

**Professor:**

*Fernando Bird-Picó, Biology*  
Phone 787-832-4040 x. 3425  
[F\\_Bird@rumac.uprm.edu](mailto:F_Bird@rumac.uprm.edu)

**Students:**

*Alberto R. Puente Rolón*  
*Irma Maldonado*  
*Rolando Ortiz Toro*

**Use of RS/GIS with radio telemetry in the analysis of home range, movements, Activity patterns and habitat characterization of the Puerto Rico Boa (*Epicrates inornatus*) at Mata de Plátano Reserve in Arecibo, Puerto Rico**

The Mata de Plátano Reserve is located 7 km southwest of Arecibo, Puerto Rico. Cueva de los Culebrones (Snake's Cave) is located within the reserve. Radio telemetry was used to determine the home range, activity and movement patterns of *E. inornatus*. Eleven snakes (six females and five males) were fitted with transmitters. Average home range area for females was 7,800 m<sup>2</sup> whereas males average home range was 5,000 m<sup>2</sup> using the minimum convex polygon method. The mean area used during the non-reproductive period by females was 22,119 m<sup>2</sup> and for males 1,326 m<sup>2</sup>. During the reproductive period all radio-tracked females used mean areas of 16,940 m<sup>2</sup> and all males used 18,500 m<sup>2</sup>. Ten radio-tracked snakes returned at least twice to the cave. Females were active on 29% of the observations, whereas males were active 36%. Significant sexual differences in home range were absent in *E. inornatus*, although a tendency for females to have a bigger home range was observed. Movement behavior showed by *E. inornatus*, has notable implications for surveys and sites assessment. Sites should therefore be managed to ensure that all features needed by the species are available within relatively discrete patches; thus feeding and thermoregulatory requirements and the provision of shelter and protection should be available within a limited area. The use of remote sensing techniques and geographical information systems applications should be incorporated in the assessment of critical habitat designation in the management of endangered species.