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## Spreading of invasive mosquito *Aedes japonicus* and *Aedes koreicus* in Italy

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In this study we report data on the occurrence and spread of *Aedes japonicus japonicus* and *Aedes koreicus* in Italy from 2011 to 2022. Mosquitoes were collected in the frame of different projects by larval search, traps for adult mosquito and ovitraps from March to November. Species identification was performed morphologically and molecularly by PCR and sequencing. Sites and municipalities were considered positive if larvae, adults or eggs (larval identification after hatching) were found. *Aedes albopictus* was not considered because this species is present all over Italy. During the last 12 years of entomological surveillance, 1703 municipalities of 7 Italian Regions (the whole of Northern Italy) were monitored. *Aedes koreicus* occurs in 456 municipalities (26.8%) and *Ae. j. japonicus* in 210 (12.3%). After its first finding in 2011 in Veneto Region, *Ae. koreicus* spread throughout northeast in five years; it was also found in Lombardy at Italian Swiss border. It reached northwest nine years later. A probably new introduction was recorded in Liguria region (northwest Italy) in 2015. *Aedes j. japonicus* was found in 2015 in one municipality bordering Austria and has spread through the North reaching the Northwest in 2019. To date, *Ae. j. japonicus* spread seems slower compared to *Ae. koreicus*. The expansion of both species southwards seems to be limited by the high mean summer temperatures and by the high density of the competitor species *Ae. albopictus* in the plain area. The overlapping of *Ae. koreicus*, *Ae. j. japonicus* and *Ae. albopictus* distribution is complicating the entomological monitoring system, due to their similar biology and morphology. Therefore, long-term surveillance and early detection are needed to limit the further spread and plan control actions against these invasive mosquitoes. This work was funded by the autonomous province of Trento and Veneto and Friuli Venezia Giulia Regions.