

## FIVE NEW RECORDS OF MARINE AMPHIPODS (CRUSTACEA: AMPHIPODA) FROM THE CANARY ISLANDS

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### RESUMEN

Se citan por primera vez para el archipiélago las especies de gammáridos: *Animoceradocus semiserratus* (Bate, 1862), *Leucothoe incisa* (Robertson, 1892), *Monoculodes carinatus* (Bate, 1857), *Peltocoxa* cf. *damnoniensis* (Stebbing, 1885) y *Peltocoxa* sp. Se aportan datos sobre fauna acompañante y de distribución geográfica de estas especies.

**Palabras clave:** Crustacea, Amphipoda, *Animoceradocus*, *Leucothoe*, *Monoculodes*, *Peltocoxa*, islas Canarias, Océano Atlántico.

### ABSTRACT

The gammarid species *Animoceradocus semiserratus* (Bate, 1862), *Leucothoe incisa* (Robertson, 1892) *Monoculodes carinatus* (Bate, 1857), *Peltocoxa* cf. *damnoniensis* (Stebbing, 1885) and *Peltocoxa* sp. are first recorded for the Canary archipelago. Data of macrofaunal taxonomic composition in sampling locations and biogeographic information from the studied species are provided.

**Key words:** Crustacea, Amphipoda, *Animoceradocus*, *Leucothoe*, *Monoculodes*, *Peltocoxa*, Canary Islands, Atlantic Ocean.

### INTRODUCTION

Benthic amphipods (gammarids and caprellids) are well represented in benthic samples, specially as epifaunal componentes of intertidal and subtidal macroalgae (EDGAR & KLUMPP [6]). This group is mainly composed by surface-deposit feeders, though some species could be scavengers, predators or even suspensivorous (BLANKENSHIP & LEVIN [2]).

In the last decades, amphipods have being considered as sensitive organisms to man-induced perturbations, such as, pipelines, desalination plants, coastal eutrophication, etc. (CONRADI [4], GÓMEZ-GESTEIRA & DAUVIN [7]). Thus, taxonomic studies are necessary to provide data about species composition in benthic samples from the Canary archipel-

ago. Currently, amphipod biodiversity records are still far from other extensively studied areas (e.g. Eastern Atlantic coasts and Mediterranean Sea).

During monitoring assessment studies conducted in the Canary Islands, several specimens of five unpreviously recorded amphipod species were found. These individuals belonged to the species *Animoceradocus semiserratus* (Bate, 1862), *Leucothoe incisa* (Robertson, 1892), *Monoculodes carinatus* (Bate, 1857), *Peltocoxa* cf. *damnoniensis* (Stebbing, 1885) and *Peltocoxa* sp.

## MATERIAL AND METHODS

The studied material was collected from shallow rocky substrates and subtidal sandy seabeds. Samples from rocky bottoms were taken by scuba divers by means of a scraper used to get all macroalgae in 25 × 25 cm quadrat. The scraped material was kept in a plastic zipped bag, with an identification code. Sediment samples were collected by means of a “Cak Foster” dredge, 28-litres capacity. All samples (scrapes and dredges) were fixed by 4% formaldehyde during 48 hours and then, sieved in a 0.5 mm mesh size. Specimens were separated under a stereomicroscope and preserved in 70° ethanol. Specimens were identified by means of a stereomicroscope Nikon SMZ-800 and pictures were taken with an attached camera (Canon EOS-500D).

The studied specimens were stored in the invertebrate collection of CIMA (Centro de Investigaciones Medioambientales del Atlántico SL).

## TAXONOMY

**Order AMPHIPODA** Latreille, 1816  
**Family Maeridae** Krapp-Schickel, 2008  
**Genus *Animoceradocus*** Karaman, 1984

*Animoceradocus semiserratus* (Bate, 1862)  
(Fig. 1)

**Studied material.-** Playa Paraíso (S Tenerife), coordinates 28°12'06"N/16°78'05"W, 23 m, coarse sand and maërl seabeds, 30 ind. Playa Paraíso (S Tenerife), coordinates 28°12'08"N/16°78'09"W, 32 m, medium sands and maërl seabeds, 52 ind. Callao Salvaje (S Tenerife), 28°12'81"N/16°78'56"W, 27 m, medium sands and maërl seabeds, 31 ind.

**Distribution.-** East Atlantic Ocean; North Sea. Mediterranean Sea (BACHELET *ET AL.* [1]). This species is mainly littoral, being recorded from the intertidal to 60 m depth. *L. incisa* is more abundant as an epifaunal component of macroalgae, specially *Peysonnelia* and in maërl beds composed by *Lithothamnium* (LOURIDO *ET AL.* [10]).

**Accompanying fauna.-** This amphipod species was collected in sediments dominated by the decapods *Xantho pilipes* and *Pagurus anachoretus*, as well as, the molluscs *Bittium incile* and *B. latreillii*.

**Family Leucothoidae** Dana, 1852  
**Genus *Leucothoe*** Leach, 1814

***Leucothoe incisa*** (Robertson, 1892)  
(Fig. 2)

**Studied material.-** Off Paraje los Haches (SE Lanzarote), coordinates: 28°86'91"N/13°74'03"W, 12 m, patches of *Cymodocea nodosa* meadows dominated by fine sands, 2 ind.; Punta de Garajao (SE Lanzarote), coordinates 28°87'32"N/13°73'13"W, 25 m, Mixed *Caulerpa* meadows dominated by fine sands, 2 ind; Playa Quemada (SE Lanzarote), coordinates 28°89'94"N/13°72'78"W, 21 m, *Caulerpa racemosa* meadows, 2 ind.

**Distribution.-** East Atlantic coast, North Sea and Mediterranean Sea (MYERS & COSTELLO [11]). The depth range of this species is from the intertidal to 60 m, being more frequent on sandy and muddy seabeds (CACABELOS *ET AL.* [3]).

**Accompanying fauna.-** This amphipod species was found in sediments dominated by the amphipods *Ampelisca brevicornis*, *Harpinia antennaria* and *Urothoe marina*, the decapod *Pagurus anachoretus*, the mollusc *Bittium latreillii*, the ostracod *Cypridina mediterranea* and the tanaid *Apseudes talpa*.

**Family Oedicerotidae** Liljeborg, 1865  
**Genus *Monoculodes*** Stimpson, 1853

***Monoculodes carinatus*** (Bate, 1857)  
(Fig. 3)

**Studied material.-** San Sebastián, La Gomera, coordinates 28°05'00"N/17°06'39"W, September 2008, 9 m depth, fine sands, 4 ind.

**Distribution.-** North East Atlantic, from Norway to the Mediterranean Sea (BACHELET *ET AL.* [1]). North Sea. This species has been collected in fine sandy subtidal seabeds (5-80 m) (JONES [9]).

**Accompanying fauna.-** The studied sample was dominated overwhelmingly by the tanaid *Apseudes talpa* (266 ind). Other macrofaunal species with consistent abundances were the amphipod *Harpinia antennaria* (23 ind) and the cumacean *Iphinoe canariensis* (11 ind).

**Family Cyproideidae** Barnard, 1974  
**Genus *Peltocoxa*** Catta, 1875

***Peltocoxa cf. damnoniensis*** (Stebbing, 1885)  
(Fig. 4)

**Studied material.-** San Andrés, Santa Cruz de Tenerife, coordinates 28°30'36"N/16°10'14"W, January 2008, 25 m depth, very fine sands, 2 ind.

**Distribution.-** Atlantic Ocean. Epifauna component of the alga *Corallina elongata* (IZQUIERDO & GUERRA-GARCÍA [8]).

**Accompanying fauna.-** The studied sample was characterized by high abundances of the tanaid *Apseudes talpa* (140 ind), the mollusc *Bittium latreilii* (97 ind) and the amphipod *Harpinia antennaria* (70 ind). Other species with consistent abundances were the tanaid *Lep-tochelia dubia* (32 ind) and the caprellid *Phtisica marina* (24 ind).

***Peltocoxa* sp.**

(Fig. 5)

**Studied material.-** Playa Quemada, Lanzarote, coordinates 28°53'25"N/13°44'44"W, September 2011, 2 m depth, rocky substrate dominated by corallinaceans and *Halopteris scoparia*.

**Accompanying fauna.-** The studied sample was dominated by the amphipod *Apherusa bispinosa* (1,571 ind) and the isopod *Carpias* cf. *minutus* (867 ind). The remaining species obtained low densities (< 500 ind), such as, the amphipods *Aora typica* (462 ind) and *Stenothoe marina* (321 ind).

## ACKNOWLEDGEMENTS

To the remaining staff of Centro de Investigaciones Medioambientales del Atlántico (CIMA SL) for their support in field campaigns and daily interchange of ideas. To Dr. Manuel Ortiz (Centro de Investigaciones Marinas, Universidad de La Habana) for his continuous encouragement on amphipod taxonomy.

## BIBLIOGRAPHY

- [1] BACHELET, G., J-C. DAUVIN & J.C. SORBE. 2003. An updated checklist of marine and brackish water Amphipoda (Crustacea: Peracarida) of the southern Bay of Biscay (NE Atlantic). *Cahiers de Biologie Marine*, 44(2): 121-151.
- [2] BLANKENSHIP, L.E. & L.A. LEVIN. 2007. Extreme food webs: Foraging strategies and diets of scavenging amphipods from the ocean's deepest 5 km. *Limnology and Oceanography*, 52: 1685-1697.
- [3] CACABELOS, E., A. LOURIDO & J. TRONCOSO. 2010. Composition and distribution of subtidal and intertidal crustacean assemblages in soft-bottoms of the Ría de Vigo (NW Spain). *Scientia Marina* 74(3): 455-464.
- [4] CONRADI, M. 1997. The amphipod community as a bioindicator in Algeciras bay (Southern Iberian Peninsula) based on a spatio-temporal distribution. *Marine Ecology* 18(2): 97-111.
- [5] DUFFY, J.E. 1990. Amphipods on seaweeds: partners or pests? *Oecologia* 83(2): 267-276.
- [6] EDGAR, G. & D.W. KLUMPP. 2003. Consistencies over regional scales in assemblages of mobile epifauna associated with natural and artificial plants of different shape. *Aquatic Botany*, 75: 275-291.

- [7] GÓMEZ-GESTEIRA, J.L. & J-C. DAUVIN. 2000. Amphipods are good indicators of the impact of oil spills on soft-bottom macrobenthic communities. *Marine Pollution Bulletin*, 40(11): 1017-1027.
- [8] IZQUIERDO, D. & J.M. GUERRA-GARCIA. 2010. Distribution patterns of the peracarid crustacean associated with the alga *Corallina elongata* along the intertidal rocky shores of the Iberian Peninsula. *Helgoland Marine Research*, 65(2): 233-243.
- [9] JONES, N.S. 1948. The ecology of the Amphipoda of the south of the Isle of Man. *Journal of the Marine Biological Association of the United Kingdom*, 27(2): 400-439.
- [10] LOURIDO, A., J. MOREIRA & J.S. TRONCOSO. 2010. Spatial distribution of benthic macrofauna in subtidal sediments of the Ría de Aldán (Galicia, northwest Spain). *Scientia Marina*, 74(4): 705-715.
- [11] MYERS, A.A. & M.J. COSTELLO. 1986. The amphipod sibling pair *Leucothoe lilljeborgi* and *L. incisa* in British and Irish Waters. *Journal of the Marine Biological Association of the United Kingdom*, 66: 75-82.
- [12] RIERA, R. & E. RAMOS. 2011. *Anonyx sarsi* (Steele & Brunel, 1968), un Nuevo anfípodo (Crustacea: Amphipoda) marino para el archipiélago canario. *Revista de la Academia Canaria de Ciencias*, 23(3): 107-109.
- [13] TAYLOR, R.B. & R.G. COLE. 1994. Mobile epifauna on subtidal brown seaweeds in northeastern New Zealand. *Marine Ecology Progress Series*, 115: 271-282.



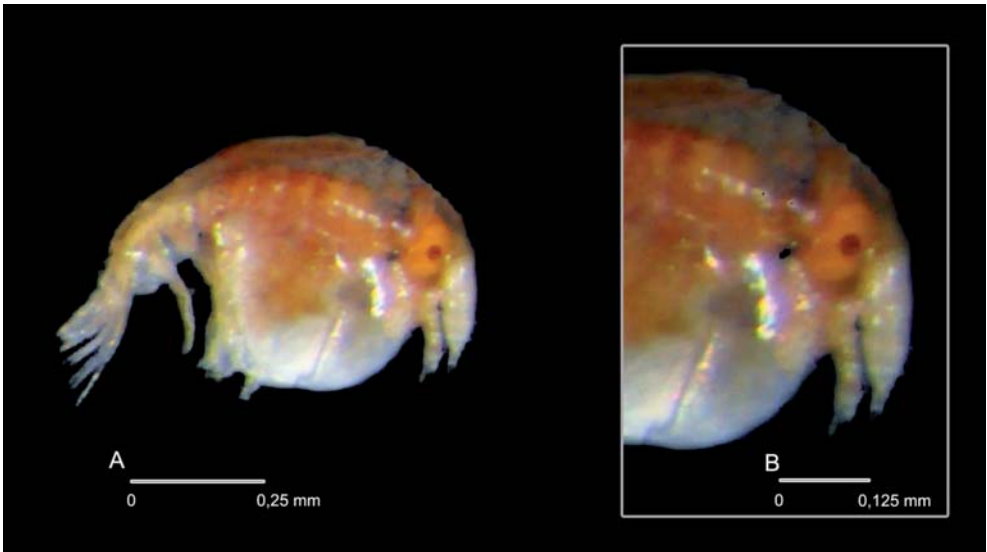
Figure 1.- *Aminoceradocus semiserratus* (Bate, 1862). A. General aspect. B. Male gnathopod 2.



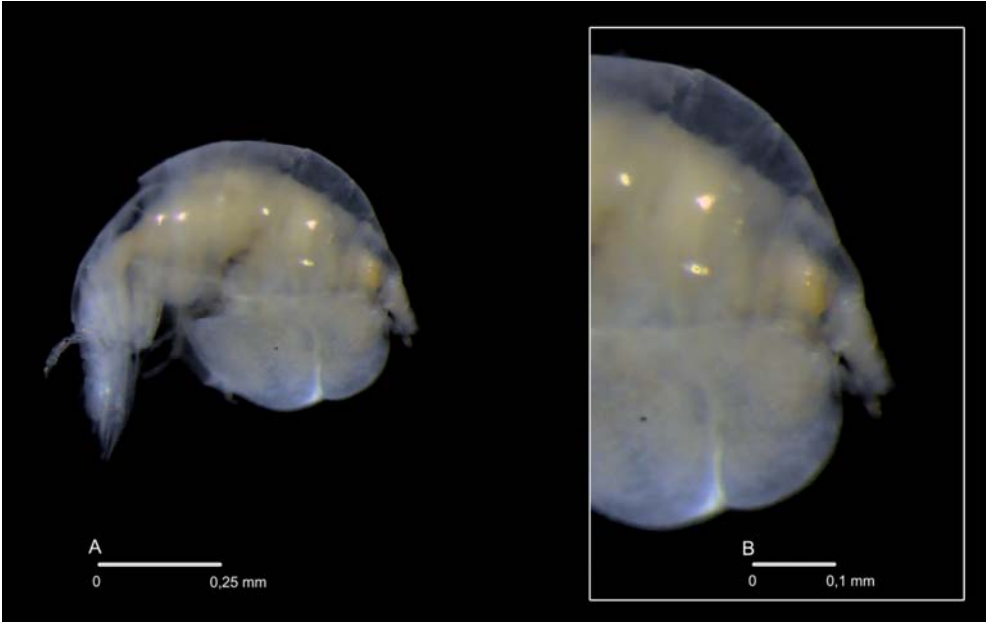
Figure 2.- *Leucothoe incisa* (Robertson, 1892). A. General aspect. B. Male gnathopod 2.



**Figure 3.-** *Monoculodes carinatus* (Bate, 1857). A. General aspect. B. Anterior end and gnathopod 2.



**Figure 4.-** *Peltocoxa cf. damnoniensis* (Stebbing, 1885). A. General aspect. B. Anterior end.



**Figure 5.-** *Peltocoxa* sp. A. General aspect. B. Anterior end.