

THE ANNOTATED BIBLIOGRAPHY (i.e., the paper)

You are to choose a zoologist and become familiar with his/her literature. The annotated bibliography should include a minimum of 15 references (more than 15 are welcome). Each reference should be followed by 1-2 paragraphs that summarize that reference. You should not simply copy the abstract. I reserve the right to ask to see the references that you use. Not possessing the reference at the time of request (or being able to re-obtain the reference within one week) will result in nullification of that reference from your list of 15.

The rough draft is due by 2 November 2009, and the final draft (if needed) is due by 11 December 2009. Earlier submissions are welcome.

A sample annotated bibliography: these are two publications by E.R. Dunn, a herpetologist who died in in the 1950s. Follow this format exactly! Follow this format exactly! Follow this format exactly! Follow this format exactly! Follow this format exactly! (This means "Times New Roman" font, 12 point type, single spacing and indenting the paragraphs, and any other feature you can see and imagine.) Failure to do so will result in automatic deduction of 10 points.

Dunn, E.R. 1926. The Salamanders of the family Plethodontidae. Smith College Fiftieth Anniversary Publications, Northampton, Massachusetts. 441 pp.

While he continued to produce papers on large treatises of various groups of salamanders, lizards and snakes, this book represents the pinnacle of Dunn's career. It was the first compilation of the distribution and life histories of all the recognized plethodontid species. In addition, it remains a standard for how one can use morphology, biogeography, ecology, and systematics to provide a synthetic view of the evolutionary history of a group of organisms. Dunn's approach in this monograph is thoroughly evolutionary, which is remarkable given that it was published before the modern synthesis.

Most of the ideas presented by Dunn in this monograph remain intact today, although there have been several dramatic rearrangements in taxonomy that have emerged since 2003. The remarkable genus *Desmognathus* now is nested within the Plethodontini. This arrangement indicates that larval period can re-evolve after their loss: all members of the Plethodontini – exclusive of *Desmognathus* – exhibit direct development. The group that Dunn considered to be most representative of the ancestral plethodontid living in fast-flowing streams, i.e., *Gyrinophilus/Stereochilus/Pseudotriton*, is still considered as such.

The preface presents a romantic view of why one collects salamanders and does field biology. It is often copied, but rarely does any author approach the charm and style that is presented therein.

Wilder, I.W., and E.R. Dunn. 1920. The correlation of lunglessness in salamanders with a mountain brook habitat. *Copeia* 84:63-68.

This short paper appears to be little read, but is of significance to those who study any group of salamanders. They argue that lunglessness in the plethodontid salamanders represents an ancestral adaptation to the flowing stream environment of Appalachia. Lungs provide buoyancy, which could hamper travel against a stream flow. Since cool flowing water is oxygen-rich, and since amphibians also have cutaneous respiration as an alternative to lung-breathing, lungs in streams would prove to be a hindrance. This paper served as the basis for Dunn's mammoth monograph on the plethodontids, and through Dunn's monograph, set the stage for all plethodontid biology of the 20th century.

It also shows that the "modern revolution" in use of the comparative method that occurred during the 1980s and 1990s may not be so revolutionary after all; Wilder and Dunn utilize every principle of modern comparative biology in this short, well-written paper.

In 1989, Ruben and Boucot (1989, *American Naturalist* 134:161-169) published a serious challenge to this class hypothesis. Their challenge was supported by two subsequent papers by Reagan and Verrell (1991, *American Naturalist* 138:1307-1313) and Ruben, Reagan, Verrell, and Boucot (1993, *American Naturalist* 142:1038-1051). Beachy and Bruce (1992, *American Naturalist* 139:839-847) rejected this challenge, and Bruce et al. (1994, *Journal of Experimental Zoology* 268:377-380) provided experimental data supporting Wilder and Dunn's hypothesis. Recent phylogenetic evidence appears to support the Wilder and Dunn model.
