

# Ecology & Evolution of Livebearing Fishes (Poeciliidae)



Gary K. Meffe  
Franklin F. Snelson, Jr., Editors

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# Ecology And Evolution Of Livebearing Fishes

**Wenbin Ji**



## Ecology And Evolution Of Livebearing Fishes:

*Ecology and Evolution of Poeciliid Fishes* Jonathan P. Evans, Andrea Pilastro, Ingo Schlupp, 2011-09-26 The history of biology is populated by numerous model species or organisms But few vertebrate groups have aided evolutionary and ecological research more than the live bearing fishes of the family Poeciliidae Found throughout tropical and subtropical waters poeciliids exhibit a fascinating variety of reproductive specializations including viviparity matrotrophy unisexual reproduction and alternative mating strategies making them ideal models for research on patterns and processes in ecology behavior and evolution *Ecology and Evolution of Poeciliid Fishes* is a much needed overview of the scientific potential and understanding of these live bearing fishes Chapters by leading researchers take up a wide range of topics including the evolution of unisexual reproduction life in extreme environments life history evolution and genetics Designed to provide a single and highly approachable reference *Ecology and Evolution of Poeciliid Fishes* will appeal to students and specialists interested in all aspects of evolutionary ecology

*Ecology and Evolution of Livebearing Fishes (Poeciliidae)* Gary K. Meffe, Franklin F. Snellson, 1989

*Ecology, Evolution, and Behavior of Viviparous Fishes* J. Jaime Zúñiga-Vega, Bart Pollux, Jerald B. Johnson, Andrea S. Aspbury, 2022-02-24

*Freshwater Fishes of North America* Melvin L. Warren Jr., Brooks M. Burr, 2020-07-14 The highly anticipated second volume of *Freshwater Fishes of North America* a monumental fully illustrated reference that provides comprehensive details on the freshwater fishes of the United States Canada and Mexico When the first volume of *Freshwater Fishes of North America* was published it was immediately hailed as the definitive reference in the field Readers have been fervently awaiting the next volume in this encompassing three book set ever since Now complete volume 2 covering families Characidae to Poeciliidae is the result of decades of analysis by leading fish experts from universities and research laboratories across North America Each volume in this authoritative synthesis covers the ecology morphology reproduction distribution behavior taxonomy conservation and the fossil record of the included North American fish families The encyclopedic reviews of each family are accompanied by color photographs nearly 250 in this volume alone range maps and artwork created by noted fish illustrator Joseph R Tomelleri The result is a rich textual and visual experience that covers everything known about the diversity natural history ecology and biology of North American freshwater fishes Volume 2 covers the following North American families of fishes Characidae Characins Ictaluridae North American Catfishes Ariidae Sea Catfishes Heptapteridae Three barbeled Catfishes Osmeridae Smelts Esociformes Esocidae Pikes and Umbridae Mudminnows Percopsidae Trout perches Amblyopsidae Cavefishes Aphredoderidae Pirate Perches Gadidae Cods and Cuskfishes Mugilidae Mulletts Atherinopsidae New World Silversides Beloniformes Needlefishes and Halfbeaks Rivulidae New World Rivulines Profundulidae Middle American Killifishes Goodeidae Goodeids Fundulidae Topminnows Cyprinodontidae Pupfishes Poeciliidae Livebearers The chapter authors of Volume 2 are Gianetta Adams Clyde Barbour Micah Bennett Ricardo Bentancur R Peter B Z Berendzen Brooks M Burr Mollie Cashner Robert C Cashner Bruce B

Collette Matthew Davis Alice F Echelle Anthony A Echelle Fernando Galvez Michael Ghedotti Nicholas Gidmark Terry Grande Robert L Hopkins Lauren M Kuehne Frank McCormick Norman Mercado Silva Ann U O Connell Martin T O Connell Julian D Olden Claudia Patricia Ornelas Garcia Mark Sabaj Perez Kyle R Piller Steven Powers Jacob Schaefer Juan J Schmitter Soto Andrew M Simons Roger A Tabor Cheryl Thiele Matthew Thomas Melvin L Warren Jr Mark V H Wilson     *Advances in the Study of Behavior* ,1995-07-27 *Advances in the Study of Behavior* continues to serve scientists across a wide spectrum of disciplines Focusing on new theories and research developments with respect to behavioral ecology evolutionary biology and comparative psychology these volumes serve to foster cooperation and communication in these diverse fields     Fishes of Arkansas Henry W. Robison,Thomas M. Buchanan,2020-03-23 The second edition of *Fishes of Arkansas* in development for more than a decade is an extensive revision and expansion of the first edition including reclassifications taxonomic changes and descriptions of more than thirty new species An invaluable reference for anyone interested in the state s fish population from professional ichthyologists fisheries biologists and managers of aquatic resources to amateur naturalists and anglers this new edition provides updated taxonomic keys as well as detailed descriptions photographs and line drawings to aid identification of the state s 243 fish species There is also much information on the distribution and biology of each species including descriptions of habitat foods eaten reproductive biology and conservation status This project and the preparation of this publication was funded in part by a grant from the Arkansas Game and Fish Commission     **Biological Invasions and Animal Behaviour** Judith S. Weis,Daniel Sol,2016-10-13 How does behaviour affect biological invasions Can it explain why some animals are such successful invaders With contributions from experts in the field and covering a broad range of animals this book examines the role of behaviour in biological invasions from the point of view of both invaders and native species The chapters cover theoretical aspects particularly relevant behaviours and well documented case studies showing that behaviour is critical to the success and ecological and socio economic impact of invasive species Its insights suggest methods to prevent and mitigate those impacts and offer unique opportunities to understand the adaptive role of behaviour Offering a comprehensive overview of current understanding on the subject the book is intended for biological invasion researchers and behavioural ecologists as well as ecologists and evolutionary biologists interested in how organisms deal with anthropogenic environmental changes such as climate change and habitat loss     *Fish Locomotion* Paolo Domenici,2010-01-01 Fish accomplish most of their basic behaviors by swimming Swimming is fundamental in a vast majority of fish species for avoiding predation feeding finding food mating migrating and finding optimal physical environments Fish exhibit a wide variety of swimming patterns and behaviors This treatise looks at fish swimming from the behavioral and     **Animal Behaviour: Evolution and Mechanisms** Nils Anthes,Peter M. Kappeler,Ralph Bergmüller,Wolf Blanckenhorn,H. Jane Brockmann,Claudia Fichtel,Lutz Fromhage,Joachim Frommen,Wolfgang Goymann,Juergen Heinze,Katharina Hirschenhauser,Heribert Hofer,Sylvia Kaiser,Bart Kempenaers,Gerald Kerth,Judith Ingrid Korb,Kurt M. Kotrschal,Cornelila

Kraus,Martha Manser,Nico Michiels,Robin F. A. Moritz,Mario Pahl,Dustin Penn,Norbert Sachser,Martin Schaefer,Carel P. van Schaik,Jutta M. Schneider,Isabella Schreiber,Michael Taborsky,Jürgen Tautz,Fritz Trillmich,Shaowu Zhang,2010-04-03

This up to date review examines key areas of animal behaviour including communication cognition conflict cooperation sexual selection and behavioural variation Various tests are covered including recent empirical examples Advances in the Study of Behavior H. Jane Brockmann,Charles T. Snowdon,Timothy J. Roper,Marc Naguib,Katherine E.

Wynne-Edwards,2009-07-25 Advances in the Study of Behavior was initiated over 40 years ago to serve the increasing number of scientists engaged in the study of animal behavior That number is still expanding This volume makes another important contribution to the development of the field by presenting theoretical ideas and research to those studying animal behavior and to their colleagues in neighboring fields Advances in the Study of Behavior is now available online at ScienceDirect full text online from volume 30 onward A Handbook of Global Freshwater Invasive Species Robert A.

Francis,2012-03-12 Invasive non native species are a major threat to global biodiversity Often introduced accidentally through international travel or trade they invade and colonize new habitats often with devastating consequences for the local flora and fauna Their environmental impacts can range from damage to resource production e g agriculture and forestry and infrastructure e g buildings road and water supply to human health They consequently can have major economic impacts It is a priority to prevent their introduction and spread as well as to control them Freshwater ecosystems are particularly at risk from invasions and are landscape corridors that facilitate the spread of invasives This book reviews the current state of knowledge of the most notable global invasive freshwater species or groups based on their severity of economic impact geographic distribution outside of their native range extent of research and recognition of the ecological severity of the impact of the species by the IUCN As well as some of the very well known species the book also covers some invasives that are emerging as serious threats Examples covered include a range of aquatic and riparian plants insects molluscs crustacea fish amphibians reptiles and mammals as well as some major pathogens of aquatic organisms The book also includes overview chapters synthesizing the ecological impact of invasive species in fresh water and summarizing practical implications for the management of rivers and other freshwater habitats

**Ethics on the Ark** Bryan G. Norton,Michael Hutchins,Terry Maple,Elizabeth Stevens,2012-01-11 Ethics on the Ark presents a passionate multivocal discussion among zoo professionals activists conservation biologists and philosophers about the future of zoos and aquariums the treatment of animals in captivity and the question of whether the individual the species or the ecosystem is the most important focus in conservation efforts Contributors represent all sides of the issues Moving from the fundamental to the practical from biodiversity to population regulation from animal research to captive breeding Ethics on the Ark represents an important gathering of the many fervent and contentious viewpoints shaping the wildlife conservation debate **Urban Evolutionary**

**Biology** Marta Szulkin,Jason Munshi-South,Anne Charmantier,2020 Cities occupy about 3 per cent of the Earth s habitable

land area and are home to one out of two humans worldwide both estimates are predicted to grow Urban space is thus becoming an important novel ecological niche for humans and wildlife alike Building on knowledge gathered by urban ecologists during the last half century evidence of evolutionary responses to urbanization has rapidly emerged Urban evolutionary biology is a nascent yet fast growing field of research and a fascinating testing ground for evolutionary biologists worldwide Urbanization offers a great range of opportunities to examine evolutionary processes because of the radically altered and easily quantifiable urban habitat and the large number of cities worldwide enabling rigorous replicated tests of evolutionary hypotheses Urban populations are increasingly exhibiting both neutral and adaptive evolutionary changes at levels ranging from genotypes to phenotypes The novelty of urban evolutionary biology is that these changes are driven by the cities we have built including effects of infrastructure pollution and social characteristics of our urban neighbourhoods It will thereby enrich the field of evolutionary biology with emergent yet incredibly potent new research themes where the urban habitat is key In a series of sixteen chapters written by leading evolutionary biologists working on urban drivers of evolution *Urban Evolutionary Biology* is the first academic book in the field It synthesizes current knowledge on evolutionary processes occurring literally on our doorstep across the globe and in each city independently Provided by publisher *Battle Against Extinction* W. L. Minckley, James E. Deacon, 2017-08-15 A n essential addition to the library of anyone concerned with conservation of native fishes *Battle Against Extinction* provides a detailed historical review of research and management programs in a single source and serves as a prospectus for future conservation efforts Copeia

*Fish biology in Japan: an anthology in honour of Hiroya Kawanabe* Masahide Yuma, Izumi Nakamura, Kurt D. Fausch, 2013-04-17 This volume is a collection of papers assembled to honor Hiroya Kawanabe an eminent Japanese ecologist who studied fishes and other organisms Kawanabe retired from his position as Professor at Kyoto University in March 1996 In the first section of the volume his career is highlighted by a biography describing his life and work a bibliography of his more than 750 lifetime publications and a personal interview with a colleague who has been close to his work throughout his career Papers in the second section of the volume include invited reviews of research on fish ecology in Japan a historical overview of freshwater fishes of Japan and recent studies on sex change among reef fishes The 24 papers in the third section of the volume by Japanese fish biologists and their collaborators cover a wide variety of topics on fish biology These include papers on evolution genetics systematics reproductive biology early life history life history variation behavior physiology ecology and zoogeography These papers address fishes from lentic lotic and marine ecosystems in Japan Asia Africa North America and in some cases worldwide One of Hiroya Kawanabe s most brilliant and lasting contributions was to foster collaboration between Japanese ecologists and other scientists **Reproductive Biology of Teleost Fishes** Robert J. Wootton, Carl Smith, 2014-10-17 *Reproductive Biology of Teleost Fishes* is the first integrated review of the reproductive biology of the bony fishes which are the most species rich and diversified group of vertebrates Teleosts display remarkable

variation in their modes of reproduction and this volume is intended to provide a framework for understanding the remarkable reproductive diversity of this group. It describes their reproductive biology using wherever possible phylogenetic analyses and life history theory as a means to interpret the information. The book addresses the genetic, physiological, behavioural, ecological, evolutionary and applied aspects of teleost reproduction in a comparative framework that emphasises the adaptive basis of reproductive diversity. **Reproductive Biology of Teleost Fishes** provides a comprehensive synthesis of fish reproduction that will be of great interest to life scientists particularly ecologists, evolutionary biologists, physiologists and advanced undergraduates, postgraduates and research workers requiring a comprehensive overview of fish reproduction. The book is suitable for courses in fish biology and ecology, reproductive physiology and reproductive genetics. It also addresses applied questions and will be of value for courses on fisheries science and aquaculture. Libraries in all universities and research establishments where biological sciences, fisheries science and aquaculture are studied and taught should have several copies of this important book on their shelves.

**The Inland Fishes of Mississippi** Stephen T. Ross, 2001. The deluxe comprehensive guide to the native species of Mississippi. Download Plain Text version. Where was the largest bass caught in Mississippi? What streams are sometimes home to the gulf sturgeon? How can an angler tell a grass pickerel from a walleye? In *Inland Fishes of Mississippi* Stephen T. Ross answers these questions and many more. Mississippi waters are some of the richest inland fish habitats in the United States. In fact, only four states have more native fish than Mississippi's 204. *Inland Fishes of Mississippi* is for anglers and nature lovers who want to learn more about this thriving diversity. Introductory chapters present the history of the study of fish in Mississippi, the distribution patterns of species, important conservation issues and valuable information on identifying fish by examining body shape and structure. Following these are illustrated keys to all the families of fish known to inhabit inland waters. Each key is a detailed guide to identifying the specific species within a family of fish. Keys include color photographs of freshly collected examples, meanings of scientific names for fish, descriptions of color and physical changes, maximum sizes of fish including records for game fish, precise maps of distribution, vital information on habitat requirements, feeding and behavior tips on where to catch a species, status of conservation efforts. For both the casual angler and the ichthyologist, *Inland Fishes of Mississippi* will prove a constant resource and an irreplaceable asset for identifying, observing and catching the state's various species. Stephen T. Ross is professor of biological sciences and Curator of Fishes at the University of Southern Mississippi. The editor for ecology and ethology of *Copeia*, he has also published articles in numerous journals such as *American Naturalist*, *Environmental Biology of Fishes* and *Transactions of the American Fisheries Society*.

**American Aquarium Fishes** Robert Jay Goldstein, Rodney W. Harper, Richard Edwards, 2000. Aquarium species native to America.

**Genotype-by-Environment Interactions and Sexual Selection** John Hunt, David J. Hosken, 2014-09-03. Sexual selection is recognized as being responsible for some of the most extravagant morphologies and behaviors in the natural world as well as a driver of some of the most rapid evolution. While Charles Darwin

s theory is now a fundamental component of modern evolutionary biology the impact of genotype by environment interactions on sexual selection has thus far received little attention This book represents the first comprehensive analysis of the role genotype by environment interactions play in sexual selection and the potential implications that they have for the evolutionary process The Editors have identified 13 topics that currently define the field and shed light on the impacts of these interactions on sexual selection This includes key topics such as resolving the lek paradox and how genotype by environmental interactions can compromise the honesty of sexual signals The volume also outlines key questions that remain unanswered and provides a comprehensive guide to analyzing genotype by environment interactions The mix of theory empirical studies and practical instructions from world leading experts make this book a particularly potent and definitive guide on the topic It will be of interest to evolutionary biologists spanning from genomicists to behaviorists This is a very timely book covering a topic that should change the way we think about sexual selection The contributors are all leaders and the topics should provide guidance to many PhD projects in the years to come GEI is increasingly shown to be important and it seems likely that it is critical in species where sexual selection is operating This book is likely to help revitalize the study of sexual selection Professor Allen Moore The University of Georgia GEIs fascinate evolutionary biologists but the unique consequences for sexually selected traits have been neglected until now This multi authored book comprehensively explains key theoretical concepts handles practical how to issues and uses classic case studies to illustrate the value of studying GEIs It is a must read for everyone interested in sexual selection Professor Michael Jennions The Australian National University

**Behaviour of Teleost Fishes** T.J. Pitcher, 1992-12-31 This is the second edition of an extremely important and well received book The editor has brought together an international team of experts in the subject producing a book which contains vital information on major aspects of this important subject It should appear on the shelves of animal behaviourists fish biologists and fisheries scientists



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### **Ecology And Evolution Of Livebearing Fishes Introduction**

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