

Italy's most common flesh fly re-identified – with insights on relationships within *Sarcophaga* Meigen *sensu stricto* (Sarcophagidae)

Daniel Whitmore^{1, 2*}, Giorgia Giordani³, Steen Thorleif Dupont² & Stefano Vanin³

¹Department of Entomology, Staatliches Museum für Naturkunde, Rosenstein 1, 70191 Stuttgart, Germany. *whitmore.daniel@gmail.com ²Natural History Museum, London, United Kingdom. ³University of Huddersfield, Huddersfield, United Kingdom.

Keywords: COI barcodes, Croatia, distribution, Europe, morphology, Oestroidea, Palaearctic.

The west Palaearctic subgenus Sarcophaga Meigen sensu stricto currently comprises just under 35 valid species and is most diverse in the eastern part of its range, although it is understudied in southern Europe and North Africa. Despite including some of the most common and widespread sarcophagids in Europe, the group has a history of misidentifications, including that of the type species of the family, due to the great morphological similarity of its species. The recent study of a large series of specimens collected with Malaise traps in Italy uncovered a long-standing misidentification of two species under the name Sarcophaga variegata (Scopoli). The second species was preliminarily identified morphologically as S. croatica Baranov, a species previously only known from the type locality. This identification was confirmed by a broader molecular analysis, using DNA barcodes, which provided new insights into relationships within the S. variegata species-group and the distribution of these species in continental Italy. Specimens used in the analysis were collected from numerous sites along the Adriatic and Tyrrhenian coasts of Italy from Trentino-Alto Adige to Sicily, as well as from Croatia, the type locality of Baranov's species. This analysis indicates a clear distinction between the two species at the molecular level and confirms that knowledge of this subgenus is far from complete, even in western Europe.

Calyptrate evolution and diversity

