



## Morphological description of the pupa and redescription of the adults and larva of *Culex (Culex) apicinus* Philippi (Diptera: Culicidae)

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### Abstract

The adult, fourth-stage larvae and the male genitalia of *Culex (Culex) apicinus* Philippi is redescribed. The pupa is described for the first time. The male genitalia, pupa and fourth-stage larva are illustrated. The available information on the taxonomy and distribution of the species is also included, extending the species distribution in Argentina. Bionomics and distributional data are provided for *Culex apicinus*.

**Key words:** *Culex (Culex) apicinus*, unknown life stage, description, new records

### Introduction

*Culex (Culex) apicinus* Philippi (1865) was described based on specimens collected in Santiago, Chile. Dyar & Knab (1914) described *Cx. (Cux.) debilis* from individuals collected in Matucana (Perú), and proposed the new genus *Phalangomyia* to include this species. Brèthes (1920) described *Cx. (Cux.) escomeli* also from Perú. Dyar (1928), in the Mosquitoes of America, considered these three species as belonging to the subgenus *Phalangomyia* that he transferred in 1926, and described the larva of *Cx. debilis*, based on material sent by Edwards, but not quite sure of belonging to this species.

Dyar (1929) stated that the larva described as *Cx. debilis* by Dyar (1928) corresponded to *Cx. apicinus*. Edwards (1930) comments out on this subject, and mention the synonymy of *Cx. debilis* and *Cx. escomeli* with *Cx. apicinus*. Edwards (1932) formalized the synonymy of *Cx. debilis* and *Cx. escomeli* with *Cx. apicinus*, and confirmed the larva that sent to Dyar as *Cx. debilis* belong to *Cx. apicinus*.

Martini (1931) described *Cx. (Pha.) alticola* based on material collected in Serrata (Bolivia). In 1953, Lane synonymized *Cx. debilis*, *Cx. escomeli* and *Cx. alticola* with *Cx. apicinus*, but the male genitalia drawing that he presented is quite different from the real genitalia of *Cx. apicinus*, it resembles the genitalia of *Cx. escomeli* (= *debilis*?). Stone (1956) reaffirmed the species status of *Cx. alticola* based on the type characteristics, and described differences of genitalia with *Cx. apicinus*. Forattini (1965) redescribed *Cx. apicinus* but with variations in the genitalia drawing. Neither Forattini (1965) nor Lane (1953) mentioned the larva, although both showed the corresponding drawings. Finally, Bram (1967) accepted the synonymy of *Cx. debilis*, *Cx. escomeli* and *Cx. alticola* with *Cx. apicinus* but on the bases of other genitalia characteristics; he described one paratype of *Cx. debilis* not *Cx. apicinus*.

No author has described the pupa of this species, therefore, the purpose of this paper is to provide a complete description of all life stages of *Cx. apicinus*, to establish an unequivocal recognition of the species, and to update its geographical distribution in Argentina.