

*Culex (Eumelanomyia) richardgarciai*,

a New Species of Mosquito from Peninsular Malaysia

(Diptera: Culicidae)

By

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ABSTRACT. A new species, *Culex (Eumelanomyia) richardgarciai* is described based on adult males from Peninsular Malaysia. An illustration of the male genitalia is provided.

## INTRODUCTION

In the course of investigations to elucidate the sylvan cycle of dengue viruses, in different forest habitats, mosquitoes and other biting insects were collected in an attempt to incriminate the vector/s. Mosquitoes collected by sweeping vegetation with a battery-operated hand vacuum device along a stream in Pasoh Forest Reserve, a primary lowland dipterocarp rain forest, in Negeri Sembilan, Peninsular Malaysia, included a hitherto undescribed species of *Culex* in the subgenus *Eumelanomyia*. Sirivanakarn (1972), in his revision of *Culex (Eumelanomyia)* of Southeast Asia and adjacent areas reported 7 species from Peninsular Malaysia. Subsequently, 4 more species were added to the list (Ramalingam and Pillai 1972; Sirivanakarn and Ramalingam 1976; Sirivanakarn 1977). An additional new species of *Culex (Eumelanomyia)* is described and named here. This species is named for Dr. Richard Garcia in recognition of his contributions to the study of mosquitoes and mosquito-borne diseases in Peninsular Malaysia.

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The terminology and format used follow Sirivanakarn and Ramalingam (1976) and Harbach and Knight (1980).

The holotype male and 2 paratype males (one represented by only the genitalia) are deposited in the National Museum of Natural History (USNM), Washington, D.C.

*Culex (Eumelanomyia) richardgarciai* n. sp.

**MALE.** (Fig. 1). Wing about 1.7mm, Forefemur 1.0 mm. Proboscis: 1.35 mm. A small, light to dark brown species. Head Anterior eye margin of vertex with narrow ocular line of broad pale decumbent scales, remaining decumbent scales narrow, yellow; erect scales brownish; lateral patch of broad appressed scales pale; maxillary palpus about 0.2 of proboscis length; false joint present; 9 labial basal setae about same length as maxillary palpus; flagellar whorls of antenna weakly plumose, large whorls with about 17 hairs, minor whorls with 5-9 hairs. Thorax Scutal integument brownish; scutal scales narrow, dark; acrostichal bristles present; dorsocentral bristles well developed; pleuron entirely brownish or with dark and light areas; 1 weak lower mep bristle. Legs All femora with dark scales dorsally and light scales ventrally; tibiae and tarsi dark scaled. Wing Plume scales medium-sized, clavate. Abdomen Terga with dark scales, sterna with dark or pale scales. Genitalia Tergal lobes of segment IX moderately developed, each with a row of 5-6 weak short setae; gonocoxite slender and roughly conical in shape, about 0.2 mm in length, inner tergal surface with well developed bristles; setae of subapical lobe aggregated into proximal and distal divisions, proximal division with 2-3 rods with bent apices, distal division with 1 setae tapering distally and ending in a curve, 3-4 acute flattened setae and 4 blades, the distal or 2 most distal blades provided with coarse fringe of spicules along the margins; gonostylus sickle-shaped, about 0.5 of the length of gonocoxite, with 2 setae, 1 located about mid-ventrally and the other dorsally, beyond the mid-point distally, gonostylar claw long and broad apically; phallosome sclerotized, lateral plate with a prominent triangular projection a little beyond mid-point and directed laterally, apical rod-like projection slightly diverged laterally, a small tooth-like process located between the 2 projections present in some specimens, internal process present; proctiger with 5-7 blunt spicules and 7 smaller pointed spicules, paraproct and cercal sclerite dark, cercal setae 3 or 4 in number.

**FEMALE, PUPA and LARVA.** Unknown.

Type Data. Holotype: male (E71.210-1) with genitalia slide, Pasoh Forest Reserve, Negeri Sembilan, PENINSULAR MALAYSIA, 1971, John Jeffery. Paratypes: male (E71.210-2) with genitalia slide, same data as holotype; male (E71-210-3) only genitalia slide, same data as holotype.

Distribution. Known only from Peninsular Malaysia. Material examined: 9 males.

Taxonomic Discussion. *Cx. richardgarciai* n. sp. bears a remarkable resemblance to *Culex otachati* Klein and Sirivanakarn, especially in the shape of the gonocoxite and gonostylus.

On the basis of these similarities *Cx. richardgarciai* n. sp. is included in the *otachati* subgroup of Sirivanakarn (1971). It is clearly differentiated from *Cx. otachati*, the only included species of the subgroup, in the shape of the phallosome by not having 6-7 strong, heavy tooth-like processes; however *Cx. richardgarciai* n. sp. has a prominent triangular laterally directed projection and sometimes a tiny tooth-like process. The shape and presence of the triangular projection is a constant feature in all the specimens of *Cx. richardgarciai* n. sp. examined and therefore it is regarded as a new species.

Biology. The adult males of *Cx. richardgarciai* were sweep-collected while resting on vegetation along a stream. It is found in association with specimens of *Culex (Eum.) selai* Klein and Sirivanakarn.

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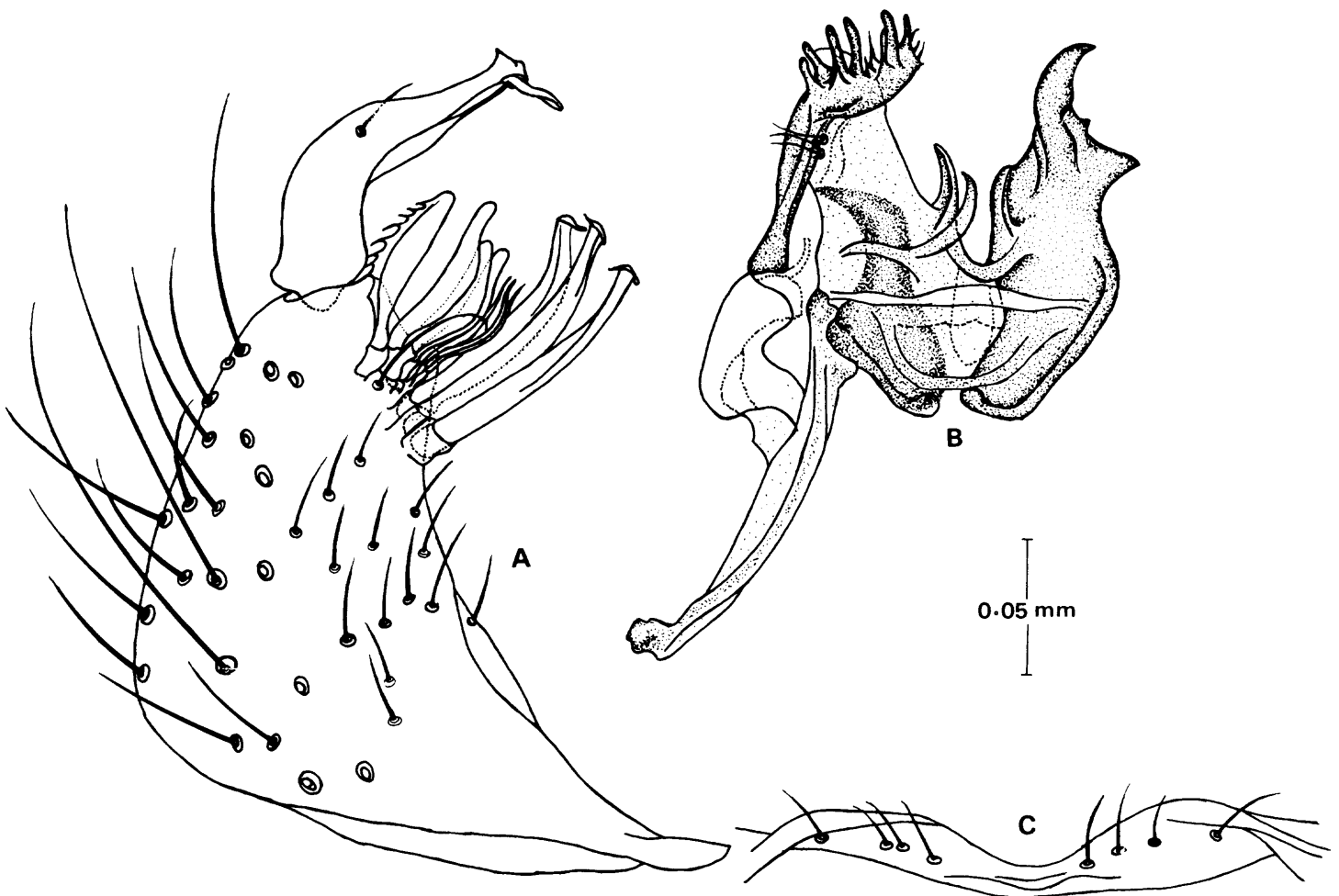


Figure 1. *Culex* (*Eumelanomyia*) *richardgarciai* n. sp.

- A - gonocoxite and gonostylus
- B - phallosome and proctiger
- C - tergum of segment IX