

Invasive mosquitoes (Culicidae) of Luxembourg and Europe



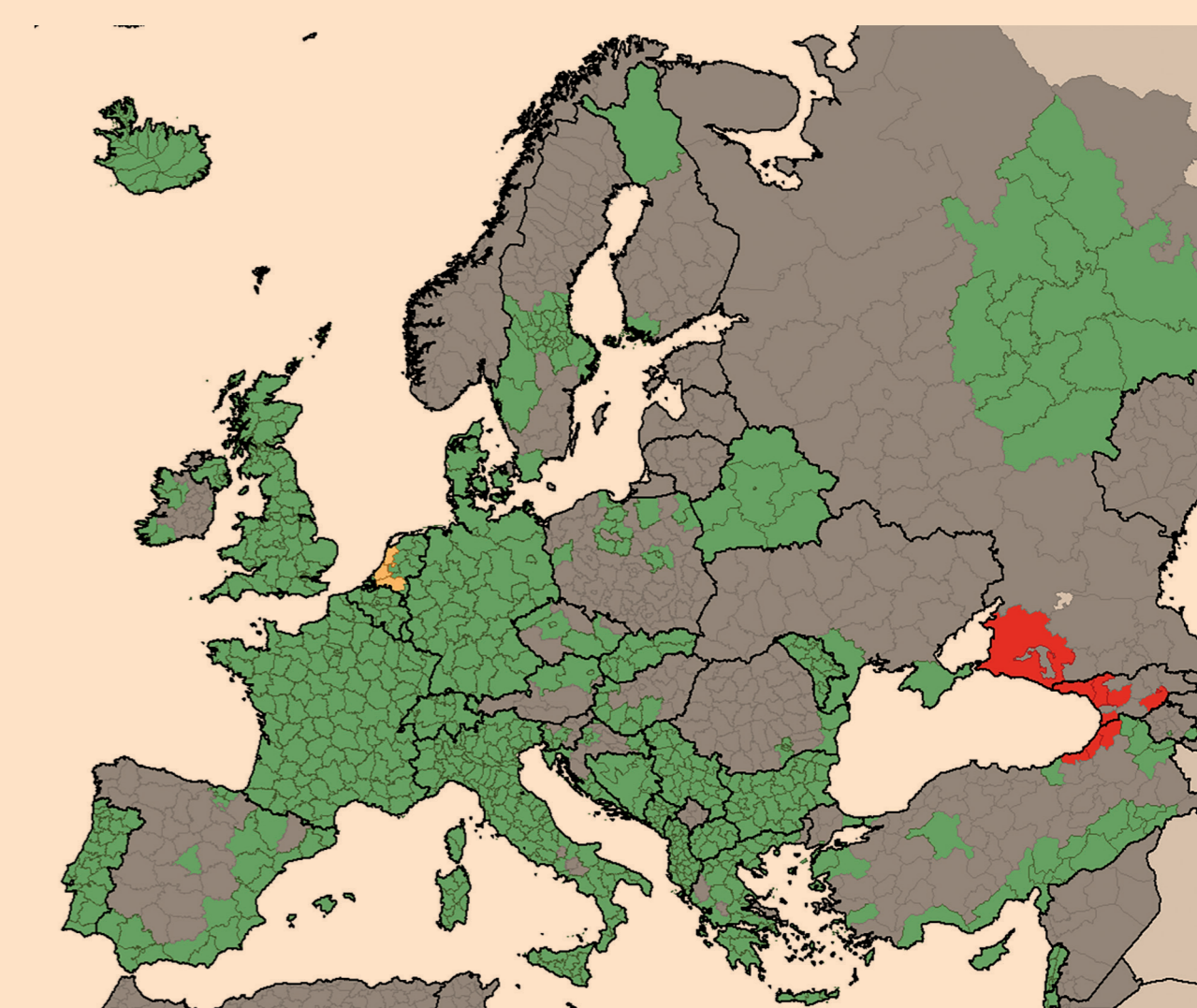
***Aedes aegypti* (Linnaeus, 1762)**

Nearest detection: The Netherlands.

Distribution: absent from Luxembourg.

Nuisance: both diurnal and crepuscular, will preferentially feed on humans, even in the presence of alternative hosts.

Diseases: vector of several viruses including yellow fever, dengue, chikungunya and Zika. In 2012, a large outbreak of dengue fever occurred in Madeira associated with *Aedes aegypti*.



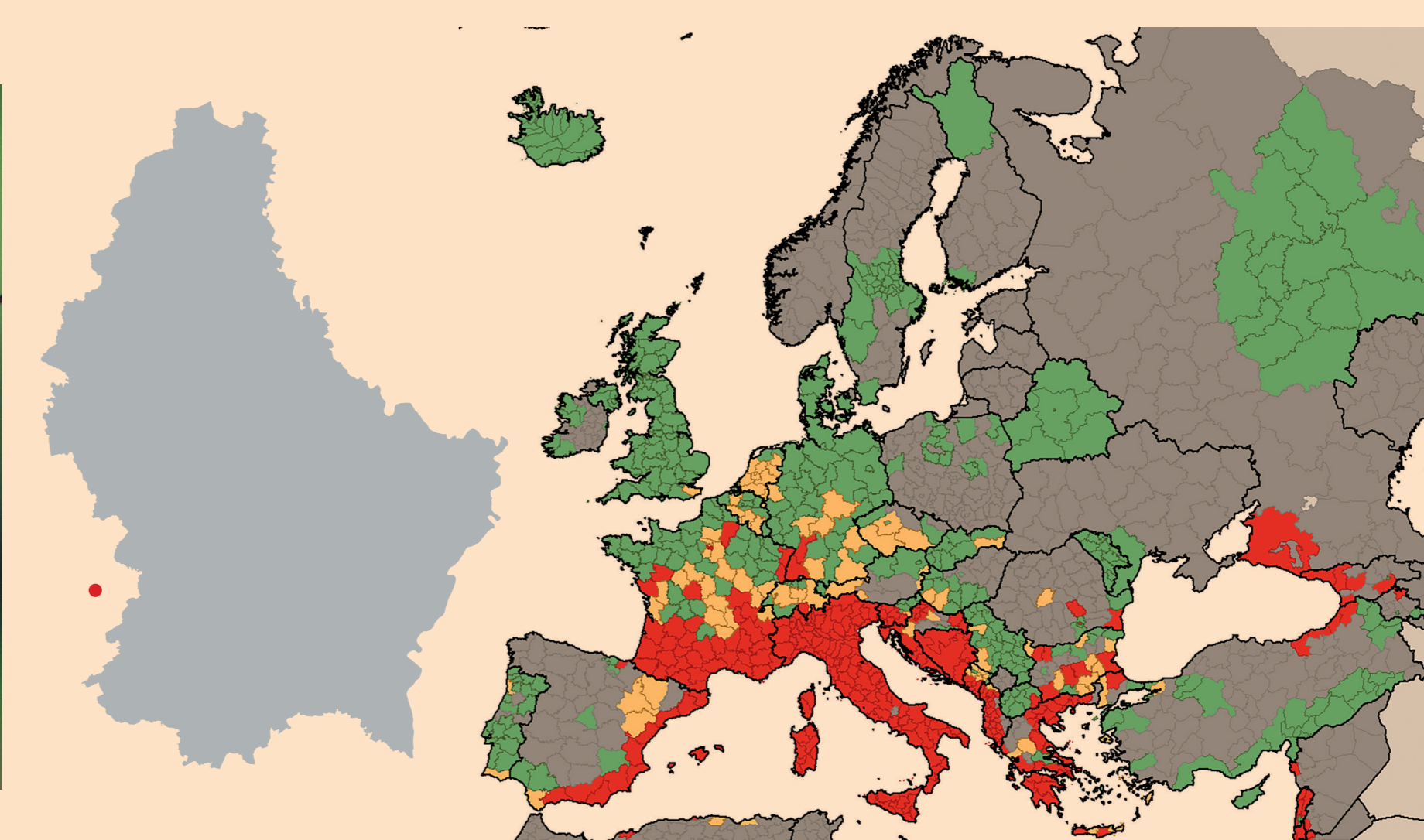
***Aedes albopictus* (Skuse, 1894)**

Nearest detection: Arlon, Belgium.

Distribution: unknown to date in LU, potentially not detected.

Nuisance: aggressive biter; significant pest in many communities because it closely associates with humans (rather than living in wetlands), and typically flies and feeds in the daytime in addition to dusk and dawn.

Diseases: many viral pathogens as yellow fever, dengue, chikungunya, Zika; several filarial nematodes such as *Dirofilaria immitis*.



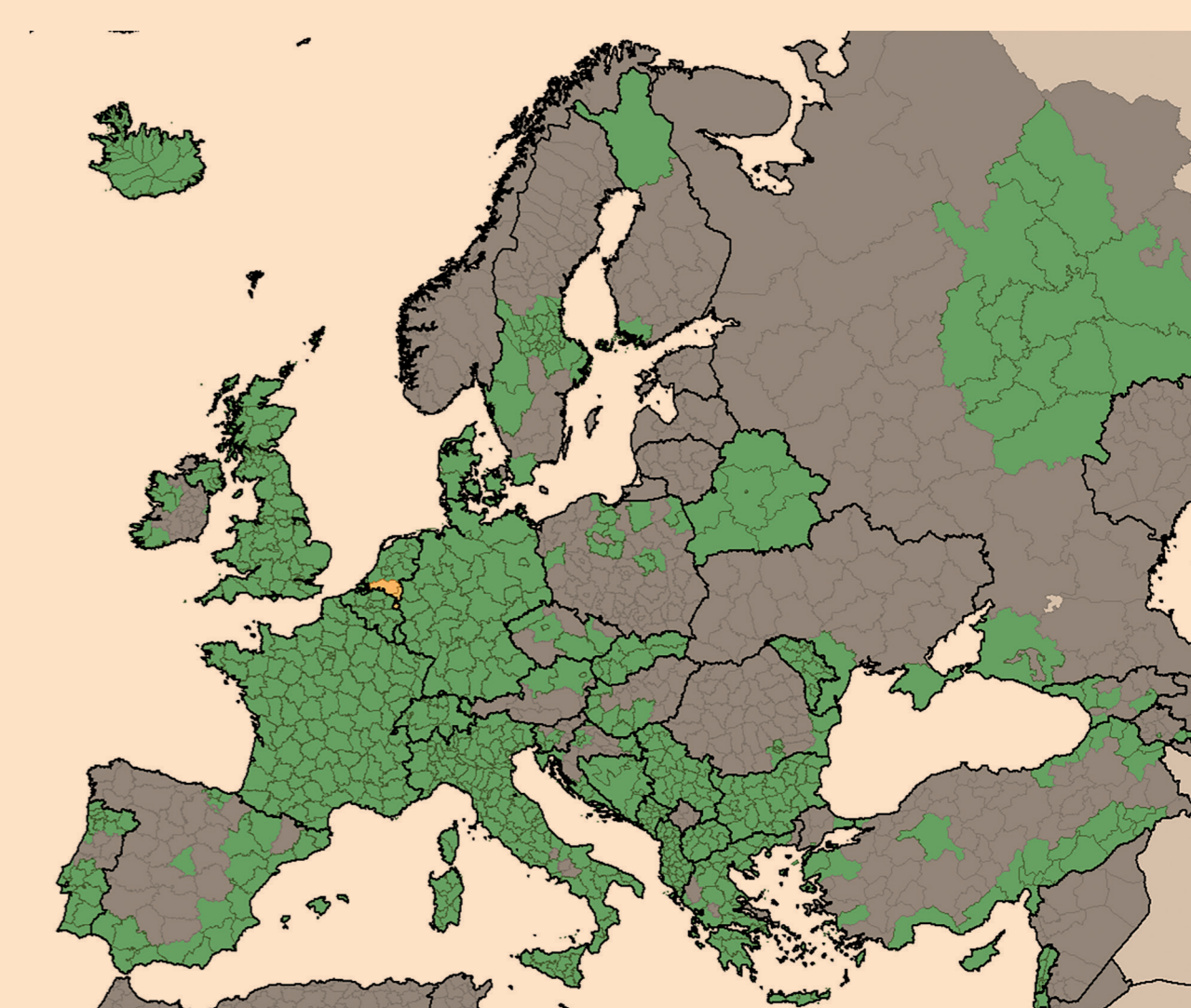
***Aedes atropalpus* (Coquillett, 1902)**

Nearest detection: The Netherlands.

Distribution: absent from Luxembourg.

Nuisance: readily bites humans (preference for mammalian hosts); pest near aquatic habitats, with biting activity reported during day and night. Limited flight range.

Diseases: not considered an important arboviral vector in the field. Competent vector for West Nile virus, La Crosse virus, Japanese encephalitis virus, Saint Louis encephalitis virus, and Eastern equine encephalitis virus.



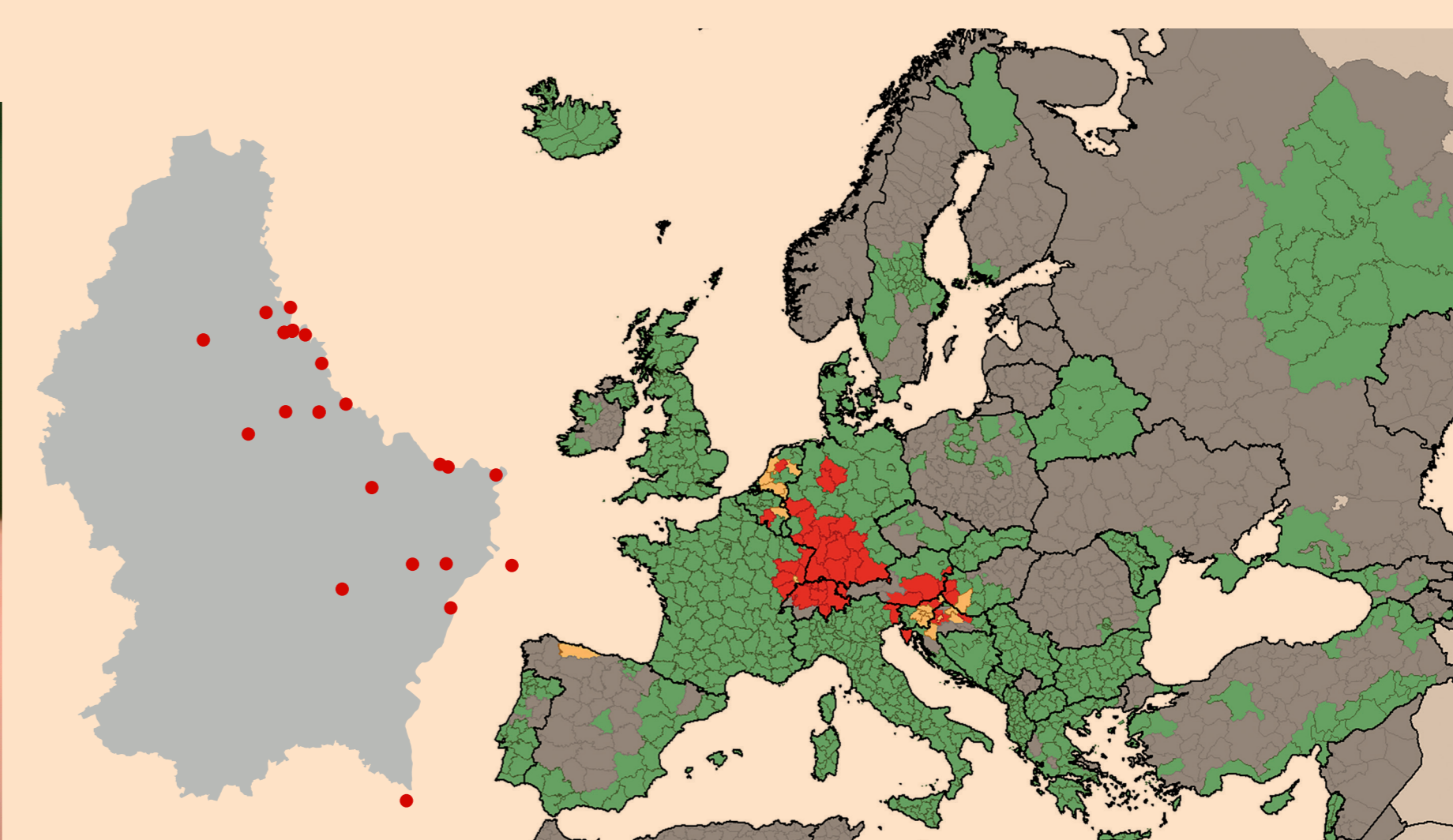
***Aedes japonicus* (Theobald, 1901)**

Detection: July 2018 in Stolzembourg, Our valley.

Distribution: SE of Oesling, Mullerthal and Moselle area. Invasion is going on from the East since at least 2017.

Nuisance: females are active during the day, increasing the potential contact this species could have with humans, which in turn may result in disease transmission.

Diseases: vector competence for the transmission of dengue, chikungunya and West Nile virus.



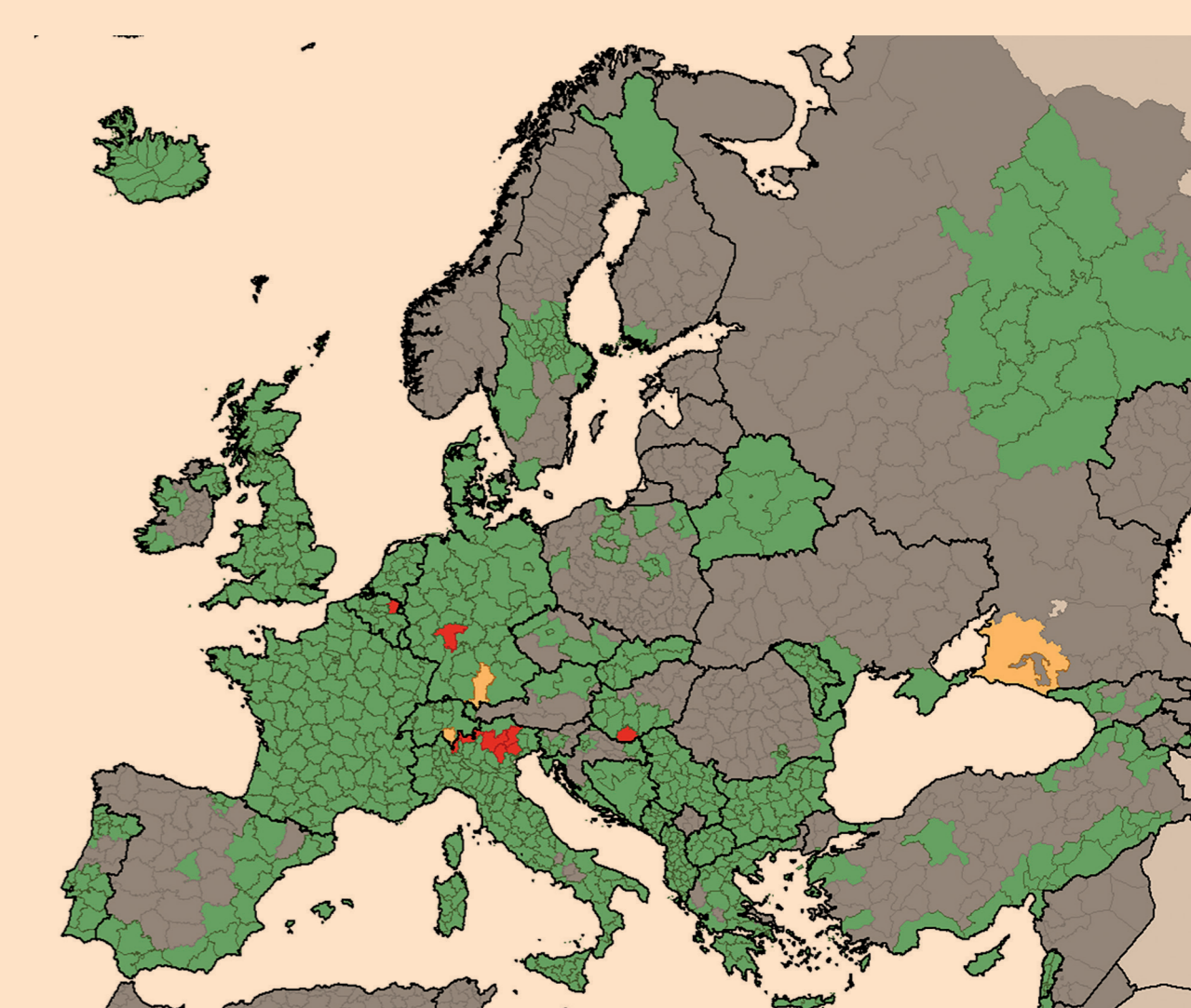
***Aedes koreicus* (Edwards, 1917)**

Nearest detection: Belgium and Germany.

Distribution: absent from Luxembourg.

Nuisance: bites humans both during day and night.

Diseases: its role in the transmission of viruses in natural conditions remains unclear. Vector for Japanese encephalitis virus; could be able to transmit *Dirofilaria immitis* to dogs and *Brugia malayi* to humans.



Citation: Ries, C. & F. Schaffner, 2019. Invasive mosquitoes (Culicidae) of Luxembourg and Europe. Poster for the 12th edition of the Science Festival from 7-10 November 2019. Luxembourg: Musée national d'histoire naturelle (MNHNL), Direction de la santé (MS), Département de l'environnement (MECDD).

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Maps: Europe: ecdc.europa.eu – red = established, orange = introduced, green = absent | LU: Paul Braun, mdata.mnhn.lu

For more information about mosquitoes in Luxembourg, see <https://mosquitoes.lu>

Layout: Karin Scholtes, Luxembourg National Museum of Natural History (MNHNL).

