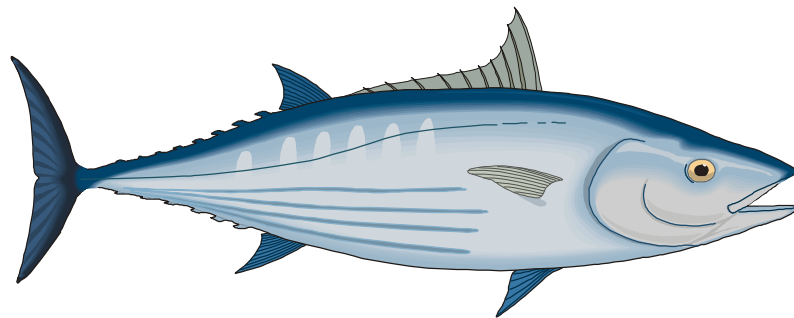


# Cardiovascular Function in Fishes

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Anthony Farrell  
Don MacKinlay**



International Congress on the Biology of Fish  
*Towson University, Baltimore MD July 26-30, 1998*

***Fish Cardiovascular  
Function: Control  
Mechanisms and  
Environmental Influences***

SYMPOSIUM PROCEEDINGS

**Kurt Gamperl**

**Anthony Farrell**

**Don MacKinlay**

*International Congress on the Biology of Fish  
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## PREFACE

The fishes, which include approximately 23,000 extant species, are a morphologically and physiologically diverse taxon. They live in freshwater and marine habitats located in polar, temperate and tropical regions, and are exposed to a wide range of environmental conditions. In fish, as in other taxa, cardiovascular function has a direct bearing on numerous aspects of physiology, performance and ecology. Therefore, information on the inter-relationships between environmental change, morphophysiology, and cardiovascular function is crucial to understanding the biology of many species.

In recent years, researchers have made significant progress in understanding the physiological and morphological features which influence cardiovascular performance, and the effect that various environmental conditions (e.g. oxygen, temperature, emersion, carbon dioxide, etc.) have on cardiovascular function. In this symposium, contributors from 11 countries provide new insights into the mechanisms that control fish cardiovascular function, and describe the physiological/morphological adaptations to, and/or consequences of, alterations in various environmental parameters. The enclosed papers span levels of biological organization from the molecular to the whole animal, and include information on a wide range of taxa (from hagfish to tuna) which inhabit diverse aquatic environments. It is hoped that participants in the symposium can instill in the audience a renewed enthusiasm for research in fish biology, and that contributions to the symposium proceedings will enhance the reader's knowledge and understanding of fish cardiovascular physiology.

Symposium Organizers:

Kurt Gamperl  
Portland State U.

Anthony Farrell  
Simon Fraser U.

Don MacKinlay  
Fisheries Canada

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Don MacKinlay  
Congress Chair

## TABLE OF CONTENTS

Recent advances toward a new understanding of piscine heart function. <i>Graham, J.B.</i> .....	1
Effects of pericardial pressure on cardiac output in free-swimming spiny dogfish ( <i>Squalus acanthias</i> ). <i>Syme, D.A. &amp; D.R. Jones</i> .....	7
Functional morphology of the bulbus arteriosus. <i>Braun, M.H., R.W. Brill, J.M. Gosline &amp; D.R. Jones</i> .....	13
The significance of increased heart mass in fish. <i>Thorarensen, H.</i> .....	17
Perspectives on ventricular hypertrophy in sexually-mature male rainbow trout. <i>Rodnick, K.J. &amp; R.J. Clark</i> .....	21
Pressure and volume overloads are associated with ventricular hypertrophy in male rainbow trout. <i>Clark, R.J. &amp; K.J. Rodnick</i> .....	25
A coarse substitute for the Fick equation to estimate the metabolic rate of European sea bass in the field. <i>Mercier, C., G. Claireaux &amp; D.M. Webber</i> .....	31
Protein synthesis by the mitochondrial genome of rainbow trout ( <i>Onchorhynchus mykiss</i> ) heart. <i>Driedzic, W.R., J.L. West &amp; J.R. Bailey</i> .....	37
Isolated atrial muscle from yellowfin tuna utilizes calcium released from the sarcoplasmic reticulum during force development . <i>Shiels, H.A., E.V. Freund, B.A. Block &amp; A.P. Farrell</i> .....	41
Oxygen diffusion limitations in myocardial slices of rainbow trout. <i>Altimiras, J</i> .....	45
Vasoactive agents and the blood systems of hagfishes. <i>Forster, M.E.</i> .....	49
Cardiac stretch, venous vasoactivity and blood volume in fish. <i>Farrell, A.P. &amp; K.R. Olson</i> .....	53

How water temperature really limits the vertical movements of tunas and billfishes - it's the heart stupid. <i>Brill, R., T.E. Lowe, &amp; K.L. Cousins</i> .....	57
Control of the heart in elasmobranch fish: effects of ambient temperature and oxygen levels. <i>Taylor, E.W., M. Young &amp; P.J. Butler</i> .....	63
Cardiovascular control in Antarctic fish. <i>Davison, W.</i> .....	67
Impact of temperature on heart function and calcium management in eurythermal tropical fish. <i>Kalinin, A.L., M.J. Costa, F.T. Rantin, H. Gesser &amp; W.R. Driedzic</i> .....	71
Temperature sensitivity of contractility in the salmonid heart; the role of troponin. <i>C. Gillis, T.E., X.H. Xue, C.D. Moyes, T. Borgford &amp; G.F. Tibbits</i> .....	75
Atrioventricular contractile differences in the heart of thermally acclimated trout ( <i>Oncorhynchus mykiss</i> , Walbaum). <i>Aho, E. &amp; M. Vornanen</i> .....	79
Influences of ambient oxygenation and temperature on the metabolic and heart rates of free swimming European sea bass ( <i>Dicentrarchus labrax</i> ). <i>Lefrancois, C. &amp; G. Claireaux</i> .....	85
Atrioventricular contractile differences in the heart of thermally acclimated crucian carp ( <i>Carassius carassius</i> , L.) <i>Tiitu, V., H. Stahlberg &amp; M. Vornanen</i> .....	91
Electrocardiographic characterization and myocardial function of <i>Piaractus mesopotamicus</i> (Teleostei, Serrasalminidae) exposed to graded hypoxia. <i>Rantin, F.T., C.D.R. Guerra, A.L. Kalinin, R.M.M. Verzola &amp; S.E.A. Perez</i> .....	97
Cardiovascular responses to emersion, hypoxia and submersion in the mudskipper, <i>Periophthalmodon schlosseri</i> . <i>Aguilar, N.M., K. Ogawa &amp; A. Ishimatsu</i> .....	111

Effect of acute anoxia on the function of crucian carp ( <i>Carassius carassius</i> L.) heart: significance of cholinergic and purinergic control. <i>Vornanen, M</i> .....	115
Anoxic trout hearts: preconditioning in a non-mammalian model. <i>Gamperl, A.K., A.E. Todgham, W.S. Parkhouse, R. Dill &amp; A.P. Farrell</i> .....	121
Cellular aspects of myocardial oxygen lack in fish and other ectotherms. <i>Gesser, H.</i> .....	127
Cardiorespiratory responses of tuna to acute hypoxia. <i>Bushnell, P.G.</i> .....	131
The effects of hypoxia on fish vasculature. <i>Olson, K. &amp; M.E. Forster</i> .....	135
Cardiovascular effects of environmental hypercapnia in the rainbow trout ( <i>Oncorhynchus mykiss</i> ), IN VIVO. <i>Hoagland, T.M., K.R. Olson &amp; S.F.Perry</i> .....	139
Regulation of vascular smooth muscle tone in the trout: local effects of hypoxia, hypercapnia and pH. <i>Smith, M.P., J. Wincko &amp; K.R. Olson</i> .....	145
Cardiac performance of a teleost fish heart during hypoxic conditions: Electrocardiographic considerations and nervous control of the heart rate. <i>Guerra, C.D.R. &amp; F.T. Rantin</i> .....	151
Cardiac angiotensin II receptors in the dogfish, <i>Scyliorhinus canicula</i> . <i>Cerra, M.C., A. Gattuso, N. Hazon, Y. Takei &amp; B. Tota</i> .....	153

