

**CORONAVIRUS REVIEW:  
The Complex Role of Wildlife Precursors of SARS-CoV-2 and  
Zoonotic Transmission Affecting Health  
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**Abstract:**

Ancient pandemics constituted inexorable tragedies decimating millions of people, historically documented as catastrophic outcomes. In the current pandemic, complex animal contacts are considered responsible for its genesis, agreeing with scholars that suggested it occurred as the result of a zoonosis linked to unnoticed viral spread through cross-species transmission. This work reviewed numerous research studies describing the potential role of wildlife on SARS-CoV-2, aiming to identify viral precursors among the most affected Asian countries heavily inhabited with chronically infected fauna, and analyzed current viral research in rats, transgenic mice, primates, mustelids, cats, and dogs testing positive for COVID-19, that suffered infections closely resembling human pathology. As disease vectors, we studied the role of bats, dromedaries, and minks, not only as models in biomedical research, but by their close association to recent veterinary public health catastrophes, resulting in the zoonotic transmission of COVID-19 in several countries. Finally, vaccine safety and promising animal investigation in ferrets leading to the synthesis of broad-spectrum antibiotics to treat COVID-19, is also reported. Conclusions confirmed strong links of SARS-CoV-2 infection between humans and wildlife, by virtue of the so-called, “amplification effect phenomenon” determined in dromedaries, bats, civets, and pangolins, highlighting also an unexpected reverse-zoonosis among 68% of mink farms workers in Demark, resulting in the euthanasia of millions of minks in Asia, Canada, and the US.

**Biography of presenting author:**

Dr. F. Eduardo Tena earned a Veterinary Medicine degree at the University of Mexico (UNAM), in 1973. He joined the Research Department of the Mexican Institute of Social Security (IMSS), in 1971, worked as Postdoctoral Fellow in Laboratory Animals & Comparative Medicine at The University of Florida, and Diplomate in 1976. Became consultant for the Quality Assurance Branch of the IMSS 18 years. Served as professor of Laboratory Animals at the UNAM. He received a Master in Laboratory Animal Science and Welfare at the UAB of Barcelona, Spain in 2009 and joined the Mexican Faculty of Medicine (FMM) of the Universidad La Salle, in 2014, Coordinating Animal Facility Services and Experimental Surgery. He has published more than 30 research articles in MDPI journals and a Mexican Guide for the Care and Use of Laboratory Animals for the Pharmaceutic Industry.

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