

Introduction

The Sarcophagidae has for long been a neglected or superficially studied group amongst the Fennoscandian and Danish Diptera. Species recognition is difficult, and a definite identification can often only be made by a detailed study of the terminalia, frequently necessitating dissections; within a few species-groups, females are still impossible to identify.

A few Fennoscandian and Danish sarcophagids were described by Linnaeus (1758), De Geer (1776), and Fabricius (1787, 1794, 1805). Fallén (1810, 1817, 1820) and especially Zetterstedt (1838, 1844, 1845, 1859) added several more, but species-limits were still rather blurred. Starting with the work of Pandellé (1896), the male terminalia were recognised as providing very important diagnostic characters, and species-limits gradually stabilized. Lundbeck (1927) made a good attempt of recording, describing, and keying all the Danish species, but his species-concepts were entirely based on the existing and somewhat inadequate descriptions and illustrations by contemporary authors, and he missed several species. The classic work of Rohdendorf (1937), with excellent drawings of the male terminalia of almost every Palaearctic species of the Sarcophaginae then known, formed the basis of Tiensuu's (1939) revision of Finnish Sarcophagidae. The Finnish records have recently been updated in the checklists by Hackman (1980) and Pape (in press).

The Swedish Sarcophagidae, apart from the contributions of Linnaeus, De Geer, Fallén, and Zetterstedt mentioned above, have mainly been dealt with in a number of papers by Ringdahl, which culminated in his *Catalogus Insectorum Sueciae XI* (1952). In addition to a few misidentifications, Ringdahl failed to distinguish between the species of *Sarcophaga* sensu stricto.

Norwegian records of Sarcophagidae are rather few and scattered, but recently Rognes (1986a) has made a substantial contribution which greatly adds to our knowledge of the Fennoscandian Sarcophagidae.

All the papers mentioned above have almost entirely neglected the female sex within the Sarcophagini. The identification of female Sarcophagini does in fact involve great difficulties, and the present attempt to construct a usable key is far from successful, although *most* specimens of the *majority* of species may be identified.

The present work lists a total of 87 species from Fennoscandia and Denmark, and an attempt has been made to synthesize all the Fennoscandian and Danish records of the biology, e.g. behaviour, food-choice, hosts, etc. The catalogue showing the distribution is based mainly on specimens seen by the author, but records made by competent colleagues acquainted with the recent additions to the sarcophagid fauna have been included. All older records have been ignored as possible misidentifications. A few provincial records in Ringdahl (1952) are left unconfirmed, and at least one of these may be due to a slip on Ringdahl's part when preparing his catalogue: the record of *Sarcophaga hirticrus* from Öland is contradicted by Ringdahl (1937), who actually records the species from Gotland (supported by all the specimens in his collection).

The present state of knowledge of the Sarcophagidae from Fennoscandia and Denmark is still far from complete. A few more species will probably be found, and the presence of one species needs to be confirmed (= *Paramacronychia flavipalpis*). Much remains to be learned about distribution and biology.

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Most of specimens studied for this work are deposited in the following institutions and private collections:

BMNH: British Museum (Natural History), London.

NMA: Naturhistorisk Museum, Århus.

NRM: Naturhistoriska Riksmuseet, Stockholm.

ZMH: Zoologiska Museet, Helsinki.

ZML: Zoologiska Museet, Zoologiska Institutionen, Lund.

ZMUC: Zoologisk Museum, Københavns Universitet, København.

Coll. Rognes: Private collection of K. Rognes, Madla.

Coll. Bergström: Private collection of C. Bergström, Uppsala.

Diagnosis

The family Sarcophagidae contains about 2,500 described species and is worldwide in distribution. The greatest number of species is found in warmer climates, and species diversity decreases markedly in cold temperate and subarctic regions. Only a few species seem to be exclusively restricted to temperate regions.

The Sarcophagidae are typical members of the superfamily Tachinoidea (Tachini-