

Spiders of the Southern Appalachians, July 15th-26th 2019.
Highlands Biological Station, Highlands, NC.

Four credit hours.

Instructors

Kefyn M. Catley PhD
Professor Emeritus
Department of Biology
Western Carolina University
(615) 289 8923
kcatley@wcu.edu

Sarah D. Stellwagen PhD
Postdoctoral Researcher
Department of Biological Sciences
University of Maryland, Baltimore County
sstellw@umbc.edu

This seminar will present a comprehensive introduction to spider systematics, morphology, behavior, physiology, and ecology in daily morning and/or evening lectures and discussions. Afternoons are devoted to fieldwork, with the objective of assembling a significant collection of the extraordinarily rich local spider fauna while studying spider ecology and behavior. Typically we collect 28-30 families of spiders during the course. Evenings will be available for students to work on identification. It is expected that you spend as much time as necessary working on your collections in the lab. During the course we will view spider videos, have informal discussion sessions on aspects of spider biology, systematics, evolutionary biology etc. If you have something to share, please bring it.

Prerequisites: general biology, ecology, or permission of instructor.

Lecture/discussion sessions will include at least the following topics; Introduction to Spiders (overview of families, collecting tips); External Morphology (characters used for identification), class identification session: Spider Systematics (spider phylogeny, paleontology, history of spider taxonomy); Behavior, Ecology, Biodiversity; Internal morphology and physiology (digestion, excretion, chemical production, toxins, pheromones, silk chemistry and production etc.).

Materials to bring

Small daypack

Collecting clothes; good boots/shoes, rain gear, and water bottle.

Good quality hand lens 10-15x (this is a vital piece of equipment and worth investing some \$ in).

You might like to see what BioQuip has to offer.

<https://www.bioquip.com/Search/WebCatalog.asp?category=400&prodtype=1>

Field notebook

Light colored collecting sheet (about a meter ²) – a plastic sheet or a woven synthetic rice/feed sack is ideal and can usually be got for the asking.

Headlight – a must for night collecting and far superior to a flashlight but invest in a high-power light.

Dissecting tools will be provided. However, if you already have very fine pointed forceps (#5 or finer) and a camel hair or similar very fine artist paint brush (0000) please bring them along.

Daily Schedule: Each day will consist of classroom instruction, discussion, collecting trips and identification labs. Typically class meets at 8:30 each morning for lecture presentation and discussion. Class meets each day with Sunday, July 21st off and the final collection evaluation on Saturday morning, July 27th ending by noon.

Grading for credit: A carefully determined and correctly labeled collection forms the main component of your grade (70%). Other components are a final written examination (20%), and field quizzes (10%).

Textbooks: (two are required*)

Spiders of North America: an identification manual. Second edition 2017. Edited by Darrell Ubick, Pierre Paquin, Paula E. Cushing, & Vince Roth (***required**). Available at [Spiders of North America: An Identification Manual, Second Edition](#)

This is an essential text. Please order in plenty of time. We have had issues with availability in the past.

Levi, H. W. 1990. Spiders and their Kin. Golden Guide, Golden Press, New York (***required**).

Gaddy, L. L. (2009). Spiders of the Carolinas (American Naturalist). Kollath-Stensaas Pub. (***useful picture book**).

Bradley, R. A. & Buchanan, S. (2012) Common Spiders of North America. University of California Press (***great pictorial field guide and much more**)

Kaston, B. J. 1978. How to know the Spiders, third edition. The Picture Key Nature Series. Wm. Brown Company Publishers (***useful for keying**).

Kaston, B. J. 1981. Spiders of Connecticut. Bulletin Connecticut Geological and Natural History Survey (***useful and more in depth**).

Foelix, R. F. 2010. Biology of Spiders (third edition). Harvard University Press. (***useful for spider biology not identification**).

Wise, D. H. 1993 Spiders in Ecological Webs. Cambridge University Press

At least one copy of each text will be available in the lab.

Useful web sites

Online key to the spider genera of eastern NA and useful information on their habitats

<http://research.amnh.org/entomology/blackrock2/key.htm>

Lots of bug and spider images for comparison <https://bugguide.net/node/view/15740>

Norm Platnick's World Spider Catalog. <http://research.amnh.org/iz/spiders/catalog/>

Arachnology Home page; all sorts of neat stuff about spiders and the folks who study them.

<http://www.arachnology.org/Arachnology/Arachnology.html>

Spider Tree of Life <https://www.semanticscholar.org/paper/The-spider-tree-of-life-%3A-phylogeny-of-Araneae-on-WheeleraCoddingtonb/be8125fc8c797b505a1e3a3fd46b4d170163aa8b>

The American Arachnological Society
<http://www.americanarachnology.org/>

Please feel free to email us with questions at kcatley@wcu.edu or sstellw@umbc.edu

We look forward to working with you this summer at magical Highlands!

Kefyn and Sarah