

**FECAL MASS OF NESTLING EASTERN BLUEBIRDS
(*SIALIA SIALIS*) DECREASES IN RESPONSE TO
INCREASING NEST BOX TEMPERATURE**

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Abstract: Fecal sacs were collected from nestling eastern bluebirds (*Sialia sialis*) reared in wooden nest boxes to evaluate nestling response to changes in nest box temperature. Samples were collected at approximately 8 a.m. and 3 p.m. during June and July 2009. Samples were weighed, dried at 121° C for 24 hours, and re-weighed after drying. Nest box temperatures were recorded at each sampling occasion using a hand-held infrared thermometer. Mean morning and afternoon nest box temperatures were significantly different; morning temperature mean was 24.3° C (range 16.38 - 28.7 ° C) and afternoon temperature mean was 33.8° C (range 27.12 - 38.77 ° C). Both wet and dry fecal mass decreased with increasing nest box temperature. For most of the fecal sacs collected in the afternoon, the difference between wet fecal mass and dry fecal mass was less for nest boxes having a 10° C or greater difference between morning and afternoon temperatures than for nest boxes with a less than 10° C difference.

**HOME RANGE SIZE AND HABITAT USE BY LONG-
TAILED MANAKINS (*CHIROXIPHIA LINEARIS*) IN CLOUD
FOREST ECOSYSTEMS OF
COSTA RICA**

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Abstract: Home range size and habitat use by many nearctic migrants and North American breeding birds have been well studied; however, far less is known about many neotropical resident birds. We examined home range size and habitat use by Long-tailed Manakins (*Chiroxiphia linearis*) in cloud forest ecosystems in Costa Rica. Home ranges were quantified using three different

techniques, and habitat use was determined at 2 scales, second and third order (Johnson 1980). Results showed that home range size differed significantly between 2 of the 3 home range estimators, and that third order habitat selection varied depending on which home range estimator was used. Care must be taken when selecting one home range estimator over another, as we show that both home range estimates and habitat selection classifications can be affected by the which tool is used.

Literature Cited

Johnson, D.H. 1980. The comparison of usage and availability measurements for evaluating resource preference. *Ecology* 61:65-71.

METHODS TO REDUCE AVIAN BY-CATCH IN SMALL MAMMAL STUDIES USING SNAP TRAPS

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Abstract: Avian by-catch, a common and undesired occurrence in small mammal studies, should be minimized by researchers. We examined trap covering, treadle color (copper or yellow plastic), trap size (mouse or rat), and trap weathering (traps <1 yr or ≥1 yr old) on avian by-catch during 3 years. We found that covered traps caught 81% fewer birds and 70% fewer small mammals than did uncovered traps, that mouse traps caught 30% more birds and 38% more small mammals than did rat traps, and no capture differences for treadle color or trap weathering. Covered traps effectively reduced avian by-catch and should be used when reduced small mammal capture rates are acceptable.