

Pest mosquitoes (Culicidae) in Luxembourg and Europe



***Culex pipiens* Linnaeus, 1758**

Detection: 1997 in Bettembourg.

Distribution: all over Luxembourg.

Nuisance: bites from nightfall throughout the night.

Diseases: Main vector, or carrier, of St. Louis Encephalitis, West Nile virus, Western equine encephalitis, heartworm in dogs, and bird malaria. *Cx. pipiens* can be considered a "bridge" vector as it transmits viruses between birds and mammals.



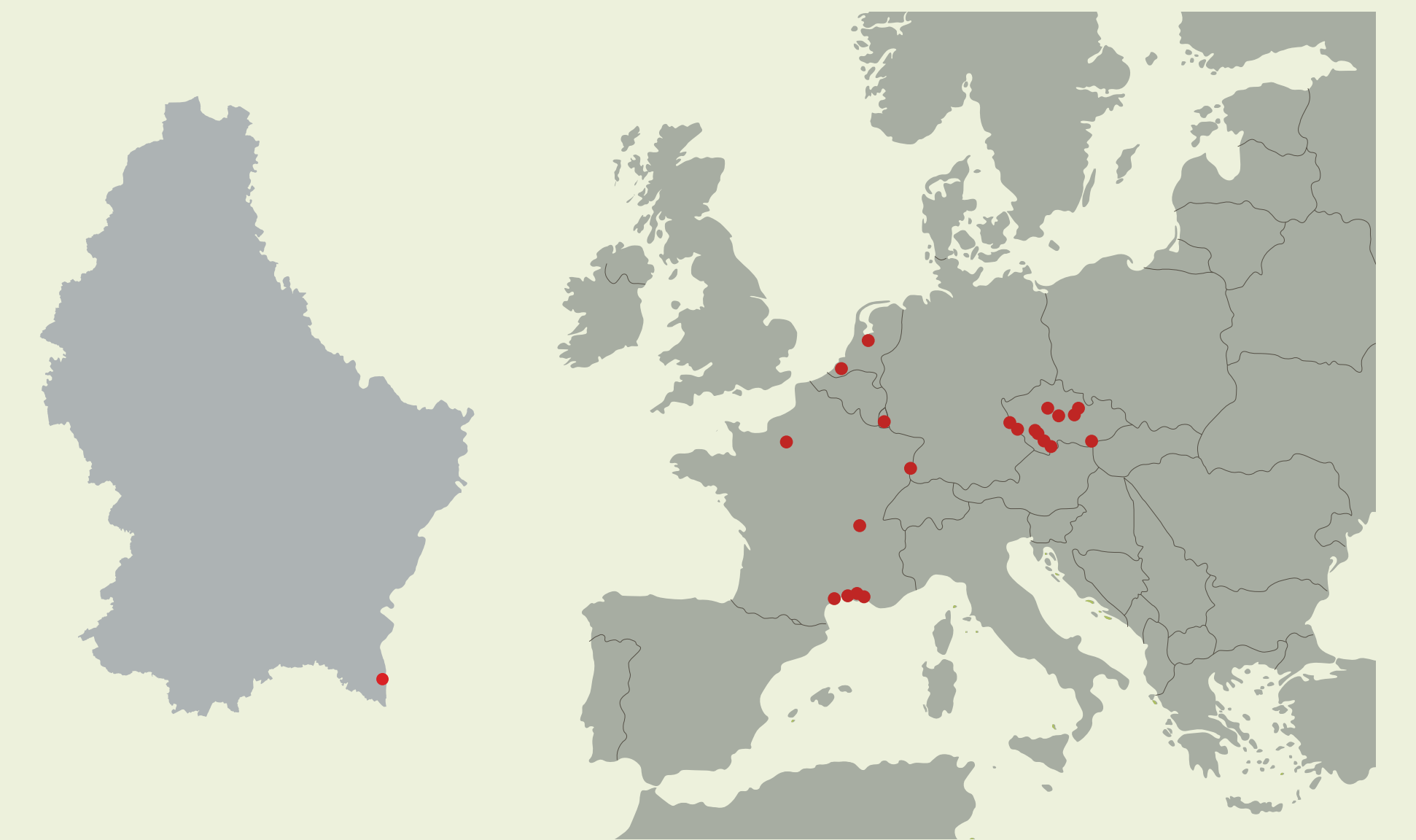
***Culex modestus* Ficalbi, 1889**

Detection: June 2019 in Remerschen, Moselle area.

Distribution: unknown to date in LU.

Nuisance: aggressive day and nightfall feeder on blood of vertebrates, especially birds, horses, and humans.

Diseases: Feeding on both birds and humans gives it significant potential for transmission of zoonotic infections from birds to humans, especially West Nile virus.



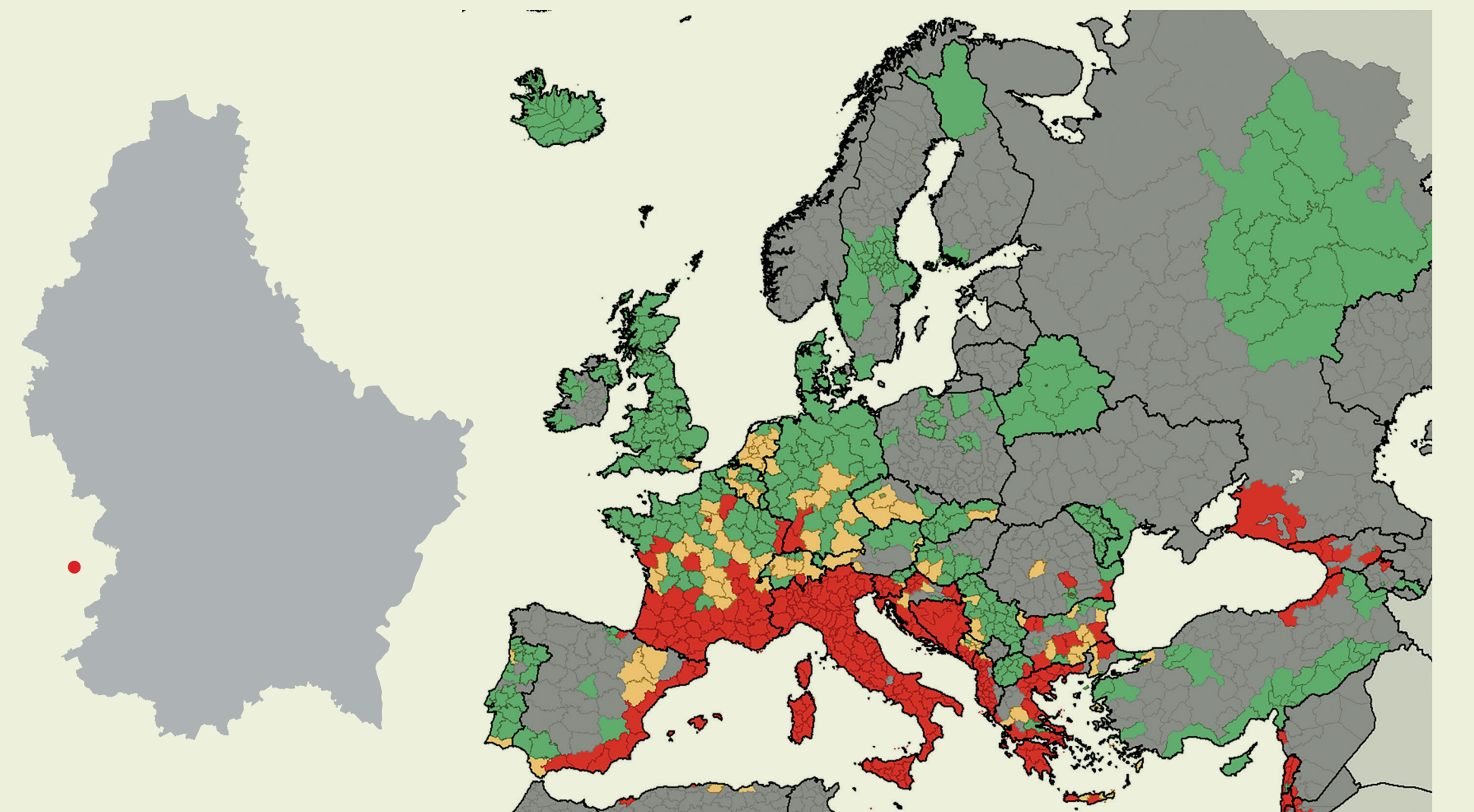
***Aedes albopictus* (Skuse, 1894)**

Nearest detection: Arlon, Belgium.

Distribution: unknown to date, not detected in LU.

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

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



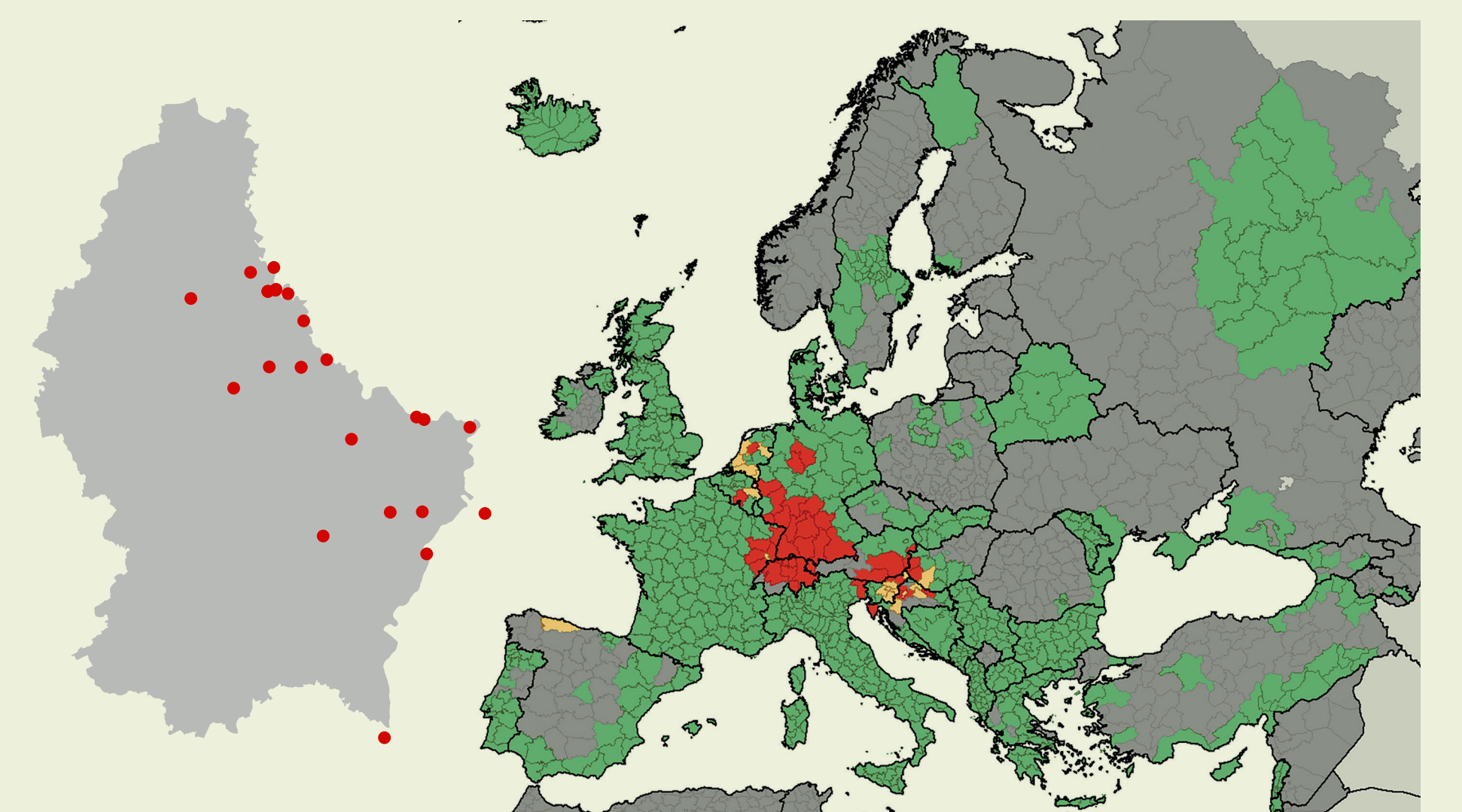
***Aedes japonicus* (Theobald, 1901)**

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.



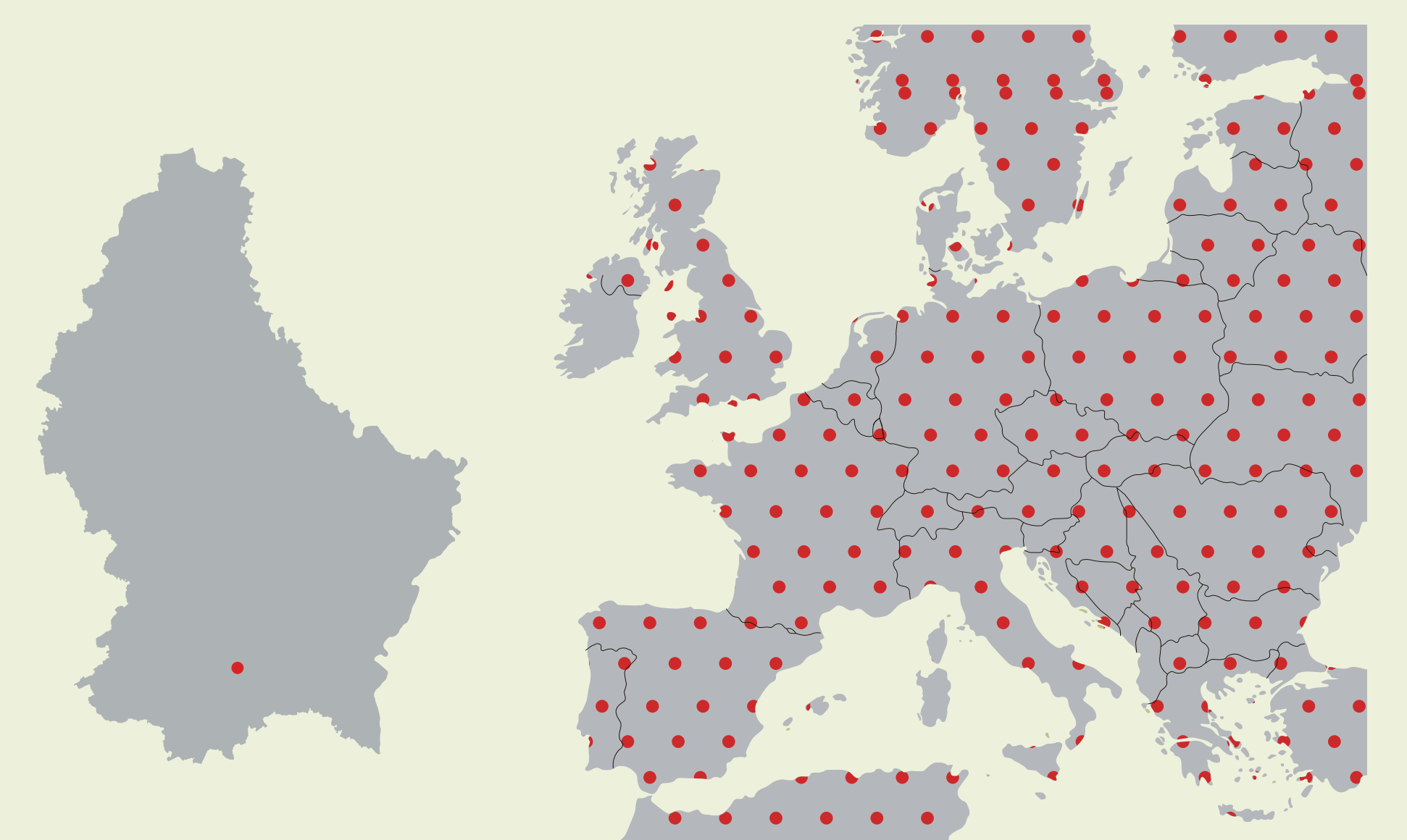
***Aedes vexans* (Meigen, 1830)**

Detection: 2016 in Kockelscheuer.

Distribution: unknown to date in LU.

Nuisance: aggressive nightfall human biter.

Diseases: vector of dog heartworm (*Dirofilaria immitis*), myxomatosis, Tahyna virus that can cause encephalitis or meningitis.



Citation: Ries, C. & F. Schaffner, 2019. Nuisance mosquitoes (Culicidae) of Luxembourg. 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).

Photo credit: a. c. d. e. commons.wikimedia.org | b. Desinsectador.com.

Maps: LU: Paul Braun, mdata.mnhn.lu. Europe: a. DOI: 10.1111/mve.12024 | b. alchetron.com | c. d. ecdc.europa.eu - red = established, orange = introduced, green = absent | e. DOI: 10.2903/sp.efsa.2013.EN-412

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

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

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