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REVISION OF THE SEPSIDAE (DIPTERA) FROM THE CANARY ISLANDS

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SEPSIDAE
ILES CANARIES
DISTRIBUTION
MACARONESIA

RÉSUMÉ. — Les 5 espèces de la famille des Sepsidae présentes aux îles Canaries sont redécrites. Des clés de détermination et des illustrations caractéristiques de chaque espèce sont fournies.

SEPSIDAE
CANARY ISLANDS
DISTRIBUTION
MACARONESIA

ABSTRACT. — The 5 species of the family Sepsidae present in the Canary Islands are revised. Identification keys and appropriate illustrations for each species are given.

INTRODUCTION

Amongst the Diptera Acalypratae, the *Sepsidae* comprise a family containing 21 genera and some 240 species (Pont, 1979). They are represented in the Macaronesian subregion only by the genus *Sepsis* Fallen, 1810, the largest genus in the family, with 21 species in the Palaearctic Region (Hennig, 1949), 11 in the oriental Region (Zuska, 1977) and 38 in the Afrotropical Region (Zuska, 1980). Within Macaronesia, 6 species are known from the Azores (Frey, 1945), 4 from Madeira (Frey, 1949) and 5 from the Canary Islands. Unfortunately, no information is available on this family for the Cape Verde Islands (Frey, 1958; Zuska, 1980). Most of the species of the Macaronesian islands are widespread in at least the Old World because of their coprophagous larvae and their close association with mammalian faeces.

All the species of *Sepsis* breed in dung. According to Hafez (1948) cow dung is the preferred medium for most species and Pont (1979) in addition records other media such as horse dung and chicken dung (*S. violacea*), pig dung (*S. punctum*, *S. violacea*), human faeces (*S. punctum*), etc. In the Canary Islands we have obser-

ved larval *Sepsidae* in a wide range of excrement and decomposing vegetable matter, although we lack information concerning the frequency of the different species in each medium.

In this archipelago adults are common throughout the year and are easily observed waving their wings and abdomen in a characteristic manner whilst resting on grass stems or on the leaves of various plants, specially those growing in damp places.

Although swarms or aggregations of adults of the genus *Sepsis* have been described (Coe, 1943; Donisthorpe, 1943; Pont, 1979) the author has not observed this phenomenon in the Islands.

The larval morphology has been described by Hennig (1949) and Mangan (1977) and the adult morphology by Hennig (1949) and Pont (1979).

The curious reproductive behaviour of *Sepsis cynipsea* has been analysed by Parker (1972a, b).

Sepsidae also have a slight epidemiological importance and some species have been recorded as vectors of various pathogenic micro-organisms (Greenberg, 1971, 1973).

Of the 5 species present in the Canary Islands, *S. punctum* is the commonest, followed by *S. thoracica*

and *S. lateralis*, whilst *S. barbata* and *S. biflexuosa* are rare and have a more limited distribution within each island.

In the text that follows, each species is accompanied a reference to its original description, followed by references to papers in which it has been recorded from the Canary Islands. In the section of material studied, all material has been collected by the author, unless otherwise stated.

Key to the Species

- 1 - Wing with a dark spot at the end of vein r_{2+3} 2
 - Wing without a dark spot at the end of vein r_{2+3} *S. lateralis*
- 2 - Sternopleuron glossy black on most of lower part, the white pruinosity confined to upper part (Figs. 1, 2) 3
 - Sternopleuron entirely white pruinose (Fig. 3) 4
- 3 - Hypopleuron with the posterior half glossy black and the anterior half white pruinose (Fig. 1) *S. thoracica*
 - Hypopleuron entirely glossy black (Fig. 2) *S. barbata*
- 4 - ♂ : fore femur and tibia as fig. 4. ♀ : tergites 4 and 5 with a pair of lateral marginal setae *S. punctum*
 - ♂ : fore femur and tibia as fig. 10. ♀ : tergites 4 and 5 without any marginal setae *S. biflexuosa*

Sepsis barbata Becker, 1907. *Ann. Mus. Zool. Petersburg*, 12, p. 292; Becker, 1908, p. 145; Frey, 1936, p. 96.

Body black. Thorax with 2 dorsocentral bristles, the anterior shorter than posterior. Legs reddish; fore femur of the males as fig. 16 and with long pilosity anteriorly at base; fore tibia as fig. 16. Tergite 1+2 with a violet shine. Genitalia as in figs. 17 and 18.

Body length : 4 - 4,5 mm.

World distribution : Palaearctic Region; Macaronesian subregion.

Distribution in the Canary Islands : Tenerife, Gran Canaria, La Palma, Gomera, Fuerteventura.

Material studied : Fuerteventura : Valle de Ortega, 8-V-74, 5 ♂♂ 4 ♀♀.

Sepsis biflexuosa Strobl, 1893. *Wien. Ent. Zeit.*, 12, p. 225; Hennig, 1949, p. 77.

Sub nomine Sepsis flavimana Meig., *Bigot, 1891, p. 276; Becker, 1908, p. 146; *Frey, 1936, p. 97.

Body shining black. Thorax with 2 dorsocentral bristles of equal length. Femora dark, yellow at tips and bases; fore femur in the male as in fig. 10; fore tibia (♂) yellowish, with a conspicuous ventral swelling at basal quarter that is covered with sort spinules (fig. 10);

mid and hind tibia darker than fore tibia. Genitalia as in figs. 11 and 12.

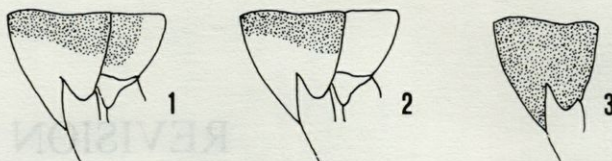


Fig. 1. - 1 : Sternopleuron and hypopleuron of *S. thoracica*; 2 : Sternopleuron and hypopleuron, of *S. barbata*; 3 : Sternopleuron and hypopleuron of *S. punctum*.

1 : Sternopleuron et hypopleuron de *S. thoracica*; 2 : Sternopleuron et hypopleuron de *S. barbata*; 3 : Sternopleuron et hypopleuron de *S. punctum*.

Body length : 3,5 - 4 mm.

World distribution : Europe, North America, Mexico, Hawaii.

Distribution in the Canary Islands : Gran Canaria, Tenerife, Hierro.

Material studied : Tenerife : Los Rodeos, 30-III-80, 1 ♂; Santa Ursula, 21-VI-81, 1 ♂.

Gran Canaria » Guayadeque, 28-XII-80, 1 ♂.

Hierro : Monte del Golfo, 29-V-76, 1 ♂ 1 ♀.

According to Mr. Pont (*in litt.*), Bigot's series of 'flavimana', now in the Verrall-Collin Collection of Palaeartic Diptera in the Hope Department of Zoology, Oxford, consists of 2 ♂♂ 1 ♀ from Alger which are *punctum*, 1 ♂ without data which is *biflexuosa*, and 1 ♀ without data which is *cynipsea*. Bigot's record of *flavimana* can certainly be rejected as a misidentification. I have not seen Frey's material of *flavimana*, but think it most likely to be a misidentification of *biflexuosa*.

Sepsis lateralis Wiedemann, 1830. *Auss. zweifl. Ins.*, 2, p. 468.

- *Sepsis inpunctata* Macq.; Macquart, 1839, p. 118; Becker, 1908 p. 145; Frey, 1936, p. 96 (as f. *lateralis*).

- *Sepsis fragilis* Beck; Becker, 1908, p. 146; Frey, 1936, p. 96 (as f. *lateralis*).

Variably coloured species, ranging from black to yellow, females generally darker than males. Easily distinguishable from the rest of the Canary species by the absence of the dark spot at the end of vein r_{2+3} ; fore femur and fore tibia of the male as in fig. 7, fore femur with the process bearing several bristles including one S-shaped bristle. Genitalia as in figs. 8 and 9.

Body length : 3,5 - 5,5 mm.

World distribution : Afrotropical Region; Mediterranean subregion; Oriental Region; New Guinea; Macaronesian subregion.

Distribution in the Canary Islands : Gran Canaria, Tenerife, La Palma y Gomera.

Material studied: Tenerife: la Cuesta, 28-IX-72, 1 ♂ 1 ♀, 16-X-72, 1 ♂, 15-X-72, 1 ♂ 2 ♀♀, 1-IV-73 3 ♂♂ 2 ♀♀, 23-IV-73, 1 ♂, 29-VI-73, 1 ♂, 21-X-73, 9 ♂♂, 12-XI-73, 1 ♂, 6-I-76, 1 ♂ 1 ♀, 10-II-80, 9 ♂♂ 4 ♀♀; Santa Cruz, 2-XII-79, 1 ♂; Sauzal, 3-VI-79, 4 ♂♂ 2 ♀♀; Santa Ursula, 21-VI-81, 2 ♂♂; Valle Tabares, 4-XI-73, 2 ♂♂ 1 ♀.

Gran Canaria: Tafira Alta, 8-III-77, 4 ♂♂ 1 ♀.

La Palma: Santa cruz, IV-35, 1 ♀ (Santos Abreu leg.)

Sepsis punctum (Fabricius, 1974) (*Musca*, *Ent. Syst.*, p. 351; Becker, 1908, p. 146; Frey, 1936, p. 96 (as var. *quadrisetosa* Duda).

A robust species and the largest species of the genus in the Canary Islands. Body black, abdominal tergite 1 + 2 usually reddish-yellow. Legs usually yellow. Thorax with 1-2 dorsocentral setae (in Canary populations 2 dorsocentrals are more frequent). Fore femur of male with the submedian group of spinules preceded by 2-3 stout setae (fig. 4); fore tibia strongly swollen ventrally in basal half and as in fig. 4. Genitalia as in figs 5 and 6.

Body length: 4,5 – 7,5 mm.

World distribution: Palaearctic Region; North America; Macaronesian subregion.

Distribution in the Canary Islands: Gran Canaria, Tenerife, La Palma y Gomera.

Material studied: Tenerife: Afur, 5-III-78, 1 ♀; Agua Garcia, 21-IX-80, 1 ♂ 5 ♀♀; Anaga, 25-IV-74, 2 ♂♂ 1 ♀; Bajamar, 3-II-80, 4 ♂♂ 4 ♀♀; Benijo, 5-X-80, 2 ♂♂; Barranco La Leña, 5-I-47, 1 ♀ (J.M. Fernández leg.); Barranco de Ruiz, 6-IV-75, 1 ♂; El Cantillo, 6-I-66, 2 ♂♂ 3 ♀♀ (J.M. Fernández leg.), 21-II-63, 1 ♂ (J.M. Fernández leg.), 28-I-74, 2 ♂♂; El Socorro, 1-XII-73, 2 ♂♂ 2 ♀♀, 7-XII-73, 1 ♂; La Perdoma, 21-VI-81, 1 ♂; Las Cañadas, 28-V-78, 1 ♂; La Cuesta, 13-V-73, 1 ♂, 15-X-72, 1 ♀, 21-X-73, 1 ♀, 6-I-76, 1 ♂, 22-X-72, 1 ♀, 3-VII-73, 1 ♂, 13-II-72, 1 ♀; Las Lagunetas, 12-V-75, 1 ♂ 1 ♀; Los Rodeos, 24-III-73, 1 ♂, 30-III-80, 1 ♂ 8 ♀♀; Monte del Agua, 24-VIII-73, 3 ♀♀, 17-VI-71, 1 ♂; Santa Ursula, 21-VI-81, 1 ♀; Vueltas de Taganana, 22-III-78, 1 ♂ 1 ♀.

Gomera: Apartacaminos, 13-VIII-77, 1 ♂ 1 ♀; Agua de los Llanos, 15-IX-77, 1 ♀; Barranquillos, 11-IX-77, 2 ♂♂; Barranco del Carmen, 14-IX-77, 1 ♀; Cañada de Jorge, 12-VIII-77, 2 ♀♀; El Bailadero, 21-VIII-77, 1 ♀; El Jardín, 13-IX-77, 1 ♂ 1 ♀; Hermigua, 25-III-78, 1 ♂ (P. Oromí leg.), 7-IV-74, 2 ♂♂ 1 ♀; Laguna Grande, 16-VIII-77, 1 ♂, 9-IX-77, 1 ♀; Las Cuadernas, 16-VIII-77, 1 ♀; Las Mesetas, 13-IX-77, 1 ♂; Los Gallos, 14-IX-77 1 ♂; Meriga, 10-VIII-74, 1 ♀, 15-VIII-77, 1 ♀; Mora de Gaspar, 2-VIII-77, 2 ♂♂ 1 ♀, 12-IX-77, 1 ♀; Raso de la Bruma, 1-VIII-77, 1 ♂; Vallehermoso, 19-IX-77, 1 ♂.

La Palma: Dehesa, 9-XII-34, 1 ♂ (Santos Abreu leg.); Los Tilos, 25-VIII-73, 6 ♂♂ 3 ♀♀.

Gran Canaria: Bandama, 24-IX-73, 3 ♀♀; Las Lagunetas, 23-IX-73, 1 ♀, 9-III-77, 1 ♂; Tafira Alta, 8-III-77, 1 ♂.

Sepsis thoracica (Robineau-Desvoidy, 1830) (*Micropeza*, *Essai Myodaires*, p. 742; Frey, 1936, p. 96.

- *Sepsis pectoralis* Macq.; Becker, 1908, p. 146.
- *Sepsis tridens* Beck.; Becker, 1908, p. 146.

Variably coloured species, specially the males which vary from reddish to blackish. Colour of legs varying to

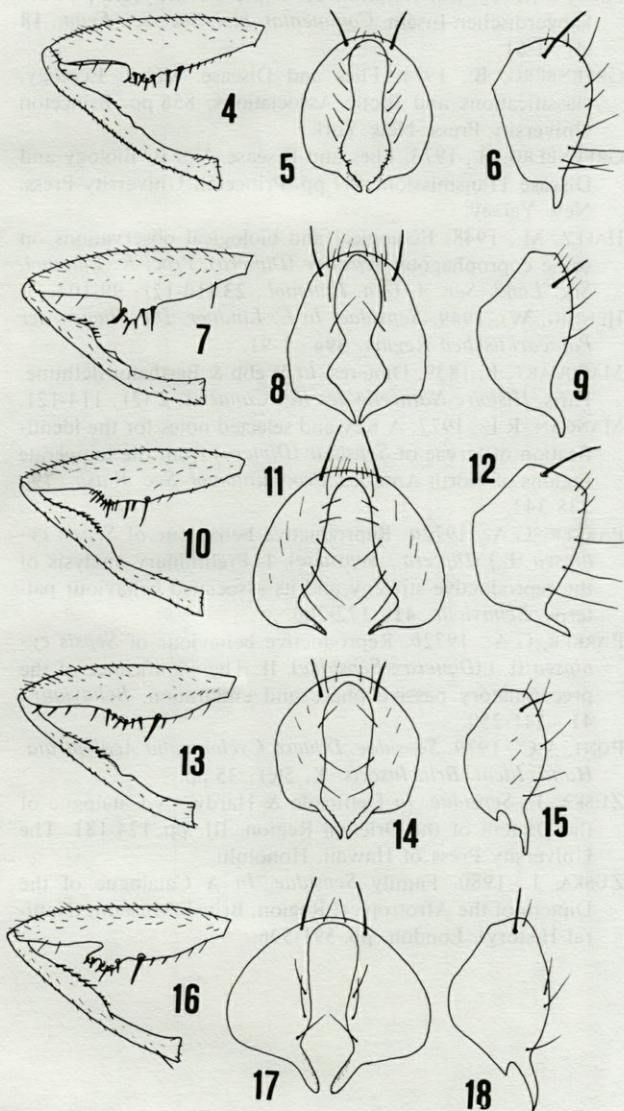


Fig. 2. — 4, 7, 10, 13, 16: Fore femur and tibia of the male; 5, 8, 11, 14, 17: hypopygium mâle (posterior view); 6, 9, 12, 15, 18: hypopygium mâle (lateral view); *S. punctum*: 4, 5, 6; *S. lateralis*: 7, 8, 9; *S. biflexuosa*: 10, 11, 12; *S. thoracica*: 13, 14, 15; *S. barbata*: 16, 17, 18.

4, 7, 10, 13, 16: fémur antérieur et tibia du mâle; 5, 8, 11, 14, 17: hypopygium mâle (vue postérieure); 6, 9, 12, 15, 18: hypopygium mâle (vue latérale); 4, 5, 6: *S. punctum*; 7, 8, 9: *S. lateralis*; 10, 11, 12: *S. biflexuosa*; 13, 14, 15: *S. thoracica*; 16, 17, 18: *S. barbata*.

the same extent as the body. Male : fore femur and tibia as in fig. 13. Genitalia as in figs. 14 and 15.

Body length : 3 - 6,5 mm.

World distribution : Palaearctic Region; Afrotropical Region; Oriental Region; Macaronesian subregion.

Distribution in the Canary islands : All the islands.

Material studied : Tenerife : Almaciga, 5-X-80, 1 ♀; Bajamar, 3-II-80, 3 ♂♂ 2 ♀♀; El Cantillo, 6-I-66, 1 ♂ (J.M. Fernández leg.), 28-I-74, 1 ♂; Icod, 12-IV-76, 1 ♀, La Laguna, 29-IV-73, 1 ♀; La Perdoma, 21-VI-81, 3 ♂♂ 1 ♀; Las Cañadas, 13-VI-76, 1 ♀; Las Galletas, 9-IV-78, 1 ♀; Las Mercedes, 24-IV-80, 1 ♀; La Vera, 12-IV-76, 3 ♂♂ 2 ♀♀; La Cuesta, 15-X-72, 1 ♀, 10-VI-73, 1 ♂, 10-II-80, 1 ♂; Los Chupaderos, 23-VI-76, 1 ♀; Los Rodeos, 30-III-80, 2 ♂♂ 1 ♀; Monte de Icod, 19-I-74, 1 ♂; Santa Ursula, 1-VII-79, 3 ♀♀; Teno, 1-III-74; 1 ♂; Valle Jimenez, 23-I-74, 1 ♂ 1 ♀; Valle Tabares, 3-V-73, 1 ♀.

Goмера : Hermigua, 7-IV-74, 1 ♀; Meriga, 10-VIII-74, 1 ♀, 15-VIII-77, 1 ♀; Tecina, 28-III-78, 1 ♂.

La Palma : Bajamar, 17-II-76, 1 ♀.

Hierro : Frontera, 1-II-78, 2 ♂♂ 1 ♀.

Gran Canaria : Guayadeque, 28-II-80, 1 ♀; Tejada, 9-III-77, 1 ♀.

Fuerteventura : Tetir, 14-V-74, 1 ♂ 3 ♀♀.

Lanzarote : Haría, 23-II-79, 1 ♂.

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