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Octomagelona bizkaiensis (Polychaeta: Magelonidae) a new genus and species from the Capbreton Canyon (Bay of Biscay, north-east Atlantic)

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Octomagelona bizkaiensis (Annelida: Polychaeta), a new genus and species of the family Magelonidae is described from the north-eastern Atlantic. The specimens were collected from the Capbreton Canyon, Bay of Biscay, at a depth of 1000–1040 m. The new genus and species differs from all known genera and species of the family Magelonidae by the presence of eight instead of nine thoracic chaetigers.

INTRODUCTION

The family Magelonidae Cunningham & Ramage, 1888 comprises two genera: *Magelona* F. Müller, 1858, with about 55 species described from all over the world (Jones, 1977; Uebelacker & Jones, 1984; Nateewathana & Hylleberg, 1991; Fiege et al., 2000), and *Meredithia* Hernández-Alcántara & Solís-Weiss, 2000, with two species. In all species of these two genera the long and slender body is divided into a large, spatulate and dorsoventrally flattened prostomium, a thorax (peristomium and nine chaetigers) and abdomen with numerous chaetigers. Until now seven species of Magelonidae, all belonging to the genus *Magelona*, have been described from European waters (Fiege et al., 2000), in addition *M. cornuta* was found at a depth of 200 m off Portugal (J. Gil, personal communication).

During 1987 to 1990, four oceanographic cruises were conducted in a French–Spanish research project directed by Dr J.C. Sorbe (Centre National de la Recherche Scientifique, Laboratoire d'Océanographie Biologique), on board the RV 'Côte d'Aquitaine'. These studies of bathyal macrofauna communities yielded five specimens belonging to the family Magelonidae. All the specimens belong to the same species which differs from all other species of the family in having eight instead of nine thoracic chaetigers. Based on this character a new genus and species of Magelonidae is described.

MATERIALS AND METHODS

The specimens were collected at four stations situated between 1000 and 1040 m depth. Two different types of gear were used: a Sanders–Hessler epibenthic dredge (DI) with a mesh size of 0.5 mm and a Flusha box-corer (KF). Samples were sieved through a 0.5-mm screen. Specimens were preserved in a 10% formaldehyde–seawater solution.

Terminology follows Uebelacker & Jones (1984), Nateewathana & Hylleberg (1991) and Fiege et al. (2000).

Type material has been deposited in the following institutions: Museo Nacional de Ciencias Naturales, Madrid (MNCN), Muséum National d'Histoire Naturelle, Paris (MNHN), Senckenberg Museum Frankfurt (SMF).

SYSTEMATICS

Family MAGELONIDAE Cunningham & Ramage, 1888

Octomagelona gen. nov.

Type species

Octomagelona bizkaiensis sp. nov.

Gender: Feminine

Diagnosis

Body divided into anterior thoracic region with peristomium (achaetous first segment) and eight chaetigers, and posterior abdominal region with unknown number of segments. Prostomium large, flattened, with small frontal horns. Parapodia biramous, with medial and lateral lobes or lamellae, dorsal medial lobes lacking. Branchiae absent. Thoracic chaetae long and limbate capillaries. Abdominal chaetae tridentate hooded hooks. Pygidium unknown.

Etymology

The generic name refers to the number of thoracic chaetigers.

Octomagelona bizkaiensis sp. nov.

Figures 1–3

Type material

Atlantic Ocean, Bay of Biscay, Capbreton Canyon, 43°41.88′N 02°19.05′W, 1020 m, soft bottom, RV 'Côte d'Aquitaine', CAPBRETON 89 stn KF39, 12 September 1989, holotype (MNCN 16.01/6887). Same, 43°38.36′N 02°18.03′W to 43°38.08′N 02°18.14′W, 1040–1007 m, soft bottom, RV 'Côte d'Aquitaine', CAPBRETON 88 stn DI13, 6 July 1988, one paratype (SMF SEM 604). Same, 43°42.89′N 02°18.71′W to 43°43.25′N 02°18.80′W, 984–1029 m, soft bottom, RV 'Côte d'Aquitaine', CAPBRETON 88 stn DI26, 8 July 1988, two paratypes

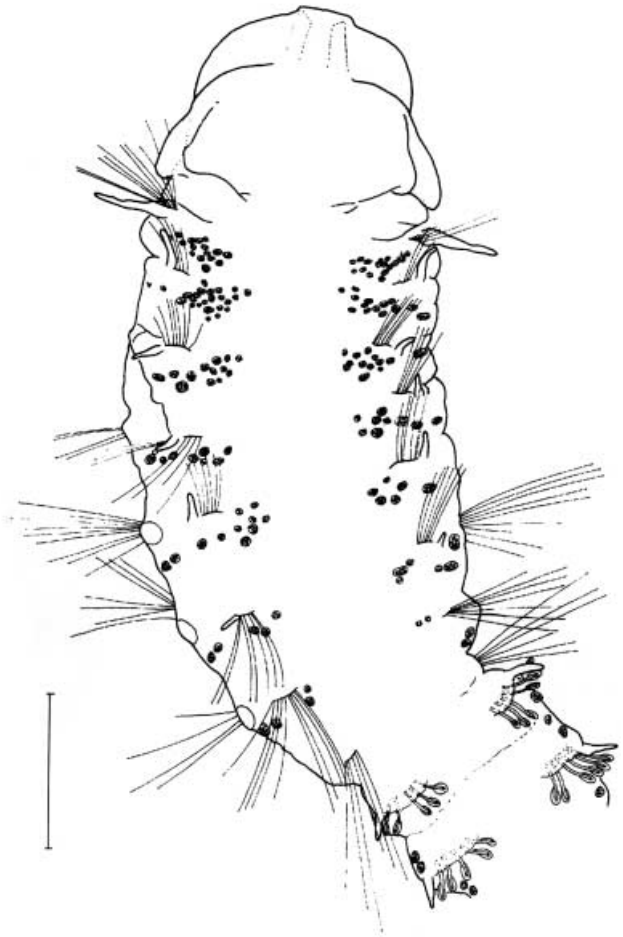

Figure 1. *Octomagelona bizkaiensis* sp. nov. Holotype (MNCN 16.01/6887), prostomium and thoracic region, dorsal view. Scale bar: 400 μm.

(MNHN—POLY63). Same, 43°41.95′N 02°18.39′W, 1025 m, soft bottom, RV 'Côte d'Aquitaine', CAPBRETON 89 stn KF44, 12 September 1989, one paratype (SMF 10025).

Description

Five specimens, all incomplete. Holotype, length 3.1 mm, width 0.8 mm at chaetiger 4, width 0.51 mm at first abdominal chaetiger, 13 chaetigers. Length of paratypes between 2.07 and 6.03 mm. Width between 0.62 and 1 mm (at chaetiger 4), 0.5 and 0.7 mm (at first abdominal chaetiger), 11–13 chaetigers. Maximum width of paratypes of CB88/DI26 1.19–1.23 mm at chaetiger 1.

Prostomium wider than long (ratio length/width 0.57–0.72), truncate, with small, rudimentary frontal horns, anterior margin smooth. Postero–lateral ends bent down forming postero–lateral flaps (Figures 1, 2A,B & 3A). Prostomium lacking eyes. Palps broken in all specimens. Scars not visible due to postero–lateral flaps of prostomium. All specimens with slightly everted proboscis, being wide and saclike, longitudinally ridged ventrally (Figure 2B). Anterior part of digestive tract pink. Peristomium achaetous, longitudinally ridged ventrally (Figure 3A).

Thoracic region with only eight chaetigers (Figures 1 & 3A). All thoracic parapodia without dorsal medial lobe. Notopodial lateral lamella of first chaetiger long and slender, cirriform, 1.5× longer than second, length decreasing progressively to end of thorax (Figures 1 & 3B), last one digitiform (seventh and eighth missing in holotype). Neuropodial lateral lamellae of first chaetiger similar in size and form to notopodial (Figure 3B). Gradually becoming shorter from chaetigers 1–3, rudimentary at chaetiger 4, lacking posteriorly. Ventral neuropodial lobe present on first chaetiger only, papilliform (Figures 2B &

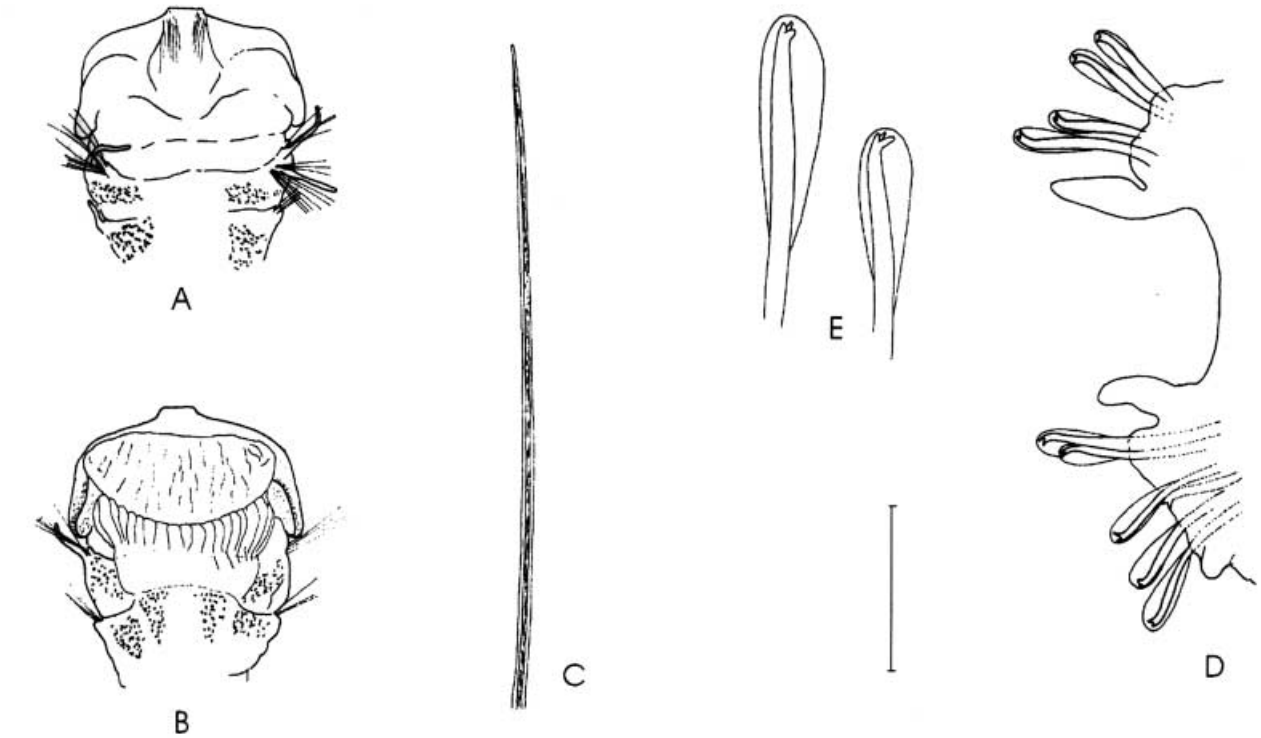

Figure 2. *Octomagelona bizkaiensis* sp. nov. (A,B) Paratype (MNHN—POLY63); (C–E) holotype (MNCN 16.01/6887). (A) anterior end, dorsal view; (B) anterior end, ventral view (C) thoracic chaeta; (D) right parapodium of fifth abdominal chaetiger; (E) abdominal tridentate hooded hooks. Scale bar: A, B, 800 μm; C, 80 μm; D, 100 μm; E, 40 μm.

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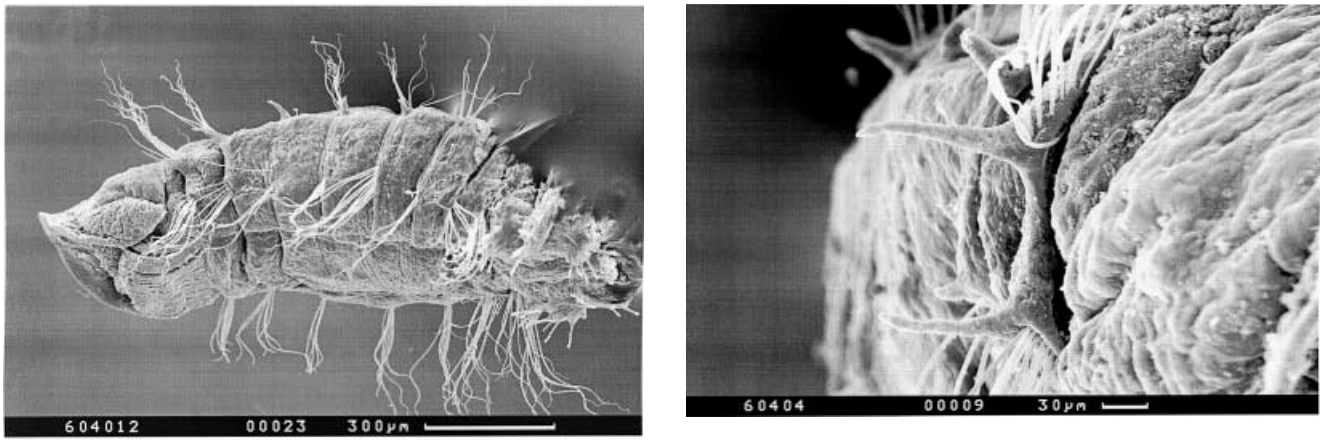

Figure 3. *Octomagelona bizkaiensis* sp. nov. Paratype (SMF SEM 604): (A) thorax, lateral view; (B) first chaetiger left side, anterior view.

3B). All thoracic chaetae long and limbate capillaries, similar in size and form (Figures 2C & 3B).

Abdominal parapodia without dorsal medial lobe. Noto- and neuropodial lateral lamellae lanceolate. Ventral medial lobe small, papilliform. Abdominal chaetae tridentate hooded hooks, six–ten per parapodium, all the same size, in vis-à-vis arrangement, i.e. noto- and neuropodia with two groups each, with teeth facing (Figures 1 & 2D). Lateral pouches absent.

Specimens with pigment granules following a defined pattern: thorax with groups of white specks dorsally and laterally behind parapodia; forming transverse bands ventrally (Figures 1 & 2A,B). Peristomial segment without pigmentation. Pigmentation of abdominal region only in lateral parts of the body.

Additional observations

In smallest specimens neuropodial lateral lamellae decrease gradually in size and dissapear on chaetiger 4. Notopodial lateral lamellae smaller, following similar pattern, dissapearing on chaetigers 6–7. Five to six abdominal tridentate hooded hooks. Abdominal noto- and neuropodial lateral lamellae shorter.

Remarks

Octomagelona bizkaiensis differs from the two other genera of the family in having eigth instead of nine thoracic chaetigers. Since the number of chaetigers is related to growth and since it is impossible to determine sexual maturity of the specimens due to the lack of most abdominal chaetigers, the specimens might have been considered juveniles. However, according to Wilson's findings regarding the development of three species of *Magelona* (Wilson, 1982), the distinction between thorax and abdomen at chaetigers 9–10 is fixed early in development with hooded hooks confined to segments 10 onwards. Moreover, since the appearance of hooded hooks in chaetigers 10 to 13 can be delayed while long provisional chaetae remain present (Wilson, 1982), it appears to be more likely for juvenile specimens of Magelonidae to show more than nine chaetigers bearing capillary chaetae rather than less.

Octomagelona bizkaiensis resembles *Magelona capax* Hartman, 1965, a deep-sea species of the western Atlantic (Hartman, 1965, Hartman & Fauchald, 1971), in having a capelike prostomial membrane, although *O. bizkaiensis* differs from it by having eight thoracic chaetigers, tridentate abdominal hooded hooks, by lacking dorsal medial lobes and by having ventral neuropodial lobes only on the first chaetiger.

Distribution

Capbreton Canyon, Bay of Biscay, 1000–1040 m depth, soft bottom.

Etymology

The specific name refers to the collecting site (Bay of Biscay=Bizkaiko Itsasoa in Basque language).

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