

Smithsonian Tropical Research Institute

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1200 Howler Monkeys on Panama's Barro Colorado Island

The fifth Howler Monkey census at the Smithsonian's Barro Colorado Island research station in Panama, organized by Katie Milton, professor in the department of Environmental Science, Policy & Management at the University of California, Berkeley, revealed that monkey numbers have not changed significantly since the first census 33 years ago.

Long before dawn on March 19 and 20, Katie Milton and a group of stalwart volunteers, each armed with flashlight and compass, spread out into the jungle to find 35 predetermined listening stations marked on their maps of the island.

Just before sunrise, howler monkeys launch into a chorus of howls, roars and barks. From 5:15 am until 6:30 am, each volunteer recorded the time and direction of these vocalizations and estimated the distance to each group that they could hear from their stations. As they walked back to the lab in the early morning light they noted locations of any monkey groups they saw.

"It amazes me that volunteers want to get up at 4 am to walk through the dark forest alone for an hour or more—but it is a thrill when they hear that first howl and know the dawn chorus is beginning," said Katie Milton.

Lines drawn on a map from each station toward the compass angle of the observed sounds intersect, marking the estimated location of each group. Based on this technique called triangulation Milton estimated that there are 60-70 groups on the island. By multiplying the number of groups by the average number of individuals in a group—between 17 and 18 monkeys— she concluded that there are roughly 1200 individuals in fairly evenly spaced groups.

Census volunteers always include internationally known ecologists: Smithsonian staff scientists and visiting scientists as well as current students and fellows. Barro Colorado's game wardens and two Panamanian national forest police manned some of the most inaccessible listening stations. Eight highly-motivated students from the University of Panama arrived on the Island on March 18th to participate in a 2-day workshop on determining primate densities that included volunteering for the count.

Milton organized the first island-wide group count in March, 1977. That census also revealed approximately 65 groups and thus, around 1200 monkeys.

“It doesn’t look like howlers on Barro Colorado have suffered from any devastating diseases or other catastrophic problems for the last three decades,” said Milton, “groups are larger at some times of year and smaller at others, which seems to reflect births and the specific causes of death that affect different ages of monkeys at different times of the year.”

The Smithsonian Tropical Research Institute, headquartered in Panama City, Panama, is a unit of the Smithsonian Institution. The institute furthers the understanding of tropical nature and its importance to human welfare, trains students to conduct research in the tropics and promotes conservation by increasing public awareness of beauty and importance of tropical ecosystems. Web site: www.stri.org.

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Audio Files of Howler Monkeys and Interview with Katie Milton

<http://biogeodb.stri.si.edu/bioinformatics/dfm/metas/search/stxt:howler/type:Audio>

Photo caption: Baby Howler Monkey with bot fly lesion on neck.

An ongoing study of the cause of death of howler monkeys on Barro Colorado has identified the howler monkey bot fly, *Cuterebra baeri*, as the single most important factor. Very young monkeys are the most affected.

Photo caption: Howler monkey eating *Astrocaryum* fruit.

Photo: Greg Willis.

Image 1877: Photo caption

Eight University of Panama students participated in a pre-census workshop. Shown plotting the locations of howler groups on a map of BCI after the census are: David Natera, Karis Tunon, Darlene Mitre, Claudio Monteza, Luis Yepes, Orlando Ortiz Castillo, Anita Arcia Mendoza. (Jose Alejandro Ramirez Silva, not pictured, also participated.)