



Angus Singleton
64 Thirlestane Road
Edinburgh
EH9 1AR

Report For The Davis Expedition Fund

Radio telemetry study of habitat use and movement patterns of the endemic pygmy spotted skunk in Jalisco, Mexico.

I will be based at a research station belonging to the Universidad Nacional Autonoma de México, in a coastal area of tropical dry forest. I will be studying the pygmy spotted skunk (*Spilogale pygmaea*) as part of a larger study of the area's small carnivore community. This animal is endemic to Mexico, though its exact range is unknown due to lack of data. There have been very few previous studies of this species in the wild, and these only detail diet or reported observations. It is thus important to collect baseline ecological information about the skunk's habitat requirements and utilisation for consideration in conservation or land management decisions.

The project this will form part of a study headed by Dr John Laundré and Carlos Lopez Gonzalez (MSc) which is currently underway investigating interactions within the small carnivore community. Tropical dry forests are endangered and support a high diversity of species. The study aims to determine the processes by which this high species diversity is maintained, with a view to preserving it in the face of rapid development of the surrounding area.

The station is a modern facility complex with a library, computer and fax facilities, and several laboratories. There are maintained trails cut from the station into the forest, which are used for trapping, and subsequent animal monitoring.

Skunks will be caught in baited box traps set by the trails over night and checked every morning. Skunks which are caught will be sedated, weighed, measured and ear tattooed. They will then be fitted with radio collars and released. Four skunks have already been caught and radio collared in the study so far, and catching more is not expected to be a problem. The area is suitable for telemetry studies, as trails, outlooks and towers allow easy and accurate relocation of animals

I will relocate the animals daily by triangulation to calculate home range sizes and determine ranging patterns. They will also be monitored during 24 hour telemetry sessions to determine daily movement patterns. The focuses of my study will be to identify and characterise habitat requirements of the skunks, and to examine their movement patterns in relation to the information from other radio collared carnivores in the area.

The density and numbers of skunks present will be calculated from trapping success, and information from camera traps and scent stations. Camera traps are cameras wired up to motion sensors placed by trails. Scent stations are cleared patches of ground in which attractant pellets are placed. The tracks of any animals investigating these can then be seen. This information will be compared to skunk densities estimated from home ranges calculated by radio telemetry.

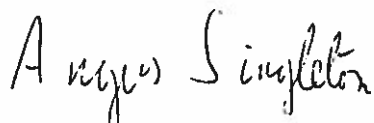
It is necessary to make two trips because of the intense seasonality of the area. Water is readily available during the wet season - and may even impose constraints through flooding. In the dry season water appears to be a severely limiting resource to many animals. It is thus necessary to study the animals in both seasons to see the full picture.

As my project will form a part of John and Carlos' carnivore community study, the trapping and telemetry equipment that I need is already present for their study and available for me to use. I will also have their help with initial animal handling. The handling techniques used have been approved by the Animal Welfare Committee of Idaho State University. My presence will allow greater focus on the study of this largely unknown species than would otherwise be possible within the scope of the larger study.

I have visited the study area before in September 95 to help with trapping and telemetry. I am thus familiar with the area and the techniques used there. In addition in the summers of 93, 94, and 95 I have been involved with a radio telemetry study of cougars in Idaho also conducted by the same scientists. I am therefore experienced at using radio telemetry in scientific studies, and familiar with the equipment I will be using. I also know the scientists I will be working with and am confident of their ability and that we can work well together.

Thank you for your interest in this project, and I hope I have answered your queries to your satisfaction. I will be happy to explain further any area you would like to know more about.

Yours Sincerely

A handwritten signature in cursive script that reads "Angus Singleton". The signature is written in dark ink and is positioned above the printed name.

Angus Singleton