Condor, 81:207–208

FRUIT-EATING BEHAVIOR OF SWALLOW-TAILED KITES (*ELANOIDES FORFICATUS*) IN COLOMBIA

THOMAS O. LEMKE

Swallow-tailed Kites (*Elanoides forficatus*) in temperate and tropical areas are known to prey upon adult insects (Fischer 1893, Bent 1937, Haverschmidt 1962, Skutch 1965, Wetmore 1965), wasp larvae (Fischer 1893, Sutton 1955), small reptiles and amphibians (Fischer 1893, Bent 1937, Sutton 1955, Skutch 1965, Wetmore 1965), and nestlings of tropical birds (Skutch 1965). Nowhere, to my knowledge, is there a published record of their feeding upon fruits in the wild. Other New World falconiforms that feed on fruit are well-known scavengers, but not this kite species. However, in Colombia, I observed obvious fruit-eating behavior by Swallow-tailed Kites on two separate occasions. This major departure from its usual animal diet is of interest for two reasons. Ecologically, it demonstrates an unusual plasticity in the diet of a predatory species, possibly in response to food scarcity, as mentioned below. Secondly, it appears that this behavior is not just an isolated case but is repeated, at least occasionally.

On 7 and 13 March 1976, I watched groups of three and five Swallow-tailed Kites, respectively, circling around and diving into the crown of a 20-m tall rubber tree (*Castilla elastica,* Moraceae), locally known as "caucho negro," on the bank of the Río Guayabero, in Parque Nacional Natural de la Macarena, Meta, Colombia (2°50′N, 74°02′W). I soon observed that the kites were feeding on the ripe fruits of this tree. With the aid of 12× binoculars from a distance of less than 50 m I watched the kites forage for a total of approximately 30 min on two days.

The fruits of caucho negro are borne in disk-like clusters 4–5 cm in diameter and 2-2.5 cm thick, each cluster containing 10–20 aggregate fruits. Each fruit is 1.5-2 cm long and .5 cm across, with a single oblong white seed. The fruits are orange-red and juicy when ripe. The fruit clusters are fastened directly to small branches by a short stalk (Little and Wadsworth 1964). In La Macarena, caucho negro trees grow alone, widely separated in the lowland forest. Fruits were numerous on this large tree, numbering in the thousands.

To acquire fruits, kites flew into the crown of the tree at many levels, either touching the peripheral foliage or disappearing momentarily into the crown. Fruit clusters were grasped whole and broken off by the birds in flight, using one or occasionally both feet. Shortly after leaving the tree with a fruit cluster, a kite would reach below and bite into it, quickly returning the head to the normal in-flight posture. During the course of three or four bites a kite manipulated the fruiting body with its feet to obtain a better hold, but still portions of the fruit usually broke away and fell. When either the fruit cluster became too small to hold or all of the edible fruits were eaten, the bird dropped what remained. Considering the size of each fruit and the bird's apparent swallowing capacity, whole fruits including the seeds were probably ingested. Immediately after discarding the remains of a fruit cluster at a distance of 30–70 m from the tree, the kites gracefully turned back and circled into the treetop for another pass; they were skillful in taking fruit clusters on nearly every attempt. The flight pattern during feeding was semicircular, usually descending toward the tree, picking off a fruit cluster in flight, loosing altitude while eating, and ascending before the return flight. The period between obtaining a whole fruit cluster and releasing the remnants after feeding was about 5–10 s. Including the return flight time, an individual kite was able to feed on two to three fruit clusters per minute. The feeding bouts that I saw lasted at least 15 min, after which I left the area. The behavior pattern described above is similar to observations of kites maneuvering to catch insects perched on treetop vegetation (Haverschmidt 1962, Slud 1964).

Why would a predominantly insectivorous bird eat fruit? The season of the incident may provide a clue: March in this locality is usually the driest time of the year, marking the last full month of a four to five month dry season. Water balance and high temperatures during this period are likely to pose a real problem for large canopy-dwelling insects and arboreal reptiles and amphibians. These canopy dwellers may leave the treetops to take shelter elsewhere. Possibly kites may demonstrate food opportunism by switching to fruits at this season when normal food items may be scarce.

It is difficult to ascertain how widespread frugivory in kites is, but I have two reports (J. Idrobo, pers. comm., M. Cooper, pers. comm.) of Swallow-tailed Kites feeding upon unidentified fruits in Putumayo and Amazonas, southern Colombia, both areas several hundred kilometers from my observation site. Further sightings of Swallow-tailed Kites feeding on fruit are needed to evaluate the importance of this behavior. It may range in importance from isolated local occurrence to the initial stages of evolutionary change.

My work in Colombia was supported by the Smithsonian-Peace Corps Environmental Program and the Instituto de Desarrollo de los Recursos Naturales Renovables y del Ambiente (INDERENA), Bogotá, Colombia. I am grateful to J. Idrobo, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá, for identifying the rubber tree and sharing his previous observations, to M. Cooper, Hertfordshire, England, for unpublished information, and to Don Luis Lozano, a local guide and "motorista" whose knowledge of native flora and fauna was freely shared on many wilderness trips. I thank C. Leck, J. Burger, and B. G. Murray, Jr. for critically reading the manuscript.

LITERATURE CITED

BENT, A. C. 1937. Life histories of North American birds of prey. Part 1. Bull. U.S. Natl. Mus. 167: 1–409.

FISCHER, A. K. 1893. The hawks and owls of the

United States in their relation to agriculture. U.S. Dep. Agric. Div. of Ornithol. and Mamm., Bull. 3.

HAVERSCHMIDT, F. 1962. Notes on the feeding habits and food of some hawks of Surinam. Condor 64:154–158.

LITTLE, E. L., JR., AND F. H. WADSWORTH. 1964. Common trees of Puerto Rico and the Virgin Islands. U.S. Dep. Agric. For. Serv., Agric. Handbook No. 249.

SKUTCH, A. F. 1965. Life history notes on two tropical American kites. Condor 67:235–246.

SLUD, P. 1964. The birds of Costa Rica. Bull. Am. Mus. Nat. Hist. 128:1–430.

SUTTON, I. D. 1955. Nesting of the Swallow-tailed Kite. Everglades Nat. Hist. 3:72–84.

WETMORE, A. 1965. The birds of the Republic of Panama. Part 1. Smithson. Misc. Collect. 150:1–483.

Zoology Department, Ecology Program, Rutgers University, New Brunswick, New Jersey 08903. Accepted for publication 27 November 1978.

Condor, 81:208

NEST AND EGGS OF THE WHITE-BROWED TAPACULO (*SCYTALOPUS SUPERCILIARIS*)

EDMUND W. STILES

Of the twelve species of *Scytalopus*, largest genus of the Rhinocryptidae (Meyer de Schauensee, A guide to the birds of South America, Livingston Publ. Co., 1970; Ridgely, A guide to the birds of Panama, Princeton University Press, 1976), the nest and eggs have been reported for only the Andean Tapaculo (*Scytalopus magellanicus*; Johnson, The birds of Chile and adjacent regions of Argentina, Bolivia, and Peru, Vol. II, Platt Establecimientos Graficos, 1967). On 7 November 1972, I found a nest of the White-browed Tapaculo (*S. superciliaris*) in an alder forest (*Alder jorullensis*) at 1500 m elevation (27°21′S, 65°58′W) near La Banderita, Tucuman Province, Argentina. Single-species stands of this tree occur at mid-elevations from Costa Rica to Argentina, but this tapaculo is characteristic of them only in Bolivia and Argentina.

The nest was in a tunnel between the roots of a flowering shrub that grew on a slope of a wooded ravine. Ferns, *Oxalis*, and other herbs grew in the rich loam soil. I observed an adult bird enter and leave the tunnel. The round entrance tunnel, 7 cm in diameter and 30 cm long, turned slightly to the left before reaching the nest chamber, the top of which was 15 cm under the ground. The chamber was 12 cm in horizontal diameter and 10 cm in height. The nest was a cup (Fig. 1), 5.0 cm in inside diameter, 11.5 cm in outside diameter, and 4.5 cm in outside height. It was made of roots, grasses and forbs with a lining of finer strands plus a few body feathers and three flight feathers (one from a Brown-capped Tit-spinetail, *Leptasthenura fuliginiceps*). Two white eggs, in an early stage of incubation, measured 24.5 and 25.0 by 19.0 mm. *S. m. magellanicus* builds a "complete nest of root-fibers, mosses and lichens, lining it with slender grass stems or horse hair" (Johnson 1967). It may be situated above the ground on a tree branch, in a crack between the bark and trunk, or on the ground in a tangle of roots. *S. m. fuscus* also builds a complete nest but "at the end of a 2 foot corridor or tunnel running through the tangle of thick vegetation growing over the face of such a miniature waterfall and parallel to it" (Johnson 1967).

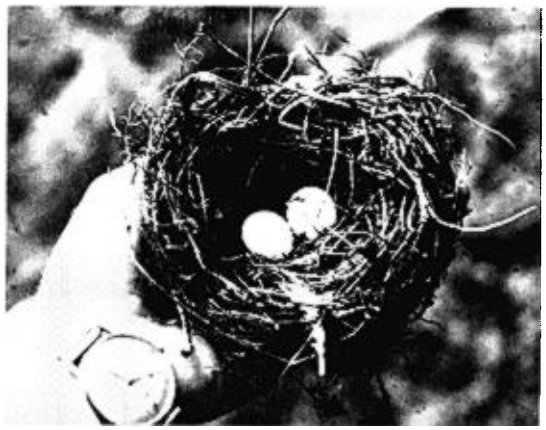

FIGURE 1. Nest and eggs of the White-browed Tapaculo.

Neither race of *S. magellanicus* builds its nest in an excavated tunnel as does *S. superciliaris*, but the nest cups are very similar. Within the Rhinocryptidae, similar nest tunnels are excavated by members of the genera *Scelorchilus* (Johnson 1967) and *Teledromas* (Wetmore, U.S. Natl. Mus. Bull. 133:289–293, 1926), and longer tunnels, to three meters, by *Pteroptochos* (Johnson 1967). These birds differ from *Scytalopus* in that their nesting cavities are lined with grasses and that no complete nest is constructed.

I would like to thank M. S. Foster and E. O. Willis for helpful comments on the manuscript. This work was supported by a Doctoral Dissertation Improvement Grant from the National Science Foundation.

Department of Zoology, Rutgers University, Piscataway, New Jersey 08854. Accepted for publication 29 July 1978.