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Two new species of the genus *Trichorhina* Budde-Lund, 1908 (Crustacea: Isopoda: Platyarthridae) from the Ibero-Balearic region

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Abstract. Two new species of *Trichorhina* Budde-Lund, 1908, the most diverse genus of the family Platyarthridae, are described from the Ibero-Balearic region: *T. guadianensis* sp. nov. (Portugal) and *T. malacitana* sp. nov. (Spain). The two species are distinguished by differences in dorsal integument texture, scale-setae arrangement, shape of the telson, posterior pereonites margins, and male pleopod 1. *Trichorhina guadianensis* sp. nov. is characterised by a smooth dorsal integument with longitudinal lines of fan-shaped scale-setae of different sizes, rounded posterior margins of pereonites 1–4, triangular telson, and a heart-shaped male pleopod 1 exopod. *Trichorhina malacitana* sp. nov. is characterised by the absence of pigmentation and eyes, transverse lines of fan-shaped scale-setae, triangular telson, and an oval male pleopod 1 exopod. The position of the noduli laterales on the pereonites provides additional diagnostic characters for the identification of all species of the genus. A revised dichotomous key for all species of *Trichorhina* in the Ibero-Balearic region is provided.

Keywords. Distribution, Portugal, Spain, woodlice.

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Introduction

The genus *Trichorhina* Budde-Lund, 1908 is currently the most diverse (94 species) among the nine genera of Platyarthridae Verhoeff, 1949 (Boyko *et al.* 2026). The morphological characters traditionally

used to define the genus were recently revised (Carpio-Díaz *et al.* 2018). Nevertheless, molecular evidence suggests that *Trichorhina* is paraphyletic (Javidkar *et al.* 2015; Dimitriou *et al.* 2019). The species of *Trichorhina* are mainly distributed in tropical regions, although several species have also been recorded in Europe, North Africa, and the Macaronesia archipelagos (Vandel 1953a, 1962; Taiti & Ferrara 1980; Ferrara & Taiti 1984; Schmalfuss 2003; Giurginca 2022; Campos-Filho *et al.* 2023; Cifuentes *et al.* 2025, in press). Species of the genus typically inhabit moist soils, leaf litter, and decaying wood. Several species display notable dispersal abilities. A well-known example is *Trichorhina tomentosa* (Budde-Lund, 1893), which has achieved a nearly cosmopolitan distribution through accidental introductions, mostly in greenhouses but also in outdoor environments (Schmalfuss 2003; Cifuentes *et al.* in press).

In the Ibero-Balearic region, seven species of *Trichorhina* have been reported to date: *Trichorhina anophthalma* Arcangeli, 1935, *Trichorhina silvestrii* Arcangeli, 1936, *Trichorhina buchnerorum* (Verhoeff, 1942), *Trichorhina hispana* (Dollfus, 1893), *Trichorhina cascaisensis*, *Trichorhina ornata*, and *Trichorhina solorzanoi* Cifuentes, Escarabajal-Bernabé & Da Silva, 2025 (Cifuentes *et al.* 2025). Nevertheless, considering the limited sampling effort and the cryptic morphology of many species within the genus, the diversity in the region is likely underestimated. Accordingly, the objectives of this study are to describe two new species and to revise the available dichotomous key, thereby facilitating the identification of the species of *Trichorhina* in the Ibero-Balearic region.

Material and methods

All specimens analysed in the present study were hand-collected across several localities in Portugal and Spain (Fig. 1), sampled beneath rocks and dead wood (Cifuentes & Da Silva 2023). A portion of the material was stored in 70% ethanol, while another portion was stored in 96% ethanol to ensure its suitability for future DNA analysis.

Specimens were identified based on morphological characters. Photographs of the studied species were obtained using a Gundlach microscope and stereo microscope equipped with a 12 MP digital camera (C2CMOS). The photographs were used as references to produce vector line drawings in the open-source graphic editor Inkscape (https://inkscape.org/). To determine the coordinates of the noduli laterales, we followed the methodology described by Cifuentes & Da Silva (2024) using microscopic preparations of the pereonites mounted with water.

The specimens examined in this work are deposited in the collection of the InBio Barcoding Initiative, from Centro de Investigação em Biodiversidade e Recursos Genéticos (CIBIO-InBIO/BIOPOLIS), Vairão, University of Porto, Portugal (LPS), the collection of the Museo Nacional de Ciencias de Madrid, Spain (MNCN), and the personal collection of Julio Cifuentes, Madrid, Spain (JC).

Results

Taxonomy

Class Malacostraca Latreille, 1802
Order Isopoda Latreille, 1816
Suborder Oniscidea Latreille, 1802
Family Platyarthridae Verhoeff, 1949

Genus ***Trichorhina*** Budde-Lund, 1908

Type species

Bathytropa thermophila Dollfus, 1896 = *Trichorhina tomentosa* (Budde-Lund, 1893).

Trichorhina guadianensis sp. nov.
urn:lsid:zoobank.org:act:E2929747-360E-4839-BCBF-23C5D53351CE
Figs 1–6

Diagnosis

Body elongated. Colour light orange-brown to whitish. Dorsal integument without granulation, with large fan-shaped scale-setae of different sizes arranged in longitudinal lines on pereon. Cephalon with triangular median lobe and large lateral lobes. Posterior margins of pereonites 1–4 rounded. Pleon continuous with pereon. Telson triangular, apex rounded. Male: fifth antennal segment flattened; pleopod 1 exopod heart-shaped; pleopod 2 exopod triangular with long distal margin.

Etymology

The specific epithet '*guadianensis*' refers to the Guadiana River, which flows through the southwestern Iberian Peninsula, crossing both Portugal and Spain. This name highlights the species' association with the river basin, as the specimens were mostly found in localities near its course (Fig. 1).

Type material

Holotype

PORTUGAL – **Évora** • ♂; Alqueva; 38.1996° N, 7.5162° W; 6 Mar. 2025; L.P. Da Silva leg.; MNCN, MNCN 20.04/42158 (ex. LPS1051a).

Paratypes

PORTUGAL – **Évora** • 1 ♀ (depigmented, anophthalmous); Campinho; 38.3511° N, 7.4576° W; 22 Apr. 2023; Da Silva leg.; LPS, LPS903 • 1 ♀; Campinho; 38.3460° N, 7.4494° W; 9 Dec. 2024;

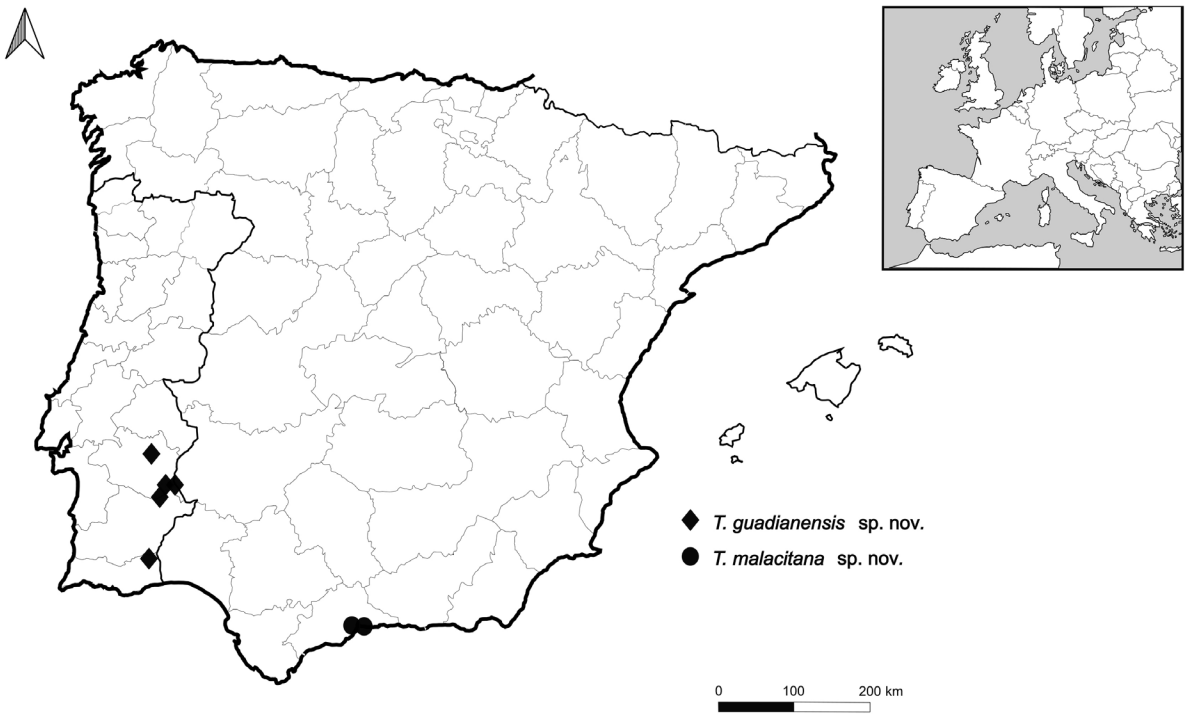

Fig. 1. Map of the Ibero-Balearic region showing the distribution of *Trichorhina guadianensis* sp. nov. (diamonds) and *Trichorhina malacitana* sp. nov. (circles).

Da Silva leg.; LPS, LPS973 • 1 ♂; 38.3467° N, 7.4500° W; 9 Dec. 2024; Da Silva leg.; LPS, LPS977a • 1 ♂; same data as for preceding; LPS, LPS977b • 1 ♂; same data as for preceding; JC, JC1331 (ex. LPS977b) • 1 ♀; same data as for preceding; LPS, LPS977c • 2 ♀♀; same data as for preceding; LPS, LPS977d • 2 ♀♀; same data as for preceding; JC, JC1332 (ex. LPS977d) • 2 ♂♂ (depigmented, anophthalmous); Campinho; 38.3466° N, 7.4498° W; 9 Dec. 2024; Da Silva leg.; LPS, LPS978a • 3 ♂♂ (depigmented, anophthalmous); same data as for preceding; MNCN, MNCN 20.04/42159-42161 (ex. LPS978a) • 1 ♂ (depigmented, anophthalmous); same data as for preceding; JC, JC1330 (ex. LPS978a) • 1 ♀ (depigmented, anophthalmous); same data as for preceding; LPS, LPS978b • 1 ♀ (depigmented, anophthalmous); same data as for preceding; LPS, LPS978c • 1 ♂ (depigmented, anophthalmous); Mourão, 38.3394° N, 7.2838° W; 11 Dec. 2024; L.P. Da Silva leg.; LPS, LPS992 • 1 ♂; same data as for holotype; LPS, LPS1051b • 1 ♀; Alqueva; 38.1995° N, 7.5154° W; 6 Mar. 2025; L.P. Da Silva leg.; LPS, LPS1053 • 2 ♀♀; Évora Monte; 38.7246° N, 7.6885° W; 6 Mar. 2025; L.P. Da Silva leg.; LPS, LPS1045 • 7 ♀♀; Évora Monte; 38.7247° N, 7.6886° W; 6 Mar. 2025; L.P. Da Silva leg.; LPS, LPS1046 • 1 ♂; Évora Monte; 38.7248° N, 7.6886° W; 6 Mar. 2025; L.P. Da Silva leg.; LPS, LPS1047a • 7 ♀♀; same

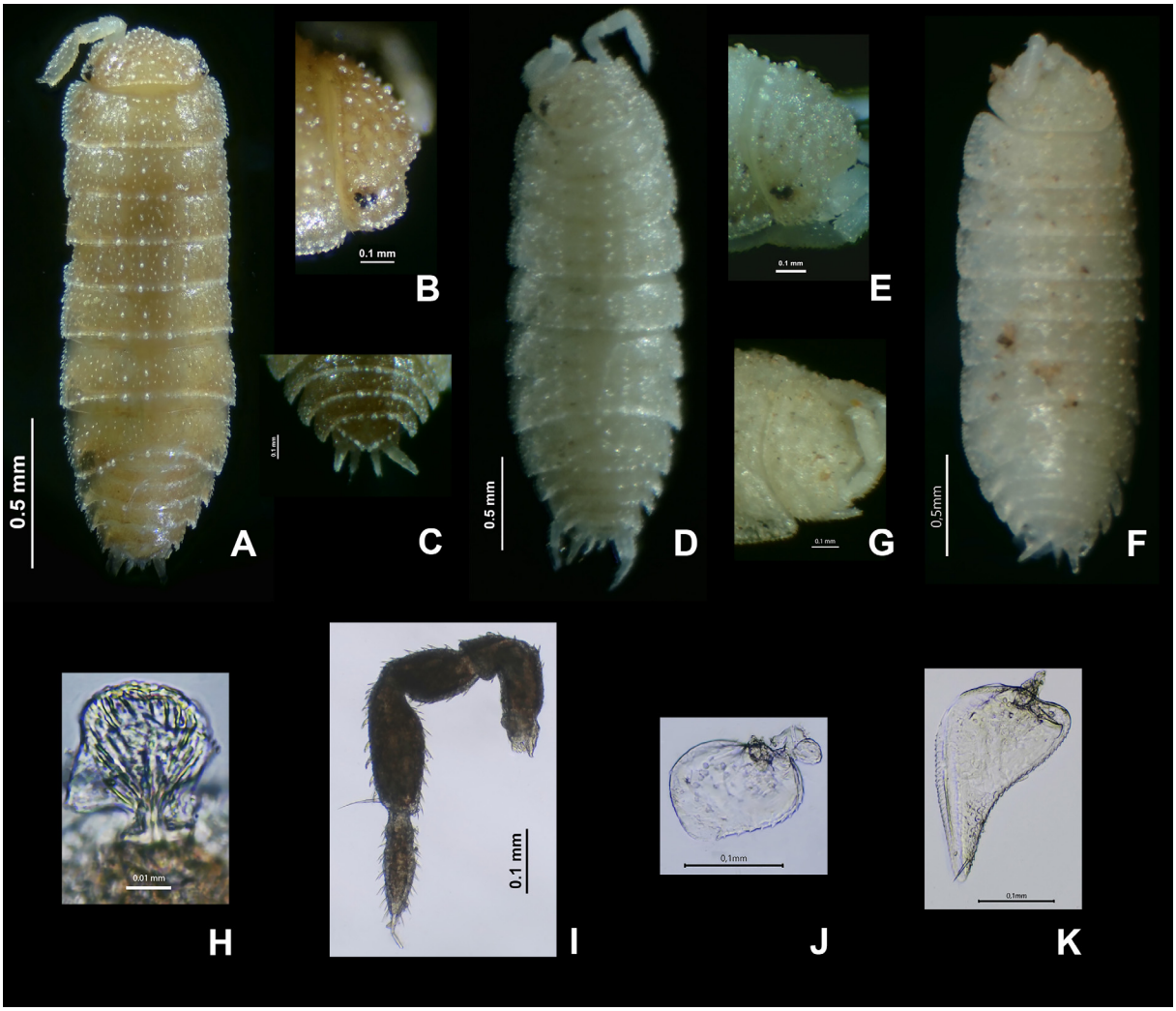

Fig. 2. *Trichorhina guadianensis* sp. nov. **A–C, H**. Paratype, ♀ (LPS977c). **D–E**. Paratype, ♀ (LPS980). **F–G**. Paratype, ♀ (LPS903). **I–K**. Paratype, ♂ (LPS977a). **A, D, F**. Habitus. **B, E, G**. Cephalon. **C**. Pleon, telson and uropods. **H**. Scale-setae. **I**. Antenna. **J**. Pleopod 1 exopod. **K**. Pleopod 2 exopod. Scale bars: A, D, F = 0.5 mm; B–C, E, G, I–K = 0.1 mm; H = 0.01 mm.

data as for preceding; LPS, LPS1047b • 4 ♀♀; same data as for preceding; MNCN, MNCN 20.04/42162-42165 (ex. LPS1047b). – **Faro** • 1 ♀; Alcaria; 37.4098° N, 7.6359° W; 10 Dec. 2024; L.P. Da Silva leg.; LPS, LPS980a • 5 ♀♀; same data as for preceding; LPS, LPS980b • 1 ♂; Alcaria; 37.4099° N, 7.6360° W; 10 Dec. 2024; L.P. Da Silva leg.; LPS, LPS982a • 2 ♂♂; same data as for preceding; MNCN, MNCN 20.04/42166-42167 (ex. LPS982a) • 4 ♀♀; same data as for preceding; LPS, LPS982b.

Description

MEASUREMENTS. Maximum body length: 4.5 mm in females, 4 mm in males.

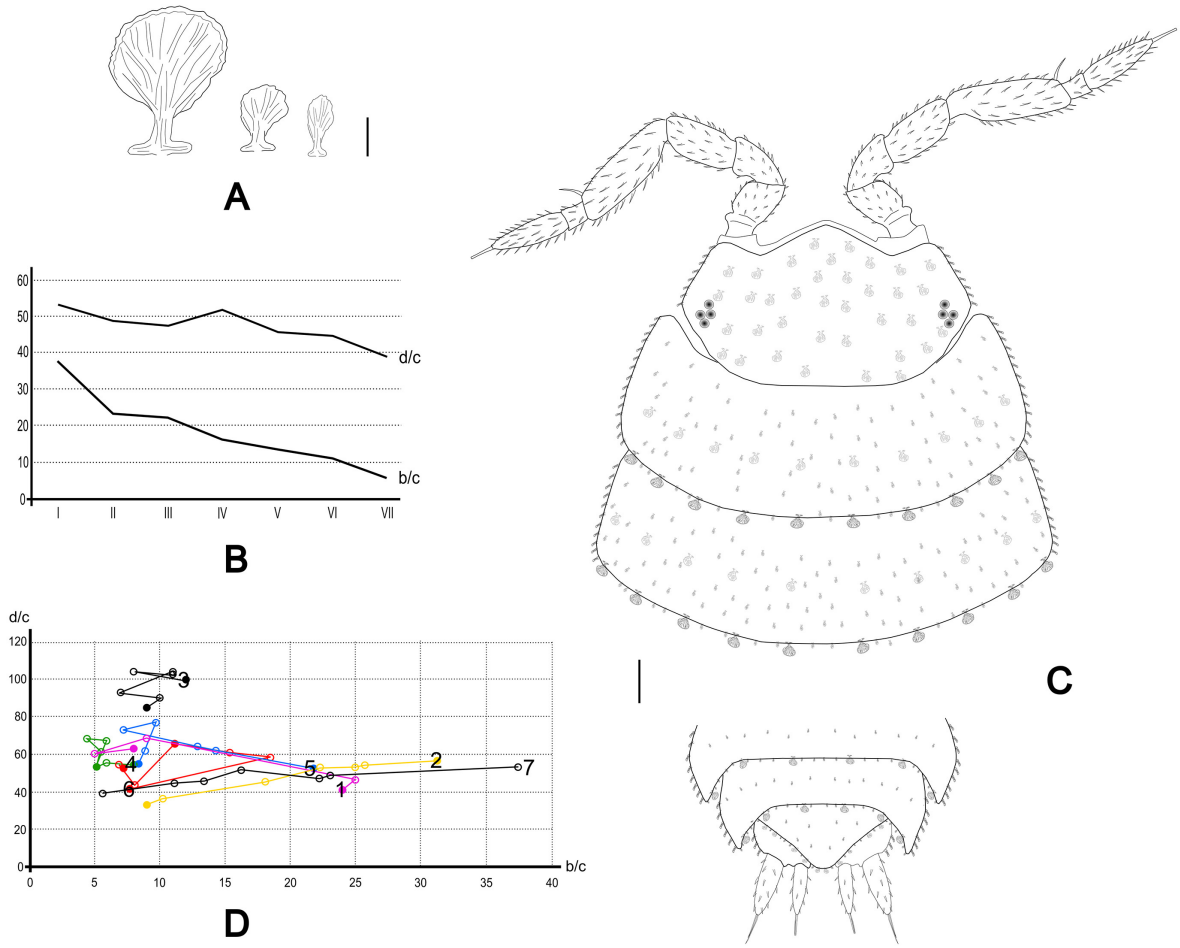

Fig. 3. *Trichorhina guadianensis* sp. nov. **A–B**. Paratype, ♀ (LPS977c). **C**. Paratype, ♀ (LPS977d). **A**. Scale-setae. **B**. *b/c* and *d/c* noduli laterales ratios (y axis) and pereonite number (x axis). **C**. Cephalon and pereonites 1 and 2, pleon, telson and uropods. **D**. Relation between noduli laterales coordinates *d/c* (y-axis) and *b/c* (x-axis) multiplied by 100 (the number indicates pereonite 1): 1 = *Trichorhina anophthalma* Arcangeli, 1935 (pink); 2 = *Trichorhina cascaensis* Cifuentes *et al.*, 2025 (yellow); 3 = *Trichorhina ornata* Cifuentes *et al.*, 2025 (black); 4 = *Trichorhina silvestrii* Arcangeli, 1936 (green); 5 = *Trichrohina solorzanoi* Cifuentes *et al.*, 2025 (blue); 6 = *Trichorhina guadianensis* sp. nov. (paratype, ♀ (LPS977c), red); 7 = *Trichorhina malacitana* sp. nov. (paratype, ♀ (JC1280), black) (1–5 according to Cifuentes *et al.* 2025). Scale bars: A = 0.01 mm; C = 0.1 mm.

Body. Elongated. Pigmentation of dorsal integument variable, from light orange-brown to faintly pigmented or total depigmentation (Fig. 2A–F); ventral surface white. Eyes composed of four black ommatidia (Figs 2A–B, D–E, 3C); 10 depigmented specimens without ommatidia (Fig. 2F–G).

Integumentary characters. Dorsal integument without granulation, bearing fan-shaped scale-setae of different sizes. Large scale-setae on posterior margins of pereonites; medium-sized scale-setae in irregular lines on cephalon and single median line on pereonites, forming longitudinal lines, also on posterior margins of pleonites and telson; small scale-setae sparse on pereon, in median line on pleonites and two on telson (Figs 2A–H, 3A, C). Noduli laterales distant from lateral and posterior margins on

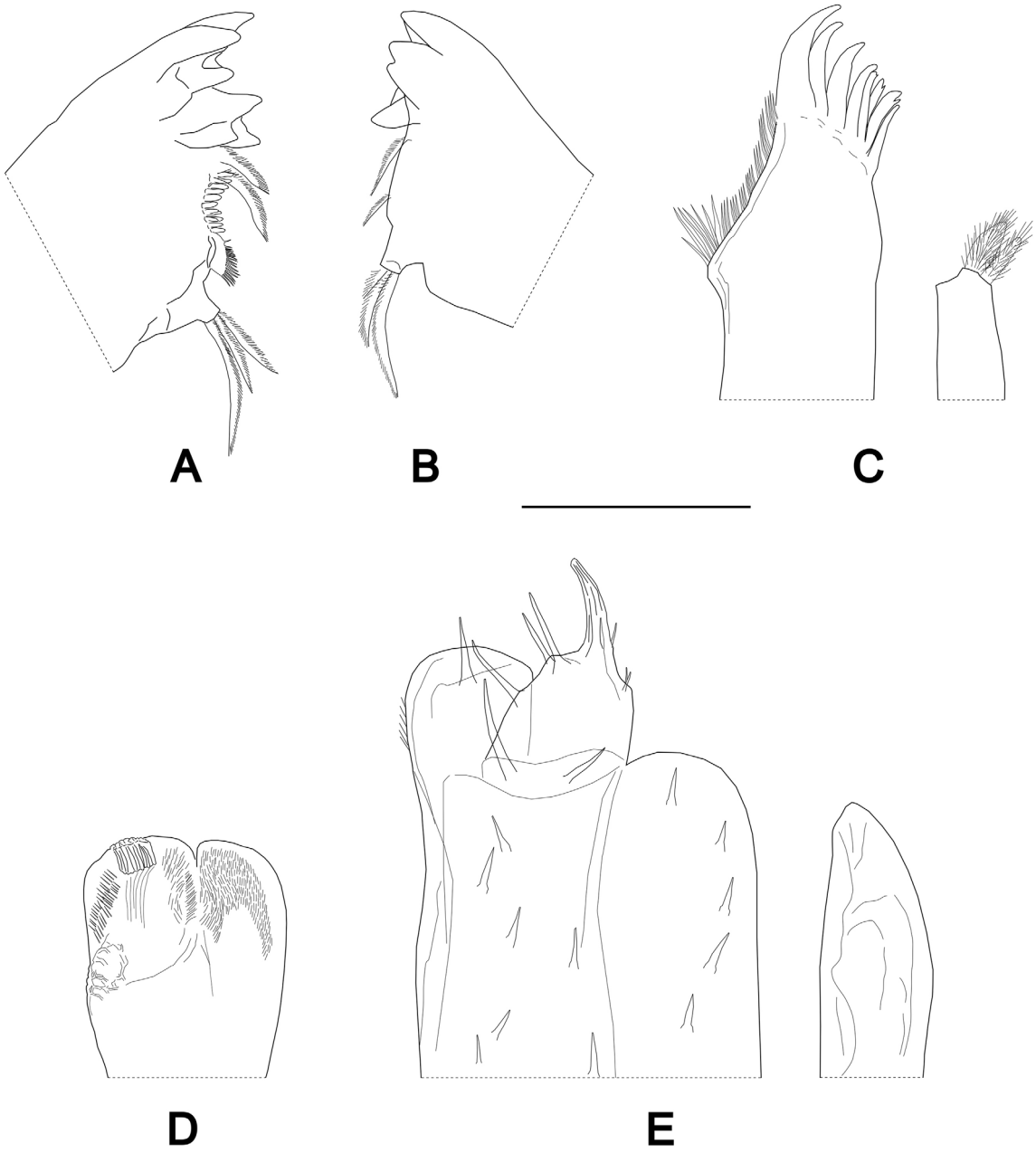

Fig. 4. *Trichorhina guadianensis* sp. nov., paratype, ♀ (LPS977c). **A**. Left mandible. **B**. Right mandible. **C**. Maxillula. **D**. Maxilla. **E**. Maxilliped. Scale bar = 0.1 mm.

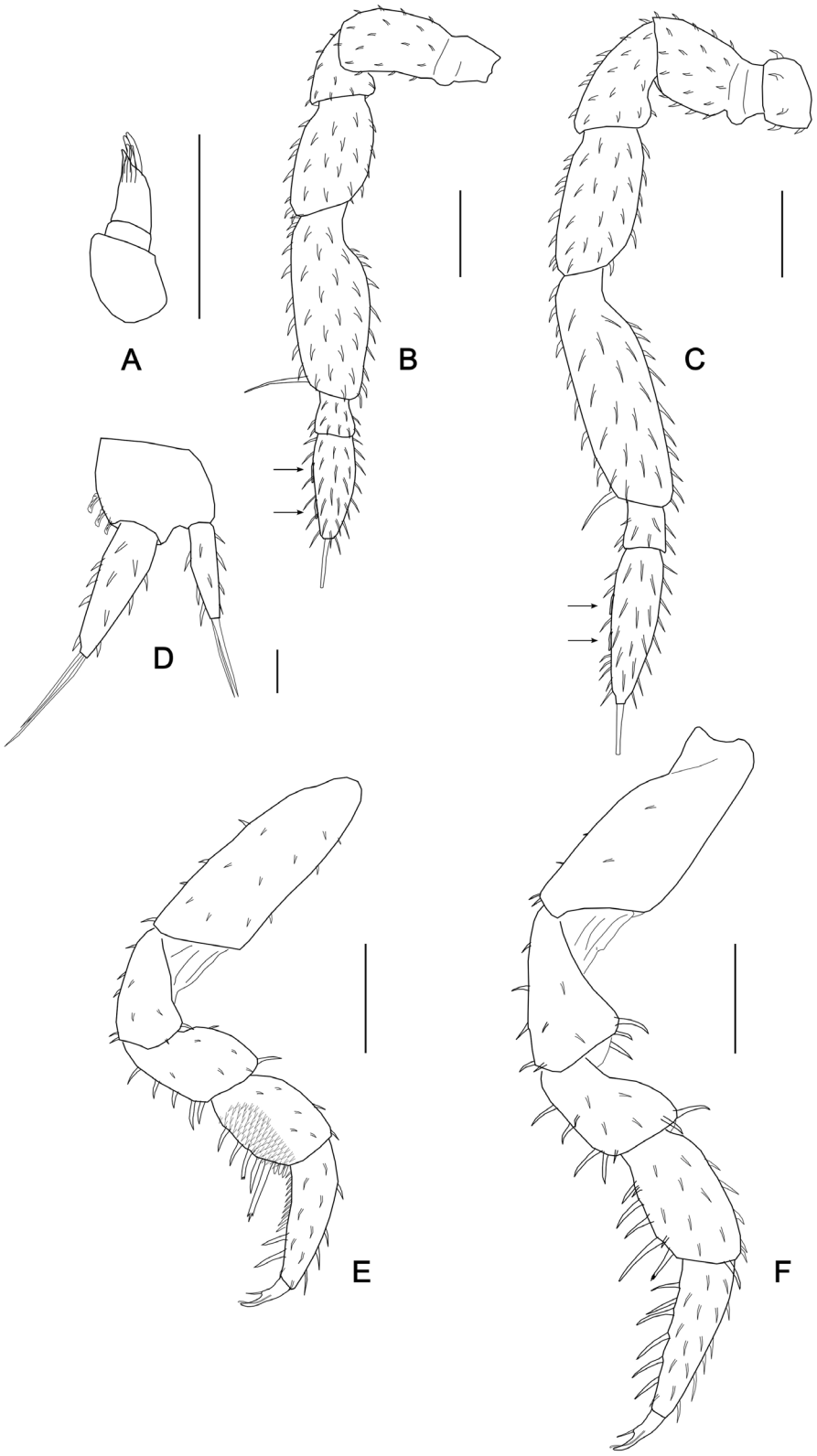

Fig. 5. *Trichorhina guadianensis* sp. nov. **A**. Paratype, ♀ (LPS977d). **B, D–F**. Paratype, ♂ (LPS977a). **C**. Paratype, ♀ (LPS977c). **A**. Antennula. **B–C**. Antenna, arrows showing groups of small aesthetascs. **D**. Uropods. **E**. Pereopod 1. **F**. Pereopod 7. Scale bars = 0.1 mm.

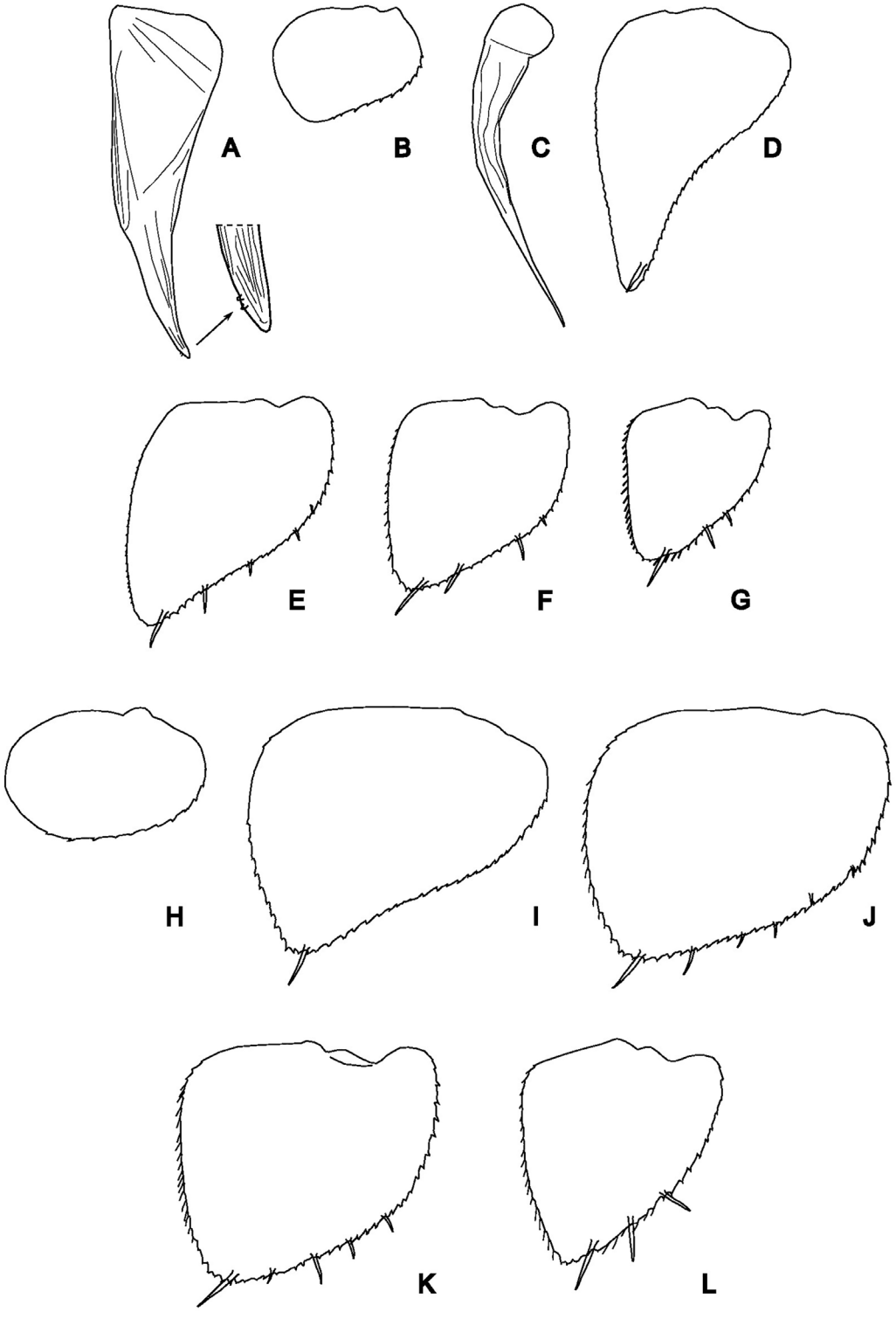

Fig. 6. *Trichorhina guadianensis* sp. nov. **A–G**. Paratype, ♂ (LPS977a). **H–L**. Paratype, ♀ (LPS977c). **A**. Endopod 1, arrow showing small setae. **B**. Exopod 1. **C**. Endopod 2. **D**. Exopod 2. **E**. Exopod 3. **F**. Exopod 4. **G**. Exopod 5. **H**. Exopod 1. **I**. Exopod 2. **J**. Exopod 3. **K**. Exopod 4. **L**. Exopod 5. Scale bar = 0.1 mm.

anterior epimera, progressively approaching these margins posteriorly, particularly posterior margin (Fig. 3B, D).

Somatic characters. Cephalon without frontal line, vertex curved, continuous with frontal area; median lobe large, triangular, tip pointed, extending beyond large rectangular lateral lobes (Figs 2A–B, D–F, 3C). Pereon narrow; posterior margins of pereonites 1–4 rounded, 5–7 with small posterior projections. Pleon continuous with pereon; epimera large; posterior margins of pleonite 5 epimera shorter than posterior edge of uropod protopod. Telson triangular, twice as wide as long, lateral sides slightly concave, posterior tip broadly rounded, barely reaching uropod protopod posterior margin (Figs 2C, 3C).

Appendages. Mandibles with 1+1 free penicils (in right mandible clearly separated), molar penicil dichotomized into three branches (Fig. 4A–B). Maxillula inner endite with two penicils, outer endite with eight teeth, three bifid (Fig. 4C). Maxilla inner lobe wider than outer lobe, covered with thin setae (Fig. 4D). Maxilliped basis bearing sparse scale-setae, palp with two setae of different length on proximal article and three long setae on distal article, endite with one seta that surpasses distal margin (Fig. 4E). Antennula with three segments, second much shorter, third with five short aesthetascs, three subapical and two apical, and with lateral triangular spine (Fig. 5A). Antennae short, not reaching posterior margin of pereonite 2; flagellum with two segments, second 2.5 × as long as first, with two groups of two small aesthetascs at one-third and two-thirds (Figs 2I, 5B–C). Uropod protopod longer than telson tip; endopod and exopod clearly exceeding telson tip (Figs 3C, 5D). Pereopods: merus to propodus bearing sparse, long setae on sternal margin. Dactylus curved, inner claw not exceeding outer; dactylar and ungual setae slender, not exceeding outer claw (Fig. 5E–F).

Sexual characters. Male antennae, fifth segment more flattened than in female (Figs 2I, 5B–C). Pereopods without sexual differentiation (Fig. 5E–F). Male pleopod 1 endopod long, curved in posterior third, distal inner portion bearing two small setae (Fig. 6A); exopod heart-shaped due to small internal projection, several small setae along external margin (Figs 2J, 6B). Male pleopod 2 endopod slightly longer than exopod, ending in thin tip (Fig. 6C); exopod triangular, long distal margin, bearing one seta near tip (Figs 2K, 6D). Male exopod 3–5 pleopods as in Fig. 6E–G; female exopods as in Fig. 6H–L.

Ecology

The species was found beneath rocks during the day, in soils developed over schistose metamorphic rocks of varying metamorphic grade. The tree layer was dominated by *Quercus rotundifolia* Lam., with occasional *Quercus suber* L. individuals. Understory vegetation ranged from dense shrubland to sparsely vegetated ground.

Trichorhina malacitana sp. nov.
urn:lsid:zoobank.org:act:0A4D023D-BA88-4913-84AD-AD8012EE7029
Figs 1, 7–11

Diagnosis

Body depigmented, without eyes. Dorsal integument without granulation, with large fan-shaped scale-setae in transverse lines. Cephalon with median lobe triangular with rounded tip; lateral lobes large. Posterior margins of pereonites 1–3 rounded; remaining pereonites with small posterior projection. Pleon continuous with pereon. Telson triangular, apex rounded. Male: pleopod 1 exopod oval; pleopod 2 exopod triangular with long distal lobe.

Etymology

The specific name refers to 'Malaca', the name by which the Romans knew the ancient Phoenician city of 'Malaka', located in 'Hispania Ulterior' until the reign of Augustus, when it became part of 'Baetica'. This city gave rise to the modern Málaga, which also lends its name to the surrounding province. In Latin, natives of the city were called '*malacitanus*'; '*malacitana*' is the feminine form, used here to denote a female native of this region of Andalusia (Fig. 1).

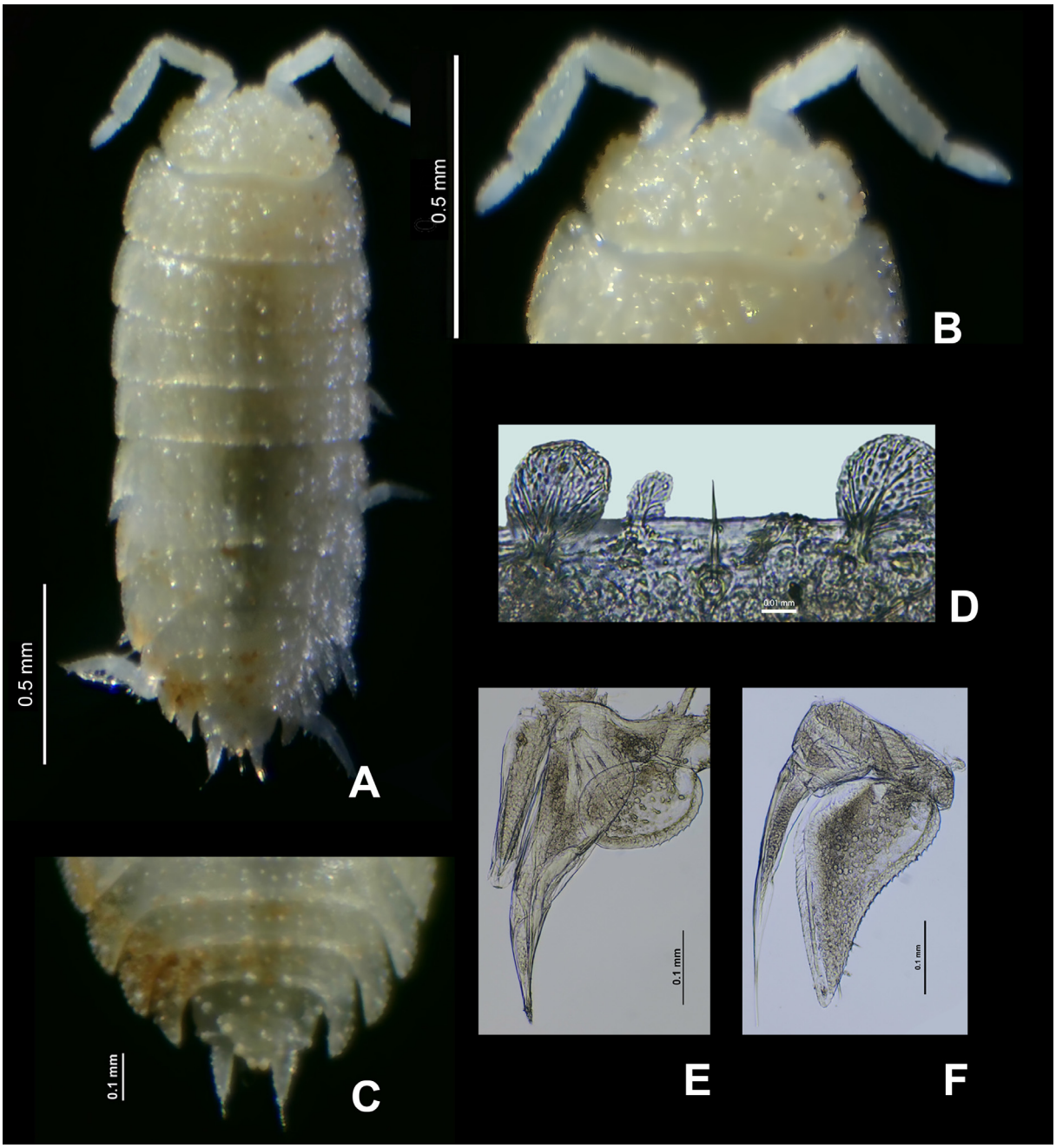

Fig. 7. *Trichorhina malacitana* sp. nov. **A–C**. Paratype, ♀ (JC1067). **D–E**. Paratype, ♂ (JC1070). **A**. Habitus. **B**. Cephalon. **C**. Pleon, telson and uropods. **D**. Scale-setae and noduli laterales of pereonite 7. **E**. Pleopod 1. **F**. Pleopod 2. Scale bars: A–B = 0.5 mm; C, E–F = 0.1 mm; D = 0.01 mm.

Type material

Holotype

SPAIN – **Málaga** • ♂; Rincón de la Victoria; 36.7280° N, 4.2812° W; 18 Oct. 2024; J.L. Rando leg.; MNCN, MNCN 20.04/42168 (ex. JC1276).

Paratypes

SPAIN – **Málaga** • 1 ♂, 2 ♀♀; Málaga, 36.7258° N, 4.4587° W; 14 Dec. 2024; J.L. Rando leg.; MNCN, MNCN 20.04/42181-42183 (ex. JC1272) • 7 ♂♂; 36.7260° N, 4.4587° W; 22 Dec. 2024; J.L. Rando leg.; JC, JC1273 • 9 ♀♀; same data as for preceding; JC, JC1274 • 1 ♀; 36.7258° N, 4.4587° W; 22 Dec. 2024; J.L. Rando leg.; JC, JC1281 • 4 ♀♀; 36.7323° N, 4.4605° W; 30 Dec. 2024; J.L. Rando leg.; MNCN, MNCN 20.04/42186-42189 (ex. JC1278) • 1 ♀; same data as for preceding; MNCN, MNCN 20.04/42190 (ex. JC1279) • 5 ♂♂; 36.7261° N, 4.4590° W; 14 Mar. 2025; J.L. Rando leg.; MNCN, MNCN 20.04/42169-42173 (ex. JC1270) • 7 ♀♀; same data as for preceding; MNCN, MNCN 20.04/42174-42180 (ex. JC1271) • 1 ♀; Rincón de la Victoria; 36.7231° N, 4.2827° W; 27 Apr. 2024; J.L. Rando leg.; JC, JC1067 • 1 ♂; same data as for preceding; JC, JC1070 • 1 ♂; same data as for holotype; MNCN, MNCN 20.04/42184 (ex. JC1275) • 2 ♂♂; same data as for holotype; JC, JC1276 • 1 ♀; same

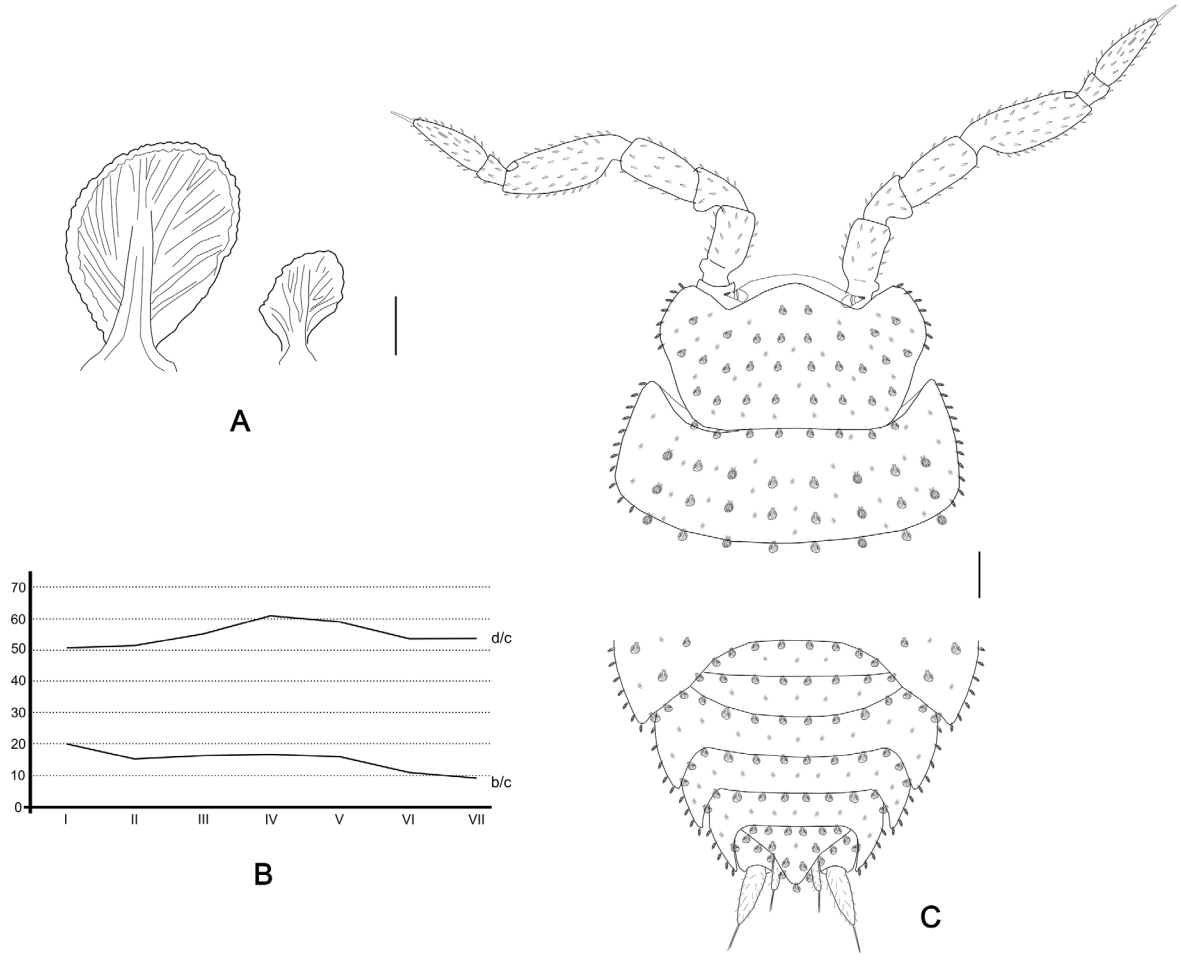

Fig. 8. *Trichorhina malacitana* sp. nov. **A**. Paratype, ♂ (JC1070). **B**. Paratype, ♀ (JC1280). **C**. Paratype, ♀ (JC1067). **A**. Scale-setae. **B**. Noduli laterales *b/c* and *d/c* ratios (y axis) and pereonite number (x axis), continuous lines. **C**. Cephalon and the first segment of the pereion, pleon, telson and uropods. Scale bars: A = 0.01 mm; C = 0.1 mm.

data as for holotype; MNCN, MNCN 20.04/42185 (ex. JC1277) • 1 ♀; same data as for holotype; JC, JC1280.

Description

Measurements. Maximum body length: 3.5 mm in females, 3 mm in males.

Body. Depigmented and anophthalmous (Fig. 7A–C).

Integumentary characters. Dorsal integument without granulation, bearing large fan-shaped scale-setae in five lines on cephalon, three transverse lines on pereonites (one on posterior margin), corresponding to 4+4 longitudinal lines pattern; pleonites with single posterior row; smaller scale-setae between longitudinal rows, forming one transverse line at median region of pleonites (Figs 7A–D, 8A, C). Noduli laterales close to posterior margins, slightly away from lateral margins (Figs 3D, 8B).

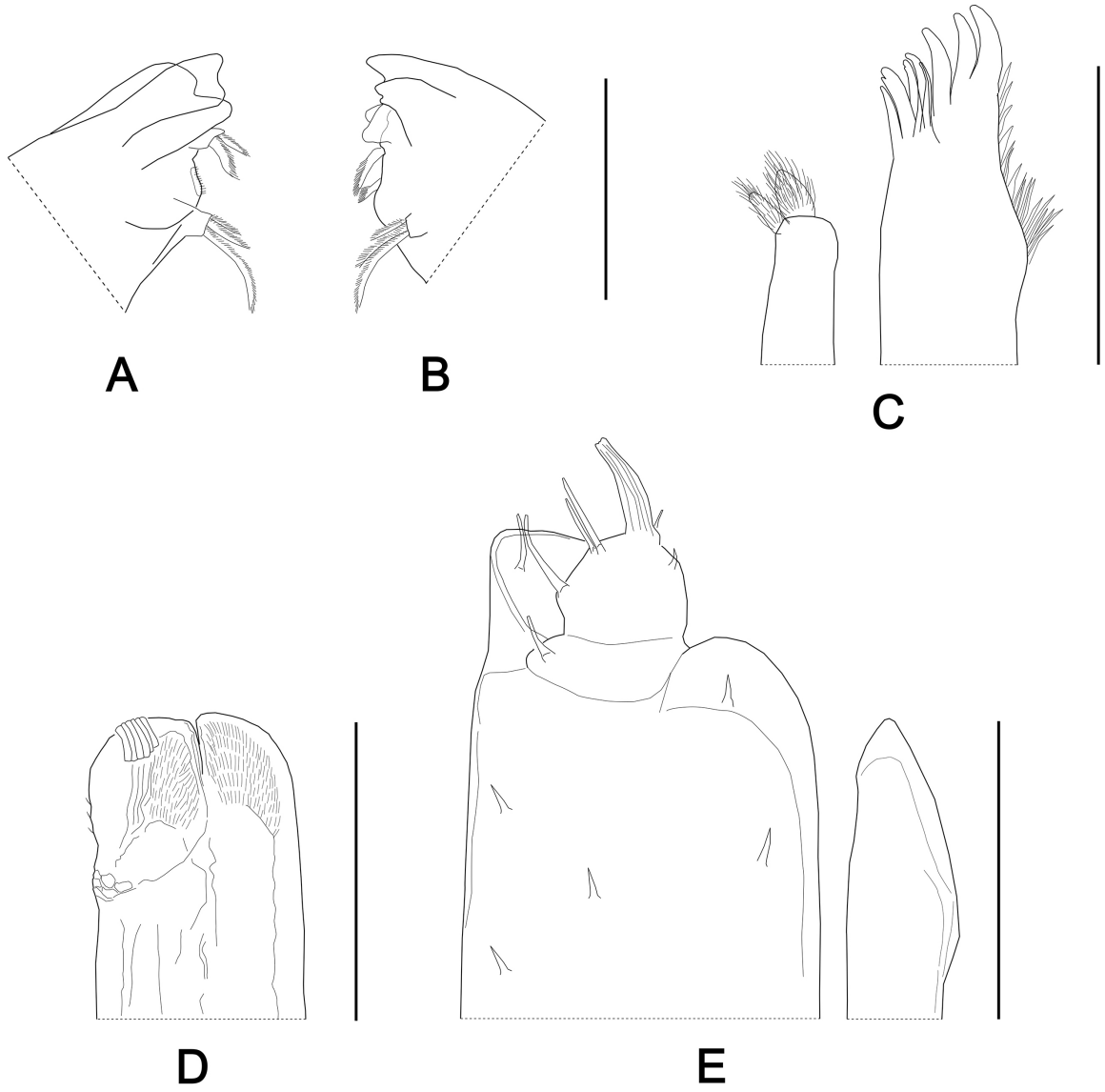

Fig. 9. *Trichorhina malacitana* sp. nov., paratype, ♀ (JC1070). **A**. Left mandible. **B**. Right mandible. **C**. Maxillula. **D**. Maxilla. **E**. Maxilliped. Scale bars = 0.1 mm.

Somatic characters. Cephalon without defined frontal line, vertex fused with frontal area; median lobe large, triangular, tip rounded; lateral lobes large, trapezoid, laterally oriented (Figs 7A–B, 8C). Posterior margins of pereonites 1–3 rounded, straight in 4, 5–7 with small projection. Pleon continuous with pereon; epimera large; posterior corner of pleonite 5 slightly shorter than posterior edge of uropod protopod. Telson large, wider than long (1.6:1), distinct angles between base and triangular tip, apex rounded, projecting beyond pleonite 5 (Figs 7C, 8C).

Appendages. Mandibles with 1+1 free penicils (in right mandible clearly separated), molar penicil dichotomised into three branches (Fig. 9A–B). Maxillula inner endite with two penicils, outer endite with eight teeth, two bifid (Fig. 9C). Maxilla with lobes subequal in width (Fig. 9D). Maxilliped basis bearing sparse setae, palp with one seta on proximal article and three long setae on distal article, endite with one seta surpassing distal margin. (Fig. 9E). Antennula with three segments, second much shorter, third with five short aesthetascs, three subapical and two apical, and with lateral triangular spine (Fig. 10A). Antennae short, not reaching posterior margin of pereonite 2; flagellum with two segments, second 3 × as long as first, with three small aesthetascs in two groups inserted approximately at median region (Fig. 10B–C). Uropod protopod much shorter than telson tip; endopod projecting beyond telson (Figs 7C, 8D). Pereopods: merus to propodus bearing sparse, long setae on sternal margin. Dactylus curved, inner claw not exceeding outer; dactylar and ungual setae slender, not exceeding outer claw (Fig. 10E).

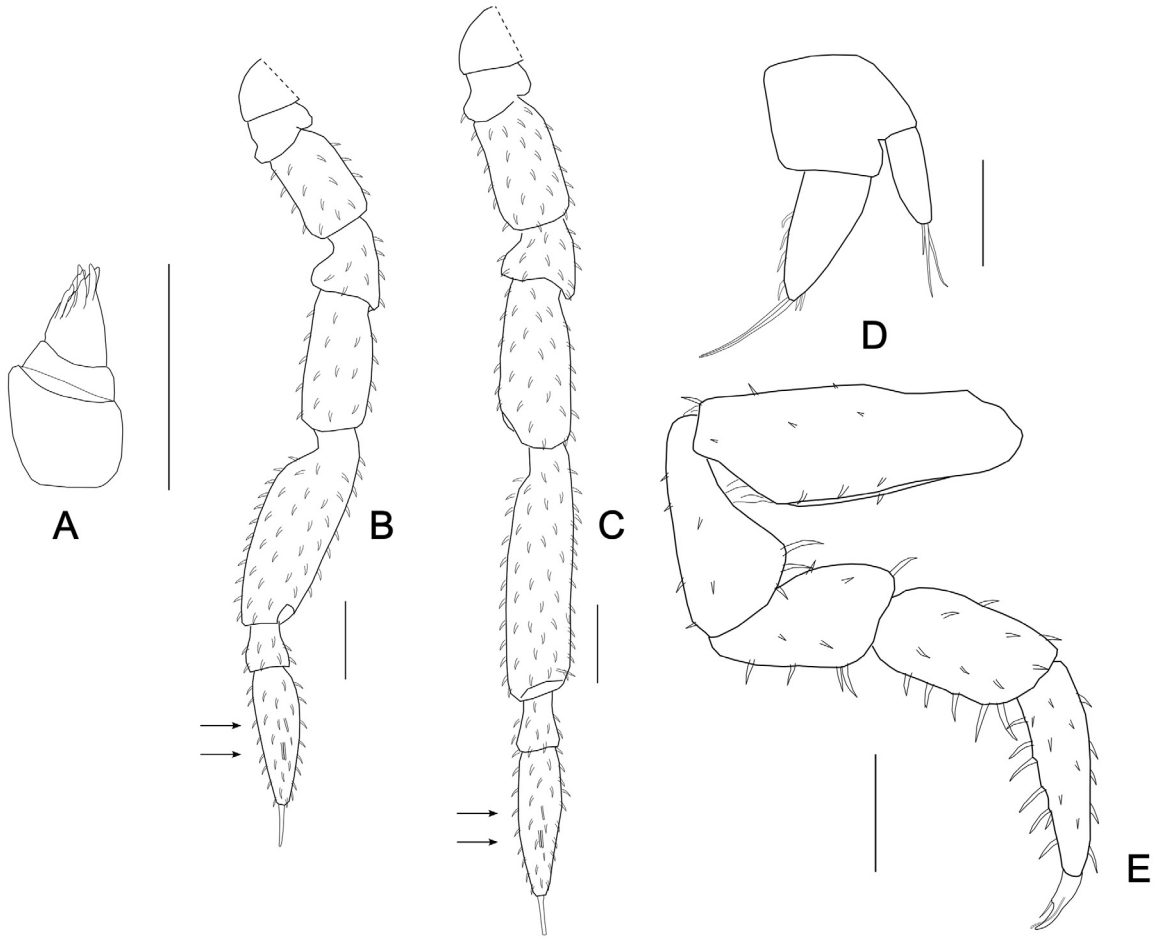

Fig. 10. *Trichorhina malacitana* sp. nov. **A–B, D–E**. Paratype, ♂ (JC1070). **C**. Paratype, ♀ (JC1067). **A**. Antennula. **B–C**. Antenna, arrows showing groups of small aesthetascs. **D**. Uropods. **E**. Pereopod 7. Scale bars = 0.1 mm.

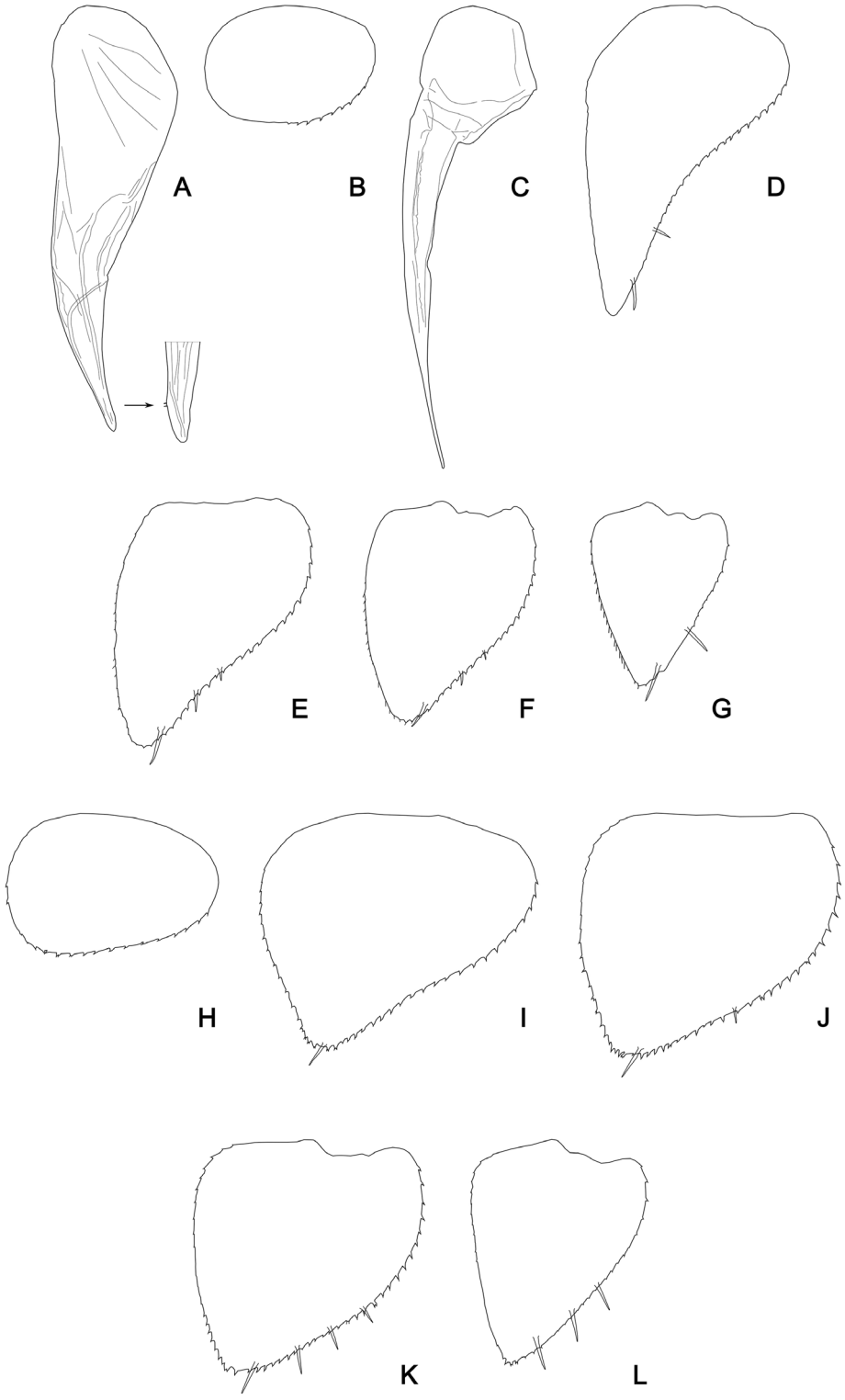

Fig. 11. *Trichorhina malacitana* sp. nov. **A–G.** Paratype, ♂ (JC1070). **H–L**. Paratype, ♀ (JC1067). **A**. Endopod 1, arrow showing small setae. **B**. Exopod 1. **C**. Endopod 2. **D**. Exopod 2. **E**. Exopod 3. **F**. Exopod 4. **G**. Exopod 5. **H**. Exopod 1. **I**. Exopod 2. **J**. Exopod 3. **K**. Exopod 4. **L**. Exopod 5. Scale bar = 0.1 mm.

Sexual characters. Male antennae, fifth segment flattened, in female cylindrical (Fig. 10B–C). Pereopods without sexual differentiation (Fig. 10E). Male pleopod 1 endopod long, curved in distal third, distal inner portion bearing small setae (Figs 7E, 11A); exopod oval (Figs 7E, 11B). Male pleopod 2 endopod much longer than exopod, ending in thin tip (Figs 7F, 11C); exopod triangular, long distal lobe, bearing two setae near tip (Figs 7F, 11D). Male exopod 3–5 pleopods as in Fig. 11E–G; female exopods as in Fig. 11H–L.

Ecology

This species was found in areas dominated by various therophytes and olive groves (*Olea europaea* L.).

Revised key to species of Trichorhina Budde-Lund, 1908 of the Ibero-Balearic region

1. Granular dorsal integument 2
– Smooth dorsal integument 3

2. Trapezoidal telson ..... ***T. hispana*** (Dollfus, 1893)
– Triangular telson ..... ***T. cascaisensis*** Cifuentes *et al.*, 2025

3. Pleon retracted in relation to pereon, small neopleura 4
– Pleon not retracted in relation to pereon, large neopleura 5

4. Fifth antennal segment thickened ..... ***T. anophthalma*** Arcangeli, 1935
– Fifth antennal segment not thickened ..... ***T. buchnerorum*** (Verhoeff, 1942)

5. Eyes formed of four ommatidia 6
– Without eyes 7

6. Scale-setae along irregular transverse lines ..... ***T. silvestrii*** Arcangeli, 1936
– Scale-setae along longitudinal lines ..... ***Trichorhina guadianensis*** sp. nov.

7. Scale-setae along irregular transverse lines ..... ***T. solorzanoi*** Cifuentes *et al.*, 2025
– Scale-setae along longitudinal lines 8

8. Posterior margin of pereonite 1 weakly sinuous ..... ***T. ornata*** Cifuentes *et al.*, 2025
– Posterior margin of pereonite 1 convex 9

9. Male pleopod exopod 1 oval ..... ***Trichorhina malacitana*** sp. nov.
– Male pleopod exopod 1 heart-shaped ..... ***Trichorhina guadianensis*** sp. nov.

Discussion

In the Ibero-Balearic region, seven species of *Trichorhina* have been recorded, some with partially overlapping distributions (Cifuentes *et al.* 2025). *Trichorhina anophthalma* has been reported from the Portuguese districts of Évora and Faro (Arcangeli 1935; Reboleira *et al.* 2015; Cifuentes *et al.* 2025), as well as from the Spanish provinces of Cádiz, Córdoba, and Málaga (Vandel 1953a, 1959; Schmölzer 1971; Garcia 2019). However, records outside Portugal should be reviewed (Cifuentes *et al.* 2025). *Trichorhina buchnerorum* is restricted to the Balearic Islands (Vandel 1961, 1962; Cruz 1989; Bellés *et al.* 1989; Vadell & Zaragoza 2005). *Trichorhina cascaisensis* is known only from the Portuguese districts of Lisbon and Setúbal (Vandel 1946; Cifuentes *et al.* 2025). *Trichorhina hispana* occurs solely in the Spanish provinces of Castellón and Valencia (Dollfus 1893; Schmölzer 1971). *Trichorhina silvestrii* has been recorded from the Portuguese districts of Bragança and Coimbra (Cifuentes *et al.* 2025) and the Spanish provinces of Cádiz, Salamanca, and Sevilla (Arcangeli 1936; Vandel 1946; Schmölzer 1955;

Garcia & Rojas 2021). Pollo Zorita (1986, 2015) cited it from the province of Cuenca, but this record is doubtful given the illustrations provided and the known distribution of the species (Cifuentes *et al.* 2025). Finally, *T. ornata* and *T. solorzanoi* are each known only from their type localities in the Portuguese district of Faro and Almería, Spain, respectively (Cifuentes *et al.* 2025).

All these species show a notable homogeneity in the morphology of the male pleopods, a character traditionally regarded as highly informative in the taxonomy of many terrestrial isopod genera (Schmidt 2002, 2008). However, clear interspecific differences are observed in integumentary characters, namely the dorsal scale-setae arrangement and the position of the noduli laterales. Among the seven species, *T. cascaisensis* and *T. hispana* have a granular dorsal integument, whereas *T. anophthalma*, *T. buchnerorum*, *T. ornata*, *T. silvestrii*, *T. solorzanoi*, *T. guadianensis* sp. nov., and *T. malacitana* sp. nov. have a smooth dorsal integument. Large scale-setae form irregular transverse lines on the cephalon and pereon in *T. anophthalma*, *T. buchnerorum*, *T. silvestrii*, and *T. solorzanoi*, while they are arranged in longitudinal lines in *T. cascaisensis* (which also has granular dorsal integument), *T. ornata*, *T. guadianensis*, and *T. malacitana*. Additional diagnostic differences are evident in the pereon and telson morphology. In *T. ornata*, the posterior margins of all pereonites are sinuous, each with a small projection, and the telson is very large with a broadly rounded posterior margin. In contrast, in *T. guadianensis* and *T. malacitana*, the posterior margins of pereonites 1–3 are rounded, and the telson is triangular. Additionally, in *T. malacitana*, the male exopod 1 pleopod is oval, whereas in *T. guadianensis*, it is heart-shaped. Finally, the position of the noduli laterales on the pereonites, particularly when using the combined *b/c* and *d/c* coordinates proposed by Vandel (1953b, 1960), provides an effective and consistent character for distinguishing species of *Trichorhina* in the Ibero-Balearic region (Fig. 10), as previously noted by Cifuentes *et al.* (2025) and in other terrestrial isopods (Cifuentes & Da Silva 2024).

Four other species of *Trichorhina* are found in Europe. *Trichorhina dobrogica* Radu, 1960, reported from Romania (Radu 1960), is characterised by its elongated scale-setae, with a long, rectangular scale that differs from the fan-shaped scale-setae found in the species of the Ibero-Balearic region. *Trichorhina paolae* Caruso, 1978, from Italy and Malta (Caruso 1978; Schmalfuss 2003), shows scale-setae arranged in transverse lines and a cylindrical fifth antennal segment, whereas in *T. guadianensis* sp. nov. and *T. malacitana* sp. nov., the scale-setae are arranged in longitudinal lines formed by the alignment of transverse lines, and the male fifth antennal article is flattened. *Trichorhina sicula* Vandel, 1969, occurs in Italy (Vandel 1969; Schmalfuss 2003) and is distinguished by its trapezoidal telson, a character not observed in any species from the Ibero-Balearic region and, according to Caruso (1978), possibly absent from all other species of the genus. *Trichorhina tomentosa* is a tropical species commonly used as food for terrarium animals and widely introduced into greenhouses worldwide (Schmalfuss 2003), but has not been reported from the Ibero-Balearic region. In this species, the scale-setae are very numerous and irregularly distributed on the dorsal integument, whereas in *T. guadianensis* and *T. malacitana* they form longitudinal lines.

Four other species of *Trichorhina* are known from North Africa. *Trichorhina atlasi* Vandel, 1959, from Morocco, is distinguished by scale-setae arranged in irregular transverse lines, a semicircular telson, and a pleon that is markedly retracted relative to the pereon (Vandel 1959). The three species *Trichorhina ichkeulensis*, *Trichorhina monastirensis*, and *Trichorhina ghezalaensis*, all described by Abidi & Hamaied (2024) from Tunisia, differ from *T. guadianensis* sp. nov. and *T. malacitana* sp. nov. in several morphological characters, including the shape of the pereonite posterior margins, the arrangement of scale-setae and noduli laterales, and the male pleopod morphology.

The discovery and description of two new species of *Trichorhina* in the Iberian Peninsula, following the recent description of three others (Cifuentes *et al.* 2025), suggests that the genus is likely represented in the Ibero-Balearic region by several species with restricted distributions. Although only nine species

are known, this number is expected to increase as additional areas are surveyed. Cifuentes *et al.* (2025) provided a dichotomous key for identifying the known species, which we have now revised and incorporated the two new species described.

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