

Roungthip Masmeatathip 2006: Characterization of *Stomoxys* spp.
(Diptera: Muscidae) Population in Central Thailand. Doctor of Philosophy
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Characterization of *Stomoxys* spp. were carried out for the first time in central Thailand at Nakhonpathom, Kanchanaburi and Saraburi provinces. The Vavoua traps were used for flies capture in beef and dairy cattle farms. Four species of *Stomoxys* were observed including *Stomoxys calcitrans* (L.), *S. sitiens* Rondani, *S. indica* Picard and *S. bengalensis* Picard. The 4 species of Stomoxyine flies displayed several characteristics which distinguished from each other. Dorsal abdominal pattern characterized each species of flies. Morphological characters as well as male genitalia were described and illustrated.

The experiment on seasonal abundance and daily activity of *Stomoxys* spp. were examined at Nakhonpathom province, Thailand during July 2004 to June 2005, using Vavoua traps in a dairy and a beef cattle farm. Over this period, *S. calcitrans* was the most commonly trapped species, followed by *S. sitiens* and *S. indica*. For the later species, this is the first report of its presence in Thailand. A total of 80% of flies were captured during the rainy season and 20% during the dry season. No major difference of fly density was observed between the dairy and the beef cattle farm. The activity pattern of *S. calcitrans* was diurnal with a peak between 08:00 am to 10:00 am and another less marked one in the afternoon. The activity pattern of *S. sitiens* and *S. indica* was mainly crepuscular with two peaks, early in the morning (06:00 am) and late in the afternoon (6:00 pm).

The experiment was done to study the question of the origin of *S. calcitrans* using the sequencing of 2 mitochondrial genes. Specimens used in this study originated from 7 countries and 3 islands. Cytochrom oxidase one and cytochrom b mitochondrial genes were selected as molecular markers. It was found that the specimen from Thailand show the highest polymorphism. This can be confirmed that the populations from Thailand were more ancient one and that *S. calcitrans* species has probably its origin in the oriental region.

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