

Lumbrineridae (Polychaeta) from the Capbreton Canyon (Bay of Biscay, NE Atlantic) with the description of two new species

FLORENCIO AGUIRREZABALAGA¹ and LUIS F. CARRERA-PARRA²

¹S.C. INSUB, Zemoria 12, Apdo 3223, 20013 Donostia-San Sebastián, Spain. E-mail: f.aguirrezabalaga@ehu.es

²Laboratorio de Poliquetos, EL Colegio de la Frontera Sur, Apdo. Postal 424, Chetumal, Q.Roo, México.

SUMMARY: During the Capbreton 1988 to 1990 cruises, samples of benthic macrofauna were taken at 37 stations situated along the continental slope (from 480 to 1113 m depth), on both sides of the Capbreton Canyon and in its axis. Lumbrinerid polychaetes were collected in 20 of these samples. This work includes the description of eight species belonging to six genera. Six of the species have already been described in the region: *Abyssoninoe scopia* (Fauchald, 1974), *Augeneria algida* (Wirén, 1901), *Lumbrinerides amoureuxi* Miura, 1980, *Lumbrineris aniara* Fauchald, 1974, *Lumbrineris futilis* Kinberg, 1865, and *Ninoe armoricana* Glémarec, 1968. The other two are described as new species belonging to the genera *Augeneria* and *Lumbricalus*. Some type-material of these species was revised and some notes also included.

Keywords: Polychaeta, Lumbrineridae, new species, Capbreton.

RESUMEN: LUMBRINERIDAE (POLYCHAETA) DEL CAÑÓN DE CAPBRETÓN (GOLFO DE VIZCAYA, ATLÁNTICO NE) CON LA DESCRIPCIÓN DE DOS NUEVAS ESPECIES. – Durante las campañas Capbretón 1988 a 1990, fueron tomadas muestras de la macrofauna bentónica en 37 estaciones situadas en el talud continental (de 480 a 1113 m profundidad), a ambos lados del cañón de Capbretón y en su eje. Se recolectaron poliquetos lumbrineridos en 20 de estas estaciones. En este trabajo se describen ocho especies pertenecientes a seis géneros. Seis de las especies ya habían sido descritas en la región: *Abyssoninoe scopia* (Fauchald, 1974), *Augeneria algida* (Wirén, 1901), *Lumbrinerides amoureuxi* Miura, 1980, *Lumbrineris aniara* Fauchald, 1974, *Lumbrineris futilis* Kinberg, 1865, y *Ninoe armoricana* Glémarec, 1968. Las dos restantes se describen como especies nuevas y pertenecen a los géneros *Augeneria* y *Lumbricalus*. Se realizó la revisión de algunos materiales tipos de estas especies y se incluyen algunas notas taxonómicas.

Palabras clave: Polychaeta, Lumbrineridae, nueva especie, Capbretón.

INTRODUCTION

The Capbreton Canyon is a 'gouf' type submarine valley which divides the continental shelf of the Bay of Biscay into two zones: the wide Aquitanian continental shelf, to the north, and the narrow Cantabrian shelf, to the south. Between 1987 and 1990, the CAPBRETON oceanographic cruises were undertaken, with one of the objectives of this programme being the characterisation of the faunal

communities of the two levels defined by Le Danois (1948). Some of the results obtained on macrobenthic polychaete communities have been presented in Rallo (1988), Rallo *et al.* (1993a, b), García Arberas and Rallo (1994), San Martín *et al.* (1996), Aguirrezabalaga *et al.* (1999, 2001, 2002), Aguirrezabalaga and Ceberio (2003, 2005a, b, 2006) and Núñez *et al.* (2000).

The objective of this study is to contribute to the knowledge of the polychaete communities of the

slope of the Capbreton Canyon, and especially of the family Lumbrineridae.

Commonly, lumbrinerids have been regarded as polychaetes with simple body shape and reduced external morphological characters. The species described were placed in a few genera and some genera were regarded as synonyms (Carrera-Parra, 2001). At present, the taxonomic delineation of the family is changing due to a different taxonomic approach based mainly on the use of maxillary characters, and some genera have been emended (Carrera-Parra, 2004). This work includes the description of eight species belonging to six genera, from which two are described as new species belonging to the genera *Augeneria* and *Lumbricalus*.

MATERIALS AND METHODS

The specimens were collected at 18 stations situated between 480 and 1113 m depth (Fig. 1 and Table 1). Samples were taken with three different types of gear: a Sanders-Hessler epibenthic dredge (DI) with a mesh size of 0.5 mm, a Flusha (KF) box corer (samples were sieved through a 0.5-mm-mesh screen), and a Marinovitch trawl (CM). Specimens were preserved in a 10% formaldehyde-seawater solution.

The descriptions are based mainly on the best specimen. An anterodorsal dissection was made to extract the maxillary apparatus; it was mounted dorsally and ventrally on a slide in order to examine details of both the maxillae and the mandible under a compound microscope. A true tooth is herein restricted to those structures provided with a pulp cavity. The maxillae are abbreviated as M and followed by a roman numeral indicating the position in the maxillary apparatus from dorsal to ventral side. The measurements were standardized for length through chaetiger 10 (L10), and for width at chaetiger 10 excluding parapodia (W10). Illustrations were made using camera lucida and some digital photographs were taken through a light microscope. Some type material was borrowed from the collections of the Muséum National d'Historie Naturelle (MNHN), Paris; Swedish Museum of Natural History (SMNH), Stockholm; Los Angeles County Museum of Natural History, Allan Hancock Foundation Polychaete Collection (LACM-AHF), Los Angeles; and The Museum of Zoology, University of Bergen, (BZM) Norway, to compare with our specimens. The species are presented in alphabetical order. The specimens were deposited in the following institutions: Museo Nacional de Ciencias Naturales, Madrid (MNCN); Muséum National d'Historie Naturelle, Paris (MNHN);

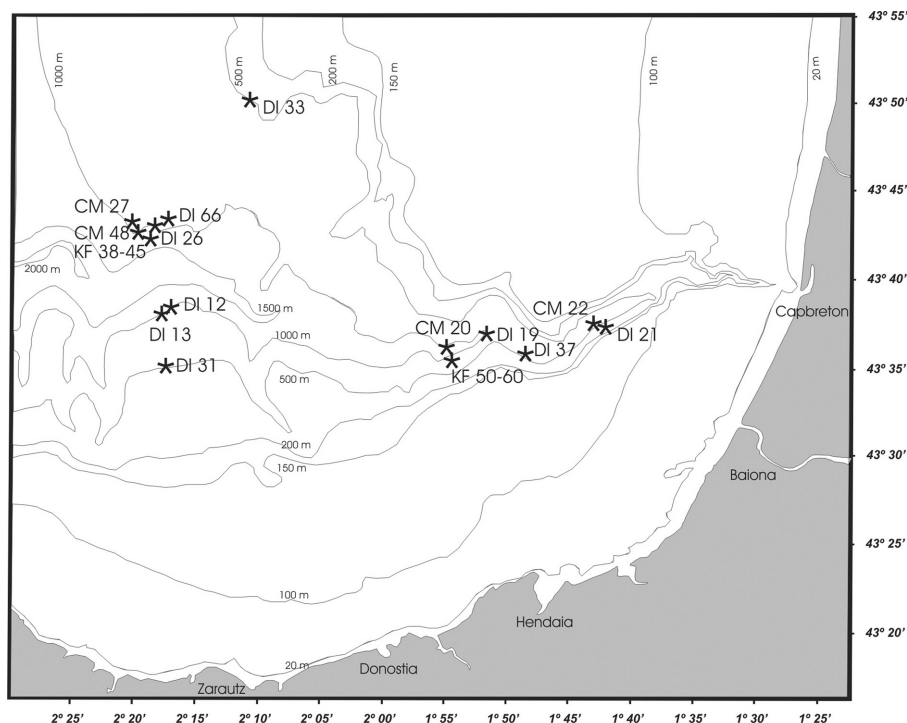


FIG. 1. – Map of Capbreton Canyon (Bay of Biscay) showing sample stations with lumbrinerid specimens.

TABLE 1. – Main characteristics of the sampling stations in the Capbreton Canyon, with lumbrinerid specimens. Date format is day, month, year. DI, Sanders-Hessler dredge; CM, Marinovitch trawl; KF, Flusha box-corer.

| Station | Date | Position at the beginning and the end of the tow on the sea floor | Depth (m) | Time of dragging | Station | Date | Position | Depth (m) |
|---------|----------|---|--------------|------------------|---------|----------|----------------------|-----------|
| DI 12 | 06/07/88 | 43°38.57'N 2°17.93'W 43°38.33'N 2°18.11'W | 1012 1113 | 20' | KF 38 | 12/09/89 | 43°41.90'N 2°18.54'W | 1003 |
| DI 13 | 06/07/88 | 43°38.36'N 2°18.03'W 43°38.08'N 2°18.14'W | 1040 1007 | 15' | KF 39 | 12/09/89 | 43°41.88'N 2°19.05'W | 1020 |
| DI 19 | 07/07/88 | 43°37.48'N 1°52.52'W 43°37.46'N 1°52.66'W | 952 968 | 15' | KF 40 | 12/09/89 | 43°42.01'N 2°18.52'W | 990 |
| DI 21 | 07/07/88 | 43°37.72'N 1°41.83'W 43°37.43'N 1°41.99'W | 580 480 | 15' | KF 42 | 12/09/89 | 43°41.95'N 2°18.41'W | 1017 |
| DI 26 | 08/07/88 | 43°42.89'N 2°18.71'W 43°43.25'N 2°18.80'W | 984 1029 | 25' | KF 44 | 12/09/89 | 43°41.95'N 2°18.39'W | 1025 |
| DI 31 | 10/07/88 | 43°35.87'N 2°17.43'W 43°35.87'N 2°17.73'W | 505 512 | 15' | KF 57 | 14/09/89 | 43°35.37'N 1°54.90'W | 995 |
| DI 33 | 10/07/88 | 43°50.32'N 2°10.90'W 43°49.78'N 2°11.12'W | 495 492 | 15' | KF 58 | 14/09/89 | 43°35.26'N 1°55.28'W | 1002 |
| DI 37 | 11/07/88 | 43°36.25'N 1°48.24'W 43°36.45'N 1°48.10'W | 508 576 | 15' | | | | |
| DI 66 | 16/09/89 | 43°43.23'N 2°17.51'W 43°43.23'N 2°17.60'W | 1026 1036 | 5' | | | | |
| CM 20 | 07/07/88 | 43°36.55'N 1°54.70'W 43°36.29'N 1°54.96'W | 990 979 | 33' | | | | |
| CM 22 | 07/07/88 | 43°37.79'N 1°42.91'W 43°37.50'N 1°43.09'W | 624 652 | 25' | | | | |
| CM 27 | 08/07/88 | 43°43.19'N 2°20.13'W 43°44.54'N 2°18.18'W | 954 917 | 30' | | | | |
| CM 48 | 13/09/89 | 43°43.28'N 2°19.40'W 43°43.33'N 2°20.19'W | 980 1012 | 32' | | | | |

Coleccion de Referencia, ECOSUR-Chetumal (ECOSUR), Mexico, and Sociedad Cultural de Investigación Submarina (INSUB).

SYSTEMATICS

Family LUMBRINERIDAE Schmarda, 1861,
emended Orensanz, 1990

Genus *Abyssoninoe* Orensanz, 1990

Abyssoninoe scopa (Fauchald, 1974)

Lumbrineris scopa Fauchald, 1974: 26-27, Fig. 5.

Material examined. Atlantic Ocean, Bay of Biscay, Capbreton Canyon (coordinates in Table 1). CB 88/DI-12: 8 specimens; CB 88/DI-13: 5 specimens; CB 88/DI-19: 3 specimens; CB 88/DI-21: 7 specimens; CB 88/DI-26: 15 specimens; CB 88/DI-37: 5 specimens; CB 89/DI-66: 4 specimens; CB 89/KF-38: 1 specimen; CB 89/KF-40: 1 specimen; CB 89/KF-58: 2 specimens; CB 88/CM-27: 1 specimen.

Description. Specimen incomplete with 174 chaetigers, L10 = 3.0 mm, W10 = 1.12 mm. Prostomium conical, slightly longer than wide, with a pair of prominent nuchal organs, with short palps ventrally. Peristomium shorter than prostomium, with two rings; anterior ring slightly longer than the second one; separation between rings distinct dorsally and laterally; ventrally the first ring incom-

plete, second one projected forward as a muscular lip. All parapodia well developed, first seven smaller than following ones. Prechaetal lobe inconspicuous along the body. Postchaetal lobe well developed from the first parapodium, conical, becoming more developed, digitiform, in posterior parapodia. Short rounded dorsal cirri in all parapodia, with several notoacaculae. Limbated simple multidentate hooded hooks in chaetigers 1-20; simple multidentate hooded hooks with long hood in chaetigers 20-32, with up to 8 teeth of similar size; from chaetiger 33 with short hood, with up to 8 teeth, proximal tooth bigger. Aciculae yellow, aristate, up to four in anterior parapodia, and one in posterior parapodia. Maxillary apparatus with four pairs of maxillae; maxillary carriers slightly shorter than MI, anterior end constricted; MI forceps-like, with bridles well developed; MII as long as MI, with four teeth in left plate and five in the right one. MIII arcuate, unidentate; MIV unidentate, like a broad rectangular plate with a projection from middle of its inferior border. Mandible fused for up to 3/4 of its length.

Remarks. Additional material L10 = 1.30-3.30 mm, W10 = 0.25-1.15 mm. The ending of limbated simple multidentate hooded hooks varies from chaetigers 9 to 21, and the beginning of simple mul-

tidentate hooded hooks with long hood in chaetiger and simple multidentate with short hood vary from chaetigers 10 to 22 and 23 to 41 respectively; all are size dependent.

Discussion. Parapar *et al.* (1994) considered *Abyssoninoe scopa* (Fauchald, 1974), among other species, as a synonym of *A. hibernica* (McIntosh, 1903). However, herein, we are proposing that there are enough important differences, mainly in the development of the postchaetal lobes at the posterior end, to consider both as valid species. A review and comparison of complete specimens of all Northeast Atlantic species is necessary to clarify the taxonomy of these groups of species.

Distribution. Northeast Atlantic.

Genus *Augeneria* Monro, 1930, emended
Orensanz, 1973
Augeneria algida (Wirén, 1901)

Augeneria algida Winsnes, 1987:40, Figs. 1-5.

Material examined. Atlantic Ocean, Bay of Biscay, Capbreton Canyon (coordinates in Table 1). CB 88/DI-12: 9 specimens; CB 88/DI-13: 2 specimens; CB 88/DI-19: 9 specimens; CB 88/DI-26: 7 specimens; CB 88/DI-31: 1 specimen; CB 88/DI-33: 1 specimen; CB 88/DI-37: 11 specimens; CB 89/DI-66: 10 specimens; CB 89/KF-38: 2 specimens; CB 89/KF-39 2 specimens, CB 89/KF-40: 2 specimens, CB 89/KF-57: 3 specimens.

Description. Specimen incomplete with 27 chaetigers, L10 = 1.7 mm, W10 = 0.5 mm. Prostomium conical, slightly longer than wide, with a pair of nuchal organs, with three small antennae in a single row; with short palps ventrally. Peristomium shorter than prostomium, about 1/2 its length; with two rings, anterior ring slightly longer than the second one; separation between rings distinct dorsally and laterally; ventrally first ring incomplete, second one projected forward as a muscular lip. All parapodia well developed, first five smaller than following ones, slightly visible in dorsal view. Prechaetal lobe inconspicuous along the body. Postchaetal lobe well developed from first parapodium, conical, slightly longer than prechaetal lobe, more developed in parapodia 6-13. Short rounded dorsal cirri in all parapodia. Composite multidentate hooded hooks in chaetigers 1-12, with long blade, with up to 7 teeth of similar size; simple multidentate hooded hooks from chaetiger 13, with up to 7 teeth, proximal tooth bigger, with short hood; dorsal limbates in all chaetigers of the specimen, ventral limbates in chaetigers 1-14.

Aciculae yellow, aristate, up to three in anterior parapodia, and one in posterior one. Maxillary apparatus with four pairs of maxillae; maxillary carriers slightly shorter than MI; MI forceps-like with bridles well developed; MII as long as MI, with three stout teeth. MIII arcuate, edentate; MIV edentate, with whitish central area. Mandible with both anterior and posterior end divergent.

Remarks. Additional material L10 = 1.20-1.52 mm, W10 = 0.25-0.39 mm. The ending of composite multidentate hooded hooks and the beginning of the simple multidentate hooded hooks varies from chaetiger 8 to 12 and 9 to 13 respectively; both are size dependent.

Distribution. Northeast Atlantic.

Augeneria riojai n. sp.
(Fig. 2)

Material examined. Atlantic Ocean, Bay of Biscay, Capbreton Canyon (coordinates in Table 1). Holotype (MNCN), CB 88/DI- 21.

Description. Holotype incomplete with 29 chaetigers, L10 = 8.2 mm, W10 = 4.5 mm. Prostomium conical, as long as wide, with a pair of prominent nuchal organs, with eight small antennae in two rows (Fig. 2A); with well developed palps ventrally. Peristomium as long as the prostomium; with two rings, anterior ring twice as long as the second one; separation between rings distinct dorsally and laterally; ventrally first ring incomplete, second one projected forward as a muscular lip, transversally separated. All parapodia well developed, first five smaller than following ones. Prechaetal lobe in parapodia 1-7 inconspicuous, from parapodium 8 with a small digitiform projection in the distal end increasing slightly. in parapodia 13-19 similar in size to the postchaetal lobe, from parapodium 20 slightly longer than postchaetal lobe (Figs. 2B-C). Postchaetal lobe well developed in all parapodia, in parapodia 1-4 conical, from parapodium 5 with a digitiform projection increasing slightly, longer than prechaetal lobe, from parapodium 20 shorter than prechaetal one. Short rounded dorsal cirri in all parapodia, with several notoacaculae. Composite multidentate hooded hooks in chaetigers 1-19, with short blade, with up to 7 teeth of similar size (Fig. 2D); simple multidentate hooded hooks from chaetiger 20, with short hood, with up to 8 teeth of similar size (Fig.

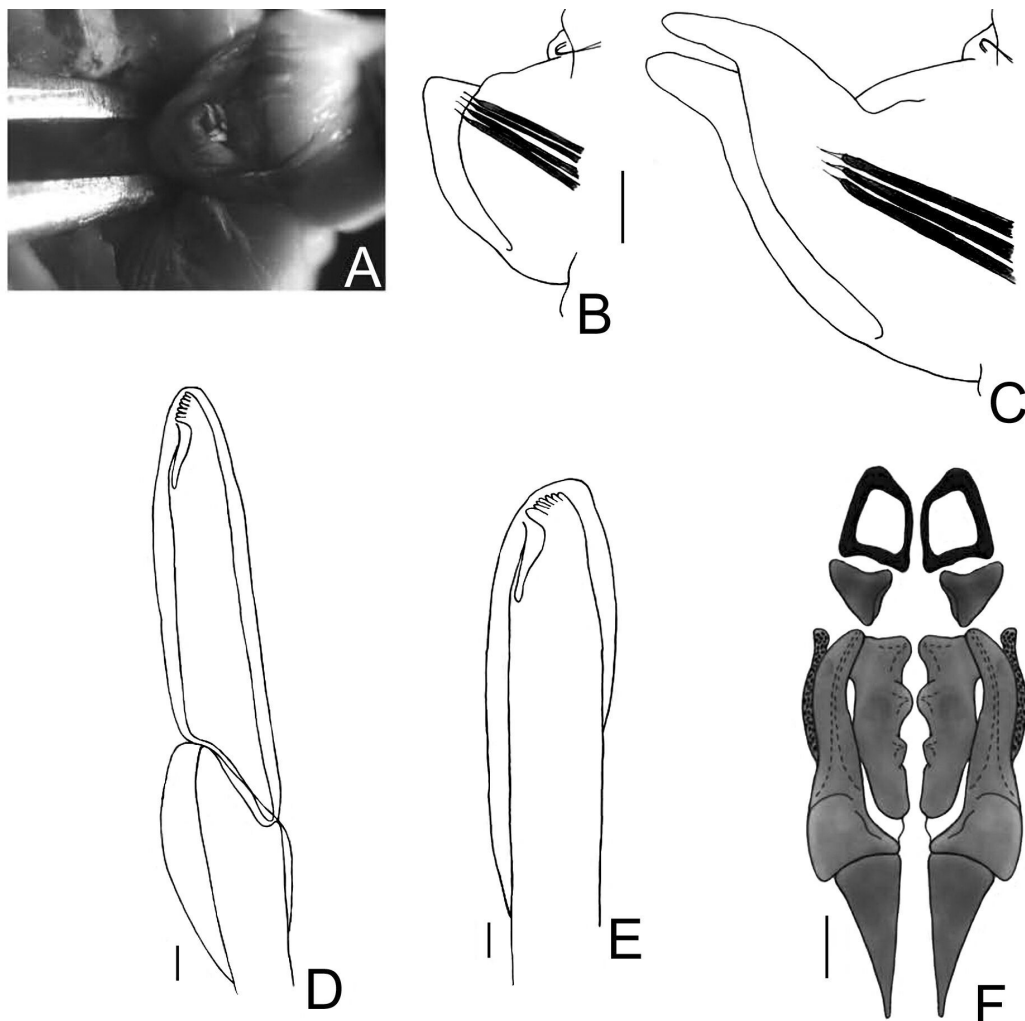


FIG. 2. – *Augeneria riojai* sp. nov.: A, anterior end showing antennae; B, parapodium 4; C, parapodium 26; D, composite multidentate hooded hook; E, simple multidentate hooded hook; F, maxillary apparatus. Scale bars: B, C 0.05 mm; C, D 0.01 mm; F 0.5 mm.

2E); dorsal and ventral limbates in all chaetigers of the specimen. Aciculae dark, aristate, up to five in anterior parapodia, and three in posterior ones. Maxillary apparatus with four pairs of maxillae (Fig. 2F); maxillary carriers shorter than MI; MI forceps-like with bridles well developed; MII as long as MI, with three stout teeth, the basal one poorly developed. MIII arcuate, edentate; MIV edentate, with whitish central area. Mandible with both anterior and posterior end divergent.

Etymology. This species is named in honour of Enrique Rioja in recognition of his notable studies in invertebrate zoology, especially his studies on polychaetes from Spain and Mexico.

Discussion. *Augeneria riojai* n. sp. resembles *A. polytentaculata* Imajima and Higuchi, 1975 from

Japan by having several small antennae and by the shape and development of both the prechaetal and postchaetal lobes; it differs mainly because *Augeneria riojai* n. sp. has dark aciculae and *A. polytentaculata* has yellow aciculae.

Type locality. Capbreton Canyon, Bay of Biscay.

Distribution. Restricted to type locality.

Genus *Lumbricalus* Frame, 1992, emended
Carrera-Parra, 2004

***Lumbricalus campoyi* n. sp.**
(Fig. 3)

Material examined. Atlantic Ocean, Bay of Biscay, Capbreton Canyon (coordinates in Table 1). Holotype (MNCN), CB 88/CM-20; paratypes (ECOSUR), CB 88/CM-27 and (MNHN), CB 89/CM48.

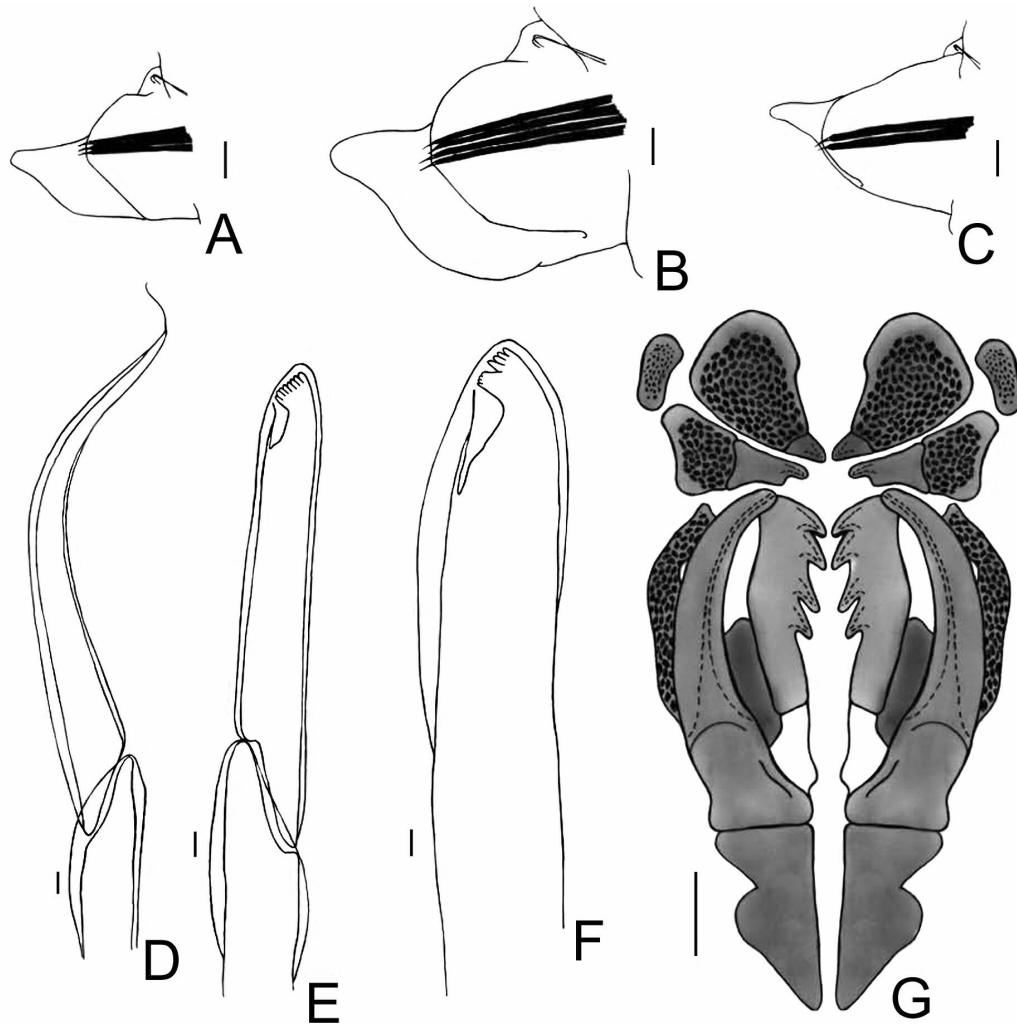


FIG. 3. – *Lumbricalus campoyi* sp. nov.: A, parapodium 4; B, parapodium 12; C, parapodium 140; D, composite spiniger; E, composite multidentate hooded hook; F, simple multidentate hooded hook; G, maxillary apparatus. Scale bars: A, B, C 0.05 mm; D, E, F 0.01 mm; G 0.5 mm.

Description. Holotype incomplete, with 150 chaetigers, L10 = 7.0 mm, W10 = 4.0 mm. Prostomium conical, rounded, as long as wide, with a pair of nuchal organs, with well developed palps ventrally. Peristomium half as long as prostomium, with two rings; anterior ring twice as long as the second one; separation between rings distinct dorsally and laterally, ventrally first ring incomplete and second one projected forward as a muscular lip. All parapodia well developed, first 10 smaller than following ones. Prechaetal lobe inconspicuous along the body. Postchaetal lobe well developed in all parapodia; in parapodia 1-4 conical, from parapodium 5 to 30 conical, wide basally; from parapodium 41 digitiform; always longer than the prechaetal lobe (Figs. 3A-C). Parapodia and lobes more developed from parapodium 10 to 23. With conspicuous short dorsal cirri in all parapodia, with several notoaciculae. Composite

spinigers in chaetigers 1-28 (Fig. 3D), with up to two or three per parapodium; composite multidentate hooded hooks in chaetigers 1-30, with long blade, with up to 10 teeth of similar size (Fig. 3E); simple multidentate hooded hooks from chaetiger 31, with up to 5 teeth, proximal tooth bigger, with short hood (Fig. 3F); dorsal limbates in chaetigers 1-107, ventral limbates in chaetigers 1-35. All chaetae reddish. Aciculae black, aristate, up to five in anterior parapodia, and two in posterior parapodia. Maxillary apparatus with five pairs of maxillae (Fig. 3G). Maxillary carriers shorter than MI, anterior end constricted. MI forceps-like, with well developed bridles; MII shorter than MI, with wide well developed connecting plates, with 4 teeth. MIII unidentate, with prominent tooth followed by an expanded base; MIV unidentate; MV free, lateral to MIV and MIII. Mandible fused for up to 3/4 of its length.

Etymology. This species is named in honour of Antonio Campoy in recognition of his studies on polychaetes from the Iberian Peninsula.

Discussion. *L. campoyi* n. sp. resembles *L. harrisae* Carrera-Parra, 2004 from California, *L. composita* (Hartmann-Schröder, 1965) from Chile, and *L. aotearoae* (Knox and Green, 1972) from New Zealand, by the presence of MIII unidentate. It differs from *L. harrisae* and *L. aotearoae* by the colour of the aciculae, black in *L. campoyi* n. sp. and yellow in the other two species. *L. campoyi* n. sp. differs from *L. composita* because it lacks elongated postchaetal lobes from medium parapodia. Furthermore, *L. campoyi* n. sp. is the only species of this group having few composite spinigers per parapodium (2-3).

Type locality. Capbreton Canyon, Bay of Biscay.

Distribution. Restricted to type locality.

Genus *Lumbrinerides* Orensanz, 1973
Lumbrinerides amoureuxi Miura, 1980

Lumbrinerides amoureuxi Miura, 1980: 1028-1029, Fig. 5.

Material examined. Atlantic Ocean, Bay of Biscay, Capbreton Canyon (coordinates in Table 1). CB 88/DI-12: 6 specimens; CB 88/DI-13: 4 specimens; CB88/DI-26: 4 specimens; CB 89/DI66: 1 specimen; CB 89/KF-38: 1 specimen. Additional material: Holotype MNHN A874 AS407, au large de la Côte d'Arcachon, 20-25 m.

Description. Specimen incomplete, with 34 chaetigers, L10 = 2.5 mm, W10 = 0.4 mm. Prostomium three times longer than wide, with a small pair of nuchal organs, with short palps ventrally. Peristomium shorter than prostomium, with two rings of similar size; separation between rings distinct dorsally and laterally; ventrally first ring incomplete and second one projected forward as a muscular lip. First 5 parapodia smaller than following ones, slightly visible in dorsal view. In parapodia 1-6 both prechaetal and postchaetal lobes rounded, short, of similar size. From parapodium 7 postchaetal lobe more developed, digitiform throughout the body. Parapodia and lobes more developed from parapodium 9 to 16. Short dorsal cirri in all parapodia. Simple bidentate hooded hooks from chaetiger 5; limbates in all chaetigers of the specimen. Aciculae yellow, aristate, with up to three in anterior parapodia and two in posterior parapodia. Maxillary apparatus with four pairs of maxil-

lae; carriers as long as MI, slightly constricted in the middle region. MI forceps-like with internal accessory teeth, with well developed bridles; MII as long as MI, with 3 teeth; MIII arcuate, unidentate; MIV unidentate with attachment lamella slightly developed. Mandible fused, reddish.

Distribution. Northeast Atlantic (Spain and France).

Genus *Lumbrineris* de Blainville, 1828
Lumbrineris aniara Fauchald, 1974

Lumbrineris aniara Fauchald, 1974: 24-25, Figs. 4A-H.

Material examined. Atlantic Ocean, Bay of Biscay, Capbreton Canyon (coordinates in Table 1). CB 88/DI-31: 7 specimens; CB 88/DI-33: 18 specimens; CB 88/DI-37: 1 specimen; CB 89/DI-66: 1 specimen. Additional material: Holotype BZM55046, Western Norway, Skåneviksfjorden, SE of Toftedalven, 59°44'45"N, 05°32'35"E, 220-186 m. Paratypes BZM55047 (3); LACM-AHF Poly1121 (1). Western Norway, Skåneviksfjorden, SE of Toftedalven, 59°44'45"N, 05°32'35"E, 220-186 m.

Description. Specimen incomplete with 88 chaetigers, L10 = 2.7 mm, W10 = 0.8mm. Prostomium conical, as long as wide, with a pair of nuchal organs, with well developed palps ventrally. Peristomium slightly shorter than prostomium, with two rings of similar size; separation between rings distinct dorsally and laterally; ventrally the first ring incomplete and the second one projected forward as a muscular lip. All parapodia well developed, first four smaller than following ones. Prechaetal lobe in parapodia 1-6 inconspicuous, from parapodium 7 short, rounded throughout the body. Postchaetal lobe well developed from first parapodium; in parapodia 1-18 auricular, from parapodium 19 digitiform, always longer than prechaetal lobe. Short dorsal cirri in all parapodia. Composite multidentate hooded hooks in chaetigers 1-13, with short blade, with up to 6 teeth all of similar size; simple multidentate hooded hooks from chaetiger 14, with up to 8 teeth, proximal tooth slightly bigger, with short hood; dorsal limbates in chaetigers 1-48, ventral limbates in chaetigers 1-15. Aciculae yellow, aristate, up to three in anterior parapodia, and one in posterior parapodia. Maxillary apparatus with five pairs of maxillae; maxillary carriers shorter than MI, almost constricted in the middle region. MI forceps-like with well developed bridles. MII as long as MI, with 4 teeth. MIII unidentate, with short tooth; MIV with prominent tooth. MV free, lateral to MIV and MIII. Mandible divided for about half its length.

Remarks. Additional material L10 = 1.40-2.70 mm, W10 = 0.27-0.85 mm. The ending of composite multidentate hooded hooks and the beginning of the simple multidentate hooded hooks varies from chaetiger 6 to 15 and 7 to 16 respectively; both are size dependent.

Distribution. Northeast Atlantic.

***Lumbrineris futilis* Kinberg, 1865**

Lumbriconereis futilis Kinberg, 1865:568.

Material examined. Atlantic Ocean, Bay of Biscay, Capbreton Canyon (coordinates in Table 1). CB 88/CM22: 1 specimen. Additional material: Holotype of *Lumbriconereis futilis* SMNH42248, North Sea, 53°37' N, 02°27' E, Eugenie Expedition 1851—53, station 46.

Description. Specimen incomplete with 84 chaetigers, L10 = 3.0 mm, W10 = 1.0 mm. Prostomium conical, as long as wide, with a pair of nuchal organs, with well developed palps ventrally. Peristomium shorter than prostomium, about 1/2 its length; with two rings; anterior ring twice as long as second one; separation between rings distinct dorsally and laterally; ventrally the first ring incomplete and the second one projected forward as a muscular lip. All parapodia well developed, first four smaller than following ones. Prechaetal lobe in parapodia 1-15 inconspicuous, from parapodium 16 slightly developed, rounded. Postchaetal lobe well developed from the first parapodium; in parapodia 1-4 digitiform, in parapodia 5-16 digitiform, wide basally; from parapodium 17 digitiform, always longer than prechaetal lobe. Parapodia and lobes better developed in parapodia 7-14. Short dorsal cirri in all parapodia. Composite multidentate hooded hooks in chaetigers 1-17, with long blade, with up to 7 teeth, all of similar size; simple multidentate hooded hooks in chaetigers 18-25, with long hood, with up to 7 teeth, proximal tooth bigger, from parapodium 26, with short hood and with up to 7 teeth, proximal tooth bigger. Aciculae black, aristate, up to three in anterior parapodia, and one in posterior parapodia. Maxillary apparatus with five pairs of maxillae; maxillary carriers slightly shorter than MI, anterior end constricted. MI forceps-like with well developed bridles; MII as long as MI, with 4 teeth. MIII unidentate, with a prominent tooth followed by a knob; MIV with pointed tooth; MV free, prominent, lateral to MIV and MIII. Mandible divided for about half its length.

Discussion. Hartman (1949) considered this species a synonym of *Lumbrineris latreilli*, but there are sufficient differences between them to consider both species as valid; the main differences including the number of teeth in MIII and the colour of the aciculae.

Distribution. Northeast Atlantic.

Genus *Ninoe* Kinberg, 1865
***Ninoe armoricana* Glémarec, 1968**

Ninoe armoricana Glémarec, 1968: 315-320, Figs. 1-4; Ramos, 1976: 130-131, Figs. 24-26.

Material examined. Atlantic Ocean, Bay of Biscay, Capbreton Canyon (coordinates in Table 1). CB 88/DI-21: 1 specimen; CB 88/DI37: 2 specimens.

Description. Specimen incomplete with 77 chaetigers, L10 = 4.0 mm, W10 = 1.1 mm. Prostomium conical, twice as long as wide, with a pair of divergent dorsal longitudinal black bands, with a pair of nuchal organs, with well developed palps ventrally. Peristomium shorter than prostomium, about 1/2 its length; with two rings; anterior ring slightly longer than the second one; separation between rings distinct dorsally and laterally; ventrally first ring incomplete and second one projected forward as a muscular lip. All parapodia well developed, first five smaller than following ones. Prechaetal lobe inconspicuous in all parapodia; postchaetal lobes well developed from first parapodium; in parapodia 1-36 digitiform, more developed from parapodium 6 to 36, shorter from parapodium 36. Small dorsal cirri in all parapodia, with several notoaciculae. Branchiae from parapodium 3 to 36, with up to five branchial filaments. Simple multidentate hooded hooks in chaetigers 7-36, with long hood, with up to 8 teeth, all of similar size; from parapodium 37, with short hood and with up to 7 teeth, proximal tooth bigger; limbates in all chaetigers of the specimen. Aciculae reddish, aristate, with up to three in anterior parapodia and two in posterior one. Maxillary apparatus with five pairs of maxillae; maxillary carriers as long as MI, constricted in anterior end; MI forceps-like, with bridles well developed; MII as long as MI; with 7 teeth; MIII with 4 teeth, distal tooth bigger; MIV with 16 teeth, distal tooth bigger; MV free, lateral to MIV and MIII. Mandible fused for up to 3/4 of its length.

Distribution. Northeast Atlantic and Mediterranean.

ACKNOWLEDGEMENTS

Thanks are due to Département de Géologie et Océanographie (Talence; France), to the Laboratoire de Biologie des Invertébrés Marins et Malacologie – MNHN (Paris) and to the French Comité Interrégional Manche Atlantique – CNRS for the loan of sampling equipment and logistical support, to the crew of the R/V Côte d'Aquitaine for their valuable assistance at sea, to A. Urzelai, I. Esteban and I. Zabala (INSUB, San Sebastián) for their helpful contribution to the sorting of Capbreton samples. We wish to thank Leslie Harris (LACM-AHF), Fredrik Pleijel (MNHN), and Stefan Lundberg (SMNH), for making available type-material, Humberto Bahena-Basave (ECOSUR) for his help in the processing and edition of photographs, and Joao Gil (CEAB) for his comments about *Abyssoninoe*. This French-Spanish co-operative research programme was partly supported by the French Comité Interrégional Manche Atlantique – CNRS (1988–89 CAPBRETON cruises). Special thanks are due to Dr. Jean Claude Sorbe, director of the Capbreton research programme.

REFERENCES

- Aguirrezabalaga, F., G. San Martín, M.E. Petersen and A. Ceberio. – 1999. Presencia de *Dysponetus gracilis* Hartman, 1965 (Polychaeta, Chrysopetalidae) en las costas europeas, Golfo de Vizcaya. *Bol. Real Soc. Esp. Hist. Nat.* (Sec. Biol.), 95: 21-25.
- Aguirrezabalaga, F., A. Ceberio and D. Fiege. – 2001. *Octomangelona bizkaiensis* (Polychaeta: Magelonidae) a new genus and species from the Capbreton Canyon (Bay of Biscay, north-east Atlantic). *J. Mar. Biol. Ass. U.K.*, 81: 221-224.
- Aguirrezabalaga, F., A. Ceberio and H. Paxton. – 2002. Onuphidae (Polychaeta) from the Capbreton Canyon (Bay of Biscay, NE Atlantic) with the description of *Paradiopatra capbretonensis* sp. nov. *Steenstrupia*, 27: 19-28.
- Aguirrezabalaga, F. and A. Ceberio. – 2003. Dorvilleidae (Polychaeta) from the Capbreton Canyon (Bay of Biscay, N-E Atlantic) with the description of *Pettiboneia sanmartini* sp. nov. *Cah. Biol. Mar.*, 44: 41-48.
- Aguirrezabalaga, F. and A. Ceberio. – 2005a. *Sphaerodoropsis amoureuxi* and *S. stellifer*, two new species of Sphaerodoridae (Polychaeta) from the Capbreton Canyon (Bay of Biscay, NE Atlantic). *Cah. Biol. Mar.*, 46: 9-20.
- Aguirrezabalaga, F. and A. Ceberio. – 2005b. Spionidae (Annelida: Polychaeta) from the Capbreton Canyon (Bay of Biscay, NE Atlantic) with description of a new genus and three new species. *Mar. Biol. Res.*, 1: 267-280.
- Aguirrezabalaga, F. and A. Ceberio. – 2006. *Flabelligena gascognensis* sp. nov. (Polychaeta: Acrociiridae) a new species from the Capbreton Canyon (Bay of Biscay, NE Atlantic). *Sci. Mar.*, 70S1: 141-147.
- Carrera-Parra L.F. – 2004. Revisión of *Lumbricalus* Frame, 1992 (Polychaeta: Lumbrineridae). *J. Mar. Biol. Ass. U.K.*, 84: 81-91.
- Carrera-Parra L.F. – 2001. Lumbrineridae (Annelida: Polychaeta) from the Grand Caribbean region with the description of six new species. *J. Mar. Biol. Ass. U.K.*, 81: 599-621.
- Fauchald, K. 1974. – Deep-water errant polychaetes from Hardanger-Fjorden, Western Norway. *Sarsia*, 57: 1-31.
- García-Arberas, L. and A. Rallo. – 1994. Fauna béntica de los fondos de la fosa de Capbreton (Golfo de Vizcaya, Atlántico Oriental): Anélidos poliquetos. Resultados faunísticos. *Cuad. Inv. Biol.*, 18: 71-83.
- Glémarec, M. – 1968. *Ninoe armoricana* n. sp. Polychète Lumbrineridae de la Grande Vasière (Golfe de Gascogne). *Vie Milieu*, 19: 315-322.
- Hartman, O. – 1949. The marine annelids erected by Kinberg with notes on some other types in the Swedish State museum. *Ark. Zool.*, 42A: 1-156.
- Kinberg, J.G.H. – 1865. Annullata nova. *Öfvers. Kongl. Vetensk.-Akad. Förh. (Stockholm)*, 21: 559-574.
- Le Danois, E. – 1948. *Les profondeurs de la Mer*. Editions Payot, Paris.
- Miura, T. – 1980. Lumbrineridae (Annelides, Polychètes) abyssaux récoltés au cours de campagnes du Centre Océanologique de Bretagne dans l'Atlantique et la Méditerranée. *Bull. Mus. Natl. Hist. Nat. Paris*, Ser. 4, 2A: 1019-1057.
- Núñez, J., F. Aguirrezabalaga and A. Ceberio. – 2000. Species of Nereididae from the Capbreton Canyon (Bay of Biscay, north-east Atlantic). *Bull. Mar. Sci.*, 67: 25-37.
- Parapar, J., B. O'Connor, C. Briseño and V. Urgorri. – 1994. *Abyssoninoe hibernica* (McIntosh) (Polychaeta, Lumbrineridae) a valid species from the Northeast Atlantic. *Sarsia*, 79: 157-162.
- Rallo, A. – 1988. Estudio biológico de los fondos de la fosa de Capbreton (golfo de Vizcaya, Atlántico oriental). Campaña preparatoria de Julio de 1987. Nota sobre las primeras capturas de fauna de Poliquetos. *Cuad. Inv. Biol.*, 13: 145-149.
- Rallo, A., L. García-Arberas and I. Isasi. – 1993a. Distribución y asociaciones entre diversos grupos de invertebrados bénticos en aguas del cañón de Capbreton (golfo de Vizcaya). *Actes du III Colloque International d'Océanographie du Golfe de Gascogne*, pp. 275-278.
- Rallo, A., L. García-Arberas and I. Isasi. – 1993b. Fauna macrobentónica de los fondos del cañón de Capbreton: análisis faunístico de poliquetos, crustáceos y cnidarios y caracterización de puntos de muestreo según estos descriptores. *Cah. Biol. Mar.*, 35: 69-90.
- Ramos, J.M. – 1976. Lumbrineridae (Polychètes errantes) de Méditerranée. *Ann. Ins. Océanogr.*, 52: 103-137.
- San Martín, G., A. Ceberio and F. Aguirrezabalaga. – 1996. *Exogone* species (Polychaeta: Syllidae: Exogoninae) from the Capbreton Canyon (Bay of Biscay, NE Atlantic). *Cah. Biol. Mar.*, 37: 249-258.
- Winsnes, I.M. – 1987. *Augeneria algida* (Wirén) comb. n., a deep-sea lumbrinerid from Spitzbergen with aberrant setae (Annelida, Polychaeta): redescription of the holotype. *Zool. Scr.*, 16: 39-45.

Received July 9, 2004. Accepted November 7, 2005.

