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ON THE NON-CORRELATION OF THE NEWARK SUPERGROUP BY  
FOSSIL FISHES: BIOGEOGRAPHIC, STRUCTURAL, AND  
SEDIMENTOLOGICAL IMPLICATIONS

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OLSEN, Paul E., Peabody Museum, New Haven, Connecticut 06511  
The discovery of a member of the "*Semionotus tenuiceps* group" in the Waterfall Fm. of the Culpeper Basin of Virginia makes the complex correlation of the basalt and sedimentary formations of the Jurassic portion of the Newark Supergroup [Olsen, McCune, and Thomson (1982)] internally contradictory. Also found in the Waterfall Fm. are the "*S. elegans* group", *Redfieldius*, *Ptycholepis*, and *Diplurus*. This strongly suggests that: 1) the appealing assumption of a one-to-one correlation of Jurassic formations of the Newark and Hartford Basins may be correct after all - as suggested by the geochemical data of Puffer, Hurtubise, Geiger, and Lechler (1981); 2) members of the "*Semionotus tenuiceps* group" existed simultaneously with taxa which were supposed to define the other two fish zones of the Newark Jurassic - the patchy distribution of the fish taxa among lake deposits within the Newark Jurassic must be explained by reasons other than temporal non-overlap of the fish assemblages (reasons such as geographic barriers or chemical features of some lakes that selectively inhibited colonization); 3) it is extremely unlikely that the lakes which supported different faunas characteristic of individual formations of the basins were connected - in particular, the Newark and Hartford basins were not connected during the Jurassic in one master graben as demanded by the "Broad Terrane Hypothesis"; 4) the intimate sedimentological similarity of the Feltville Fm. (Newark Basin) to the Shuttle Meadow Fm. (Hartford Basin) and the Towaco Fm. (Newark Basin) to the East Berlin Fm. (Hartford Basin) are due to specific regional climatic factors acting in similar tectonic settings; and 5) the individual sedimentary cycles occurring in homotaxial portions of the above pairs of formations may be exactly contemporaneous, caused by the same climatic oscillations.