

First Record of *Sarcophaga (Liosarcophaga) dux* Thomson, 1868 (Diptera: Sarcophagidae) from Saudi Arabia

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Abstract. - *Sarcophaga (Liosarcophaga) dux* (= *exuberans*) Thomson (Diptera: Sarcophagidae) is recorded from Saudi Arabia for the first time. The species was found in Wadi Haniffa, Riyadh City, Central Region of Saudi Arabia. Sarcophagid flies lift up to 11 taxa known from the country. A summary of the Zoogeographical check up to the 11 species is presented with the widespread distribution for each species.

Key words: Saudi Arabia, Sarcophagidae, widespread distribution.

INTRODUCTION

Sarcophaga (Liosarcophaga) dux Thomson has been implemented in medical studies particularly in public hygiene, forensic entomology as well as in reducing different kinds of kitchen and meat industry wastes of unburied corpses of sea and terrestrial invertebrates and vertebrates (Povolny, 1998).

This article is supplementary to the previous studies on the flesh flies from Saudi Arabia (Buttiker *et al.*, 1979; Amoudi, 1993a, 1993b, 1997; Amoudi *et al.*, 1992, 1994; Al-Misned, 2000; Al-Misned *et al.*, 1999; Al-Misned and Abou-Fannah, 2000). The record of *Sarcophaga dux* Thomson lift up to 11 the taxa known in the country.

A summary of the Zoogeographical check up to the 11 species is presented with the widespread distribution for each species. All distributions mentioned in this article are taken from the checklist of *S. dux* as indicated in the text with all references. This paper aimed to provide the total numbers of all known Sarcophagid flies in Saudi Arabia.

MATERIALS AND METHODS

Collecting sites

Riyadh City (Central Region) is 430 to 600 m above sea level with a mean precipitation of 1463 mm, which falls in winter and spring. The mean daily air temperature ranges from 7.3 to 22°C in winter and 24.3 to 44.9°C in summer and the mean daily relative humidity ranges from 17% to 50%

(Data obtained from Hydrology Division, Ministry of Agriculture and Water, Riyadh). Riyadh province is one of the richest agricultural districts of the kingdom. The farms are irrigated by water pumped from wells and are extensively planted with wheat, vegetables, fruit and date palms.

Specimen collection

Larvae of *Sarcophaga dux* were obtained from Wadi Haniffa, Riyadh City in November 1999. Decaying ground beef was left in open jars to attract the gravid females for oviposition. Few days later, the jars were collected, covered by cotton clothes held by rubber bands and taken back to the laboratory. Larvae reared to the adult stage. Upon adult emergence, flies were mounted and identified. Identifications of specimens were determined by Dr. R. Richet of France. The area covered and the site of the collection are shown in the Figure 1.

CHECKLIST OF SARCOPHAGIDAE FROM SAUDI ARABIA

1. *Bercaea cruentata* (Meigen, 1826).
Distribution: Arabia, Africa, Europe, Germany, Hawaii, India, Nepal, N. and S. Americas, Pakistan and Palaearctic Asia (Buttiker *et al.*, 1979; Sugiyama *et al.*, 1988; Sugiyama, 1989; Amoudi, 1993a).
2. *Blaesoxipha (Blaesoxipha) rufipes* (Macquart in Webb and Berthelot, 1839).
Distribution: Arabia, Egypt, North Africa, India, Central Asia (Amoudi, 1993a).
3. *Parasarcophaga (Curranea) tibialis* (Macquart, 1850)

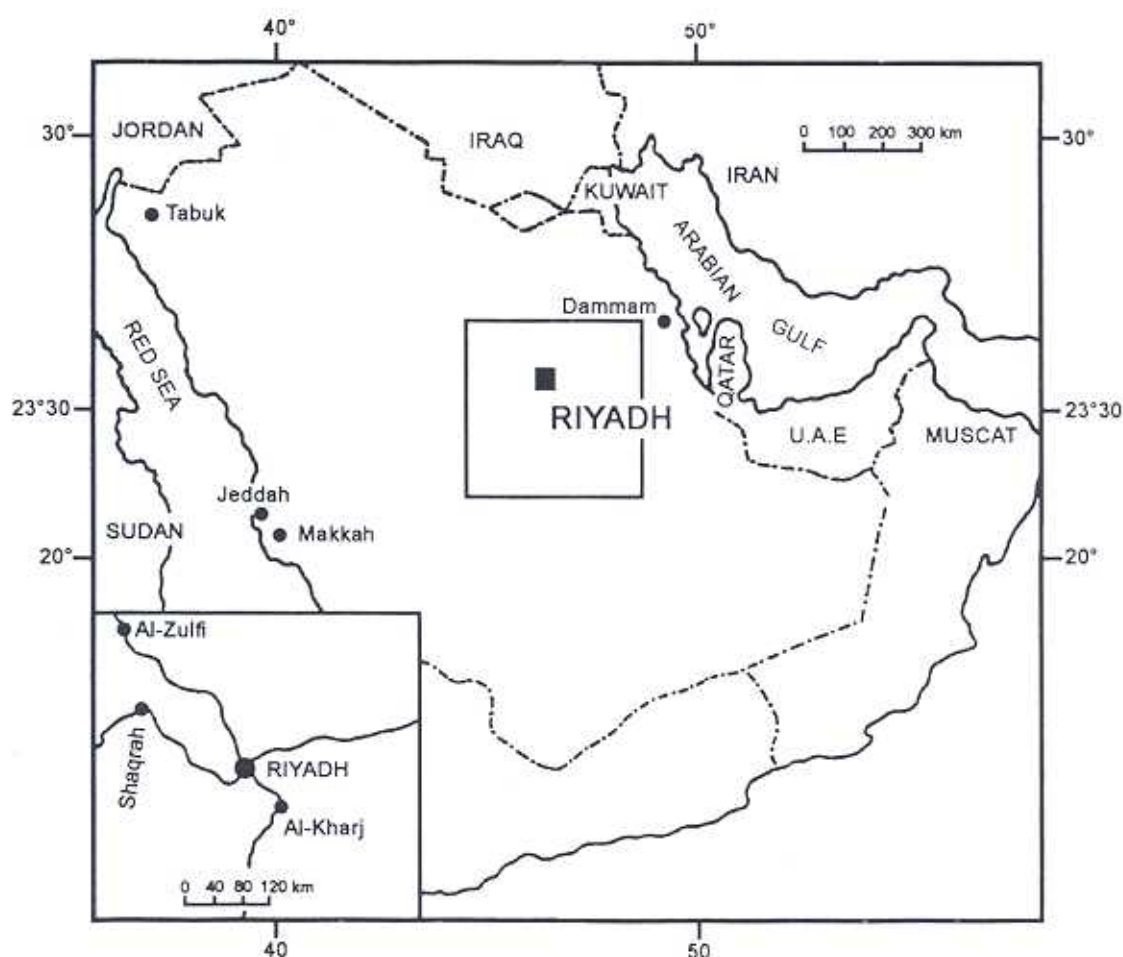


Fig. 1. Map of Saudi Arabia with inset of Riyadh Province showing sampling localities.

Distribution: Arabia, Africa, widespread Afrotropical Region (incl. Madagascar), central and sthn. Europe, canary Is (Amoudi, 1993a).

4. *Parasarcophaga (Liosarcophaga) brevicornis* (Kano, Field and Shinonaga, 1967).

Distribution: Arabia, Borneo, China, Hainan Is., Japan (including Ryukyu Is.), Korea, Malaysia, Nepal, Pakistan, Philippines, Singapore, and Taiwan (Sugiyama *et al.*, 1988; Sugiyama, 1989; Amoudi, 1993a).

5. *Parasarcophaga (Liopygia) ruficornis* (Fabricius, 1794)

Distribution: Arabia, Africa, Brazil, China, Hawaii, India, Madagascar, Malaysia, Mariana Is., Moluccas, Nepal, New Guinea, Pakistan, Philippines, Ryukyu Is., Samoa, Socotra,

Sumatra and Taiwan (Buttiker *et al.*, 1979; Sugiyama *et al.*, 1988; Sugiyama, 1989; Amoudi, 1993a).

6. *Parasarcophaga (Parasarcophaga) hirtipes* (Widemann, 1930)

Distribution: Arabia, Afghanistan, Afrotropical region, Algeria, China, Egypt, India, Iran, Iraq, Israel, Jordan, Lebanon, Morocco, Pakistan, Syria, Turkey and USSR (Buttiker *et al.*, 1979; Sugiyama, 1989; Amoudi, 1993a).

7. *Ravinia pernix* (Harris, 1780)

Distribution: Arabia, Egypt, India, Pakistan, Iraq, Syria (Amoudi, 1993a).

8. *Sarcophaga (Liosarcophaga) dux* Thomson, 1868

New record

Distribution: Arabia, Australia, Borneo, Caroline Is., China, Gilbert Is., Greece, Hawaii, India, Indonesia, Japan (including Ryukyu Is.), Korea, Malawi, Mariana Is., Marshall Is., Nepal, New Guinea, Philippines, Samoa, South Africa, Sri Lanka, Taiwan, Thailand and Wake Is (Sugiyama *et al.*, 1988; Lehrer, 1995), including Dalmatia, Egypt, France, Peiping (Richet personal communication).

9. *Sarcophaga lasiostyla* Macquart, 1835
Distribution: Arabia, Syria, Egypt, Iraq and Iran (Amoudi, 1993a).
10. *Wohlfahrtia nuba* (Wiedemann, 1830)
Distribution: Arabia, Sudan, Nigeria, Somalia, South Yemen, N. Africa, Egypt, Central Asia (Buttiker *et al.*, 1979; Amoudi, 1993a).
11. *Wohlfahrtia indigena* (Villeneuve, 1928)
Distribution: Arabia, Algeria, Somalia, Egypt, Sthn USSR (Buttiker *et al.*, 1979; Amoudi, 1993a).

ACKNOWLEDGMENTS

We are grateful to Dr. R. Richet, France for confirming the identification of the species. We also extend our thanks to Dr. M. Leclercq, Belgium for his interest and for his help.

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(Received 17 May 2001)