

Culex pipiens s.s.

Family **Culicidae**

Subfamily **Culicinae**



Culex pipiens s.s., as well as its tropical vicariant *Culex quinquefasciatus*, are members of the *Culex pipiens* complex. *Cx pipiens* s.s. is a synanthropic mosquito with a widespread distribution in temperate regions. This species occurs as two biological forms, *Cx. pipiens pipiens* and *Cx. pipiens molestus*, which exhibit important behavioural and physiological differences. The *molestus* form has a greater tendency to feed upon humans and other mammals whereas the *pipiens* form prefers avian hosts.

The adaptation of *Cx. pipiens* complex to human environments and hosts while predominantly feeding on birds increases zoonotic disease risk.

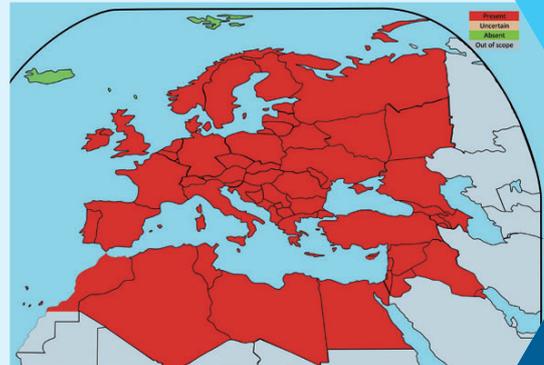
Culex pipiens is the main vector for West Nile virus, and many other pathogens.



Distribution around the Mediterranean Basin

Native to Africa, this mosquito is now the most widely distributed mosquito in temperate regions, spread mostly by humans to every continent except Antarctica.

The *pipiens* form is probably the only biological form in the most northern part of Europe, and the *molestus* form more common in the Mediterranean basin.



Distribution of *Culex pipiens*
2018 / MosKeyTool



Vector surveillance

No surveillance at European level.

Vector control

- Reduce the aquatic habitats suitable for larvae
- Use chemical or biological insecticides, including *Bacillus sphaericus*
- Protect against bites by using repellents, clothes that cover the body well and sleep under a mosquito net

Transmission

Potential vector of:

West Nile virus (WNV)

Rift Valley fever virus (RVFV)

Japanese encephalitis virus (JEV)

Bancroftian filariasis



References, tools

Dehghan H, Sadraei J, Moosa-Kazemi SH, et al. A Pictorial Key for *Culex pipiens* Complex (Diptera: Culicidae) In Iran. *Journal of Arthropod-Borne Diseases*. 2016;10(3):291-302.



MORPHOLOGICAL DESCRIPTION

The apex of all femora with narrow spot of yellowish scales.

Tarsi are uniformly dark brown.

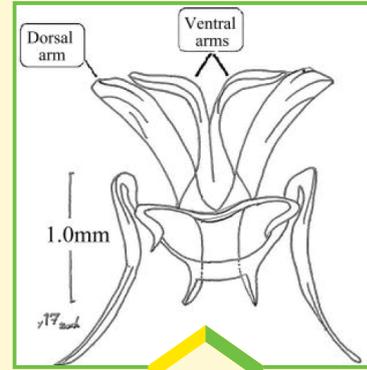


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Adults with yellowish basal bands on abdominal terga.



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Males are distinguishable from *Cx. quinquefasciatus* and *Cx. torrentium* by the male genitalia characters.



Body length: 3-7 mm



Biting behaviour: Their most active time to feed is after dusk and before dawn.



Immature habitats: Usually the most common mosquito in urban settings, found breeding in fouled and polluted water; often in small containers, septic systems and ditches associated with human activity.



Host preference: Major role in human nuisance. Also bites birds.

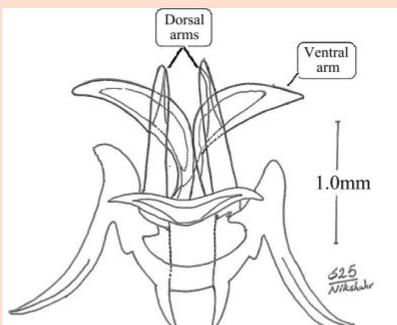


EASILY CONFUSED SPECIES

In the absence of information on the male genitalia, molecular techniques are recommended to identify *Culex pipiens* from *Culex quinquefasciatus* and *Culex torrentium* at both adult and larval stage.

Culex quinquefasciatus

Differences in the shape of the male genitalia - dorsal and ventral phalosome arms.



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Culex torrentium



The prelar scales usually permit to discriminate females of *Cx. pipiens* (absent) and *Cx. torrentium* (present).

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