

tusklessness problem or solution

tusklessness problem or solution is a fascinating topic that explores the complex phenomenon of elephants evolving without tusks, a trend observed across several populations in Africa and Asia. This article examines the origins and drivers of tusklessness, evaluates whether it represents a conservation problem or an adaptive solution, and analyzes its effects on elephant populations, ecosystems, and biodiversity. The discussion utilizes current research, expert insights, and real-world examples to provide a comprehensive understanding of tusklessness. Readers will learn about the genetic mechanisms behind tusklessness, its relationship to poaching and human activity, ecological impacts, and possible future scenarios. This article is designed for wildlife enthusiasts, conservation professionals, and anyone interested in the intersection of evolution, ecology, and human influence. Dive in to discover whether tusklessness is a problem to be solved or a solution evolved by elephants in response to environmental pressures.

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Understanding Tusklessness: Definition and Historical Context

Tusklessness refers to the natural absence of tusks in elephants, either due to genetic factors or as a result of selective pressures. Traditionally, tusks are elongated incisor teeth that serve multiple functions for elephants, including foraging, defense, and social interaction. Historically, the majority of both African and Asian elephants possessed tusks, with tuskless individuals representing a small percentage of the population. However, recent decades have seen a marked increase in tusklessness, particularly in regions heavily affected by poaching. The phenomenon has become a key topic in wildlife biology and conservation, prompting debates about its long-term consequences and the potential for it to reshape elephant populations.

The historical context of tusklessness is closely linked to human activity. Prior to the surge in ivory demand, tuskless elephants were rare. As humans began to target elephants for their valuable ivory tusks, selective pressures favored tuskless individuals, who were less likely to be hunted. This shift has led to a growing number of tuskless females in certain populations, raising important questions about the evolutionary trajectory of elephants and the sustainability of their ecological roles.

Genetic Mechanisms Behind Tusklessness in Elephants

Inheritance Patterns of Tusklessness

Research indicates that tusklessness in elephants is a heritable trait, often passed down through genetic mechanisms. Studies show that tusklessness is more commonly expressed in females due to sex-linked genetic factors. The gene responsible is believed to be located on the X chromosome, resulting in different expression rates between males and females. Males are less likely to be born without tusks, as the gene can be lethal or cause developmental issues, while females can inherit and express tusklessness without adverse effects.

Evolutionary Drivers and Natural Selection

Natural selection plays a significant role in the rise of tusklessness. In areas with intense poaching pressure, elephants with tusks are more likely to be killed, leaving tuskless individuals to reproduce. Over time, this selection increases the frequency of tusklessness in the population. The rapid pace of this evolutionary change is a clear example of how human activities can drive genetic shifts in wild animal populations. It also highlights the resilience and adaptability of elephants in the face of external threats.

- Tusklessness is more prevalent in female elephants due to genetic inheritance patterns.
- Natural selection favors tuskless individuals in regions with high poaching rates.
- Genetic shifts can occur rapidly when strong selective pressures are present.

The Role of Poaching and Human Activity in Driving Tusklessness

Impact of Ivory Trade and Poaching

The global demand for ivory has been a major driver of tusklessness in elephant populations. Poaching selectively targets elephants with large tusks, removing these individuals from the gene pool and allowing tuskless elephants to survive and reproduce. This artificial selection has altered the genetic makeup of affected populations within just a few generations. Notably, regions such as Mozambique and Uganda have reported significant increases in tusklessness among female elephants following periods of intense poaching.

Human-Induced Environmental Pressures

Beyond direct poaching, other human activities contribute to the tusklessness phenomenon. Habitat fragmentation, land conversion, and human-elephant conflict create stressful environments that indirectly influence survival and reproductive success. Elephants that avoid conflict by not having tusks—or by moving to areas with lower human presence—may have a higher chance of survival. These pressures compound the effects of poaching and further reinforce the trend towards tusklessness.

1. Poaching for ivory selectively removes tusked elephants from the population.
2. Human-driven changes to habitats increase stress and alter reproductive success.
3. Regions with high human activity report the most rapid increases in tusklessness.

Ecological Impacts of Tuskless Elephants

Changes in Ecosystem Dynamics

Elephants play a critical role as ecosystem engineers, shaping their environment through feeding, digging, and tree-felling—activities largely facilitated by their tusks. Tuskless elephants may be less able to perform certain ecological functions, such as breaking tree bark for food or digging water holes during dry periods. This can lead to changes in vegetation structure, water availability, and habitat quality for other species. The reduction in these activities may alter the balance of ecosystems, affecting biodiversity and the distribution of resources.

Implications for Elephant Social Structure

Tusklessness can also influence the social dynamics within elephant herds. Tusks are used in dominance displays, mating rituals, and interactions with other herd members. The absence of tusks may affect hierarchy, competition, and mate selection, potentially altering the social cohesion and reproductive strategies of elephant populations. While

tuskless elephants can still thrive, these shifts in behavior and social structure are important considerations for conservationists.

Tusklessness: Conservation Problem or Adaptation Solution?

Challenges Presented by Tusklessness

Tusklessness raises important conservation challenges. The loss of tusks limits elephants' ability to modify their environment, access certain food resources, and defend themselves against predators or rivals. These limitations can impact individual fitness and population health, potentially reducing the ecological effectiveness of elephants in their natural habitats. Conservationists must consider how tusklessness may affect long-term population viability and ecosystem stability.

Adaptive Advantages and Evolving Solutions

On the other hand, tusklessness can be viewed as an adaptive solution to the pressures of poaching and habitat loss. By evolving without tusks, elephants are less likely to be targeted by poachers, increasing their chances of survival and reproduction. This rapid adaptation demonstrates the resilience of wildlife in the face of human-induced threats. Some experts argue that tusklessness may be a necessary evolutionary response that enables elephants to persist in increasingly hostile environments.

- Tusklessness reduces the risk of being poached for ivory.
- It demonstrates the ability of elephants to adapt to changing environments.
- However, it may limit ecological functions and social interactions within herds.

Future Implications and Research Directions

Long-Term Consequences for Biodiversity

The continued increase in tusklessness has significant implications for biodiversity and ecosystem health. Changes in elephant behavior and ecological roles may affect plant communities, water resources, and the survival of other species that rely on elephant activity. Ongoing research is needed to understand the full scope of these impacts and to develop strategies for mitigating potential negative effects on ecosystems.

Conservation Strategies and Policy Considerations

Effective conservation strategies must address both the causes and consequences of tusklessness. This includes strengthening anti-poaching efforts, improving habitat protection, and supporting genetic research to monitor population changes. Policymakers and conservation organizations are increasingly focused on holistic approaches that balance the needs of elephants with broader ecosystem conservation goals. Continued monitoring and adaptive management will be essential as the phenomenon of tusklessness evolves.

Conclusion

Tusklessness problem or solution remains a complex and evolving issue with far-reaching ecological, genetic, and conservation implications. While tusklessness poses challenges for elephant populations and ecosystem health, it also represents a powerful example of rapid adaptation in response to human pressures. Understanding the drivers, impacts, and future trajectories of tusklessness will be key to ensuring the long-term survival of elephants and the ecosystems they support. Ongoing research, conservation action, and public awareness are critical to navigating the balance between problem and solution in the era of tuskless elephants.

Q: What is tusklessness in elephants and why is it increasing?

A: Tusklessness refers to elephants born without tusks, a trait that is becoming more prevalent due to selective pressures such as poaching for ivory. Poachers target elephants with tusks, leading to higher survival rates for tuskless individuals, which in turn increases the frequency of tusklessness in affected populations.

Q: How does tusklessness affect elephant ecology?

A: Tuskless elephants may struggle to perform certain ecological functions, such as digging for water or breaking tree bark. These changes can alter vegetation patterns, water availability, and impact other species that benefit from elephant activities, thus affecting the overall ecosystem.

Q: Is tusklessness an evolutionary adaptation?

A: Yes, tusklessness is considered a rapid evolutionary adaptation. Elephants without tusks are less likely to be poached, increasing their likelihood of survival and reproduction, which leads to a higher proportion of tuskless individuals in the population.

Q: Does tusklessness pose long-term conservation challenges?

A: Tusklessness can present challenges, including reduced ecological effectiveness and potential impacts on elephant social structures. Conservationists are concerned about the long-term viability of populations with high rates of tusklessness and their ability to fulfill key environmental roles.

Q: Are there any benefits to tusklessness for elephants?

A: The main benefit of tusklessness is reduced risk of poaching, as tuskless elephants are less attractive targets for ivory hunters. This increases their chances of survival in areas with intense poaching pressure.

Q: How is tusklessness inherited in elephant populations?

A: Tusklessness is a heritable trait, often linked to genes on the X chromosome. It is more commonly expressed in females, while males are less likely to be tuskless due to genetic factors that affect their development.

Q: What regions have seen the greatest increase in tuskless elephants?

A: Regions with high poaching activity, such as Mozambique and Uganda, have reported significant increases in tusklessness among female elephants over the past few decades.

Q: Can tuskless elephants still thrive in their natural habitats?

A: Tuskless elephants can survive and reproduce, but they may face limitations in foraging and social interactions. Their ability to thrive depends on the availability of resources and the specific ecological context of their habitats.

Q: What conservation strategies address the tusklessness phenomenon?

A: Conservation strategies include anti-poaching initiatives, habitat protection, and genetic monitoring of elephant populations. These approaches aim to reduce poaching pressures and support the long-term health and stability of elephant populations.

Q: What are the future research needs regarding tusklessness?

A: Future research should focus on understanding the ecological impacts of tusklessness, monitoring genetic changes in populations, and developing adaptive conservation strategies to mitigate potential negative effects on ecosystems and biodiversity.

Tusklessness Problem Or Solution

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Tusklessness: Problem or Solution? Unpacking the Complexities of Elephant Evolution

The absence of tusks in elephants – a phenomenon increasingly observed in some populations – presents a complex conundrum. Is it a devastating problem signaling ecological collapse, or a clever evolutionary solution to human-induced pressures? This question has sparked passionate debate among conservationists, scientists, and the public. This comprehensive blog post delves deep into the issue, examining the scientific evidence, ethical considerations, and potential implications of this remarkable evolutionary shift. We'll explore the causes, consequences, and potential future scenarios for tuskless elephants, offering a nuanced perspective on whether tusklessness is ultimately a problem or a solution.

H2: The Rise of Tusklessness: A Response to Poaching Pressure?

The dramatic increase in tuskless female elephants, particularly in certain African regions, is strongly correlated with intense ivory poaching. For decades, the relentless demand for ivory has decimated elephant populations, selecting for individuals lacking the very trait that makes them vulnerable: large, valuable tusks. This selective pressure, driven by human activity, has inadvertently accelerated the frequency of a naturally occurring genetic mutation resulting in tusklessness. The increased prevalence of tuskless females isn't necessarily a natural evolutionary trajectory; rather, it's a stark testament to the devastating impact of human actions on wildlife.

H3: Genetic Mechanisms Behind Tusklessness

The genetic basis of tusklessness is becoming clearer through ongoing research. Scientists have identified a specific gene, linked to the *Loxodonta africana* genome, that plays a crucial role in tusk development. Mutations within this gene can significantly reduce or eliminate tusk growth. Understanding the genetic mechanics behind this trait is pivotal for predicting future population trends and developing informed conservation strategies.

H4: The Evolutionary Trade-offs: Are there downsides to Tusklessness?

While tusklessness offers protection from poaching, it's not without potential downsides. Tusks play crucial roles in elephant social interactions, foraging, and defense against predators. Tuskless elephants may face challenges in competing for resources, particularly food, and might be more vulnerable to certain types of predators. Furthermore, the long-term consequences of this altered gene pool remain largely unknown. This lack of understanding highlights the need for continued research into the broader ecological and evolutionary implications of tusklessness.

H2: Conservation Implications: A Shifting Paradigm?

The rise of tusklessness forces a reevaluation of traditional elephant conservation strategies. Focusing solely on anti-poaching efforts is no longer sufficient. We need to consider the genetic implications and the potential long-term consequences of a tuskless elephant population. Conservation efforts must adapt to this new reality, incorporating genetic monitoring and research into their strategies. This may include exploring techniques to enhance genetic diversity and mitigate the potential negative impacts of reduced tusk prevalence.

H3: Ethical Considerations: Human Interference in Evolution

The human-driven selection for tusklessness raises complex ethical questions. Are we ethically justified in inadvertently altering the natural evolutionary trajectory of a species? While the intention is not malicious – protecting elephants from extinction – the unintended consequences necessitate careful consideration. Balancing human intervention with the principle of allowing natural selection to take its course is a crucial challenge for conservationists.

H2: Looking to the Future: What does a Tuskless Elephant

Population Mean?

The future of elephant populations, particularly with the increasing prevalence of tusklessness, remains uncertain. While it provides short-term protection from poaching, the long-term effects on elephant behavior, social dynamics, and overall fitness need careful study. Continued monitoring, genetic research, and robust anti-poaching measures are crucial to ensure the survival and well-being of elephant populations, regardless of their tusk status.

Conclusion

The question of whether tusklessness is a problem or a solution is not a simple yes or no. It is a complex issue reflecting the devastating impact of human activity on wildlife populations and forcing us to confront the ethical dilemmas inherent in conservation interventions. While tusklessness might appear to be a survival mechanism in the face of poaching, it's a symptom of a deeper problem and its long-term consequences remain largely unknown. Only through ongoing research, collaborative conservation efforts, and a commitment to tackling the underlying causes of poaching can we ensure a healthy and diverse future for elephants, with or without tusks.

FAQs

1. Is tusklessness hereditary? Yes, tusklessness is largely hereditary, linked to a specific gene. The increased prevalence we observe is due to the selective pressure of poaching, favoring the survival and reproduction of tuskless females.
2. Are tuskless elephants healthier? Current research doesn't definitively conclude whether tuskless elephants are inherently healthier. While they survive poaching, potential trade-offs in foraging and social interactions need further investigation.
3. Can tusklessness be reversed? Reversing the widespread tusklessness in elephant populations is highly unlikely. The genetic shift is a direct result of human-driven selection pressure.
4. What role do male elephants play in this? While the focus has been on females due to their tusk value, male elephants are also affected. Poaching of males with large tusks has also created selective pressure, although the impact might be less immediately apparent.
5. What can I do to help? Support anti-poaching organizations, advocate for stricter regulations on ivory trade, and educate others about the plight of elephants and the complexities of tusklessness. Supporting responsible ecotourism that benefits local communities and elephant conservation is crucial.

Primack, Johnny W. Wilson, 2019-09-10 *Conservation Biology in Sub-Saharan Africa* comprehensively explores the challenges and potential solutions to key conservation issues in Sub-Saharan Africa. Easy to read, this lucid and accessible textbook includes fifteen chapters that cover a full range of conservation topics, including threats to biodiversity, environmental laws, and protected areas management, as well as related topics such as sustainability, poverty, and human-wildlife conflict. This rich resource also includes a background discussion of what conservation biology is, a wide range of theoretical approaches to the subject, and concrete examples of conservation practice in specific African contexts. Strategies are outlined to protect biodiversity whilst promoting economic development in the region. Boxes covering specific themes written by scientists who live and work throughout the region are included in each chapter, together with recommended readings and suggested discussion topics. Each chapter also includes an extensive bibliography. *Conservation Biology in Sub-Saharan Africa* provides the most up-to-date study in the field. It is an essential resource, available on-line without charge, for undergraduate and graduate students, as well as a handy guide for professionals working to stop the rapid loss of biodiversity in Sub-Saharan Africa and elsewhere.

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Describes the illegal trafficking of elephant ivory and rhinoceros horns and the implications for these endangered animals.

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PULITZER PRIZE WINNER • A dramatic story of groundbreaking scientific research of Darwin's discovery of evolution that spark[s] not just the intellect, but the imagination (Washington Post Book World). "Admirable and much-needed.... Weiner's triumph is to reveal how evolution and science work, and to let them speak clearly for themselves."—The New York Times Book Review On a desert island in the heart of the Galapagos archipelago, where Darwin received his first inklings of the theory of evolution, two scientists, Peter and Rosemary Grant, have spent twenty years proving that Darwin did not know the strength of his own theory. For among the finches of Daphne Major, natural selection is neither rare nor slow: it is taking place by the hour, and we can watch. In this remarkable story, Jonathan Weiner follows these scientists as they watch Darwin's finches and come up with a new understanding of life itself. *The Beak of the Finch* is an elegantly written and compelling masterpiece of theory and explication in the tradition of Stephen Jay Gould.

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tusklessness problem or solution: *Conservation Science and Action* William J. Sutherland, 2009-07-01 *Conservation Science and Action* is intended for upper-level undergraduate and graduate

courses in conservation biology. This book reviews the latest thinking and approaches, and in doing so provides a readily accessible reference work for conservation professionals and managers. Because conservation biology is now one of the most dynamic disciplines in the life sciences, William Sutherland and his international team of authors have selected many of the liveliest topics where key advances are currently being made. They stress ideas, point to unresolved issues, and suggest possible future developments. Finally, since conservation is an applied subject, the book's emphasis throughout is on action. Essential reading for senior undergraduate and postgraduate students taking courses in conservation biology, one of the most dynamic disciplines in the life sciences. Contributions from leading figures in the field who have selected the liveliest topics where key advances are being made. Reviews the latest thinking and approaches. Contributors cover a range of taxonomic groups, include aquatic and terrestrial plants and animals, and give examples from around the world. Emphasis given to action, and all chapters have an applied component.

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combining the work of more than 60 national and international experts. Extensively reviewed by policy-makers and other stakeholders, it is the most systematic and comprehensive review of savanna elephant populations and factors relevant to managing them to date. As such it is of interest to a broad spectrum of readers in South Africa and elsewhere. Above all, it is aimed at helping conservation policy-makers and practitioners to choose the best possible options for the sustainable preservation of these iconic animals.

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tusklessness problem or solution: Management Issues & Options ,

tusklessness problem or solution: Primate Anatomy Friderun Ankel-Simons, 2010-07-27 *Primate Anatomy* is unlike any 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 controversial 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

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from the Amboseli Elephant Research Project (AERP) - the longest continuously running elephant research project in the world.

tusklessness problem or solution: Conservation Genetics in Mammals Jorge Ortega, Jesus E. Maldonado, 2020-01-24 This book focuses on the use of molecular tools to study small populations of rare and endangered mammals, and presents case studies that apply an evolutionary framework to address innovative questions in the emerging field of mammalian conservation genomics using a highly diverse set of novel molecular tools. Novel and more precise molecular technologies now allow experts in the field of mammalogy to interpret data in a more contextual and empirical fashion and to better describe the evolutionary and ecological processes that are responsible for the patterns they observe. The book also demonstrates how recent advances in genetic/genomic technologies have been applied to assess the impact of environmental/anthropogenic changes on the health of small populations of mammals. It examines a range of issues in the field of mammalian conservation genomics, such as the role that the genetic diversity of the immune system plays in disease protection and local adaptation; the use of noninvasive techniques and genomic banks as a resource for monitoring and restoring populations; the structuring of population by physical barriers; and genetic diversity. Further, by integrating research from a variety of areas - including population genetics, molecular ecology, systematics, and evolutionary and conservation biology - it enables readers to gain a deeper understanding of the conservation biology of mammals that are at increasing risk of extinction at local, regional and global scales. As such, it offers a unique resource for a broad readership interested in the conservation biology of mammals and conservation management strategies to better preserve biodiversity.

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tusklessness problem or solution: Ethiopia Mary Anne Fitzgerald , Philip Marsden, 2017-11-20 A lavishly illustrated photographic journey through the history and traditions of the ancient churches of Ethiopia. The ancient Aksumite Kingdom, now a part of Ethiopia, was among the first in the world to adopt Christianity as the official state religion. In AD 340 King Ezana commissioned the construction of the imposing basilica of St. Mary of Tsion. It was here, the Ethiopians say, that Menelik, son of King Solomon and the Queen of Sheba, brought the Ark of the Covenant containing the Ten Commandments. By the fifth century, nine saints from Byzantium were spreading the faith deep into the mountainous countryside, and over the next ten centuries a series of spectacular churches were either built or excavated out of solid rock, all of them in regular use to this day. Lalibela, a UNESCO World Heritage Site, has the best known cluster, but the northern region of Tigray, less well known and more remote, has many churches that are architectural masterpieces of the basilical type. Ethiopia: The Living Churches of an Ancient Kingdom traces the broad sweep of ecclesiastic history, legend, art, and faith in this sub-Saharan African kingdom as seen through the prism of sixty-six breathtaking churches, unveiling the secrets of their medieval murals, their colorful history, and the rich panoply of their religious festivals, all illustrated with more than eight hundred superb color photographs by some of the most celebrated international photographers of traditional cultures. This magnificent, large-format, full-color volume is the most comprehensive celebration yet published of Ethiopia's extraordinary Christian heritage. Ethiopia is the third book on iconic places of worship published by Ludwig Publishing and the American University in Cairo Press, following the bestselling success of The Churches of Egypt and The History and Religious Heritage of Old Cairo.

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Teeth traces the evolutionary history of teeth, beginning with the very first mineralized vertebrate structures half a billion years ago. Ungar describes how the simple conical tooth of early vertebrates became the molars, incisors, and other forms we see in mammals today. Evolutionary adaptations changed pointy teeth into flatter ones, with specialized shapes designed to complement the corresponding jaw. Ungar explains tooth structure and function in the context of nutritional needs. The myriad tooth shapes produced by evolution offer different solutions to the fundamental problem of how to squeeze as many nutrients as possible out of foods. The book also highlights Ungar's own path-breaking studies that show how microwear analysis can help us understand ancient diets. The final part of the book provides an in-depth examination of mammalian teeth today, surveying all orders in the class, family by family. Ungar describes some of the more bizarre teeth, such as tusks, and the mammal diversity that accompanies these morphological wonders. Mammal Teeth captures the evolution of mammals, including humans, through the prism of dental change. Synthesizing decades of research, Ungar reveals the interconnections among mammal diet, dentition, and evolution. His book is a must-read for paleontologists, mammalogists, and anthropologists.

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tusklessness problem or solution: The Biology and Identification of the Coccidia (Apicomplexa) of Turtles of the World Donald W. Duszynski, Johnica J. Morrow, 2014-08-04 The *Biology and Identification of the Coccidia (Apicomplexa) of Turtles of the World* is an invaluable resource for researchers in protozoology, coccidia, and parasitology, veterinary sciences, animal sciences, zoology, and biology. This first-of-its-kind work offers a taxonomic guide to apicomplexan parasites of turtles that enables easy parasite identification, with a summary of virtually everything known about the biology of each known parasite species. It is an important documentation of this

specific area, useful to a broad base of readers, including researchers in biology, parasitology, animal husbandry, diseases of wild and domestic animals, veterinary medicine, and faculty members in universities with graduate programs in these areas. There are about 330 turtle species on Earth; many are endangered, a growing number of species are kept as pets, and some are still used as food by humans. Turtles, like other vertebrate animals have many different kinds of parasites (viruses, bacteria, protozoa, worms, arthropods, and others). Coccidiosis in turtles has prevented large-scale turtle breeding, and represents a serious problem in need of control. This succinct and highly focused book will aid in that effort. - Offers line drawings and photomicrographs of each parasite from each hosts species - Provides methods of identification and treatment - Presents a complete historical rendition of all known publications on coccidia (and their closest relatives) from all turtle species on Earth, and evaluates the scientific and scholarly merit of each - Provides a complete species analysis of the known biology of every coccidian described from turtles - Reviews the most current taxonomy of turtles and their phylogenetic relationships needed to help assess host-specificity and evaluate what little cross-transmission work is available

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Pretorius C.M.G. D.S.O. and Bar Major P. J. Pretorius, 2016-01-18 The true story of Major Jan Pretorius, a South African elephant hunter and adventurer, this is a true tale of continuous adventure for a lifetime and considered one of the most extraordinary ever written. Pretorius also gives the first full account of the search for the German cruiser Königsberg which had sunk the Pegasus at Zanzibar and then gone into hiding in the Rufiji delta. "I have never seen a more thrilling story of a hunter's life. It is full of almost unbelievable incidents, of reckless daring, and of hair-breadth escapes. If one knew the writer the interest increases, for he was a quiet, gentle, unassuming person in appearance. What fire lay hidden under those quiet features and that gentle manner! His very person seemed to be a camouflage."—Foreword by J. C. Smuts

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progressing field. It provides you with an extensive, current survey of the order Primates, both living and fossil. By combining information on primate anatomy, ecology, and behavior with the primate fossil record, this book enables students to study primates from all epochs as a single, viable group. It surveys major primate radiations throughout 65 million years, and provides equal treatment of both living and extinct species.ĩ Presents a summary of the primate fossilsĩ Reviews primate evolutionĩ Provides an introduction to the primate anatomyĩ Discusses the features that distinguish the living groups of primatesĩ Summarizes recent work on primate ecology

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