1. Record Nr. UNINA9910462206003321

Autore	Eddy F. Brian
Titolo	Ecological and Environmental Physiology of Fishes [[electronic resource]]
Pubbl/distr/stampa	Oxford, : OUP Oxford, 2012
ISBN	1-283-57748-8 9786613889935 0-19-163162-0
Descrizione fisica	1 online resource (264 p.)
Collana	Ecological and Environmental Physiology Series
Altri autori (Persone)	HandyRichard D
Disciplina	571.17
Soggetti	Fishes -- Composition Fishes -- Molecular aspects Fishes -- Physiology Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Cover; Contents; Preface; 1. Ecological and Environmental Physiology of Fishes; 1.1 Introduction and Opening Remarks; 1.2 Water as a Habitat; Sea Water and the Marine Environment; Freshwater and Freshwater Environments; Estuaries, Brackish Water, Hyposaline and Hypersaline Environments; 1.3 Physical and Chemical Properties of Water; 1.4 Changing Climates; Effects of Rising Greenhouse Gas Concentrations; Effects of Re-routing Oceanic Currents; Effects of Global Warming Oceanic Ecosytems; Effects on Development and Life Cycle; Effects on Habitats; 1.5 Introduction to the Biology of Fishes The ChordatesInvertebrate-like Chordates; Evolution of the Chordates; 1.6 Evolution of Fishes; Ancient Groups of Fishes, Living and Extinct; The Sarcopterygii, Lungfish, and Coelacanth; Remnant Ray-Finned Fishes; 1.7 The Major Groups of Living Fishes; Fishes without Jaws; Fishes with Cartilage Skeletons; Fishes with Bony Skeletons; Minor Groups; Teleost Fishes; 1.8 Systematic Ichthyology; 1.9 Diversity of Fishes and Gene Duplication; Gene Duplication; 2. General Principles of Fish Physiology: Living in Water; 2.1 Homeostasis; 2.2 Bioenergetics, Energy Budgets, and the Cost of Living

2.3 Feeding, Food, and Acquiring EnergyGut Motility, Ration Size, and Body Temperature; Nutritional Requirements and Digestion in Fishes; Energy Expenditure on Growth; Locomotion in Water; 2.4 Respiration; Principles of Gas Exchange and Respiration in Fishes and their Responses to Changing Environments; What Happens when the Oxygen Levels in the Water are Reduced?; Role of the Blood and Haemoglobin; Evolution of Respiratory Pigments; The Root Effect and Secretion of Oxygen; The Heart and Circulatory System; Respiration in Ectotherms and Endotherms; 2.5 Salt and Water balance
Freshwater FishesMarine Fishes; Nitrogenous Excretion; 2.6 Reproduction, Life Cycles, and Larval Stages; Physiology of Reproduction; Hypothalamus/Pituitary Axis and Gonadotropic-Releasing Hormone; Fertilization and Development; Experimental Manipulation of Spawning; 2.7 Control and Integration; Integration; Sense Organs and Behaviour; Eyes and Vision; Mechanical Senses; Electrical Senses; 2.8 Haematopoietic System and Immunity; 2.9 Conclusions; 3. Extreme Environments; 3.1 Life on Hypoxic Environments and Air Breathing; Life with Little or no Oxygen Available; Hypoxia and Fish Cages
3.2 Extremes of TemperatureResistance to Freezing; Responses to High Temperature; Gene Expression at High Temperatures; 3.3 Stress; Organismal Responses; Cellular Responses; Heat-shock Proteins; 3.4 Parasites and Stress; Saprolegnia; 3.5 Life in Acid and Alkaline Environments and Excretion of Nitrogenous Waste; Alkaline Waters and Nitrogen Excretion; 3.6 The Depths; Physical and Geophysical Characteristics at Depth in the Oceans; The Upper Layers of the Oceans; Vertical Migrations; Reflection, Fluorescence, and Bioluminescence; The Deepest Environments; Buoyancy in the Deepest Oceans
Effect of Pressure on Metabolism

Sommario/riassunto

Fishes have evolved to colonise almost every type of aquatic habitat and today they are a hugely diverse group of over 25,000 species. The evolution of this great diversity of species has resulted in a myriad of solutions to the demands posed by the aquatic environment.Ecological and Environmental Physiology of Fishes presents a current and comprehensive overview of fish physiology to demonstrate how living fishes function in their environment. As with other books in the Series, the emphasis is on the unique physiological characteristics of the fish, but with applications to questions of broad