Can ‘new age’ ovitraps be a useful tool for management of dengue (and perhaps filariasis) in the Pacific region?

Richard Russell\textsuperscript{a} and Scott Ritchie\textsuperscript{b}
\textsuperscript{a}University of Sydney, , Department of Medical Entomology, Westmead Hospital, West, NSW 2145 Westmead, French Polynesia
\textsuperscript{b}Queensland Health, Tropical Population Health Unit, PO Box 1103, QLD 4870 Cairns, Australia
rrussell@usyd.edu.au

Ovitraps, a long-term surveillance tool for Aedes mosquitoes, particularly Aedes aegypti the major vector of dengue viruses, have been undergoing development towards becoming effective potential vector control tools. In Australia in recent years, the surveillance attributes of the regular ovitrap have been enhanced with the addition of a sticky plastic insert, and the potential of ovitraps for reducing adult vector populations has been explored with the incorporation of an insecticide impregnated oviposition strip that kills adults visiting to lay their eggs. These ‘new age’ ovitraps have proved to be significant advancements for the dengue surveillance and control programs in Cairns in northern Queensland, and have reduced the need for domestic residual insecticide applications when there are dengue outbreaks. To counter the logistical problem of retrieving ovitraps that have been deployed during control programs, lest they provide long-term vector habitats, a further advancement has come with the development of a biodegradable ovitrap that ceases to hold water after approximately a month and eventually decomposes entirely. These enhanced ovitraps may offer a sustainable, low cost and environmentally friendly additional tool to the armoury available for vector control during dengue outbreaks in the Pacific region. Also, preliminary investigations have shown potential for use of these ovitraps against Aedes polynesiensis, a major vector of bancroftian filariasis as well as being a secondary vector of dengue in the Pacific, and while control of Aedes polynesiensis is a much more complicated issue than control of Aedes aegypti, such ‘new age’ ovitraps may prove to be a useful adjunct tool for filariasis control as well as dengue control.

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