

timing and longevity of the breeding season are discussed. The pejorative implications of excessive disturbance to nesting birds, habitat loss, and electrocution mortality are discussed. Management recommendations are given.

Literature Cited

Whaley, W. H. 1979. The ecology and status of the Harris' Hawk (*Parabuteo unicinctus*) in Arizona. M.S. thesis, University of Arizona, Tucson. 119 pp.

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ECOLOGY AND BEHAVIOR OF THE GYMNOGYNE (*POLYBOROIDES TYPUS*)

Observations made during this study provided data on general nesting biology, parental behavior, and feeding ecology of two pairs of Gymnogyne or African Harrier Hawk (*Polyboroides typus*) throughout most of the 1978 breeding season. The nests were attended by at least one of the pair 98 percent of the daytime, with both parents participating in the 35-36-day incubation period. Changes in facial color and exchange of nesting material were apparently stimuli necessary for cooperative transfer of egg possession during incubation. After chicks had hatched, the male returned to the nest only to deliver prey to the female. Changes in male's facial color were also incorporated into food transfers. By the fourth week the female began hunting, and the male no longer approached the nest but transferred prey to her away from the nest site.

Four general hunting methods were used: low soaring, high soaring, perch hunting and canopy-ground hunting. Of 85 prey items identified during this study 33 percent were birds (primarily nestlings), 41 percent reptiles and amphibians, 15 percent small mammals, and 11 percent insects. Most prey can be characterized as defenseless or inactive at the time of capture.

The Gymnogyne is characterized by some specialized morphological adaptations: long, broad wings and tail; lightweight body; long tarsi; modified intertarsal joint; and a bare-faced, diminutive head. The unfeathered facial skin changes color ranging from light yellow to dark red. I hypothesize that these traits reflect behavioral adaptations relating to hunting and communication. The objectives of this study were to describe hunting strategies; identify prey captured; study behavior associated with changes in coloration of the adult facial skin (hereafter referred to as flushing); and describe parental activity and characteristics of the nesting cycle.

Prior to this study the most detailed record of the Gymnogyne was based on scattered observations in Kenya. Other reports in the literature are generally anecdotal. The Gymnogyne is most common in tropical western Africa, but its distribution includes sub-Saharan woodland habitats south to the Cape of South Africa (Brown and Amadon 1968).

Literature Cited

Thurrow, Thomas L. 1979. Ecology and behavior of the Gymnogyne (*Polyboroides typus*). M.S. thesis, Brigham Young University, Provo, Utah. 28 pp.

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