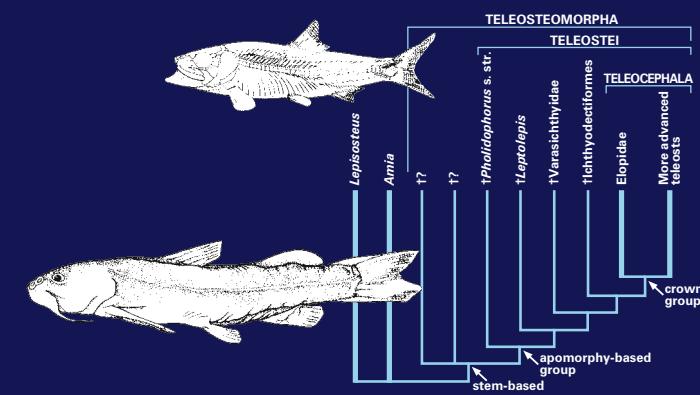


Origin and Phylogenetic Interrelationships of Teleosts

Honoring Gloria Arratia

Joseph S. Nelson, Hans-Peter Schultz &
Mark V. H. Wilson (editors)



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The origin and the phylogenetic interrelationships of teleosts have been controversial subjects ever since Greenwood, P. H., Rosen, D. E., Weitzman, S. H. and Myers, G. S. in 1966 presented a revision of teleost phylogeny. Different taxa (*Amia*, *Lepisosteus*, *Amia + Lepisosteus*, †*Pycnodontiformes*, †*Dapedium*, †*Pachycormiformes*, and others) have been proposed as the sister group of teleosts. Tremendous advances have occurred in our knowledge of Neopterygii, basal to teleosts, and in their major component the teleosts over the past 40 years. Many new key fossils have been studied, and many extant teleost clades have been traced back to the Jurassic in detailed studies by Gloria Arratia in 1987, 1996, and 2000. In addition to new fossils, a large number of new morphological and molecular characters have been incorporated in recent phylogenetic analyses, adding to our arsenal of approaches. This book gives a modern view of these approaches. It includes a compilation of synapomorphies of numerous teleostean taxa with a new proposal of their classification, a proposal that pycnodonts are the fossil sister group of teleosts, a phylogeny based on mitochondrial genome sequences, separate analyses of basal teleostean taxa (Osteoglossomorpha, Clupeiformes, Gonorynchiformes, Cypriniformes, Characiformes, Siluriformes, Salmoniformes, Esociformes) and the euteleostean Aulopiformes, karyological studies of Cyprinodontidae, and morphological analyses of the posterior part of the neurocranium. A biography of Gloria Arratia is also presented.

The book represents contributions to the symposium "Origin and phylogenetic interrelationships of teleosts" sponsored by the American Society of Ichthyologists and Herpetologists (ASIH) and organized by the three editors of this volume and held at the Society's annual meeting in St. Louis, Missouri, on 14 July 2007. At the same meeting, Gloria Arratia was honored with the Robert H. Gibbs, Jr. Memorial Award, 2007, for her outstanding contributions to systematic ichthyology. The volume presents the current state of phylogenetic knowledge of the origin of teleosts and the interrelationships of teleost groups, both key issues in fish systematics, based on both morphological (of extant and fossil taxa) and molecular evidence. The many contributors to the volume present and evaluate progress in studying both characters and taxa and in establishing databases (morphological and molecular) that will be of use in future.

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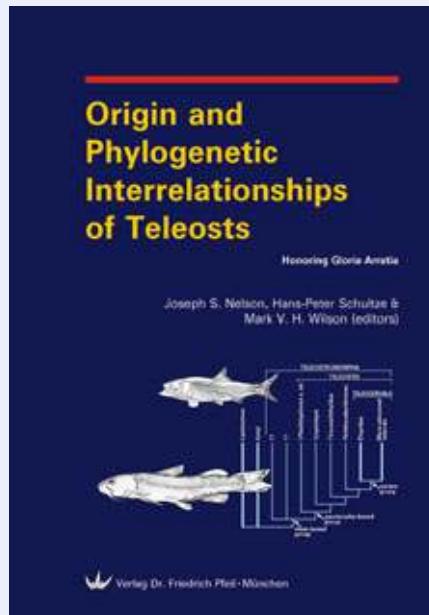
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Origin and Phylogenetic Interrelationships of Teleosts

Honoring Gloria Arratia



Proceedings of the international symposium at the ASIH Annual Meeting in St. Louis, Missouri, 2007

Nelson, Joseph S., Hans-Peter Schultz & Mark V. H. Wilson (editors)

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Contents

Preface (p. 7-9)

Acknowledgments (p. 9)

Joseph S. Nelson: Gloria Arratia's contribution to our understanding of lower teleostean phylogeny and classification (p. 11-36)

J. Ralph Nursall: The case for pycnodont fishes as the fossil sister-group of teleosts (p. 37-60)

Richard E. Broughton: Phylogeny of teleosts based on mitochondrial genome sequences (p. 61-76)

Ralf Britz and G. David Johnson: Occipito-vertebral fusion in actinopterygians: conjecture, myth and reality. Part 1: Non-teleosts (p. 77-93)

G. David Johnson and Ralf Britz: Occipito-vertebral fusion in actinopterygians: conjecture, myth and reality. Part 2: Teleosts (p. 95-110)

Lionel Cavin: The Late Jurassic ray-finned fish peak of diversity: biological radiation or preservational bias? (p. 111-121)

E. O. Wiley and G. David Johnson: A teleost classification based on monophyletic groups (p. 123-182)

Peter L. Forey and John G. Maisey: Structure and relationships of †*Brannerion* (Albuloidae), an Early Cretaceous teleost from Brazil (p. 183-218)

Eric J. Hilton and Ralf Britz: The caudal skeleton of osteoglossomorph fishes, revisited: comparisons, homologies, and characters (p. 219-237)

Zhang Jiang-yong: Validity of the osteoglossomorph genus †*Asiatolepis* and a revision of †*Asiatolepis muroii* (†*Lycoptera muroii*) (p. 239-249)

Mário de Pinna and Fábio Di Dario: The branchial arches of the primitive clupeomorph fish, *Denticeps clupeoides*, and their phylogenetic implication (Clupeiformes, Denticipitidae) (p. 251-268)

Francisco José Poyato-Ariza, Terry Grande and Rui Diogo: General overview of fossil and Recent Gonorynchiformes (Teleostei, Ostariophysii) (p. 269-293)

Kevin W. Conway, M. Vincent Hirt, Lei Yang, Richard L. Mayden and Andrew M. Simons: Cypriniformes: systematics and paleontology (p. 295-316)

Maria Claudia Malabarba and Luiz R. Malabarba: Biogeography of Characiformes: an evaluation of the available information of fossil and extant taxa (p. 317-336)

Dominique Adriaens, Jonathan N. Baskin and Hendrik Coppens: Evolutionary morphology of trichomycterid catfishes: about hanging on and digging in (p. 337-362)

Jacob J. D. Egge: Systematics of ictalurid catfishes: a review of the evidence (p. 363-378)

Mark V. H. Wilson and Robert R. G. Williams: Salmoniform fishes: key fossils, supertree, and possible morphological synapomorphies (p. 379-409)

Amanda Burdi and Terry Grande: Morphological development of the axial skeletons of *Esox lucius* and *Esox masquinongy* (Euteleostei: Esociformes), with comparisons in developmental and mineralization rates (p. 411-430)

Matthew P. Davis: Evolutionary relationships of the Aulopiformes (Euteleostei: Cyclopoecilida): a molecular and total evidence approach (p. 431-470)

Irma Vila, Sergio Scott, Natalia Lam, Patricia Iturra and Marco A. Méndez: Karyological and morphological analysis of divergence among species of the killifish genus *Orestias* (Teleostei: Cyprinodontidae) from the southern Altiplano (p. 471-480)



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