

## INTRODUCTION

This is the fifth in a series of publications that aim to provide taxonomic information and identification keys for the adult and larval stages of the mosquito species that occur in Thailand. Previous publications of this series include an introduction and keys for recognizing the mosquito genera of Thailand (Section I, Rattanaarithikul *et al.*, 2005a), and keys for the identification of species of genera *Culex* and *Lutzia* (Section II, Rattanaarithikul *et al.*, 2005b), *Aedeomyia*, *Ficalbia*, *Mimomyia*, *Hodgesia*, *Coquillettidia*, *Mansonia*, and *Uranotaenia* (Section III, Rattanaarithikul *et al.*, 2006a), and *Anopheles* (Section IV, Rattanaarithikul *et al.*, 2006b). The present paper provides keys for the identification of the Thai species of genera *Orthopodomyia*, *Kimia*, *Malaya*, *Topomyia*, *Tripteroides*, and *Toxorhynchites*. Previously published keys to the species of these genera, including Edwards (1922), Barraud (1934), Thurman (1959), and Mattingly (1981), are out of date and not readily available. Most other references to mosquitoes of these genera, *e.g.*, Edwards (1926), Brug (1931), Delfinado and Hodges (1968), Ramalingam (1975, 1983), Klein (1977), Miyagi *et al.* (1983, 1989), Dong and Wang (1988), Miyagi and Toma (1989), Dong *et al.* (1995), and Harbach *et al.* (2007), only provide descriptions of new taxa.

Although the species of the genera treated herein are not of medical importance, they are elements of the Thai mosquito fauna that need to be distinguished from medically important species. They are also of significant interest in studies of mosquito biology and phylogeny. Consequently, identification keys are provided here to assist public health workers and entomologists to distinguish the adult females and larvae of these species. Diagnostic characters are highlighted on drawings and, whenever possible, were chosen so that they could be seen using a dissecting microscope (10-40x). The subregions of Thailand were defined by Rattanaarithikul *et al.* (2005a). The morphological terminology recommended by Harbach and Knight (1980, 1982) is used in the keys. The keys are structured like those of Harbach (1985). Generic and subgeneric abbreviations are those of Reinert (2001) and Harbach *et al.* (2007). Species and their authorship and distributions are given in Table 1.

Many characters used previously for species identification were found to be unreliable and many new characters were discovered. The adult females and larvae of many species of *Topomyia*, *Tripteroides*, and *Toxorhynchites* are unknown; hence, the keys presented herein will not enable their identification. In view of this and the discovery of 10 new species during the preparation of these keys, it is obvious that current knowledge of the taxonomy of Thai mosquitoes is far from complete. Thorough knowledge of the mos-