

Lorenzo Munari

NEW OR INTERESTING RECORDS OF BEACH FLIES  
FROM THE AFROTROPICAL<sup>(1)</sup> AND ORIENTAL REGIONS  
(DIPTERA: CANACIDAE: HORAISMOPTERINAE, TETHININAE)

**Riassunto.** Nuove o interessanti segnalazioni di ditteri Canacidae per le Regioni Afrotropicale(\*) e Orientale. (Diptera: Canacidae: Horaismopterinae, Tethininae).

(\*) Contributo alla conoscenza dei Canacidae Afrotropicali. VIII.

Vengono rese note, per le Regioni Afrotropicale e Orientale, alcune nuove o interessanti segnalazioni di specie di Canacidae appartenenti alle sottofamiglie Horaismopterinae e Tethininae. Un singolo esemplare femmina di *Tethina pallipes* (Loew), raccolto in una località continentale dell'India, distante oltre 700 chilometri dalla più vicina linea di costa, rappresenta la prima segnalazione di questa specie per il subcontinente Indiano, nonché il secondo ritrovamento per la Regione Orientale. Viene anche proposta per la prima volta una mappa di distribuzione delle specie del genere *Horaismoptera* Hendel.

**Summary.** New or interesting records of Canacidae species of the subfamilies Horaismopterinae and Tethininae from the Afrotropical and Oriental Regions are given. *Tethina pallipes* (Loew) is reported for the first time from India. A single female was collected in an inland place of the Indian subcontinent over 700 kilometres from the nearest sea coast. This finding represents the second record ever for the Oriental Region. A distribution map for the species of the genus *Horaismoptera* Hendel is also given for the first time.

**Keywords:** Diptera, Canacidae, Horaismopterinae, Tethininae, Afrotropical and Oriental Regions, new records.

## INTRODUCTION

An additional contribution to the knowledge of the Afrotropical and Oriental “Beach Flies” is herein proposed for the only purpose of reporting a few new or interesting records of Canacidae species belonging to the subfamilies Horaismopterinae and Tethininae. A small collection of these flies from sites of the biogeographical regions mentioned above was kindly sent to me by Dr. A. Freidberg (University of Tel Aviv, Israel), who collected the material treated in the present work.

While the Afrotropical Region is relatively well known with regard to these beach flies, the Oriental Region is still far from being well investigated. As a matter of fact, many huge areas, such as the Indian subcontinent, the eastern seashores of the Gulf of Bengala, and the large islands of Indonesia, still constitute frustrating biogeographical gaps awaiting to be filled up in the future.

## MATERIALS AND METHODS

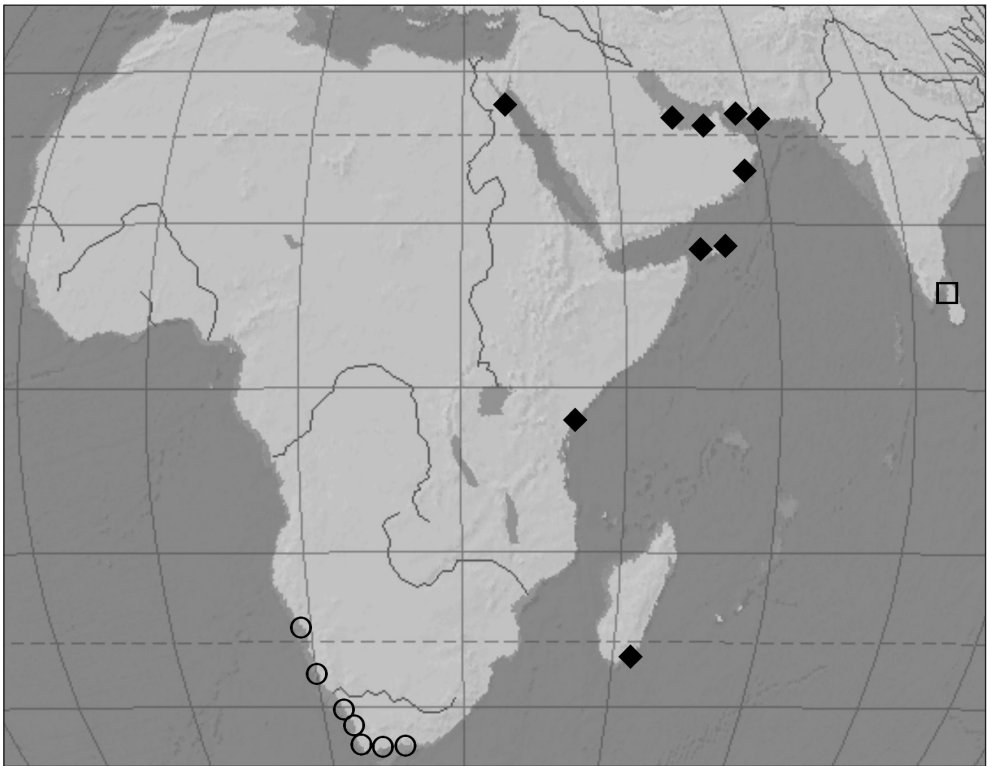
The specimens are double mounted, micropinned to a small plastic block. Their study required the use of dissecting and compound microscopes, the latter used in particular for

<sup>1</sup> Contribution to the knowledge of the Afrotropical Beach Flies. VIII.

perusal of the genitalic structures. Abdomens and genitalia of a few specimens were removed, dissected, studied and finally placed in a plastic microtube filled with glycerine, and immediately pinned below the specimen from which the anatomical piece was removed.

In the text, the subfamilies, including the relative genera and species, as well as the distribution data and the collecting localities under each species are listed in alphabetical order.

Most of the material examined is deposited in the dipterological collection of the Department of Zoology, Tel Aviv University, Israel. Some duplicates are also preserved in the author's collection (property of the Natural History Museum, Venice, Italy).



**Fig. 1.** Distribution map for the species of the genus *Horaismoptera* Hendel: *H. hennigi* Sabrosky (open square), *H. microphthalma* (Bezzi) (open circles), *H. vulpina* Hendel (diamonds).

## TAXONOMIC ACCOUNT

## Subfamilia Horaismopterinae Sabrosky, 1978

*Horaismoptera microphthalma* (Bezzi, 1908)

Distribution. Afrotropical: Namibia, South Africa.

Material examined. Lüderitz, Agate Beach, 10 m, 26°37' S – 15°11' E, 14.ix.2003, 4 ♂♂  
3 ♀♀; Walvis Bay, 10 km N, Rt. B2, 0 m, 22°50' S – 14°28' E, 6.ix.2003, 1 ♀.

Remarks. Detailed notes on the habitat of this species are given by KIRK-SPRIGGS et al. (2001, appendix I). The species occurs mainly on rocky and sandy beaches, where abundant kelp heaps and marine debris have been washed up on the littoral.

*Horaismoptera vulpina* Hendel, 1907

Distribution. Afrotropical: Yemen (Abd al Kuri and Socotra Islands), Kenya, Madagascar. Palaearctic: Egypt, Iran, Oman, Qatar, United Arab Emirates.

Material examined. Kenya: Takaungu Beach, 50 km N Mombasa, 12.viii.2003, 3 ♂♂  
5 ♀♀.

Remarks. The citation of this species from Saudi Arabia (BESCHOVSKI & NARTSHUK, 1997) is incorrect, probably due to a misinterpretation of HENDEL's (1907) record from "Abdel-Kari, Arabien". In all probability Hendel's citation referred to Abd al Kuri as a place geographically belonging to the Arabian Peninsula, i.e. "[...], Arabien", and not specifically to today's Saudi Arabia. Obviously, this species is also expected to occur in the latter country (fig. 1).

*H. vulpina* is the only species of the genus occurring in the West Palaearctic area. The Palaearctic records represent the northernmost localities of distribution of this originally Afrotropical genus (*H. hennigi* Sabrosky, described from Sri Lanka, is in all probability a vicariant species belonging to the Afrotropical ancestral lineage). The zoogeographic affinities of Hendel's species are thus to the south, and specifically with the Afrotropical seashores.

## Subfamilia Tethininae Hendel, 1916

*Afrotethina aurisetulosa* (Lamb, 1914)

Distribution. Afrotropical: Kenya (new), Madagascar, Mozambique, Seychelles (Aldabra, Cosmoledo, Mahé).

Material examined. Kenya: Takaungu Beach, 50 km N Mombasa, 12.viii.2003, 1 ♀.

New to Kenya.

*Afrotethina brevicostata* Munari, 1990

Distribution. Afrotropical: Kenya (new), Madagascar, Seychelles (Aldabra), South Africa (Natal), Tanzania.

Material examined. Kenya: Takaungu Beach, 50 km N Mombasa, 12.viii.2003, 2 ♂♂  
2 ♀♀.

New to Kenya.

*Afrotethina persimilis* Munari, 1991

Distribution. Afrotropical: Namibia, South Africa.

Material examined. Namibia: Lüderitz, Agate Beach, 10 m, 26°37' S – 15°11' E, 14.ix.2003, 15 ♂♂ 7 ♀♀; Walvis Bay, 10 km N, Rt. B2, 0 m, 22°50' S – 14°28' E, 6.ix.2003, 9 ♂♂ 11 ♀♀.

Remarks. Detailed distributions of this and the following species are given by KIRK-SPRIGGS et al. (2001). The two species are somewhat common and occur sympatrically along the seashores from northern Namibia to Cape Province (South Africa).

*Afrotethina stuckenbergi* Munari, 1990

Distribution. Afrotropical: Namibia, South Africa.

Material examined. Namibia: Walvis Bay, 10 km N, Rt. B2, 0 m, 22°60' S – 14°28' E, 6.ix.2003, 1 ♂.

Remarks. This species is very similar and closely related to the preceding one, and distinguishing between these two species usually requires study of the male terminalia. The external characters given by MUNARI (1991) for distinguishing this species from the similar *A. persimilis* Munari, viz. narrower gena, subcircular eye, 6 rows of acrostichal setulae, are not always reliable since they are rather variable in many specimens.

*Dasyrhicnoessa vockerothi* Hardy and Delfinado, 1980

Distribution. Afrotropical: Seychelles (Aldabra, Mahé). Australasian/Oceanian: Australia (New South Wales, North Territory, Queensland), Caroline Islands (Truk, Palau), Gilbert Islands, Hawaii (Hawaii, Hilo, Kauai, Maui, Molokai, Oahu), Mariana Islands (Guam, Saipan), Marshall Islands, ?New Caledonia, Papua New Guinea, Wake Island. Oriental: Japan (Ryukyus), Philippines (new), Sri Lanka, Malaysia (Sarawak).

Material examined. Philippines: Panay, Aklan Province, Boracay Island, Laguna de Boracay, 11°57.5' N – 121°55.8' E, 0-5 m, 9-14.x.2006, 16 ♂♂ 9 ♀♀.

An Indo-Pacific species new to Philippines.

Remarks. In the material examined the colour of the frons varies from bright yellow to dark reddish brown or coppery.

*Pseudorhicnoessa spinipes* Malloch, 1914

Distribution. Australasian/Oceanian: Australia (North Territory, Queensland), Caroline Islands (Palau, Tobi, Yap), Mariana Islands (Guam, Saipan), Marshall Islands (Alu, Likiep, Majuro), Papua New Guinea. Oriental: Japan (Ryukyus), Malaysia (Sabah, Sarawak, Singapore), Philippines, Taiwan, Thailand, Vietnam.

Material examined. Philippines: Panay, Aklan Province, Boracay Island, Laguna de Boracay, 11°57.5' N – 121°55.8' E, 0-5 m, 9-14.x.2006, 23 ♂♂ 5 ♀♀.

*Tethina pallipes* (Loew, 1865)

Distribution. Afrotropical: Cape Verde Islands, Senegal, Seychelles (Aldabra), South Africa. Australasian/Oceanian: Australia (Western Australia). Oriental: India (new), Taiwan. Nearctic: Bermuda, United States (Texas). Neotropical: Chile, Mexico (Chiapas, Tabasco).

Palearctic: Algeria, Azores, Bulgaria, Canary Islands, Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, Madeira, Malta, Oman, Spain (including Balearic Islands), Tunisia, Turkey.

Material examined. India: Rajasthan, Jaipur, 200 km NW, Rt. 11, 18.xi.2002, 1 ♀.

New to India and second record ever for the Oriental Region.

Remarks. The finding place is an inland area over 700 km (as the crow flies) from the nearest sea coast. The specimen was collected, together with many *Asteia* and *Trixoscelididae*, near a restaurant, with a few ornamental trees and a lawn. In a personal communication, A. Freidberg states that the *Tethina* specimen was probably collected on that lawn, from which most of the specimens were obtained, but he could not exclude the possibility that it was collected on one of the trees. The recorded area was very arid (dry season), dusty, and very disturbed (heavily populated).

Even though the specimen examined is a female, I ascribe it to the subcosmopolitan species *T. pallipes* (Loew). All of the external features are those typical of Loew's taxon, although the specimen exhibits the characteristic, longitudinal, shiny stripe of the gena noticeably extending all along the anterior edge of the sharp parafacial carina, in a more marked manner than in most specimens belonging to this species. Other interesting, continental records of this species are given in MUNARI (2005), who states that *T. pallipes* is a particularly thermophilous and perhaps dry resistant species.

#### ACKNOWLEDGEMENTS

My sincerest thanks go to Dr. A. Freidberg (Tel Aviv, Israel) for allowing me to study the material he collected in the Afrotropical and Oriental Regions, as well as to Mr. D. Whitmore (Mantua, Italy) for kindly reviewing the manuscript.

#### References

- BESCHOVSKI V.L., NARTSHUK E.P., 1997. The Tethinidae species in the collection of the Zoological Institute in St. Petersburg (Insecta: Diptera: Tethinidae). *Reichenbachia*, 32 (22): 129-141.
- HENDEL F., 1907. Neue und interessante Dipteren aus dem kaiserl. Museum in Wien. *Wiener Entomologische Zeitung*, 26 (7-9): 223-245.
- KIRK-SPRIGGS A.H., ISMAY J.W., ACKLAND M., ROHÁČEK J., MATHIS W.N., FOSTER G.A., PAPE T., CRANSTON P.S., MEIER R., 2001. Inter-tidal Diptera of southwestern Africa (Chironomidae, Canacidae, Chloropidae, Milichiidae, Tethinidae, Ephydriidae, Sphaeroceridae, Coelopidae, Sarcophagidae and Anthomyiidae). *Cimbebasia*, 17: 85-135.
- MUNARI L., 1991. Contribution to the knowledge of Afrotropical Tethinidae. VI. A new species of *Afrotethina* Munari, 1986 from Namibia, with a key to the species of the genus and new records of Tethinidae (Diptera) from the Afrotropical Region. *Annals of the Natal Museum*, Pietermaritzburg, 32: 179-185.
- MUNARI L., 2005. Species of *Tethina* Haliday from the Sahara and inland biotopes of the Mediterranean subregion (Diptera: Tethinidae). *Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie)*, 683: 1-11.

#### Author's address:

Lorenzo Munari c/o Museum of Natural History, S. Croce 1730, I-30135 Venice, Italy; e-mail: lormun@iol.it

