

## *Homoneura alata* sp. n.: A new lauxaniid species from Portugal (Diptera: Lauxaniidae)

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### Abstract

A new species of Lauxaniidae (*Homoneura alata* sp. n.) is described from Portugal. It was collected with emergence traps and is related to *H. limnea* (Becker) and *H. pseudolimnea* Papp.

**Key words:** Diptera, Lauxaniidae, *Homoneura*, new species, Portugal.

### Resumen

***Homoneura alata* sp. n.: Una especie nueva de lauxánido de Portugal (Diptera: Lauxaniidae)**

Se describe una especie nueva de Lauxaniidae (*Homoneura alata* sp. n.) de Portugal, que fue capturada con trampas de emergencia y está relacionada con *H. limnea* (Becker) y *H. pseudolimnea* Papp.

**Palabras clave:** Diptera, Lauxaniidae, *Homoneura*, especie nueva, Portugal.

### Laburpena

***Homoneura alata* sp. n.: Lauxanidoen espezie berri bat Portugalekoa (Diptera: Lauxaniidae)**

Lauxaniidae familiako espezie berri bat (*Homoneura alata* sp. n.) deskribatzen da Portugalekoa. Emergentzia motako tranpen bidez harrapatu zen eta *H. limnea* (Becker) eta *H. pseudolimnea* Papp espezieekin erlazionatuta dago.

**Gako-hitzak:** Diptera, Lauxaniidae, *Homoneura*, espezie berria, Portugal.

## Introduction

In 2008 the author received a lot of dipterological material for study. It had been collected in southern Portugal in a stream by means of emergence traps. Part of the results have been recently published by Carles-Tolrá and Rosado (2009). Among that material some specimens of a new species for science of *Homoneura* van der Wulp (1891) were found and it is described below. For more details of the zone studied and collecting methods see Carles-Tolrá and Rosado, 2009.

*Homoneura* is a lauxaniid genus easily distinguishable from the other European genera by having thick black setulae extending to apex of vein R4+5, anepisternum without extra bristles, and the face flat or slightly concave (Papp and Shatalkin, 1998). It is the largest

genus of this family, with an almost worldwide distribution. Up to now, 25 species have been recorded from Europe, but only 2 of them are known to occur in Portugal. The new species represents the third recorded one.

## Systematics

***Homoneura alata* sp. n.** (Figs. 1-4)

A completely yellow species.

Head yellow with yellow antennae, palpi and proboscis. Arista with long pubescence. Chaetotaxy: 2 ors, vte, vti, oc, pvt (convergent).

Thorax completely yellow. Chaetotaxy: 1 hu, 2 np, 1 prst, 1 sa, 2 pa, 1+2 dc, ac in 4 irregular rows, median ac longer than lateral ones, but shorter than half dc, prsc ac longer. Mesopleura with 1 posterior mp and a few very short posterior hairs, 2 st. Scutellum yellow, 2 sc.

Legs yellow. Fore femur with an anteroventral row of small sharp thornlets on distal half; mid tibia with 2 ventral spurs.

Wing yellowish, crossveins slightly darker, but without shadow. Ends of longitudinal veins not darkened. Haltere yellow.

Abdomen yellow. Sternite 5 (pregenital sternite) (Fig. 1) quite desclerotized, widely U-shaped, with long posterolateral hairs. Sternite 6 (Fig. 1) very strongly sclerotized, with a peculiar form.

Male: Genitalia (Figs. 2-3) yellow. Epandrium (Figs. 2a-c) with a row of very long lateroventral hairs. Surstylus (Figs. 2a-c) completely fused with epandrium, with anterior long hairs, apex slightly twisted. Aedeagus (Figs. 2e-f, 3a-c) strongly sclerotized, narrow basally and strongly developed distally with lateral, triangular projections («wings»). Aedeagus formed by two slightly separable pieces (sheaths) (compare Fig. 2f with Fig. 3c) containing a translucent, evaginable

membrane (compare Fig. 2d with Figs. 2e, 3a-b). Gonopod (Fig. 3c) narrow, long, conical, pointed. Lateral process of sternite 9 (Figs. 3a-c) short, pointed. Phallapodeme (Figs. 3a-c) simple, rod-like, much shorter than aedeagus. Cerci (Figs. 2a-e) small, with short hairs.

Female as male, excepting genital parts. Sternite 8 triangular, haired, with 2 posterior extensions with longer hairs, «butterfly»-shaped (Fig. 4). Hypoproct (Fig. 4) semicircular, completely yellow, with short hairs, posterior margin curved, not pointed, with longer hairs. Spermathecae spherical, 1 (0.058 mm) + 2 (0.050 mm each). Cerci (Fig. 4) yellow, short, with long hairs.

Total body length: Males: 3.2–3.5 mm; females: 3.5–4.0 mm.

#### Type material (4 ♂♂ and 4 ♀♀):

Holotype ♂: PORTUGAL: Évora: Pardiela stream (38° 38' N, 07° 42' W, 169-505 m a.s.l.), 13.9.2005, emergence trap, J. Rosado leg.

Paratypes: 3 ♂♂ and 3 ♀♀ as the holotype, and 1 ♀ with the same data but 11.8.2006. One male paratype almost covered by hyphae of a fungus. Type material preserved in alcohol (70°) and deposited in the author's private collection.

Holotype not dissected. Abdomen of one male and postabdomen of one female paratypes detached and cleared with KOH (10%). Male genital parts dissected and stored into its own abdomen and this stored in a small tube with the other corporal parts.

**Discussion:** *Homoneura alata* sp. n. is closely related to *H. limnea* (Becker, 1895) and *H. pseudolimnea* Papp, 1981. *H. alata* sp. n. clearly differs from these two species by the shape of the aedeagus, as the other two species lack the lateral «wings». Regarding the females, the hypoproct of *H. limnea* is distinctly triangular, pointed posteriorly and slightly darkened, as the cerci (Remm and Elberg, 1979: Figs. 5C, D). The hypoproct of *H. pseudolimnea* is unknown for me.

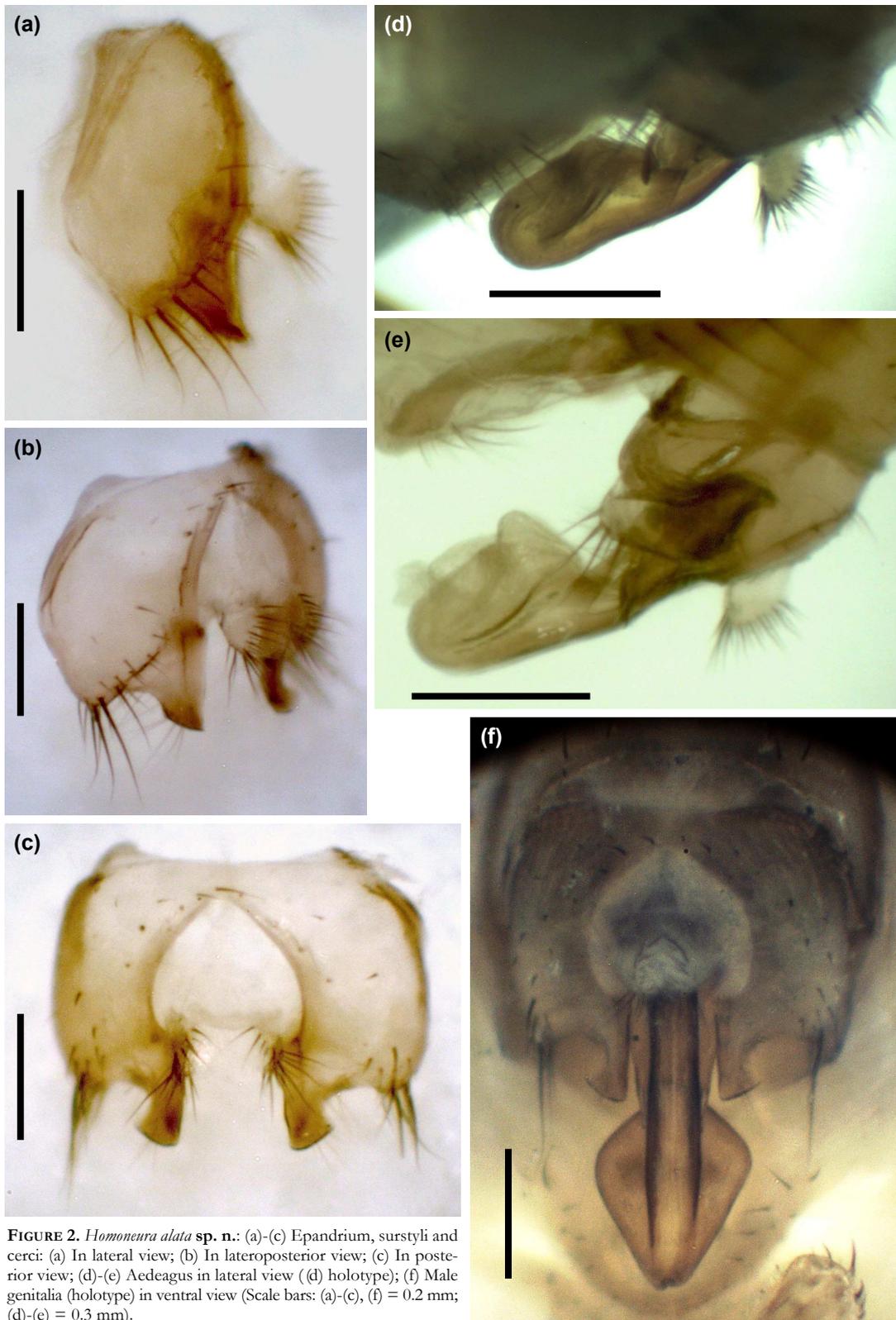
**Biology:** Unknown. The specimens were collected by emergence traps placed along a stream edge. For more details see Carles-Tolrá and Rosado, 2009.

**Distribution:** Hitherto only known from southern Portugal.

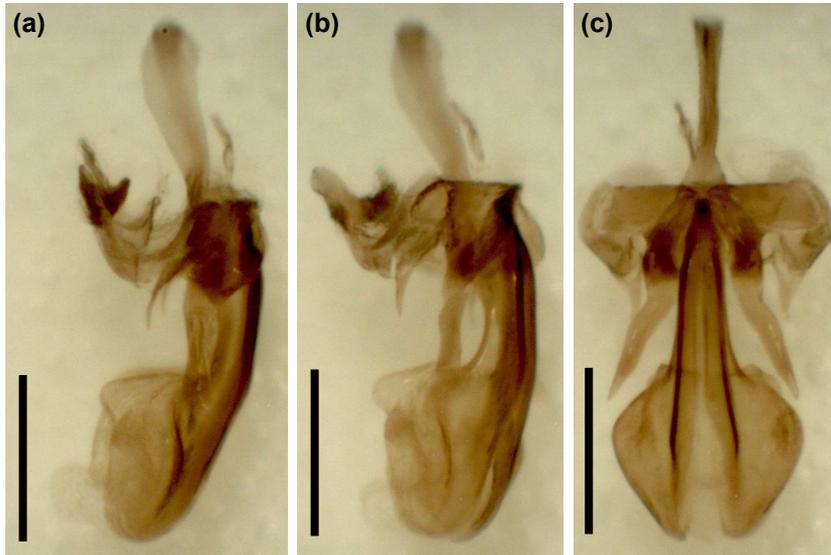
**Etymology:** The specific name refers to the lateral «wings» of the aedeagus (*alata* = winged in Latin). It is an adjective.



FIGURE 1. *Homoneura alata* sp. n.: Male sternites 5 and 6 in ventral view (Scale bar = 0.3 mm).



**FIGURE 2.** *Homoneura alata* sp. n.: (a)-(c) Epanthrium, surstyli and cerci: (a) In lateral view; (b) In lateroposterior view; (c) In posterior view; (d)-(e) Aedeagus in lateral view ((d) holotype); (f) Male genitalia (holotype) in ventral view (Scale bars: (a)-(c), (f) = 0.2 mm; (d)-(e) = 0.3 mm).



**FIGURE 3.** *Homoneura alata* sp. n.: Aedeagal complex: (a) In lateral view; (b) In late-roventral view; (c) In ventral view (Scale bar = 0.3 mm).



**FIGURE 4.** *Homoneura alata* sp. n.: Female sternite 8, hypoproct and cerci in ventral view (Scale bar = 0.2 mm).

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