



Beach and Surge Flies (Diptera: Canacidae) from the Arabian Peninsula, with descriptions of three new species

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Abstract

Three new species of Canacidae, *Nocticanace affinis* **sp. nov.**, *Xanthocanace hamifer* **sp. nov.**, and *Suffomyia dancei* **sp. nov.** are described and illustrated from the Arabian Peninsula (United Arab Emirates, Oman). Keys to the species of Arabian Canacinae and the world species of the genus *Suffomyia* are provided.

Key words: Diptera, Canacidae, new species, Arabian Peninsula

Introduction

While studying the Canacid flies from the United Arab Emirates and Oman, I segregated three species, each representing a different genus, that proved to be undescribed. Particularly noteworthy is the discovery of a new species of *Suffomyia* Freidberg from Oman. This genus of surge flies was described (Freidberg, 1995) from the Sinai (Egypt and Israel) as a monotypic genus on the basis of the single species *Suffomyia scutellaris* Freidberg, 1995. Since then McAlpine (2007) has described two additional new species from New Guinea and Caroline Islands. The two other new species of canacids described herein belong to the beach-fly genera *Nocticanace* Malloch, 1933 and *Xanthocanace* Hendel, 1914, respectively.

It should be stressed that these three new species belong to genera that are recorded in the present work for the first time from the Arabian Peninsula, except for *Xanthocanace* which was recorded from Oman (Mathis, 1992) with the sole species *X. kaplanorum* Mathis & Freidberg, 1982.

Materials and methods

The specimens are double mounted, mostly glued to a card slip or even micro-pinned to a plastic block (*Xanthocanace hamifer* **sp. nov.**). Their study and illustration required the use of dissecting and compound microscopes, the latter used in particular for perusal of the genitalic structures. Micro-pincers and micro-pins were used to remove and dissect abdomens, which were macerated in a boiling, potassium hydroxide solution. Abdomens, once cleared in a hydrogen peroxide solution, were dipped in a 20% acetic acid solution for about one minute to fully neutralize the action of the caustic potash, and then rinsed in distilled water. Genitalia or the entire abdomen were then transferred to glycerine for observation. When necessary for proper orientation, the structure was transferred from glycerine to glycerine jelly. The glycerine jelly was heated, and the piece appropriately oriented. After cooling, the embedded piece in glycerine jelly became immobilized. Abdomens and genitalia were in this way studied, photographed, and drawn, and finally placed in a plastic microtube filled with glycerine, and immediately pinned below the specimen from which the anatomical piece was removed.

The descriptive terminology chiefly follows that of the *Manual of Nearctic Diptera* (J. F. McAlpine, 1981) and the *Contributions to a Manual of Palaearctic Diptera* (Merz & Haenni, 2000), except for the first