

Aedes (Ochleratus) procax (Skuse, 1889)

NZ Status: Not present - Unwanted Organism



Vector and Pest Status

Aedes (Ochleratus) procax (Skuse, 1889) can be a minor pest in its breeding area and Ross River virus (RRV) has been isolated from this species in southeastern Australia (Ritchie et al, 1997, Ryan et al. 2000). *Ae. procax* showed in laboratory experiments the highest RRV transmission rate (B94/20 strain) of all tested abundant mosquito species of the Maroochy Shire (Ryan et al., 2000).

When the distribution of human cases did not decline noticeably away from the coast during the RRV epidemic in the Brisbane area 1992 (Standfast, unpublished data), it was suggested that brackish and freshwater mosquitoes play an important role as RRV vectors in urban areas (Ritchie and Kline, 1995, Russel et al. 1997), although Ryan et al. 1999 found no apparent association between trapping indices and RRV incidences. They indicate *Ae. procax* as a possible secondary vector after heavy rains that may occur during autumn end early winter.

The ability of *Ae. procax* to transmit Barmah Forest virus (BF1611 strain) was discovered by Ryan and Kay (1999).

Ae. procax has been considered a possible Myxomatosis virus vector (Fenner and Ratcliff, 1965).

Geographical distribution

Ae. procax is a common species in coastal areas and breeds in bushland groundpools of Southeast of Australia Lee et al. (1984).

The larvae have been collected from freshwater sedge and tea-tree swamps on Stradbroke Islands (Marks, 1949) and Fraser Island, Lake McKenzie (Marks, 1968). Dobrotworsky (1966) found *Ae. procax* just across the Victorian border in East Gippsland.

Ae. procax was the most abundant species in the brackish water pools located in the swamp oak and tea-tree forest of Maroochy Shire, south-east Queensland (Ryan et al. 2000, Ryan and Kay, 2000). Adults have been collected by carbon dioxide-supplemented light traps at Mount Coolum and Bli Bli with numbers up to 4980 specimen per night (Maroochy Shire council, unpublished data, 1998).



Incursions and Interceptions

No interceptions are recorded.

Taxonomy

Ae. (Och.) procax was 1889 described by Skuse as *Culex procax* and was wrongly synonymised by Edwards 1912 with *C. rubithorax* Marquart, 1850. But Edwards recognised the accordance with *Ochleratus* characters rather than *Culex*, therefore he named the species *Och. rubithorax* (Marquart, 1850). Klein and Marks (1960) designated *Ae. (Och.) procax* after reviewing of museums material. Reinert (2000; 2004) again declared the level of a genus for *Ochleratus*, which is now pending on confirmation.

Habits and Habitats

Ae. procax is a floodwater species that bites man (Linley and Russell, 1991). It breeds in bushland groundpools and in brackish water. Floodwater species are able to use habitats that exploit the dynamic nature of saltmarshes. The larvae can develop near saltmarshes during normal tidal cycles and after rainfall, when the salinity of groundpools is lower, even in them (Dale & Breitfuss, 2009).

Aedine mosquitoes lay singly eggs on the ground surface or damp ground. When flooding occurs, dissolved oxygen stimulates hatching. Often this results in simultaneously hatching and very big numbers of larvae (Dale & Breitfuss, 2009). The larvae submerge for long periods to feed on the bottom of habitats, which makes it difficult to sample with dippers and nets (Ryan and Kay, 2000).

Ae. procax is known to feed broadly on mammalian hosts (Lee et al. 1984), but relatively little is known about the bionomics of the species (Russel et al., 1997). Best trapping strategies for adults are CDC (Centre for Disease Control) light traps baited with carbodioxide and 1-octen-3-ol (Ritchie and Kline, 1995).

References

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Map:

<http://bie.ala.org.au/species/urn:lsid:catalogueoflife.org:taxon:dc786e81-2dc5-11e0-98c6-2ce70255a436:col20120124>