



*Culex (Culex) gelidus* (Theobald)

frosty mosquito

**NZ Status: Not present – Unwanted Organisms**



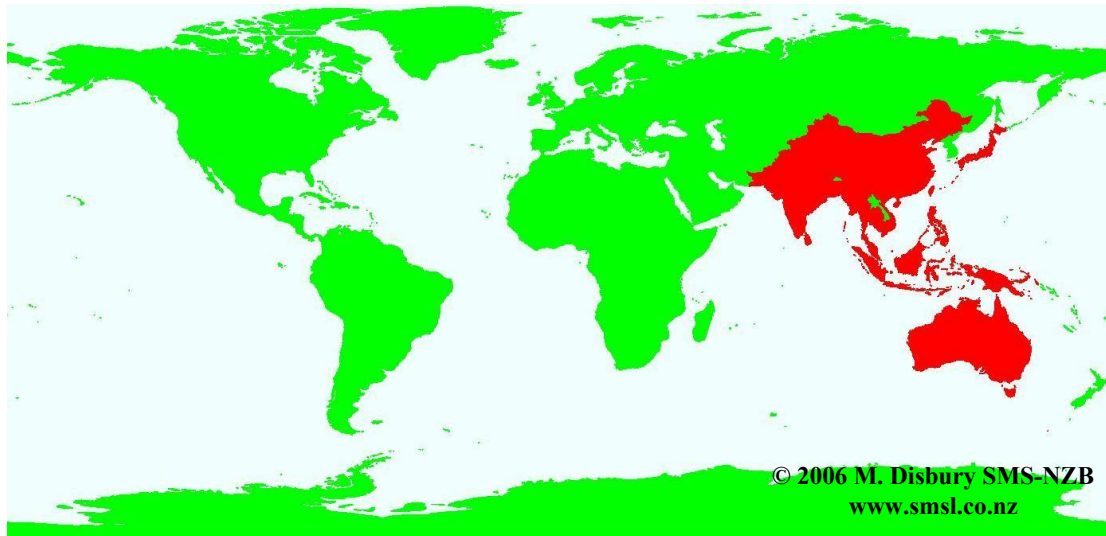
**Vector and Pest Status**

*Culex gelidus* is an important vector of Japanese encephalitis (JE) (Gould *et al.*, 1962) particularly in Southeast Asia. Other pathogens isolated from this species in the wild include Ross River virus (Harley *et al.*, 2000), Getah virus (Peiris *et al.*, 1994), Tembusu, Dengue type 1, Sindbis, Bancroftian and Malayan filariasis (*Wuchereria bancrofti* and *Brugia malayi*) (Lee *et al.*, 1989).

**Geographic Distribution**

This species is widespread in the Oriental region including India, Sri Lanka, Burma, Kampuchea, Vietnam, Malaysia, the Philippines, Hong Kong, Taiwan, Singapore, Nepal, Pakistan, China, Thailand, Indonesia and Japan (Bram, 1967; Lee *et al.*, 1989). It is also present in the Australasian region and has been recorded from Indonesia, Papua New Guinea, the Moluccas on Morotai, Timor in the Lesser Sunda Islands and Irian Jaya (Lee *et al.*, 1989).

*Culex gelidus* has recently been introduced into Australia, with confirmation from Darwin, Katherine and Batchelor in the Northern Territory, and Cairns, Mackay and Brisbane in Queensland (Whelan *et al.* 2000).



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

### **Incursions and Interceptions**

This species has been intercepted once in New Zealand at Auckland airport on the 1<sup>st</sup> August 2003 in a box of flowers from India. In Australia, *Culex gelidus* was recorded for the first time on May 1999 from two locations, Brisbane and Mackay (Queensland) approximately 820 km apart (Muller *et al.*, 2001).

### **Taxonomy**

*Culex gelidus* belongs to the subgenus *Culex*. It earns its common name (the frosty mosquito) from the distinctive 'frosty' pale scales which cover the thorax of the adult mosquitoes. Adult specimens have been confused with *Culex vicinus* and *Culex whitmorei*, and larvae may be confused with *Culex quinquefasciatus* (van den Hurk *et al.*, 1995).

### **Habits and Habitat**

*Culex gelidus* can breed in variety of freshwater habitats including dirty waters, sometimes with considerable organic matter (Lee *et al.*, 1989; van den Hurk *et al.*, 1995). Habitats include small rivers, ground pools, canals, tributaries, puddles, marshes, artificial containers such as earthenware pots, and natural containers such as coconut shells (Bonne-Wepster 1954a; 1954b, Colless, 1957 in Lee *et al.*, 1989). In Australia, they have been found breeding in wastewater ponds and artificial water containers including car tyres (Whelan *et al.* 2000).

Adult females have been recorded as voracious biters, attacking humans in large numbers as soon as it gets dark dark, both inside and outside houses (Bonne-Wepster, 1954a; 1954b in Lee *et al.*, 1989). They have been observed to have crepuscular biting activity (Amerasinghe, 1988). The preferred hosts include cows and pigs, however they will readily feed on humans, water buffalo, goats, deer, chickens and wild birds (Sirivanakarn, 1976 in Lee *et al.*, 1989).

Their flight range is unknown but is considered to be several kilometres (van den Hurk *et al.*, 1995).

## References

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