Wildlife and Emerging Zoonotic Diseases: The Biology, Circumstances and Consequences of Cross-Species Transmission Current Topics in Microbiology and Immunology

Wildlife and emerging zoonotic diseases are a major public health concern. These diseases are caused by pathogens that are naturally transmitted between vertebrate animals and man with or without an arthropod intermediate. Worldwide, zoonotic diseases have a negative impact on commerce, travel, and economies. In most developing countries, zoonotic diseases are among those diseases that contribute significantly to an already overly burdened public health system. In industrialized nations, zoonotic diseases are of particular concern for at-risk groups such as the elderly, children, childbearing women, and immunocompromised individuals. The Emergence of Zoonotic Diseases: Understanding the Impact on Animal and Human Health, covers a range of topics, which include: an evaluation of the relative importance of zoonotic diseases against the overall burden of disease; research findings related to the current state of our understanding of zoonotic diseases in the general public interested in the visionary field of One Health.

Confronting Emerging Zoonoses—A Manual 2014-11-19 This book provides readers with information on the facts and implications surrounding the complex issues of zoonotic disease and the uses of zoonoses in veterinary practice. The One Health concept recognizes the important links between human, animal, and environmental health and provides an important perspective for solving complex problems, such as those related to emerging infectious diseases. The importance of the One Health concept is underscored by the need to break down the silos among the different health professions and promote transdisciplinary collaborations. These concepts are illustrated with in-depth analyses of specific zoonotic agents and with examples of the successes and challenges faced with each. The book highlights some of the challenges to One Health in the face in confronting several specific zoonotic diseases. A chapter is included on comparative medicine to demonstrate the breadth of the One Health approach, including the One Health approach for the pre- and post-biosafety concerns. The book concludes with a chapter dedicated to those zoonotic diseases that are of particular concern for at-risk groups such as the elderly, children, childbearing women, and immunocompromised individuals. Zoonotic diseases are of particular concern for at-risk groups such as the elderly, children, childbearing women, and immunocompromised individuals. The book supports building by countries of the resilience and capacity to address emerging and endemic zoonotic diseases such as avian influenza, rabies, Ebola, and Rift Valley fever, as well as food-borne diseases and antibiotic resistance. It additionally supports countries efforts to implement WHO International Health Regulations (2005) and IOM international health regulations.

Disease Emergence and Boursillon-Milton FRIEND 2006 Laboratory Medicine—A Manual: John S. 2014-11-19 This book provides readers with information on the facts and implications surrounding the complex issues of zoonotic disease and the uses of zoonoses in veterinary practice. The One Health concept recognizes the important links between human, animal, and environmental health and provides an important perspective for solving complex problems, such as those related to emerging infectious diseases. The importance of the One Health concept is underscored by the need to break down the silos among the different health professions and promote transdisciplinary collaborations. These concepts are illustrated with in-depth analyses of specific zoonotic agents and with examples of the successes and challenges faced with each. The book highlights some of the challenges to One Health in the face in confronting several specific zoonotic diseases. A chapter is included on comparative medicine to demonstrate the breadth of the One Health approach, including the One Health approach for the pre- and post-biosafety concerns. The book concludes with a chapter dedicated to those zoonotic diseases that are of particular concern for at-risk groups such as the elderly, children, childbearing women, and immunocompromised individuals. Zoonotic diseases are of particular concern for at-risk groups such as the elderly, children, childbearing women, and immunocompromised individuals. The book supports building by countries of the resilience and capacity to address emerging and endemic zoonotic diseases such as avian influenza, rabies, Ebola, and Rift Valley fever, as well as food-borne diseases and antibiotic resistance. It additionally supports countries efforts to implement WHO International Health Regulations (2005) and IOM international health regulations.

The Emergence of Zoonotic Diseases—Institute of Medicine 2005-03-19 In the past half century, deadly disease outbreaks caused by novel viruses of animal origin—Nipah virus in Malaysia, Hendra virus in Australia, Hantavirus in the United States, Ebola virus in Africa, along with HIV (human immunodeficiency virus), several influenza subtypes, and the SARS (severe acute respiratory syndrome) and MERS (Middle Eastern respiratory syndrome) coronaviruses—have underscored the urgency of understanding factors influencing viral disease emergence and spread. Emerging Viral Diseases in the summary of a public workshop held in March 2014 to examine factors driving the appearance, establishment, and spread of emerging and re-emerging viral diseases: the global health and economic impacts of recently emerging and novel viral diseases in humans; and the scientific and policy approaches to improving detection and response strategies for emerging zoonotic diseases outbreaks. This report is a record of the presentations and discussion of the event.

One Health: The Human-Animal-Environment Interfaces in Emerging Infectious Diseases—John S. 2015-03-19 One Health is an emerging concept that aims to bring together human, animal, and environmental health; and demonstrate the important links between human, animal, and environmental health; and provides an important perspective for solving complex problems, such as those related to emerging infectious diseases. The importance of the One Health concept is underscored by the need to break down the silos among the different health professions and promote transdisciplinary collaborations. These concepts are illustrated with in-depth analyses of specific zoonotic agents and with examples of the successes and challenges faced with each. The book highlights some of the challenges to One Health in the face in confronting several specific zoonotic diseases. A chapter is included on comparative medicine to demonstrate the breadth of the One Health approach, including the One Health approach for the pre- and post-biosafety concerns. The book concludes with a chapter dedicated to those zoonotic diseases that are of particular concern for at-risk groups such as the elderly, children, childbearing women, and immunocompromised individuals. Zoonotic diseases are of particular concern for at-risk groups such as the elderly, children, childbearing women, and immunocompromised individuals. The book supports building by countries of the resilience and capacity to address emerging and endemic zoonotic diseases such as avian influenza, rabies, Ebola, and Rift Valley fever, as well as food-borne diseases and antibiotic resistance. It additionally supports countries efforts to implement WHO International Health Regulations (2005) and IOM international health regulations.

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Wildlife and Emerging Zoonotic Diseases: The Biology, Circumstances and Consequences of Cross-Species Transmission Current Topics in Microbiology and Immunology is a comprehensive and up-to-date reference on the biology, ecology, and epidemiology of zoonotic diseases. The book provides an introduction to the role of the role of the animals in the emergence or re-emergence of zoonotic diseases and presents what is currently known about the role of animals in the emergence or re-emergence of zoonotic diseases, including HIV/AIDS, SARS, avian flu, swine flu, and SARS. It raises the question, "What's new?" and "What are the current challenges?" This book provides an overview of the processes of zoonotic disease emergence, the intricacies of host/virus interactions, and the role of biological transitions and modifying factors. The book introduces the contributing factors, explores the mechanisms and current context have contributed to drive the emergence of different zoonotic agents by a series of related events.

Viruses in Food and Water—Steven J. 2010-11-30 This volume offers an overview of the processes of zoonotic disease emergence, the intricacies of host/virus interactions, and the role of biological transitions and modifying factors. The book introduces the contributing factors, explores the mechanisms and current context have contributed to drive the emergence of different zoonotic agents by a series of related events.

Sustaining Local Surveillance and Response to Emerging Zoonotic Diseases—National Research Council 2010-01-24 This book provides an overview of the processes of zoonotic disease emergence, the intricacies of host/virus interactions, and the role of biological transitions and modifying factors. The book introduces the contributing factors, explores the mechanisms and current context have contributed to drive the emergence of different zoonotic agents by a series of related events.

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Impact of Emerging Zoonotic Diseases on Human-Animal Health-Edele F. Bivian 2006-12-06 The need to protect biodiversity places great constraints on the use of natural spaces such as forests and preserves and often conflicts with the need for sustainable intensification of agricultural and animal production. Human, domestic, and wildlife habitats have increasingly overlapped and have resulted in modified patterns of interaction between wild and domestic animals and humans. In such an environmental context, we can expect to see changes in disease transmission patterns and in the occurrence and incidence of zoonotic diseases. There have already been many examples of incriminated zoonoses, but the recent epidemic crises associated with the emergence of new zoonotic diseases such as severe acute respiratory syndrome (SARS) and bird flu, have shown the need for more concerted efforts in disease surveillance and prevention. The necessity for sustained development and growth of animals in the tropics requires that we identify and control factors that contribute to the emergence of these and other diseases. These factors have a direct effect on animal health and our ability to maintain it. We need to evaluate the risks of emergence at different levels including the optimization of diagnostic tools, control and prevention programs. Manipulation of host health and behavior in order to reduce the spread of zoonoses and other diseases is a topic that will be discussed during a time of increased international trade and human mobility has implications for animal health worldwide. This book will present the recent advances in the omic field with an emphasis on how these advances are contributing to the identification and prevention of infectious diseases. Written by scientists working in the field, this book will provide a series of "stories" about how disruption of the environment and transmission from animal hosts is responsible for emerging human and animal diseases. 

The Connections Between Ecology and Infection Disease-Christoph J. Hauri 2018-03-30 This book synthesizes recent advances in understanding the dynamics of the interaction between a pathogenic microorganism and the host species in which that microbe causes illness. The contributing authors explain that pathogenic microorganisms often also have broader ecological connections, which can include a natural environmental presence; possible transmission by vehicles such as air, water, and sewage; and interactions with other host species, including vectors for which the microbe either may or may not be pathogenic. This field has been called disease ecology and the chapters that examine it have been grouped into three sections. The first section introduces both the role of biological community interactions and the influence of environmental factors on the emergence and spread of infectious disease in wildlife hosts, affecting both human and wildlife populations. The second section explores the emergence of infectious disease from the perspective of the normal and healthy host; the third section examines the public health implications of infectious disease for both the human and wildlife populations.

Infectious Disease Movement in a Borderless World-Book of Medicine 2016-03-10 Modern transportation allows people, animals, and plants—the pathogens they carry—to travel more easily than ever before. The ease and speed of travel, transport, and international trade connect once-isolated areas with one another, eliminating many of the geographic and cultural barriers that once limited the spread of disease. Because of our global interconnectedness through transportation, tourism, and trade, infectious diseases emerge more frequently, spreading rapidly across international borders and transforming the way we view disease patterns. 

Pathogens in Human Society-Book of Medicine 2004-02-01 The emergence of HIV disease and AIDS, the recent SARS outbreak, and new insights into the relationship between parasites and their hosts has drawn public attention to the complex role of infectious diseases on human society. Infectious diseases have been an enduring challenge to humankind throughout history, and will continue to be a significant threat to public health in the new century. This volume is a comprehensive and balanced review of the impact of infectious diseases on human society and the strategies that are available to prevent and control such diseases.

Zoonoses and Communicable Diseases Common to Man and Animals-Pedro N. Arbo 2003-12-13 Animal diseases, which have epidemic and endemically worldwide, have been a great threat to human health. The book presents some recent advances on the topic of zoonotic diseases and demonstrates the importance of whole genome sequencing in infectious diseases. The new developing techniques are becoming more important in the diagnosis of zoonotic diseases. The book will be of interest to biologists, ecologists and wildlife managers, and most importantly, highlights the need to understand the anthroponotic drivers resulting in disease transmission from bats to people.

Food Security Risks from Wildlife-Michale Joo-Reu 2015-12-12 Foodborne illnesses caused by zoonotic pathogens associated with wildlife are an emerging microbial food safety concern. Transmission of foodborne zoonotic agents are often underestimated, yet have important implications on public health. This book explores the role of wildlife in the emergence and spread of pathogens, vector-borne diseases, and other foodborne zoonotic diseases. 

New and Emerging Diseases: An Update, An Issue of Veterinary Clinics of North America: Exotic Animal Practice-Stephen A. Redig, Todd R. Butler, Christopher H. Chen and Nicole R. Wynn, is an update on New and Emerging Diseases. This is one of three issues each year by the series consulting editor, Dr. Jing Mayer. Articles in this issue include, but are not limited to: new and emerging zoonotic diseases, emerging diseases in turtles and tortoises, diseases in honeybees, selected emerging diseases in ferrets, update on diseases in chinchillas, update on PPD and hemoratis, selected emerging diseases including canine and feline rhinotracheal and upper respiratory diseases in cats, selected emerging diseases of anuran, amphibians, and selected emerging diseases in ornamental fish.

World Livestock 2013 Food and Agriculture Organization of the United Nations 2014-12-08 The World Livestock Economic Situation and Outlook is a comprehensive, global resource for livestock industry professionals. This publication explores three key areas: the Pressure, including drivers and risk factors that contribute to disease emergence, the Response, required both to adapt and improve the State and to mitigate the Pressure. The report argues that a comprehensive approach for the promotion of global health is needed to face the complex realities; the changing demographics of the world's populations, rapid urbanization, and increased demand for food. The report highlights the importance of understanding and managing risks associated with disease and food safety, global food security and the overall health of the planet.

Human-Bat Interactions and Emerging Diseases-Based on the proceedings of an international conference held in São Paulo, Brazil, May 3 to 5, 2016, this book examines the spectrum of microbial threats, factors in disease emergence, and the ultimate capacity of the United States and other parts of the world to handle disease threats and challenges to health security. The book addresses disease emergence on a global scale, considers the impact of emerging diseases on the development of enhanced disease surveillance and vaccine strategies, and considers the economic consequences of various emerging infectious diseases. The book will be of interest to biologists, ecologists and wildlife managers, and most importantly, highlights the need to understand the anthropogenic drivers resulting in disease transmission from bats to people.
travelers with disabilities · Special considerations for newly arrived adoptees, immigrants, and refugees · Practical tips for last-minute or resource-limited travelers · Advice for air crews, humanitarian workers, missionaries, and others who provide care and support overseas. Authored by a team of the world’s most esteemed travel medicine experts, the Yellow Book is an essential resource for travelers -- and the clinicians overseeing their care -- at home and abroad.

People and Wildlife, Conflict or Co-existence? - Rosie Woodroffe 2005-08-25 Human-wildlife conflict is a major issue in conservation. As people encroach into natural habitats, and as conservation efforts restore wildlife to areas where they may have been absent for generations, contact between people and wild animals is growing. Some species, even the beautiful and endangered, can have serious impacts on human lives and livelihoods. Tigers kill people, elephants destroy crops and African wild dogs devastate sheep herds left unattended. Historically, people have responded to these threats by killing wildlife wherever possible, and this has led to the endangerment of many species that are difficult neighbours. The urgent need to conserve such species, however, demands coexistence of people and endangered wildlife. This book presents a variety of solutions to human-wildlife conflicts, including novel and traditional farming practices, offsetting the costs of wildlife damage through hunting and tourism, and the development of local and national policies.

Bats and Viruses - Lin-Fa Wang 2015-06-29 Approximately 75% of emerging infectious diseases are zoonoses, and the rate of emergence of zoonotic diseases is on the rise. Bats are being increasingly recognised as an important reservoir of zoonotic viruses of different families, including SARS coronavirus, Nipah virus, Hendra virus and Ebola virus. Understanding bats’ role in emerging zoonotic diseases is crucial to this rapidly expanding area of research. Bats and Viruses: A New Frontier of Emerging Infectious Diseases provides an updated overview of research focusing on bat biology and the role bats play as hosts of many major zoonotic viruses. The text covers bat biology, immunology, and genomics. Chapters also delve into the various major bat-borne virus families, including lyssaviruses, paramyxoviruses, coronaviruses, flaviviruses and reoviruses, among others. Edited by leaders in the field, Bats and Viruses: A New Frontier of Emerging Infectious Diseases is a timely, invaluable reference for bat researchers studying microbiology, virology and immunology, as well as infectious disease workers and epidemiologists, among others.

Peste des Petits Ruminants (PPR): Generating Evidence to Support Eradication Efforts - Francois Louis Roger 2021-03-04

Viral Sovereignty and Technology Transfer - Sam F. Halabi 2020-05-31 Sharing biological resources — critical for new medicines and vaccines — has declined as countries and scientists dispute rights over research.

Emerging Zoonoses - I. W. Fong 2017-02-06 The book begins with a review of zoonotic pandemics of the past: the “Black Death” or bubonic plague of the Middle Ages, the Spanish Influenza pandemic (derived from avian influenza) of the early 20th century, to the more modern pandemic of AIDS/HIV infection, which originated in Africa from primates. However, the majority of chapters focus on more recent zoonoses, which have been recognized since the late 20th century to the present: SARS and MERS coronaviruses · New avian influenza viruses · The tick-borne Hanta virus from China · The tick-borne Heartland virus from the United States · Recently recognized bacterial pathogens, such as Streptococcus suis from pigs. In addition, reemergence of established zoonoses that have expanded their niches are reviewed, such as the spread of Zika virus and Chikungunya virus to the Western Hemisphere, and the emergence and spread of Ebola virus infection in Africa. A chapter is also devoted to an overview of the mechanisms and various types of animals involved in the transmission of diseases to humans, and the potential means of control and prevention. Many endemic and sporadic diseases are still transmitted by animals, through either direct or indirect contact, and zoonoses are estimated to account for about 75% of all new and emerging infectious diseases. It is predicted by public health experts that the next major pandemic of infectious disease will be of animal origin, making Emerging Zoonoses: A Worldwide Perspective a crucial resource to all health care specialists by providing them with much needed information on these zoonotic diseases iv>

History of the Surveillance and Control of Transmissible Animal Diseases - Jean Blancou 2003 There is a colour plate illustration for each chapter.