



NEW ZEALAND BIOSECURE

Entomology Laboratory



Culex (Culex) restuans (Theobald)

NZ Status: Not Present – NSP Watchlist



<http://biomicro.sdstate.edu>

Vector and Pest Status

Culex restuans is an efficient laboratory vector of West Nile virus (WNV) (Sardelis *et al.*, 2001). This species may also play a secondary role in the transmission and maintenance of St. Louis encephalitis (SLE) virus based on field collected specimens and laboratory transmission studies (Crabtree *et al.*, 1995; Sardelis *et al.*, 2001). A cypovirus (CrCPV) has been isolated from this species (Green *et al.*, 2005) as has Eastern Equine Encephalitis (Howard *et al.*, 1996), Western Equine Encephalitis (VanDyke *et al.*, 1995) and Flanders virus (Kokernot *et al.*, 1969).

Geographic Distribution

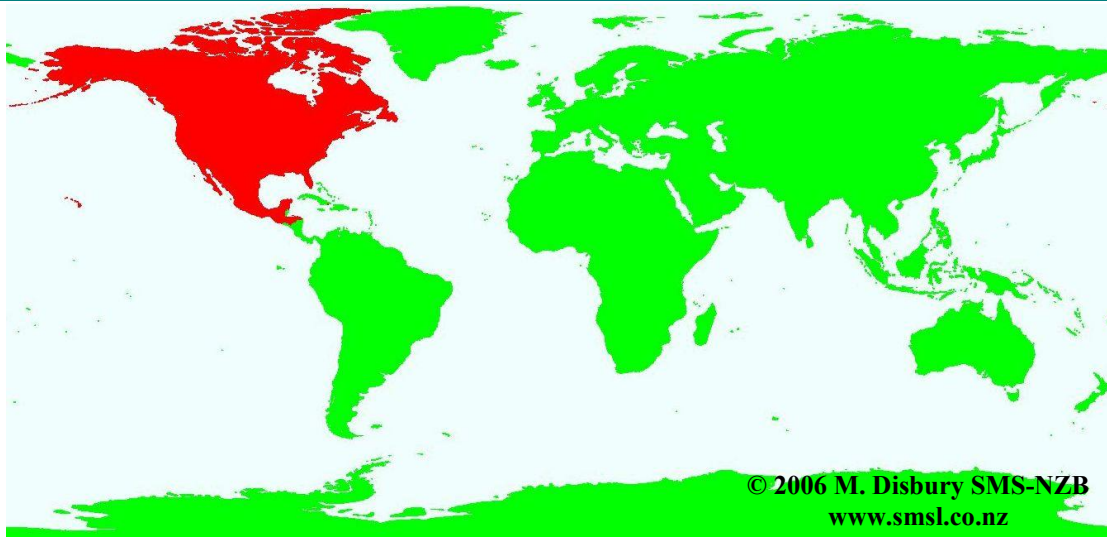
This species is present in Canada, Mexico, the United States (Crans, www.rci.rutgers.edu), Guatemala and Honduras (Strickman and Darsie, 1988).

Incursions and Interceptions

This species has not been intercepted in New Zealand.

Taxonomy

Culex restuans larvae can be distinguished by the single hairs on the siphon which are unlike other *Culex* species (Crans, www.rci.rutgers.edu).



This map denotes only the country or general areas where this species has been recorded, not actual distribution.

Culex restuans adults appear similar to *Cx. pipiens* and *Cx. molestus*, however a large proportion of adult female *Cx. restuans* lack the white scale spots on the thorax (Crans, www.rci.rutgers.edu).

Habits and Habitats

Culex restuans utilizes a wide range of larval habitats, including temporary unstocked fish ponds, rain barrels, semi-domestic water holes ground water, the edge of grassy swampland, sphagnum bogs, road side ditches, wheel ruts, hoof prints, discarded buckets, tyres, catch basins, sewage effluent and septic seepage pools in streams, woodland pools and other artificial containers (Ross, 1947; Carpenter and LaCasse, 1955; Crans, www.rci.rutgers.edu). This species will lay in ovitraps (Jackson and Paulson, 2006) and has been collected in the vicinity of saltmarshes (Rueda and Gardner, 2003). The type of water occupied varies from clear to polluted (Crans, www.rci.rutgers.edu).

In the United States this species reaches its greatest abundance in the spring and early summer throughout most of its range, and occurs in lesser numbers during later summer and autumn (Carpenter and LaCasse, 1955).

Culex restuans primarily feeds on avian hosts (Horsfall, 1955 in Sardelis *et al.*, 2001). In a host feeding pattern study in the United States, *Cx. restuans* fed most commonly on American robins (37%) (Molaei *et al.*, 2006). The females have been regarded as troublesome biters although it has also been noted that they rarely bite humans (Carpenter and LaCasse, 1955). Whether this species feeds on human remains unclear (Moore *et al.*, 1993 in Sardelis *et al.*, 2001).

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