

## **4<sup>th</sup>** BIENNIAL SYMPOSIUM

**Freshwater Mollusk Conservation Society**

May 15-18, 2005 • Radisson Riverfront Hotel • St. Paul, Minnesota, USA

***Are your Natives Restless***

*Holistic Strategies for Conserving Freshwater Mollusks During Exotic Species Invasions*

## **MEETING PROGRAM AND ABSTRACTS**

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The Freshwater Mollusk Conservation Society (FMCS) is an organization devoted to the advocacy for, public education about, and conservation science of freshwater mollusks, North America's most imperiled fauna. Membership in the society is open

to anyone interested in freshwater mollusks who supports the stated purposes of the Society:

- advocate conservation of freshwater molluscan resources,
- serve as a conduit for information about freshwater mollusks,
- promote science-based management of freshwater mollusks,
- promote and facilitate education and awareness about freshwater mollusks and their function in freshwater ecosystems,
- assist with the facilitation of the National Strategy for the Conservation of Native Freshwater Mussels (*Journal of Shellfish Research*, 1999, Volume 17, Number 5), and a similar strategy under development for freshwater gastropods.

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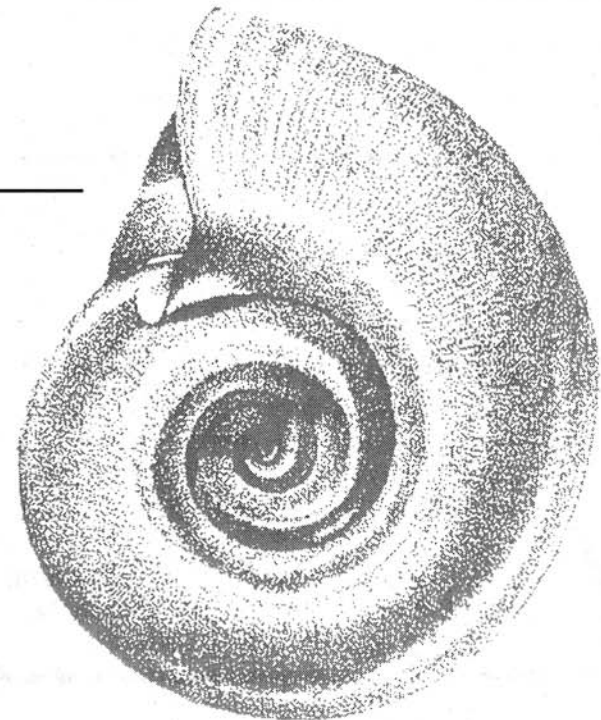
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## PLATFORM SESSION 7B

Status & Recovery

### PL 66 CONVERGENCE AND THE UNIONIFORMES.

Arthur E. Bogan<sup>1</sup> and Joseph Hartman<sup>2</sup>  
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NC 27606; <sup>2</sup>Dept. of Geology and  
Geological Engineering, University of  
North Dakota, , Grand Forks, ND 58202

A.J. Cain discussed the role of convergence of shell form in land snails. He cautioned about the under

appreciated role of convergence. A.E. Ortmann, in discussing the definition of the subfamilies of Unionidae, noted that he was not using shell characters due to problems of convergence. B. Prasad more recently discussed the similarity of shell shapes from Southeast Asia and South America. G.T. Watters has provided information on the role of shell shape and sculpture and their role in providing stability in the aquatic environment. Shell shape, disc sculpture, hinge plate presence or absence, and relation to substrate are all features that have convergent elements between the six recognized unioniform families. Recent, preliminary phylogenies provide support for the recognition of convergence of the shell form and sculpture. Historically the freshwater mussel fauna of the Late Cretaceous of the Western Interior of North America is given as the ancestor for the great modern radiation of Unionidae in the southeastern United States. Similarity of shell shape and sculpture has been used to link the Cretaceous unioniform fauna of Africa with that of modern Asia, as well as linking fossils from the Cretaceous of Montana with the modern fauna of West Africa. More interesting, the Triassic species with radial umbo sculpture from Connecticut have been linked with those species with similar sculpture of the Late Cretaceous of the western United States as the precursors of the whole hyriid fauna of South America. We use the concept of convergence in the World's modern unioniform fauna to examine the fossil record of this group and question the interpretations of these faunas based on shell shape and sculpture similarities.