

New records of molluscs for the Canary Islands

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INTRODUCTION

The Canary Islands form an archipelago very strategically situated: not far from the Mediterranean Sea, with which it partially shares its fauna; relatively close to some deep water seamounts; not far from the West African coasts, and in the path of the Gulf Stream current, which transports planktotrophic larvae from the Caribbean waters. Furthermore, Canary Islands' fishermen have been working along the west African coast for many years, sometimes cleaning their nets on the islands when they return, and therefore allowing for the introduction of exotic species.

For many years numerous samples were taken by the authors in several of the Canary Islands and some species of molluscs not previously mentioned, or mentioned with some uncertainty, were found to be living in the archipelago. Our purpose for this work is to present such previously unreported, or uncertain, molluscan taxa inhabiting the Canary Islands in preparation for a forthcoming full volume on the subject.

Abbreviations

CAP: collection of Anselmo Peñas.
 CHO: collection of José María Hernández Otero.
 CFS: collection of Frank Swinnen.
 CER: collection of Emilio Rolán (Museo Historia Natural, Universidad de Santiago de Compostela).
 CRG: collection of Ramón Gómez.
 CWE: collection of Winfried Engl.
 NNM: collection of Nationaal Natuurhistorisch Museum, Leiden.

SYSTEMATICS

Family **MODULIDAE** Fischer, P., 1884

Genus *Modulus* Gray, 1842

Modulus guernei Dautzenberg, 1900

Figs 1-3

Modulus guernei Dautzenberg, 1900. *Mem. Soc. Zool. France.*, 13: 53-54, pl. 9, fig. 9.

Distribution: This species is known from the Cape Verde Archipelago, where it was collected in rocky bottom at about 20 m (Rolán, 2005).

Remarks: Only isolated records from the Canary Islands (CWE). Having a multispiral protoconch it is possible that pelagic larvae arrived in the archipelago, forming isolated populations.

Family **LITIOPIIDAE** Gray J.E. 1847

Genus *Alaba* H. & A. Adams, 1853

Alaba culliereti (Dautzenberg, 1890)

Figs 4-6

Pseudobittium culliereti Dautzenberg, 1890. *Mem. Soc. Zool. France*: 29.

?*Eulima incerta* d'Orbigny, 1845.

Distribution: It is known from the Caribbean, the Cape Verde Archipelago and the western coast of Africa as far south as Angola. There are no records of live material from the Canary Islands, but several empty shells have been collected in sediment from La Gomera (CHO, CER), Tenerife (CWE, CER) and Fuerteventura (CFS).

Remarks: This could be the same species as *Alaba incerta* (Orbigny, 1842), as mentioned in Luque, Templado & Burnay (1988), but at present we lack comparative studies. Isolated specimens may live in the archipelago.

Family **PLANAXIDAE** Gray, 1850
Genus *Angiola* Dall, 1926

Angiola lineata (Da Costa, 1778)
Fig. 7

Buccinum lineatus Da Costa, 1778. *Couch. Brit.*: 130, pl. 8, fig. 5.

Planaxis hermaemseni Dunker, 1853. *Ind. Moll. Guin. Infér.*: 16, pl. 2, figs. 33-34.

Distribution: This species is well known from the western Atlantic and is also present in the Cape Verde Islands, where it is very common, and from the west African coast south to Angola (Rolán, 2005).

Remarks: In the Canary Islands it is uncommon, but some samples have been collected in sediment (CFS, CER).

Family **TRIPHORIDAE** Gray, 1847
Genus *Monophorus* Grillo, 1877

Monophorus alborauensis Rolán & Peñas, 2001
Figs 8-9

Monophorus alboranensis Rolán & Peñas, 2001. *Iberus*, 19(2): 38, figs. 5, 6, 10, 13-17.

Distribution: The species was described from the western Mediterranean (Rolán & Peñas, 2001) and is known only from that region.

Remarks: It has now been collected in Lanzarote between 50-60 m (CWE). The multispiral protoconch of the species suggests that it probably has a larger distribution.

Genus *Strobiliger* Dall, 1924

Strobiliger flammulata Bouchet & Warén, 1993
Figs. 10-11

Strobiliger flammulata Bouchet & Warén, 1993. *Boll. Malac. Supp.* 3: 619-621, figs. 1365-1366.

Distribution: The species was previously known from the Mediterranean, the Iberian-Moroccan Gulf and the Gorrinche Banc (Bouchet & Warén, 1993) and from the Alborán Sea (Peñas et al. 2008).

Remarks: This species has been collected in sediment from Lanzarote (CWE) between 30 and 200 m. The lack of previous records in the Canary Islands is probably due the fact that the species may be living in deep water.

Family **CERITHIOPSIDAE** Adams H. & A., 1853
Genus *Cerithiopsis* Forbes & Hanley, 1851

Cerithiopsis scalaris Locard, 1892
Figs 12-13

Cerithiopsis scalaris Locard, 1892. *Coq. Marins. Cot. France*: 118.

Distribution: Known from the Mediterranean.

Remarks: Collected NW of Gran Canaria, in sediment (CHO).

Genus *Ouchodia* Dall, 1924

Ouchodia valeriae (Giusti, 1987)
Figs 14-15

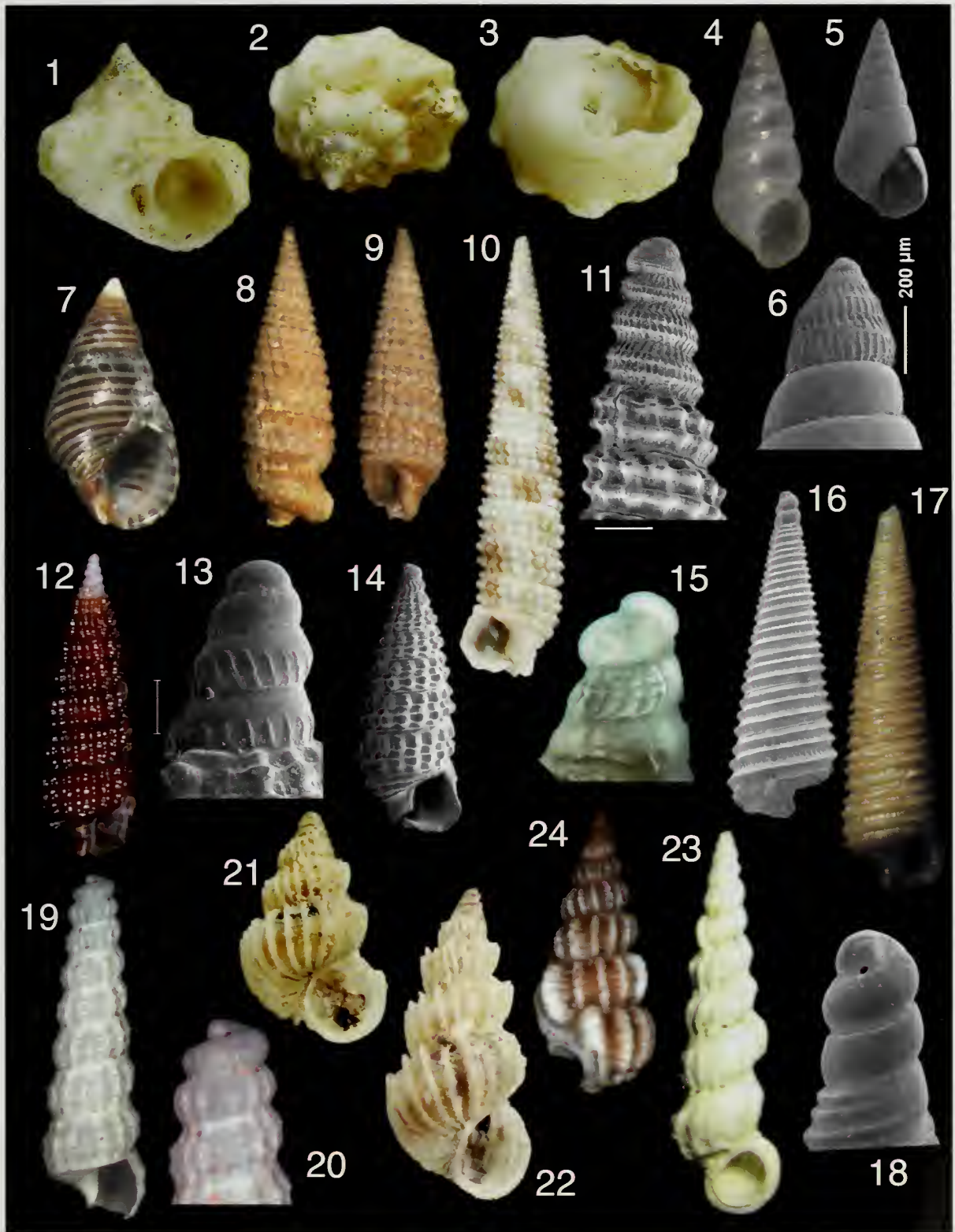
Cerithiopsis valeriae Giusti, 1987. *La Conchiglia*, 19 (222-223): 14, text figures.

Distribution: Known from the Alborán Sea and the Ibero-Moroccan Gulf (Bouchet & Warén, 1993).

Remarks: This species has been collected in sediment from NW Gran Canaria (CHO).

Figures 1-24

1-3. *Modulus guernei* Dautzenberg, 1900, 7 mm, Puerto del Carmen, Lanzarote (CWE). **4-6.** *Alaba culliereti* (Dautzenberg, 1891); **4.** 4.4 mm, Fañabé (CWE); **5.** 3.7 mm, La Gomera (CER); **6.** detail of the protoconch (CHO). **7.** *Angiola lineata* (Da Costa, 1778), 8.0 mm, Brava, Cabo Verde (CER). **8-9.** *Monophorus alboranensis* Rolán & Peñas, 2001, 4.9, 5.2 mm, Puerto del Carmen, Lanzarote (CWE). **10-11.** *Strobiliger flammulata* Bouchet & Warén, 1993; **10.** 13.7 mm, Alborán Sea (CAP); **11.** Protoconch. **12-13.** *Cerithiopsis scalaris* Locard, 1892; **12.** 4.2 mm, NO Gran Canarias (CHO); **13.** Protoconch. **14-15.** *Ouchodia valeriae* (Giusti, 1987); **14.** 3.7 mm, Mar de Alborán (CHO); **15.** Protoconch, NO Gran Canaria. **16-18.** *Seila trilineata* (Philippi, 1836) (CFS); **16.** 4.5 mm, Lanzarote (CFS); **17.** 7.2 mm, Gran Canaria (CFS); **18.** Protoconch, Lanzarote (CFS). **19-20.** *Euuuetula bouvieri* (Dautzenberg & Fischer, 1896); **19.** 5.0 mm, NO Gran Canaria (CHO); **20.** Protoconch. **21-22.** *Epitonium tryoni* (de Boury, 1913), 2.5 & 4.5 mm, Puerto del Carmen, Lanzarote (CWE). **23.** *Gregorioscala pachya* (Locard, 1897), 15 mm, Gando, Gran Canaria (CHO). **24.** *Opaliopsis atlantis* (Clench & Turner, 1952); I-J: 6.2 mm, NW Gran Canaria (CHO).



Genus *Seila* A. Adams, 1861

Seila trilineata (Philippi, 1836)
Figs 16-18

Cerithium trilineatum Philippi, 1836: 195.

Distribution: The species is known from the Mediterranean and the NW coast of Africa south to Senegal (Rolán & Pelorce, 2006).

Remarks: It was collected in sediment from Lanzarote, Fuerteventura and Gran Canaria, 50-100 m deep (CFS, CHO). Since this species is very uncommon in the Canary Islands, it is possible that its presence is due to an introduction from the Mediterranean. Presently it is only represented by isolated populations.

Genus *Enmetula* Thiele 1912

Enmetula bowvieri (Dautzenberg & Fischer, 1896)
Figs 19-20

Cerithiella bowvieri Dautzenberg & Fischer, 1896: 446, pl. 18, fig. 4.

Distribution: Known from the Vizcayan Gulf and Seamounts of the nearby Atlantic and Azores (Bouchet & Warén, 1993).

Remarks: It has been collected in NW Gran Canaria (CHO).

Family EPITONIIDAE Berry, S. S., 1910

Genus *Epitonium* Röding, 1798

Epitonium tryoni (de Boury, 1913)
Figs 21-22

Scalaria smithi Watson, 1897: 253, pl. 19, fig. 20.

Scalaria tryoni de Boury, 1913: 108, (nom. nov. pro *S. smithi* Watson, 1897, non Tryon, 1887).

Distribution: Known from the western Mediterranean and nearby Atlantic and Madeira (Bouchet & Warén, 1986); also recorded from the Canary Islands (Engl, 1993).

Remarks: This species has been collected alive at Puerto del Carmen, Lanzarote (CWE).

Genus *Gregorioscala* Cossman, 1912

Gregorioscala pachya (Locard, 1897)
Fig. 23

Scalaria pachya Locard, 1897. *Mol. Test. Trav. Talism.* 1: 398, pl. 18, figs 23-26.

Distribution: Previously reported from SW Europe and the Azores (Bouchet & Warén, 1986); it has

recently been reported from the Gulf of Mexico (García, 2008).

Remarks: This species has been collected in Gando, Gran Canaria (CHO).

Genus *Opaliopsis* Thiele, 1928

Opaliopsis atlantis (Clench & Turner, 1952)
Fig. 24

Nystiella atlantis Clench & Turner, 1952. *Johnsonia*, 2(31): 343.

Distribution: This species is known from deep water off Florida and Cuba. In the eastern Atlantic it is only known from the Azores, and the Gibraltar Straight (Bouchet & Warén, 1986).

Remarks: Collected in sediment from NW Gran Canaria (CHO).

Genus *Eulima* Risso, 1826

Eulima bilineata Alder, 1848
Fig. 25

Eulima bilineata Alder, 1848: 141.

Distribution: Known from all of the Atlantic coast of Europe and the Mediterranean (Bouchet & Warén, 1986).

Remarks: Material collected from deep water in NW Gran Canaria (CHO).

Genus *Melanella* Bowdich, 1822

Melanella doederleini (Brusina, 1886)
Fig. 26

Eulima stalioides Jeffreys, 1884: 368, pl. 28, fig. 3 (non Brusina, 1869).

Eulima doederleini Brusina, 1886: 214.

Distribution: Known from the type locality in deep water in the Atlantic (413-702 m, 36°30'-15'N, 06°47'-52'W) (Bouchet & Warén, 1986).

Remarks: This species has been found in Lanzarote between 200-220 m (CWE).

Genus *Fuscipex* Warén, 1981

Fuscipex baptocephalus
(Dautzenberg & Fischer H., 1896)
Fig. 27

Eulima baptocephala Dautzenberg & Fischer H., 1896: 461, pl. 19, fig. 20.

Distribution: This species is known from the Azores, SW Europe and northern Africa (Bouchet & Warén, 1986).

Remarks: A photograph of this species is shown here for the first time. Collected in Fuerteventura (NNM).

Family **VANIKORIDAE** Gray, 1840
Genus *Talassia* Bouchet & Warén, 1988

Talassia coriacea (Manzoni, 1868)
Figs 28-29

Rissoa coriacea Manzoni, 1868.

Distribution: Known from Madeira.

Remarks: Examined material collected at El Hierro (CFS).

Talassia dagueneti (de Folin, 1873)
Figs. 30-32

Salassia dagueneti de Folin, 1873: 112, pl. 3, fig. 1.

Distribution: Known from deep water from Vizcaya Bay down to Morocco and the Mediterranean (Bouchet & Warén, 1993).

Remarks: This species has morphologically variable shells. According to Bouchet & Warén (1993), this could mean that more than one species is included in this *taxon*. In the Canary Islands it was collected in sandy sediment from El Hierro (CFS).

Family **NATICIDAE** Forbes, 1838
Genus *Cryptonatica* Dall 1892

Cryptonatica affinis (Gmelin, 1791)
Figs 33-34

Natica affinis Gmelin, 1791: 3675.
Natica clausa Broderip & Sowerby, 1829: 372.
Natica consolidata Couthony, 1838: 89, pl. 3, fig. 14.

Distribution: Known from muddy and sandy bottom between 0 and 200 m. Circumpolar, in the entire northern European coast and the subtropical Atlantic in deep water (Bouchet & Warén, 1993).

Remarks: Collected in sediment from NW Gran Canaria (CHO).

Family **TONNIDAE** Suter, 1913
Genus *Oocorys* Fischer, 1883

Oocorys sulcata Fischer, 1883
Figs 35-36

Oocorys sulcata Fischer, 1883. *J. Conch.*, 31: 392; 1885: 769, fig. 536.

Distribution: Known from deep water off the Azores, the Mediterranean and European Atlantic. There are records from the Caribbean, South Atlantic, Indian and Pacific Oceans (Bouchet & Warén, 1993).

Remarks: Some juveniles have been collected NW of Gran Canaria (CHO).

Family **PTEROTRACHAEIDAE** Rafinesque, 1814
Genus *Pterotrachea* Niebuhr, 1775

Pterotrachea hippocampus Philippi, 1836
Fig. 38

Pterotrachea hippocampus Philippi, 1836: 204, 242, pl. 28, fig. 16.

Pterotrachea minuta Bonnevie, 1920: 13, pl. 4, figs. 47-52.

Distribution: Cosmopolitan, in tropical and subtropical waters (van der Spoel, 1976).

Remarks: Because of its wide distribution, its presence in the Canary Islands was expected, but no previous records have been published. Collected at El Hierro (CWE).

Genus *Firoloida* Lesueur, 1817

Firoloida desmaresti Lesueur, 1817
Fig. 37

Firoloida desmaresti Lesueur, 1817. *J. Acad. Nat. Sci. Philadelphia*, 1(1): 39, pl. 2, figs. 1, 1b.

Distribution: Known from the Atlantic and in some areas of the Indo-Pacific (van der Spoel, 1976).

Remarks: As with the previous species, its presence was expected in the Canary Islands. It was collected at El Hierro (CWE).

Family **TROPHONINAE** Cossmann, 1903
Genus *Coralliophila* Adams H. & A., 1853

Coralliophila panormitana (Monterosato, 1869)
Figs 39-41

Pyrula panormitana Monterosato, 1869. *Test. Nouv. Mar. Sic.*: 17, pl. 1, fig. 9.

Distribution: Known from the Mediterranean and nearby Atlantic (Poppe & Goto, 1991).

Remarks: Collected at San Cristóbal, Islas Canarias (CHO).

Genus *Babelomurex* Coen, 1922

Babelomurex benoiti (Tiberi, 1855)
Fig. 42

Murex benoiti Tiberi, 1855: 15, figs. 10-12.

Distribution: Known from the Mediterranean (Poppe & Goto, 1991) and Moroccan coasts.

Bibliografía: One specimen was collected alive at Lanzarote (CHO).

Family **CYSTISCIDAE** Stimpson, 1865
Genus *Gibberula* Swaison, 1840

Gibberula lucia Jousseaume, 1877
(Figs 43-45)

Marginella lucia Jousseaume, 1877.

Distribution: Known from Senegal.

Remarks: A population with numerous specimens was found at Fuerteventura (CHO). This species may be the result of accidental introduction in the Canary Islands by fishermen.

Family **NASSARIIDAE** Iredale, 1916
Genus *Nassarius* Duméril, 1805

Nassarius pygmaeus (Lamarck, 1822)
Figs 46-47

Ranella pygmaeus Lamarck, 1822: 154.

Distribution: This species is found in muddy bottom, usually in shallow water. Known from the European Atlantic, western Mediterranean (Poppe & Goto, 1991) and Moroccan coast.

Remarks: Only one population was found in Tenerife Island (CER), probably from a foreign introduction.

Familia **CONIDAE** Rafinesque, 1815
Género *Taranis* Jeffreys, 1870

Taranis moerchi (Malm, 1861)
Fig. 48

Trophon mörchii Malm, 1861: 623; Malm, 1863: 130, pl. 2, fig. 15.

Pleurotoma cirratum Brugnone, 1862: 17, fig. 9 (non *P. cirrata* Bellardi, 1848).

Distribution: Known from both coasts of the northern Atlantic and the Mediterranean; from 80 m to more

than 2000 m. (Bouchet & Warén, 1980).

Remarks: Collected in sediment from deep water in NW Gran Canaria (CHO) and Lanzarote (CWE).

Family **DRILLIIDAE** Olsson, 1964
Genus *Cerodrillia* Bartsch & Rehder, 1939

Cerodrillia nicklesi (Knudsen, 1956)
Fig. 49

Drillia nicklesi Knudsen, 1956. Bull. l'IFAN, 18: 522, pl. 1, fig. 4.

Distribution: This species is known from the Senegal coast.

Remarks: Found in several sediment samples in Lanzarote (CFS) (CWE) and NW Gran Canaria (CHO), Fuerteventura (CRG, CAP) and Tenerife (CER).

Family **OMALOGYRIDAE** Sars, G. O., 1878
Genus *Anumnicera* Vayssièrre, 1893

Anumnicera rotundata (Palazzi 1988)
Figs. 50-51

Anumnicerina rotundata Palazzi 1988. *Boll. Malac.*, 24 (5-8): 105, figs. 10, 21, 27.

Distribution: Known from the archipelagos of Madeira and Cape Verde (Rolán, 1991).

Remarks: Material from Las Canteras, Gran Canaria was collected from sediment (CER).

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Figures 25-51

25. *Eulina bilineata* Alder, 1848; 4.2 mm, NO Gran Canaria (CHO). **26.** *Melanella doederleini* (Brusina, 1886), 2.8 mm, Lanzarote, 220 m (CWE). **27.** *Fuscapex baptocephalus* (Dautzenberg & Fischer H., 1896), 3.3 mm, Lanzarote, 1209-1338 m (NNM). **28-29.** *Talassia coriacea* (Manzoni, 1808); **28.** 2.0 mm, Punta del Lajial, El Hierro (CFS); **29.** Protoconch. **30-32.** *Talassia dagueneti* (de Folin, 1873); **30-31.** 2.5 & 1.4 mm, Punta del Lajial, El Hierro (CFS); **32.** Protoconch. **33-34.** *Cryptonatica affinis* (Gmelin, 1791), 8.0 mm, NO Gran Canaria (CHO). **35-36.** *Oocorys sulcata* Fischer, 1883, 3 mm, NO Gran Canaria (CHO). **37.** *Firoloida desmaresti* Lesueur, 1817, entire specimen, 20 mm: La Restinga, El Hierro (CWE). **38.** *Pterotrachea hippocampus* Philippi, 1836, 25 mm, La Restinga, El Hierro (CWE). **39-41.** *Coralliophila panormitana* (Monterosato, 1869), 18 mm, San Cristobal, Tenerife (CHO). **42.** *Babelomurex benoiti* (Tiberi, 1855), live taken specimen, Fuerteventura (CHO). **43-45.** *Gibberula lucia* Jousseaume, 1877; 6.3, 5.9 & 4.7 mm, Fuerteventura (CHO). **46-47.** *Nassarius pygmaeus* (Lamarck, 1822), 6, 7 & 6.2 mm, Tenerife (CER). **48.** *Taranis moerchi* (Malm, 1861), 3.3 mm, NW Gran Canaria (CHO). **49.** *Cerodrillia nicklesi* (Knudsen, 1956), 5.4 mm, Fuerteventura (CHO). **50-51.** *Anumnicera rotundata* (Palazzi, 1988); **50.** 0.9 mm, Las Canteras (CER); **51.** Protoconch.



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