

# Two new species of *Thoracochaeta* Duda from the Isle of Ibiza (Balearic Islands) (Diptera, Sphaeroceridae)

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Two sphaerocerid species new to science, namely *Thoracochaeta erectiseta* sp.n. and *Thoracochaeta palpebris* sp.n., are described from the Balearic Islands.

**Keywords:** Sphaeroceridae, *Thoracochaeta*, two new species, Balearic Islands.

DUES NOVES ESPÈCIES DE THORACOCOAETA DUDA DE L'ILLA D'EIVISSA. Se descriuen dues espècies noves per la ciència d'esferocèrids de les Pitiüses; *Thoracochaeta erectiseta* sp. n. i *Thoracochaeta palpebris* sp. n.

**Paraules clau:** Sphaeroceridae, *Thoracochaeta*, dues noves espècies, illes Pitiüses.

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## Introduction

The genus *Thoracochaeta* Duda (1918) comprises 9 species in the palaeartic region (Papp, 1984; Munari, 1989). Species, known as seaweed flies, are associated with decaying seaweed cast up in the supralittoral zone (Marshall, 1982; Marshall & Norrbom, 1985).

In June 1988 and 1989 the author had the opportunity of making a travel to the Isle of Ibiza (Balearic Islands). During the short stay (only one week each year) they were collected as many diptera as possible (mostly acalypterate) Carles-Tolrà. During the study of the specimens of Sphaeroceridae, 2 new species to science were found, as well as new and interesting

records to the Isle of Ibiza. The new species belong to *Thoracochaeta* Duda and are described below.

The family Sphaeroceridae and genus *Thoracochaeta* are recorded for the first time from the Isle of Ibiza and from the Balearic Islands respectively (Carles-Tolrà, 1990a,b,c).

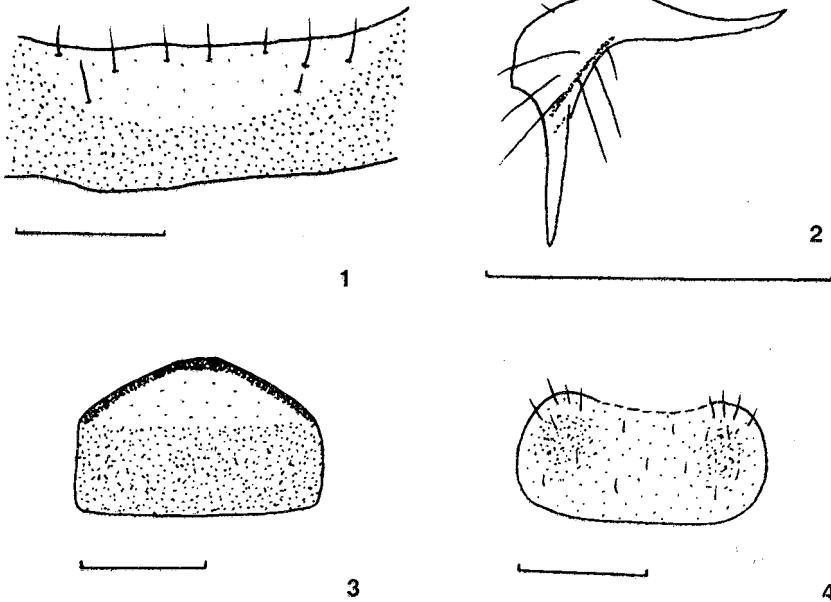
***Thoracochaeta erectiseta* sp.n.**

• General colour brownish to brown.

Head: interfrontal plate wider than long (wide/length: males= 1.4-1.5; females= 1.3-1.6). Interfrontal plate

longer than separation between posterior ocelli. 3 interfrontal bristles and 1 pair of small anterior bristles in front of them. Antennae widely separated by the convex facial knob, and directed laterally. Arista long, with long pubescence. Eye height/genal height: males= 1.8-2.5; females= 1.5-2.0. Chaetotaxy: 2ors, vte, vti and occi strong, occe short. oc inserted outside the ocellar triangle and directed laterally. ors and vte arranged in a more or less straight line. Postocellar minute hairs present. Vibrissae, subvibrissal and genal bristle present.

Thorax: 1+2dc (two foremost dc inclinate), ac in 6 rows anteriorly and 4



**Figs. 1-4.** *Thoracochaeta erectiseta* sp.n.: 1) male sternite 5, mid part, 2) right gonostylus in lateral view, 3) tergite 7 of female in dorsal view, 4) sternite 7 of female in ventral view. Scales = 0.1 mm.

*Figs. 1-4. Thoracochaeta erectiseta sp.n.: 1) esternit 5 del mascle, zona mitja; 2) visió lateral del gonostil dret; 3) tergit 7 de la femella en visió dorsal; 4) esternit 7 de la femella en visió ventral. Escala = 0.1 mm.*

posteriorly. Prescutellar acrostichal bristles slightly longer than other acrostichals, but shorter than dorso-central bristles. Prescutellar acrostichal setulae lacking. Chaetotaxy: 2hu (posterior longer), 2np (posterior erect), 1 erect prst just above anterior notopleural, 1sa, 1pa, 2st (anterior minute). Scutellum with 2 long scutellar bristles, basal ones distinctly erect, almost perpendicular to the scutellum, slightly inclinate.

Wing: Cs1, just at the confluence of humeral and costal veins, with a distinct erect long bristle perpendicular to the wing plane, very slightly inwards curved. Other bristles of Cs1 distinctly shorter and not perpendicular. Base of wing with a pair of long bristles (dorsal one a few longer), but not perpendicular to the wing plane. Cs2 and Cs3 variable (Cs2 shorter than, equal as or longer than Cs3). ta-tp/tp: males= 1.5-2.1; females= 1.6-2.0. M1+2 slightly sinuate.

Legs: mid femur with 2 stout anteropreapical bristles different in length and 1 short posteroapical bristle. Mid tibia with 3 distinct pairs of dorsal bristles (distal pair much longer and distinctly upcurved), ventrally with a row of short, stout bristles, midventral bristle absent, ventroapical bristle present. Hind femur with an anteroventral preapical bristle. Hind tibia with 2 long weak dorsal hairs and with a distinct short ventroapical bristle. Hind basitarsus with a short, stout anteroventral apical bristle.

Abdomen: tergites 2-5 glabrous, with only 2 lateral bristles (posterior longer). Tergite 5 furthermore with 1-2 pairs of very short posterior bristles. Male sternite 5 (Fig. 1) haired, lacking

posterior spines, posteromedian protuberance also lacking.

Male genitalia: gonostylus (Fig. 2) with two long pointed prolongations (1 ventral and 1 anterior) forming a right angle, mid part with some long hairs. Paramere slightly curved forwards, pointed.

Female genitalia: tergite 7 (Fig. 3) pentagonal, longer than tergite 6, posterior margin rounded, with lateral hairs. Tergite 8 divided into 3 parts, mid part reduced, much shorter than wide. Cerci short, rounded, with short hairs. Sternite 7 (Fig. 4) with posterolateral short hairs, other setae minute. Sternite 8 somewhat longer than wide, posterior margin rounded with minute hairs. 1+2 spermathecae.

Total body length: males 1.4-1.8 mm; females 1.4-2.1 mm.

**Type material:** Holotype ♂: Balearic Islands, Ibiza, Cala Es Canar, 25.6.1989, on heap of decaying *Posidonia* in the shore, M. Carles-Tolrá leg. Paratypes: 46♂♂ and 42♀♀, same data as the holotype; Ibiza, Punta Arabí, 30.6.1988 4♂♂, 28.6.1989 3♂♂ 4♀♀, at light, M. Carles-Tolrá leg. Type material deposited in the author's collection.

**Discussion:** the combination of 3 pairs of dorsal bristles on mid tibia and lacking of posterior spines on sternite 5, makes *Thoracochaeta erectiseta* sp.n. different from all palaeartic congeners. The other known species lacking posterior spines on sternite 5 is *Th. flaminuta* Marshall (1982) which occurs in the nearctic region (U.S.A.: Florida), but it has 4 pairs of dorsal bristles on mid tibia. Furthermore, *Th. erectiseta* differs from the other species for the peculiar

erect bristles of the wing and scutellum.

**Biology:** the specimens were mainly collected on heap of decaying *Posidonia* in the shore. A few specimens were collected at light.

**Distribution:** hitherto only known from the Isle of Ibiza.

**Etimology:** the specific name refers to the distinct erect bristles of the wing and scutellum.

### *Thoracochaeta palpebris* sp.n.

General colour brownish to brown.

Head: interfrontal plate wider than long (wide/length: male= 1.6; females= 1.6-1.7). Interfrontal height longer than separation between posterior ocelli. 3 interfrontal bristles and 1 pair of small anterior bristles in front of them. Antennae widely separated by the convex facial knob, and directed laterally. Arista long, with long pubescence. Eye height/genal height: male= 2.2; females= 1.6-2.0. Chaetotaxy: 2ors, vte, vti and occi strong, occe short. oc aligned with anterior and posterior ocelli and directed laterally. ors and vte arranged in a more or less straight line. Postocellar minute hairs present. Vibrissae, subvibrissal and genal bristle present.

Thorax: 1+2dc (two foremost dc inclinate), ac in 6 rows anteriorly and 4 rows posteriorly. Prescutellar acrostichal bristles slightly longer than other acrostichals, but shorter than dorso-central bristles. Prescutellar acrostichal setulae lacking. Chaetotaxy: 2hu (posterior longer), 2np (posterior erect), 1 erect prst just above anterior notopleural, 1sa, 2pa, 2st (anterior minute). Scutellum with 2 long scutellar bristles.

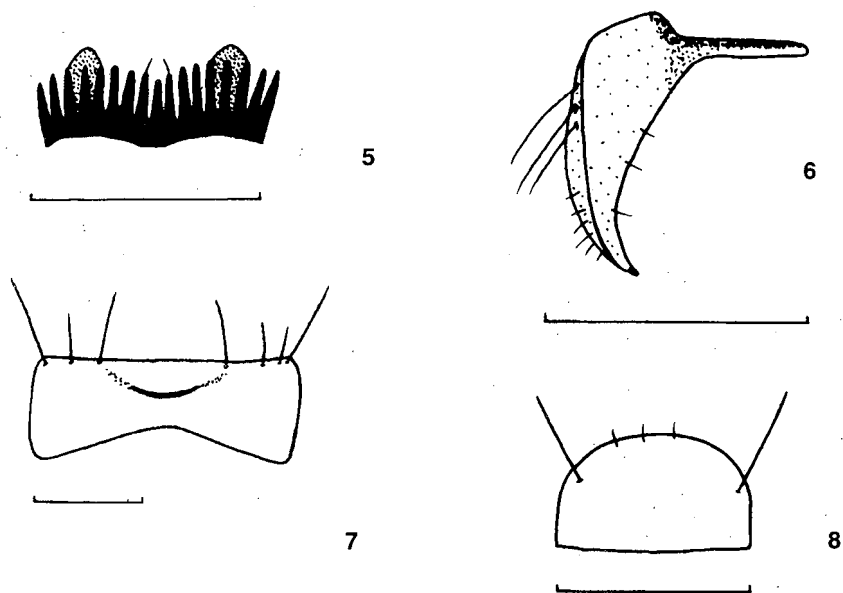
Wing: Cs1 with long bristles. Cs2 slightly shorter than Cs3. ta-tp/tp: male= 1.5; females= 1.6. M1+2 slightly sinuate.

Legs: mid femur with 2 stout anteroapical bristles different in length and 1 short posteroapical bristle. Mid tibia with 3 distinct pairs of dorsal bristles (distal pair much longer), ventrally with a row of short, stout bristles, midventral bristle absent, ventroapical bristle present. Hind femur with an anteroventral preapical bristle. Hind tibia with 2 long weak dorsal hairs and with a distinct short ventroapical bristle. Hind basitarsus with a short, stout anteroventral apical bristle.

Abdomen: tergites 2-3 glabrous, with only 2 lateral bristles (posterior longer). Tergites 4-5 furthermore with some posterolateral short bristles (very short to minute in the females). Male sternite 5 haired, with a peculiar posteromedian comb of 17 spines, eyelash-shaped (Fig. 5); posteromedian protuberance very separated to each other and only slightly overpassing the comb of spines; hairs between both protuberances minute, almost invisible.

Male genitalia: gonostylus (Fig. 6) pointed, curved forwards, with a minute apical tooth, anterior side concave (it seems a spoon), base dilated with an anterior projection, posterior side with some long proximal and minute distal hairs.

Female genitalia: tergite 7 (Fig. 7) rectangular, concave anteriorly, with a curved dark line in the middle, some long posterolateral bristles present. Tergite 8 divided into 3 parts (1 median and 2 lateral), mid part oval, desclerotized. Sternite 7 normal-shaped, rectangular, with posterior short hairs. Sternite 8 (Fig. 8) wider than long,



**Figs. 5-8.** *Thoracochaeta palpebris* sp.n.: 5) posteromedian row of teeth of sternite 5 of male in ventral view, 6) left gonostylus in lateral view, 7) tergite 7 of female in dorsal view, 8) sternite 8 of female in ventral view. Scales= 0.1 mm.

*Figs. 5-8. Thoracochaeta palpebris sp.n.: 5) línia denticular posteromediana de l'esternit 5 del mascle en visió ventral; 6) gonostil esquerre en visió lateral; 7) tergít 7 de la femella en visió dorsal; 8) esternit 8 de la femella en visió ventral. Escala = 0.1 mm.*

convex posteriorly, with 1 pair of long lateral hairs, some minute posterior hairs also present. Cercus short, with 1 apical long hair and 2 preapical shorter ones. 1+2 spermathecae.

Total body length: male 1.9 mm; females 1.9-2.1 mm.

**Type material:** Holotype ♂ : Balearic Islands, Ibiza, Cala Es Canar, 25.6.1989, on heap of decaying *Posidonia* in the shore, M. Carles-Tolrà leg. Paratypes: 2 ♀♀, same data as the holotype, M. Carles-Tolrà leg. Type material deposited in the author's collection.

**Discussion:** *Thoracochaeta palpebris* sp.n. is closely related to *Th. mediterranea* Munari (1989), both species clearly differ in the number of acrostichal rows (3-4 in *Th. mediterranea*), as well as in male sternite 5 (*Th. mediterranea* with a row of only 12 spines, posterior projections closely each to other and distinctly overpassing the row of spines, pair of hairs between posterior projections very long and very well visible) and gonostylus (much less angulated in *Th. mediterranea*).

**Biology:** the specimens were collected on heap of decaying *Posidonia* in the shore.

**Distribution:** hitherto only known from the Isle of Ibiza.

**Etymology:** from the Latin "palpebra" meaning "with eyelashes", it refers to the eyelashes-shaped disposition of the spines of sternite 5.

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