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Scanning electron microscopy of eggs of *Ochlerotatus taeniorhynchus* (Diptera: Culicidae, Aedini)

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The study of egg morphology is useful for the identification of material from aquatic habitats. For example, based on brief descriptions of external morphology of the eggs, Scotton and Axtell (1979) analysed the distribution of *Ochlerotatus sollicitans* (Walker) and *Oc. taeniorhynchus* (Wiedemann) in several coastal habitats in North Carolina, United States.

When the eggs of several groups of mosquitoes have been described, they can also be used in phylogenetic analyses. Due to the small number of eggs currently described, Motta *et al.* (2007) did not include any egg characteristics in their phylogenetic analysis of *Wyeomyia* (Sabethini). Additionally, in Reinert *et al.*'s (2009) phylogenetic analysis of the Aedini, only four of the 336 characteristics were for eggs.

Ochlerotatus taeniorhynchus was originally described from Mexico, and has been reported from coastal areas in most countries in the American continent, from United States to southern Brazil (Forattini 1965). It has been incriminated as vector of *Dirofilaria immitis* in Brazilian states of Rio de Janeiro (Labarthe *et al.* 1998) and Maranhão (Ahid & Lourenço-de-Oliveira 1999), in Mexico (Manrique-Saide *et al.* 2010) and in United States (Parker 1993). It is also a vector of several arboviruses (Causey *et al.* 1962, Rivas *et al.* 1997, Coffey & Weaver 2005).

Eggs of *Oc. taeniorhynchus* have been studied only by Light Microscopy (Howard *et al.* 1917), and Scotton and Axtell (1979) showed some images obtained by Scanning Electron Microscopy that distinguish it from *Oc. sollicitans*. Horsfal *et al.* (1970) showed illustrations of general shape and exochorium of *Oc. sollicitans* and other 12 floodwater species of *Ochlerotatus* and *Aedes* from United States. The objective of present work is to describe the eggs of *Oc. taeniorhynchus* eggs in detail, to allow clear differentiation from the eggs of other mosquitoes in the same habitats.

Material and methods

Eggs of *Oc. taeniorhynchus* were obtained from blood-fed females collected in Bairro Goiabeira, Vitória Municipality (20°16'38.59"S, 40°18'29.62"W, 3 meters a.s.l.), in the Brazilian state of Espírito Santo, on December 27, 2010 and January 13, 2011. Mosquitoes were maintained in 30 ml plastic vials with wet plaster of Paris until egg-laying, for 4-5 days.

Eggs were fixed in 2.5% glutaraldehyde and post-fixed in 1% osmium tetroxide, both buffered with 0.1M sodium cacodylate at pH 7.2. After washing in the same buffer, the eggs were dehydrated in a series of increasing concentrations of ethanol and subjected to the critical-point drying method using superdry CO₂ in Balzers apparatus. The eggs were then mounted on metal supports, gold plated and observed and photographed in a JEOL JSM 6390LV scanning electron microscope (Akishima, Tokyo, Japan), at magnifications of 200 to 5,000 times. Measurements were made directly on the images obtained, with the aid of the Semafore digital slow scan image recording system, version 3.1© (Insinooritoi misto