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# Acadia National Park Spider Blitz: An Overview of Results

Richard Bradley

Ohio State University

Over the July 21, 2007 weekend, 58 professional and amateur entomologists and other interested persons spent 2,553 hours participating in a 24-hour spider bio-blitz at the Schoodic Peninsula section of Acadia National Park. The bio-blitz was one of the many programs coordinated through the National Park Service's Schoodic Education and Research Center to foster interdisciplinary research and science education to enhance the understanding of Acadia National Park's natural and cultural resources and to offer science education opportunities for people of all ages and abilities. The blitz was sponsored by the National Park Service, Maine Forest Service, Maine Entomological Society, and University of Maine.

During the bio-blitz, participants sampled a total of 57 different locations using a variety of collecting techniques. Drs. Daniel Jennings (retired, US Forest Service) and Richard Bradley (Ohio State University) performed species determinations on all of the spider specimens.

The collecting effort yielded 1,040 adult specimens representing 18 families, 101 genera, and 151 species. Of these, 89 species had not been recorded previously on the Schoodic Peninsula. According to Dan Jennings, one species, *Porrhomma pallidum* Jackson, 1913, is a Palearctic species that until recently had not been collected in North America. Dr. Jennings has recently collected this species (both males and females) elsewhere in Maine. There is one other species, *Sciastes* sp. (near *extremus* Holm 1967), that may be an introduction or an extreme range extension. This, along with 4 other specimens (all erigonine Linyphiidae), remain to be confirmed. Six species that were collected during the blitz are new state records for Maine. One of these, the wolf spider *Pardosa palustris* (Linnaeus, 1758), may represent the first record for the conterminous United States.

As expected, the various collecting methods captured different assemblages of spider species. The most productive method (in terms of number of spiders collected) was sweeping (314 specimens representing 53 species). The various pit fall traps yielded 264 specimens of 65 species. Hand collecting provided 274 specimens of 74 species. Beating yielded 103 specimens and 37 species. Litter extraction produced 64 specimens and 38 species. Thus, if we assume that number of spiders is a reasonable measure of effort, litter sampling yielded the maximum number of species per unit collecting effort. This is likely a result of the fact that tiny erigonid linyphiids, the most speciose group of spiders in our area, are chiefly collected by litter extraction.

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The composition of the collection of spiders from the blitz held some surprises for me. There were fewer species of ground spiders (Gnaphosidae), ground sac spiders (Corinnidae), and jumping spiders (Salticidae) than I would have anticipated based on my Ohio collecting experience. The dominant families (in terms of number of specimens and species) were not as surprising. The most specimens and species were sheet weavers (Linyphiidae), with 54 species represented among 292 individuals. The second most abundant spiders were the cobweb weavers (Theridiidae), with 269 individuals of 20 species represented. An astounding 48% (128) of these were specimens of one introduced species *Enoplognatha ovata*. At least it is an attractive species, well known for its distinctive color polymorphism. The generally large and obvious orbweavers (Araneidae) were not particularly abundant, 101 specimens of 8 species, but this can probably be ascribed to the fact that they mature in late summer/autumn and many individuals were probably immature at the time of the blitz and were thus discarded as unidentifiable.

There is still work to do in the form of additional verification of determinations, as well as analysis of the habitat associations of the spider species. Nevertheless, it is clear that last year's spider blitz was a great success. Thanks to the efforts of dedicated volunteers, we now know much more about the diversity of spiders in Acadia National Park, and on the Schoodic Peninsula in particular.

I would like to thank everyone involved in the planning and execution of the blitz, in particular the staff of the National Park Service (David Manski and Jim McKenna) and Maine Forest Service (Charlene Donahue). Daniel Jennings is the real spider expert in Maine. As I'm sure everyone realizes, this effort could not have been successful without his expert help, local knowledge, and sage guidance. I would also like to thank the National Park Service for permission to study on lands under their care (Permit# ACAD-2007-SCI-0033).