

First record of *Chrysomya megacephala* (Fabricius, 1794) (Diptera, Calliphoridae) from Portugal

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The blowfly *Chrysomya megacephala* (Fabricius, 1794), also known as the oriental latrine fly (Zumpt, 1965), is considered one of the most dangerous dipteran vectors of pathogens (Wells, 1991) showing a heavy potential sanitary risk (Maldonado & Centeno, 2003). It is normally a faeces and carrion breeder and larvae can be found as facultative parasites in traumatic myiasis (Zumpt, 1965). *Chrysomya megacephala* is commonly found in cadavers in many parts of the world (Gruner *et al.*, 2007; Sukontason *et al.*, 2007; Wang *et al.*, 2008) and is used in forensic entomology cases, for postmortem interval determination (Goff & Odum, 1987; Goff *et al.*, 1988; Goff, 1992).

From its original distribution over the Oriental and Australian regions, *Ch. megacephala* has tremendously expanded its range in the last decades since its introduction in Brazil (Guimarães *et al.*, 1978), probably from southern Africa (Baumgartner & Greenberg, 1984) and is a recent invader of the continental United States, where it is expanding (Greenberg, 1988; Wells, 1991; Baumgartner, 1993; De Jong, 1995; Wells, 2000; Tomberlin, 2001). It also occurs in the Palaearctic region (Zumpt, 1965; Smith, 1986), presently covering the siberian sub-region, Iran, Afghanistan, China, Japan, Egypt and in the Macaronesian region, the Canary Islands and Madeira (Martínez Sánchez *et al.*, 2001). It was recently collected in Malta (Ebejer, 2007). In continental Europe it was cited for the first time, in southeastern Spain (Martínez Sánchez *et al.*, 2001).

During October 2006 and April 2007, in Lisbon, Portugal (UTM coordinate 29SMC88), *Ch. megacephala* was collected using a modified Schoenly trap (Prado e Castro *et al.*, 2009) for the collection

of fauna associated with pig carrion. Specimens were identified based on González-Mora & Peris (1988). The material is stored in 80% alcohol solution and kept in the Animal Biology Department of the University of Lisbon Faculty of Sciences.

Twenty-three specimens of *Ch. megacephala* were captured in Lisbon, mainly during autumn. The species was present in low numbers compared with other blowflies that were simultaneously on the carcasses and only adults of the species were found. This is the first record of this species for Portugal, broadly enlarging the known distribution in the Iberian Peninsula, and the second record for mainland Europe.

Chrysomya megacephala is easily distinguished from its congener species, *Chrysomya albiceps* (Wiedemann, 1819), already established in Portugal (Prado e Castro, 2005) and other European countries (Rognes, 2004) recently having reached Poland (Szpila *et al.*, 2008) in its northward expansion. The adults of both species present several differences, namely in eye size, face, the anterior thoracic spiracle and in the thoracic squamae (González-Mora & Peris, 1988). In larval stage, *Ch. albiceps* is known as the “hairy maggot”, due to the distinct, stout and elongated tubercles encircling the body segments, structures that are not present in *Ch. megacephala* (Queiroz *et al.*, 1997; Sukontason *et al.*, 2003, 2008).

The collection of the reported specimens in Lisbon, in autumn, and the ones previously collected in Alicante, southeastern Spain, in the same season of the year (Martínez Sánchez *et al.*, 2001) suggests that the species may be established in the Iberian Peninsula, and a broader distribution throughout it can be presumed.

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Chrysomya megacephala is one of the primary flies associated with decomposing corpses in areas in which the species is present (Sukontason *et al.*, 2003). In the Iberian Peninsula it probably hasn't reached the population levels found in other geographical areas, but it is clearly in expansion, for which it should not be discarded as a possible forensic indicator in this geographical area.

MATERIAL EXAMINED: 29SMC88 – Lisbon, Estremadura; altitude: 140 m; 24.X.2006, 1 ♀; 25.X.2006, 6 ♀ ♀; 26.X.2006, 6 ♀ ♀, 3 ♂ ♂; 27.X.2006, 1 ♀, 5 ♂ ♂; 23.IV.2007, 1 ♂.

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