Anatomy of Monkey

Anatomy of Monkey encompasses a fascinating blend of physical features, skeletal structures, internal organs, and specialized adaptations that allow these primates to thrive in diverse environments. This article delves deeply into the anatomy of monkey species, exploring their external and internal characteristics, evolutionary distinctions, and the remarkable ways their bodies are designed for life in the trees, on the ground, and everything in between. Readers will discover how the skeletal, muscular, and nervous systems function together, the differences between New World and Old World monkeys, and the unique anatomical adaptations that make monkeys some of the most agile and intelligent animals in the animal kingdom. From the structure of their opposable thumbs to their intricate facial muscles, this comprehensive overview provides a clear, keyword-rich resource for anyone interested in primate biology and the anatomy of monkey. Continue reading to unravel the secrets behind the physical makeup of these captivating creatures.

Overview of Monkey Anatomy

The anatomy of monkey species is a result of millions of years of evolution, leading to a variety of physical forms and functions. Monkeys belong to the primate order, sharing a common ancestry with apes and humans. Their anatomical design is specialized for survival in tropical forests, savannas, and mountainous regions. Monkeys are generally divided into two main groups: New World monkeys (Platyrrhines) found in Central and South America, and Old World monkeys (Cercopithecoids) native to Africa and Asia. Understanding the anatomy of monkey provides important insights into their behavior, movement, diet, and environmental adaptations.

External Features and Physical Characteristics

Monkeys display a wide range of external features, yet several characteristics remain consistent across species. Their bodies are typically covered in fur, which varies in color and density depending on the habitat. The anatomy of monkey hands and feet is especially notable, with most species possessing opposable thumbs and big toes that allow for precise gripping and manipulation of objects. Facial features such as expressive eyes, mobile lips, and pronounced brow ridges are common, supporting complex social interactions and communication.

The tail is another important external feature, with some monkeys (like howler monkeys and spider monkeys) possessing prehensile tails adapted for grasping branches, while others have shorter or non-prehensile tails.

Distinctive Physical Traits of Monkeys

- Opposable thumbs and flexible digits for grasping
- Prehensile or non-prehensile tails depending on species
- Forward-facing eyes for depth perception
- Highly mobile facial muscles for expression
- Dense or sparse fur adapted to climate

Skeletal System of Monkeys

The skeletal anatomy of monkey species is built for agility and versatility. The skull is characterized by a large braincase and forward-facing eye sockets, which support binocular vision. The spinal column is flexible, allowing for rapid movement and acrobatic maneuvers. Limbs are proportioned to facilitate various modes of locomotion, from brachiation (arm-swinging) in gibbons to quadrupedal walking in baboons. The pelvis and shoulder girdle offer a wide range of motion, enabling monkeys to climb, leap, and manipulate their environment with ease. Additionally, the presence and structure of the tail vertebrae differ between monkey groups, reflecting their ecological adaptations.

Key Skeletal Adaptations

- Lightweight but strong bones for climbing
- Flexible shoulder joints for swinging and reaching
- Long arms and legs in arboreal species
- Shorter limbs in terrestrial species
- Prehensile tail vertebrae in New World monkeys

Muscular System and Locomotion

The muscular system of monkeys is intricately linked to their diverse movement patterns. Arboreal monkeys possess well-developed shoulder, arm, and leg muscles, supporting powerful leaps and swings between trees. In contrast, terrestrial monkeys have robust limb muscles optimized for walking and running on the ground. The anatomy of monkey hands and feet includes specialized muscles for gripping branches, peeling fruit, and manipulating objects. Facial muscles are also highly developed, enabling a wide range of expressions for social communication. The combination of skeletal and muscular adaptations allows monkeys to exhibit impressive agility, strength, and dexterity.

Internal Organs and Body Systems

Internally, the anatomy of monkey is similar to other mammals, with adaptations for a primarily herbivorous or omnivorous diet. The digestive system is equipped to process fruits, leaves, seeds, insects, and occasionally small animals. The heart and circulatory system are designed for high levels of activity, supplying oxygen and nutrients efficiently during rapid movement. The respiratory system features large lungs to support energetic behaviors. Reproductive organs vary among species, reflecting differences in social structure and breeding patterns. The kidneys and liver are essential for filtering waste and processing nutrients, maintaining overall health and homeostasis.

Nervous System and Brain Structure

Monkeys are renowned for their intelligence and problem-solving abilities, which are rooted in their advanced nervous systems. The anatomy of monkey brains reveals a highly developed cerebral cortex, responsible for decision-making, memory, and sensory processing. Neural pathways support complex motor skills, such as tool use and coordinated movement. The spinal cord and peripheral nerves facilitate rapid reflexes and fine motor control. Sensory input from the eyes, ears, nose, and skin is processed by specialized brain regions, enabling monkeys to navigate dynamic environments and interact socially.

Brain Features in Monkeys

- Large cerebral cortex relative to body size
- Highly developed visual and auditory centers
- Specialized regions for social behavior and communication
- Advanced memory and learning capabilities

Sensory Organs and Communication

The sensory anatomy of monkey species is adapted for acute perception and effective communication. Forward-facing eyes provide stereoscopic vision, essential for judging distances in complex forest environments. Color vision is common, aiding in the identification of ripe fruits and young leaves. The ears are sensitive to a wide range of sounds, allowing for the detection of predators and group members. Olfactory senses play a role in social interactions, especially in scent-marking and mate selection. Vocal cords and mobile lips enable a variety of calls, grunts, and facial expressions, forming the basis of intricate social communication systems.

New World vs. Old World Monkey Anatomy

A key distinction in the anatomy of monkey lies between New World (Platyrrhines) and Old World (Cercopithecoids) groups. New World monkeys typically have wide, outward-facing nostrils and prehensile tails, which serve as an extra limb for grasping branches. Old World monkeys possess narrower, downward-facing nostrils and non-prehensile tails or no tails at all. Dental formula variations reflect differences in diet, with Old World monkeys often having cheek pouches for food storage. Skeletal differences in the hands, feet, and skull further separate these groups, illustrating divergent evolutionary paths and ecological niches.

Unique Adaptations in Monkey Anatomy

Many monkeys exhibit specialized anatomical adaptations that set them apart from other mammals. Some species have elongated limbs and curved fingers for brachiation, while others develop thickened skin pads (ischial callosities) for sitting on rough branches. Prehensile tails in New World monkeys are lined with tactile pads, enhancing their gripping ability. The anatomy of monkey teeth shows adaptations for varied diets, including sharp incisors for biting and molars for grinding. These unique features enable monkeys to exploit a wide range of habitats, from dense rainforests to open savannas.

Conclusion

The anatomy of monkey is a testament to evolutionary ingenuity, combining physical strength, sensory acuity, and behavioral flexibility. Their external and internal features allow for remarkable adaptability across continents and ecosystems. By understanding the detailed anatomy of monkey species, researchers and enthusiasts gain deeper insights into primate evolution, behavior, and ecological roles. Exploring these anatomical features not only enhances our appreciation for monkeys but also helps inform conservation and scientific efforts aimed at protecting these remarkable primates.

Q: What are the main differences between the anatomy of New World and Old World monkeys?

A: New World monkeys usually have prehensile tails and outward-facing nostrils, while Old World monkeys have non-prehensile tails or none at all and downward-facing nostrils. Dental structures and skeletal features also differ, reflecting their unique evolutionary paths.

Q: How does the anatomy of monkey hands help them in their environment?

A: Monkey hands feature opposable thumbs and flexible digits, allowing for precise gripping, climbing, and manipulating objects, which is essential for foraging, feeding, and interacting within their habitats.

Q: What role does the tail play in the anatomy of monkey species?

A: In many species, especially New World monkeys, the tail is prehensile and acts as an extra limb for grasping and balancing. In Old World monkeys, the tail may be shorter or absent and is less involved in movement.

Q: How is the brain structure of monkeys adapted for intelligence?

A: Monkeys possess a large cerebral cortex relative to body size, specialized for sensory processing, decision-making, social behavior, and problem-solving, contributing to their high intelligence.

Q: What types of locomotion are supported by the anatomy of monkey?

A: The anatomy of monkey supports various locomotion types, including brachiation (arm-swinging), leaping, climbing, and quadrupedal walking, depending on the species and habitat.

Q: How do monkeys use their sensory organs in daily life?

A: Monkeys rely on keen vision for depth perception, acute hearing for detecting sounds, and sensitive olfactory

senses for communication and environmental awareness.

Q: What is the function of ischial callosities in some monkey species?

A: Ischial callosities are thickened skin pads found in some Old World monkeys, providing comfort and stability when sitting on branches or rough surfaces.

Q: How does the digestive system of monkeys reflect their diet?

A: Monkey digestive systems are adapted for a mostly herbivorous or omnivorous diet, with specialized teeth and gastrointestinal tracts for processing fruits, leaves, seeds, and sometimes animal matter.

Q: Why do some monkeys have highly mobile facial muscles?

A: Highly mobile facial muscles enable monkeys to express a variety of emotions and intentions, which is crucial for complex social interactions and communication within groups.

Q: What skeletal adaptations help monkeys move efficiently in trees?

A: Monkeys have lightweight but strong bones, flexible shoulder joints, and elongated limbs in arboreal species, all of which aid in climbing, swinging, and leaping through the forest canopy.

Anatomy Of Monkey

Anatomy of a Monkey: A Primate's Physical Marvels

Introduction:

Ever wondered what makes a monkey a monkey? Beyond their playful antics and expressive faces, lies a fascinating anatomy uniquely adapted for arboreal life and a surprisingly diverse range of lifestyles. This in-depth exploration delves into the intricacies of monkey anatomy, examining everything from their skeletal structure and muscular systems to their sensory organs and digestive processes. We'll unravel the specific adaptations that allow these primates to thrive in their diverse habitats, providing a comprehensive overview perfect for students, researchers, and anyone captivated by the natural world.

Skeletal Structure: Built for the Trees

The skeletal system of a monkey is a masterpiece of engineering, perfectly tailored for their acrobatic lifestyle.

Posture and Limbs:

Monkeys, unlike humans, are primarily quadrupedal, meaning they use all four limbs for locomotion. Their limbs are proportionally long, with highly mobile shoulder and hip joints. This allows for a wide range of motion, crucial for swinging through branches and navigating complex three-dimensional environments. The flexible wrists and ankles further enhance their agility.

Hands and Feet:

The hands and feet of monkeys are remarkably dexterous. Most possess five fingers and five toes, with opposable thumbs and big toes. This opposable arrangement, allowing the thumb and big toe to touch the other digits, provides an excellent grip, essential for grasping branches and manipulating objects. The precise movements possible are a key element of their adaptation for navigating their complex environments. However, the degree of opposability varies significantly between different monkey species.

Skull and Teeth:

The monkey skull features a relatively large braincase compared to other primates. The size and shape of the braincase can vary considerably between species, reflecting differences in cognitive abilities and social complexities. Their dental structure is typically characterized by heterodont dentition – meaning they possess different types of teeth (incisors, canines, premolars, and molars) specialized for a variety of functions, including biting, tearing, and grinding.

Muscular System: Power and Precision

The muscular system of a monkey complements its skeletal structure, enabling powerful movements and precise manipulation.

Limb Muscles:

Powerful muscles in the arms and legs are essential for climbing, jumping, and swinging. These muscles are often proportionally larger than those in humans, reflecting the demands of their arboreal lifestyle. The specific muscle development varies greatly among species depending on their locomotor style (e.g., brachiation in gibbons, quadrupedal walking in macaques).

Facial Muscles:

Monkeys have a highly developed system of facial muscles, which contribute to their expressive communication. These muscles allow for a wide range of facial expressions, used for social interactions, such as signaling aggression, submission, or affection.

Digestive System:

The digestive system of a monkey is adapted to their diet, which varies considerably between species. Some monkeys are primarily frugivores (fruit-eaters), others are folivores (leaf-eaters), and still others are omnivores with diverse dietary habits. Their digestive tracts reflect these dietary adaptations, with specialized features like enlarged cecums in leaf-eating species to aid in cellulose digestion.

Sensory Organs: A World Perceived

Monkeys rely heavily on their senses to navigate their environment and interact with their social groups.

Vision:

Most monkeys have excellent color vision, which is crucial for identifying ripe fruits and other food sources in a dense forest canopy. Their forward-facing eyes provide binocular vision, enhancing depth perception, vital for precise movements in three-dimensional space.

Hearing:

The sense of hearing plays a vital role in communication and predator avoidance. Monkeys can often detect subtle sounds, allowing them to locate food sources, identify potential threats, and communicate with other members of their troop.

Smell and Touch:

While vision is dominant, the senses of smell and touch also contribute to their perception of the world. Smell can be important for finding food and recognizing individuals, while touch is crucial for grasping branches and manipulating objects.

Variations Across Species

It's crucial to remember that monkey anatomy isn't uniform. The diverse range of monkey species exhibits significant anatomical variations reflecting their diverse habitats and lifestyles. Size, limb proportions, dental characteristics, and even the degree of tail development vary considerably between species.

Conclusion:

The anatomy of a monkey is a testament to the power of natural selection. The intricate interplay of skeletal structure, muscular system, and sensory organs is precisely tailored to their arboreal existence, resulting in an extraordinary degree of agility, dexterity, and adaptability. Understanding the anatomy of monkeys provides valuable insight into their evolutionary history and the remarkable diversity of primate life.

FAQs:

1. Do all monkeys have tails? No, some monkey species, like baboons, lack tails, while others have long, prehensile tails used as an extra limb.

2. How does a monkey's brain differ from a human's? While both are primates, human brains are significantly larger and more complex, exhibiting greater cognitive capabilities.

3. What is the lifespan of a monkey? Monkey lifespans vary greatly depending on the species, ranging from a few decades to over 40 years in some cases.

4. Are all monkeys social animals? Most monkey species are highly social, living in groups called troops or bands, although some species are more solitary.

5. How do monkey's teeth adapt to their diet? Teeth are adapted to the specific diet; fruit-eaters have flatter molars for grinding, while those who eat leaves often have specialized teeth to help process tough vegetation.

anatomy of monkey: Primate Anatomy Friderun Ankel-Simons, 2010-07-27 Primate Anatomy is unlike ay other work on primates: it systematically reviews the biology of all living primates, including humans. It describes their bio-geographical information and provides crucial data pertaining to their body size, fur coloration external distinguishing features, habitat and basic life strategies. Now in its third edition, Primate Anatomy discusses species that are new to science since the last edition with details concerning anatomical features among primates that were re-discovered. New research in molecular primatology is also included due to recent relevant findings in molecular biology in accordance with new technology. The basics of biological taxonomy are introduced, along with photographs of all major groups. Important new and controversal issues make this edition key for every primatologists, anthropologist, and anatomist. - Offers up-to-date reviews of molecular primatology and primate genomics - Concentrates on living primates and their overall biology - Discusses the genetic connection of function where known - Introduces primate genomics for the first time in a textbook - Provides instructive and comprehensive review tables - Includes many unique, novel and easily understandable illustrations

anatomy of monkey: Primate Anatomy Friderun Ankel-Simons, 2000 This work reviews the biology of all living primates, including humans. It provides a taxonomic list of all living genera and species which are described with respect to their adaptation in various environmental and geographic habitats.

anatomy of monkey: *Veterinary Anatomy and Physiology* , 2019-03-13 Knowledge of veterinary anatomy and physiology is essential for veterinary professionals and researchers. The chapters reflect the diverse and dynamic research being undertaken in a variety of different species throughout the world. Whether the animals have roles in food security, agriculture, or as companion, wild, or working animals, the lessons we learn impact on many areas of the profession. This book highlights research ranging from the cardiovascular and musculoskeletal systems, prostate and hoof, through to histopathology, imaging, and molecular techniques. It investigates both healthy and pathological conditions at differing stages of life. The importance of each cell and tissue through to the whole organism is explored alongside the methodologies used to understand these vital structures and functions.

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anatomy of monkey: The Parietal Cortex of Monkey and Man J. Hyvärinen, 2012-12-06 An invitation from the Editors to contribute to 'Studies of Brain Functions' with a monograph on the parietal lobe of fers me an opportunity to present in a concentrated form my studies on this part of the brain from a period of some what over a decade. The parietal lobe, notably its posterior part, is a very complex neural system whose functions I have been able to study only superficially and without ex tensive coverage of all its parts. Therefore I did not want to limit myself entirely to my own work but found the task of writing more interesti'ng by including sections reviewing rel evant literature. Thus Chapter III dealing with the primary somatosensory cortex and Chapters IX, X, and XI concerning area 7 describe work done in my laboratory. Chapter VIII describes microelectrode work on area 7 and covers both the work of my group and that of others working on this area. Chapters II and IV to VII are based on closely related anatomical, physiological and clinical studies performed by others, and Chapter XII is a personal attempt at a synthesis of the functions of the parietal lobe. Thus this monograph is neither a strict review of all important works on the parietal lobe nor is it

limited only to my own studies and those of my collaborators. Instead it attempts to be a balanced ex position of both aspects promoting, hopefully, a synthetic view of the primate parietal lobe.

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anatomy of monkey: Association and Auditory Cortices Alan Peters, Edward G. Jones, 2013-12-01 This volume deals with some of the association areas of the cerebral cortex and with the auditory cortex. In the first chapter, by Deepak Pandya and Edward Yeterian, the general architectural features and connections of cortical associ ation areas are considered; as these authors point out, in primates the association areas take up a considerable portion of the total cortical surface. Indeed, it is the development of the association areas that accounts for the greatest differ ences between the brains of primate and non primate species, and these areas have long been viewed as crucial in the formation of higher cognitive and be havioral functions. In the following chapter, Irving Diamond, David Fitzpatrick, and James Sprague consider the question of whether the functions of the as sociation areas depend on projections from the sensory areas of the cortex. They use the visual cortex to examine this question and show that there is a great deal of difference between species in the amount of dependence, the differences being paralleled by variations in the manner in which the geniculate and pulvinar nuclei of the thalamus project to the striate and extra striate cortical areas. One of the more interesting and perhaps least understood of the association areas is the cingulate cortex, discussed by Brent Vogt. Cingulate cortex has been linked with emotion and with affective responses to pain, and in his chapter Vogt gives an account of its cytoarchitecture, connections, and functions.

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molecular and morphological phylogenies should play a major role in systematics, and provides the most comprehensive review of the comparative anatomy, homologies and evolution of the head, neck, pectoral and upper li

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anatomy of monkey: The Evolutionary Biology of the Human Pelvis Cara M. Wall-Scheffler, Helen K. Kurki, Benjamin M. Auerbach, 2020-01-16 Synthesizes and re-examines the evolution of the human pelvis, which sits at the interface between locomotion and childbirth.

anatomy of monkey: New World Monkeys Alfred L. Rosenberger, 2020-09 This book is a broad synthesis of new world monkey evolution, integrating their unique evolutionary story into the bigger picture of primate evolution and Amazon biodiversity. Capsule For more than 30 million years, New World monkeys have inhabited the forests of South and Central America. Whether these primates originally came from Africa by rafting across the Atlantic or crossing overland from North America, they soon flourished. This book tells the story of these New World monkeys. Integrating data from fossil and living animals, it explores the evolution of the three major New World monkey lineages as well as how they fit into the broader story of primate evolution and Amazon biodiversity. After providing readers with necessary background in primate taxonomy and systematics, Rosenberger shows that the notion of adaptive zones is central to our understanding of primate evolution. The idea of adaptive zones can explain how radiations evolve, morphological adaptations appear, and communities form. From here, Rosenberger synthesizes what is known about New World monkeys' unique ecological adaptations, including those involving feeding and locomotion, as well as their social behaviour. The book's concluding chapters explore theories of how primates first arrived in South America and what their future looks like given the threat of extinction. Biography Internal Use Only Alfred L. Rosenberger is Professor Emeritus of Biological Anthropology at Brooklyn College. An expert on the origin and evolution of New World Monkeys, Rosenberger has contributed numerous articles in edited volumes and his work is published in journals such as Nature, Journal of Human Evolution and American Journal of Primatology . Audience The audience for this book is scholars and graduate students in biological/physical anthropolog and primatology, and to a lesser extent conservation biology, evolutionary biology, and behavioral ecology . Rationale - no copy text Other Relevant Info - no copy text--

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pattern of neural connections that underlie cognition and behaviour. This atlas capitalises on novel diffusion MRI tractography methods to provide a comprehensive overview of connections derived from virtual in vivo tractography dissections of the human brain.

anatomy of monkey: *Colobine Monkeys* Glyn Davies, John Oates, 1994-11-24 Colobine monkeys have a unique digestive system, analagous to that of ruminants, which allows them to exploit foliage as a food source. This gives them a niche in Old World forests where they are often the only abundant medium-sized arboreal folivorous mammal. From a possible Miocene origin, Colobine monkeys have radiated into a wide variety of forms inhabiting a range of tropical woodlands in Africa and Asia. Most of the extant species have been subject to long term field studies, but until this book, no synthesis of work on this group has been available. The central theme of is that of adaptive radiation, showing how the special features of colobine anatomy interacted with a range of ecosystems to produce the distinctive species of today. The book discusses parallels with other mammalian groups, and will be of relevance to workers in evolutionary ecology, primatology and tropical ecology.

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anatomy of monkey: In the Light of Evolution National Academy of Sciences, 2014-05-19 Humans possess certain unique mental traits. Self-reflection, as well as ethic and aesthetic values, is among them, constituting an essential part of what we call the human condition. The human mental machinery led our species to have a self-awareness but, at the same time, a sense of justice, willing to punish unfair actions even if the consequences of such outrages harm our own interests. Also, we appreciate searching for novelties, listening to music, viewing beautiful pictures, or living in well-designed houses. But why is this so? What is the meaning of our tendency, among other particularities, to defend and share values, to evaluate the rectitude of our actions and the beauty of our surroundings? What brain mechanisms correlate with the human capacity to maintain inner speech, or to carry out judgments of value? To what extent are they different from other primates' equivalent behaviors? In the Light of Evolution Volume VII aims to survey what has been learned about the human mental machinery. This book is a collection of colloquium papers from the Arthur M. Sackler Colloquium The Human Mental Machinery, which was sponsored by the National Academy of Sciences on January 11-12, 2013. The colloquium brought together leading scientists who have worked on brain and mental traits. Their 16 contributions focus the objective of better understanding human brain processes, their evolution, and their eventual shared mechanisms with other animals. The articles are grouped into three primary sections: current study of the mind-brain relationships; the primate evolutionary continuity; and the human difference: from ethics to aesthetics. This book offers fresh perspectives coming from interdisciplinary approaches that open new research fields and constitute the state of the art in some important aspects of the mind-brain relationships.

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MRI and histology atlas is designed to provide an easy-to-use reference for anatomical and physiological studies in macaque monkeys, and in functional-imaging studies in human and non-human primates using fMRI and PET. The first rhesus monkey brain atlas with horizontal, coronal, and sagittal planes of sections, derived from the same animal Shows the first detailed delineations of the cortical and subcortical areas in horizontal, coronal, and sagittal plane of sections in the same animal using different staining methods Horizonal series illustrates the dorsoventral extent of the left hemisphere in 47 horizontal MRI and photomicrographic sections matched with 47 detailed diagrams (Chapter 3) Coronal series presents the full rostrocaudal extent of the right hemisphere in 76 coronal MRI and photomicrographic sections, with 76 corresponding drawings (Chapter 4) Sagittal series shows the complete mediolateral extent of the left hemisphere in 30 sagittal MRI sections, with 30 corresponding drawings (Chapter 5). The sagittal series also illustrates the location of different fiber tracts in the white matter Individual variability - provides selected cortical and subcortical areas in three-dimensional MRI (horizontal, coronal, and sagittal MRI planes). For comparison, it also provides similar areas in coronal MRI section in six other monkeys. (Chapter 6) Vasculature - indicates the corresponding location of all major blood vessels in horizontal, coronal, and sagittal series of sections Provides updated information on the cortical and subcortical areas, such as architectonic areas and nomenclature, with references, in chapter 2 Provides the sterotaxic grid derived from the in-vivo MR image

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anatomy of monkey: Chimpanzee Kevin D. Hunt, 2020-08-20 The complete guide to our closest living relative, drawing on thirty years of primate observation.

anatomy of monkey: *Evolutionary Biology of the New World Monkeys and Continental Drift* Russell L. Ciochon, 2013-12-01 It is now well known that the concept of drifting continents became an estab lished theory during the 1960s. Not long after this revolution in the earth sciences, researchers began applying the continental drift model to problems in historical biogeography. One such problem was the origin and dispersal of the New World monkeys, the Platyrrhini. Our interests in this subject began in the late 1960s on different conti nents quite independent of one another in the cities of Florence, Italy, and Berkeley, California. In Florence in 1968, A. B. Chiarelli, through stimulating discussions with R. von Koenigswald and B. de Boer, became intrigued with the possibility that a repositioning of the continents of Africa and South America in the early Cenozoic might alter previous traditional conceptions of a North American origin of the Platyrrhini. During the early 1970s this con cept was expanded and pursued by him through discussions with students while serving as visiting professor at the University of Toronto. By this time, publication of the Journal of Human Evolution was well underway, and Dr. Chiarelli as editor encouraged a dialogue emphasizing continental drift models of primate origins which culminated in a series of articles published in that journal during 1974-75. In early 1970, while attending the University of California at Berkeley, R. L. Ciochon was introduced to the concept of continental drift and plate tectonics and their concomitant applications to vertebrate evolution through talks with paleontologist W. A. Clemens and anthropologist S. L. Washburn.

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updated collection of recent studies, which contribute to define the systematic anatomy of the reticular formation, its physiological and pharmacological features, as well as its involvement in neurodegenerative disorders and neuroprotection.

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