



## The identity of the frog fly *Caiusa coomani* Séguy, 1948 (Diptera, Calliphoridae)

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The type material of the nominal species *Caiusa coomani* Séguy, 1948 (Diptera, Calliphoridae), now placed in *Phumosia* Robineau-Desvoidy, 1830, has been examined and a lectotype designated to fix the interpretation of the name. In Hong Kong the larval stages of the species is a predator on the egg masses in foam nests of the brown tree frog *Polypedates megacephalus* Hallowell, 1861 (Anura, Rhacophoridae). *Phumosia coomani* is known from China, Japan and Vietnam. Discrepancies between the figured genitalia and the external features in Chinese reference works are pointed out.

In May 2009 and 2010 I received considerable material (18 males and 24 females) of a yellow blowfly with a dark abdominal tip with a slight bluish sheen from Nancy E. Karraker (School of Biological Sciences, University of Hong Kong, Hong Kong, China) for identification. The larvae of these flies had been attacking the foam nests of a rhacophorid frog, and killing and consuming the developing embryos. The larvae were collected and reared to adults as part of an ecological study on the predation of the brown tree frog (*Polypedates megacephalus*) embryos by calliphorid larvae in Hong Kong. The flies clearly belonged to the calliphorid subfamily Phumosiinae, having long thin setae covering all the katatergite, a very elongate metathoracic spiracle with a very large anterior lid, in combination with lack of a metallic sclerite bearing setae on the suprasquamal ridge. I identified the fly as *Caiusa coomani* Séguy, 1948 using the English language key by Fan (1997: 652), the crucial external character being the sharply defined greyish vitta on the prescutum, sometimes proceeding backward beyond the suture but never reaching the scutellum. However, the dissected genitalia of eight male specimens of this fly differ in several important respects from the male genitalia of “*Caiusa coomani* Séguy” figured in the same work (p. 444, fig. 136). Neither did they fit with the figure of the cerci and surstyli in posterior view given by Fan (1965: 171, fig. 663a), repeated in Fan (1992: 460, fig. 1104n), or with the figures given by Feng *et al.* (1998: 1456, fig. 2944Mp). To identify the material with confidence it was therefore necessary to study the type material of *Caiusa coomani* Séguy, 1948, which is housed in Muséum national d’Histoire Naturelle, Paris, France (MNHN). The purpose of this paper is to designate a lectotype of *Caiusa coomani*, to describe the main features of its genitalia, to discuss features that separate it from its close relatives, to point out a possible error in important Chinese reference works on this species, and to discuss briefly its geographical distribution.

*Caiusa coomani* was described by Séguy (1948: 146) on the basis of an unspecified number of males collected from the Hoa-Binh region of “Tonkin”, now Vietnam, by A. de Cooman in 1928. Séguy did not use the word type or other expression to restrict the name-bearing type to a single specimen. In MNHN there are three male specimens under *Caiusa coomani*. They carry identical locality labels (Fig. 9, leftmost figure). One specimen bears a “TYPE” label (Fig. 9) and the two others each bear a “COTYPE” label (Fig. 10). Each specimen has a Séguy determination label (Figs. 9, 10). The determination labels of the “TYPE” and one “COTYPE” has the handwritten number “48”. All three specimens fit the original description and are accepted as forming all or part of the original type series. The specimen with the “TYPE” label has been dissected by me, and is here designated as lectotype of *Caiusa coomani* Séguy, 1948, to fix the interpretation of the name. The two other specimens are designated as paralectotypes. The specimens have been given lectotype (Fig. 9) and paralectotype labels accordingly.

The genitalia of the lectotype are shown in Figs. 1–4. Of particular significance is the shape of surstylus. It is very narrow, narrower than the tip of cerci and strongly curved in profile view. In posterior view it is almost straight, but the extreme tip is very slightly bent outwards. Other noteworthy features are the heavily sclerotised paraphallic process with the single ventrally directed point, the lack of denticles on the ventral distiphallic membrane, and the peculiar outwardly curved pregonites with 1–3 very long setae. The part of the pregonite that is outside of the long setae is moderate in length. The genitalia of a male of the Hong Kong material are shown in Figs. 5–8. Seven other males were dissected and found to have similar genitalia. There is thus no reason to doubt that the Hong Kong material consists of a single species, and that it belongs to the same taxon as the *Caiusa coomani* lectotype.