels. All refer to insects; one refers also to reptiles.

Mr. Eugene Eisenmann, who has had considerable experience with *Harpagus*, including observations of the pair studied by Laughlin, tells me that small birds usually are unconcerned when a member of this genus is nearby. Wetmore (Proc. U. S. Nat. Mus., 87, 1939:184) was made aware of the presence of *Harpagus* by the alarmed chirping of a large hummingbird, *Cyanolestia*, and Eisenmann saw one chased off by a pair of Streaked Flycatchers (*Myiodynastes maculatus*). Hummingbirds and tyrant flycatchers are, however, unusually pugnacious birds.

The problem of possible mimicry among birds of prey is one which still awaits clarification. The following paragraph from Newton's article on this subject in the "Dictionary of Birds" (p. 574) is of interest: "On the information of Mr. Salvin, Mr. Wallace has cited (*Contrib. Nat. Select.* p. 107) another very curious case of Mimicry in Birds. This is furnished by *Accipiter pileatus*, a widely-ranging species of Sparrow-Hawk which near Rio Janeiro departs from the plumage it wears in other places to assume that of *Harpagus diodon*, a local species of insectivorous habit, with the object, as suggested, of deluding small birds into the belief that it is harmless in character. The similarity here extends to both immature and adult plumages, which are very different." It should be pointed out that although the adult and immature plumages of *Accipiter bicolor pileatus* are very like those of *Harpagus diodon*, it is not, of course, definite that the former has departed from its usual coloration only in the range of *diodon* or that the resemblance has any special significance. Races of *bicolor* with streaked immatures are found beyond the range of *diodon*; conversely, the northern half of the range of *diodon* has another race of *Accipiter* in which the immatures are immaculate white ventrally and quite unlike those of *diodon*.

A further point is that, assuming there is mimicry involved, we do not know whether the more predatory species (*Accipiter*) is mimicking the inoffensive one (*Harpagus*) or vice versa. As Meyer and Wigglesworth (*Birds of Celebes*, 1, 1898:66-72, color pls. 2 and 3) state in their lengthy discussion of the remarkable similarity in all plumages between a honey-buzzard kite (*Pernis celebensis*) and the eagle (*Spizaetus lanceolatus*) it is possible that the inoffensive kite might obtain relief from enemies, presumably nest predators, by resembling the eagle. They conclude, however, that both species are so uncommon that it is difficult to postulate mimicry upon any basis whatever.

If *Harpagus* does mimic accipiters, this was of little avail in the pair observed by Laughlin. One of the pair was rather easily frightened from the nest by a toucan (*Ramphastos*) which proceeded to eat the kite's egg!

In summary, one may conclude that *Harpagus* is not related to *Accipiter* and that the resemblance between the two may possibly, although this is unlikely, represent mimicry.—DEAN AMADON, *American Museum of Natural History*, October 31, 1960.

Records of the Rarer Native Forest Birds of Kauai, Hawaii.—Delacour in his foreword to Greenway's *Extinct and Vanishing Birds of the World* (1958:iv) states that "we still know nothing of the . . . status of the rarer birds of the Island of Kauai (*sic*)." However, just as Richards and Baldwin (*Condor*, 55, 1953:221) rediscovered certain species in remote native forests of Hawaii and Maui, we have been able, with the aid of grants from the McInerney and Castle foundations of Hawaii, to ascertain that all of the native forest birds of Kauai still exist. Nomenclature in the following annotated list follows Amadon (*Bull. Amer. Mus. Nat. Hist.*, 95, 1950:157-262). Except where otherwise noted the species were found only in the Alakai Swamp forest area (elevation 3750 to 4500 feet), the highest mountainous region of Kauai, in July and August, 1960. An asterisk indicates that specimens were collected and placed in the Bishop Museum, Honolulu. Apparently none of these species has been collected since the 1890's.

THRUSHES

*Phaeornis obscurus myadestina** Omao. Several dozen individuals seen or heard. Reported seen in 1941 (Munro, *Birds of Hawaii*, 1944:77) and heard by Baldwin in 1960 (Elepaio, 21, 1960:2).

*Phaeornis palmeri** Small Kauai Thrush. At least 15 individuals seen. Listed as probably extinct by Amadon (*op. cit.*:256). Reported seen in 1940 by Donaghho (Elepaio, 2, 1941:52).

HONEY-EATERS

*Moho braccatus** Kauai Oo. Twelve individuals seen or heard. This oo, probably the only one surviving of four Hawaiian species, was reported seen in 1936 and 1940 by Donaghho (*op. cit.*).

HAWAIIAN HONEYCREEPERS

*Loxops maculata bairdi** Creeper. Abundant; several hundred seen. Reported seen by Munro (*op. cit.*:105) and by Hansen (Elepaio, 20, 1959:10) at Kokee but considered rare.

*Loxops coccinea caeruleirostris** Akepa. Uncommon; 20 or more, usually widely scattered individuals, seen both in Alakai Swamp area and at lower elevations such as around Kokee. Also reported seen by Hansen (*op. cit.*) at Kokee.