

TWO NEW SPECIES OF *TRIPHLEBA* RONDANI AND OTHER VERY INTERESTING RECORDS (IBERIAN PENINSULA) (DIPTERA, PHORIDAE)

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Abstract: Two new species of *Triphleba* Rondani (*Triphleba ypsilon* sp.n. and *T. ropalon* sp.n.) are described from the Iberian Peninsula, and *Phora prisca* Gotô is recorded from Europe and the West Palaearctic for the first time.

Key words: Diptera, Phoridae, *Triphleba*, *Phora prisca*, new species, Andorra, Spain.

Dos especies nuevas de *Triphleba* Rondani y otras citas muy interesantes (Península Ibérica) (Diptera: Phoridae)

Resumen: Se describen dos especies nuevas del género *Triphleba* (*Triphleba ypsilon* sp.n. y *T. ropalon* sp.n.) de la Península Ibérica, y se cita a *Phora prisca* Gotô por primera vez del paleártico occidental en Europa.

Palabras clave: Diptera, Phoridae, *Triphleba*, *Phora prisca*, especies nuevas, Andorra, España.

Taxonomy / Taxonomía: *Triphleba ypsilon* sp.n. y *Triphleba ropalon* sp.n.

Introduction

Recently, three papers on Andorran phorids have been published by the first author (Carles-Tolrá, 2007, 2010, 2011a). In the first one, a new species of *Phora* Latreille, 1796 and two new species of *Triphleba* Rondani, 1856 (*Triphleba* sp.n. A and *Triphleba* sp.n. B) were mentioned, but not described. Furthermore, two unidentified species of *Triphleba* (*Triphleba* sp. A and *Triphleba* sp. B) were also included.

On the other hand, additional specimens of one of the new species of *Triphleba* (*Triphleba* sp.n. A) were collected in Spain.

The aim of the present paper is to describe the two new species of *Triphleba* and to let the identifications of the other material be known. The specimen of *Phora* has ended up not belonging to a new species, but to a very interesting and unexpected species (see below).

With this paper, 196 and 64 phorid species have been recorded from mainland Spain and Andorra, respectively.

Material and methods

The material from Andorra was collected by J. Pujade Villar in Santa Coloma (Vall del Roc de Sant Vicenç, near d'Encclar river, 1050 m a.s.l.). The collecting time, by means of a Malaise trap, was from August 1992 to December 1993, both months included (for more details see Durán-Alarcón *et al.*, 1998). Carles-Tolrá's (2007) paper includes the material collected in 1993, whereas that collected in 1992 was published in Carles-Tolrá, 2010.

The material from SPAIN was collected by C. García Romera and J.A. Barrientos in the Natural Park of Montseny. The collecting time, by means of flight intercept traps, water traps, and pitfall traps, was from March 1990 to March 1991. The traps were placed in three different zones of a beech forest (*Fagus sylvatica*) with different humidity:

two in Montseny (Barcelona), at 1130 m a.s.l. (UTM 31TDG530274) and at 1170 m a.s.l. (UTM 31TDG532273), and the other in Arbúcies (Gerona), at 1250 m a.s.l. (UTM 31TDG540279) (for more details see Carles-Tolrá *et al.*, 2000).

The material is preserved in alcohol (70°), a few specimens have been slide-mounted in Berlese fluid. The material from Andorra is mainly deposited in the private collection of the first author (MC-T), a few specimens are in the Facultad de Biología de Barcelona; the specimens from Spain are mainly deposited in the Universidad Autónoma de Barcelona, a few specimens are in the private collection of the second author (CGR).

Results

Phora prisca Gotô, 1985

ANDORRA: Santa Coloma, 1-15.ix.1993 1 ♂.

This sole male specimen was considered as belonging to a new species in the paper by Carles-Tolrá, 2007. Nevertheless, it belongs to a species that was described and hitherto only known from Japan. So, it is a very interesting capture as it now expands its distribution to the West Palaearctic in Andorra.

Triphleba autumnalis (Becker, 1901)

ANDORRA: Santa Coloma, xii-1992 2 ♂♂, 16-31.i.1993 1 ♂.

This species corresponds to *Triphleba* sp. B in Carles-Tolrá's (2007) paper. New species for Andorra.

Triphleba lyria Schmitz, 1935

ANDORRA: Santa Coloma, 1-15.i.1993 1 ♂, 1-15.v.1993 1 ♂.

These two male specimens correspond to *Triphleba* sp. A in Carles-Tolrá's (2007) paper. Now, thanks to additional

material of both sexes collected in Spain (Carles-Tolrà, 2011b) their identification has been possible.

Triphleba ypsilon sp.n.

DESCRIPTION: A brown species.

Head dark brown. Frons dark brown, two times as wide as long, medial furrow absent, frontal hairs 18-24. Supra-antennals less than half length of antials. Antero-laterals, medio-laterals, postero-laterals, pre-ocellars and ocellars present. First transverse row of the bristles convex forward. Second transverse row of the bristles less convex forward, almost straight. Antenna: postpedicel brown, rounded; arista subapical, short pubescent. Palpus brown, with about 7-8 bristles, apical one longer and stronger.

Thorax brown. 4 notopleurals. Scutellum with 2 strong bristles and 2 very small basal hairs.

Wing brownish, veins brown. Costa thickens apically (end of CS2 and complete CS3). Sc reaches vein 1. Vein 2 complete. One hair at base of R4+5. Anal vein very short, not reaching wing margin. A single axillary bristle. Haltere yellowish. Costal index = 0.49-0.55, costal ratios = 2.8-3.2:1.6-1.8:1.

Legs brown, fore tibia with 1 short anterodorsal proximal bristle, mid tibia with 2 proximal bristles (anterodorsal one twice long than posterodorsal), hind tibia with 1 anterodorsal proximal bristle.

Abdomen brown, tergites with short hairs. Venter brown.

Hypopygium (Figs 1-3): left epandrial process (in lateral view) (Fig. 1) large, suboval, pointed apically, haired; right epandrial process (in lateral view) (Fig. 2) short, smaller, curved basally, rounded apically, haired. Hypopygium ventrally as in Fig. 3.

Female as male. Sternite 7 as in Figs 4-6: fore part narrow, tip rounded; mid part large, with a deep posteromedial incision, giving a distinct Y appearance; hind part narrow, free, tail-shaped (Fig. 6), tip very thin.

Total body length: males = 1.25-2.20 mm; females = 1.85-3.10 mm.

TYPE MATERIAL (26 ♂♂ and 6 ♀♀):

Holotype ♂: ANDORRA: Santa Coloma, Vall del Roc de Sant Vicenç, near d'Enclar river, xi-1992, Malaise trap, 1050 m a.s.l., J. Pujade Villar leg.

Paratypes: 20 ♂♂ 4 ♀♀ as the holotype, other paratypes as the holotype but x-1992 2 ♂♂ 1 ♀, xii-1992 3 ♂♂ 1 ♀.

Holotype not dissected. Wing, abdomen and hypopygium of 1 ♂ and 1 ♀ specimens from Andorra, and 2 ♂♂ and 1 ♀ specimens from Montseny are slide-mounted in Berlese fluid; the remaining specimens are preserved in alcohol (70°). Holotype, paratypes and Andorran non-paratypes deposited in the private collection of the first author (MC-T) and in the Facultat de Biologia de Barcelona. Spanish specimens deposited in the Universidad Autónoma de Barcelona and in the private collection of the second author (CGR).

OTHER MATERIAL (non-paratypes: 64 ♂♂ and 11 ♀♀):

ANDORRA (56 ♂♂ and 8 ♀♀): as the holotype, but 1-15.i.1993 1 ♀, 16-31.x.1993 18 ♂♂ 1 ♀, 1-15.xi.1993 20 ♂♂ 2 ♀♀, 16-30.xi.1993 7 ♂♂ 3 ♀♀, 1-15.xii.1993 10 ♂♂ 1 ♀, 16-31.xii.1993 1 ♂.

SPAIN (8 ♂♂ and 3 ♀♀): Barcelona: Montseny, 2-15.iii.1990 1 ♂ 1 ♀ (flight intercept trap, 1130 m), 20.x.1990 1 ♀ (wa-

ter trap, 1130 m), 5-17.xi.1990 1 ♂ (flight intercept trap, 1170 m), 3.iii.1991 1 ♂ (water trap, 1130 m), 15-29.iii.1991 1 ♂ (flight intercept trap, 1170 m). Gerona: Arbúcies, 8-22.ix.1990 1 ♀ (pitfall trap, 1250 m), 2-15.iii.1991 4 ♂♂ (flight intercept trap, 1250 m).

These Spanish specimens were misidentified as *Triphleba bicornuta* (Strobl) in García Romera & Báez, 2002. Likewise, the material collected in Sant Marçal (García Romera & Báez, 2002) belongs also to *T. ypsilon* sp.n. Therefore, *T. bicornuta* must be deleted from the Spanish list of Phoridae.

DISCUSSION: *Triphleba ypsilon* sp.n. keys out to *T. bicornuta* (Strobl, 1910) in Schmitz, 1943. The males key out to couplet 48, whereas the females arrive to couplet 54. The males clearly differ on the hypopygium (Fig. 7) and the females on the sternite 7 (Fig. 8). On the other hand, in the key by Disney, 1983, where *T. bicornuta* is absent, it arrives to couplet 14 (males and females), that is, to the species *T. hyalinata* (Meigen, 1830). The males have both epandrial processes distinctly different from those of *T. ypsilon* sp.n. (Figs 9, 10); likewise, the sternite 7 of both females is clearly different (Fig. 11).

The description has been based on type material only.

BIOLOGY: unknown. The Andorran specimens were collected with Malaise trap near a small river at 1050 m. The Spanish material was collected in three zones of a beech forest with different humidity by means of different methods (flight intercept, water and pitfall traps), between 1130 and 1250 m, in the Natural Park of Montseny. This species has a clear adaptation to low temperatures as the adults were caught in Autumn and Winter months, as much in Andorra as in Spain. The activity of the adults in these months is characteristic of various *Triphleba* species, like for example *T. papillata* (Wingate, 1906), *T. trinervis* (Becker, 1901), *T. autumnalis* (Becker, 1901) and *T. opaca* (Meigen, 1830) (Soszynska & Durska, 2002 and Durska, 2003). Therefore, *Triphleba ypsilon* sp.n. adds to the list of psychrophilous species of the family Phoridae.

DISTRIBUTION: hitherto only known from Andorra and northeastern Spain.

ETYMOLOGY: the specific name refers to the, in part, Y-shaped sternite 7 of the female (ypsilon = y in Greek).

Triphleba ropalon sp.n.

DESCRIPTION: A brownish species.

Head brownish. Frons two times as wide as long, brownish, medial furrow absent, frontal hairs about 20. Supra-antennals less than half length of antials. Antero-laterals, medio-laterals, postero-laterals, pre-ocellars and ocellars present. First transverse row of the bristles convex forward. Second transverse row of the bristles less convex forward, almost straight. Antenna: postpedicel brownish, rounded; arista subapical, short pubescent. Palpus brownish, with 6-7 bristles, apical one longer and stronger.

Thorax brownish. 4 notopleurals. Scutellum with 2 strong bristles and 2 very small basal hairs.

Wing slightly brownish, veins brownish. Costa thickens apically (end of CS2 and complete CS3). Sc reaches vein 1. Vein 2 complete. One hair at base of R4+5. Anal vein very short, not reaching wing margin. A single axillary

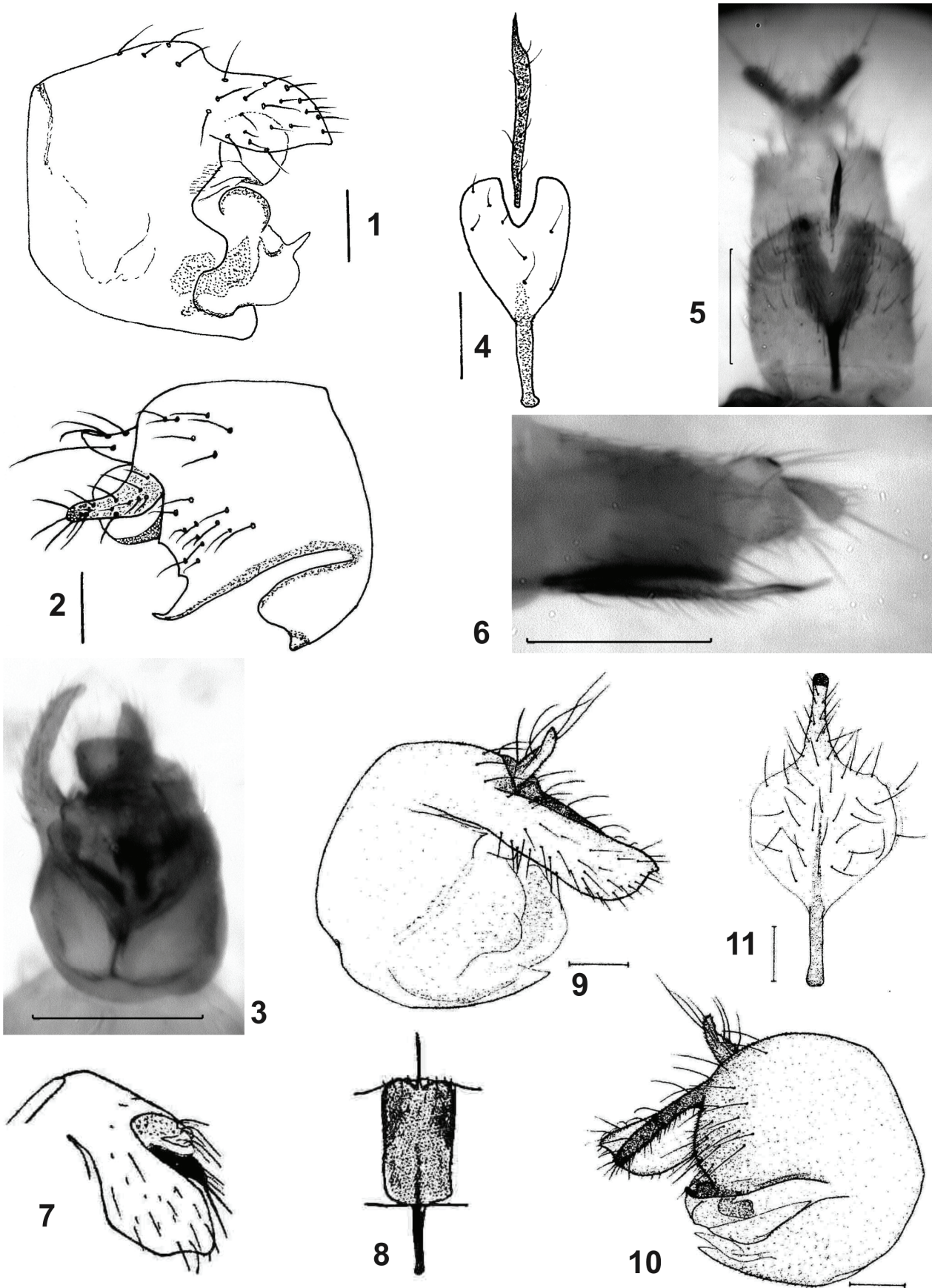


Fig. 1-6. *Triphleba ypsilon* sp.n.: 1. hypopygium, left side; 2. hypopygium, right side; 3. hypopygium, ventral view; 4. female sternite 7; 5. female terminalia, ventral view; 6. female terminalia, lateral view. Scale bars: 1, 2, 4 = 0.1 mm; 3, 5, 6 = 0.2 mm. **Fig. 7-8.** *Triphleba bicornuta* (Strobl): 7. left epandrial process; 8. female sternite 7. (All after Schmitz, 1943). **Fig. 9-11.** *Triphleba hyalinata* (Meigen): 9. hypopygium, left side; 10. hypopygium, right side; 11. female sternite 7. (All after Disney, 1983). Scale bars: 9-11 = 0.1 mm.

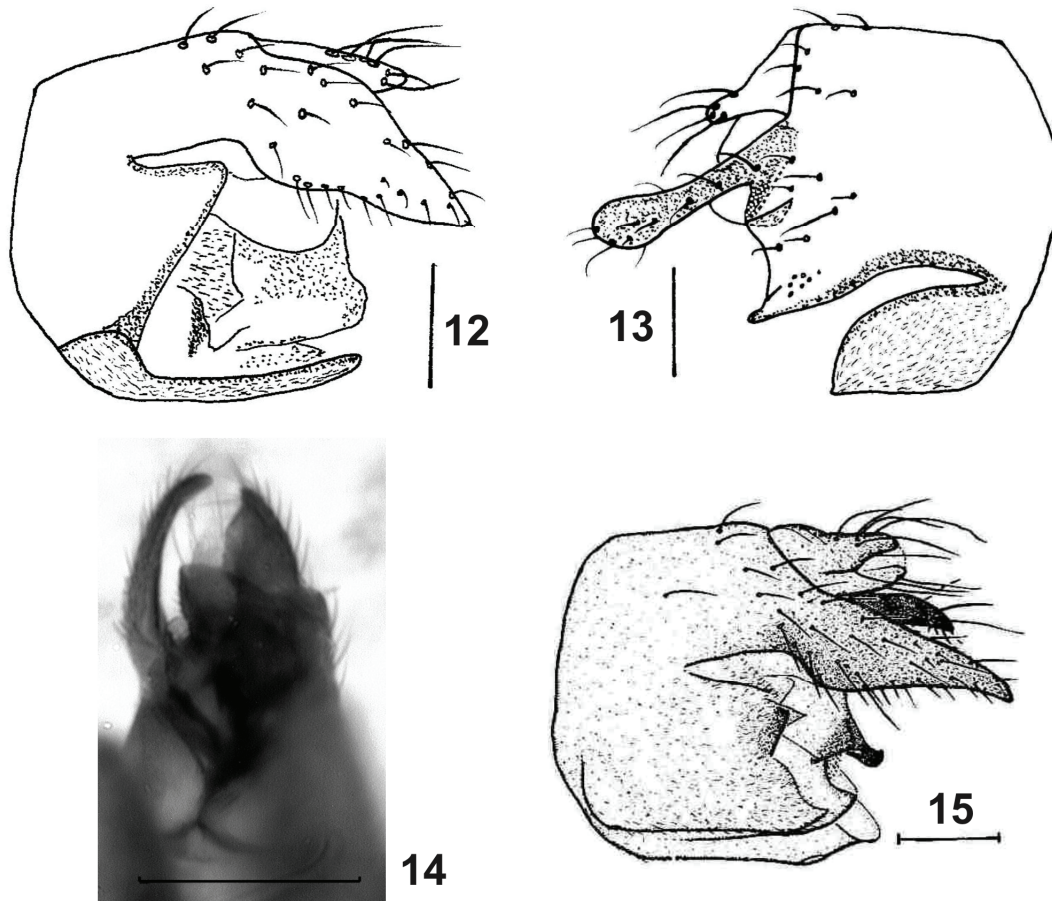


Fig 12-14. *Triphleba ropalon* sp.n.: **12.** hypopygium, left side; **13.** hypopygium, right side; **14.** hypopygium, ventral view. Scale bars: 12, 13 = 0.1 mm; 14 = 0.2 mm. **Fig. 15.** *Triphleba luteifemorata* (Wood): hypopygium, left side (After Disney, 1983). Scale bar: 15 = 0.1 mm.

bristle. Haltere yellowish. Costal index = 0.48-0.51, costal ratios = 2.8-3.2:1.4-1.6:1

Legs pale, yellowish to brownish. Fore tibia with 1 short anterodorsal proximal bristle, mid tibia with 2 proximal bristles (anterodorsal one twice long than posterodorsal), hind tibia with 1 anterodorsal proximal bristle.

Abdomen brownish, tergites with short hairs. Venter brownish.

Hypopygium (Figs 12-14): left epandrial process (in lateral view) (Fig. 12) large, triangular, pointed apically, haired; right epandrial process (in lateral view) (Fig. 13) narrow, dilated apically, club-shaped, haired. Hypopygium ventrally as in Fig. 14.

Female unknown.

Total body length: 1.60-1.90 mm.

TYPE MATERIAL (8 ♂♂):

Holotype ♂: ANDORRA: Santa Coloma, Vall del Roc de Sant Vicenç, near d'Enclar river, 1-15.x.1993, Malaise trap, 1050 m a.s.l., J. Pujade Villar leg.

Paratypes: 2 ♂♂ as the holotype, other paratypes as the holotype but xi.1992 1 ♂, 16-31.x.1993 1 ♂, 16-30.xi.1993 2 ♂♂ and 1-15.xii.1993 1 ♂.

Holotype not dissected. Abdomen and hypopygium of 1 male paratype are slide-mounted in Berlese fluid. Holotype and 5 paratypes preserved in alcohol (70°) and deposited in the private collection of the first author (MC-T), 2 paratypes

in the Universidad Autónoma de Barcelona and in the private collection of the second author (CGR).

DISCUSSION: *Triphleba ropalon* sp.n. keys out to *T. luteifemorata* (Wood, 1996) in Schmitz, 1943 (couplet 49) and in Disney, 1983 (couplet 10), but clearly differs from it by the hypopygium, specially its right epandrial process (distinctly pointed in *T. luteifemorata*, Fig. 15). Furthermore, the left epandrial process of *T. luteifemorata* (Fig. 15) is narrower and more tapered than in *T. ropalon* sp.n.

BIOLOGY: unknown. The specimens were collected with a Malaise trap near a small river at 1050 m.

DISTRIBUTION: hitherto only known from Andorra.

ETYMOLOGY: the specific name refers to the club-shaped right epandrial process (ropalon = club in Greek).

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