



## A key to the Australian Sarcophagidae (Diptera) with special emphasis on *Sarcophaga* (*sensu lato*)

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## Abstract

The Australian Sarcophagidae (Diptera) currently comprise 84 species, classified into ten genera from the subfamilies Miltogramminae and Sarcophaginae. A key is provided to the Australian sarcophagids, allowing for separation into subfamilies and genera, along with the identification of all species of *Sarcophaga (sensu lato)*. A comprehensive database of illustrations and photographs of male terminalia, as well as updated biological information, is given for each species of *Sarcophaga s.l.*

**Key words:** Flesh flies, Sarcophaginae, morphology, male terminalia

## Introduction

The Sarcophagidae (Diptera), or flesh flies, are a globally distributed family comprising approximately 173 genera and 3,000 species (Pape *et al.* 2011). The family is usually divided into three subfamilies: Miltogramminae, Paramacronychiinae and Sarcophaginae (Pape 1996).

The Australian Sarcophagidae comprise 84 known species, from both the Miltogramminae and Sarcophaginae. The miltogrammines account for ~20% of Australian sarcophagids, classified into six genera (*Aenigmatopia*, *Amobia*, *Metopia*, *Miltogramma*, *Protomiltogramma*, and *Senotainia*), with most species known to be kleptoparasites of Hymenoptera, specifically solitary wasps and bees (Pape 1996). The remaining ~80% of the Australian flesh flies are sarcophagines, classified into four genera: *Blaesoxipha*, *Oxysarcodexia*, *Sarcophaga s.l.*, and *Tricharaea*. Both *Oxysarcodexia* and *Tricharaea* are native to the New World, and each is represented in Australia by only a single introduced species. However *Blaesoxipha*, the species of which are predominantly parasitoids of Orthoptera, comprises ten known species. The 55 species of *Sarcophaga s.l.* represent close to two-thirds of the entire Australian flesh fly fauna, and are currently classified into 14 subgenera (Pape 1996). Many *Sarcophaga s.l.* species have documented feeding and breeding preferences for vertebrate carcasses, including human corpses (Pape 1996).

Little work has been undertaken on the taxonomy of the Australian miltogrammines. The most recent key, which only facilitates separation of genera, was published by Malloch (1930). A range of taxonomists worked more extensively on the Australian Sarcophaginae, such as T. H. Johnston, C. W. Tiegs, G. H. Hardy and H. de Souza Lopes, producing several keys to their identification (Hardy 1934; Johnston & Hardy 1923a; Lopes