

Preliminary Survey for Spiders on Nevis, West Indies

The distribution and habitats of spider fauna in the West Indian islands are poorly known. Lists to the species level are available only for Barbados (G. Alayón and J. Horrocks, unpubl.) and Cuba (Alayón 1995). The spiders of Trinidad have been surveyed at the family level (Cutler 2005, Sewlal and Alayón 2007, Sewlal and Cutler 2003), but at the species level only for the Salticidae (Cutler and Edwards 2002).

During January 2006, we spent two weeks on the island of Nevis with the aim of collecting a substantial part of the spider fauna in a broad variety of habitats. Nevis is a compact oceanic island with an area of 93 km², situated in the northern Lesser Antilles 17°10'N 62°35'W. It is relatively topographically simple, with a gradual rise on all sides from the shore to a central peak at 985 m. Nevis has range of natural and secondary habitats that include montane forest, elfin woodland, palm brake, grassland, coastal scrub, dry woodland and farmland. (Robinson and Lowery 2000).

Sampling took place at 14 localities dispersed throughout the island. Our main collecting method was through visual search, both at the ground level and above ground, including in shrubs and low trees. We supplemented this with sweep-netting, especially of coral vine (*Antigonon leptopus*) and other roadside flowering plants that attract insects, which in turn attract spiders. In addition, we searched many more cryptic microhabitats, especially under rocks and rotting logs.

Specimens collected were deposited in the Land Arthropod Collection of the University of the West Indies, St. Augustine, Trinidad and Tobago.

In nine habitat types, we collected a total of 29 species of spiders representing 12 families (Table 1). Our brief exploration of the montane forest and elfin woodland on Nevis Peak was made under difficult conditions and yielded no spiders.

We found 16 of the 29 species each in only one habitat type (Table 1). The most ecologically diverse species, by this measure, were the very abundant *Gasteracantha cancriformis* and *Leucauge regnyi*, recorded from seven and six habitats, respectively. The garden habitat yielded the greatest number of species, 13, and the foothills and palmbrake the lowest, each with two species. More than half of the species were in the orb-weaving families Araneidae and Tetragnathidae.

Our collecting effort was not an exhaustive survey but an attempt to find a large number of species in a diversity of habitats. Some of our quantitative comparisons are probably an artefact of this approach. As an example, it is much easier and more pleasant to collect in a garden than in the steep-sided, densely-vegetated palmbrake. Even so, there is reason to expect

tropical gardens to be very biodiverse, so that the high yield of specimens in this habitat is probably not misleading. Similarly, we spent much less time in coastal scrub than in some other habitats.

A more important source of potential bias is in our collecting method, which was directed mainly toward species that can be seen under ordinary circumstances. This undoubtedly accounts for the heavy preponderance of web-building spiders, especially of the orb-weaving families. While our results represent a good beginning, the use of methods suited to collect leaf-litter-dwelling and other cryptic spiders can be expected to yield many additional records.

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REFERENCES

- Alayón G., G. 1995. Lista de las arañas (Arachnida: Araneae) de Cuba. *Cocuyo (Havana)* (4): 16-26.
- Cutler, B. 2005. Synotaxidae, another Trinidadian Spider (Araneida) Family. *Living World, J. of the Trinidad and Tobago Field Naturalists' Club*, 2005:49.
- Cutler, B. and Edwards, G.B. 2002. The jumping spiders (Araneae: Salticidae) of Trinidad and Tobago. *Living World, J. of the Trinidad and Tobago Field Naturalists' Club*, 2002:39-44.
- Sewlal, J.N. and Alayón, G. 2007. Four more Trinidadian Spider (Arachnida:Araneida) families. *Living World, J. of the Trinidad and Tobago Field Naturalists' Club*, 2007:85.
- Sewlal, J.N. and Cutler, B. 2003. Annotated list of spider families of Trinidad & Tobago (Araneida). *Living World, J. of the Trinidad and Tobago Field Naturalists' Club*, 2003:9-13.
- Robinson, D. and Lowery, J. 2000. *The Natural History of the Island of Nevis*. Charlestown, Nevis: Nevis Historical and Conservation Society. 69p.

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