

Herpetological Contributions of Donald A. Merkle

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Don Merkle obtained his Ph.D. degree from Miami University of Ohio in 1975. He focused his graduate research on genetic differences among populations in two species of North American salamanders (Merkle, 1975). The results appeared in two papers published in 1977. His study of Cave Salamanders (*Eurycea lucifuga*) involved analysis of 374 individuals from 38 different localities, including two from Virginia (Merkle and Guttman, 1977). Cave Salamanders are morphologically similar across the range from southwestern Virginia west to the Missouri Ozarks (Conant and Collins, 1998). Don's analysis of 12 loci revealed little genetic differentiation across the range as well, thus corroborating the morphological data. However, he found that there were slight genetic differences in the Ozark region and south of the Ohio River. Neither population was different enough to warrant a change in the taxonomy of this species. It continues to be recognized as a full species (Crother 2012).

The other paper from his dissertation was on genetic differences among Eastern Hellbender (*Cryptobranchus alleganiensis*) populations (Merkle et al., 1977). His samples included both Eastern Hellbenders (*C. a. alleganensis*) and Ozark Hellbenders (*C. a. bishopi*), the latter only from the Ozark region in Missouri. His analysis of 24 genetic loci in 137 specimens from 12 populations throughout the range (none from Virginia) showed genetic uniformity (Merkle et al., 1977).

Don joined the faculty at Longwood College (now University) the same year he completed his dissertation. While on the faculty, he contributed several other papers, all of which were on Virginia herpetology. A third paper published in 1977, this time as a sole author, was on the occurrence of the Eastern Spadefoot (*Scaphiopus holbrookii*) in the central Piedmont (Merkle, 1977). Don discovered that genetic variation was similar among six Virginia populations of the Eastern Cottonmouth (*Agkistrodon piscivorus*) (Merkle, 1985). These are the northernmost populations in the Coastal Plain (Mitchell, 1994). He published Field Notes in *Catesbeiana* on two occasions. His first was on several new county distribution records of the Queensnake (*Regina septemvittata*) in the Virginia Piedmont (Merkle, 1987). He later reported on male and gravid female Spring Peepers (*Pseudacris crucifer*) moving across a road in Cumberland County on 10 December 2003 (Merkle, 2004). This apparently still stands as the earliest-known migration to breeding ponds by this species in Virginia. He did not note if any males were calling, although lack of this information suggests none was calling on that date.

Don was a co-author on two publications with his Master's student Jason Gibson. They published a paper on road mortality of snakes in Powhatan County (Gibson and Merkle, 2004). They documented 14 species killed on roads during 1999-2001. May/June and September/October were

the periods in which most of the snakes were active. They also published a note on reproduction by Spotted Salamanders (*Ambystoma maculatum*) in seven breeding ponds and vernal pools in Powhatan County (Gibson and Merkle, 2005). They described arrival of the first female, departure of the last female, first appearance of spermatophores and egg masses, egg survival, placement depth, and attachment substrates for the 1999 reproductive season.

Don's other professional contribution was editor of the first three issues of *Catesbeiana* in the first two volumes (1981-1982) following the change in the VHS publication format from an occasional bulletin to a formal journal in 1979. He hosted VHS meetings at Longwood College in 1979, 1981, and 2006. He attended several national meetings. He is pictured along with Joe Mitchell talking to Roger Conant in an obituary photo at the 25th anniversary of the Society for the Study of Amphibians and Reptiles in Raleigh, NC in 1982 (Mitchell, 2004, p. 31). Don published only a handful of publications on herpetology during his time in Virginia. These publications and his contributions in other ways to herpetology in general and Virginia in particular made him an important figure in the history of this field of science.

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L to R: Chris Pague, Richard Hoffman, Bob Bader, Wendy Robertson holding Joshua Mitchell, Charlie Hooper, Joe Mitchell, unknown, Don Merkle.

Photo taken at the 1981 VHS Meeting Hosted by Don at Longwood College.