

1. Record Nr.	UNINA9910830940803321
Autore	Butler Ann B
Titolo	Comparative vertebrate neuroanatomy [[electronic resource]] : evolution and adaptation / / Ann B. Butler, William Hodos
Pubbl/distr/stampa	Hoboken, N.J., : Wiley-Interscience, c2005
ISBN	1-280-27743-2 9786610277438 0-470-30584-3 0-471-73384-9 0-471-73383-0
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (739 p.)
Altri autori (Persone)	HodosWilliam
Disciplina	573.831 573.8331 573.83316
Soggetti	Neuroanatomy Vertebrates - Anatomy Nervous system - Evolution Anatomy, Comparative Nervous system - Adaptation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	COMPARATIVE VERTEBRATE NEUROANATOMY; Dedication; Contents; Preface; Acknowledgments; List of Boxes; Part One EVOLUTION AND THE ORGANIZATION OF THE CENTRAL NERVOUS SYSTEM; 1 Evolution and Variation; Introduction; Diversity Over Time; Evolutionary Mechanisms; Genetic Factors; Natural Selection; Evolution of the Vertebrate Central Nervous System; Sameness and Its Biological Significance; Analogy; Historical Homology; Homoplasy; Biological Homology; Generative Homology or Syngeny; Analysis of Variation; Cladistic Analysis; Parsimony; Tests of Homology; A Word of Caution; Reconstructing Evolution 2 Neurons and Sensory ReceptorsIntroduction; The Nervous System; Neurons and Sensory Receptors; Transport Within Neurons;

Classification of Neurons; Somata; Dendrites; Axons; Synapses;
 Chemical Synapses; Neuroactive Substances; Electrical Synapses;
 Volume Transmission; Neuronal Populations; Golgi Type I and II Cells;
 Nuclei and Planes of Section; Techniques for Tracing Connections
 Between Nuclei; Receptors and Senses; How Many Senses?; Receptors
 and Awareness; Sensory Experience as a Private Mental Event; Sensory
 Adaptation; Receptor Types; Mechanoreceptors; Radiant-Energy
 Receptors
 Chemoreceptors
 Nervus Terminalis: An Unclassified Receptor;
 Electoreceptors; Nociceptors; Magnetoreceptors; Topographic
 Organization; Receptive Fields; The Senses and Evolution of the Central
 Nervous System; 3 The Vertebrate Central Nervous System;
 Introduction; Development of the Brain; Segmental Development of the
 Vertebrate Brain; Neurogenesis and Migration of Neurons; Cortices and
 Nuclei; Differing Patterns of Development; Ontogeny and
 Recapitulation; The Brain and Spinal Cord; Cellular Organization of the
 Central Nervous System; Regional Organization of the Nervous System
 The Spinal Cord
 The Brain; The Meninges and the Ventricular System;
 Major Systems of the Brain; Sensory Systems; Motor Systems;
 Nomenclature of the Brain; 4 Vertebrate Phylogeny and Diversity in
 Brain Organization; Introduction; Vertebrate Phylogeny; Chordate
 Relationships; Jawless Vertebrates; Chondrichthyes; Actinopterygii;
 Sarcopterygii; The Big Picture of Vertebrate Evolution; Two Types of
 Brain Organization; Laminar Brains (Group I); Elaborated Brains (Group
 II); Glia and Brain Elaboration; Laminar and Elaborated Brains across
 Evolution
 5 Evolution and Adaptation of the Brain, Behavior, and
 Intelligence
 Phylogeny and Adaptation; Phyletic Studies; Adaptation
 Studies; The Phylogenetic Scale; The Phylogenetic Tree; Complexity and
 Evolution; Anagenesis; Grades of Evolutionary Advancement;
 Evolutionary Change; Brain Evolution and Behavioral Adaptation; Brain
 Size and Brain Allometry; Brain Size and Behavioral Adaptation; Brain
 Size and Intelligence; What Is Intelligence?; Summary and Conclusions;
 6 Theories of Brain Evolution; Introduction; Some Common
 Assumptions
 Previous Theories of Vertebrate Brain Evolution: Addition of Structures
 or Areas

Sommario/riassunto

Comparative Vertebrate Neuroanatomy
 Evolution and Adaptation
 Second Edition
 Ann B. Butler and William Hodos
 The Second Edition of this landmark text presents a broad survey of comparative vertebrate neuroanatomy at the introductory level, representing a unique contribution to the field of evolutionary neurobiology. It has been extensively revised and updated, with substantially improved figures and diagrams that are used generously throughout the text. Through analysis of the variation in brain structure and function between major groups of vertebrates, readers can
