

Clinton L. Baker

D. S. Siegel and R. D. Aldridge

Department of Biology, Southeast Missouri State University, Cape Girardeau, MO 63107, USA (DSS)
Department of Biology, Saint Louis University, St. Louis, MO 63103, USA (RDA)

The goal of the article following this biographical note was to complete a series of studies conducted by Clinton L. Baker (Fig. 1) from the mid 1930s to the late 1960s. In his manuscripts, published mostly in the *Journal of the Tennessee Academy of Science*, Baker and his students described the urogenital anatomy of the majority of salamander families. Families not included by Baker and his students included the Hynobiidae, (previously described by Yamagiwa, 1924), Dicamptodontidae (briefly described later by de Marco, 1952), and the Rhyacotritonidae (about which no current data exist). Thus, to complete descriptions of the urogenital anatomy of salamanders, we describe the urogenital tracts of the Rhyacotritonidae.

Our decision to publish the results of our study in the *Journal of the Tennessee Academy of Science* was not only driven by Baker and his student's historical precedence, but also in celebration of his life. Clinton L. Baker (Fig. 1) graduated from Columbia University in 1933 and filled a faculty position in the Department of Biology at Rhodes College (formerly Southwestern College) in 1936 (*JTAS* obituaries, 1994). Shortly thereafter, Baker was appointed Associate Director of the Reelfoot Lake Biological Station, established by the Tennessee Academy of Science, in 1937 and subsequently took over all directorial duties in 1937 (Milton, 1969). He remained at this post for a "mere" 32 years before handing over the directorial duties to William F. Nelson in 1969 (Milton, 1969).

While overshadowed by contemporaries like G. Kingsley Nobel, Baker and his students published numerous manuscripts on the reproductive biology of amphibians that culminated in some of the only reports dedicated to the urogenital anatomy of

salamanders. These reports are still noted in new editions of comparative anatomy textbooks (Kardong and Zalisko, 2009: 174). While at Rhodes College, Baker maintained an impressive collection of giant salamanders and gonadal preps that are currently used in comparative anatomy courses (Alan Jaslow, pers. comm., Rhodes College). Such collections also feature a chimp skeleton, reportedly purchased from an inebriated sailor, although a detailed account of this story is lacking (Alan Jaslow, pers. comm., Rhodes College). Like his teaching and research collections, Baker and his wife, Louise C. Baker, were also well known for maintaining an extremely manicured yard in their community (Alan Jaslow, pers. comm., Rhodes college; former inhabitant of Baker's homestead).



Fig. 1. Picture of Clinton L. Baker (right) discussing a giant salamander spermatozoa model (presumably from a sirens; note the two undulating membranes) with a colleague. Notice the transmission electron micrographs of salamander sperm in the lower right. Source of photograph: <http://dlynx.rhodes.edu/jspui/handle/10267/278>.

Although sometimes described as irascible (anonymous former colleague, pers. comm., Rhodes College), Clinton L. Baker's generosity in times of need exemplified his devotion to Tennessee and its premier field station. For instance, during times of economic instability in the years following World War II, Baker personally funded activities at the Reelfoot Lake Biological Station (Milton, 1969).

Clinton L. Baker passed away November 2, 1993. However, his service to the Tennessee Academy of Science and contributions to the field of herpetology live on today.

A list of some of Baker's most influential papers in the field of herpetology follows.

- Baker, C. L. 1945. The natural history and morphology of *Amphiumae*. *J. Tennessee Acad. Sci.* 9: 55–91.
- Baker, C. L. 1947. The species of *Amphiumae*. *J. Tennessee Acad. Sci.* 22: 9–21.
- Baker, C. L., L. C. Baker, and M. F. Caldwell. 1947. Observation of copulation in *Amphiuma tridactylum*. *J. Tennessee Acad. Sci.* 22: 87–88.
- Baker, C. L. 1949. The comparative anatomy of the aortic arches of the urodeles and their relation to respiration and degree of metamorphosis. *J. Tennessee Acad. Sci.* 24: 12–40.
- Baker, C. L. 1962. Spermatozoa of *Amphiumae*: spermateleosis, helical motility and reversibility. *J. Tennessee Acad. Sci.* 37: 23–37.
- Austin, C. R., and C. L. Baker. 1964. Spermatozoon of *Pseudobranchus striatus axanthus*. *J. Reprod. Fertil.* 7: 123–125.
- Baker, C. L., and W. W. Taylor. 1964. The urogenital system of the male *Ambystoma*. *J. Tennessee Acad. Sci.* 39: 1–9.
- Baker, C. L. 1965. The male urogenital system of the Salamandridae. *J. Tennessee Acad. Sci.* 40: 1–5.
- Baker, C. L. 1966. Spermatozoa and spermateleosis in *Cryptobranchus* and *Necturus*. *J. Tennessee Acad. Sci.* 38: 1–11.
- Baker, C. L. 1966. Spermatozoa and spermateleosis in the Salamandridae with electron microscopy of *Diemictylus*. *J. Tennessee Acad. Sci.* 41: 2–35.
- Barker, K. R., and C. L. Baker. 1970. Urodele spermateleosis: A comparative electron microscope study. *Comp. Spermatol.* 137: 81–87.

Literature Cited

- de Marco, M. N. 1952. Neoteny and the urogenital system in the salamander *Dicamptodon ensatus* (Eschsholtz). *Copeia* 1952: 192–193.
- JTAS Obituaries. Dr. Clinton L. Baker 1904–1993. *J. Tennessee Acad. Sci.* 69: 71.
- Kardong, K. V., and E. J. Zalisko. 2009. *Comparative Vertebrate Anatomy*. 5th ed. McGraw-Hill, New York, New York.
- Milton, J. D. 1969. A History of the Reelfoot Lake Biological Station. MS Thesis, The University of Tennessee at Martin, Martin, Tennessee.
- Yamagiwa, S. 1924. Das urogenitalsystem der urodelen. *J. Fac. Agric. Hokkaido* 15: 37–82.