

ADAPTIVE RADIATION AND CONVERGENCE IN THE  
CAPE FEAR RIVER BASIN UNIONIDAE (MOLLUSCA: BIVALVIA)

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Recent surveys of the malacofauna of the Cape Fear River Basin have confirmed the presence of an abundant and diverse unionid fauna. Six topotypic nominal species of Isaac Lea are re-evaluated, and their soft anatomies, described for the first time. *Elliptio lanceolata* forma *nasutilla* (Lea, 1863) and *Unio merus obesus* forma *squalidus* (Lea, 1863) are shown to be valid taxa, and *Unio chathamensis* (Lea, 1863) is shown to be a synonym of *E. complanata* forma *micans* (Lea, 1857). *E. complanata* forma *micans* and *E. icterina* forma *spadicea* (Lea, 1857) of the Rocky River are shown to have diverged considerably in shell phenotypes from *E. complanata* forma *livingstonensis* (Lea, 1863) and *E. icterina* forma *lucida* (Lea, 1863) of Livingston Creek and/or the lower Cape Fear River, whereas soft anatomies remain relatively conservative at the species level. The Fall Line is shown to be an effective barrier among the congeneric populations. Genetic divergence in Cape Fear River unionids is further confirmed by distinct shell phenotypes above and below the Fall Line in *E. marsupiobesa* Fuller, 1972, *Anodonta cataracta* (Say), *Villosa constricta* (Conrad), and *V. delumbis*, (Conrad). Environmental selection for shell phenotype has resulted in indistinguishable shell homeomorphs in *E. complanata* and sympatric *E. marsupiobesa* in populations above and below the Fall Line.

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