

Abstract

The objective of this research is to detect insecticides resistance of dengue vector in Northern and Central Taiwan in order to provide some advice for prevention strategies and tactics in the future. Tested *Aedes albopictus* strains were collected in the field from Taipei, Keelung, Hsinchu, Miaoli, Taichung, Changhua, Yunlin, Chiayi and Hualien area and were treated with dry film method, Ultra-Low-Volume spray, thermal fogging and dipping method. Compared with laboratory strain, the resistance of *Ae. albopictus* of Jhunghe city strain and Keelung city strain to permethrin 0.25% by dry film method was 2 times above. By ULV spray, including lambda-cyhalothrin and pirimiphos-methyl, the mortality of all strains after 1 hour reach to 85% at least. After 24 hours, average mortality of all strains reach to 100% . By thermal fogging method, which used cypermethrin, KT50 of all strains were within 4 minutes. The average mortality after 30 minutes reach to 100% . To detect the median lethal concentration (LC50), 95% lethal concentration (LC95) and resistance of *Ae. albopictus* to organophosphates and synthetic pyrethroids by using dipping method. Cypermethrin-resistance in Jhunghe city strain in Taipei and Chiayi strain was 10 times above. Lambdacyhalothrin-resistance in Jhunghe city strain was 10 times above. Lambdacyhalothrin-resistance in Changhua strain was 4 times above.

Keywords : dengue ; resistance ; vectors ; *Aedes albopictus*