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New records and new species of Amphipoda (Crustacea) collected in the South-West of French Atlantic Coast

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Abstract. Exploration of mainly circalittoral rocky habitats in the South-West of the French Atlantic coast during the CIRCATAx project revealed four new species and five new records of amphipods. *Lepidepecreum antennatum* sp. nov., *Iphimedia jeanneae* sp. nov., *Hornellia (Metaceradocus) serrata* sp. nov. and *Gammaropsis sorbei* sp. nov. are herein described. *Hornellia (Metaceradocus) serrata* represents the first record of the Hornellidae family in European waters. The new records concern *Stenothoe eduardi*, which represents the first report in the Bay of Biscay, *Stenothoe bosporana* as the northernmost record in European waters, *Iphimedia spatula* as the southernmost record of the species in the European waters, *Iphimedia eblanae* as the southernmost record of the species in the Atlantic Ocean and *Ampelisca serraticaudata* as the northernmost record in Atlantic Ocean. *Dexamine* cf. *spinosa* was also sampled, and is discussed on the differences between *D. spinosa* and *D. filiola* with the possibility of a species complex. European identification keys are provided for *Lepidepecreum*, *Iphimedia* and *Gammaropsis* species, and a world identification key for species of *Hornellia*.

Keywords. Peracarida, identification keys, CIRCATAx, French Basque coast.

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Introduction

Studies on benthic communities in the subtidal domain are mainly carried out on soft substrates due to their very strong representativeness (Snelgrove 1994), with sampling most often carried out from a boat using a corer, grab or dredge (Eleftheriou & Moore 2013; Gallon *et al.* 2017; Jia *et al.* 2025). Indeed, rocky substrates are more complicated to sample, as they often require more complex logistics, such as sampling by divers, these habitats are therefore less studied (Bäck 1999). Rocky substrates therefore

contain little or unknown biodiversity depending on the geographical areas, with many new species that remain to be discovered and described (Barros *et al.* 2001; Friedlander *et al.* 2023).

The French and Spanish Basque coast is no exception to this, as the majority of studies are carried out on soft substrates, both coastal and bathyal (Galparsoro *et al.* 2015; Frutos & Sorbe 2017, 2022; Foulquier *et al.* 2020; Rodríguez *et al.* 2021). This area is characterised by the presence of circalittoral reefs, which have been little studied but identified as being of biogeographical interest for the flora and fauna of France (de Casamajor & Lalanne 2016). The majority of studies were on physical surveys, or on monitoring of macroalgae (Vanara *et al.* 2007; Augris *et al.* 2009; Galparsoro *et al.* 2015; de Casamajor & Lissardy 2017; de Casamajor *et al.* 2019, 2023). Species cited in this article were sampled during the CIRCATAx project (CIRCAlittoral TAXonomy). This project (Bordeaux University/Ifremer) was carried out in the marine protected area Natura 2000 (FR7200813 “Rocky Basque coast and offshore extension”) of the French Basque coast. The aim was to characterize the benthic macrofaunal diversity associated mainly with circalittoral reefs, focusing on caves, drop-offs, and overhangs in this area. This paper describes four new amphipod species and records of five others. We also discuss *Dexamine spinosa*

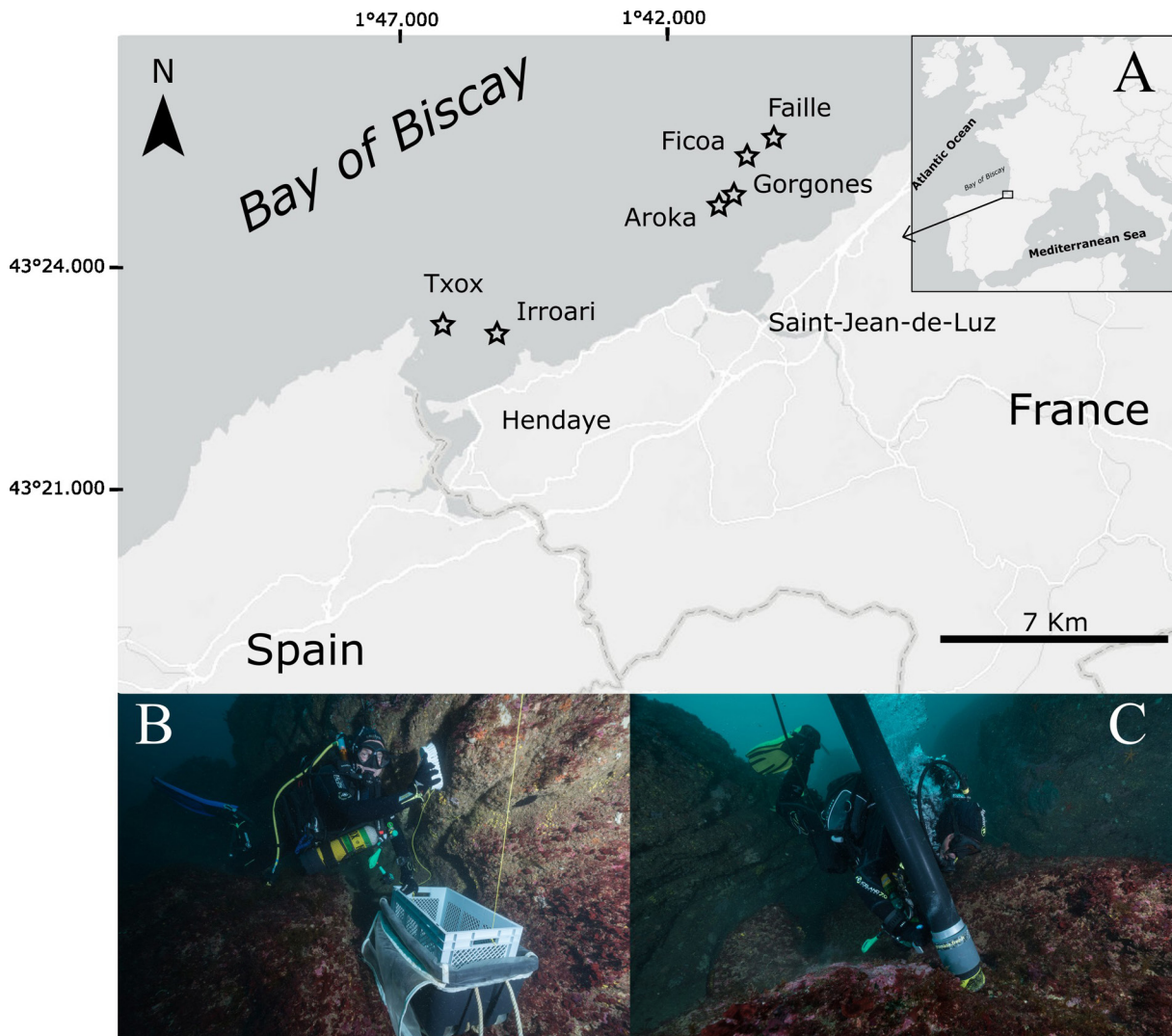


Fig. 1. A. Sampling stations along the French Basque coast, Bay of Biscay. B. Brushing sampling method. C. Air vacuum sampling method. Photos: P. Ragot.

(Montagu, 1813), a European species, but showing morphological characteristics, which may lead to a more in-depth study to determine the existence of a species complex.

Material and methods

In 2020 and 2021, rocky substrates were sampled between 17 and 35 m depth at six stations located between Saint-Jean de Luz and Hendaye (Fig. 1). The limit between the infralittoral and circalittoral zones is located at around 25 m depth in this area of the Bay of Biscay. Sampling was performed by SCUBA Diving with brushing, air vacuum and hand-picking techniques. The habitats targeted by this sampling are MC1-22 and MC1-21 faunal communities on Atlantic infralittoral and circalittoral rocks and MC1-26 communities in caves and overhangs of the Atlantic circalittoral zone (Eunis 2022 – <https://www.eea.europa.eu/>).

Samples were kept in 75% alcohol and sorted under a stereo microscope. The collected specimens were preserved and dissected in alcohol and mounted on slides for study. Permanent slides were made using dimethylhydantoin-formaldehyde resin. Appendages were observed with a Nikon SMZ 1500 stereo microscope and a Nikon Eclipse E400 microscope, photographed with a Nikon DS-Fi2 camera. Body length (BL) was measured with NIS-Elements Analysis software from the anterior margin of the head to the posterior end of the telson from a Nikon SMZ 25 stereo microscope. Drawings were carried out from pictures using Inkscape software (ver. 1.4). For scanning electron microscope (SEM) observations, specimens were dehydrated in a graded ethanol series, critical point dried, using carbon dioxide as a medium, mounted on stubs, coated with gold by cathodic sputtering for 60 s, and photographed with a Hitachi tabletop microscope TM3030Plus. Specimens were deposited in the collections of the Muséum national d'Histoire naturelle of Paris, France (MNHN). Additional information (temperature, hydrodynamic conditions...) are available in de Casamajor *et al.* (2022).

Results

Class Malacostraca Latreille, 1802
Order Amphipoda Latreille, 1816
Family Tryphosidae Lowry & Stoddart, 1997
Genus *Lepidepcreum* Spence Bate & Westwood, 1868

Lepidepcreum antennatum Gouillieux sp. nov.

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Figs 2–7

Diagnosis

Antenna 1 peduncle articles 1 and 2 with distinct anterodistal lobe; accessory flagellum present. Antenna 2 peduncle article 4 with anterodistal lobe. Pereon, pleonites 1–2 dorsally smooth. Pleonite 3 and urosomite 1 dorsodistally produced. Pereopod 7 basis without posterodistal lobe; ischium with anterodistal lobe.

Etymology

The specific epithet refers to the presence of an accessory flagellum on antenna 1 and the anterodistal lobes on antenna 1 peduncle articles 1 and 2 and antenna 2 peduncle article 4.

Type material

Holotype

FRANCE • ♀, BL = 8.37 mm; Hendaye; stn “Txox”; 43°23.668' N, 1°46.889' W; depth 25 m; 15 Sep. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2021-8818.

Paratypes

FRANCE • 1 ♂, BL = 9.33 mm, dissected specimen; same data as for holotype; MNHN-IU-2021-8819 • 1 ♀, BL = 7.37 mm, dissected specimen; same data as for holotype; MNHN-IU-2021-8821 • 1 ♀, BL = 5.51 mm, dissected specimen; Saint-Jean-de-Luz; stn “Faille”; 43°26.475' N, 1°39.257' W; depth 39 m; 11 Sep. 2020; B. Gouillieux and L. Devaux leg.; MNHN-IU-2021-8820.

Other material examined

FRANCE • 11 ♀♀; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 30 m; 30 Jun. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2021-8841 • 6 ♀♀; same data as for holotype; MNHN-IU-2021-8840 • 8 ♀♀; Saint-Jean-de-Luz; stn “Faille”; 43°26.475' N, 1°39.257' W; depth 39 m; 11 Sep. 2020; B. Gouillieux and L. Devaux leg.; MNHN-IU-2021-8845.

Type locality

Hendaye, French Basque coast, Bay of Biscay.

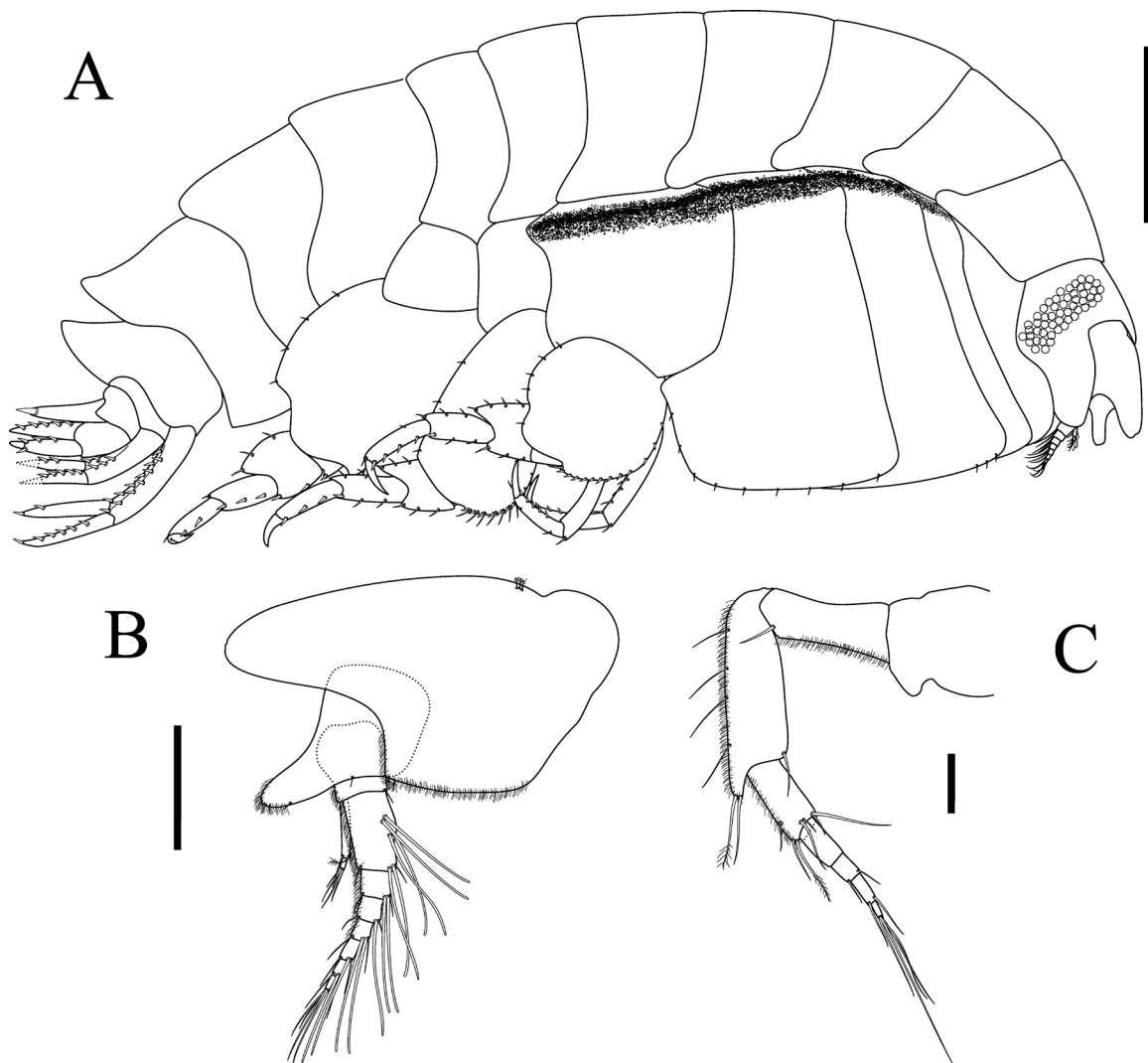


Fig. 2. *Lepidepecreum antennatum* Gouillieux sp. nov. **A.** Holotype, ♀, MNHN-IU-2021-8818, habitus. **B.** Paratype, ♀, MNHN-IU-2021-8821, antenna 1. **C.** Paratype, ♀, MNHN-IU-2021-8820, antenna 2. Scale bars: A = 1 mm; B–C = 0.2 mm.

Description (based on holotype and paratypes)

Female

BODY (Fig. 2A). Expanded to form a lateral bulge.

EYES. Present.

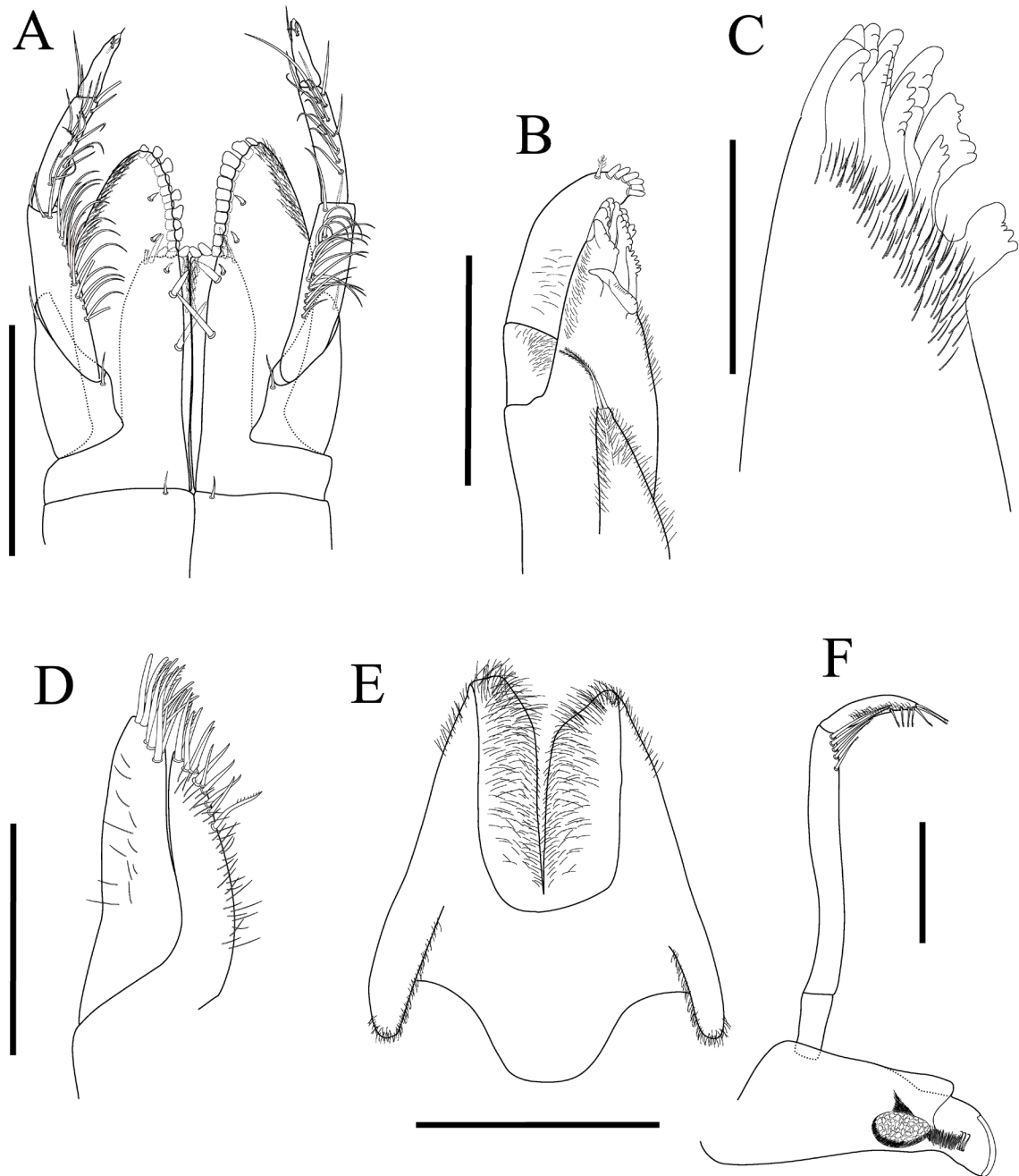


Fig. 3. *Lepidepecreum antennatum* Gouillieux sp. nov., paratype, ♀, MNHN-IU-2021-8820. **A.** Maxilliped. **B.** Maxilla 1. **C.** Maxilla 1, distal part of outer plate. **D.** Maxilla 2. **E.** Lower lip. **F.** Mandible. Scale bars: A–B, D–F = 0.5 mm; C = 0.1 mm.

ANTENNA 1 (Fig. 2B). Peduncular articles 1 and 2 with distinct anterodistal lobe; accessory flagellum 2-articulate, article 1 six times as long as article 2; flagellum without callynophore; robust setae absent; calceoli absent.

ANTENNA 2 (Fig. 2C). Peduncular article 4 elongate with anterodistal lobe; flagellum short, calceoli absent.

MAXILLIPED (Fig. 3A). Outer plate, inner margin with two long robust setae, without apical robust setae.

MAXILLA 1 (Fig. 3B–C). Inner plate with two apical plumose setae; outer plate with cuspidate setae on distal margin of outer plate dimorphic, setae comb-like or distally flattened and broadened like chisels; palp 2 articulate, distal margin with apical robust setae.

MAXILLA 2 (Fig. 3D). Lobes with subdistal and distal simple and serrate robust setae.

LOWER LIP (Fig. 3E). With many small setae on apical and inner margins of outer lobe, and on inner margin and distal part of mandibular process.

MANDIBLE (Fig. 3F). Molar columnar with oval, fully triturating surface; mandibular palp attached proximally.

GNATHOPOD 1 (Fig. 4A). Subchelate; coxa large, about as long as coxa 2, subrectangular with concave anterior margin; basis poorly setose along anterior margin; ischium short; carpus long, subequal in length to propodus, without posterior lobe; propodus with margins subparallel, palm acute, entire, concave.

GNATHOPOD 2 (Fig. 4B). Weakly chelate.

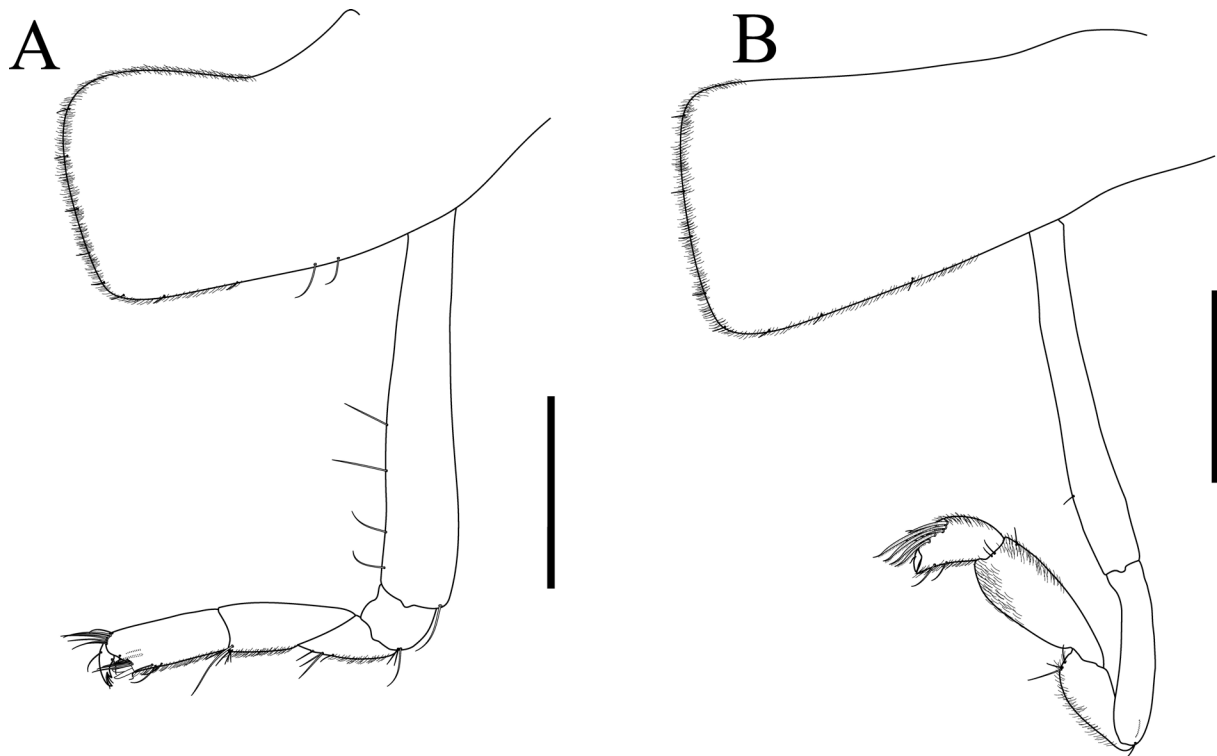


Fig. 4. *Lepidepecreum antennatum* Gouillieux sp. nov., paratype, ♀, MNHN-IU-2021-8820. A–B. Gnathopods 1–2. Scale bars = 1 mm.

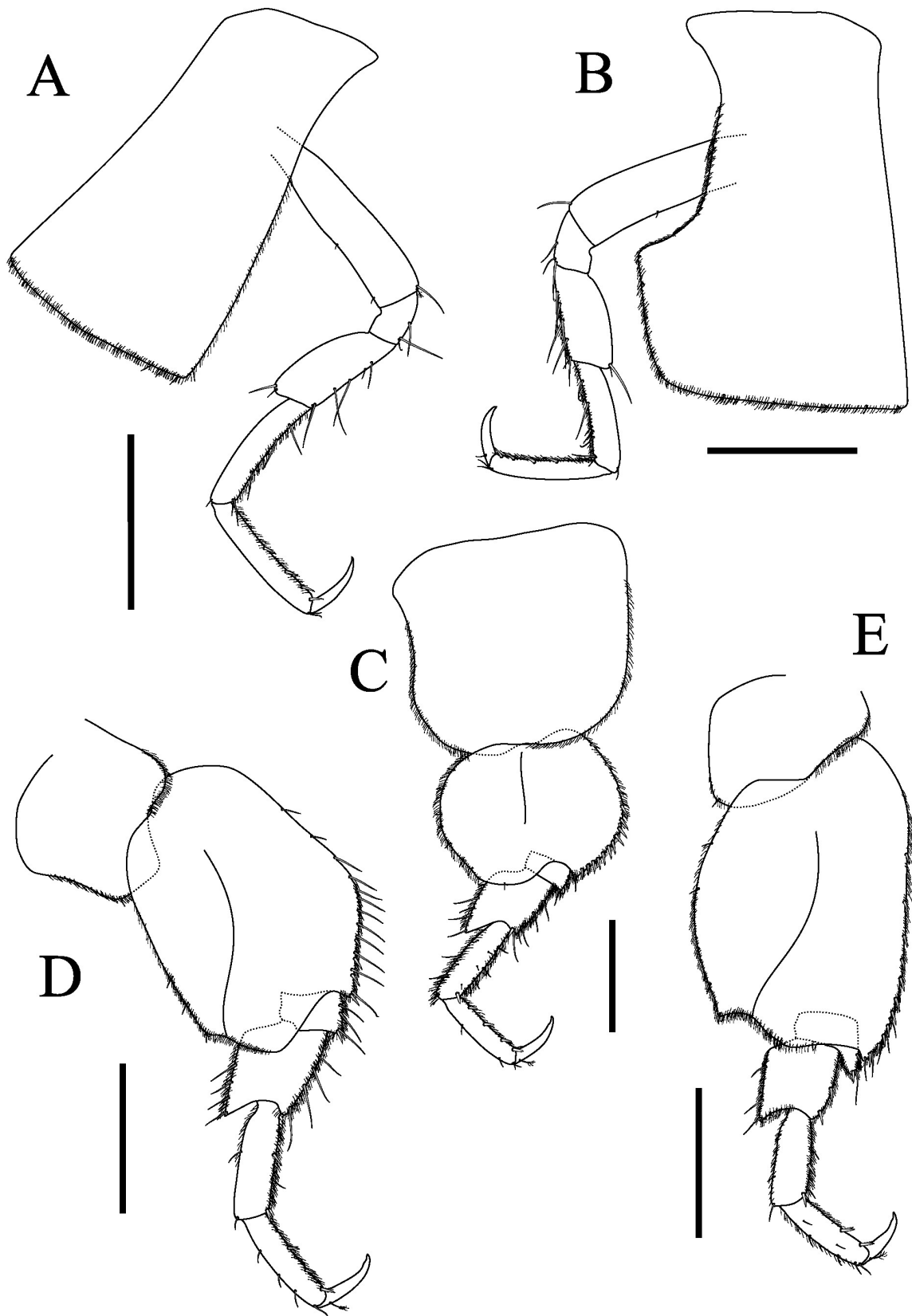


Fig. 5. *Lepidepecreum antennatum* Gouillieux sp. nov. **A–B, D–E.** Paratype, ♀, MNHN-IU-2021-8820. **C.** Paratype, ♀, MNHN-IU-2021-8821. **A–E.** Pereopods 3–7. Scale bars = 0.5 mm.

PEREOPOD 4 (Fig. 5B). Coxa without distinct lateral ridge, with a well-developed posteroventral lobe.

PEREOPODS 5–7 (Fig. 5C–E). Robust, posterior margins densely setulose; basis and merus broadly expanded; merus twice as wide as carpus. Pereopod 5 (Fig. 5C): coxa without distinct lateral ridge, without umbo; basis slightly broader than long. Pereopod 7 (Fig. 5E). basis without posterodistal lobe; ischium with anterodistal lobe.

PLEONITES 1–2 (Fig. 6A). Dorsally smooth, not produced dorsodistally.

PLEONITE 3 AND UROSOMITE 1 (Fig. 6A). Dorsally smooth; dorsodistally produced, apically subacute.

EPIMERAL PLATES 1–2 (Fig. 6A). Anterior and ventral margin setulose.

EPIMERAL PLATE 3 (Fig. 6A). Posterior margin setulose, posteroventral corner subquadrate.

UROPODS 1–2 (Fig. 6B–C). Peduncle and rami with robust setae; inner ramus slightly shorter than outer ramus and with less robust setae.

UROPOD 3 (Fig. 6D). Peduncle without simple setae proximally or robust setae distally; inner and outer rami well developed, subequal, without plumose setae; outer ramus article 2 short.

TELSON (Fig. 6E). Deeply cleft, without dorsal robust setae, with 1 marginal seta, 1 small apical plumose seta and 1 distal robust seta on each lobe.

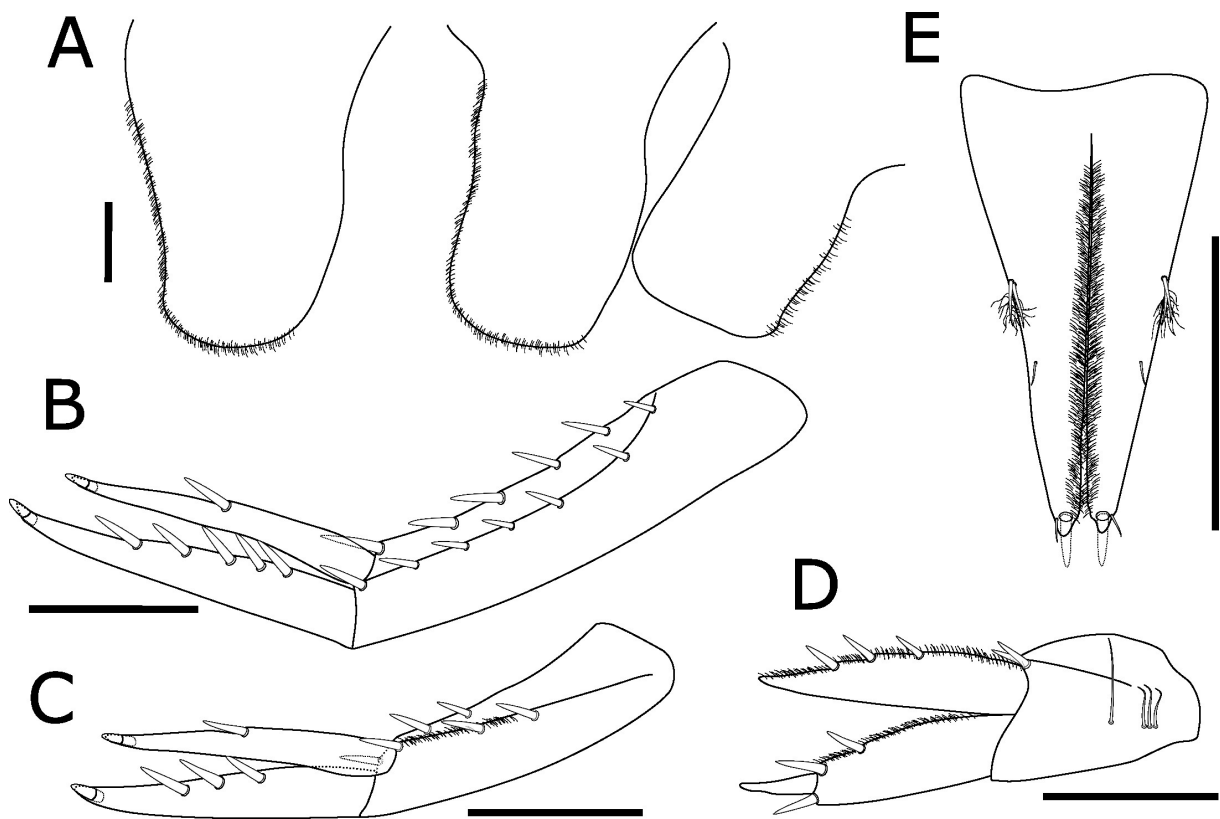


Fig. 6. *Lepidepecreum antennatum* Gouillieux sp. nov., paratype, ♀, MNHN-IU-2021-8820. **A.** Epimeral plates 1–3. **B–D.** Uropods 1–3. **E.** Telson. Scale bars = 0.5 mm.

Male (sexually dimorphic characters) (Fig. 7)

ANTENNA 1 (Fig. 7B). Flagellum article 1 with strong two-field callynophore.

ANTENNA 2 (Fig. 7C). Distinctly longer, about same size as body length, calceoli present.

PLEONITE 3 AND UROSOMITE 1. With rounded dorsal tooth (Fig. 7A).

UROPODS (Fig. 7D–F). Distinctly more spinose. Uropod 3 (Fig. 7F) with plumose setae on both rami.

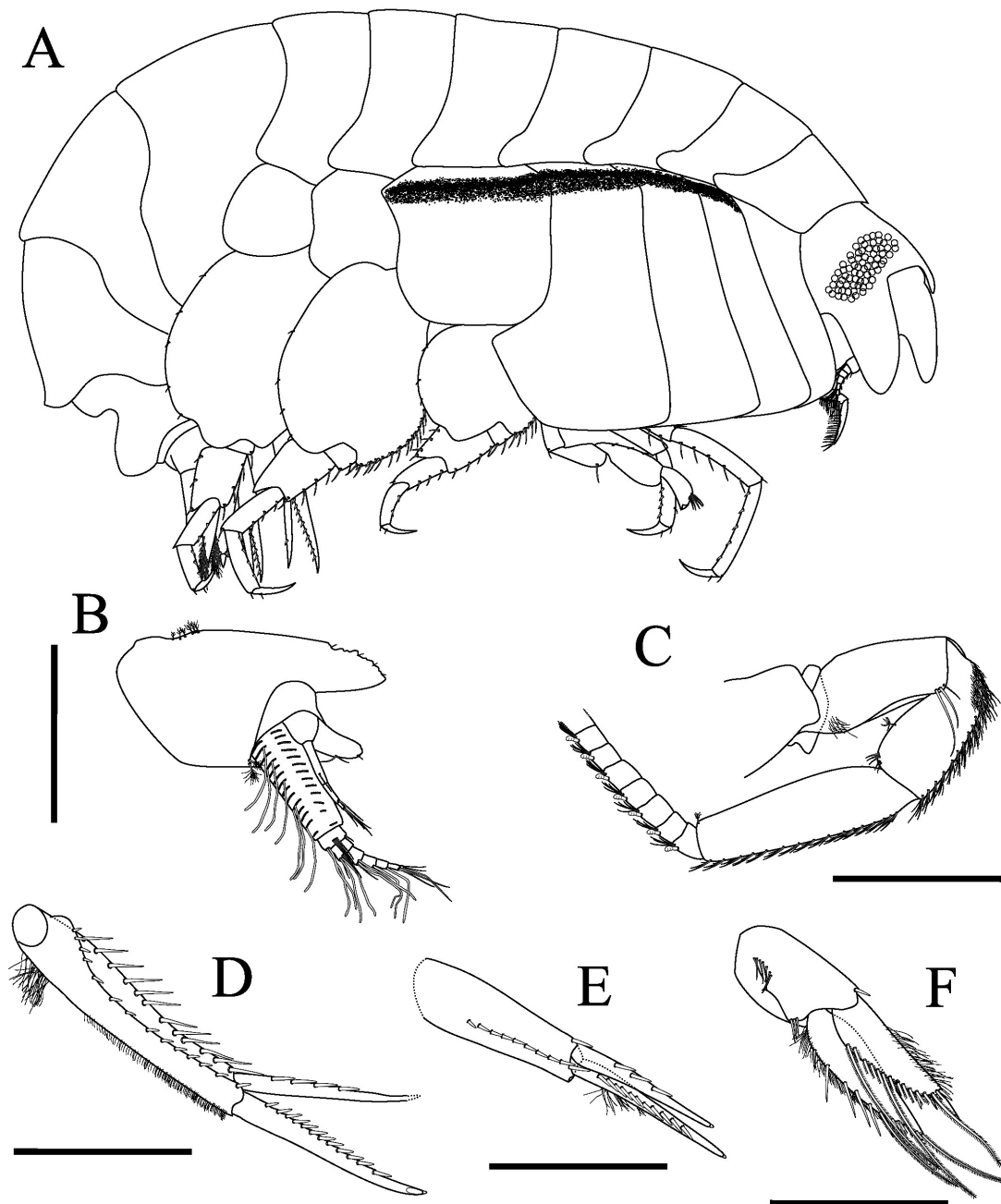


Fig. 7. *Lepidepecreum antennatum* Gouillieux sp. nov., paratype, ♂, MNHN-IU-2021-8819. **A.** Entire specimen. **B.** Antenna 1. **C.** Antenna 2. **D–F.** Uropods 1–3, long plumose setae of uropod 3 rami not all represented. Scale bars: A = 1 mm; B–F = 0.5 mm.

Variability

Antenna 1 article 1 anterodistal margin more or less smooth; accessory flagellum with 2 or 3 articles. Mandibular palp of distal article with five to seven lateral setae. Uropods 1–2 inner ramus without (juveniles) or with up to three (larger specimens) robust setae. Juvenile specimens with pleonite 3 and urosomite 1 dorsodistal teeth more acute.

Remarks

The genus *Lepidepecreum* is composed of 38 valid species worldwide (Horton *et al.* 2025b), five of them are present in European waters: *L. clypeatum* Chevreux, 1888, *L. crypticum* Ruffo & Schiecke, 1977, *L. longicorne* (Spence Bate, 1862), *L. subclypeatum* Ruffo & Schiecke, 1977 and *L. typhlops* Bonnier, 1896. The new species can be distinguished from *L. clypeatum*, *L. crypticum* and *L. longicorne* by the presence of an accessory flagellum on antenna 1, and from *L. subclypeatum* and *L. typhlops* by the presence of eyes.

Identification key to European species of *Lepidepecreum*

1. A1 accessory flagellum present (can be minute) 2
 - A1 accessory flagellum absent 4
2. Eyes present; A2 peduncle article 4 with anterodistal lobe *L. antennatum* Gouillieux sp. nov.
 - Eyes absent; A2 peduncle article 4 without anterodistal lobe 3
3. A1 peduncle article 1 and 2 without anterodistal lobe; pleonite 3 with dorsodistal tooth
 - *L. typhlops* Bonnier, 1896
 - A1 peduncle article 1 and 2 with acute anterodistal lobe; pleonite 3 without dorsodistal tooth
 - *L. subclypeatum* Ruffo & Schiecke, 1977
4. P5 basis with posterodistal lobe very extended, exceeding carpus *L. clypeatum* Chevreux, 1888
 - P5 basis with posterodistal lobe slightly extended, reaching proximal part of merus..... 5
5. Coxae 4–5 without distinct transverse proximal ridge; pleonite 3 and urosomite 1 with dorsal tooth rounded *L. crypticum* Ruffo & Schiecke, 1977
 - Coxae 4–5 with distinct transverse proximal ridge; pleonite 3 and urosomite 1 with dorsal tooth acutely produced *L. longicorne* (Spence Bate, 1862)

Family Stenothoidae Boeck, 1871
 Subfamily Stenothoinae Boeck, 1871
 Genus *Stenothoe* Dana, 1852

Stenothoe eduardi Krapp-Schickel, 1976
 Figs 8–9

Diagnosis

Body smooth; eyes present (Fig. 8). Gnathopod 1 (Fig. 9A) carpus posterior margin mostly hidden by merus. Gnathopod 1 carpus of male and female triangular, slightly longer than wide. Coxa 2 with harmonically rounded margins. Gnathopod 2 of male and female propodus without semicircular excavation, palm corner lacking, propodus posteriorly densely beset with long setae, in male also inner margin of dactylus. Gnathopod 2 male (Fig. 9B) propodus with acute prominent distal tooth on palm, followed by deep U-shaped incision, dactylus shorter than propodus. Gnathopod 2 (Fig. 9C–D) female posterior margin of propodus with one protuberance in distal third; coxa 4 regularly widened. Pereopods 5–7 (Fig. 9E–G) not prehensile, merus less than twice as broad as carpus, not reaching end of

carpus. Uropod 2 (Fig. 9J) rami length clearly different. Uropod 3 (Fig. 9K) peduncle shorter than ramus. Telson (Fig. 9H) with robust setae.

Material examined

FRANCE • 32 ♀♀, 2 ♂♂; Saint-Jean-de-Luz ; stn “Faille”; 43°26.475' N, 1°39.257' W; depth 39 m; 11 Sep. 2020; B. Gouillieux and L. Devaux leg.; MNHN-IU-2021-8822 • 1 ♂, BL = 4.70 mm, dissected specimen; same data as for preceding; MNHN-IU-2021-8823 • 1 ♀, BL = 4.41 mm, dissected specimen; Saint-Jean-de-Luz ; stn “Faille”; 43°26.475' N, 1°39.257' W; depth 39 m; 13 Sep. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2021-8824 • 87 ♀♀, 9 ♂♂; same data as for preceding; MNHN-IU-2021-8847 • 24 ♀♀, 4 ♂♂; Saint-Jean-de-Luz ; stn “Gorgone”; 43°25.499' N, 1°40.378' W; depth 39 m; 1 Jul. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8846 • 37 ♀♀, 1 ♂; Saint-Jean-de-Luz ; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 30 m; 25 Jun. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8851 • 2 ♂♂, “hyper adult”; Saint-Jean-de-Luz; stn “Ficoa”; 43°26.102' N, 1°40.110' W; depth 27 m; 13 Sep. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8848.



Fig. 8. *Stenothoe eduardi* Krapp-Schickel, 1976. Female specimen, 11 Sep. 2020, stn “Faille”. Scale bar = 0.5 mm.

Remarks

Krapp-Schickel (1976) described *Stenothoe eduardi* with specimens from the Gulf of Naples, and synonymized specimens originally named as *S. catta* by Catta (1876), Stebbing (1906), Chevreux & Fage (1925), Reid (1951) and Ledoyer (1973). Some morphological differences can be observed between

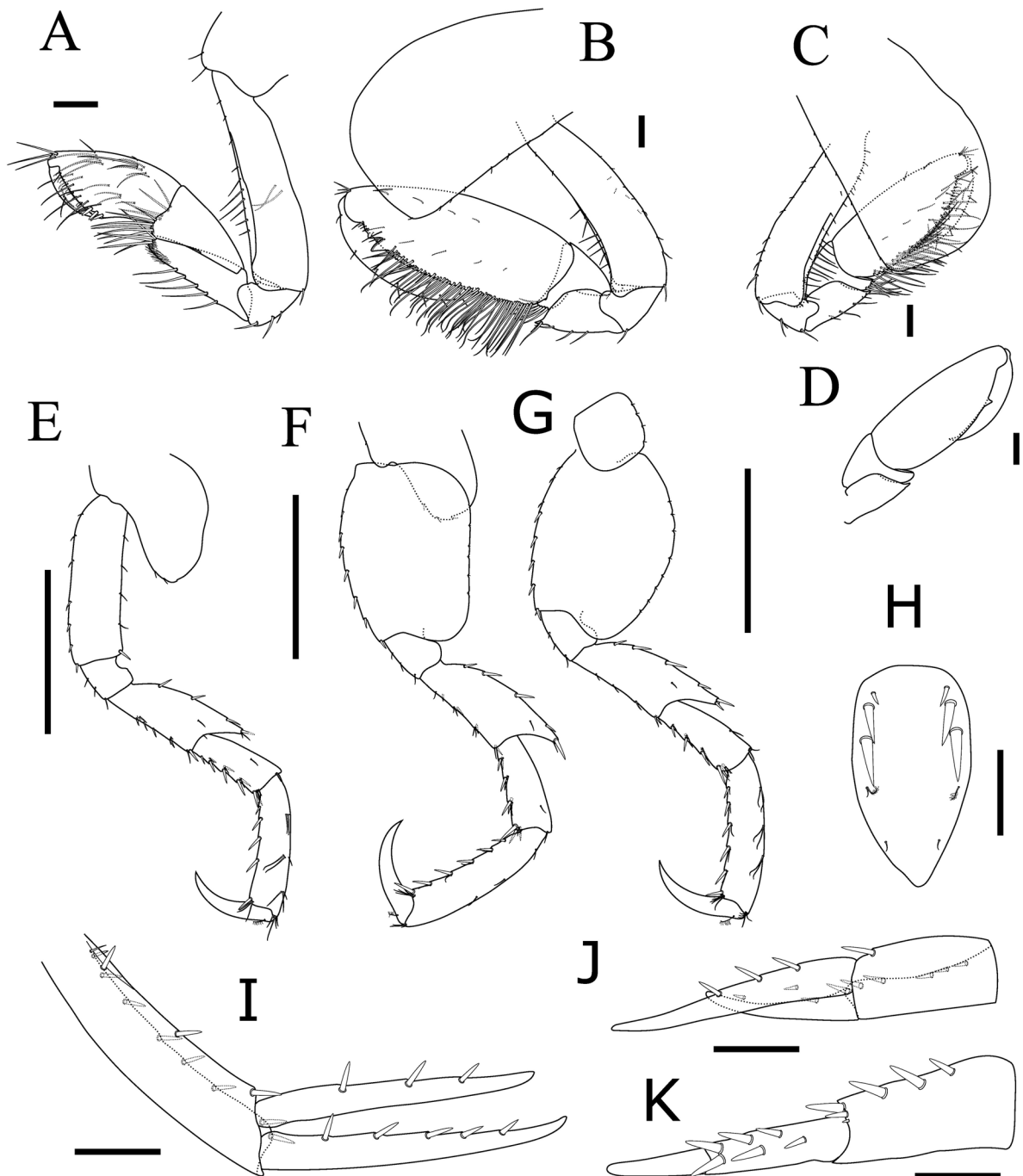


Fig. 9. *Stenothoe eduardi* Krapp-Schickel, 1976. **A–B, E–K.** Male specimen, MNHN-IU-2021-8823. **C–D.** Female specimen, MNHN-IU-2021-8824. **A.** Gnathopod 1. **B–C.** Gnathopod 2. **D.** Gnathopod 2, setae omitted. **E–G.** Pereopods 5–7. **H.** Telson. **I–K.** Uropods 1–3. Scale bars: A–D, H–K = 0.1 mm; E–G = 0.5 mm.

the different representations of the species, such as presence/absence of anterodistal lobe on basis and ischium of the gnathopods, and uropod 3 setation. These differences are due to morphological variability of the species, and do not constitute sufficient criteria to establish the specimens as a new species. The species was considered as endemic to the Mediterranean Sea, but was recently recorded in the English Channel (Dauvin 2022). The present specimens represent the first record of the species in the Bay of Biscay.

Stenothoe bosporana Sowinsky, 1898
Figs 10–11

Diagnosis

Body smooth; eyes present (Fig. 10). Gnathopod 1 (Fig. 11A) carpus free posterior margin parallel to anterior one, longer than wide. Gnathopod 2 of male and female propodus without semicircular excavation, palm corner lacking, propodus posteriorly with short setae, in male also inner margin of dactylus. Gnathopod 2 of male (Fig. 11B) propodus palmar margin irregularly denticulate, dactylus shorter than propodus. Gnathopod 2 of female posterior margin of propodus with several small protuberances along distal half. Pereopods 5–7 (Fig. 11C–E) not prehensile. Pereopod 7 merus reaching (male specimen) or not (female specimen) end of carpus. Uropod 2 (Fig. 11G) rami length clearly different. Uropod 3 (Fig. 11H) peduncle longer than ramus. Telson (Fig. 11I) with robust setae.



Fig. 10. *Stenothoe bosporana* Sowinsky, 1898. Male specimen, MNHN-IU-2021-8849, 1 Jul. 2021, stn “Gorgone”. Scale bar = 0.5 mm.

Material examined

FRANCE • 1 ♂, BL = 2.35 mm; Saint-Jean-de-Luz; stn “Gorgone”; 43°25.499' N, 1°40.378' W; depth 39 m; 1 Jul. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8849 • 1 ♂, BL = 2.97 mm, dissected specimen; same data as for preceding; MNHN-IU-2021-8850.

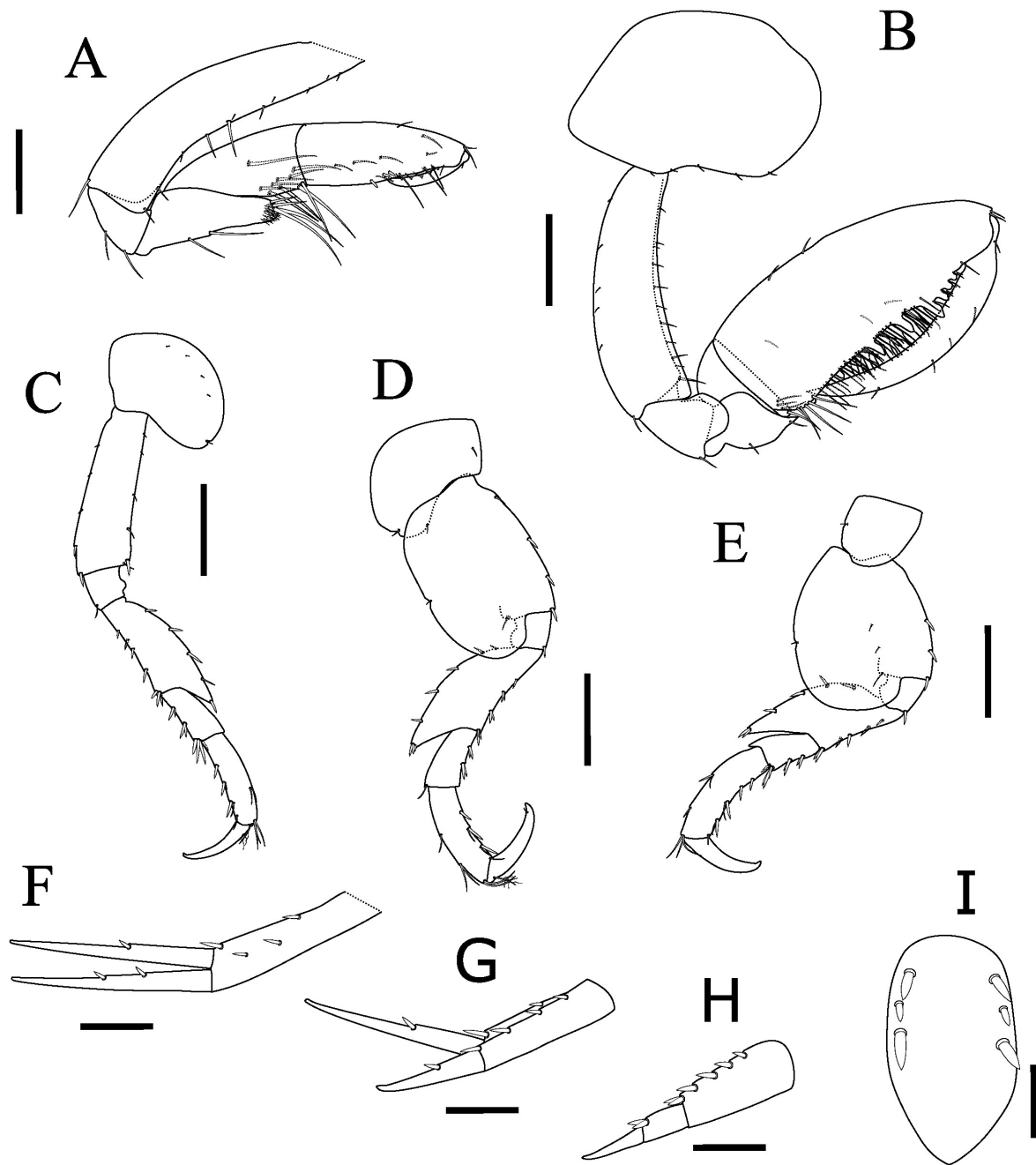


Fig. 11. *Stenothoe bosporana* Sowinsky, 1898. Male specimen, MNHN-IU-2021-8850, 1 Jul. 2021, stn “Gorgone”. **A.** Gnathopod 1. **B.** Gnathopod 2. **C–E.** Pereopods 5–7. **F–H.** Uropods 1–3. **I.** Telson. Scale bars: A, F–H = 0.1 mm; B–E = 0.2 mm; I = 0.05 mm.

Remarks

The species was described by Sowinsky in 1898, with specimens from Bosphorus Strait, Turkey. The species was mainly recorded in the Mediterranean Sea (Chevreux 1910; Chevreux & Fage 1925; Krapp-Schickel 1976; Ledoyer 1977) and a single record in the Atlantic Ocean was made by Chevreux (1908) as *Stenothoe dactylipotens* Chevreux, 1908 in the Azores. The present specimens are in accordance with subsequent descriptions, and represent the northernmost record in European waters for the species. In Krapp-Schickel's (2015) key, the author distinguished *S. antennulariae* Della Valle, 1893 from *S. bosphorana* by the relative size of the antennae and the size of pereopod 7 merus in comparison to the carpus. According to the original and subsequent descriptions, the author omitted to specify that the size of pereopod 7 merus concerned only male specimens, but this criterion must be taken with caution.

Family Iphimediidae Boeck, 1871

Genus *Iphimedia* Rathke, 1843

Iphimedia jeanneae Gouillieux sp. nov.

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Figs 12–16

Diagnosis

Lateral cephalic margins with two triangular processes. Pleonites 1–3 with two dorsal teeth. Epimeral plates 1–2 without median tooth. Pereopod 5 coxa slightly serrate posteroventrally, basis without a large tooth on the proximal portion of posterior margin, subquadrate, posterior margin serrate. Pereopod 7 basis posterior margin with a large tooth distally. Epimeral plate 3 teeth curved upwards, separated by a narrow excavation, upper tooth larger than lower. Telson notched.

Etymology

This species is dedicated to Jeanne Tardif, a schoolchild from Sainte Famille d'Urquijo school who participated, along with other classes from different schools in Saint-Jean-de-Luz, and won a game about sensitivity on ecology and marine biodiversity.

Type material

Holotype

FRANCE • ♀, BL = 8.26 mm; Saint-Jean-de-Luz; stn "Aroka"; 43°25.596' N, 1°40.186' W; depth 30 m; 24 Jun. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2021-8830.

Paratypes

FRANCE • 1 ♀, BL = 5.30 mm, dissected specimen; same data as for holotype; MNHN-IU-2021-8831 • 1 ♀, BL = 4.03 mm; right pereopods 5–7 dissected; same data as for holotype; MNHN-IU-2021-8832 • 1 ♀, BL = 3.69 mm, dissected, left pereopods 5–7; same data as for holotype; MNHN-IU-2021-8833 • 1 ♀, BL = 3.80 mm, right gnathopod 1–2, pereopods 3–7 dissected; same data as for holotype; MNHN-IU-2021-8834 • 1 ♂, BL = 3.80 mm; Saint-Jean-de-Luz; stn "Ficoa"; 43°26.102' N, 1°40.110' W; depth 27 m; 13 Sep. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8844.

Other material examined

FRANCE • 39 specs; same data as for holotype; MNHN-IU-2021-8842 • 28 specs; Saint-Jean-de-Luz; stn "Aroka"; 43°25.596' N, 1°40.186' W; depth 30 m; 25 Jun. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8843.

Type locality

Saint-Jean-de-Luz, French Basque coast, Bay of Biscay.

Description (based on holotype and paratypes)

Female

HEAD. With strong, curved rostrum, lateral cephalic margins with two triangular processes, strongly and acutely notched between.

EYES. Reniform.

PEREONITE 1. Enlarged.

PEREONITE 7. Without mid-dorsal carina, dorsodistal margin with 2 large spines, without posteroventral tooth.

PLEONITES 1–3. Without mid-dorsal carina, dorsodistal margin slightly to strongly produced with 2 large teeth (Fig. 12A, D).

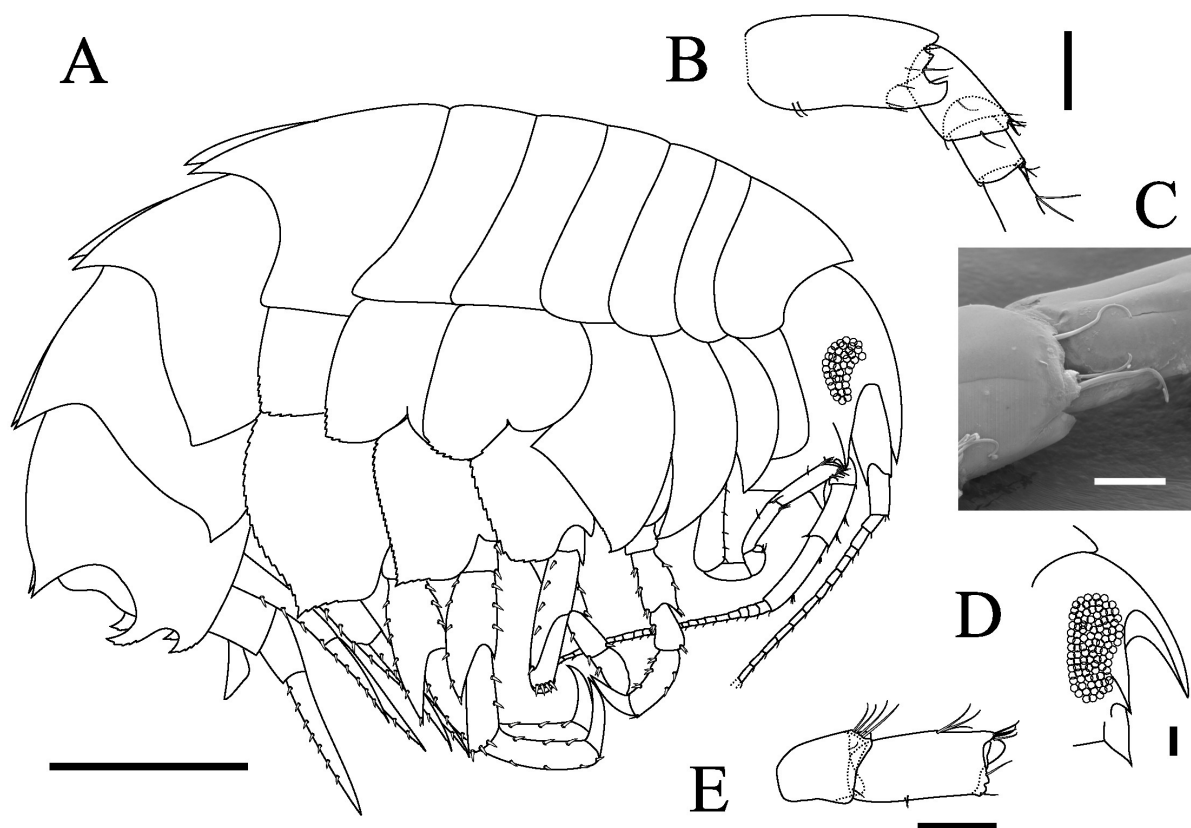


Fig. 12. *Iphimedia jeanneae* Gouillieux sp. nov. **A.** Holotype, ♀, MNHN-IU-2021-8830. **B, E.** Paratype, ♀, MNHN-IU-2021-8834. **C.** Additional material (no code). **D.** Paratype, ♂, MNHN-IU-2021-8844. **A.** Habitus. **B.** Antenna 1, peduncle and first article of flagellum. **C.** Antenna 1, accessory flagellum, SEM pictures. **D.** Head. **E.** Antenna 2 peduncle article 2 and 3. Scale bars: A = 1 mm; B, D–E = 0.1 mm; C = 0.02 mm.

ANTENNA 1 (Fig. 12B–C). Peduncle article 1 elongate with a long triangular posterodistal tooth accompanied by a smaller mediodistal tooth; accessory flagellum minute, scale like; flagellum with one or two aesthetascs per article.

ANTENNA 2 (Fig. 12E). Peduncle article 3 $1.3 \times$ as long as article 2; article 5 the longest, $1.4 \times$ as long as article 4.

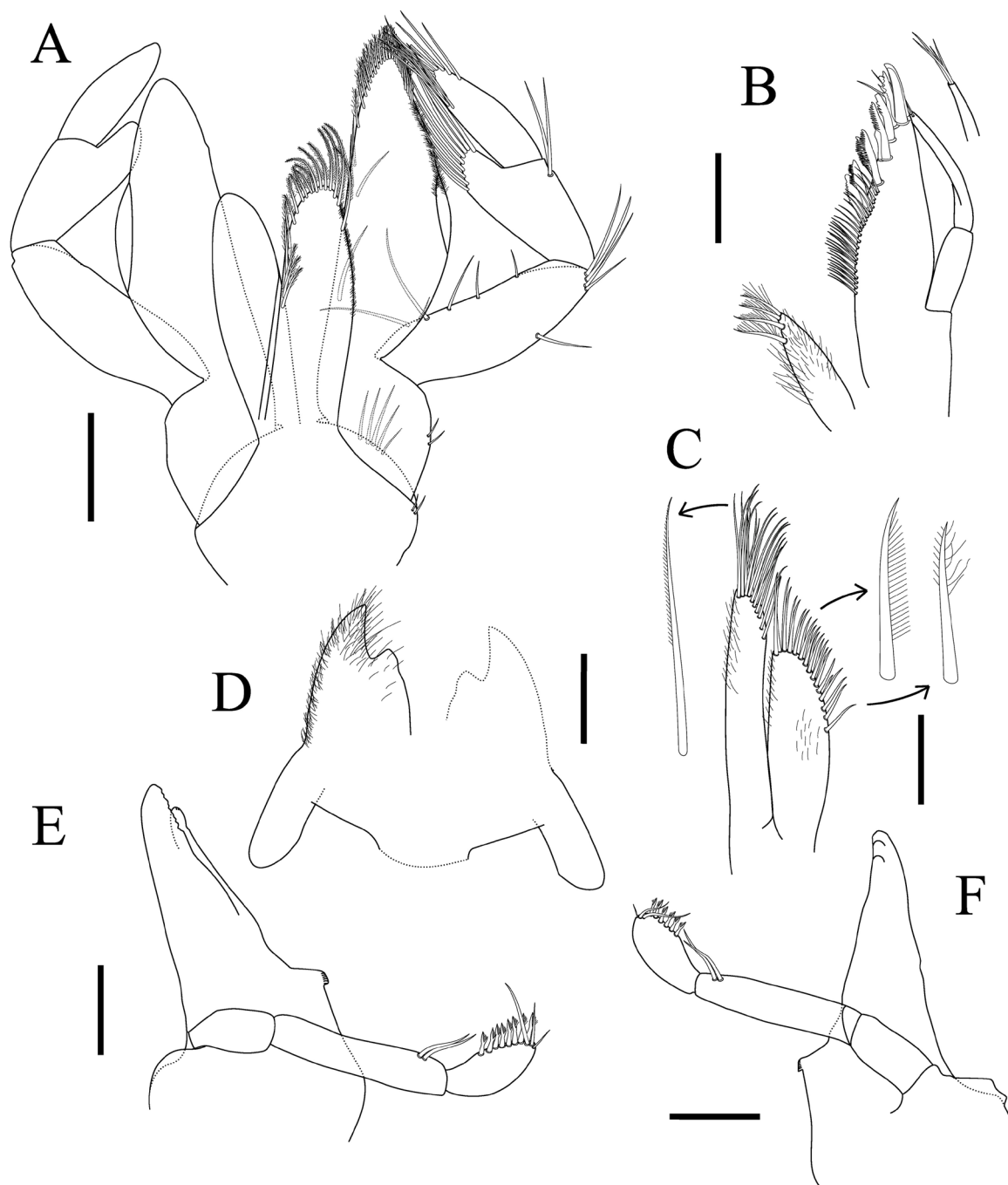


Fig. 13. *Iphimedia jeanneae* Gouillieux sp. nov., paratype, ♀, MNHN-IU-2021-8831. A. Maxilliped. B. Maxilla 1, left. C. Maxilla 2. D. Half of lower lip. E. Mandible left. F. Mandible right. Scale bars = 0.1 mm.

MAXILLIPED (Fig. 13A). Palp article 2 apicomediaally produced; article 4 absent.

MAXILLA 1 (Fig. 13B). Palp well developed, slightly exceeding the tip of the outer lobe, 2-articulate; inner lobe with four plumose setae.

MAXILLA 2 (Fig. 13C). Inner lobe larger and smaller than outer lobe.

LOWER LIP (Fig. 13D). Inner lobe absent, outer lobe notched.

MANDIBLES (Fig. 13E–F). Long and narrow distally; mandibular palp article 2 with 2 subdistal setae, article 3 with a lateral row of six to eight serrate setae and three distal simple setae.

GNATHOPOD 1 (Fig. 14A–B). Chelate; coxa anteroventral margin slightly serrate; basis to carpus bare; propodus with plumose setae on distal part.

GNATHOPOD 2 (Fig. 14C–D). Minutely chelate; coxa spatulate; basis to carpus weakly setosed; posterodistal margin of propodus with many simple setae.

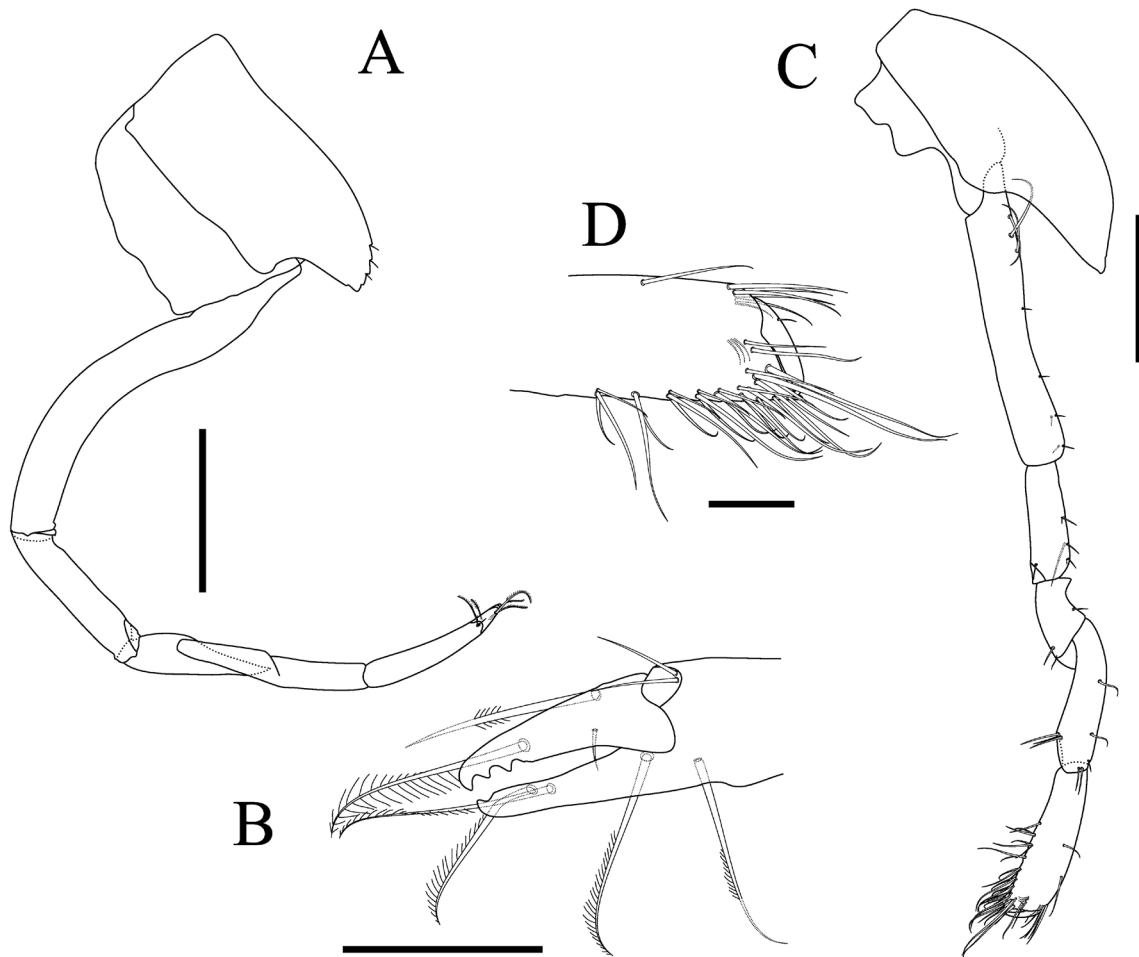


Fig. 14. *Iphimedia jeanneae* Gouillieux sp. nov. **A, C–D.** Paratype, ♀, MNHN-IU-2021-8831. **B.** Paratype, ♀, MNHN-IU-2021-8834. **A.** Gnathopod 1. **B.** Gnathopod 1 distal part of propodus and dactylus. **C.** Gnathopod 2. **D.** Gnathopod 2 distal part of propodus and dactylus. Scale bars: A, C = 0.25 mm; B, D = 0.05 mm.

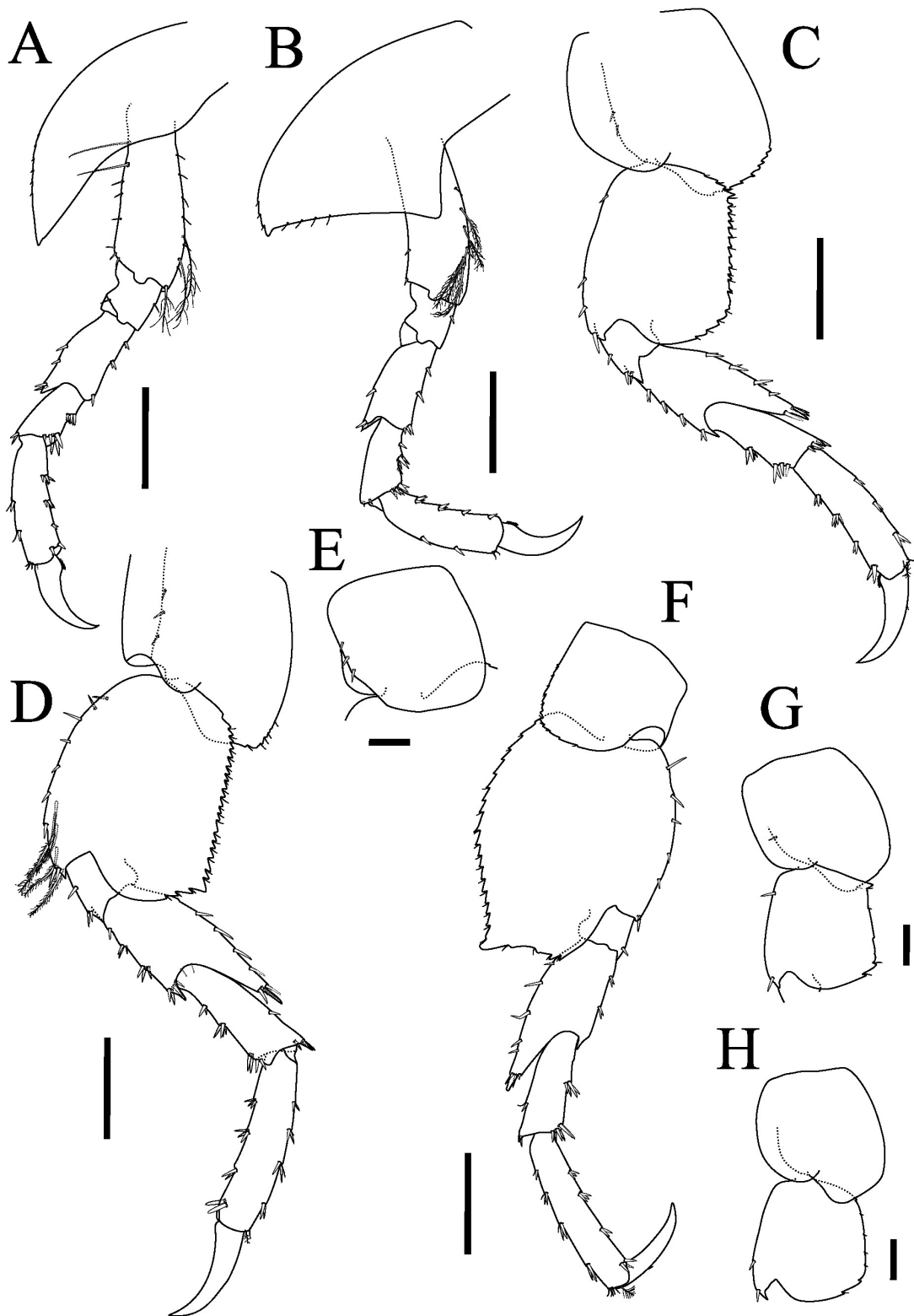


Fig. 15. *Iphimedia jeanneae* Gouillieux sp. nov. **A–E.** Paratype, ♀, MNHN-IU-2021-8831. **F.** Paratype, ♀, MNHN-IU-2021-8832. **G.** Paratype, juvenile, MNHN-IU-2021-8833. **H.** Paratype, juvenile, MNHN-IU-2021-8834. **A–D.** Pereopods 3–6. **E.** Pereopod 7, left, coxa and proximal part of basis, inner face. **F.** Pereopod 7. **G–H.** Pereopod 5. Scale bars: A–D, F = 0.25 mm; E, G–H = 0.1 mm.

COXAE 2–4. Anteroventral border minutely serrate.

PEREOPODS 3–4 (Fig. 15A–B). Basis slender, posterodistal margin with long plumose setae.

PEREOPOD 5 (Fig. 15C). Coxa posteroventral corner broadly rounded, serrate, without tooth; basis posterior margin straight, serrate, without distinct tooth on proximal part; merus posteroventral lobe produced about halfway along carpus.

PEREOPOD 6 (Fig. 15D). Coxa posteroventral corner subquadrate, slightly serrate; basis posterior margin straight, serrate, without distinct tooth on proximal part, a small tooth on posterodistal corner; merus posteroventral lobe produced about halfway along carpus.

PEREOPOD 7 (Fig. 15E–F). Coxa posteroventral corner rounded, serrate; basis posterior margin convex, serrate, with a posterodistal tooth; merus posteroventral lobe produced about halfway along carpus.

EPIMERAL PLATES 1–2 (Fig. 16E). Without median tooth on posterior margin, posterodistal corner acute.

EPIMERAL PLATE 3 (Fig. 16E). Posterodistal corner with 2 teeth separated by a narrow excavation, upper tooth very curved and larger than lower.

UROPOD 1 (Fig. 16A). Rami subequal, longer than peduncle; outer ramus with three distal teeth, the middle one the longest; inner ramus with subdistal notch.

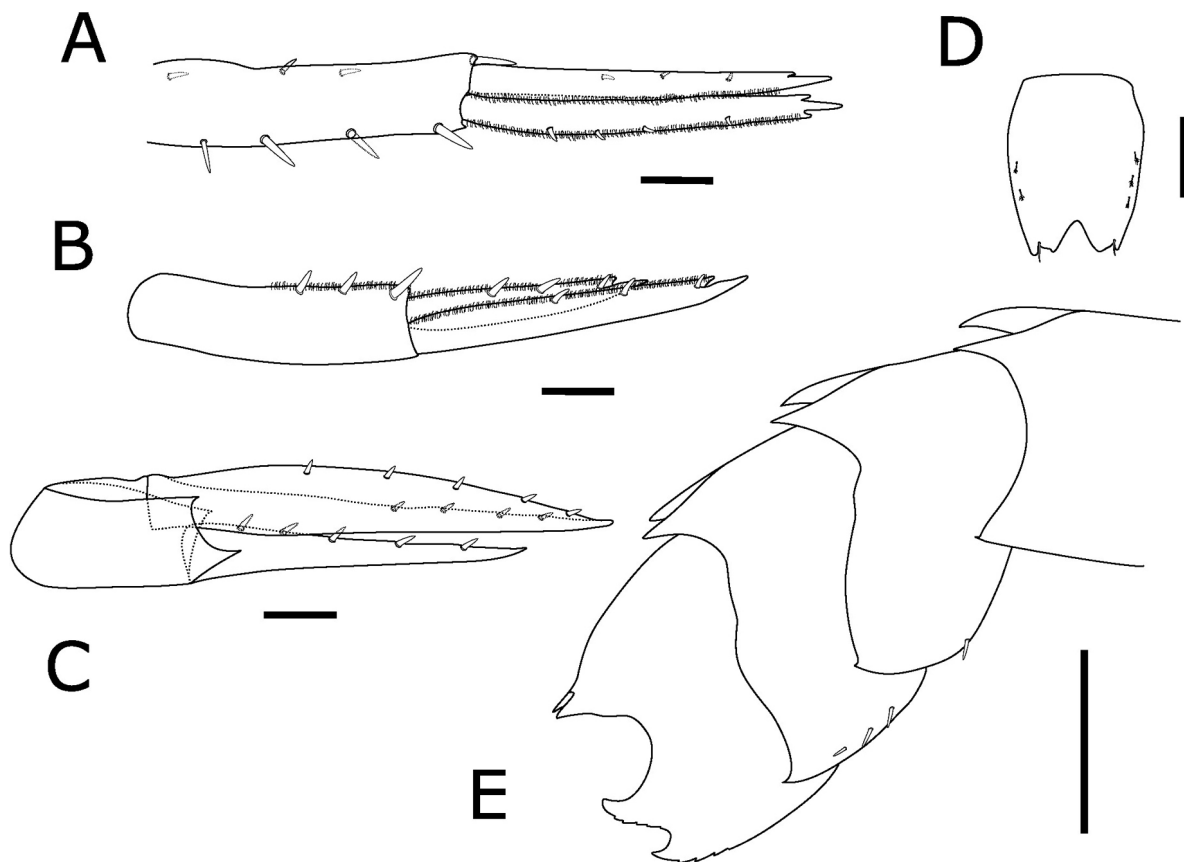


Fig. 16. *Iphimedia jeanneae* Gouillieux sp. nov. Paratype, ♀, MNHN-IU-2021-8831. A–C. Uropods 1–3. D. Telson. E. Distal end of pleonite 3 and epimeral plates 1–3. Scale bars: A–D = 0.1 mm; E = 0.5 mm.

UROPOD 2 (Fig. 16B). With few robust setae; peduncle length between inner and outer rami lengths; inner and outer rami with subdistal notch; inner ramus longer than outer ramus.

UROPOD 3 (Fig. 16C). Peduncle distinctly shorter than rami with a short distoventral tooth-like process; rami without subdistal notch; inner ramus longer than outer ramus.

TELSON (Fig. 16D). Notched, slightly longer than broad, with two lateral and one distal fine setae on each margin.

Male

Similar to female.

Variability

Pereonite 1 not or slightly produced over head. Coxae 1–7 serration function of maturity: absent in juveniles and sub adult specimens. Pereopods 5–7 coxae with or without robust setae on the mesial face. Coxa 6 posterodistal corner without or with a small tooth. Coxa 7 posterodistal corner rounded to subquadrate. Pereopods 5–7 basis serration function of maturity: roughly absent or having a little tooth on the posteroproximal part of the pereopod 5 basis (Fig. 15G–H).

Remarks

According to the generic key provided by Barnard & Karaman (1991), *Iphimedia* is differentiated from *Anisoiphimedia* Karaman, 1980 by the absence of both the antenna 1 accessory flagellum and the inner lobes of the labium; in contrast, *Anisoiphimedia* presents both structures. Examination of *Iphimedia* species collected during the present study revealed the presence of a scale like accessory flagellum on antenna 1 in *I. eblanae* Spence Bate, 1857; *I. jeanneae* sp. nov. and *I. minuta* G.O. Sars, 1883. Unfortunately, no antennae were preserved for *I. spatula* Myers & McGrath in Myers, McGrath & Costello, 1987. This antenna 1 accessory flagellum must be taken with caution in Barnard & Karaman's (1991) key, but this does not call into question the validity of the genus *Anisoiphimedia* due to the shape of the labium and that its accessory flagellum is 2-articulate.

The new species is morphologically very close to *I. perplexa* Myers & Costello in Myers, McGrath & Costello, 1987 with lateral cephalic margins with two triangular processes, but can be distinguished by distoventral lateral cephalic process distinctly more pronounced, coxa 5 posterior margin serrate and pereopod 5 basis posterior margin serrate. The new species is also morphologically close to the Mediterranean species, *I. serratipes* Ruffo & Schiecke, 1979, but can be distinguished by the absence of a prominent tooth on coxa 5, pereopod 5 basis posterior margin more serrate, presence of robust setae on coxae 5–7 on the mesial face and its distinctly more notched telson. The robust setae on coxa 5–7 might be difficult to see (dissection, mounting position), and sometimes is absent in small specimens; therefore, this character must be taken with caution.

Identification key to European species of *Iphimedia* (based on Ruffo & Schiecke 1982, with inclusion of subsequent new European species descriptions)

1. Pereopod 7 basis with a large tooth distally 2
 - Pereopod 7 basis with two large teeth situated medially and distally 11
2. Pereopod 5 basis with a large tooth on the proximal portion of posterior margin 3
 - Pereopod 5 basis posterior margin without large proximal tooth 4
3. Pleonite 3 dorsally not elongate, not coniform, with two large terminal teeth
 - *I. jugoslavica* Karaman, 1975
 - Pleonite 3 with dorsal portion very elongate, coniform, with two small terminal teeth
 - *I. quasimodus* Ruffo & Schiecke, 1979

4. Coxa of pereopod 5 posteriorly with tooth or serrate 5
 - Coxa of pereopod 5 posteriorly rounded, smooth 6
5. Coxa of pereopod 5 with an acute tooth on the distal posterior margin; pereopod 5 basis posterior margin smooth to weakly serrate; telson emarginated *I. serratipes* Ruffo & Schiecke, 1979
 - Coxa of pereopod 5 posteriorly serrate, without tooth; pereopod 5 basis posterior margin distinctly serrate; telson notched *I. jeanneae* Gouillieux sp. nov.
6. Epimeral plate 3 teeth not curved upwards, separated by a broad excavation
 - *I. obesa* Rathke, 1843
 - Epimeral plate 3 teeth curved upwards, separated by a narrow excavation 7
7. Pleonite 3 strongly convex dorsally in its posterior portion, terminal teeth shorter in lateral view than those of pleonite 2 *I. vicina* Ruffo & Schiecke, 1979
 - Pleonite 3 not convex dorsally in its posterior portion, terminal teeth in lateral view not much shorter than those of pleonite 2 8
8. Lateral cephalic margins with a notch, maxilla 1 palp longer than outer plate
 - *I. perplexa* Myers & Costello in Myers, McGrath & Costello, 1987
 - Lateral cephalic margins without a notch, maxilla 1 palp shorter than outer plate 9
9. Pereopods 6–7 basis posterior margin strongly serrate
 - *I. nexa* Myers & McGrath in Myers, McGrath & Costello, 1987
 - Pereopods 6–7 basis posterior margin weakly serrate 10
10. Labrum longer than broad, mandibles elongate and strongly tapered *I. minuta* G.O. Sars, 1883
 - Labrum broader than long, mandibles very stout, terminally broad, rounded
 - *I. brachygnatha* Ruffo & Schiecke, 1979
11. Pleonites 1–3 with three dorsal teeth *I. eblanae* Spence Bate, 1857
 - Pleonites 1–3 with two dorsal teeth 12
12. Posterior border of epimeral plates 1–2 without median tooth, posterior margins of pereon segment 7 and coxa 7 subquadrate *I. gibbula* Ruffo & Schiecke, 1979
 - Posterior border of epimeral plates 1–2 with a median tooth, posterior margins of pereon segment 7 and coxa 7 acutely pointed 13
13. Lateral cephalic margin with acute lobes, posterior border of epimeral plates 1–2 with a strong tooth in its posterior portion *I. carinata* Heller, 1866
 - Lateral cephalic margin with subquadrate lobes, posterior border of epimeral plates 1–2 with a weak tooth in its posterior portion *I. spatula* Myers & McGrath in Myers, McGrath & Costello, 1987

Iphimedia spatula Myers & McGrath in Myers, McGrath & Costello, 1987

Fig. 17

Diagnosis

Head lateral lobe and inferior angles reduced, subquadrate. Pereon segment 7 with 2 directed dorsodistal teeth and a tooth at the lower hind corner. Pleonites 1–3 dorsally slightly convex, segments 1–2 ending in 2 teeth, segment 3 ending in 2 recurved small teeth. Coxae 5–7 posterior margin with a very short posterodistal tooth. Pereopod 5 basis with a large tooth on the proximal portion of posterior margin.

Pereopod 7 basis with 2 large teeth situated medially and distally. Epimeral plates 1–2 posterior margin with a weak median tooth.

Material examined

FRANCE • 1 juv., BL = 3.44 mm; Saint-Jean-de-Luz; stn “Ficoa”; 43°26.102' N, 1°40.110' W; depth 27 m; 13 Sep. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8828 • 1 juv., BL = 2.14 mm, dissected specimen; Saint-Jean-de-Luz; stn “Gorgone”; 43°25.499' N, 1°40.378' W; depth 39 m; 1 Jul. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8829.

Remarks

Iphimedia spatula was described from Lundi Island, in the Celtic Sea, and with material from Ireland (Galway Bay), Shetland (Bakka) and the French Atlantic coast (Le Croisic, Glenan Islands). These specimens represent the southernmost record of the species in the European waters. The specimens are mainly in accordance with the original description, but differ by pleonite 3 dorsodistal teeth smaller and more upturned, and coxa 2 for smaller specimen not spatulate like (MNHN-IU-2021-8829). These differences are probably due to the small size of the specimens, which may not have all the adults' morphological criteria.

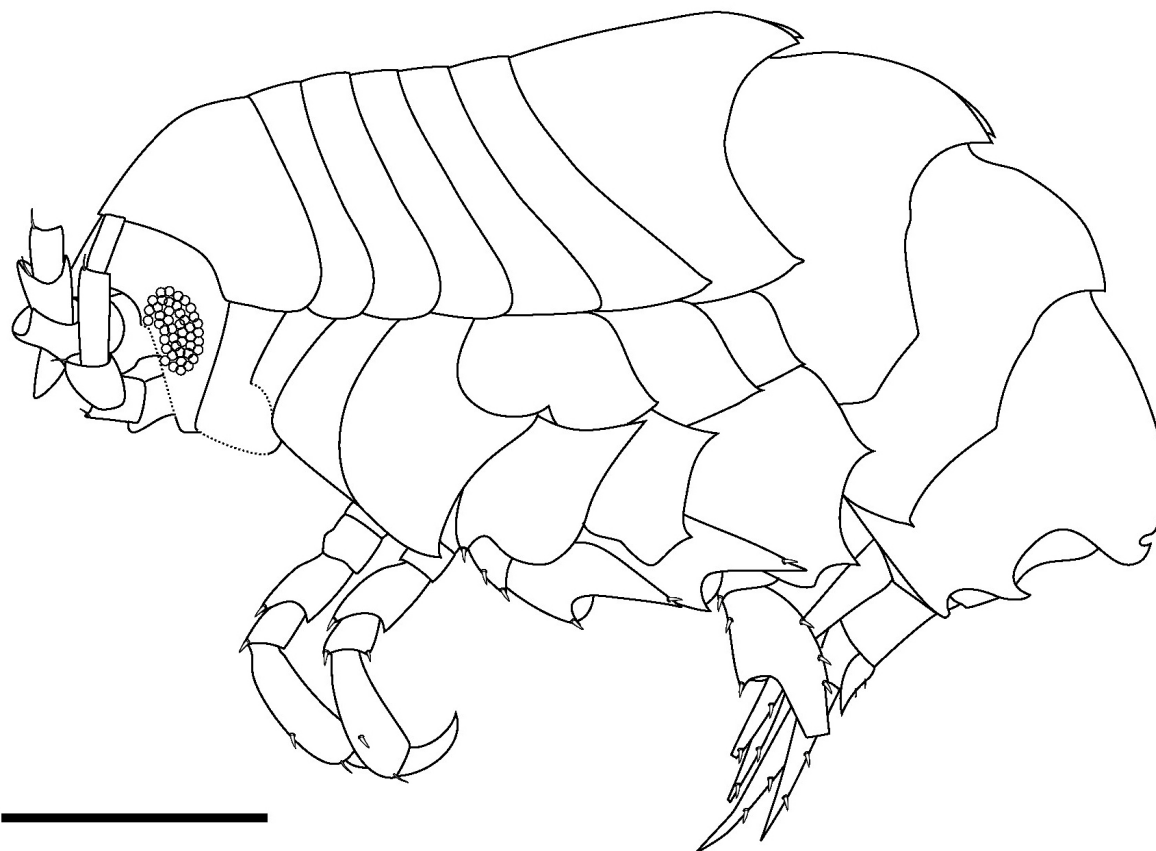


Fig. 17. *Iphimedia spatula* Myers & McGrath in Myers, McGrath & Costello, 1987, juvenile specimen, MNHN-IU-2021-8828. Scale bar = 0.5 mm.

Iphimedia eblanae Spence Bate, 1857

Fig. 18

Diagnosis

Head lateral cephalic margin with a triangular process, inferior angle subquadrate. Pereon segment 7 with 2 directed dorsodistal teeth and a tooth at the lower hind corner. Pleonites 1–3 with a dorsomedial tooth and 2 directed dorsodistal teeth, dorsodistal teeth of segment 3 recurved. Pereopod 5 basis with a large tooth on the proximal portion of posterior margin. Pereopods 6 and 7 basis with 2 large teeth situated medially and distally. Epimeral plates 1–2 posterior margin with a strong median tooth.

Material examined

FRANCE • 1 ♀, BL = 8.96 mm; Saint-Jean-de-Luz ; stn “Faille”; 43°26.475' N, 1°39.257' W; depth 39 m; 13 Sep. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2023-2580 • 9 specs; same data as for preceding; MNHN-IU-2023-2579 • 8 specs; Saint-Jean-de-Luz; stn “Ficoa”; 43°26.102' N, 1°40.110' W; depth 27 m; 13 Sep. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2023-2578 • 6 specs; Saint-Jean-de-Luz; stn “Ficoa”; 43°26.102' N, 1°40.110' W; depth 27 m; 14 Sep. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2023-2577.

Specimens for SEM pictures

FRANCE • 1 ♀; Saint-Jean-de-Luz; stn “Faille”; 43°26.475' N, 1°39.257' W; depth 39 m; 11 Sep. 2020; B. Gouillieux and L. Devaux leg.; MNHN-IU-2023-2550 • 1 ♀; Saint-Jean-de-Luz; stn “Ficoa”; 43°26.102' N, 1°40.110' W; depth 27 m; 13 Sep. 2021; B. Gouillieux and L. Devaux leg.; MNHN-IU-2023-2549.

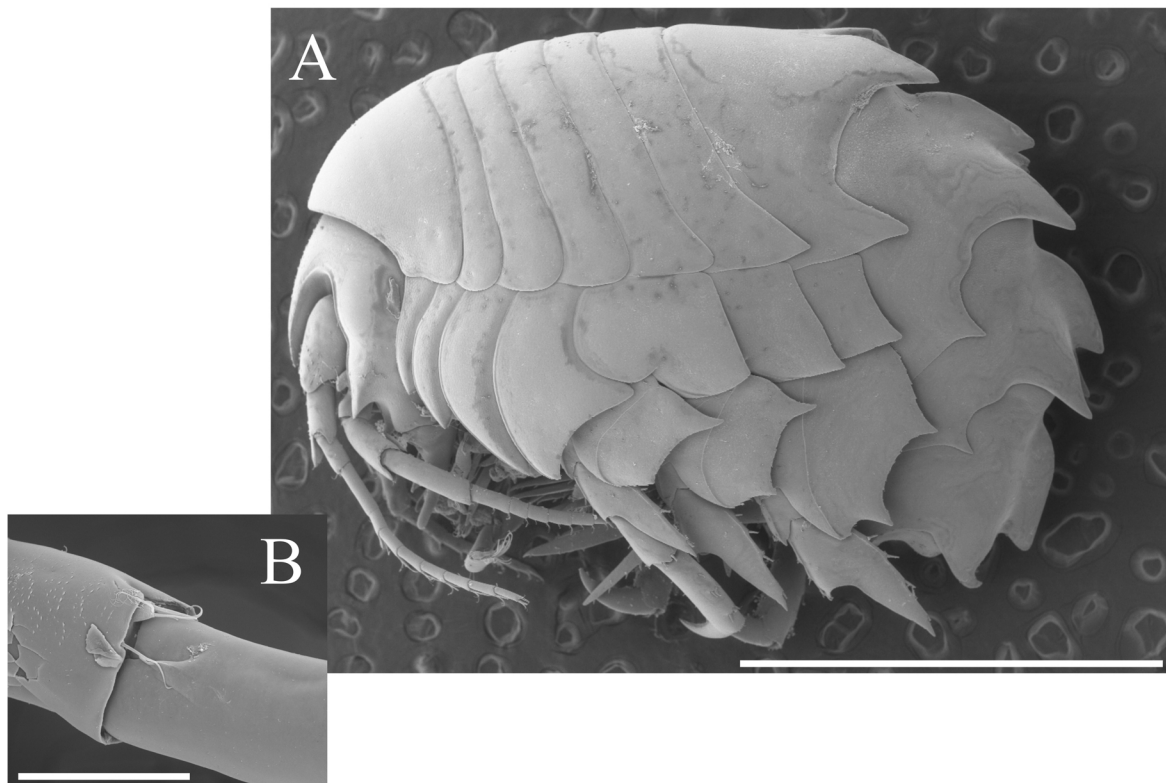


Fig. 18. *Iphimedia eblanae* Spence Bate, 1857. SEM pictures. **A.** Entire specimen, 11 Sep. 2020, stn “Faille”, MNHN-IU-2023-2550. **B.** Antenna 1, accessory flagellum, MNHN-IU-2023-2549, 13 Sep. 2021, stn “Ficoa”. Scale bars: A = 2 mm; B = 0.1 mm.

Remarks

The species was described by Spence Bate in 1857 with specimens from Dublin Bay, Ireland. The species was subsequently recorded from Belgium, England, and the French Atlantic coast from the Belgian border to the Glenan Islands (the North of the Bay of Biscay), as well as in the Mediterranean Sea (Chevreux & Fage 1925; Ruffo & Schiecke 1982; Myers *et al.* 1987; Dauvin 1999; Verween 1999). These specimens represent the southern records of the species.

Family Ampeliscidae Krøyer, 1842

Genus *Ampelisca* Krøyer, 1842

Ampelisca serraticaudata Chevreux, 1888

Figs 19–20

Diagnosis

Head obliquely truncated with two pairs of corneal lenses, without blots of black pigment behind corneal lenses; pereopods 3–4, dactylus longer than propodus and carpus combined; pereopod 7, basis outer



Fig. 19. *Ampelisca serraticaudata* Chevreux, 1888. Entire specimen, MNHN-IU-2023-2574. Scale bar = 1 mm.

surface without spines, merus without large posterior lobe and not prolonged anteriorly in peg-shape; uropod 3, inner ramus serrulate; telson triangular, deeply cleft with a robust and a simple setae at the end of each lobe.

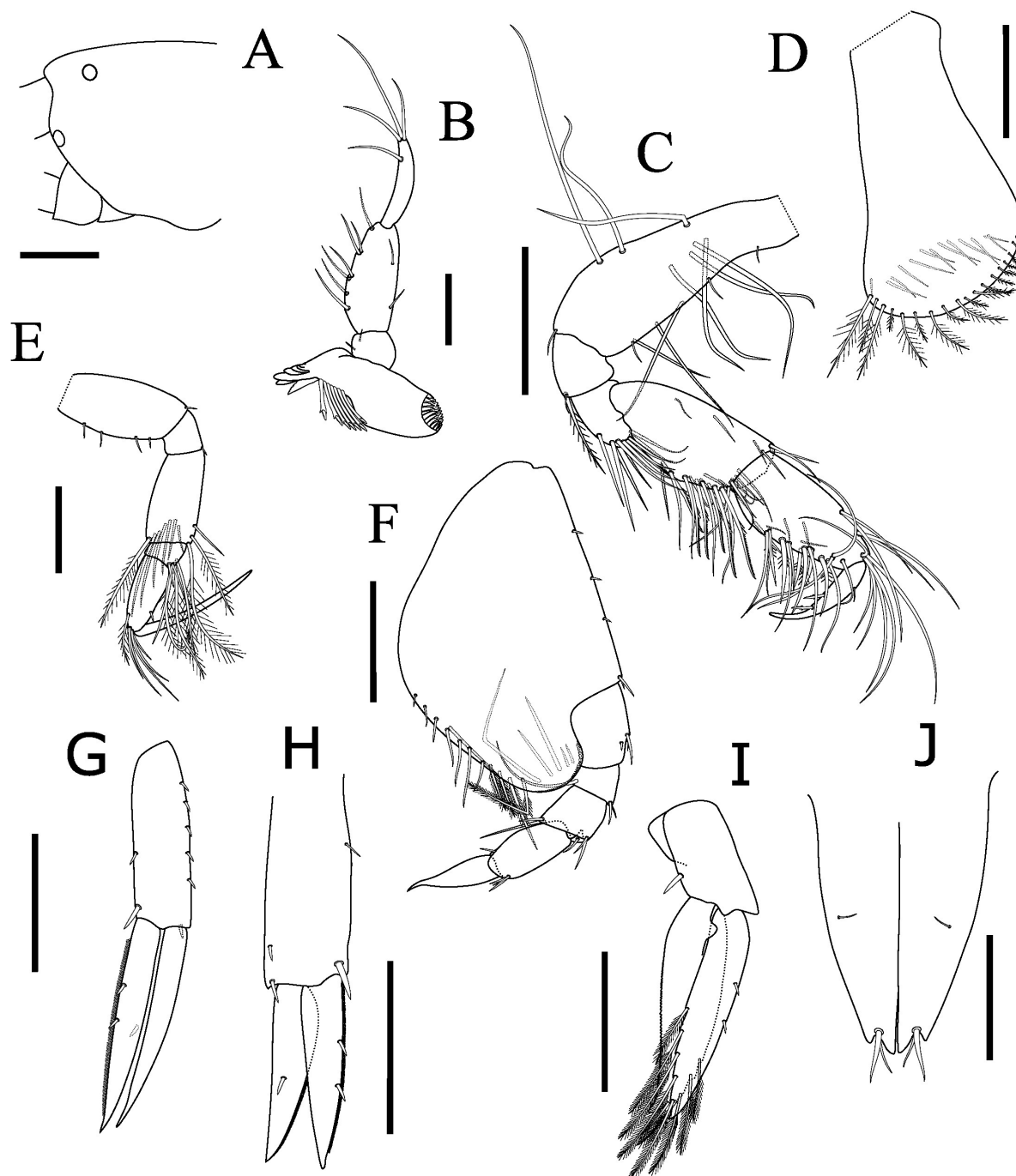


Fig. 20. *Ampelisca serraticaudata* Chevreux, 1888, female specimen, MNHN-IU-2023-2574. **A.** Head. **B.** Mandible. **C.** Gnathopod 1. **D.** Coxa 1. **E.** Pereopod 3. **F.** Pereopod 7. **G–I.** Uropods 1–3. **J.** Telson. Scale bars: A, C–I = 0.2 mm; B, J = 0.1 mm.

Material examined

FRANCE • 1 ♀, BL = 4.97 mm; Saint-Jean-de-Luz; stn “Ficoa”; 43°26.102' N, 1°40.110' W; depth 25 m; 14 Sep. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2023-2576 • 1 ♀, BL = 4.36 mm; Saint-Jean-de-Luz; stn “Irroari”; 43°23.215' N, 1°46.706' W; depth 17 m; 15 Sep. 2021; B. Gouillieux and L. Devaux leg.; MNHN-IU-2023-2575 • 1 ♀, BL = 4.31 mm, dissected specimen; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 29 m; 30 Jun 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2023-2574.

Remarks

Ampelisca serraticaudata was described from the Algerian coast. The species was recorded along the French Mediterranean coast, Italy (Ionian Sea), Portugal, Galicia (Chevreux & Fage 1925; Bellan-Santini 1982; Bellan-Santini & Marques 1986; Marques & Bellan-Santini 1991; Dauvin *et al.* 2021). The present specimens represent the northern record in the Atlantic Ocean for the species. Specimens studied in the present paper are in concordance with previously description, except for the rami of uropod 1 (Fig. 20G) with distinctly less robust setae. In the original description (Chevreux 1888), the author described the species with uropod 3 with long and plumose setae, whereas in Bellan-Santini (1982) the species is described with robust setae and small plumose setae. The present specimens are in accordance with Chevreux (1888) original description, and the variability of urosome ornamentation is probably due to intraspecific variability.

Family Hornelliidae d’Udekem d’Acoz, 2010

Genus *Hornellia* Walker, 1904

Subgenus *Hornellia* (*Metaceradocus*) Chevreux, 1925

Hornellia (*Metaceradocus*) *serrata* Gouillieux sp. nov.

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Figs 21–25

Diagnosis

Eyes present. Antennae with many long setae. Antenna 1 accessory flagellum well developed (7–9 articles). Head ventrolateral lobe rounded. Maxilliped palp with 4 articles. Mandibular palp present, article 3 not falcate. Pleonite 1 dorsodistally smooth. Pleonites 2–3 and urosomites 1–2 dorsodistally serrate. Epimeral plates 2–3 posterior margin serrate. Uropod 3 outer ramus 1-articulate. Telson cleft at $\frac{2}{3}$ of its length.

Etymology

The specific epithet refers to the Latin ‘*serra*’, meaning ‘saw’ and referring to the serrate characters of the urosomites and epimeral plates.

Type material

Holotype

FRANCE • ♀, BL = 4.65 mm; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 28 m; 1 Jul. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8825.

Paratypes

FRANCE • 1 ♂, BL = 4.70 mm; same data as for holotype; MNHN-IU-2021-8826 • 1 ♀, BL = 4.65 mm; same data as for holotype; MNHN-IU-2021-8827.

Other material examined

FRANCE • 13 specs; same data as for holotype; MNHN-IU-2021-8853 • 4 specs; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 30 m; 24 Jun. 2021; B. Gouillieux and L. Devaux leg.; in *Pentapora foliacea* (Ellis & Solander, 1786); hand-picking; MNHN-IU-2021-8852 • 10 specs; same data as for the preceding; air vacuum; MNHN-IU-2021-8859 • 2 specs; Saint-Jean-de-Luz; stn “Gorgone”; 43°25.499' N, 1°40.378' W; depth 38 m; 30 Jun. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8854 • 5 specs; Saint-Jean-de-Luz; stn “Ficoa”; 43°26.102' N, 1°40.110' W; depth 32 m; 14 Sep. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2021-8855 • 2 specs; Saint-Jean-de-Luz; stn “Gorgone”; 43°25.499' N, 1°40.378' W; depth 35 m; 25 Jun. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2021-8856 • 5 specs; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 30 m; 30 Jun. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2021-8857 • 1 spec; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 25 m; 10 Sep. 2020; B. Gouillieux and L. Devaux leg.; MNHN-IU-2021-8858.

Type locality

Saint-Jean-de-Luz, French Basque coast, Bay of Biscay.

Description

Female

BODY. Slender, white with brown spots.

EYES. Brownish to black, oval.

LATERAL CEPHALIC LOBE. Arched; front lower angle rounded; rostrum small.

PEREONS AND PLEONITE 1. Posterodorsally smooth.

PLEONITES 2–3. Posterodorsal margins serrate, with a short seta between teeth (Fig. 21A, 25E).

EPIMERAL PLATES 1–3. Posterodistal corner with a tooth. Epimeral plate 1 posterior margin smooth. Epimeral plates 2–3 posterior margin serrate (Fig. 25F). Urosomites 1 and 2 posterodorsal margins serrate with two pairs of robust setae (Fig. 25E).

ANTENNAE. Slender with many long setae.

ANTENNA 1 (Fig. 21B). Slightly shorter than 2, flagellum 14–16 articulate, accessory flagellum slender, 7–9 articulate.

ANTENNA 2 (Fig. 21C). Peduncle subequal to flagellum, flagellum 17 articulate.

UPPER LIP (Fig. 22D). Asymmetrical, slightly notched, frontal margin arched, with fine setae.

MANDIBLE (Fig. 22F). With incisor process well developed and toothed; raker spine row well developed; molar process well developed and fully triturative; palp well developed, article 1 short and bare, articles 2 and 3 subequal in length with plumose setae, article 3 not falcate.

LOWER LIP (Fig. 22E). With inner lobe, mandibular processes developed.

MAXILLA 1 (Fig. 22B). Inner plate broad, palp with 2 articles, article 2 longer than 1, distal end with spines.

MAXILLA 2 (Fig. 22C). Inner plate of with a medial row of setae. Inner plate of maxilliped (Fig. 22A) with 3 distal spines, palp 4 articulate, terminal article slender.

GNATHOPODS. Thin and weak; carpus and propodus with simple and plumose setae, plumose setae mainly on carpus; propodus without robust seta; dactylus long and slender with a nail, 1 or 2 lateral small simple

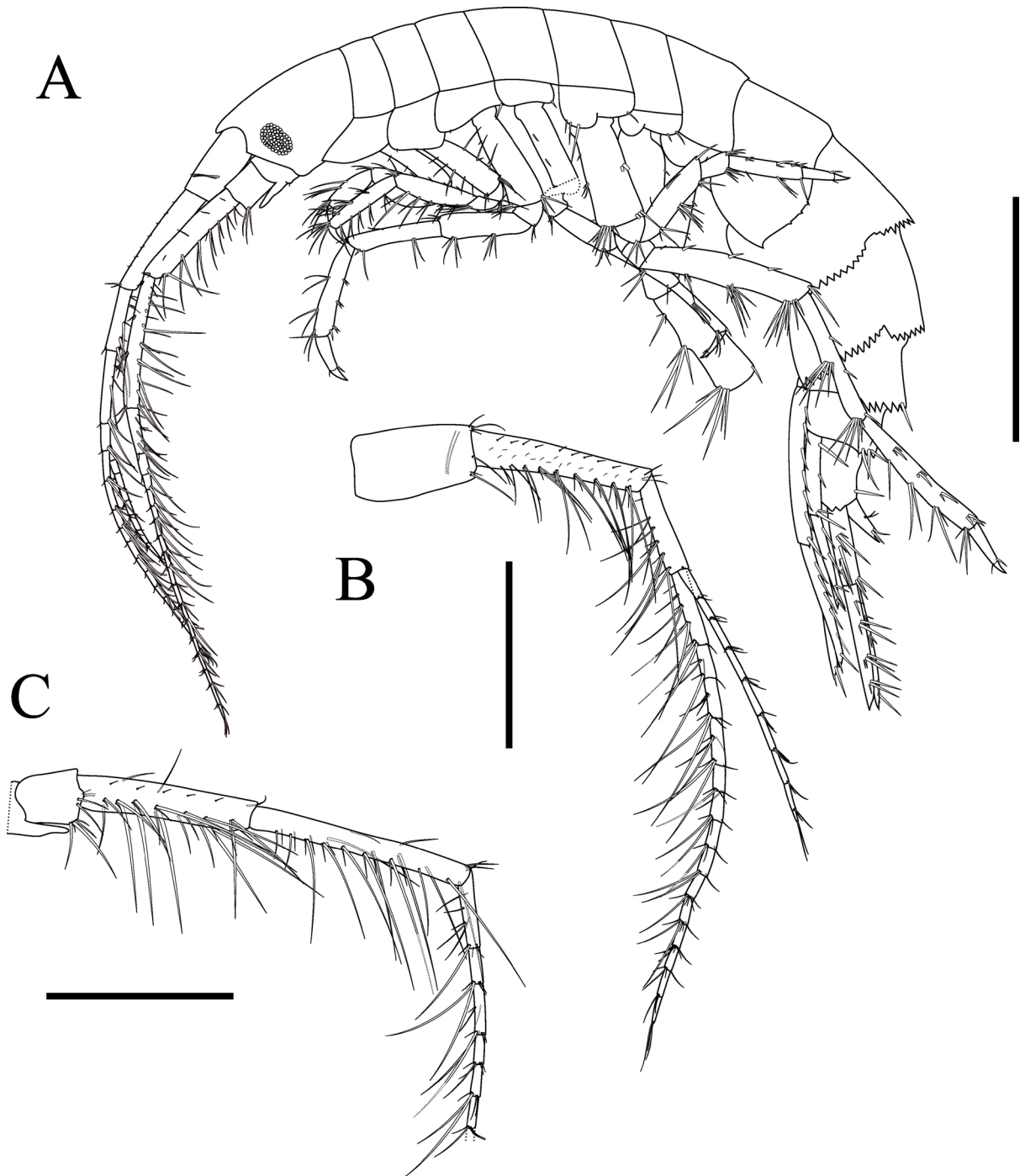


Fig. 21. *Hornellia (Metaceradocus) serrata* Gouillieux sp. nov. **A.** Holotype, ♀, MNHN-IU-2021-8825. **B–C.** Paratype, ♀, MNHN-IU-2021-8827. **A.** Habitus. **B–C.** Antenna 1, 2. Scale bars: A = 1 mm; B–C = 0.5 mm.

setae on the distal part of the dactylus before the nail, and 1 robust seta and 2 long simple setae on the ventral margin just before the nail.

GNATHOPOD 1 (Fig. 23A), Coxa almost square, anteroventral angle acute with a tooth; merus to propodus with many long setae; carpus longer than propodus, $2.5 \times$ as long as wide, narrowing distally.

GNATHOPOD 2 (Fig. 23B). Carpus and propodus long and narrow; carpus slightly longer than propodus; propodus palmar margin indistinct.

PEREOPODS 3–7 (Fig. 24A–E). Slender, simple; dactylus more robust than gnathopods dactylus, with a nail, a robust seta on the ventral margin and a simple seta on the dorsal margin before the nail.

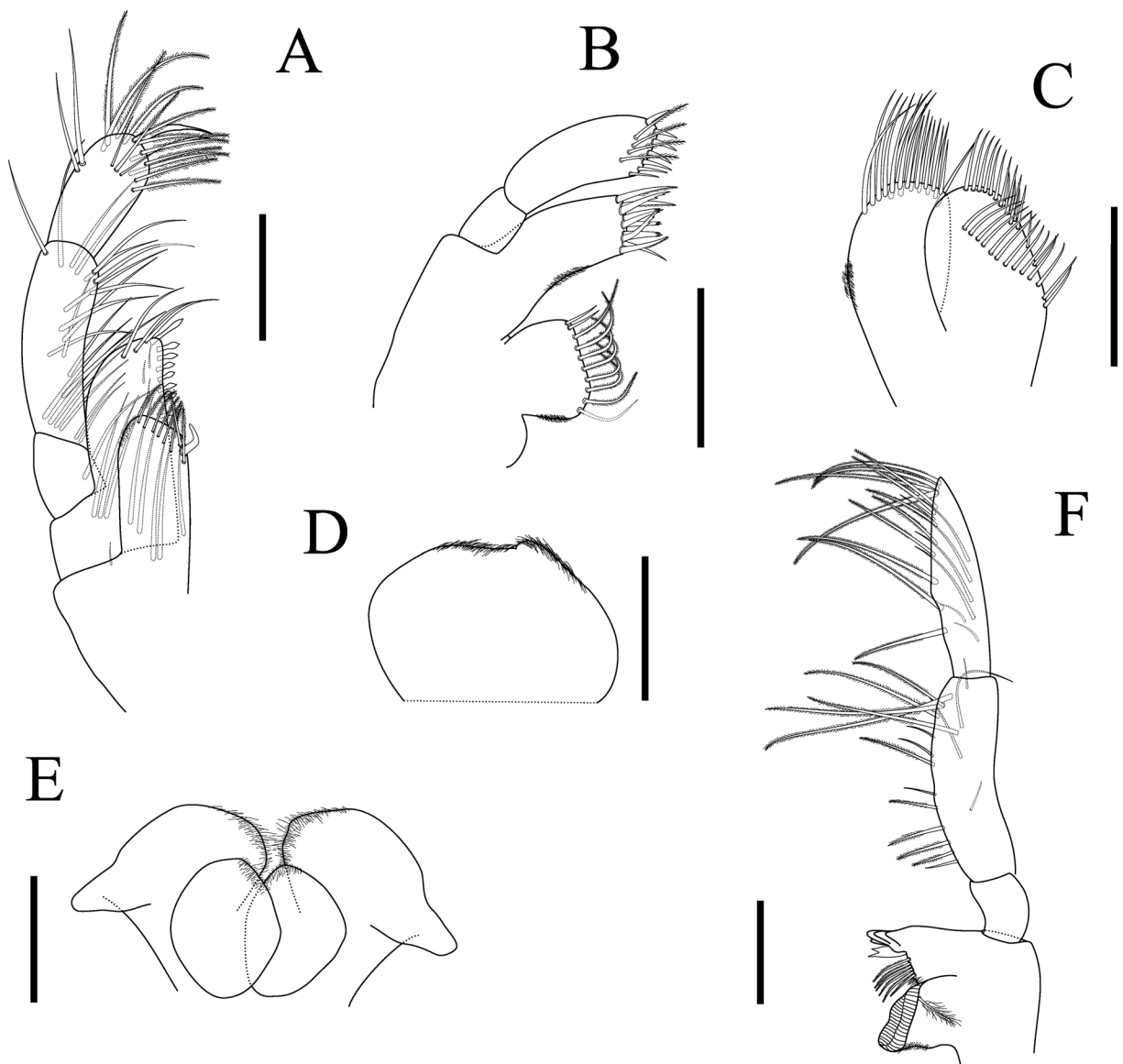


Fig. 22. *Hornellia (Metaceradocus) serrata* Gouillieux sp. nov., paratype, ♂, MNHN-IU-2021-8826. A. Maxilliped. B. Maxilla 1, left. C. Maxilla 2. D. Upper lip. E. Lower lip. F. Mandible. Scale bars = 0.1 mm.

PEREPODS 5–7 (Fig. 24F). Coxae anterior lobe with robust setae inserted in notches, notch at the corner comparable to a small tooth.

PEREPOD 5 (Fig. 24C). The shorter, propodus 3 times as long as carpus.

PEREPODS 6–7. Long.

PEREPOD 6 (Fig. 24D). Basis more expanded than pereopods 5 and 7 basis, propodus slightly longer than propodus; dactylus slender.

UROPODS 1–3 (Fig. 25A–D). Inner ramus slightly longer than outer, distal part with 2 and 3 teeth for outer and inner ramus respectively.

UROPOD 1. Slender; peduncle slightly longer than rami with 0–3 ventrofacial robust setae.

UROPOD 2. Peduncle without ventrofacial robust seta.

UROPOD 3. Peduncle shorter than rami, about 3 times as long as broad; outer ramus 1 article.

TELSON (Fig. 25H). With two lobes, weakly setose, narrow triangular, terminal part acute, notched, long robust setae sometimes absent.

Male (sexually dimorphic characters)

Similar to female, except for antenna 1: presence of aesthetacs on antenna flagellum; and gnathopod 2 propodus with long robust setae along ventral margin (Fig. 23C).

Variability

Epimeral plate 1, posterior margin with 2–3 small teeth for larger specimens.

Remarks

The name *Hornelliidae* was first mentioned by Bousfield & Shih (1994) as a synonym of *Cheirocratidae* d’Udekem d’Acoz, 2010, but this family should be understood as comprising only the genera *Hornellia* and *Metaceradocus* Chevreux, 1925. It was only in 2010 that d’Udekem d’Acoz established the family

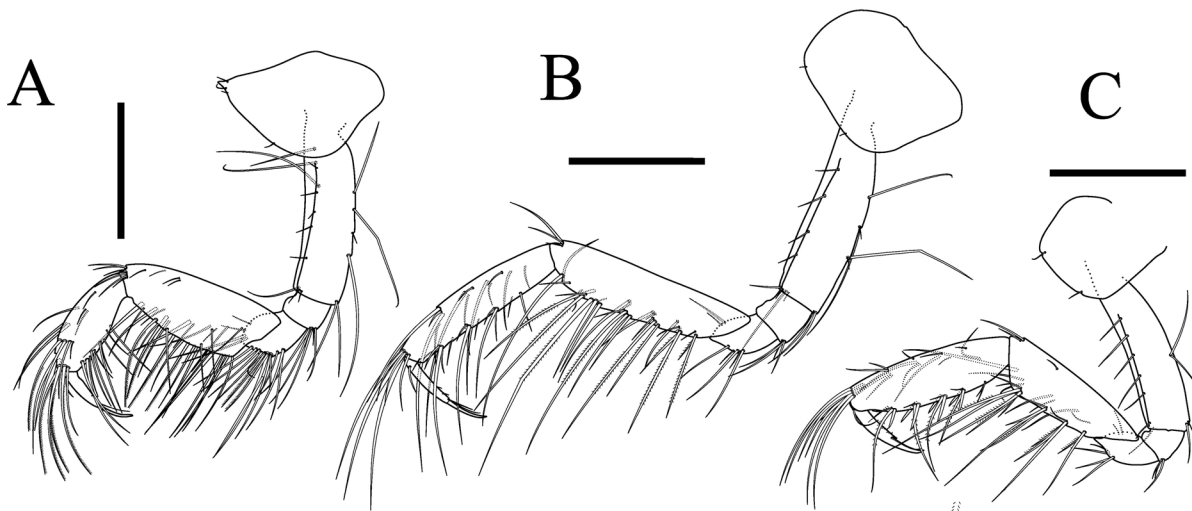


Fig. 23. *Hornellia* (*Metaceradocus*) *serrata* Gouillieux sp. nov. **A–B.** Paratype, ♀, MNHN-IU-2021-8827. **C.** Paratype, ♂, MNHN-IU-2021-8826. **A.** Gnathopod 1. **B–C.** Gnathopod 2. Scale bars = 0.25 mm.

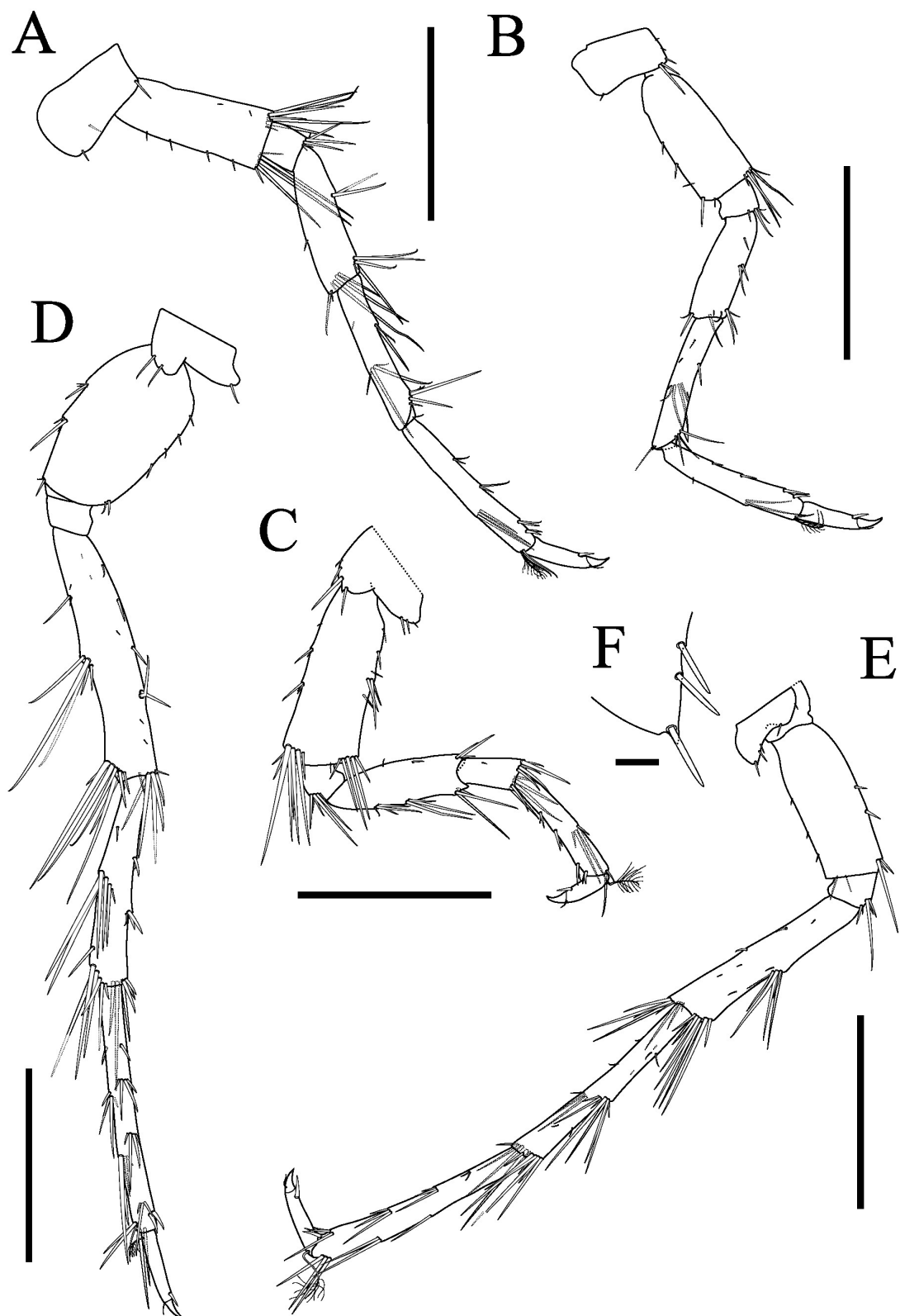


Fig. 24. *Hornellia* (*Metaceradocus*) *serrata* Gouillieux sp. nov. **A–D.** Paratype, ♀, MNHN-IU-2021-8827. **E–F.** Paratype, ♂, MNHN-IU-2021-8826. **A–E.** Pereopods 3–7. **F.** Pereopod 7 coxa anterodistal corner. Scale bars: A–E = 0.5 mm; F = 0.025 mm.

Hornelliidae. This family is composed of two genera: *Cottarellia* Ruffo, 1994 and *Hornellia*. *Hornellia* is composed of 2 subgenera: *Hornellia* (*Hornellia*) Walker, 1904 and *Hornellia* (*Metaceradocus*) Chevreux, 1925. Chevreux (1925) introduced *Metaceradocus* but without distinguishing it from *Hornellia*. Comparing the original diagnoses of *Hornellia* and *Metaceradocus*, the only common character described in the two diagnoses allowing the two genera to be distinguished is the relative size of articles 2 and 3 of the mandibular palp: subequal for *Hornellia* while article 3 is smaller than article 2 at *Metaceradocus*. However, by examining the original descriptions of the species described up to 1925, all species have articles 2 and 3 subequal.

In 1969, Barnard proposed a new diagnosis for *Hornellia* and *Metaceradocus*. The two genera can be distinguished by the number of articles of the accessory flagellum of antenna 1 (2 for *Hornellia*, 3 or more

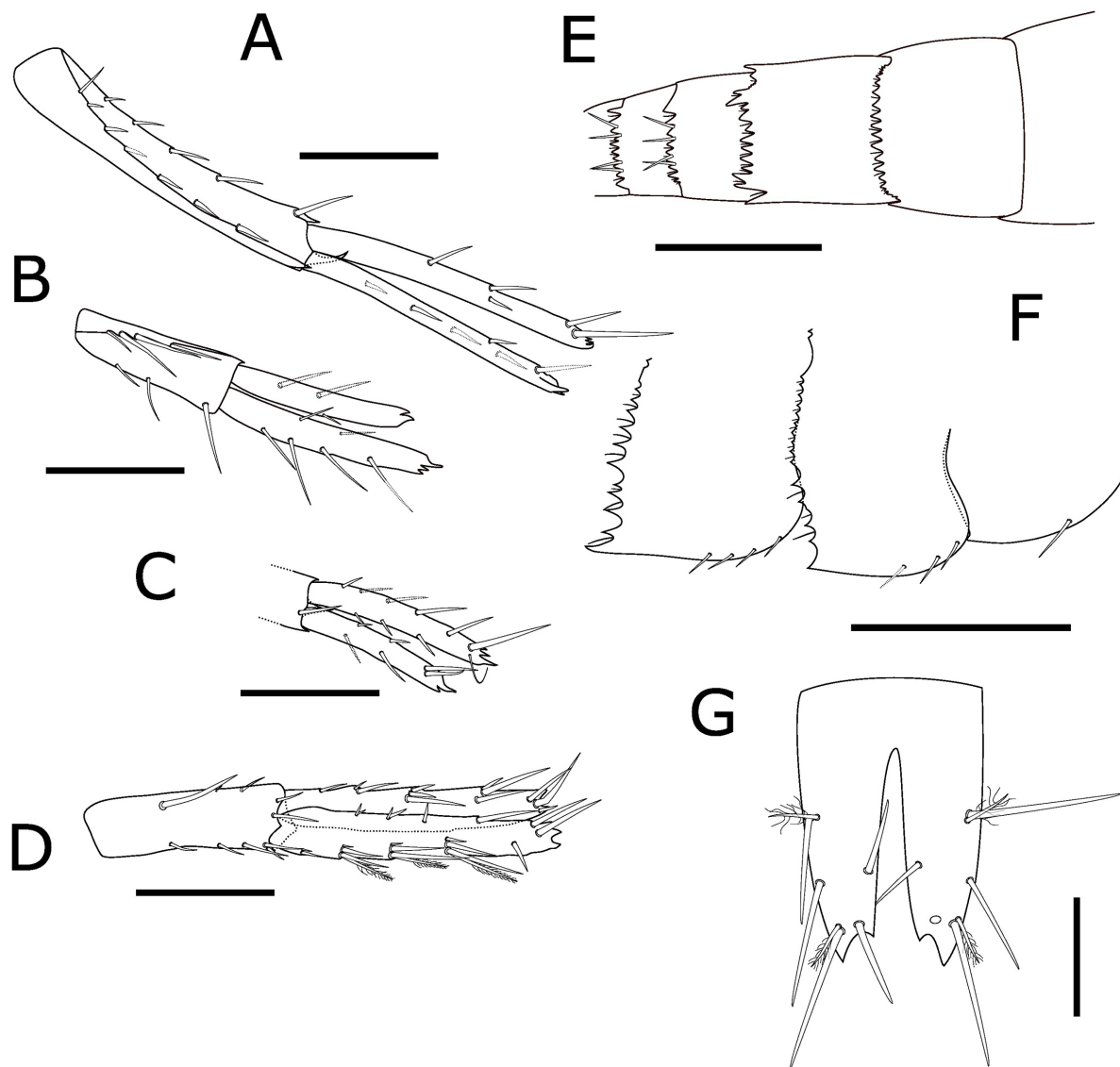


Fig. 25. *Hornellia* (*Metaceradocus*) *serrata* Gouillieux sp. nov. **A–B, E–F.** Paratype, ♀, MNHN-IU-2021-8827. **C–D, G.** ♂, MNHN-IU-2021-8852. **A.** Uropod 1. **B–C.** Uropod 2. **D.** Uropod 3. **E.** Pleonites 1–3 and urosomites 1–3, dorsal view. **F.** Epimeral plates 1–3. **G.** Telson. Scale bars: A–D = 0.25 mm; E–F = 0.5 mm; G = 0.1 mm.

for *Metaceradocus*), as well as by the setae of the inner lobe of maxilla 2 (setae mostly on medial edge for *Hornellia*, mostly terminally for *Metaceradocus*). The maxilla 2 character remains a little subjective and should be taken with caution. The diagnosis based on the number of articles of the accessory flagellum was consistent for the species described until 1969. In Thomas & Barnard's (1986) key, the authors distinguish *Hornellia* from *Metaceradocus* by uropod 3 outer ramus with 1 or 2 articles, but this character is not mentioned in the original descriptions of the genus, neither in Barnard (1969). Currently, *Hornellia* (*Hornellia*) and *Hornellia* (*Metaceradocus*) are composed of 4 and 9 valid species, respectively, in the world. However, following the diagnosis of Barnard (1969), only *H. (Hornellia) incerta* can be part of the subgenus *Hornellia*, while the other species correspond to the diagnosis of the subgenus *Metaceradocus*.

Hornellia (Metaceradocus) serrata sp. nov. represents the first record of the family in European waters. The new species can be distinguished from all other species of *Hornellia* by the following character combination: pleonite 1 dorsal serration absent, pleonites 2–3 dorsal serration present and epimeral plate 3 posterior margin serrate. Specimens in the present study are morphologically constant, except for the setation of the telson: some specimens present a telson without long robust setae. This particularity has already been observed in *Hornellia (Hornellia) whakatane* (J.L. Barnard, 1972). This character could therefore be a variability that can be found in the genus, and should not be taken as a character to distinguish species of *Hornellia*.

Identification key to valid world species of *Hornellia*

Following Barnard's (1969) diagnoses, the authors propose to assign *H. incerta* as the only species belonging to *Hornellia (Hornellia)*, all other species of *Hornellia* thus belonging to *Hornellia (Metaceradocus)*.

1. Pleonite 1 dorsal serration absent 2
– Pleonite 1 dorsal serration present 4
2. Pleonites 2–3 dorsal serration absent, epimeral plate 3 posterodistal corner rounded
..... *H. (Metaceradocus) inermis* Ledoyer, 1982 – Indian Ocean
– Pleonites 2–3 dorsal serration present, epimeral plate 3 posterodistal corner with a tooth..... 3
3. Antenna 1 accessory flagellum 2 articulate, epimeral plate 3 posterior margin smooth, uropod 3 outer ramus 2 articulate *H. (Hornellia) incerta* Walker, 1904 – Indian and Pacific Oceans
– Antenna 1 accessory flagellum 7–9 articulate, epimeral plate 3 posterior margin serrate, uropod 3 outer ramus 1 articulate *H. (Metaceradocus) serrata* Gouillieux sp. nov. – NE Atlantic Ocean
4. Epimeral plate 2 posterior margin with more than 2 serrations 5
– Epimeral plate 2 posterior margin with 0–2 serrations 6
5. Antenna 1 accessory flagellum 3 articulate
..... *H. (Metaceradocus) perdentatus* Chevreux, 1925 – NE Atlantic Ocean
– Antenna 1 accessory flagellum 5–7 articulate
..... *H. (Metaceradocus) hainanensis* Ren & Andres, 2006 – China Sea
6. Epimeral plate 3 posterior margin with 0–2 serrations 7
– Epimeral plate 3 posterior margin with more than 2 serrations 12
7. Epimeral plate 3 posterior margin with 2 serrations 8
– Epimeral plate 3 posterior margin smooth 9
8. Coxa 1–2 ventral margin serrate, mandibular palp article 3 falcate
..... *H. (Metaceradocus) denticoxa* Lyons & Myers, 1993 comb. nov. – Red Sea
– Coxa 1–2 ventral margin not serrate, mandibular palp article 3 not falcate
..... *H. (Metaceradocus) bidentatus* Ledoyer, 1982 – Indian Ocean

9. Coxa 1 with anteroventral tooth
 *H. (Metaceradocus) tequestae* Thomas & J.L. Barnard, 1986 – NW Atlantic Ocean
 – Coxa 1 lacking anteroventral tooth (a notch may be present) 10
10. Mandibular palp article 3 falcate
 *H. (Metaceradocus) occidentalis* J.L. Barnard, 1959 – NW Pacific Ocean
 – Mandibular palp article 3 not falcate 11
11. Eye reniform, telson entirely cleft
 *H. (Metaceradocus) atlantica* Thomas & Barnard, 1986 – NW Atlantic Ocean
 – Eye roundish, telson cleft on $\frac{2}{3}$
 *H. (Metaceradocus) habanensis* Ortiz, Lalana & Varela, 2008 comb. nov. – NW Atlantic Ocean
12. Epimeral plate 2 posterior margin smooth
 *H. (Metaceradocus) vesentiniae* Ruffo, 1969 – Red Sea
 – Epimeral plate 2 posterior margin with 1–2 teeth 13
13. Mandibular palp article 3 not falcate, uropod 3 outer ramus 1 articulate
 *H. (Metaceradocus) micramphopus* (Stebbing, 1910) – Tasman Sea
 – Mandibular palp article 3 scarcely falcate, uropod 3 outer ramus 2 articulate
 *H. (Metaceradocus) whakatane* (J.L. Barnard, 1972) comb. nov. – Tasman Sea

Family Dexaminidae Leach, 1814
 Subfamily Dexamininae Leach, 1814
 Genus *Dexamine* Leach, 1814

Dexamine cf. *spinosa* (Montagu, 1813)
 Figs 26–27

Material examined

FRANCE • 1 ♀, BL = 9.66 mm, dissected specimen; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 29 m; 8 Sep. 2020; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2021-8860 • 1 ♂, BL = 8.82 mm, dissected specimen; same data as for preceding; MNHN-IU-2021-8861 • 40 specs; same data as for preceding; MNHN-IU-2021-8862 • 34 specs; Hendaye; stn “Txotx”; 43°23.668' N, 1°46.889' W; depth 25 m; 15 Sep. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2021-8863.

Remarks

Krapp-Schickel described *Dexamine filiola* in 2013 and distinguished the new species from *D. spinosa* mainly by the presence of facial and distal setae on the coxae (vs absence) and pereopod 6 basis anterior margin straight (vs excavate), but also other differences were noticed such as eye color (brown or black vs whitish-reddish) or telson setation (lateral spines often in pairs vs single lateral ones). Krapp-Schickel concluded that specimens described by Bellan-Santini (1982) corresponded to *D. filiola*. Specimens collected along the French Basque coast present coxae with mesial setae on coxae 1–7, strong distal setae on coxae 5–7, pereopod 6 excavate and telson with pairs of lateral spines. Furthermore, the present specimens have a row of robust setae on the ventrofacial margin of the epimeral plates 1–2 which has never been mentioned in *D. spinosa* or *D. filiola* descriptions, and pereopod 6 basis hind margin without robust setae whereas they are present in *D. filiola* (represented in Bellan-Santini 1982: fig. 151). The specimens represent a morphological variability between *D. spinosa* and *D. filiola*, with the particularity of robust setae on the epimeral plates 1–2. It is likely that the present specimens correspond to *D. spinosa*,



Fig. 26. *Dexamine* cf. *spinosa* (Montagu, 1813), female specimen, MNHN-IU-2021-8860, 8 Sep. 2020, stn “Aroka”. Scale bar = 2 mm.

but a genetic study of specimens from the type localities of *D. spinosa*, *D. filiola*, as well as specimens from the Basque coast, would reveal whether it is *D. spinosa* and whether there is one or more species of a potential *D. spinosa* complex.

Family Photidae Boeck, 1871
Genus *Gammaropsis* Liljeborg, 1855

Gammaropsis sorbei Gouillieux sp. nov.

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Figs 28–32

Diagnosis

Antenna 1 accessory flagellum with 1 long and 1 rudimentary articles. Gnathopod 1 dactylus about $0.5\times$ to $0.7\times$ of propodus length. Coxa 2 subquadrate, posterior margin without lobe. Gnathopod 2 basis poorly setosed; propodus palmar margin transverse with large process forming chelate closure with dactylus, long setae antero and medio distally; palmar margin with a distal shelf; propodus more than $2\times$ carpus length; dactylus about $0.5\times$ to $0.7\times$ of propodus length. Pereopod 3 propodus about $1.5\times$ carpus length. Uropods 1–3 inner ramus longer than outer ramus. Uropod 1 peduncle with a distal spine like process. Uropods 2–3 peduncle without a distal spine like process. Epimeral plates 1–3 posterodistal corner with a small notch in which a seta is inserted.

Etymology

This species is named in memory of Jean Claude Sorbe, in recognition of his numerous contributions to the knowledge on the peracarid fauna of the Bay of Biscay (and in other parts of the world) and for transmitting to the first author the passion for peracarids.

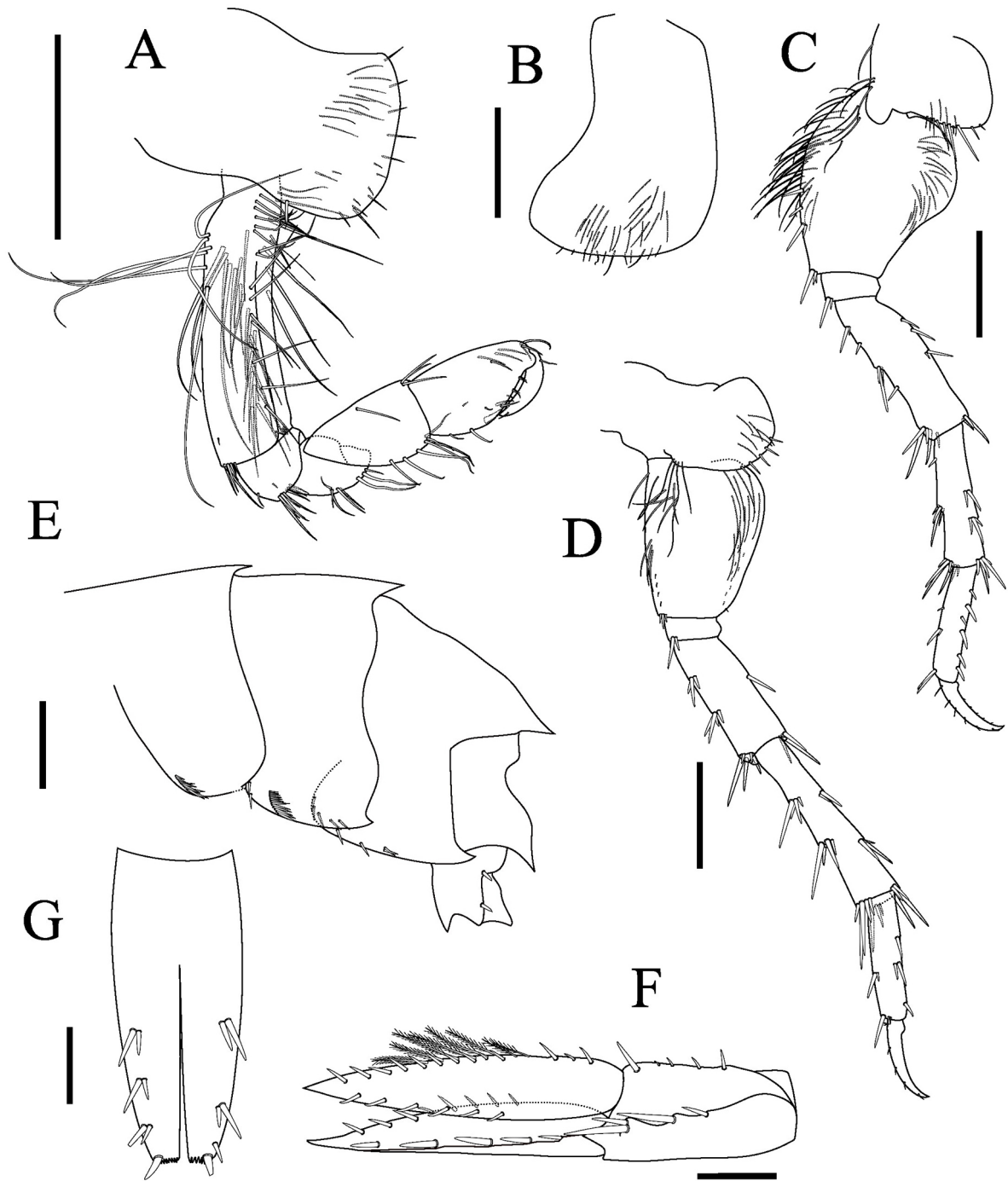


Fig. 27. *Dexamine* cf. *spinosa* (Montagu, 1813). **A–D, F–G.** Female specimen, MNHN-IU-2021-8860. **E.** Male specimen, MNHN-IU-2021-8861. **A.** Gnathopod 1. **B.** Coxa 4. **C–D.** Pereopods 6–7. **E.** Pleonites and urosomites. **F.** Uropod 3. **G.** Telson. Scale bars: A–E, G = 0.5 mm; F = 0.2 mm.

Type material

Holotype

FRANCE • ♂, BL = 3.75 mm; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 28 m; 1 Jul. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2023-2255.

Paratypes

FRANCE • 1 ♀, BL = 4.58 mm, dissected specimen; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 30 m; 24 Jun. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2023-2254 • 1 ♂, BL = 3.40 mm, dissected specimen; same data as for preceding; MNHN-IU-2023-2253.

Other material examined

FRANCE • 1 ♀; same data as for holotype; MNHN-IU-2023-2595 • 1 ♂; same data as for paratypes; in *Pentapora foliacea* (Ellis & Solander; 1786); hand-picking; MNHN-IU-2023-2598 • 1 ♀, 2 juvs; same data as for preceding; MNHN-IU-2023-2597 • 2 ♀♀, 2 ♂♂ subadults, 3 juvs; Hendaye; stn “Ficoa”; 43°26.102' N, 1°40.110' W; depth 32 m; 14 Sep. 2021; B. Gouillieux and L. Devaux leg.; brushing; MNHN-IU-2023-2594 • 1 ♀; Saint-Jean-de-Luz; stn “Gorgone”; 43°25.499' N, 1°40.378' W; depth 35 m; 25 Jun. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2023-2593 • 2 ♂♂, 14 ♀♀, 1 juv.; Saint-Jean-de-Luz; stn “Aroka”; 43°25.596' N, 1°40.186' W; depth 30 m; 24 Jun. 2021; B. Gouillieux and L. Devaux leg.; air vacuum; MNHN-IU-2023-2596.

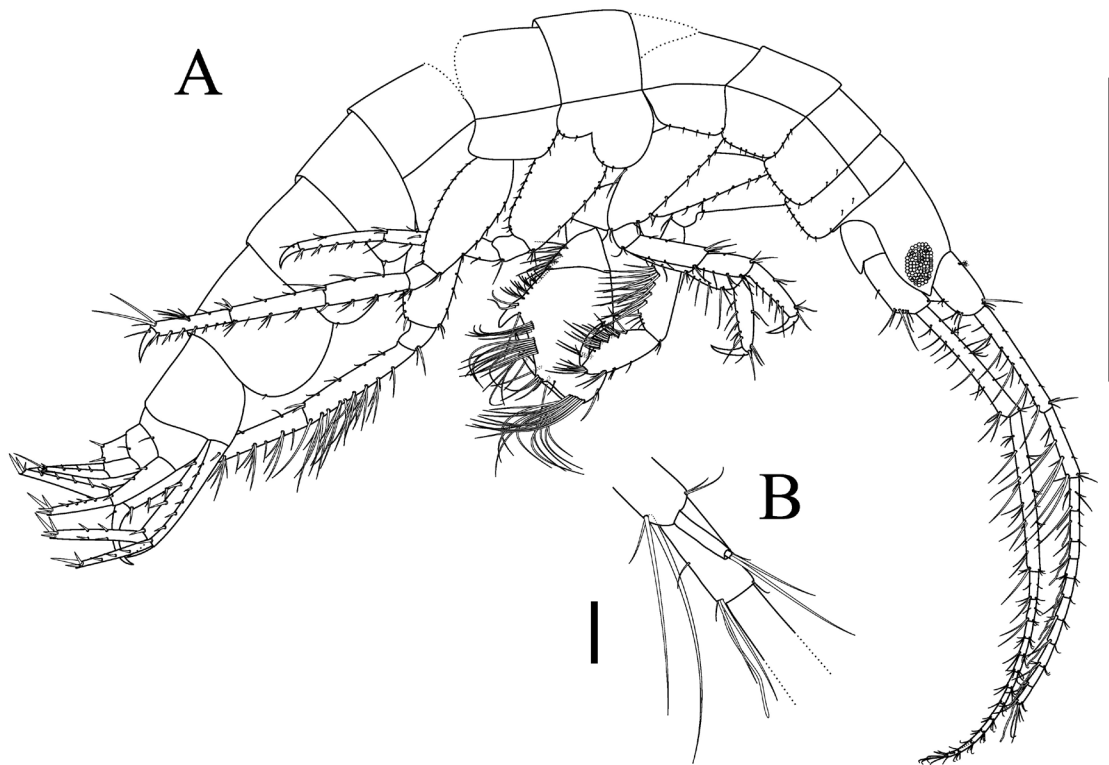


Fig. 28. *Gammaropsis sorbei* Gouillieux sp. nov., holotype, ♂, MNHN-IU-2023-2255. **A.** Habitus. **B.** Antenna 1, peduncle article 3, accessory flagellum and two first articles of flagellum. Scale bars: A = 1 mm; B = 0.05 mm.

Type locality

Saint-Jean-de-Luz, French Basque coast, Bay of Biscay.

Description (based on holotype and paratypes)

BODY. Dorsally smooth.

HEAD. As long as two first pereonites together; cephalic lobe pointed; eyes present (Fig. 28A).

ANTENNAE 1 AND 2. Subequal in length, strongly setose.

ANTENNA 1 (Fig. 28A). Length ratio of peduncular articles 1–3 = 0.52 : 1.00 : 0.60, accessory flagellum (Fig. 28B) with 1 long and 1 rudimentary articles.

ANTENNA 2 (Fig. 28A). Peduncle article 4 slightly smaller than article 5.

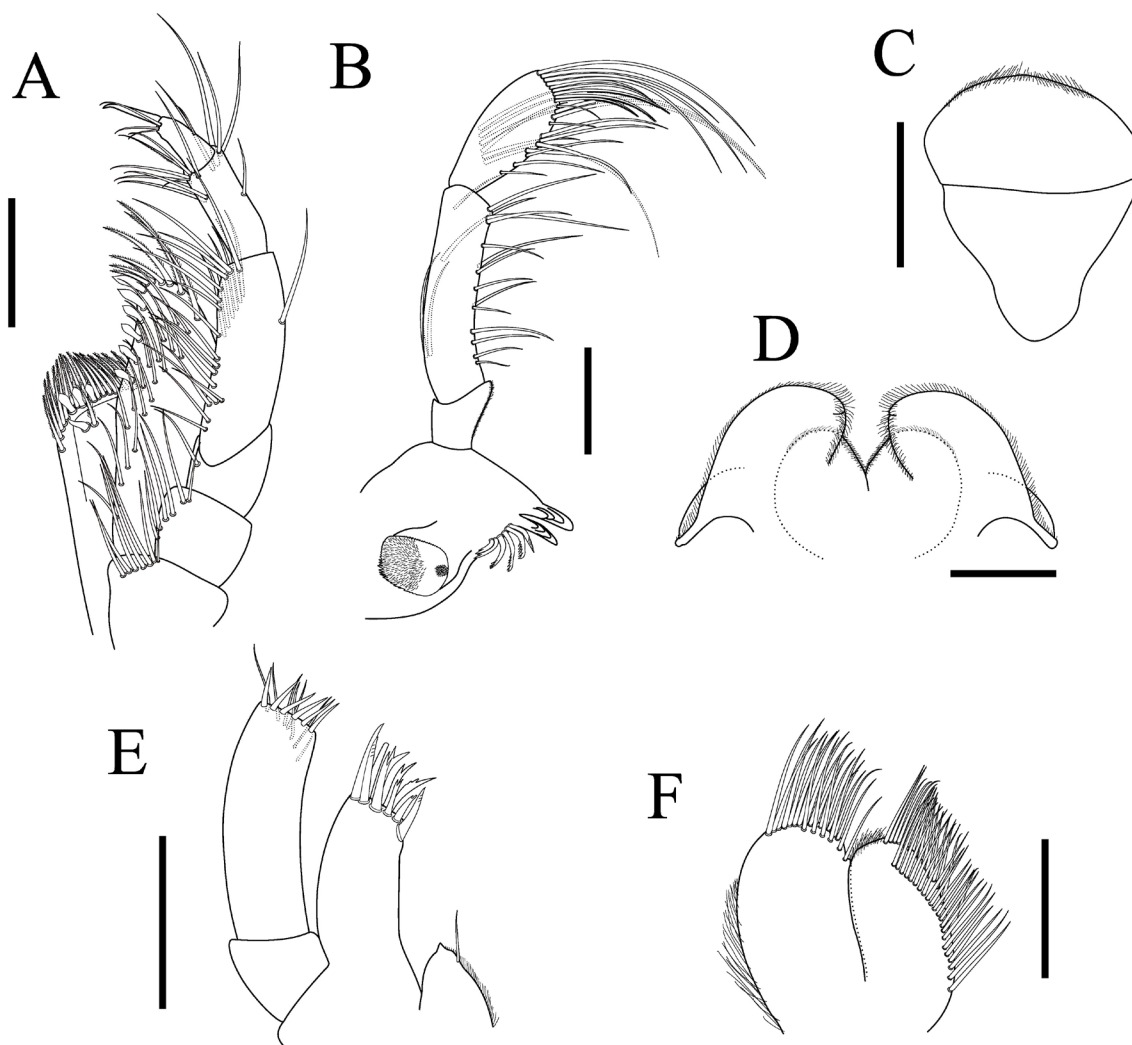


Fig. 29. *Gammaropsis sorbei* Gouillieux sp. nov. **A–B, D–F.** Paratype, ♀, MNHN-IU-2023-2254. **C.** Paratype, ♂, MNHN-IU-2023-2253. **A.** Maxilliped. **B.** Mandible. **C.** Upper lip. **D.** Lower lip. **E.** Maxilla 1. **F.** Maxilla 2. Scale bars = 0.1 mm.

MANDIBLE (Fig. 29B). Palp 3-articulate; article 2 longest, with more than ten setae along the inner margin and four setae on outer margin; article 3 spatulate, strongly setose with long setae on distal margin.

LOWER LIP (Fig. 29D). Inner and outer lobe with many small setae; outer lobe inner margin with a small notch.

MAXILLA 1 (Fig. 29E). Inner plate with a row of slender setae on inner margin and one subdistal seta; outer plate with ten robust setae; palp 2-articulate, article 2 with a row of subdistal facial setae and six distal robust setae.

MAXILLIPED (Fig. 29A). Inner plate rectangular with 1 subdistal robust seta, distal margin with three chisel-shaped robust setae and many plumose setae; outer plate reaching $\frac{4}{5}$ of article 2 of palp, with many facial simple setae, six chisel-shaped robust setae along medial margin and six plumose setae on distal margin; palp strongly setose, article 2 elongate, article 4 with a nail.

GNATHOPOD 1 (Fig. 30A). Subchelate; coxa longer than wide, weakly setose on anterior and ventral margins; basis narrower distally, weakly setose; carpus $1.5\times$ as long as propodus, posterior margin strongly setose; propodus posterior margin convex and two robust setae near the half-length; dactylus inner with setules and two small robust setae on proximal half length.

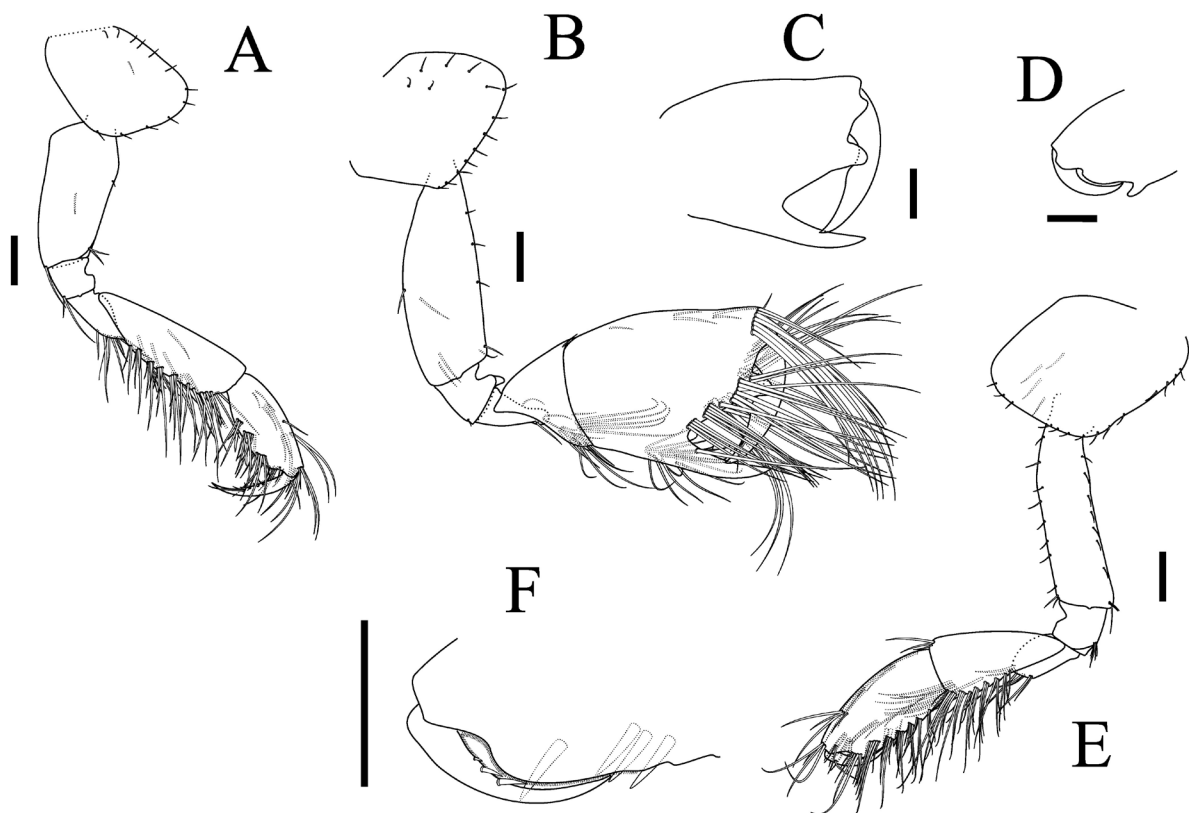


Fig. 30. *Gammaropsis sorbei* Gouillieux sp. nov. **A–C.** Paratype, ♂, MNHN-IU-2023-2253. **D.** Subadult, ♂, MNHN-IU-2023-2598, **E–F.** Paratype, ♀, MNHN-IU-2023-2254. **A.** Gnathopod 1. **B.** Gnathopod 2. **C–D.** Gnathopod 2, dactylus and propodus (setae omitted). **E.** Gnathopod 2. **F.** Gnathopod 2, dactylus and propodus (simple setae omitted). Scale bars = 0.1 mm.

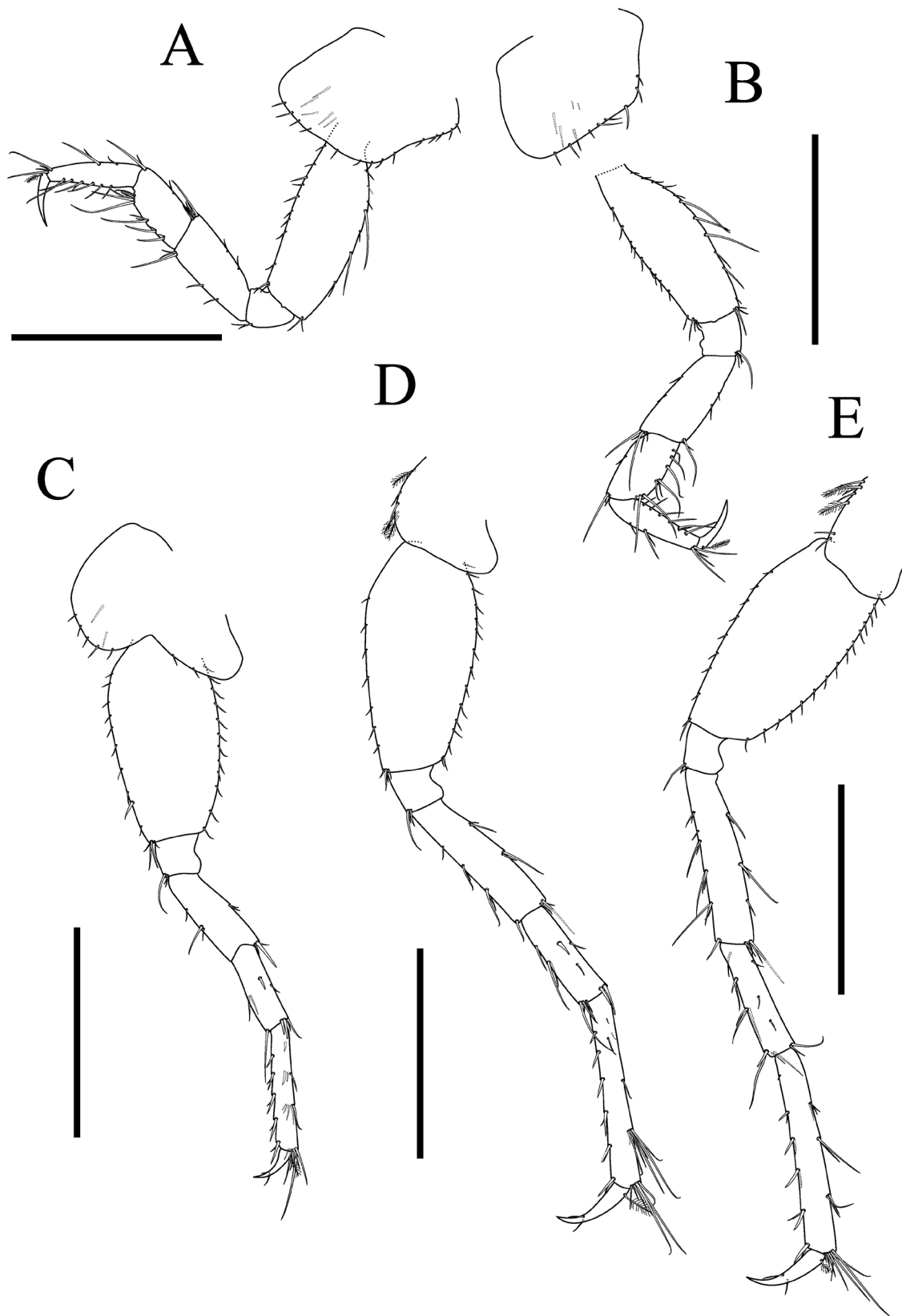


Fig. 31. *Gammaropsis sorbei* Gouillieux sp. nov., paratype, ♀, MNHN-IU-2023-2254. A–E. Pereopods 3–7. Scale bars = 0.5 mm.

MALE GNATHOPOD 2 (Fig. 30B–C). Subchelate; coxa subquadrate, slightly wider than long, weakly setose on anterior and ventral margins; basis slightly expanded, $2.8\times$ as long as wide, anterior margin with few short setae, posterior margin with one seta, mesial face with three setae; carpus triangular, posterior margin setose; propodus more than $2\times$ carpus length; palmar margin transverse with large process forming chelate closure with dactylus, long setae antero and medio distally; palmar margin with a distal shelf; dactylus about $0.5\times$ to $0.7\times$ of propodus length, inner margin smooth.

FEMALE GNATHOPOD 2 (Fig. 30E–F). Coxa slightly longer than wide; basis slender, more setose on posterior margin; carpus elongate, subequal to propodus, posterior margin densely setose; propodus ovate, densely setose on posterior margin with three robust setae; palmar margin without process; dactylus with robust setae on the inner margin.

PEREPODS 3–4 (Fig. 31A–B). Similar in shape, slender; coxa subquadrate, weakly setose; basis anterior margin with small setae along its length, posterior margin with small and two or three longer setae; merus and propodus subequal and longer than carpus; carpus and propodus, posterior margin with group of setae increasing in size distally.

PEREPODS 5–7 (Fig. 31C–E). Increasing in size and setation; basis slightly expanded, distinctly longer than broad with anterior and posterior rows of simple setae; propodus longer than carpus, posterior

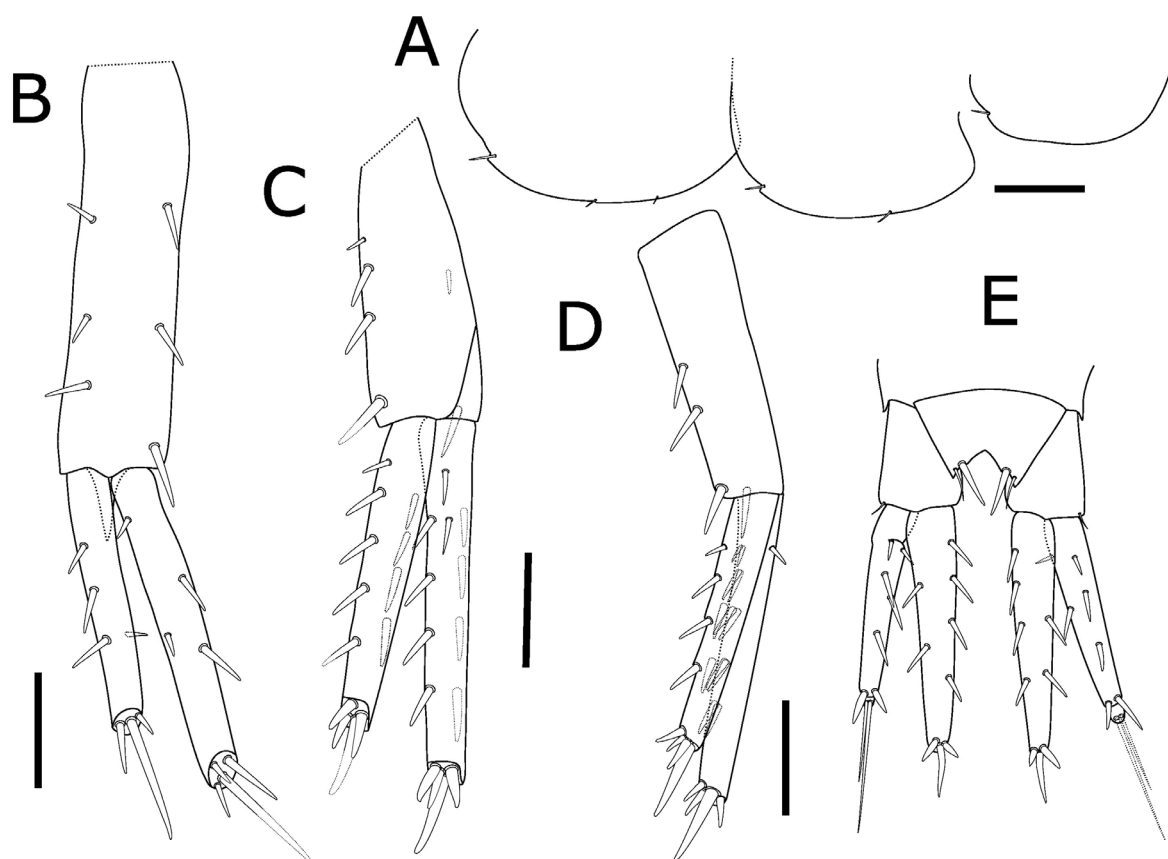


Fig. 32. *Gammaropsis sorbei* Gouillieux sp. nov. **A–B, D–E.** Paratype, ♂, MNHN-IU-2023-2253. **C.** Paratype, ♀, MNHN-IU-2023-2254. **A.** Epimeral plates 1–3. **B.** Uropod 1. **C–D.** Uropod 2. **E.** Uropod 3 and telson. Scale bars = 0.1 mm.

margin with pairs of robust setae; dactylus bearing a proximal plumose seta and two subdistal simple setae.

PEREPODS 6–7. Coxae anterior and ventral margins bare, posterior margin with simple and plumose setae.

MALE PEREPOD 7. Carpus and merus densely setose (Fig. 28A).

FEMALE PEREPOD 7. Carpus and merus weakly setose (Fig. 31E).

EPIMERAL PLATES 1–3 (Fig. 32A). Posterodistal corner with a small notch in which a seta is inserted.

UROPODS 1–3. Inner ramus longer than outer ramus with a distal group of robust setae.

UROPOD 1 (Fig. 32B). Peduncle subrectangular, $1.2 \times$ as long as inner ramus with three robust setae on inner and outer margin, distal spine like process well developed, acute and curved, $0.2 \times$ peduncle length; inner and outer rami with few marginal robust setae.

UROPOD 2 (Fig. 32C–D). Peduncle length between inner and outer ramus, outer margin with two or three marginal and one distal robust setae, inner margin with 0–1 marginal and one distal robust setae, distal spine like process absent; inner and outer ramus with many marginal robust setae.

UROPOD 3 (Fig. 32E). Peduncle shorter than both rami in length, with one small distal robust setae dorsolaterally; outer ramus 2-articulate, article 2 rudimentary, with two long setae.

TELSON (Fig. 32E). Emarginate, with the apex of each side bearing one robust setae and one slender setae.

Variability

Male gnathopod 2 propodus palmar margin with small process without forming chelate closure with dactylus; palmar margin without a distal shelf.

Remarks

The genus *Gammaropsis* includes 99 valid species worldwide (Horton *et al.* 2025a). In European waters, eleven of them, and one at a close genus (*Latigammaropsis* Myers, 2009 previously belonging to the genus *Gammaropsis*), are recorded: *Gammaropsis crenulata* Krapp-Schickel & Myers, 1979, *G. dentata* Chevreux, 1900, *G. emancipata* Krapp-Schickel & Myers, 1979, *G. lobata* (Chevreux, 1920), *G. maculata* (Johnston, 1828), *G. nitida* (Stimpson, 1853), *G. ostroumowi* (Sowinsky, 1898), *G. palmata* (Stebbing & Robertson, 1891), *G. pseudostroumowi* Ledoyer, 1977, *G. sophiae* (Boeck, 1861), *G. ulrici* Krapp-Schickel & Myers, 1979 and *Latigammaropsis togoensis* (Schellenberg, 1925). The present new species can be distinguished from all other European species of *Gammaropsis* and *Latigammaropsis* by the characteristic shape of male gnathopod 2 propodus with its long posterodistal tooth. The juvenile form of male gnathopod 2 of the new species is close to male gnathopod 2 of *G. palmata*, but *G. sorbei* sp. nov. can be distinguished by the shape of gnathopod 1 palmar margin: convex for the new species versus concave for *G. palmata*.

Identification key to European species of *Gammaropsis* and *Latigammaropsis* (based on Myers 1989)

1. Coxa 1 and urosomites toothed 2
 – Coxa 1 and urosomites smooth 5
2. Epistome very long and acute, clearly longer than labrum 3
 – Epistome only as long as or shorter than labrum 4
3. Male gnathopod 2 dactylus much more than half length of propodus
 *Gammaropsis pseudostroumowi* Ledoyer, 1977
 – Male gnathopod 2 dactylus less than half length of propodus
 *Gammaropsis dentata* Chevreux, 1900
4. Uropod 3 rami longer than peduncle. Male pereopod 6 merus as broad as basis. Female gnathopod 2 propodus a little longer than gnathopod 1 propodus. Maximum length 4.0 mm
 *Gammaropsis ostroumowi* (Sowinsky, 1898)
 – Uropod 3 rami subequal in length with peduncle. Male pereopod 6 merus not enlarged. Gnathopod 2 propodus 2 × length of gnathopod 1 propodus. Maximum length 6.0 mm
 *Gammaropsis emancipata* Krapp-Schickel & Myers, 1979
5. Uropod 3 rami spiniform, lacking a terminal cluster of spines 12
 – Uropod 3 rami normal, with group of terminal spines 6
6. Eyes totally situated on lobe, uropod 3 rami massifs, length inferior to peduncle
 *Latigammaropsis togoensis* (Schellenberg, 1925)
 – Eyes partially situated behind point of insertion of antennae, uropod 3 slender 7
7. Male gnathopod 2 dactylus much more than half length of propodus
 *Gammaropsis lobata* (Chevreux, 1920)
 – Male gnathopod 2 dactylus equal to smaller than half length of propodus 8
8. Pereopods 5–7 basis expanded 10
 – Pereopods 5–7 basis slender 9
9. Antenna 1 accessory flagellum with 1 long and 1 rudimentary articles, male gnathopod 2 palm with large proximal process forming chelate closure with dactylus.....
 *Gammaropsis sorbei* Gouillieux sp. nov.
 – Antenna 1 accessory flagellum 4–5 articles, male gnathopod 2 palm not as above
 *Gammaropsis ulrici* Krapp-Schickel & Myers, 1979
10. Male gnathopod 2 carpus more than half length of propodus
 *Gammaropsis maculata* (Johnston, 1828)
 – Male gnathopod 2 carpus less than half length of propodus 11
11. Antenna 1 accessory flagellum 5 articles, male and female gnathopod 2 basis anterior margin nearly bare *Gammaropsis crenulata* Krapp-Schickel & Myers, 1979
 – Antenna 1 accessory flagellum absent, male and female gnathopod 2 basis anterior margin setose
 *Gammaropsis nitida* (Stimpson, 1853)
12. Antenna 1 accessory flagellum absent. Male gnathopod 1 palm evenly rounded. Female gnathopod 2 propodus subovoid *Gammaropsis sophiae* (Boeck, 1861)
 – Antenna 1 with accessory flagellum 2–3 articulate. Male gnathopod 1 palm sinuous. Female gnathopod 2 propodus narrow, anterior and posterior margins approximately parallel
 *Gammaropsis palmata* (Stebbing & Robertson, 1891)

Discussion

Sampling of infra- and circalittoral rocky habitat on the French Basque coast has revealed a significant biodiversity of amphipods, leading to the discovery of new records for this area (de Casamajor *et al.* 2022, 2023; Gouillieux *et al.* 2024). While only two species of *Iphimedia* had been recorded south of the Bay of Biscay (*I. minuta* and *I. obesa*) (Dauvin & Bellan-Santini 2002; Bachelet *et al.* 2003), the project has enabled the recording of two additional species (*I. spatula* and *I. eblanae*) and the description of a new species. It is worth noting that other uncommon species were collected, such as *Autonoe denticarpus* (Myers & McGrath, 1978), *Neoschyrocerus inexpectatus* (Ruffo, 1959), which was recently reported in the Bay of Biscay (Gouillieux 2022), *Gitana sarsi* Boeck, 1871, and *Leucothoe richiardi* Lessona, 1865 (a species list is available in de Casamajor *et al.* 2022). The circalittoral rocks in the study area extend to a depth of approximately 100 m. As with the CIRCATA project, only the shallower rocks were explored; it is highly likely that further discoveries will be made by sampling at greater depths.

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