Coetzeemyia, a new subgenus of Aedes, and a redescription of the holotype female of Aedes (Coetzeemyia) fryeri (Theobald) (Diptera: Culicidae)

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Abstract

Coetzeemyia, a new subgenus of Aedes Meigen (in the broad traditional sense, pre-Reinert 2000), is characterized and diagnosed. Aedes fryeri (Theobald) is removed from the subgenus Levua Stone and Bohart (genus Levua of Reinert et al. 2004) and placed in the new monotypic subgenus Coetzeemyia as its type species by present designation. Recognition of Coetzeemyia is based in part on a cladistic analysis of 16 species: seven outgroup species (four non-Aedini species and 3 aedine species) and nine within group species, including the three species that had been included in Levua and six other species belonging to three related subgenera in Aedes (Geoskusea Edwards, Rhinoskusea Edwards, and Ochlerotatus Lynch Arribalzaga). The type female and the male genitalia of Ae. fryeri are redescribed and illustrated. Its affinity to other subgenera of the genus Aedes is discussed. Information on the type data, distribution, bionomics, medical importance, and taxonomy of this species are presented. Some morphological characteristics of adults of the subgenera Ochlerotatus and Levua of Aedes are tabulated. Based on this cladistic analysis, it is evident that Levua is a monotypic lineage represented by a single known species, Ae. geoskusea. Aedes dufouri is transferred back to the subgenus Ochlerotatus and is distinguished from other congeners of this subgenus.

Key words: Coetzeemyia, new subgenus, Aedes fryeri, Ae. dufouri, Ochlerotatus, Levua, Ae. (Levua) geoskusea (= suvae), characteristics, systematics, Culicidae, Aldabra Island

Introduction

Several hypotheses regarding the classification of Aedes Meigen have recently been proposed (Reinert 2000; Reinert et al. 2004, 2006, 2008, 2009). Reinert (2000) divided Aedes, then with 43 subgenera, into two genera, Aedes and Ochlerotatus, and assigned 21 of the subgenera that had been included in Aedes to Ochlerotatus, keeping the remaining 22 subgenera in his redefined concept of Aedes. Reinert (2000) assigned the subgenus Levua to the genus Ochlerotatus. Thus, in Reinert’s (2000) classification, Aedes (Levua) became Ochlerotatus (Levua).

Reinert et al. (2004: 289) subsequently wrote that “(ii) three small subgenera within the basal polytomy…are undoubtedly monophyletic, i.e. Aedes (Huaedes), Ae. (Skusea) and Oc. (Levua)…,” and further (2004: 360) that “Levua Stone & Bohart, 1944, stat. nov., [be] raised to generic rank [comprising three species] dufouri (Hamon 1953), comb. nov., fryeri (Theobald 1912), comb. nov., [and] geoskusea (Amos 1944), comb. nov.” Reinert et al. (2006: 93) continued to treat Levua as a genus but later (Reinert et al. 2008: 112) modified their classification to include Levua as a subgenus of Ochlerotatus. More recently, Reinert et al. (2009) proposed a more refined classification in which Levua was again accorded generic status.