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Nota di contenuto	Contents; Preface; List of Contributors; 1 The Evolutionary and Ecological Context of Primate Vision; 1.1 Introduction; 1.2 The phylogenetic background to primate vision; 1.3 Comparative analyses of cranial dimensions; 1.4 Evolution of color vision; References; 2 Comparative Aspects of Visual System Development; 2.1 Introduction; 2.2 Fundamental organization and development of the retina; 2.3 Neurogenesis; 2.4 Topology and specification of cell-type subcategories; 2.5 Lamination; synaptogenesis; axon outgrowth; and cell death; 2.6 Emmetropization; 2.7 Scaling the eye 2.8 Producing the nocturnal eye2.9 Mechanisms of the genesis of the fovea centralis in primate retina; 2.10 Summary; References; 3 The Genetics and Evolution of Primate Visual Pigments; 3.1 Introduction; 3.2 Structure of visual pigments; 3.3 Visual pigment genes in primates; 3.4 Origin of duplication in Old World primates; 3.5 L and M gene variation in Old World primates; 3.6 Color vision in platyrrhines and prosimians; 3.7 Evolution of trichromacy; 3.8 Summary and conclusions; References; 4 The Ecology of the Primate Eye: Retinal Sampling and Color Vision 4.1 Introduction: sampling and retinal specialization4.2 Spatial sampling: signals, noise and image statistics; 4.3 Color; 4.4 Nocturnality and the origins of primate vision; References; 5 Comparative Anatomy and Physiology of the Primate Retina; 5.1 Introduction; 5.2 Outer retina; 5.3 Bipolar cell circuitry; 5.4 Parallel pathways; 5.5 Ganglion cell morphology; 5.6 Ganglion cell physiology - information processing and transfer; 5.7 Conclusion; References; 6 The Lateral Geniculate Nucleus; 6.1 Introduction; 6.2 The anatomical

organization of the LGN; 6.3 The classification of LGN cells
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8.4 Pregeniculate complexReferences; 9 The Evolution of Visual Cortex in Primates; 9.1 Introduction; 9.2 Features of visual cortex organisation that early primates retained from non-primate ancestors; 9.3 Features of visual cortex in early primates; 9.4 Visual cortex of tarsiers; 9.5 Anthropoid primates; 9.6 Hominid visual cortex; 9.7 Conclusions; References; 10 The Physiological Basis for Visual Motion Perception and Visually Guided Eye Movements; 10.1 Abstract; 10.2 Processing of visual motion in the primate brain; 10.3 Action which depends on motion processing: smooth pursuit eye movements
10.4 Comparing motion processing underlying perception and smooth pursuit eye movements

Sommario/riassunto

Many recent developments in the field in recording, staining, genetic and stimulation techniques, in vivo, and in vitro have significantly increased the amount of available data on the primate visual system. Written with contributions from key neurobiologists in the field, The Primate Visual System will provide the reader with the latest developments, examining the structure, function and evolution of the primate visual system. The book takes a comparative approach as a basis for studying the physiological properties of primate vision and examines the phylogenetic relati