Editorial

Arthropod-borne virus infections cause a number of emerging and resurgent human and veterinary infectious diseases. Most emergent viruses are zoonotic; rodents and arthropods are most commonly involved in direct transfer and changes in agricultural practices or urban conditions that promote rodent or vector multiplication favour an increased incidence of human disease. Since arthropod transmission plays a very large part in infectious animal disease, specifically potential emergent virus epidemics, this Supplement will examine the biological and epidemiological factors responsible for the continuing emergence of new viral diseases, presenting articles on some representative viruses, such as arthropod-borne viruses, Rift Valley Fever Virus (RVFV), Crimean Congo Haemorrhagic Fever Virus (CCHFV), Phleboviruses and West Nile Virus (WNV).

F. Weber and M. Boulay have provided a comprehensive review of the current state of Rift Valley fever virus molecular biology. Since the establishment of reverse genetics systems that allow manipulation of the viral genome, there has been a surge in research activity on RVFV, covering both basic studies of viral replication and interactions with the host cell and practical applications for vaccine development. Phleboviruses recently came to the fore and R. Charrel *et al.* present a degree of novelty of the results, describing all the phases leading to the detection of two novel SFN and SFS-like viruses in Northern Algeria. Cusi *et al*., instead, have analyzed the epidemiological picture of another emerging phlebovirus, Toscana Virus, indicating that the geographic distribution of the virus is related to the vector, thus evolving with the climate, globalization and habitat modification. The recent outbreaks of West Nile virus (WNV) infection in the north eastern United States and other regions of the world have made it essential to develop efficient, sensitive, and rapid protocols for virus surveillance. Epidemiological data on the re-emerging WNV have been broadly discussed by Ruggeri *et al*., remarking on the impact of virus diversity and evolution as well as detection and control of infection. Moreover, Calistri *et al*. have reviewed the main epidemiological findings on WNV occurrence in Europe and in the Mediterranean Basin, defining possible trends in the epidemiology of West Nile in Europe for the coming years. Finally, the therapeutic aspect for counteracting some of these viral diseases has been tackled by A. Mirazimi *et al*. in this issue. Recombinant IFN-alpha preparations (Roferon A and Intron A) have been compared with a natural IFN-alpha for their antiviral activity against CCHFV, showing that the natural product is more efficacious, providing interesting information.

Arbovirus diseases have emerged as a global public health concern. However, the impact of climatic, social and environmental variability on the transmission of arbovirus diseases has significantly changed their profiles.

This collection of articles represents a useful addition to literature, providing an important starting point for those who wish to delve deeper into the topic.

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