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RE-IDENTIFICATION OF *ALASMIDONTA TRIANGULATA* FROM VIRGINIA. - The late Richard Hoffman recently published a paper on the identification of specimens collected in 1988 as *Alasmidonta triangulata* (Lea, 1858) from Halifax and Mecklenburg counties, Virginia (Hoffman, 2012). Both collection sites are located in the Roanoke River basin. Johnson (1970) recognized *A. triangulata* as a valid species occurring in the Ogeechee, Savannah, and Wateree River drainages of the South Atlantic slope. Hoffman (2012) reported that Clarke (1981) had examined the clinal increase in shell inflation of *Alasmidonta undulata* (Say, 1817) from Maine to South Carolina and considered *A. triangulata* to be a local variant and junior synonym of *A. undulata*.

The taxa discussed here are: *Alasmidonta undulata*, type locality is the Delaware and Schuylkill rivers [near Philadelphia, Philadelphia Co., Pennsylvania] (Johnson,

1970: 349; Clarke, 1981: 38); *Alasmidonta arcula* (Lea, 1838), type locality is the Altamaha [River], Liberty [now Long] County, Georgia (Johnson, 1970: 352; Clarke, 1981: 48); *Alasmidonta triangulata* (Lea, 1858), type locality is the Upper Chattahoochee [River], Georgia (Johnson, 1970: 351; Clarke, 1981: 38; Williams et al., 2008).

Bogan et al. (2008) reviewed the phylogenetic relationships of all extant species referred to the genus *Alasmidonta*. This genus is restricted to the eastern United States and currently contains 12 species (Clarke, 1981; Turgeon et al., 1998; Williams et al., 2008). *Alasmidonta* is divided into two subgenera, *A.* (*Alasmidonta*) is restricted to the rivers of the Atlantic Slope and *A.* (*Decurambis*) to the Mississippi River basin and the Gulf Coast (Bogan et al., 2008; Williams et al., 2008).

Analyses performed by Bogan et al. (2008) support recognizing as valid species: *A. arcula*, *A. undulata* extending from Maine to South Carolina, and *A. triangulata* restricted to the Chattahoochee River basin (Brim Box & Williams, 2000; Williams et al., 2008, 2011). Populations reported as *A. triangulata* by Hoffman (2012) from the Ogeechee River, Georgia, were identified by Bogan et al. (2008) as *A. arcula*.

The results of the genetic analyses do not support the identification of the Virginia specimens as *A. triangulata* or the occurrence of that species in Atlantic Slope rivers. This work, combined with the observations of Clarke (1981) on the clinal variation of the shell inflation and thickness, supports the identification of the Virginia specimens as *A. undulata*. Five Virginia Museum of Natural History lots of *A. triangulata* collected by Hoffman from Halifax and Mecklenburg counties were examined and re-identified as *A. undulata*. The identification of *A. triangulata* in southern Virginia, based on shell shape (Hoffman, 2012), is a misidentification.

#### LITERATURE CITED

- Bogan, A. E., M. E. Raley, Y. Huang, & J. Levine. 2008. Intraspecific phylogenetic relationships in the freshwater bivalve genus *Alasmidonta* (Bivalvia: Unionidae). Unpublished report to North Carolina Department of Transportation (Project Number: HWY-0754). 9 February 2008. 31 pp.
- Brim Box, J., & J. D. Williams. 2000. Unionid mollusks of the Apalachicola Basin in Alabama, Florida, and Georgia. *Alabama Museum of Natural History Bulletin* 21: 1-143.
- Clarke, A. H. 1981. The tribe Alasmidontini (Unionidae: Anodontinae), Part I. *Pegias*, *Alasmidonta*, and *Arcidens*. *Smithsonian Contributions to Zoology*. No. 326. 101 pp.
- Hoffman, R. L. 2012. A Virginia population of *Alasmidonta triangulata* (Lea) (Bivalvia: Unionidae)? *Banisteria* 40: 73-74.
- Johnson, R. I. 1970. The systematics and zoogeography of the Unionidae (Mollusca: Bivalvia) of the southern Atlantic Slope Region. *Bulletin of the Museum of Comparative Zoology* 140: 263-450.
- Turgeon, D. D., J. F. Quinn, A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, & J. D. Williams. 1998. *Common and Scientific Names of Aquatic Invertebrates from the United States and Canada: Mollusks*. Second Edition. American Fisheries Society, Special Publication 26. 526 pp.
- Williams, J. D., A. E. Bogan, & J. T. Garner. 2008. *Freshwater Mussels of Alabama and the Mobile Basin in Georgia, Mississippi and Tennessee*. University of Alabama Press, Tuscaloosa. 908 pp.
- Williams, J. D., R. S. Butler, & J. M. Wisniewski. 2011. Annotated synonymy of the Recent freshwater mussel taxa of the families Margaritiferidae and Unionidae described from Florida and drainages contiguous with Alabama and Georgia. *Bulletin Florida Museum of Natural History* 51: 1-84.

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