

I suspect that a search of abandoned fields and pastures in the Costa Rican highlands will yield additional sight records of Lincoln's Sparrow and a first Costa Rican specimen. Unfortunately, it was not possible to capture or photograph these birds. I thank F. Gary Stiles and Eugene Eisenmann for commenting on this manuscript. I also gratefully acknowledge the support of National Science Foundation grant #DEB76-10787.—ELLIOT J. TRAMER, *Department of Biology, The University of Toledo, Toledo, Ohio 43606. Accepted 4 Sept. 1978.*

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An incident of Blue Jay predation on a House Sparrow.—Few instances of Blue Jay (*Cyanocitta cristata*) predation on other, mature birds have been documented. Johnson and Johnson (*Wilson Bull.* 88:509, 1976) reported Blue Jay predation on a mature Yellow-rumped Warbler (*Dendroica coronata*) in a residential section of Temple, Texas. Bent (*U.S. Natl. Mus. Bull.* 191, 1946) states that in addition to robbing nests of both eggs and young, the Blue Jay undoubtedly kills adult birds on occasion.

On 21 August 1977, I observed an attack by a Blue Jay on an adult, female House Sparrow (*Passer domesticus*) at Muhlenberg College in a residential area of Allentown, Pennsylvania. The sparrow was dust bathing in a parking lot while being watched by the jay perched less than 25 m away in a spruce tree. The jay dived and pounced on the sparrow and immediately began pecking it violently about the neck. A few seconds later the jay flew back to its perch leaving the stunned sparrow lying in the parking lot. Again the jay dived and pounced on the sparrow's back decapitating the bird with a few more pecks on the neck. The jay grabbed the sparrow's body in its claws and flew to the spruce where it began to feed. In a short while the sparrow's body was dropped to the ground and the jay flew out of sight. Inspection of the sparrow's body revealed that the jay had fed on the breast region after having plucked the feathers from the area.

Prior to the attack, both birds appeared normal and healthy. Observation of the sparrow revealed no conspicuous physical defects (such as difficulty in walking or flying) that might have attracted the Blue Jay's attention. Climatic and food stresses were probably not factors to be considered at this time of year. Perhaps dust bathing and its attendant postures and movements could have given an air of vulnerability to the sparrow.—TERRY L. MASTER, *Dept. of Biology, East Stroudsburg State College, East Stroudsburg, Pennsylvania 18301. Accepted 16 Nov. 1978.*

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Long-winged Harrier predation on Wattled Jacana eggs.—Long-winged Harriers (*Circus buffoni*) prey on small birds, mammals, and reptiles (French, *A Guide to the Birds of Trinidad and Tobago*, 1973:113). Although they take eggs of various species of birds (Haverschmidt, *The Birds of Surinam* 1968:67), no records are available on the efficiencies and rates of egg predation. This note documents harrier predation on 3 nests of color-marked Wattled Jacanas (*Jacana jacana*) in coastal Guyana. The region consists of extensive rice fields crossed by dikes and canals. Observations were made with a 20× spotting scope from a 3 m-high house porch.

At 17:10 on 30 July 1977, we saw a single Long-winged Harrier cruising upwind 1-3 m above the vegetation. It hovered briefly, landed on the platform of a jacana nest that contained 4 eggs, and held its wings aloft as the pair of jacanas charged it giving alarm calls. An unmarked male jacana joined the pair in defending the nest. When not attacking the harrier, the jacanas remained 4-6 m away from it. The harrier made 4 trips to the nest, departing each time with an egg in its bill. Eggs were eaten about 30 m from the nest. The harrier revisited the empty nest twice within 5 min before departing from view. The platform of the nest was scrambled and no eggshells were found in the area.

On 11 August 1977, about 17:00, a Long-winged Harrier hovered briefly above a second nest that contained 4 eggs, and dropped out of sight for several min before rising, hovering, and descending at the same place again. After the fourth descent the harrier took flight and quartered another field. When we reached the nest all eggs were missing, the platform was disarranged, and the male stood nearby giving alarm calls. We found remains of 4 eggshells, at separate locations on the dike, about 15 m from the nest.

On 22 August 1977, about 17:30, we saw a harrier over another nest in the same drainage ditch as the second nest. The male had incubated 4 eggs since 10 August. Again the harrier made 4 descents, hovering briefly each time before dropping. Upon checking the nest we found both adults vocalizing nearby, the 4 eggs missing, and pieces of eggshells on the dike.

The 3 cases of predation were on nests that had contained 4 eggs earlier in the day. Because we were about 0.4 km away and these last 2 nests were obscured by vegetation, we couldn't see whether the harrier carried the eggs away. Here, evidence of predation is inferred primarily by harrier behavior. The jacana's anti-predator behavior was apparently ineffective against the harriers. The harriers revisited the nests within a short period of time until all eggs were removed.

The observations are interesting relative to the high rates of predation and nest destruction reported for Wattled Jacanas (Osborne and Bourne, *Condor* 79:98-105). Of 51 nests followed through hatching in the present study, 43 (84.3%) failed to produce at least 1 young. Twenty of 43 (51%) nest failures are attributed to egg removal by predators, 3 of these (13.6%) to Long-winged Harriers. It appears Long-winged Harriers are efficient and important predators on jacana eggs.

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Arboreal foraging by Cattle Egrets.—The Cattle Egret (*Bubulcus ibis*) is among the most versatile herons in foraging. It is known to use at least 14 foraging behaviors and forage in commensal association with a number of animals and other slow moving objects (Kushlan, *in* *Wading Birds*, Natl. Audubon Soc., New York, 1978:249-297). Typical foraging methods involve chasing prey or walking slowly on the ground stalking prey.

Neither Cattle Egrets nor other herons have been reported to forage arboreally, except to use branches as perches while fishing. I have seen 2 instances of Cattle Egrets foraging arboreally in south Florida. On 25 December 1976, I observed a flock of about 20 birds