



Research article

Re-description and iconography of *Tabanus striatus* (Diptera: Tabanidae) a common livestock pest and mechanical vector of *Trypanosoma evansi* in Asia

Denphum Wongthangsiri^a, Marc Desquesnes^{b,c,d}, Sathaporn Jittapalapong^e, Theeraphap Chareonviriyaphap^{a,*}^a Department of Entomology, Faculty of Agriculture, Kasetsart University, Chatuchak, Bangkok 10900, Thailand^b CIRAD, UMR InterTryp, Department of Parasitology, Faculty of Veterinary Medicine, Bangkok 10900, Thailand^c InterTryp, University Montpellier, CIRAD, IRD, Montpellier 34398, France^d Faculty of Veterinary Medicine, Kasetsart University, Chatuchak, Bangkok 10900, Thailand^e Faculty of Veterinary Technology, Kasetsart University, Chatuchak, Bangkok 10900, Thailand

Article Info
Article history:

Received 18 May 2018

Revised 25 August 2018

Accepted 25 October 2018

Available online 30 Jun 2019

Keywords:

Horsefly,

Geographical distribution,

Morphology,

Tabanus megalops,

User-friendly identification

Abstract

Female tabanids are regarded as mechanical vectors of several pathogens and are an important livestock pest. Approximately 4,400 species of tabanids are distributed in all kinds of landscape. Control-limiting methods, including environmental and zootechnical management, require species identification of the flies in a given area. Studies carried out in Thailand have shown a limited species diversity in livestock farms; nevertheless, identification is always difficult when a non-specialist uses dichotomic keys. New user-friendly guidelines recently published, facilitate the description and identification of biting flies. Following these guidelines the most common species, *Tabanus striatus*, was re-described with emphasis on the key points allowing distinction from the morphologically close *T. megalops*. In addition, a rich original iconography was provided with 30 pictures of this common biting fly, whose distribution spreads from Pakistan and India to China, and from Lao to Thailand and Vietnam.

Introduction

Females of the family Tabanidae (Diptera) are blood sucking insects which have a great impact on livestock farming systems (Foil, 1989). Important characteristics that make them a serious pest of livestock are: 1) their large size and highly vulnerant telmophagous type mouth-parts that can cause a large amount of blood spoliation and painful bites, including stress, defense movements and opportunities to move from one host to another which is favorable to mechanical transmission of pathogens; 2) their very high prolificacy, as one

female may lay 100–800 eggs per batch per gonotrophic cycle, and there may be 5–8 cycles per lifetime, thus producing 500–4,000 eggs; and 3) their annoying behavior due to their multiple blood feedings from a single or several different hosts until fully satisfied by complete engorgement. Indeed, tabanids are mechanical vectors of bacteria such as *Bacillus anthracis* and *Anaplasma marginale*, viruses such as bovine leucosis virus and equine infectious anaemia virus (EIA) and parasites such as *Besnoitia besnoiti* and *Trypanosoma evansi*, the agent of surra (Desquesnes et al., 2013; Baldacchino et al., 2014). In Asia, successful experimental transmissions have been reported

* Corresponding authors.

E-mail address: faasthc@ku.ac.th (T. Chareonviriyaphap)