

Research indicates that a more extensive survey of the chiropteran fauna of the forest was undertaken. Materials and methods included the use of various numbers of standard Japanese mist nets to capture bats in the Luquillo Experimental Forest. Netting areas incorporated locales on the grounds of the El Verde Field Station (360 m), positions along the entrance road to the station, and various sites within the forest to the South of the Quebrada Sonadora. Moreover, bats were captured within the El Yungue Quadrangle at the base of the El Toro Trail (750m). Nets were opened at dusk and closed no earlier than 2300 hours. [See Appendix 1 for a complete summary of netting records.]

Sacrificed specimens were identified, aged, sexed, and measured (total length, tail length, hindfoot length, ear length, and tragus length) according to standard museum procedures (DeBlase and Martin, 1981). Also, dissections were performed on the specimens to ascertain reproductive condition and to determine stomach contents. Specimens were preserved in a buffered 10% formalin solution and housed at the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania.

Results and discussion revealed, as expected, that the bat fauna of the Luquillo Forest was depauperate in comparison with continental tropical rain forests and other comparable sites on islands of the Greater Antilles in terms of species richness and species densities. One hundred fifty-three specimens were captured during 23 nights of netting; 66 specimens were released after capture while 87 specimens were sacrificed for further analysis (see Table 1). Two new species of bats (*Brachyphylla cavernarum* and *Eptesicus fuscus*) for the Luquillo Forest were captured, while *Pteronotus parnellii* was recorded for the first time from the Caribbean National Forest at El Yunque. Unidentified aerial insectivores frequently foraged above the forest canopy; however, numerous attempts to capture specimens with mist nets proved unsuccessful. Digestive tracts from approximately 20% (17 individuals) of the

"Sacrificed specimens contained food (Table 1). Fruits of *Cecropia peltata* appeared to be the main dietary constituent for both of the common Frugivores (*Artibeus jamaicensis* and *Stenoderma rufum*). Two specimens of *A. jamaicensis* also contained *Piper* seeds.

Both *A. jamaicensis* and *S. rufum* exhibited high levels of reproductive activity during June and July. Sixty-eight percent of the adult female *A. jamaicensis* were pregnant and/or lactating while 100% of the adult female *S. rufum* were pregnant and/or lactating during the course of the study. This indicates that like other tropical bats (Wilson, 1979; Willig, 1982), these species give birth at the beginning of the rainy season, thereby maximizing the quantities of food available during periods of high physiological stress (lactation).

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Tamsitt, J.R. and O. Valdivieso. 1970. Observations on bats and their ectoparasites. In: A Tropical Rain Forest, (H. T. Odun)."

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"And R.F. Pigeon, eds.), pp. 123-128. U.S. Atomic Energy Commission; Oak Ridge, TN. Willig, H.R. 1982. A comparative ecological study of Caatingas and Cerrado Chiropteran communities: composition, structure, morphometrics, and reproduction. Ph.D. Dissertation, Univ. Pittsburgh. 324 pp. Wilson, D.E. 1979. Reproductive patterns In: Biology of Bats of the New World Family Phyllostomatidae. Part II. Special Publ., The Museum, Texas Tech. Univ., 16:317-378."

"Table 1. Relative abundance of bats (based on netting samples) and stomach contents of sacrificed individuals. Values in parenthesis indicate the number of preserved specimens retained for stomach analysis. Number of Individuals: *Artibeus jamaicensis* Frugivore 90 (48), *Piper. relensennse*, *Stenoderms rufun* Frugivore 50 (35), *Cecropia peltate*, *Nonophylus.rednani* Nectarivore 8 (5), *Brachyphylla cavernarum* — Frugivore, *Eptesicus fuscus* Insectivore, *Pteronotus parnellii* Insectivore. Total 153° 87."

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