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## PREDATION ON HUMMINGBIRD BY OROPENDOLA

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Predation on hummingbirds by raptors (Lowery 1938, Peeters 1963, Mayr 1966), roadrunners (Spofford 1976), flycatchers (Gamboa 1977), and orioles (Wright 1962) has been documented in temperate North America. Beebe (1950) reported Bat Falcons (*Falco rufifigularis*) preying regularly on hummingbirds in Venezuela. Boat-billed Flycatchers (*Megarrhynchus pitangua*) have been observed catching and eating hummingbirds that were concentrated at flowering *Inga* trees (Leguminosae) at Balta, Departamento de Loreto, Perú (John P. O'Neill, pers. comm.). The absence of other reports pertaining to avian predation on hummingbirds in the tropics prompts me to describe the following incident.

On 10 November 1976, I observed a flock of Dusky-green Oropendolas (*Psarocolius atrovirens*) in upper tropical zone forest on the slopes above the Rio Huari Huari, Departamento de Puno, Perú, ca. 1,300 m (69°20'W, 14°00'S). The scattered group, composed of mature and subadult birds (three males and five females), passed through the area daily, foraging primarily in epiphytes on horizontal limbs and in leaf clusters near branch tips. Seasonally flowering trees interspersed in the forest attracted many Booted Racket-tails (*Ocreatus underwoodii*) and Sparkling Violetears (*Colibri coruscans*). I noticed a male Booted Racket-tail as it flew across a large opening in the canopy. A female oropendola swooped down from a nearby tree, caught the hummingbird in mid-air, and then landed in a tree across the clearing.

After briefly mandibulating the fluttering hummingbird lengthwise in its bill, the oropendola flew off and joined the remainder of the flock lower down on the slope. Slow-flying hummingbirds such as *Ocreatus* are probably easily caught in open spaces by large flycatching birds and are not too large prey for Dusky-green Oropendolas. In November, at the beginning of the rainy season, the nests of Dusky-green and Crested oropendolas (*P. decumanus*) contained well-developed young. Concentrations of insects and hummingbirds around flowering trees could supply an additional source of protein for opportunistic species during this critical period.

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## BEHAVIORAL ADJUSTMENTS TO FLIGHTLESSNESS BY MEADOWLARKS AND TERNS

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Species of animals differ in the degree to which they can adjust their behavior in response to unusual situations. The following anecdotal observations illustrate two extremes in the ability of birds to adjust to a flightless condition.

In October 1971, while studying meadowlarks in Argentina, I captured an adult male *Sturnella loyca*, clipped one wing, and placed the bird in the decoy compartment of a live-trap. It quickly forced open the spring-loaded door, and hopped to the ground. As I tried to grab the bird, it jumped, flapped briefly, and fell to the ground less than a meter away. The bird immediately crouched and scuttled out of sight into the dense bunch grass (*Stipa* sp.). I searched for it and tried to flush it by beating the grass. I found it after nearly an hour, within two meters of where it had disappeared. After realizing that it was unable to fly, the bird had immediately adopted be-

havior typical of recently fledged meadowlarks before they are able to fly. I repeated this "experiment" with an adult male *S. defilippi*, clipping its wing and tethering it prior to release. It too made only a few flaps and then crouched and ran into the grass, until it reached the end of its tether. I tried to flush it, but it remained crouched. When I returned after an hour, it made a weak attempt to fly as I parted the grass, but then lay still, until I captured it when it began to struggle vigorously.

Contrasted with these rapid adjustments are many observations I have made on Common Terns (*Sterna hirundo*) on Long Island, New York. Before terns are old enough to fly (about age one month), they either crouch in vegetation or run from intruders. During the period when they are learning to fly, the birds jump up and down flapping their wings, before running. Once they are able to fly, in some cases immediately after their first successful flight, chicks cease running altogether, and immediately fly when approached.

Young terns are frequently rendered flightless by trauma, feather damage, or abnormal feather loss (Gochfeld, *Wilson Bull.* 85:236, 1973). Observations of banded birds known to have flown prior to becoming flightless, revealed that they jumped up