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Contribution of leaf axils in common plant species as breeding sites for vectors of dengue in Sri Lanka

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Breeding of vectors of dengue (*Aedes aegypti* and *Aedes albopictus*) in four species of water-holding plants banana (*Musa* spp., n = 120), pineapple (*Ananas comosus,* n = 185), habarala (*Alocasia macrorrhiza*, n = 110) and kiri-ala (*Colocasia esculenta,* n = 101) were surveyed in May and June (rainy months) 2011 in randomly selected localities in the Colombo and Gampaha Districts.

A total of 7911 leaf axils in 516 mature plants were sampled. Mosquito larvae / pupae were found in 289 axils (3.6%) in 183 plants (35.46%) yielding 597 larvae and 62 pupae (average 3.26 larvae and 0.34 pupae per positive plant). Four genera of mosquito larvae i.e. *Malaya* spp., *Tripteroides* spp., *Armigeres* spp., and *Aedes* spp. were collected. The *Aedes* spp. was identified as *Ae. albopictus*. *Ae. aegypti* was never encountered during this survey. *Ae. albopictus* inhabited 103 leaf axils (1.3%) of 88 (17.05%) plants yielding 164 larvae (27.47% of total mosquito larvae). Yields of all mosquito larvae and pupae per water-holding axil and that of the larvae of *Ae. albopictus* were highest in *A. macrorrhiza* (1.29, 0.13 and 0.27 respectively). The lowest yieldsper water-holding axil were in *An. comosus* (0.12 larvae, 0.04 pupae and 0.01 *Ae. albopictus* larvae). The larval / pupal yields per plant were highest in *A. macrorrhiza* (3.48 larvae, 0.36 pupae and 0.73 *Ae. albopictus* larvae) followed by An. *comosus* (0.92 larvae, 0.05 pupae and 0.32 *Ae. albopictus* larvae). Although the larval yields per axil was lowest in *An. comosus,* the larval yields per plant were significantly high in it compared to *Musa* spp.and *C. esculenta* ($p < 0.005$).

The results indicate that *A. macrorrhiza* contributes the most to breeding of *Ae. albopictus* followed by *An. comosus* compared to the other two species. However, the contribution of water-holding leaf axils of a single plant of any of the species is very low. Nevertheless, it may be possible for any of the studied plant species to produce high numbers of dengue vectors depending on its availability in an area.

Keywords: *A. macrorrhiza* *Ae. albopictus**An. comosus* leaf axils

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