

Synisoma albertoi, a new species
from the Strait of Gibraltar (southern Spain)
with a key to known species of the genus
(Crustacea: Isopoda: Idoteidae)

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Synisoma albertoi sp. nov. (Isopoda: Valvifera: Idoteidae), is described and illustrated from specimens collected in the Strait of Gibraltar (southern Spain). The new species can be distinguished from all other species of the genus, with the exception of *S. bellonae* and *S. raqueliae*, by the fusion of the flagellar articles of the antenna. It is easily distinguishable from both *S. bellonae* and *S. raqueliae* by the presence of a tubercle on the cephalon; these three species also differ in the morphology of pleotelson, pereopods and appendix masculina. A key to the known species of *Synisoma* is provided.

INTRODUCTION

The numerous diagnoses given for the genus *Synisoma* Collinge, 1917 (Monod, 1923; Menzies & Miller, 1972; Naylor, 1972; Prunus & Pantoustier, 1976; Brusca, 1983; Rezig, 1989) are consistent in that two characters distinguished *Synisoma* from the other idoteid genera: the pleon lacks distinct somites and the maxillipedal palp is composed of four articles. As noted by Hedo & Junoy (1999), other characters used in those diagnoses show a considerable degree of intrageneric variation. The genus is currently represented in the Mediterranean and north-eastern Atlantic by ten species: *Synisoma acuminatum* (Leach, 1815), *Synisoma appendiculatum* (Risso, 1816), *Synisoma bellonae* Daguerra de Hureaux, 1968, *Synisoma capito* (Rathke, 1837), *Synisoma carinatum* (Lucas, 1849), *Synisoma lancifer* (Dollfus, 1894), *Synisoma mediterraneum* Rezig, 1989, *Synisoma nadejda* Rezig, 1989, *Synisoma raqueliae* Hedo & Junoy, 1999, and *Synisoma spinosum* Amar, 1957.

This paper is the fourth of a series of contributions on the Spanish marine isopod fauna (Hedo & Junoy, 1999; Rodríguez-Sánchez et al., 2001; Rodríguez-Sánchez & Junoy, 2002) from material collected during the oceanographic expedition 'FAUNA I' along the south coasts of the Iberian Peninsula (see Templado et al., 1993). It deals with the description of a new species: *Synisoma albertoi* sp. nov. The type material is deposited at the Museo Nacional de Ciencias Naturales de Madrid (MNCN).

MATERIALS AND METHODS

The oceanographic expedition 'FAUNA I' was carried out in July 1989, in the Gulf of Cadiz, on both sides of the Strait of Gibraltar, in the Alborán Sea and Bajos de Motril (southern Spain). The objective of this expedition was to capture representatives of the whole

marine fauna and, therefore, both pelagic and benthic samples were taken, from various depths between 12 to 1250 m (see Templado et al., 1993 for sampling details). All material sampled was sorted out at the MNCN and isopods were later sent in alcohol to the senior author (J.J.) of this paper.

The specimens examined in the present study were caught with the beam trawl described in Templado et al. (1993), preserved in 70% ethanol before dissection. The microscopic preparations were dehydrated in ethanol and treated with xylene for 5 min before mounting in DePex.

SYSTEMATICS

Order ISOPODA Latreille, 1817
Suborder VALVIFERA Sars, 1882
Family IDOTEIDAE Samouelle, 1798
Genus *Synisoma* Collinge, 1917
Synisoma albertoi sp. nov.
(Figures 1–4)

Type material

Holotype: adult male 8 mm, completely dissected and mounted on 20 slides. ('FAUNA I', Station 63; coordinates: 36°03.13'–36°02.89'N 5°50.58'–5°51.94'W; water depth: 97–118 m) [MNCN 20.04/5906] collected 21 July 1989.

Paratype: 1 postmanca 3.8 mm preserved in 70% ethanol ('FAUNA I', Station 63; coordinates: 36°03.13'–36°02.89'N 5°50.58'–5°51.94'W; water depth: 97–118 m) [MNCN 20.04/5907] collected 21 July 1989.

Diagnosis

Synisoma with three pairs of lateral sutures on pleotelson. Antenna with single clavate flagellar article. Cephalon with a bilobed mid-dorsal tubercle. Maxilliped

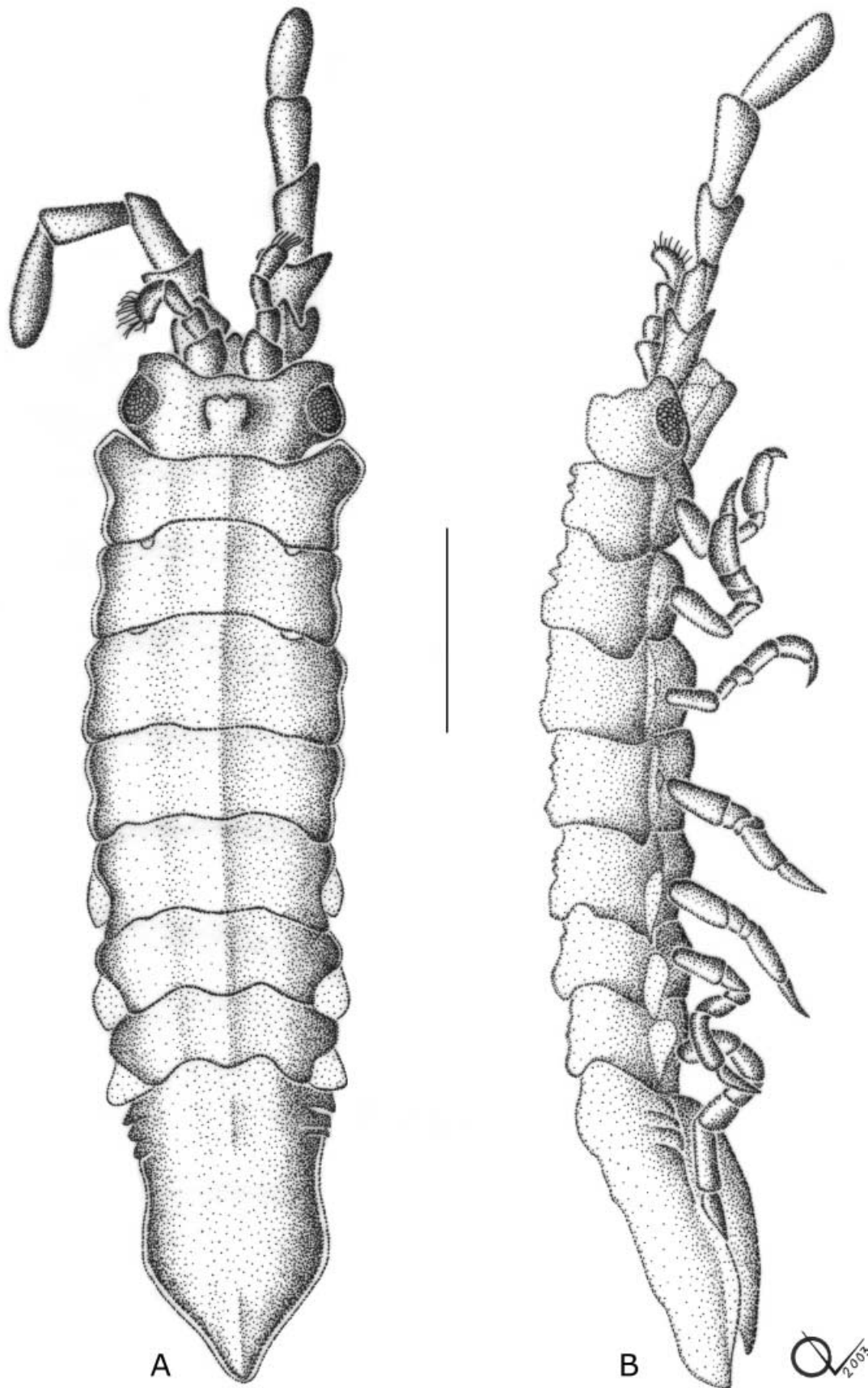


Figure 1. *Synisoma albertoi*, sp. nov., ♂ (holotype): (A) dorsal view; (B) lateral view. Scale bar: 1.5 mm.

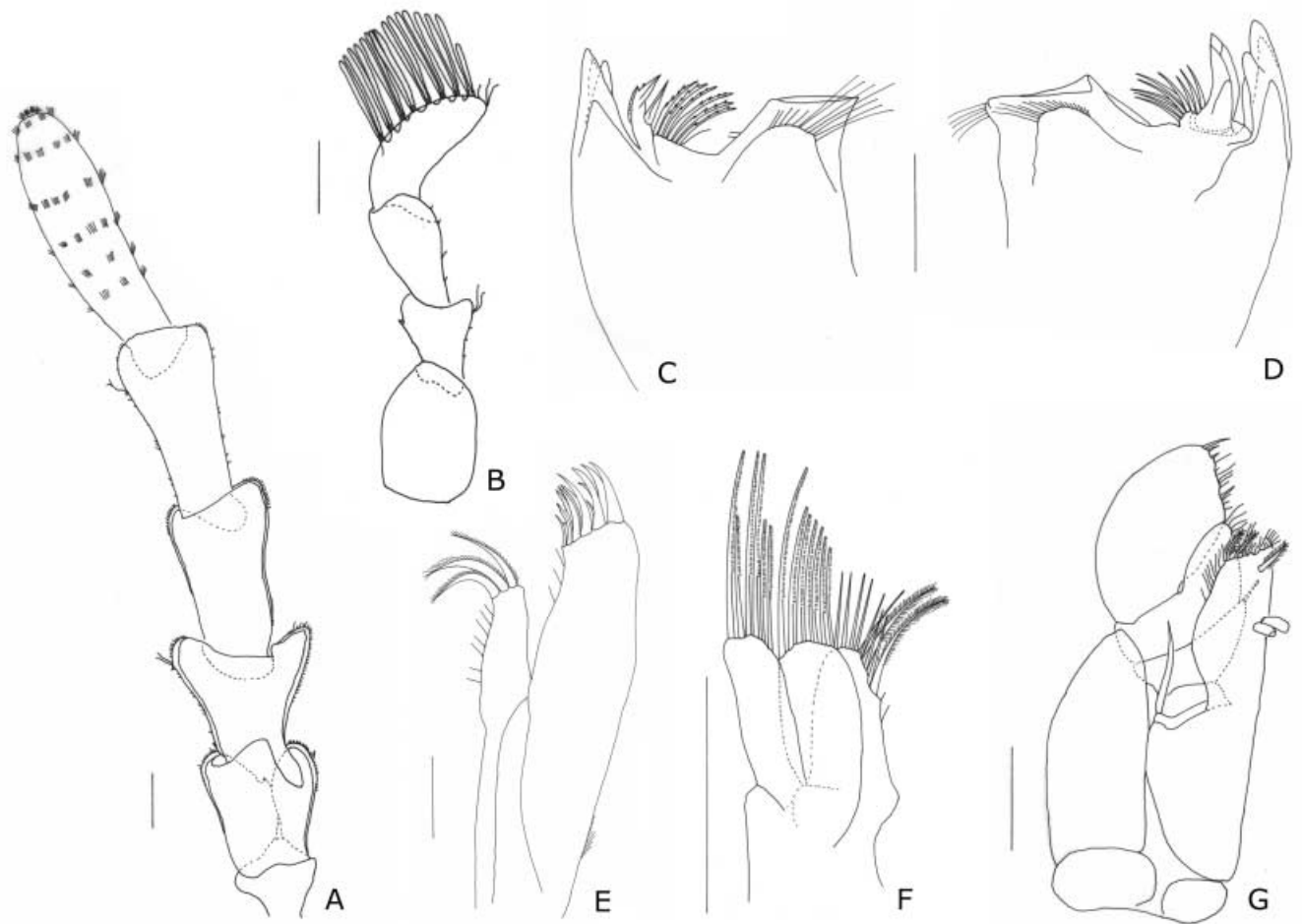


Figure 2. *Synisoma albertoi*, sp. nov., ♂ (holotype): (A) antenna; (B) antennula; (C) right mandible; (D) left mandible; (E) maxillule; (F) maxilla; (G) maxilliped. Scale bars: A, B, G, 0.2 mm; C, D, E, 0.05 mm; F, 0.1 mm.

with two coupling hooks. Pereonites with weak dorsal carina.

Description of holotype

Body elongate, five times as long as wide (Figure 1). Length: 8 mm. Colour: pale yellow in alcohol. Cephalon thinner than body, with a bilobed mid-dorsal tubercle, anterior border concave, insert the antennules and antennas, posterior margin immersed in pereonite I; frontal process triangulate in dorsal view; eyes large, on lateral edge of cephalon.

Antenna (Figure 2A): peduncle article 1 very reduced, articles 2–3 as wide as long, articles 4 and 5 elongated; flagellum reduced to a single clavate article, with six rows of simple setae arranged in groups of four, and one minute vestigial apical article bearing a brush of short setae. Antennule (Figure 2B): peduncle of three articles, article 1 ovoid, article 2 short, article 3 longer; flagellum bearing eight pairs of aesthetascs and three simple setae. Right mandible (Figure 2C): incisor 4 toothed; lacinia mobilis with two double spines; spine row with six curved

serrate spines and one simple setae; molar process truncate. Left mandible (Figure 2D): with four incisor teeth; prominent 4-toothed lacinia mobilis, spine row with 11 curved simple spines; molar process without tooth, larger than right molar process. Maxillule (Figure 2E): inner lobe with three distal plumose spines, inner margin with thin simple setae; outer lobe longer with 12 stout spines, four of them serrate, outer margin with small simple setae. Maxilla (Figure 2F): trilobate, endopod with eight simple spines, two recurved plumose spines and two simple setae; inner and outer lobes of exopod with seven and six pectinate spines, respectively. Maxilliped (Figure 2G): palp 4—articulate; exopod rounded; endite with a pair of coupling hooks, three circumplumose spines and a few simple setae along the distal margin.

Pereonites with weak dorsal carina. Coxal plates present on pereonites II–VII, dorsally visible on pereonites V–VII (Figure 1). Pereopods I–VII ambulatory (Figure 3), terminating in a biungulate dactyl with simple setae. Pereopod I with pectinate and simple spines on propodus; carpus

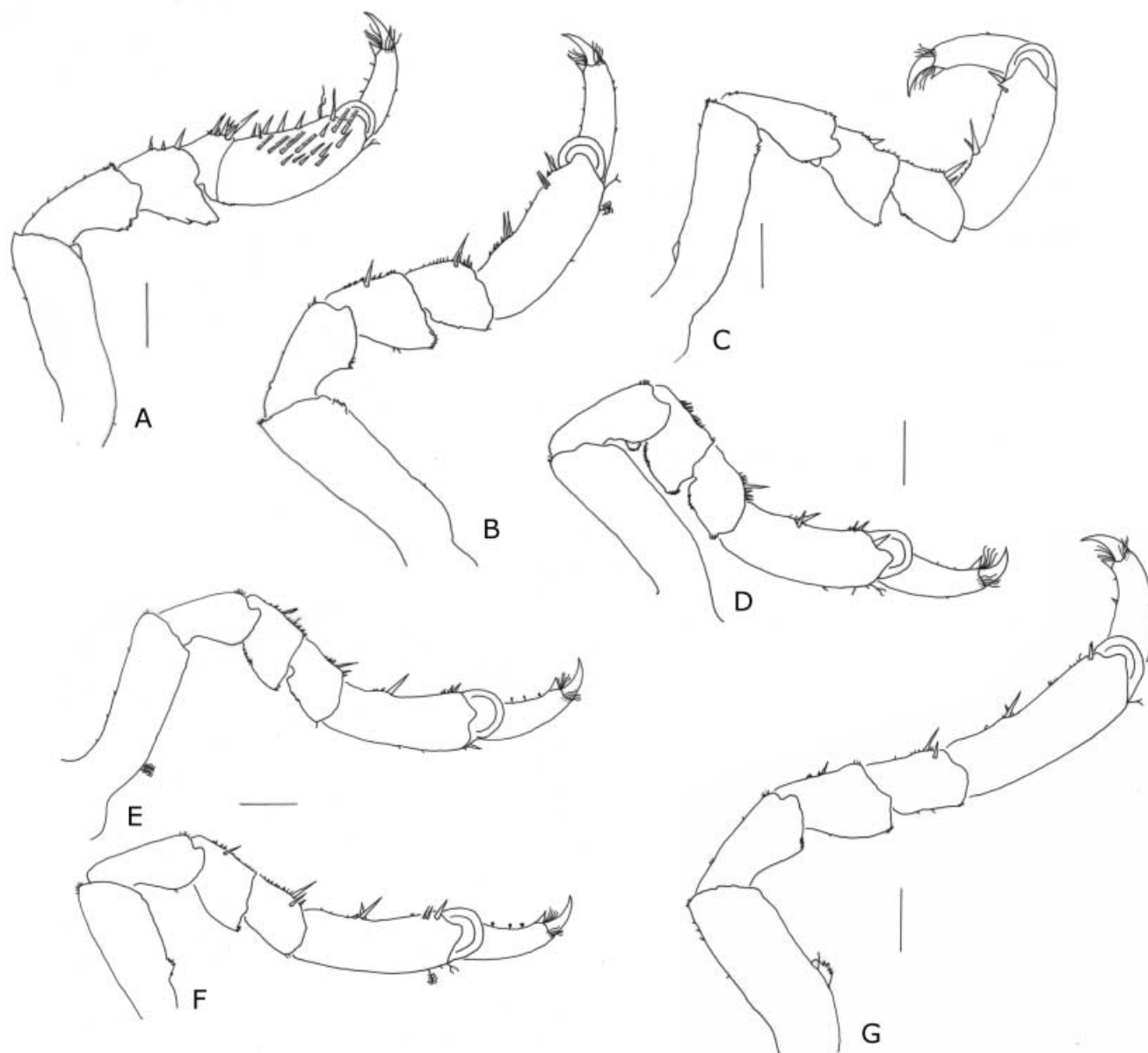


Figure 3. *Synisoma albertoi*, sp. nov., ♂ (holotype): (A) pereopod I; (B) pereopod II; (C) pereopod III; (D) pereopod IV; (E) pereopod V; (F) pereopod VI; (G) pereopod VII. Scale bars: 0.2 mm.

with one bifid spine and simple spines. Pereopods II–VII subsimilar. Pereopods II and VI with a small palmate setae on distal superior margin of propodus; pereopod V with two small palmate setae on basis.

Pleotelson (*sensu* Brusca, 1984) (Figure 1) 1.5 times longer than wide, about 0.31 of total body length. All pleonites medially fused, with three pairs of small lateral sutures. Ventral penis smooth (Figure 4E). Pleopods I–II rami with plumose marginal setae (Figure 4A,B); peduncle with three simple spines on inner margin.

Pleopod III with long appendix masculina, extending beyond endopod by more than one-third of its length, apex distal inner margin smooth, without spines. Pleopods III–V larger and wider than I–II, without setae (Figure 4E). Uropod (Figure 4D) uniramous, with large plumose seta on lateral distal angle of peduncle.

Etymology

The epithet honours Alberto García González, in appreciation of his support, love and friendship.

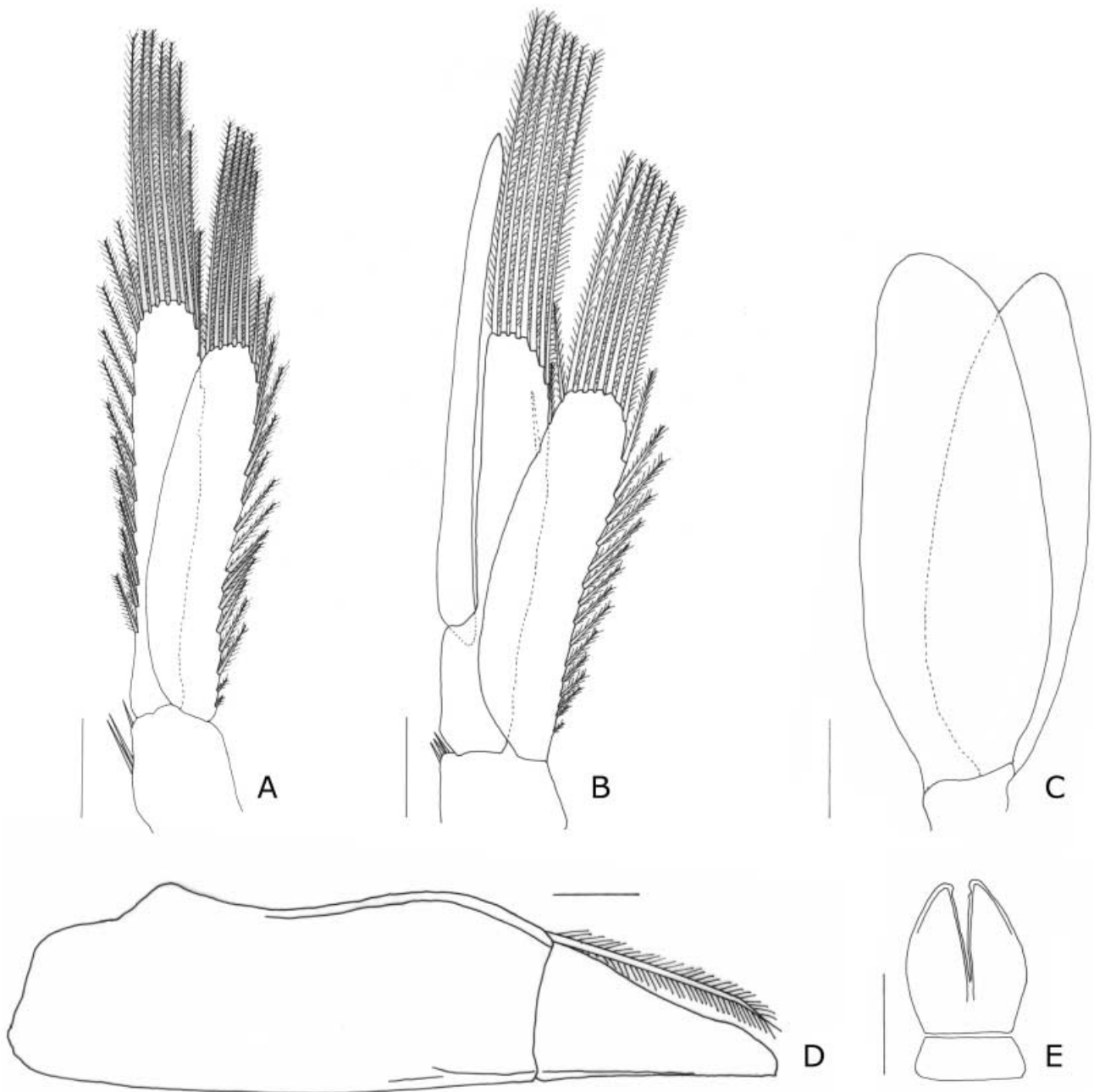


Figure 4. *Synisoma albertoi*, sp. nov., ♂ (holotype): (A) pleopod I; (B) pleopod II; (C) pleopod V; (D) uropod; (E) penis. Scale bars: 0.2 mm.

DISCUSSION

In the most recent description of a *Synisoma* species, Hedo & Junoy (1999) summarized the morphological characters used to separate species, with comments on their distribution. At that time, only two species, *S. bellonae* and *S. raqueliae*, were characterized by the fusion of the flagellar articles of the antenna. Such a peculiar feature is also found in *Synisoma albertoi* sp. nov. These three species also have three pairs of lateral pleonal sutures, but this feature is also present in some other *Synisoma* species.

Synisoma albertoi sp. nov. is best distinguishable from *S. bellonae* and *S. raqueliae* by the presence of a cephalic tubercle and of two coupling hooks in the malliliped. It can also be distinguished from both species in other ways: *S. bellonae* is larger and has a much bulkier body form, the pleotelson is wider and the first anterolateral suture is very large; *S. raqueliae* has a slim body form, lacks a dorsal carina and has a different pereopod ornamentation. The males of *S. bellonae* and *S. raqueliae* differ from males of *S. albertoi* sp. nov. by the presence of spines on their appendix masculina.

Key of the known species of Synisoma

1. Antenna with multiarticulate flagellum 2
- Antenna with single clavate flagellar article 11
2. Pleotelson without anterolateral sutures in dorsal or lateral views 3
- Pleotelson with one or three anterolateral sutures in dorsal or lateral views 7
3. Pleotelson with three suture lines in ventral view *S. nadejda*
- Pleotelson without suture lines in ventral view 4
4. Cephalon with a mid-dorsal tubercle or spine (Pacific species) *S. wetzerae*
- Cephalon smooth 5
5. Pereion lateral borders straight and parallel, coxal plates barely visible from above; pleotelson sides narrowing fairly evenly to an acute terminal projection 6
- Pereion lateral borders appearing serrated, coxal plates triangular in dorsal view; pleotelson shape like an ink pen nib *S. lancifer*
6. Antenna large, flagellum with more than seven articles *S. acuminatum*
- Antenna short, flagellum with 5–7 articles (Pacific species) *S. pacificum*
7. Pleotelson with one anterolateral suture in dorsal or lateral views 8
- Pleotelson with three anterolateral sutures in dorsal or lateral views 9
8. Cephalon with a bilobed mid-dorsal tubercle; pereonites bearing a mid-dorsal spine *S. spinosum*
- Cephalon smooth; body with dorsal carina *S. appendiculatum*
9. Dorsal surface of anterior pereonites with tubercles; pleotelson narrow 10
- Dorsal surface of anterior pereonites smooth, not tuberculate; pleotelson wide, shield-shape (about 1.2 longer than wide) *S. carinatum*
10. Pereion with a mid-dorsal carina; one pair of lateral tubercles on the first two pereonites; pleotelson shape like an ink pen nib *S. capito*
- Pereion without carina; one pair of lateral tubercles on the first three pereonites; pleotelson sides narrowing fairly evenly to an acute terminal projection *S. mediterraneum*
11. Pleotelson wide (length about 1.2 times width), shield-shape, first suture larger than others *S. bellonae*
- Pleotelson narrow (length equal or more than 1.5 times width), lateral sutures short, all of the same length 12
12. Cephalon smooth; body without dorsal carina; maxilliped with one coupling hook *S. raqueliae*
- Cephalon with a bilobed mid-dorsal tubercle; body with dorsal carina; maxilliped with two coupling hooks *S. albertoi*, sp. nov.

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