

AVIAN MORTALITY IN RESPONSE TO NOVEL SNAP TRAP BAIT IN THE CHACO OF PARAGUAY

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The western half of the Republic of Paraguay is known as the Chaco. Our study area, located within the Alto Chaco, is scrub thorn forest (Hayes, 1995), which Short (1975) described as dry woodlands. Typical vegetation includes mesquite (*Prosopis alba* and *P. nigra*), as well as Quebracho trees (*Aspidosperma quebracho-blanco* and *Schinopsis quebracho-colorado*), and various cacti, including several forms of tree cactus (*Cleistocactus* sp. and *Cereus* sp.), and ground bromeliads (*Bromelia* sp. and *Dyckia* sp.). Tree bromeliads, notably *Tilandsia* sp., are prevalent in some areas and pastures are frequently dotted or are dense with various species of *Acacia*, most waist high, but some reaching to head height or taller. Occasional bottle trees or "palo borracho" (*Chorisia insignis*) are found throughout the landscape. Vegetation is protected by thorns and spines, and leaves are modified against extreme heat and desiccation.

Our study was conducted in the political state of Boqueron which has a mean annual temperature of 24° C. Despite being the winter season, ambient daytime temperatures ranged from 7–40° C. during the study period,

July–August 1999. Mean annual rainfall for this semiarid area of the Chaco is about 750 mm (Lopez *et al.* 1987). No rain fell during the study period.

During field work at Estancia Gran Siete (GIS: 22° 30.851'S; 60° 35.986'W) and in preparation for a large scale nest predation study, we sampled for the presence or absence of potential nest predators. One of the methods employed was the standard mammal sampling approach using snap traps baited with traditional bait; i.e., peanut butter and some sort of seed, usually rolled oats (Woodman *et al.* 1996). Because of the remoteness of the site and the general absence of some supplies, we used locally available hulled sun flower seeds mixed with the peanut butter. After 60 trap nights of poor success, catching few small rodents and nothing else, we changed our bait.

To improve our chances of success while trapping we followed the advice of regional naturalists and baited our mouse and rat snap traps with what is locally called beef tallow. It is the fat just under the skin of the cow, usually with a small piece of oiled skin attached.

Small pieces, usually the size of a thumbnail or smaller were set into the bait pedal of the traps. This bait was much less likely to be carried off by insects, notably ants and beetles of various types.

Traps were checked daily, usually in the late morning or early afternoon and were rebaited at that time as necessary. During 60 nights or trapping using peanut butter and the seeds of sunflower, we experienced no avian captures. During the same 60 nights of baiting with beef tallow we quite unexpectedly encountered bird catches and associated mortality.

In one of our replicates (site No. 3), on each of the two days, four days apart, we encountered a total of four mortalities: a male Great Antshrike (*Taraba major*) at a pasture-forest site, 50 m into the forest, a male Great Antshrike at the edge of a corridor-forest site, a female Golden-billed Saltator (*Saltator aurantirostris*) at an edge of the same corridor-forest site, and a female Great Antshrike 50 m into the corridor.

All of the birds were caught by the head, each died of trauma associated with a broken neck. The first occurrence was treated as a freak event, unlikely to occur again. With the additional losses in the corridor-forest site, we discontinued the use of beef tallow as a bait and subsequently terminated the portion of the study using snap traps.

Our experience in this unique and remote habitat should serve as notice to other field researchers to exercise good judgment while attempting to sample life forms in a previously little studied landscape. We often found Golden-billed Saltators, Great Antshrikes, and Rufous-browed Peppershrikes (*Cychlaris gujanensis*) in association in corridors and in forests, or at intersections of these two habitats. After the termination of the snap trap portion of the study, we learned that Great Antshrikes could easily be baited into close proximity of human observers by doing nothing

more than tossing marble sized bits of food, especially meat or bread, into the thorn forest or its undergrowth.

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