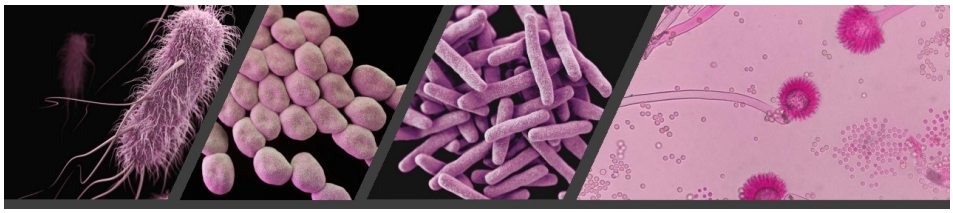

Contribution ID: **160** Type: **Oral presentation**

Rustrela virus (RusV) –a newly discovered cause of fatal encephalomyelitis in domestic, wild and zoo animals.

Friday 12 September 2025 10:45 (30 minutes)

Rustrela virus (RusV; species Rubivirus strelense) is a recently discovered relative of the human rubella virus and causes usually fatal non-suppurative meningoencephalomyelitis in a broad range of mammals, including felids, canids, mustelids, rodents and even marsupials. The virus was first identified in zoo animals from northeastern Germany, in 2019. Meanwhile, it has been found also in domestic, wild and zoo animals in Germany, Austria, Sweden and the USA. Meanwhile, RusV has been demonstrated to be the causative agent of 'staggering disease'in domestic cats as well as 'lion encephalitis'in lions, two neurological disorder that had remained of unknown aetiology for almost five decades. The clinical course is characterized by a broad range of neurological signs, with hind leg ataxia being the most prominent. Based on its broad range of susceptible hosts, a zoonotic potential of RusV cannot be excluded.
While encephalitic individuals appear to act as dead ends and do not spread the virus after spill-over transmission, apparently healthy yellow-necked field mice (Apodemus flavicollis) and wood mice (Apodemus sylvaticus) were identified as potential wild reservoir hosts of RusV. Experimental studies have confirmed the susceptibility of wood mice to RusV infection via intracerebral and oculonasal inoculation, but not via subcutaneous and intramuscular route and demonstrated shedding of viral RNA. The phylogeographic pattern of RusV sequences, with different sequence clusters occurring in separated, non-overlapping parts of the known dispersal areas, further suggests the virus to be bound to a rather non-mobile reservoir host, such as small mammals. However, many questions regarding the biology and epidemiology of RusV in reservoir and spill-over hosts remain elusive, such as course of infection, pathogenesis, and transmission routes.

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Author: RUBBENSTROTH, Dennis (Friedrich-Loeffler Insitute, Germany)

Presenter: RUBBENSTROTH, Dennis (Friedrich-Loeffler Insitute, Germany)

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