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WILD BIRD EXPOSURE TO FLAVIVIRUSES IN SOUTHERN TUNISIAN OASES

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It has previously been suggested that southern Tunisian oases may be suitable areas for the circulation of flaviviruses. In order to anticipate and prevent possible epidemiological spread of flaviviruses in humans and domestic animals, the ecology of their transmission in these areas needs to be better understood. In this study, we investigated the exposure of the laughing dove (*Spilopelia senegalensis) to West Nile virus* (WNV) and *Usutu virus* (USUV) in four southern Tunisian oases that differ regarding vegetation structure and distance to the coast. Anti-flavivirus antibodies were detected in 17% of sampled doves. Ten per cent of the total tested doves were West Nile virus (WNV) seropositive and 4% were Usutu virus (USUV) seropositive, which provides the first evidence of USUV circulation in Tunisian birds. Our results also showed that the occurrence of anti-flavivirus antibodies increased with decreasing distance to coast, suggesting that doves inhabiting coastal oases were more exposed to flaviviruses compared with those inhabiting inland oases. We also found a significantly higher occurrence probability of antibodies in adult doves compared with young ones, which underlines likely the effect of exposure time. Overall, our results suggest that the laughing dove may be used for WNV and USUV surveillance in southern Tunisia. They also stress the need for investigations combining data on birds and mosquitoes to better understand the ecological factors governing the circulation of flaviviruses in this area.

Keywords: Flaviviruses, oasis, Tunisia, Usutu virus, West Nile virus, wild bird

Biography

Ayadi Tasnim is a Phd student in biology at the faculty of sciences of Gabes "Faculte des sciences de Gabes", Tunisia. Her search field is "eco-epidemiology of pathogens in wildlife in Tunisian oases, and wildlife diseases".

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