

First Record of *Chrysomya rufifacies* (Macquart) (Diptera, Calliphoridae) in Southeastern Brazil

Antonia de Castro Ribeiro¹, Debora Cardoso²✉, Cláudia Soares dos Santos Lessa¹, Gonzalo Efrain Moya-Borja³ & Valéria Magalhães Aguiar¹

1. Universidade Federal do Estado do Rio de Janeiro, e-mail: antoniaribeiro.09@gmail.com, lessaclss@gmail.com, valerialed@yahoo.com.br. 2. Universidade Estadual do Sudoeste da Bahia - Campus Itapetinga, e-mail: dcardoso_rj@hotmail.com (Autor para correspondência✉). 3. Universidade Federal Rural do Rio de Janeiro, e-mail: gemoja@ufrj.br.

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Abstract. The present note reports the first record of *Chrysomya rufifacies* (Macquart) in Southeastern Brazil, in the municipality of Seropédica, Rio de Janeiro. The collecting was conducted with Diptera traps using fresh fish as bait.

Keywords: Biodiversity; Blowfly; Exotic specie.

Primeiro Registro de *Chrysomya rufifacies* (Macquart) (Diptera, Calliphoridae) no Sudeste do Brasil

Resumo. A presente nota relata o primeiro registro da espécie *Chrysomya rufifacies* (Macquart), no Sudeste do Brasil, no Município de Seropédica, Rio de Janeiro. As coletas foram realizadas com auxílio de armadilhas para dípteros e a isca utilizada foi peixe fresco.

Palavras-Chave: Biodiversidade; Espécie exótica; Mosca varejeira.

In the 1970s, three species of *Chrysomya* (Calliphoridae) were introduced to Brazil: *Chrysomya megacephala* (Fabricius), *Chrysomya albiceps* (Wiedemann) and *Chrysomya putoria* (Wiedemann). After their introduction, these species rapidly dispersed throughout the country (GUIMARÃES *et al.* 1978). This genus has medical and veterinary importance, may cause myiasis (GUIMARÃES & PAPAVERO 1999; FERRAZ *et al.* 2011), and disseminates pathogens (RIBEIRO *et al.* 2011). They are also listed as being relevant in forensic entomology by assisting in post-mortem interval determination (OLIVEIRA-COSTA 2007; BARROS-SOUZA 2012). Furthermore, they play an important ecological role, due to high predatory capacity (BAUMGARTNER 1993) this genus has been changing the frequency and abundance of populations of local fauna (LEANDRO & D'ALMEIDA 2005).

Chrysomya rufifacies (Macquart) is a native species of Australasia and Pacific regions (WELLS & GREENBERG 1992). The first record of this species in the New World was in Costa Rica (JIRON 1979). The distribution of *C. rufifacies* includes other New World countries, such as Canada (ROSATI & VANLAERHOVEN 2007), United States of America (SHAHID *et al.* 2000), Mexico (VALDES-PEREZGASGA *et al.* 2010), Panama (BERMUDEZ *et al.* 2007), Colombia (BARRETO *et al.* 2002) and Argentina (MARILUIS & SCHNACK 1989). In Brazil, this species had been only collected in an area of "Cerrado" (savanna-like vegetation) in the municipality of Caxias in state of Maranhão (SILVA *et al.* 2012).

Four female *C. rufifacies* were collected in the municipality of Seropédica, Rio de Janeiro (22°45'48"S 43°41'23"W), two were collected in December 2011 and two were collected in February 2012. For collection, the Diptera traps described by MELLO *et al.* (2007) were used with fresh fish (sardine) as bait and exposed for a period of 30 hours approximately 1.5 meters above the ground. The captured insects were sacrificed using ether, stored in polyethylene bags and then placed in a freezer at -10°C. During the sorting process, the insects of the family Calliphoridae were transferred to glass vials containing 70% alcohol. The material

was stored and analyzed at the Laboratory of Diptera Studies in the Department of Microbiology and Parasitology, Universidade Federal do Estado do Rio de Janeiro - UNIRIO. After the insects were dried with incident light, they were pinned and identified following the taxonomic keys of GUIMARÃES & PAPAVERO (1999), AMAT *et al.* (2008), AMAT (2009), WHITWORTH (2010) and SILVA *et al.* (2012). Two female were deposited in the Entomological Collection of Laboratory of Diptera Studies - UNIRIO and two female were deposited in the Entomological Collection of National Museum - UFRJ, both located in Rio de Janeiro, state of Rio de Janeiro.

In the specimens collected, all the morphological traits were shown used to identify this species, as can be observed in the photomicrographs (Figure 1A, 1B, 1C). The characteristics that were shown and that identify this species are: orange gena (Figure 1A) (GUIMARÃES & PAPAVERO 1999), strong proepisternal setae (Figure 1A, 1C) (GUIMARÃES & PAPAVERO 1999; AMAT *et al.* 2008; AMAT 2009; WHITWORTH 2010; SILVA *et al.* 2012), and in the females, tergite 5 a dorsal cleft in the posterior margin (Figure 1B) (AMAT *et al.* 2008; AMAT 2009; WHITWORTH 2010; SILVA *et al.* 2012).

This scientific note is the first record of *C. rufifacies* in the southeastern region of Brazil. Considering that this species occupies the same niche as other Diptera of the Calliphoridae family, there will probably be new ecological interactions with the existing community, transforming it, because the interspecific interactions are important ecological mechanisms that can influence the behavior dynamic of the species. WELLS & GREENBERG (1992) suggested the decline of the *C. macellaria* population in the presence of *C. rufifacies*.

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This record can be considered as a warning to entomologists and health authorities to pay attention to new field collections and

the consequences of its presence in Brazil.

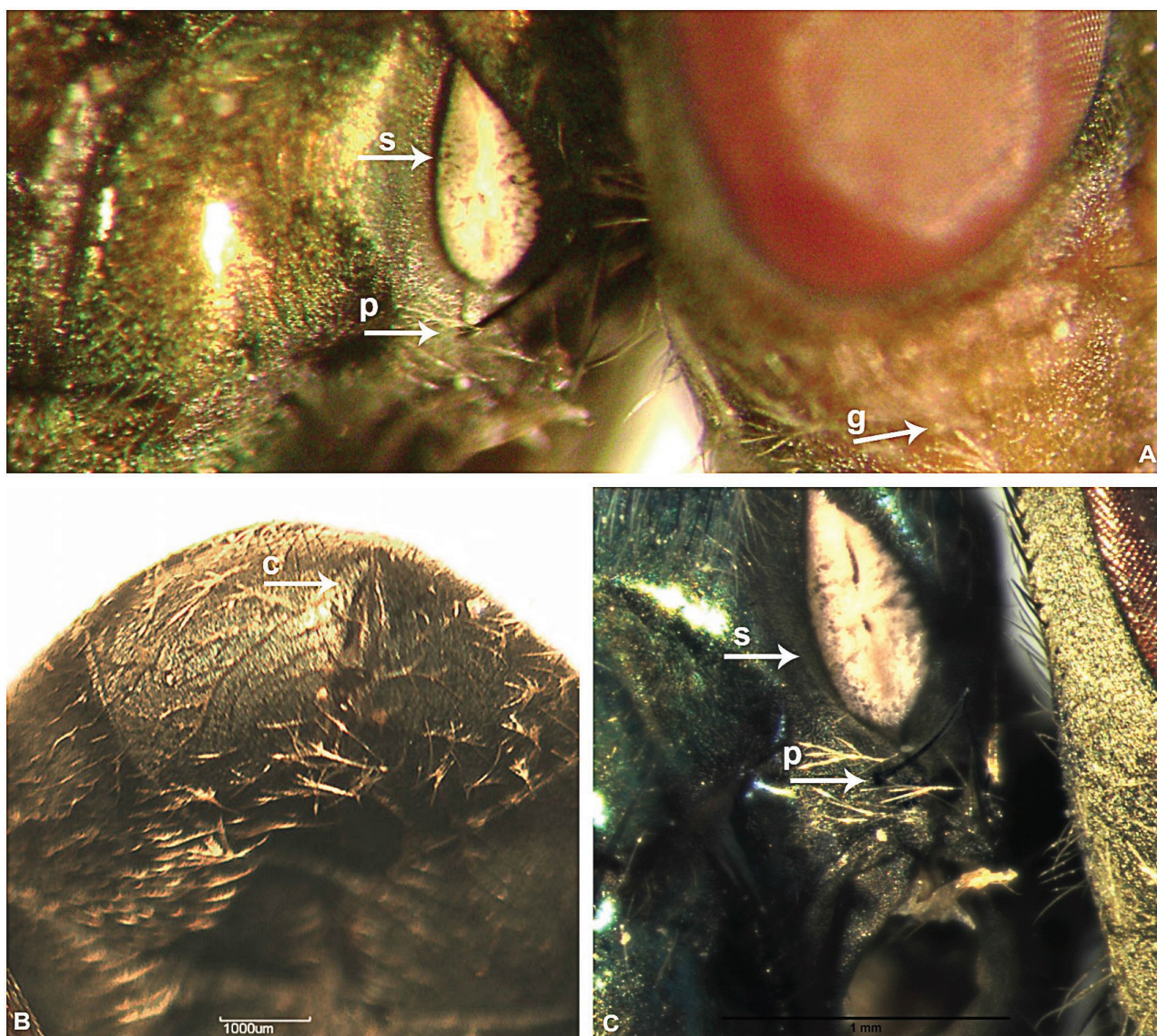


Figure 1. *Chrysomya rufifacies* (Macquart), A - orange gena (g), proepisternal setae (p) and anterior thoracic spiracle pale (s); B - female fifth tergite with a cleft (c) in the posterior margin, ventral view; C - proepisternal setae (p) and anterior thoracic spiracle pale (s), lateral view of thorax. Picture: A.C. Ribeiro

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