

# Check-list of interstitial polychaetes from intertidal and shallow subtidal soft bottoms of Tenerife, Canary Islands

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A check-list of polychaete species from two stations on the south coast of Tenerife (Los Abrigos and Los Cristianos) at two different tidal levels, intertidal and shallow subtidal (3 m depth) is presented. A total of 47 species were collected, the hesionid *Microphthalmus pseudoaberrans* Campoy & Viéitez, 1982 and the spionids *Rhynchospio glutaea* (Ehlers, 1897) and *Spio filicornis* (O.F. Müller, 1776) being the most abundant. With 18 species the family Syllidae is the most diverse, followed by the Spionidae and Paraonidae with 6 and 5 species, respectively. The interstitial polychaetes found are represented by both meiofaunal-sized and small-sized macrofaunal species.

Key words: carbonates, ecology, granulometry, organic matter, Polychaeta, sand

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## INTRODUCTION

In spite of the abrupt and hilly coastal morphology in the Canarian archipelago, the presence of volcanic and organogenic sandy beaches is frequent. The most extensive beaches are located in the western islands (Lanzarote and Fuerteventura). In contrast, beaches are smaller and scarcer in the eastern islands, particularly in La Gomera and El Hierro. This study is focussed on the interstitial polychaetes of two beaches of Tenerife that forms together with Gran Canaria the central block of the Canarian archipelago. The former two islands are the most inhabited and thus affected by tourism, for example with the presence of artificial modifications of the littoral (harbours, docks, coastal avenues, etc.). The south coast of Tenerife is modified in most of its extension, with several artificial beaches and dikes. These beaches are composed of sands from dredged material.

This study represents the first characterization of the interstitial polychaete fauna from the Canary Islands, with special emphasis on the diversity of coastal habitats like. The present check-list is not limited only to meiofaunal polychaetes, since animals belonging to macrofaunal-sized species were also present (e.g. *Capitomastus minimus*, among others).

## MATERIAL AND METHODS

Two sandy beaches were sampled, Los Abrigos (SE Tenerife) and Los Cristianos (SW Tenerife) (Fig. 1). Los Abrigos beach is characterized by volcanic sands with a low content of carbonates, whilst in Los Cristianos beach organogenic sands are present with a high content of carbonates (Riera 2004).

Samples from Los Abrigos and Los Cristianos were collected in the intertidal at mean low tide

level and shallow subtidal (3 m depth) by means of PVC cores to a sediment depth of 30 cm (475 cm<sup>3</sup>). Replicates were collected for faunistic analysis and for abiotic factors (granulometry, organic matter and carbonates). Samples were fixed and preserved in 4% neutralized formalin-seawater solution. Thereafter, samples were sieved through a 63 µm mesh and then transferred to 70% ethanol. Several whole specimens were

mounted in jelly glycerine; examination was made by means of a compound microscope provided with differential interference contrast optics (Nomarski).

The studied material is deposited in the collections of the Department of Animal Biology (Zoology) of the University of La Laguna, Canary Islands. Systematics adopted in the present study followed Rouse & Fauchald (1997) proposal.

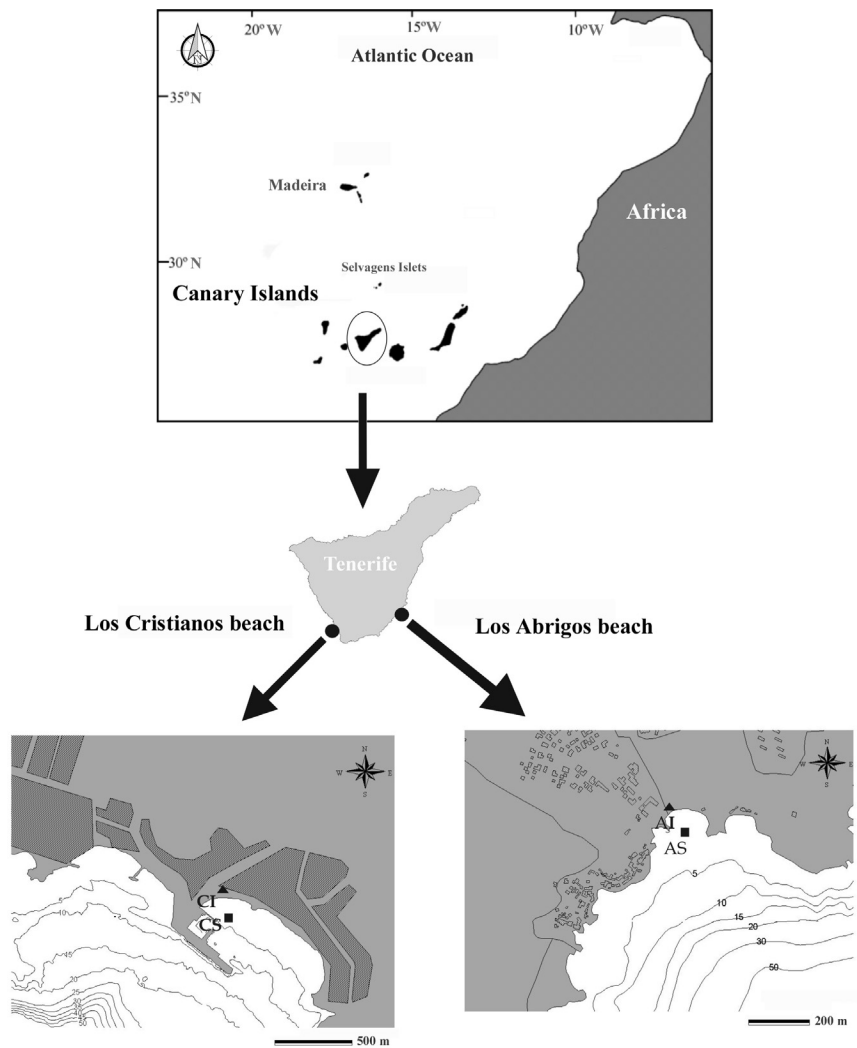


Fig. 1. Map of the investigated areas showing the location of sampling stations: CI and CS, Los Cristianos intertidal and subtidal; AI and AS, Los Abrigos intertidal and subtidal samples.

## RESULTS

### SPECIES CHECK-LIST

#### FAMILY CAPITELLIDAE Grube, 1862

*Capitomastus* Eisig, 1887

*Capitomastus minimus* (Langerhans, 1880)

*Capitella minimus* Langerhans 1880: 299, figs. 4, 12.

*Capitomastus minimus*: Hartmann-Schröder 1971: 396, fig. 140a-c.

*Material examined*: Los Abrigos beach: subtidal, 13 specimens; Los Cristianos beach: subtidal, 4 specimens.

*Ecology*: Los Abrigos subtidal: in well sorted fine sands with 0.77% organic matter and 9.57% carbonates. Los Cristianos subtidal: in well sorted fine sands with 0.02% organic matter and 22.56% carbonates. Canary Islands: in seagrass meadows (5-18 m depth) (Brito 2002), being a dominant species. Mediterranean Sea: more frequent in subtidal soft-bottoms (Capaccioni 1987), although also present on hard substrates (Sardá 1985; Alós 1988).

*Distribution*: East Atlantic (Rullier & Amoreux 1970). Mediterranean (Desbrúyeres et al. 1972). Red Sea (Ben-Eliahu 1976). Canary Islands: Lanzarote, Tenerife (Brito 2002).

*Notomastus* Sars, 1851

*Notomastus latericeus* Sars, 1851

*Notomastus latericeus*: Fauvel 1927: 143, fig. 49 a-h.

*Material examined*: Los Abrigos beach: subtidal, 1 specimen.

*Ecology*: Los Abrigos subtidal: in well sorted medium sands with 1.68% organic matter and 3.08% carbonates. Canary Islands: in seagrass meadows (8-14 m depth), as a non-dominant and solely in subtidal soft-bottoms (Brito 2002). Atlantic-Mediterranean region: in subtidal soft bottoms (Bellan 1964) and hard substrates (Sardá 1984). In deep sediments at depths of 4.000 m

(Amoreux 1971) and can be considered to be euryhaline (Viéitez 1976).

*Distribution*: Cosmopolitan of cold and warm waters (Rullier & Amoreux 1970; Desbrúyeres et al. 1972; Ben-Eliahu 1976). Canary Islands: Lanzarote, Fuerteventura, Gran Canaria and Tenerife (Langerhans 1884; Núñez et al. 1984).

#### FAMILY OPHELIIDAE Malmgren, 1867

*Ophelia* Savigny in Lamarck, 1818

*Ophelia bicornis* Savigny in Lamarck, 1818

*Ophelia bicornis*: Fauvel 1927: 130, fig. 46 a, f.

*Material examined*: Los Abrigos beach: subtidal, 1 specimen.

*Ecology*: Los Abrigos subtidal: in well sorted medium sands with 1.68% organic matter and 3.08% carbonates. Canary Islands: in *Cymodocea* seagrass meadows at 14 m depth (Brito 2002). Atlantic-Mediterranean region: in intertidal and subtidal soft bottoms, more abundant in coarse sands (Junoy 1988).

*Distribution*: East Atlantic (Rioja 1917). Mediterranean (Bellan 1964). Canary Islands: Tenerife (Brito 2002).

*Pararicia* Solís-Weiss & Fauchald, 1989

*Pararicia* sp.

*Material examined*: Los Cristianos beach: subtidal, 2 specimens.

*Ecology*: Los Cristianos subtidal: in well sorted fine sands with 0.71-0.86% organic matter and 24.27-26.84% carbonates

*Distribution*: First record of this genus for the Canary Islands (Tenerife).

#### FAMILY ORBINIIDAE Hartman, 1942

*Schroederella* Laubier, 1962

*Schroederella laubieri* Badalamenti & Castelli, 1991

*Schroederella laubieri* Badalamenti & Castelli, 1991: 218, figs. 1, 2 a-f.

*Material examined:* Los Abrigos beach: intertidal, 1 specimen; subtidal, 27 specimens; Los Cristianos beach: subtidal, 27 specimens.

*Ecology:* Los Abrigos: in well sorted fine and medium sands with 0.50-1.33% organic matter and 1.54-5.30% carbonates. Los Cristianos: in well sorted fine sands, with 0.006-0.86% organic matter and 24.27-25.30% carbonates. Canary Islands: in shallow subtidal soft-bottoms at depths between 5 and 15 m (Brito 2002). Mediterranean Sea: in subtidal coarse sand bottoms and *Cymodocea nodosa* meadows (Badalamenti & Castelli 1991).

*Distribution:* Mediterranean (Badalamenti & Castelli 1991). Atlantic Ocean, Canary Islands: Lanzarote, Fuerteventura and Tenerife (Brito 2002).

**Scoloplos** Blainville, 1828

***Scoloplos armiger*** (O.F. Müller, 1776)

*Scoloplos armiger*: Fauvel 1927: 20-21, fig. 6 k-q.

*Material examined:* Los Abrigos beach: subtidal, 2 specimens; Los Cristianos beach: subtidal, 4 specimens.

*Ecology:* Los Abrigos subtidal, in well sorted fine sands, with 0.50% organic matter and 1.54% carbonates. Los Cristianos subtidal, in well sorted fine sands, with 0.73% organic matter and 24.96% carbonates. Atlantic-Mediterranean region: in soft-bottoms, being more abundant in medium sand bottoms and can be considered to be stenobathic (Moreira 1999).

*Distribution:* Cosmopolitan (Intes & Le Loeuff 1977). First record of this species for the Canary Islands (Tenerife).

**FAMILY PARAONIDAE** Cerruti, 1909

***Acmira*** (Hartley, 1981)

***Aricidea (Acmira) assimilis*** Tebble, 1959

*Aricidea (Acesta) assimilis*: Strelzov 1979: 108, figs. 7, 16, 39.

*Material examined:* Los Cristianos beach: subtidal, 1 specimen.

*Ecology:* Los Cristianos subtidal: in well sorted fine sands, with 0.73% organic matter content and

24.96% carbonates. Canary Islands: it can reach high abundances in Lanzarote and Fuerteventura, being dominant along the year (Brito 2002).

Atlantic-Mediterranean region: in soft-bottoms, from shallow subtidal to 1.000 metres depth (Strelzov 1979).

*Distribution:* East Atlantic (Day 1961; Strelzov 1979). Mediterranean (Campoy 1982). East Pacific (Hobson & Banse 1981). Canary Islands: Tenerife (Brito 2002).

***Aricidea (Acmira) catherinae*** Laubier, 1967

*Aricidea (Acmira) catherinae*: Gaston 1984: 56, fig. 2-43; Montiel, Hilbig & Rozbaczylo 2002: 136, fig. 2 e-g.

*Material examined:* Los Abrigos beach: subtidal, 2 specimens.

*Ecology:* Los Abrigos: in well sorted fine sands, with 0.54% organic matter and 5.98% carbonates. Canary Islands: in subtidal soft-bottoms (Brito 2002). Atlantic-Mediterranean region: in subtidal soft-bottoms, being euribathic (Gaston 1984) and eurihaline (Capaccioni 1987).

*Distribution:* Amphiatlantic (Pettibone 1963; Campoy 1982). East Pacific (Hartman 1963). Mediterranean (Desbruyeres et al. 1972). Canary Islands (Tenerife) (Brito 2002).

***Cirrophorus*** Ehlers, 1908

***Cirrophorus armatus*** (Glémarec, 1966)

*Cirrophorus armatus*: Strelzov 1968: 131, fig. 47 a-e; Hartmann-Schröder 1996: 383, fig. 180.

*Material examined:* Los Cristianos beach: subtidal, 1 specimen.

*Ecology:* Los Cristianos, in well sorted fine sands, with 0.81% organic matter and 24.10% carbonates.

Canary Islands: in bare soft-bottoms and *Cymodocea nodosa* meadows (Brito 2002). Mediterranean sea: in muddy and sandy seabeds (Capaccioni 1987).

*Distribution:* East Atlantic (Glémarec 1966). Mediterranean (Harmelin 1969). Canary Islands: Lanzarote, Fuerteventura and Tenerife (Brito 2002).

***Cirrophorus furcatus*** Hartman, 1957

*Cirrophorus furcatus*: Strelkov 1979: 140, figs. 18.5, 50a-e.

*Material examined*: Los Abrigos beach: subtidal, 6 specimens.

*Ecology*: Los Abrigos subtidal: in well sorted fine sands, with 0.85% organic matter and 7.18% carbonates. Mediterranean sea: in soft-bottoms with diverse granulometry (Desbrúyeres et al. 1972).

*Distribution*: East Atlantic (Laubier & Ramos 1973). Mediterranean (Desbrúyeres et al. 1972). East Pacific (Hartman 1969). Canary Islands: Tenerife. First record of this species in the Canary Islands.

***Cirrophorus perdidoensis*** McLelland & Gaston, 1994

*Cirrophorus perdidoensis*: McLelland & Gaston 1994: 525, fig. 1 a-e.

*Material examined*: Los Abrigos beach: subtidal, 1 specimen.

*Ecology*: Los Abrigos subtidal: in well sorted medium sands, with 1.68% organic matter and 3.08% carbonates. Canary Islands: in soft-bottoms, being constant along the year (Brito 2002). Eastern Atlantic Ocean: in shallow subtidal soft-bottoms (McLellan & Gaston 1994).

*Distribution*: Amphiatlantic (McLelland & Gaston 1994; Brito 2002). Canary Islands: Lanzarote, Fuerteventura, Tenerife and La Palma.

***Levinsenia*** Mesnil, 1897

***Levinsenia canariensis*** (Brito & Núñez, 2002)

*Periqueta canariensis* Brito & Núñez, 2002: 284, figs. 2-3.

*Levinsenia canariensis*: Giere et al. 2008: 312, fig. 3 A-C.

*Material examined*: Los Abrigos beach: intertidal, 3 specimens; subtidal, 71 specimens.

*Ecology*: Los Abrigos intertidal: well sorted medium sands, with 1.30% organic matter and 4.44% carbonates. Los Abrigos subtidal: in well sorted fine sands, with 1.54% organic matter and 6.84% carbonates. Canary Islands: in bare soft-bottoms and *Cymodocea nodosa* meadows, being

more abundant during summer (Brito 2002).

*Distribution*: Selvagens Islands (Núñez et al. 2001; Brito & Núñez 2002). Canary Islands: Lanzarote, Gran Canaria, Tenerife and El Hierro.

**FAMILY SABELLIDAE** Malmgren, 1867

***Desdemonia*** Banse, 1957

***Desdemonia* sp.**

*Material examined*: Los Abrigos beach: intertidal, 2 specimens.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 1.33-1.62% organic matter and 5.47-5.64% carbonates.

*Distribution*: First record of this genus for the Canary Islands (Tenerife).

***Novafabricia*** Fitzhugh, 1990

***Novafabricia* sp.**

*Material examined*: Los Abrigos beach: intertidal, 1 specimen.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 1.33% organic matter and 5.47% carbonates.

*Distribution*: First record of this genus for the Canary Islands (Tenerife).

**FAMILY SPIONIDAE** Grube, 1850

***Dispio*** Hartman, 1951

***Dispio uncinata*** Hartman, 1951

*Dispio uncinata* Hartman 1951: 87, fig. 22, figs. 1-5. fig. 23, figs. 1-4;

*Material examined*: Los Abrigos beach: intertidal, 1 specimen, subtidal, 5 specimens; Cristianos: intertidal, 1 specimen, subtidal, 1 specimen.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 1.33% organic matter content and 5.30% carbonates. Los Abrigos subtidal: in well sorted medium sands, with 1.31-1.54% organic matter and 5.13-6.84% carbonates. Los Cristianos intertidal, in well sorted fine sands, with 0.93% organic matter and 23.59% carbonates. Los Cristianos subtidal: in well sorted fine sands, with 0.86% organic matter and

24.27% carbonates. Canary Islands: in bare soft-bottoms and *Cymodocea nodosa* meadows, more abundant in intertidal and shallow seabeds (Brito 2002). Atlantic-Mediterranean region: in sandy bottoms, from the intertidal to 100 m depth (Bellan 1969; Ibáñez & Viéitez 1973).

*Distribution:* Cosmopolitan (Hartman 1969; Ibáñez & Viéitez 1973; Uebelacker 1984). Canary Islands: Tenerife and La Palma (Brito 2002).

***Pseudopolydora*** Czerniavsky, 1881

***Pseudopolydora* sp.**

*Material examined:* Los Cristianos beach: intertidal, 1 specimen.

*Ecology:* Los Cristianos intertidal, it was collected in well sorted fine sands. The organic matter content was 0.86% and 24.27% of carbonates.

*Distribution:* First record of this genus for the Canary Islands (Tenerife).

***Rhynchospio*** Hartman, 1936

***Rhynchospio glutaea*** (Ehlers, 1897)

*Rhynchospio glutaea:* Imajima 1991: 10, fig. 4a-q.

*Material examined:* Los Abrigos beach: intertidal, 8 specimens; subtidal, 74 specimens; Los Cristianos beach: intertidal, 21 specimens, subtidal, 114 specimens.

*Ecology:* Los Abrigos intertidal: in well sorted medium sands, with 1.03% organic matter content and 5.81% carbonates. Los Abrigos subtidal: in well sorted medium sands, with 0.67-0.91% organic matter and 3.78-6.32% carbonates. Los Cristianos intertidal, in well sorted fine sands, with 0.006% to 0.29%, organic matter and 15.78-18.97% carbonates. Los Cristianos subtidal: in well sorted fine sands, with 0.46-0.73% organic matter and 23.78-24.96% carbonates. Canary Islands: in *Cymodocea nodosa* meadows at 6 m depth (Brito 2002). East Atlantic Ocean: in sponges and laminarians (Blake et al. 1996).

*Distribution:* Cosmopolitan (Day, 1967; Carrasco, 1974; Blake, 1983). Canary Islands: Fuerteventura and Tenerife (Brito 2002).

***Scoelelepis*** Blainville, 1828

***Scoelelepis (Scoelelepis) squamata*** (O.F. Müller, 1806)

*Scoelelepis squamata:* Day, 1967: 483, fig. 18.7 c-h.

*Material examined:* Los Abrigos beach: intertidal, 4 specimens; Los Cristianos beach: intertidal, 16 specimens, subtidal, 1 specimen.

*Ecology:* Los Abrigos intertidal: in well sorted medium sands, with 0.86-1.11% organic matter and 3.56-5.81% carbonates. Los Cristianos intertidal: in well sorted medium sands, with 0.006-0.93% organic matter and 17.89-18.29% carbonates. Los Cristianos subtidal: in well sorted fine sands, with 0.73% organic matter content and 24.96% carbonates. Canary Islands: in subtidal soft-bottoms (Herrando-Pérez et al. 2001). Atlantic Ocean: in sandy soft-bottoms at a depth of 25 metres (Maciolek 1987).

*Distribution:* Cosmopolitan of warm and tropical waters (Day 1973; Maciolek 1983; Parapar 1991). Canary Islands: Tenerife and La Gomera (Herrando et al. 2001).

***Spio*** Fabricius, 1785

***Spio decoratus*** Bobretzky, 1870

*Spio decoratus:* Dauvin 1989: 167, fig. 1; Parapar 1991: 156, fig. 44 c.

*Material examined:* Los Abrigos beach: subtidal, 1 specimen.

*Ecology:* Los Abrigos subtidal: in well sorted medium sands, with 1.68% organic matter content and 3.08% carbonates. Canary Islands: in bare soft-bottoms and *Cymodocea nodosa* meadows, at depths between 8 and 13 m (Brito 2002). Atlantic-Mediterranean region: between hard substrates and sandy bottoms (Bellan 1971), more abundant in muddy and muddy sand bottoms with a low organic matter content (Capaccioni 1987), and harbour areas (Tena 1992).

*Distribution:* Atlantic (López-Jamar 1978). Mediterranean (San Martín & Alvarado 1982). Canary Islands: Gran Canaria, Tenerife and La Gomera (Brito 2002; Herrando et al. 2001).

***Spio filicornis*** (O.F. Müller, 1766)

*Spio filicornis*: Fauvel 1927: 43; fig. 15 a-g; Day 1967: 481, fig. 18.6 l-o.

**Material examined:** Los Abrigos beach: intertidal, 5 specimens, subtidal, 334 specimens; Los Cristianos beach: intertidal, 17 specimens, subtidal, 269 specimens.

**Ecology:** Los Abrigos intertidal: in well sorted medium sands, with 0.76-1.30% organic matter and 3.26-4.44% carbonates. Los Abrigos subtidal: in well sorted medium sands, with 0.76-0.91% organic matter and 4.56-6.32% carbonates. Los Cristianos intertidal: in well sorted fine sands, with 0.76-1.24% organic matter and 19.87-23.59% carbonates. Los Cristianos subtidal: in well sorted fine sands, with 0.006-0.86% organic matter and 19.98-24.27% carbonates. Canary Islands: in bare soft bottoms and *Cymodocea nodosa* meadows, at 5-10 m depth (Brito 2002). Eastern Atlantic Ocean: higher densities in the subtidal (Parapar 1991). Western Atlantic: at depths of 70 m (Maciolek 1990).

**Distribution:** Amphiatlantic (Maciolek 1990; Parapar 1991). Western Pacific (Day 1967). Canary Islands: Fuerteventura, Gran Canaria and Tenerife (Brito 2002).

#### **FAMILY CIRRATULIDAE** Carus, 1863

***Cauleriella*** Chamberlin, 1919

***Cauleriella bioculata*** (Keferstein, 1862)

*Cauleriella bioculata*: Hartmann-Schröder 1971: 355.

**Material examined:** Los Abrigos beach: subtidal, 1 specimen.

**Ecology:** Los Abrigos subtidal: in well sorted medium sands, with 1.31% organic matter and 5.13% carbonates. Canary Islands: in *Cymodocea nodosa* meadows at 15 m depth (Brito 2002) and as a component of the enbiontic fauna of sponges (Pascual 1996). Atlantic-Mediterranean region: in hard substrates (Sardá 1982); considered to be euryhaline (Rullier 1972).

**Distribution:** Eastern Atlantic (Langerhans 1881), Mediterranean (Alós et al. 1982). Black Sea (Rullier 1972). Eastern Pacific (Hartmann-Schröder 1971). Canary Islands: Tenerife

(Langerhans 1881; Núñez et al. 1984; Pascual 1996; Brito 2002).

***Cirriformia*** Hartman, 1936

***Cirriformia tentaculata*** (Montagu, 1808)

*Cirriformia tentaculata*: Day 1967: 515, fig. 20.4 a-d.

**Material examined:** Los Abrigos beach: subtidal, 1 specimen.

**Ecology:** Los Abrigos subtidal: in well sorted fine sands, 0.85% organic matter and 7.18% carbonates.

Canary Islands: in intertidal rocky substrates, with preference to altered habitats (Núñez pers. comm.). Atlantic-Mediterranean region: in rocky substrates; abundant in subtidal soft-bottoms with a high organic matter content (Sardá 1984).

**Distribution:** Cosmopolitan of warm and tropical waters (Núñez et al. 1984). Canary Islands: Tenerife (Kirkegaard 1959; Núñez et al. 1984).

***Aphelochaeta*** Blake, 1991

***Aphelochaeta marioni*** (Saint-Joseph, 1894)

*Tharyx marioni*: Fauvel 1927: 100, fig. 35 a-b.

**Material examined:** Los Abrigos beach: intertidal, 1 specimen.

**Ecology:** Los Abrigos intertidal: in well sorted medium sands, with 1.30% organic content and 4.44% carbonates. Atlantic-Mediterranean region: in muddy and sandy bottoms (Laubier 1966; Parapar 1991), hard substrates (Martín 1986). *Tharyx marioni* is an euryhaline (Holthe 1977; López-Jamar 1981) and eurybathic species (Hartman & Fauchald 1971).

**Distribution:** Amphiatlantic (Fauvel 1927; Amoureux 1976). Mediterranean (Desbruyères et al. 1972). Indian Ocean (Intes & Le Loeuff 1977). First record of this species for the Canary Islands (Tenerife).

#### **FAMILY PROTODRILIDAE** Czerniavsky, 1881

***Protodrilus*** Hatschek, 1880

***Protodrilus cf. rubropharyngeus*** Jägersten, 1940

*Protodrilus rubropharyngeus*: von Nordheim 1989: 252, tab. I.

*Material examined*: Los Abrigos beach: intertidal, 29 specimens; subtidal, 1 specimen.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 0.32-1.03% organic matter and 4.44-5.81% carbonates. Los Abrigos subtidal: in well sorted medium sands, with 0.78% organic matter and 4.56% carbonates. Atlantic Ocean: more abundant in coarse sandy bottoms (von Nordheim 1989).

*Distribution*: East Atlantic (von Nordheim 1989). West Pacific (Wu et al. 1980). First record of this species for the Canary Islands (Tenerife).

#### **FAMILY HESIONIDAE Grube, 1850**

*Hesionides* Friedich, 1937

*Hesionides arenaria* Friedich, 1937

*Hesionides arenaria*: Hartmann-Schröder 1971: 134, fig. 44 a-c.

*Material examined*: Los Abrigos beach: intertidal, 1 specimen.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 0.85% organic matter and 5.47% carbonates. Canary Islands: in intertidal soft-bottoms (Schmidt & Westheide 2000), with preference to exposed sandy beaches. Atlantic-Mediterranean region: in coarse sand bottoms (Campoy 1982); considered to be estenobathic (Hartmann-Schröder 1971).

*Distribution*: Cosmopolitan (Schmidt & Westheide 2000). Canary Islands: Tenerife.

*Microphthalmus* Mecznirow, 1865

*Microphthalmus pseudoaberrans* Campoy & Viéitez, 1982

*Microphthalmus pseudoaberrans*: Campoy & Viéitez 1982: 224, fig. 23 a-n.

*Material examined*: Los Abrigos beach: intertidal, 822 specimens.; subtidal, 9 specimens.; Los Cristianos beach: intertidal, 14 specimens; subtidal, 1 specimen.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 0.76-1.03% organic matter

and 4.44-5.81% carbonates. Los Abrigos subtidal: in well sorted fine sands, with 0.24-0.51% organic matter and 3.56-4.61% carbonates. Los Cristianos intertidal: in well sorted fine sands, with 0.006-0.81% organic matter and 15.46-17.78% carbonates. Los Cristianos subtidal: in well sorted fine sands, with 1.01% organic matter and 26.84% carbonates. Canary Islands: in sandy bottoms at 22 m depth (Brito 2002). Atlantic-Mediterranean region: in well oxygenated sandy bottoms, with a low content of organic matter (Campoy & Viéitez 1982).

*Distribution*: East Atlantic (Campoy & Viéitez 1982). Madeira (Núñez et al. 1995). Mediterranean (Capaccioni 1983). Canary Islands: Tenerife and La Palma (Brito 2002).

#### **FAMILY NEREIDIDAE Johnston, 1865**

*Platynereis* Kinberg, 1866

*Platynereis dumerilii* (Audouin & Milne Edwards, 1834)

*Platynereis dumerilii*: Fauvel 1923: 359, fig. 141 a-f.

*Material examined*: Los Cristianos beach: intertidal, 1 specimen; subtidal, 1 specimen.

*Ecology*: Los Cristianos intertidal: in well sorted fine sands, with 1.24% organic matter and 23.59% carbonates. Los Cristianos subtidal: in well sorted fine sands, with 0.71% organic matter and 26.84% carbonates. Canary Islands: in intertidal algae, endobiotic of sponges and subtidal soft-bottoms (Núñez 1990). Atlantic-Mediterranean region: inside polluted harbours (Desbruyeres et al. 1972; Bellan 1980), with preference to photophilic algae (Harmelin 1964; Laubier 1966). It has been recorded in soft-bottoms (Sardá 1985), being an euryhaline (Hartmann-Schröder 1971) and an eurybathic species (Hartman 1965).

*Distribution*: Cosmopolitan (López 1995). Canary Islands: Lanzarote, Fuerteventura, Gran Canaria, Tenerife, La Gomera, La Palma and El Hierro (Langerhans 1881; May 1912; Fauvel 1914; Núñez et al. 1981; Kirkegaard 1983; Núñez et al. 1984; Núñez 1990; Pascual 1996).



***Perinereis*** Kinberg, 1866

***Perinereis cultrifera*** (Grube, 1840)

*Perinereis cultrifera*: Fauvel 1914: 190, fig. 16, figs. 1-13.

*Material examined* Los Abrigos beach: subtidal, 1 specimen.

*Ecology*: Los Abrigos subtidal: in well sorted fine sands, with 0.50% organic matter and 1.54% carbonates. Canary Islands: in rocky bottoms and intertidal coarse sandy bottoms, as well as, *Cymodocea nodosa* meadows at 12 m depth (Núñez 1990). Atlantic-Mediterranean region: in soft and hard bottoms, being more abundant in rocky substrates (Campoy 1982; López 1995). In soft-bottoms, muddy-sand bottoms (Desbrúyeres et al. 1972; Sardá 1985) and in seagrass meadows (*Cymodocea nodosa* and *Posidonia oceanica*) (Alós & Pereira 1984; Baratech 1985).

*Distribution*: Cosmopolitan (López 1995). Canary Islands: Lanzarote, Fuerteventura, Gran Canaria, Tenerife, La Gomera, La Palma and El Hierro (Langerhans 1881; May 1912; Núñez et al. 1981; Kirkegaard 1983; Núñez et al. 1984; Talavera et al. 1984; Hartman-Schröder 1988; Núñez 1993).

#### **FAMILY SYLLIDAE** Grube, 1850

##### **SUBFAMILY EXOGONINAE** Langerhans, 1879

***Brania*** Quatrefages, 1866

***Brania arminii*** (Langerhans, 1881)

*Brania arminii*: San Martín 2003: 153, figs. 75-76.

*Material examined*: Los Abrigos beach: subtidal, 2 specimens.

*Ecology*: Los Abrigos subtidal: in well sorted medium sands, with 1.54% organic matter and 6.84% carbonates. Canary Islands: in intertidal and shallow subtidal hard bottoms, among photophilic algae and *Spondylus* and *Vermetus* shells (Núñez 1990). Atlantic-Mediterranean region: in shallow subtidal hard and soft bottoms (Campoy 1982; Sardá 1984; Martín 1986); in *Posidonia oceanica* meadows (San Martín & Viéitez 1984) and “*Amphioxus*” sands (Besteiro 1986).

*Distribution*: Circumtropical (Capaccioni 1987). Canary Islands: Lanzarote, Fuerteventura,

Tenerife, La Gomera and El Hierro (Langerhans 1881; Núñez et al. 1984; Núñez et al. 1992).

***Exogone*** Örsted, 1845

***Exogone (Exogone) breviantennata*** Hartmann-Schröder, 1959

*Exogone breviantennata*: Hartmann-Schröder 1959: 125, figs. 75-78.

*Material examined*: Los Abrigos beach: subtidal, 1 specimen; Los Cristianos beach: intertidal, 2 specimens, subtidal, 9 specimens.

*Ecology*: Los Abrigos subtidal: in well sorted fine sands, with 0.51% organic matter and 4.61% carbonates. Los Cristianos intertidal: in well sorted fine sands, with 0.61-0.81% organic matter and 17.78-18.63% carbonates. Los Cristianos subtidal: in well sorted fine sands, with 0.006-0.71% organic matter and 23.45-26.84% carbonates. Canary Islands: in sandy bare bottoms and *Cymodocea nodosa* meadows (Brito et al. 2000). In intertidal and subtidal rocky bottoms, among algae and vermetid tubes (Núñez 1990), and endobiontic of sponges (Pascual 1996). Mediterranean sea: in intertidal and subtidal soft and hard-bottoms (San Martín & Aguirre 1991).

*Distribution*: Circumtropical (Núñez 1990). Canary Islands: Lanzarote, Fuerteventura, Gran Canaria, Tenerife, La Palma and El Hierro (Núñez et al. 1992; Pascual et al. 1996; Brito et al. 2000; Brito 2002).

***Exogone (Exogone) naidina*** Örsted, 1845

*Exogone naidina*: San Martín 1984: 208, fig. 46.

*Material examined*: Los Abrigos beach: intertidal, 1 specimen.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 1.03% organic matter and 5.81% carbonates. Canary Islands: in intertidal and subtidal hard and soft-bottoms, among *Spondylus* shells and vermetid tubes (Núñez 1990). Atlantic-Mediterranean region: in hard substrates (Aguirrezabálaga 1984; San Martín 1984); and subtidal soft-bottoms (Moreira 1999). *Distribution*: Cosmopolitan (Campoy 1982). Canary Islands: Tenerife (Núñez 1990; Núñez et al. 1992; Pascual 1996).

***Parapionosyllis*** Fauvel, 1923

***Parapionosyllis macaronesiensis*** Brito, Núñez & San Martín, 2000

*Parapionosyllis macaronesiensis*: Brito, Núñez & San Martín, 2000: 1147, fig. 1.

*Material examined*: Los Abrigos beach: subtidal, 1 specimen.

*Ecology*: Los Abrigos subtidal: in well sorted medium sands, with 0.91% organic matter and 6.32% carbonates. Canary Islands: in sandy bare bottoms and *Cymodocea nodosa* meadows (Brito 2002). Madeira: in organogenic coarse sands, with a high percentage of carbonates (59%) (Núñez et al. 1995).

*Distribution*: Atlantic Ocean: Madeira (Núñez et al. 1995). Canary Islands: Tenerife (Brito et al. 2000).

***Parapionosyllis minuta*** (Pierantoni, 1903)

*Pionosyllis minuta* Pierantoni, 1903: 239, tab. 10, fig. 5.

*Material examined*: Los Abrigos beach: subtidal, 1 specimen.

*Ecology*: Los Abrigos subtidal: in well sorted medium sands, with 1.54% organic matter and 6.84% carbonates. Atlantic-Mediterranean region: as endobiontic of sponges (Pérès 1954), and in sandy bare bottoms, in *Caulerpa* and seagrass (*Zostera marina* and *Posidonia oceanica*) meadows (Cognetti 1957; Viéitez 1976; San Martín 1984).

*Distribution*: East Atlantic (San Martín 1984). Mediterranean (Campoy 1982). First record of this species for the Canary Islands (Tenerife).

***Parapionosyllis abriguensis*** Riera, Núñez & Brito, 2006

*Parapionosyllis abriguensis*: Riera, Núñez & Brito 2006: 20, fig. 1.

*Material examined*: Los Abrigos beach: subtidal, 4 specimens.

*Ecology*: Los Abrigos subtidal: in well sorted fine sands, with 0.11-1.31% organic matter and 5.13-7.18% carbonates.

*Distribution*: Canary Islands: Tenerife.

***Erinaceusyllis*** San Martín, 2003

***Erinaceusyllis cryptica*** (Ben-Eliahu, 1977)

*Erinaceusyllis cryptica*: San Martín 2003: 233, fig. 124.

*Material examined*: Los Abrigos beach: subtidal, 1 specimen.

*Ecology*: Los Cristianos subtidal: in well sorted fine sands, with 0.006% organic matter and 19.32% carbonates. Canary Islands: as a component of the *Dendrophyllia ramea* community (circalittoral bottoms) (Núñez et al. 1992). Atlantic-Mediterranean region: in seagrass meadows (*Cymodocea*, *Posidonia* and *Zostera*) (Baratech & San Martín 1987; Parapar 1991) and as endobiontic of sponges (Alós et al. 1982).

*Distribution*: Amphiatlantic (Perkins 1981; Núñez 1990). Mediterranean (Campoy 1982). Red Sea (Ben-Eliahu 1977). Canary Islands: Tenerife, Lanzarote and El Hierro (Núñez 1990; Núñez et al. 1992; Brito 2002).

***Prosphaerosyllis*** San Martín, 1984

***Prosphaerosyllis xarifae*** (Hartmann-Schröder, 1960)

*Sphaerosyllis xarifae*: Hartmann-Schröder 1960: 103, figs. 14, 15, figs. 121-124.

*Material examined*: Los Abrigos beach: subtidal, 1 specimen.

*Ecology*: Los Abrigos subtidal: in well sorted fine sands, with 0.50% organic matter and 1.54% carbonates. Canary Islands: in soft and hard bottoms, as well as a component of the *Dendrophyllia ramea* community (Núñez 1990). Atlantic-Mediterranean region: in hard substrates, among algae and corals (Hartmann-Schröder 1979; Campoy 1982).

*Distribution*: East Atlantic (Hartmann-Schröder 1979). Mediterranean (San Martín 1984). Red Sea (Hartmann-Schröder 1960). Canary Islands (Tenerife) (Núñez 1990; Núñez et al. 1992).

#### SUBFAMILY EUSYLLINAE Malaquin, 1893

***Perkinsyllis*** San Martín, López & Aguado, 2009

***Perkinsyllis spinisetosa*** (San Martín, 1990)

*Pionosyllis spinisetosa*: San Martín 1990: 592, figs. 2-3.

*Material examined*: Los Abrigos beach: intertidal, 1 specimen, subtidal, 40 specimens; Los Cristianos beach: subtidal, 4 specimens.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 1.30% organic matter and 4.44% carbonates. Los Abrigos subtidal: in well sorted fine sands, with 0.54-1.23% organic matter and 4.44-5.98% carbonates. Los Cristianos subtidal: in well sorted fine sands, with 0.54-1.01% organic matter and 23.08-26.84% carbonates. Canary Islands: in intertidal pools (Núñez 1990), sandy bare bottoms and *Cymodocea nodosa* meadows (Brito 2002). East Atlantic Ocean: among algae (López & San Martín 1994). Caribbean Sea: in sandy subtidal bottoms (San Martín 1990).

*Distribution*: Amphiatlantic (San Martín 1990; López & San Martín 1994; Núñez et al. 1995). Canary Islands: Lanzarote and Tenerife (Núñez 1990; Núñez et al. 1996; Brito 2002).

*Neopetitia* San Martín, 2003

*Neopetitia abadensis* Riera, Núñez & Brito, 2007  
*Neopetitia abadensis*: Riera, Núñez & Brito 2007: 221, figs 1-2.

*Material examined*: Los Abrigos: intertidal, 37 specimens; subtidal, 9 specimens.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 0.78-1.62% organic matter and 4.44-5.64% carbonates. Los Abrigos subtidal: in well sorted medium sands, with 0.65-1.68% organic matter and 3.08-4.56% carbonates.

*Distribution*: Canary Islands: Tenerife.

*Streptosyllis* Webster & Benedict, 1884

*Streptosyllis bidentata* Southern, 1914

*Streptosyllis bidentata*: Southern 1914: 28, pl. 3, fig. 4 a-f.

*Material examined*: Los Abrigos beach: intertidal, 11 specimens, subtidal, 28 specimens; Los Cristianos beach: intertidal, 3 specimens, subtidal, 56 specimens.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 0.76-1.33% organic matter

and 4.44-5.30% carbonates. Los Abrigos subtidal: in well sorted medium sands, with 0.78-1.68% organic matter and 3.08-4.56% carbonates. Los Cristianos intertidal: in well sorted fine sands, with 0.006-1.24% organic matter and 19.78-23.59% carbonates. Los Cristianos subtidal: in well sorted fine sands, with 0.34-0.86% organic matter and 23.59-24.27% carbonates.

Canary Islands: in sandy bare bottoms and *Cymodocea nodosa* meadows (Brito 2002). Atlantic-Mediterranean region: in sandy bottoms from 2 to 24 m depth (Fauvel 1927; San Martín 1984) and very coarse sand with shells at 30 m depth (Campoy 1982).

*Distribution*: East Atlantic Ocean. Mediterranean (Brito et al. 2000). Canary Islands: Lanzarote, Fuerteventura, Gran Canaria, Tenerife, La Palma and El Hierro (Brito et al. 2000).

*Streptosyllis campoyi* Brito, Núñez & San Martín, 2000

*Streptosyllis campoyi*: Brito, Núñez & San Martín 2000: 611, fig. 5 a-l.

*Material examined*: Los Abrigos beach: intertidal, 3 specimens, subtidal, 21 specimens.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 1.06-1.33% organic matter and 4.44-5.30% carbonates. Los Abrigos subtidal: in well sorted medium sands, with 0.33-0.78% organic matter and 3.56-5.47% carbonates.

Canary Islands: in sandy bare bottoms and *Cymodocea nodosa* meadows (Brito 2002). Atlantic-Mediterranean region: in "*Amphioxus*" sands (Campoy 1982).

*Distribution*: East Atlantic (Campoy 1982). Canary Islands: Lanzarote, Tenerife, La Palma and La Gomera (Brito et al. 2000).

*Anoplosyllis* Claparède, 1868

*Anoplosyllis edentula* Claparède, 1868

*Anoplosyllis edentula* Claparède, 1868: 524; San Martín 2003: 134, fig. 65.

*Material examined*: Los Abrigos beach: intertidal, 1 specimen, subtidal, 2 specimens.

*Ecology*: Los Abrigos intertidal: in well sorted medium sands, with 1.33% organic matter and 5.30% carbonates. Los Abrigos subtidal: in well

sorted medium sands, with 0.76-1.31% organic matter and 4.44-5.13% carbonates.

Canary Islands: in sandy bare bottoms and *Cymodocea nodosa* meadows (Brito 2002). Atlantic-Mediterranean region: in soft-bottoms with diverse granulometry (Cognetti 1957), including polluted harbours (Cognetti-Varriale 1972), in intertidal pools, among algae and endobiontic of sponges (Campoy 1982; San Martín 1984).

*Distribution:* East Atlantic. Mediterranean. Pacifico (Núñez 1990). Canary Islands: Lanzarote and Tenerife (Campoy 1982; Núñez et al. 1984; Núñez 1990; Brito 2002).

***Syllides* Örsted, 1845**

***Syllides japonicus* Imajima, 1966**

*Syllides japonicus*: Imajima 1966: 112, fig. 36 a-h; San Martín 2003: 142, fig. 69.

*Material examined:* Los Abrigos beach: intertidal, 1 specimen, subtidal, 16 specimens.

*Ecology:* Los Abrigos intertidal: in well sorted medium sands, with 1.33% organic matter and 5.30% carbonates. Los Abrigos subtidal: in well sorted fine sands, with 0.45-0.85% organic matter and 4.44-7.18% carbonates. Canary Islands: in sandy bare bottoms and *Cymodocea nodosa* meadows (Brito 2002). Atlantic-Mediterranean region: in sandy subtidal bottoms (Baratech & San Martín 1987) and *Posidonia* meadows (San Martín 1984).

*Distribution:* West Atlantic (Baratech & San Martín 1987). Mediterranean (San Martín 1984). Pacific Ocean (Imajima 1966). Canary Islands: Lanzarote and Tenerife (Brito et al. 2000).

#### SUBFAMILY SYLLINAE Grube, 1850

***Haplosyllis* Langerhans, 1879**

***Haplosyllis* aff. *spongicola* Grube, 1855**

*Haplosyllis spongicola*: Núñez 1990: 365, fig. 112 a-c.

*Material examined* Los Cristianos beach: intertidal, 1 specimen.

*Ecology:* Los Cristianos intertidal: in well sorted fine sands, with 0.81% organic matter and

17.78% carbonates. Canary Islands: in shallow hard substrates, among algae, vermetids and corals, as well as, in *Dendrophyllia ramea* community (circalittoral bottoms) and as endobiontic of sponges (Núñez 1990, Pascual 1996). Atlantic-Mediterranean region: in soft and hard bottoms, being less frequent as endodiontic of sponges (Laubier 1966; Campoy 1982) and soft-bottoms with diverse granulometry, from muds to coarse sands (Uebelacker 1984) and can be considered euribathic (Gardiner 1976).

*Distribution:* Cosmopolitan of warm and tropical waters (Núñez 1990). Canary Islands: Lanzarote, Fuerteventura, Gran Canaria, Tenerife, La Gomera and El Hierro (Pascual 1996).

***Syllis* Savigny in Lamarck, 1818**

***Syllis armillaris* (O.F. Müller, 1771)**

*Syllis armillaris*: San Martín 1984: 381, figs. 99-100.

*Material examined:* Los Abrigos beach: subtidal, 4 specimens.

*Ecology:* Los Abrigos subtidal: in well sorted fine sands, with 0.74-0.85% organic matter content and 4.44-7.86% carbonates. Canary Islands: in intertidal and shallow rocky bottoms, among algae, inside sponge, as well as in the *Dendrophyllia ramea* community (circalittoral bottom) (Núñez 1990). Atlantic-Mediterranean region: in rocky substrates (San Martín 1984), “*Amphioxus*” sands (Campoy 1982), muddy sands (Desbruyeres et al. 1972) and seagrass meadows (*Cymodocea nodosa* and *Zostera marina*) (Schlenz 1965).

*Distribution:* Cosmopolitan (Núñez 1990). Canary Islands: Fuerteventura, Gran Canaria, Tenerife, La Gomera and El Hierro (Núñez et al. 1992; Pascual 1996).

***Syllis garciai* (Campoy, 1982)**

*Syllis garciai*: San Martín 1984: 364, fig. 92.

*Material examined:* Los Abrigos beach: subtidal, 7 specimens.

*Ecology:* Los Abrigos subtidal: in well sorted medium sands, with 0.76-1.31% organic matter and 5.67-9.57% carbonates. Canary Islands: in sandy bare bottoms at 10 m depth (Brito 2002). It

is frequent in soft and hard bottoms, being encountered in the *Dendrophyllia ramea* community (circalittoral bottoms) (Núñez 1990). Atlantic-Mediterranean region: among algae, vermetid tubes (Alós 1988; López 1995), sandy bare bottoms (Besteiro, Urgorri & Parapar 1987) and seagrass meadows (*Cymodocea nodosa* and *Posidonia oceanica*) (Giangrande 1985; Giangrande & Gambi 1986).

*Distribution:* Amphiatlantic (Besteiro 1986; San Martín 1990). Mediterranean (Campoy 1982). Canary Islands: Tenerife and Lanzarote (Núñez 1990; Núñez et al. 1992; Núñez et al. 1997).

***Syllis prolifera*** Krohn, 1852

*Syllis prolifera*: San Martín 1984: 331, figs. 78-79.

*Material examined:* Los Abrigos beach: intertidal, 1 specimen.

*Ecology:* Los Abrigos intertidal: in well sorted medium sands, with 1.33% organic and 5.30% carbonates. Canary Islands: among photophilic algae and vermetid tubes (Núñez 1990). Atlantic-Mediterranean region: in intertidal (Parapar 1991) and subtidal (López 1995) rocky bottoms, among photophilic algae and calcareous algae, as well as, endobiontic of sponges (Koukouras et al. 1985; Voultsiadou-Koukoura et al. 1987).

*Distribution:* Cosmopolitan (López & San Martín 1994). Canary Islands: Lanzarote, Fuerteventura, Gran Canaria, Tenerife, Gomera and El Hierro (Langerhans 1881; Kirkegaard 1983; Núñez et al. 1984; Núñez 1990; Núñez et al. 1992).

#### FAMILY DORVILLEIDAE Chamberlin, 1919

***Protodorvillea*** Pettibone, 1961

***Protodorvillea kefersteini*** (McIntosh, 1869)

*Protodorvillea kefersteini*: Hartmann-Schröder 1996: 276, fig. 123.

*Material examined:* Los Abrigos beach: subtidal, 1 specimen.

*Ecology:* Los Abrigos subtidal: in well sorted medium sands, with 1.68% organic matter and 3.08% carbonates. Canary Islands: in sandy bare bottoms and *Cymodocea nodosa* bottoms (Núñez et al. 1996). Atlantic-Mediterranean region: in

soft-bottoms with diverse granulometry (Bellan 1964; Moreira 1999).

*Distribution:* Amphiatlantic (Fauvel 1923; Perkins 1979). Mediterranean (Campoy 1982). East Pacific (Orensanz 1973). Canary Islands: Lanzarote and Tenerife (García-Valdecasas 1985; García-Valdecasas et al. 1986; Núñez et al. 1996).

#### DISCUSSION

In this work a total of 47 interstitial polychaete species were collected from the intertidal and shallow subtidal (3 m depth) of two stations on the south coast of Tenerife. The family Syllidae was the most diverse with 18 species, of which 8 belong to the subfamily Exogoninae, 6 to the Eusyllinae and 4 to the Syllinae. The second most diverse family was Spionidae with 6 species, followed by Paraonidae with 5 species.

In terms of specimens, the most abundant species was the hesionid *Microphthalmus pseudo-aberrans*, which clearly dominated the intertidal of Los Abrigos, representing more than 80% of the total number. The other sampling stations (Los Abrigos subtidal, and Los Cristianos intertidal and subtidal) were dominated by spionids, such as *Rhynchospio glutaea* and *Spio filicornis*. This can be partially explained by the presence of medium sands in the intertidal of Los Abrigos, whilst the remaining stations were characterized by fine sands, except for the subtidal of Los Abrigos, which presented alternating fine and medium sands all over the sampling period (Riera 2004).

The interstitial polychaete fauna of the Canary Islands consists of typical meiofaunal species, such as small-sized syllids and macrofaunal species, like the spionids *Spio filicornis* and *Scoelepis squamata*. The latter species reach only small sizes in the Canarian archipelago compared to other biogeographical regions, e.g. Atlantic-Mediterranean area. The main reason for this is the presence of oligotrophic waters in the Canarian archipelago (Barton et al. 1998), although sporadically influenced by eutrophic waters from the Saharian upwelling.

This study represents the first qualitative characterization of the interstitial polychaete fauna from the Canary Islands. Future research

must be conducted in order to determine the temporal and spatial variations of the interstitial fauna in the intertidal beaches of the Canarian archipelago.

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