

GENERAL NOTES

Plumage and behavior of a juvenile Gray-headed Kite.—The existence among certain hawk species of distinct color phases or plumage patterns within particular age groups often leads to confusion in the identification of specimens. Such phases may be mistakenly treated as different species or assigned to incorrect age groups. This is particularly true of individuals in which the wings and tail are molting so that definitive length cannot be measured. Distinct dark and light juvenile plumage phases (illustrated in Brown and Amadon, 1968, plate 9) have been described for the Gray-headed Kite (*Leptodon cayanensis*), a species in which the adult is monomorphic. There has been some question about the designation of the phases as the first pennaceous plumage (Friedmann, 1950). My findings confirm this designation.

On 17 August 1967 I collected a juvenile male Gray-headed Kite (MVZ 157042) 1 mile southeast of Finca Jimenez, Guanacaste Province, Costa Rica. The bird is undergoing postnatal molt but retains considerable nestling down. The plumage being acquired resembles both the dark and light phases as summarized from Brown and Amadon (1968), Friedmann (1950), Grossman and Hamlet (1964), and Wetmore (1965), but is distinct enough from each (Figure 1) to warrant separate description.

Plumage.—In general appearance the Costa Rican specimen is intermediate between the dark and light immature phases. It is black-brown above and white below with a faint tinge of buff and with fine dark shaft streaks. The feathers of the forehead and sides and back of the head are dark blackish-brown with white bases as in individuals of the dark phase. In light phase individuals only the crown and a spot above and behind each eye are blackish-brown to brown. The forehead, sides of head, nape, and hind neck are white.

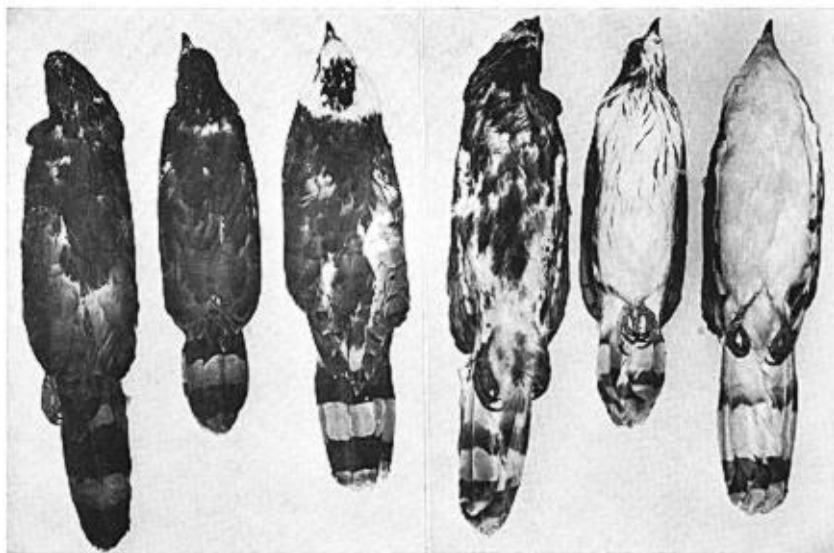


Figure 1. Comparison of the dorsal and ventral surfaces of dark (left), intermediate, and light (right) phase *Leptodon cayanensis*.

The feathers of the dorsal cervical and interscapular regions are dark blackish-brown. A few are narrowly tipped with rufous, but with no indication of the rufous nuchal collar reported for some dark phase individuals. Posterior to the interscapular region only nestling down is apparent, although juvenile feathers broken from their sheaths reveal dark blackish-brown barbs. The dorsum of light phase individuals is dark brown; in dark phase individuals it is blackish-brown or black.

The Costa Rican bird is predominantly white below. Approximately one-fourth of the chin feathers bear narrow dark blackish-brown shaft streaks. On the throat the streaks are more numerous and considerably wider, forming a faint band. Posterior to the throat the ventral feathers are white basally and faintly buff distally. In the cervical and sternal regions the blackish-brown streaks run the length of the feather and are approximately one-tenth its width. In the axillary and abdominal regions the streaks narrow, being confined entirely to the rachis in the latter area. Many feathers lack the streak. In dark phase individuals the underparts are black although the feathers of the lower breast and abdomen are edged with white. The entire undersurface of light phase individuals is white.

The thigh or flank feathers in the light and intermediate phases may be white or buff. A few feathers of light individuals bear narrow dark shaft streaks; the buffy feathers of intermediate forms have brown streaks. In the dark forms the flank feathers are black or blackish-brown edged with white.

The remiges, rectrices, and their coverts are essentially the same in all forms (see Friedmann, 1950).

A female juvenile taken 5 November 1927 at Hacienda California, Guatemala (AMNH 406616) resembles the above-described Costa Rican bird, differing only as follows: buffier below over the entire underparts, finer and less numerous shaft streaks, distinct blackish streak down center of throat, considerably more rufous edging on interscapular feathers and wing coverts, dark areas generally lighter.

Other similar specimens are described in the early literature. Gurney (1880) noted that young of intermediate plumage occasionally occur and cited one specimen each from Costa Rica and Trinidad. Léotaud (1866) described two from Trinidad. Sharpe's (1874) description of the plumage of the young apparently also refers to an intermediate individual. These reports suggest that a distinct intermediate plumage phase may be recognized, but some variation occurs within the light phase, and considerable variation within the dark phase (Gurney, 1880); additional material may show the three phases bridged by a graded series of less numerous variants and thus to be categories in a continuum. Brown and Amadon (1968) briefly refer to the intermediate phase as a variant of the dark immature phase.

Data on 42 juveniles (20 light, 8 intermediate, 14 dark) collected in localities ranging from Mexico to Brazil and Argentina were reviewed. Both light and dark phase individuals have been taken throughout this range. Intermediate specimens are from Mexico (1), Guatemala (1), Costa Rica (2), Panama (1), Trinidad (2), and Paraguay (1). Too few specimens were sexed to permit an analysis of color phase distribution by sex.

Nestling plumage and postnatal molt.—The postnatal molt apparently is completed in the head and scapular regions of the Costa Rica specimen. No feathers with sheaths are present. Molt is nearly completed ventrally as well, where only a few posterolateral feathers retain basal, remnant sheaths.

Dorsally, molt has progressed through and appears completed in the interscapular region. Posterior to this area only down feathers are visible, but close examination reveals a central line of feathers breaking through the skin with sheath tips still intact.

Occasional half-grown feathers with extensive sheaths are also scattered throughout. All the down feathers are white.

The crural tracts also are covered with white down. Contour feathers, one-eighth to one-quarter grown and broken from their sheaths, are scattered among them.

The rectrices have reached approximately 70 per cent of their total length and are still heavily ensheathed. The seven outer primaries also bear extensive sheaths. Apparently growth of the tail and wing coverts, secondaries, and other primaries is completed.

Behavior.—When first sighted at approximately 09:00, the hawk was perched in the open about 3 m above the ground on a large limb of a tall, spreading, densely-leaved tree. Almost immediately it flew approximately 14 m to a tree about 4 m high with only a few sparsely-leaved branches. Both Slud (1964) and Wetmore (1965) have noted that the species usually occurs high up in the forest canopy. The bird perched briefly on a limb some 3 m off the ground and then swung backwards and hung upside down by its feet with its wings half extended. The hawk maintained this position for approximately 15 minutes and then returned to the normal upright position by flapping its wings slightly and swinging upwards. The hawk's feet did not appear to leave the branch as it swung down or up, nor did the bird appear to experience any difficulty in resuming the upright position.

I can offer no explanation for this behavior, which I watched from a distance of 14 m through 7-power binoculars. The Blackish Crane-hawk (*Geranospiza caerulescens*) exhibits acrobatic behavior during feeding (Sutton, 1954; Slud, 1964) and may even hang upside down to extract prey from a crevice (Jehl, 1968); the kite did not appear to be feeding. Eisenmann (1968) reports an Orange-chinned Parakeet (*Brotogeris jugularis*) hanging below a branch, apparently in response to his presence, but I do not think the kite was aware of me. As the bird was in indirect sunlight that filtered through a rather dense canopy, it apparently was not sunning. As I did not find large numbers of ants on or in the tree, a phenomenon common to many tropical tree species, the hawk probably was not anting. Nor did the posture appear to be part of a display sequence. Possibly the behavior was just youthful awkwardness, though the bird perched and flew ably prior to this behavior.

E. Eisenmann and J. L. Bull identified the specimen. D. Amadon of the American Museum of Natural History (AMNH), H. B. Tordoff of the University of Michigan Museum of Zoology, and A. Wetmore of the United States National Museum provided comparative material. N. K. Johnson of the Museum of Vertebrate Zoology (MVZ) and E. R. Blake of the Field Museum of Natural History provided the use of museum facilities. D. Amadon, E. Eisenmann, N. K. Johnson, R. W. McDiarmid, and G. E. Woolfenden read the manuscript. J. Feigl aided in the preparation of the photographs. To these individuals I extend my sincere thanks.

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Pariah Kite with double bill.—A Pariah Kite, *Milvus migrans govinda*, collected 12 September 1968 on the campus of Gujarat University, Ahmedabad, India and now in the collections of the University's Zoology Department, has an additional bill-like structure in front of the nasal bone. Careful anatomical study of this specimen revealed that this additional bill has grown as an extension of the nasal bone (NA) over the premaxilla (PMX). Further, the presence of a groove (G) between the premaxilla and this bill structure clearly indicates that this structure is a distinct entity and is an extension or overgrowth of nasal bone only. The groove is completely separated from the external nares. Total length of the bill from frontonasal hinge to the bill tip is 33.5 mm; distance from the hinge to the tip of the additional bill is 21.5 mm.—U. M. RAWAL, *Department of Zoology, University School of Sciences, Gujarat University, Ahmedabad-9, India*. Accepted 30 Dec. 69.

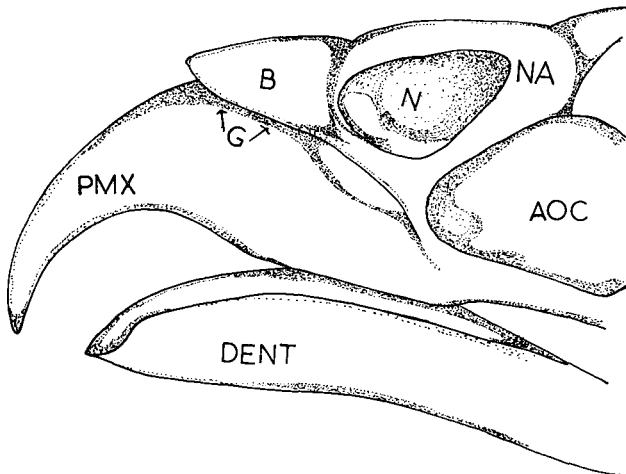


Figure 1. Lateral view of the anterior portion of the bill of *Milvus migrans govinda*. AOC, antorbital cavity; B, additional bill; DENT, dentary; G, groove; N, nares; NA, nasal bone; PMX, premaxilla.