

***Parapionosyllis macaronesiensis*, a new species of Exogoninae
(Polychaeta: Syllidae) from the Macaronesian Region**

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Abstract.—*Parapionosyllis macaronesiensis* new species, from the Macaronesian region (Canary Islands, Madeira and Selvagens Islands), is described. It is characterized by the shape of the dorsal simple seta, with 2–3 thick spines subdistally on the convex side and the blades of compound setae provided with coarse serrations on the cutting edge, especially the uppermost falcigers.

In a report on the interstitial fauna from Madeira (Núñez et al. 1995), two juvenile specimens of an undescribed species were collected and reported as *Parapionosyllis* sp. Later, more specimens of this species were collected in Lanzarote and Tenerife (Canary Islands) during a study of the interstitial communities of *Cymodocea nodosa* (Ucria) Ascherson (Brito 1999). Most recently two more specimens were collected in the Ihléu de Fora (Selvagens Islands) during the research project Macaronesia 2000.

This new species differs from all others species of *Parapionosyllis* by its long-bladed uppermost compound setae, with blades having long marginal serrations, and by its solitary dorsal simple seta, provided with 2–3 thick, subdistal spines. In this paper, the new species is described and discussed, and data on its ecology and reproduction are included.

Materials and Methods

The samples from the Canary Islands were collected during a study of the meiobenthos from a sandy bottom and sea-grass (*Cymodocea nodosa*) habitats. Additional material from sandy bottoms from Madeira and Selvagens Islands is included.

The samples were collected by unaided diving and scuba diving from 4–18 m depth. PVC cores covering an area of 16 cm² and pushed into the sediment to a depth of 30 cm, providing 450 cc silt for each sample. Samples were divided into four parts of 0–5, 5–10, 10–20 and 20–30 cm depth for the study of the vertical distribution of species. The sediment was washed and screened through a 100 µm mesh sieve. The samples were treated with MgCl₂ and fixed with 10% formaldehyde in seawater. The specimens were transferred to 70% ethanol. Due to the size of the specimens, they were mounted whole in glycerine jelly and examined with an optical microscope with interference contrast (Nomarski).

The material is deposited in the collections of the Department of Zoology of the University of La Laguna (DZUL) and in the Museum of Natural Sciences of Tenerife (TFMC).

Subfamily Exogoninae Langerhans, 1879
Genus *Parapionosyllis* Fauvel, 1923
Parapionosyllis macaronesiensis, new species
Fig. 1

Parapionosyllis sp.—Núñez et al., 1995: 6 (list).

Type locality.—Arrecife de Lanzarote (Canary Islands).

Type material.—Holotype (microscopic slide) (TFMCN AN/000204), Arrecife de Lanzarote (Canary Islands), Apr 1993, col. J. Núñez. One Paratype (microscopic slide) (DZUL PO-500), Ensenada de los Abades, Tenerife (Canary Islands), Nov 1994, col. J. Núñez & M. C. Brito.

Additional material.—Two juvenile specimens (microscopic slide) (DZUL PO-501), Laginha, Ponta of San Lourenço (Madeira), Sep 1992, col. J. Núñez. Two specimens (microscopic slide), (DZUL PO-502), Punta do Sul, Ihléu de Fora, (Selvagens Islands), May 1999, col. J. Núñez.

Description.—Body long, thin and filiform, without coloration markings, nearly 3 mm long, 0.16 mm wide, for 29–32 setigers. Prostomium semicircular to ovate, with four small, red eyes in open trapezoidal arrangement; antennae skittle-shaped; median antenna originating between posterior eyes, similar in length to prostomium and palps together, lateral antennae originating in front of anterior eyes, about 0.67 of length of median antenna. Palps broad, similar in length to prostomium, fused along basal half, leaving a middorsal seam and frontal scar (Fig. 1A). One pair of tentacular cirri, originating ventro-laterally to lateral antennae but somewhat short; peristomium dorsally reduced, covered by a dorsal lip of first setiger. Dorsal cirri on all setigers, similar in length or smaller than lateral antennae, sometimes having a pseudoarticulated appearance. Parapodia conical, proportionally short, rounded, with a small distal papilla; ventral cirri digitiform, slightly longer than parapodial lobe. Each segment with 1–2 subdermal, dorsal glands on each side, with yellowish granular material. Anterior parapodia each with one long-bladed compound seta and 5–7 other falcigers with shorter blades (Fig. 1D); progressively, number of falcigers decreasing to 2–5 in posterior parapodia (Fig. 1G). Long blades unidentate, with tips rounded and provided with a subdistal fine spine and long, up-

wardly extending coarse serrations on edge, longer and thicker basally (Fig. 1F), about 35 μm on most anterior parapodia, 55 μm in midbody, 45–50 μm posteriorly. Falcigers similar throughout; blades with rounded tip, provided with a subdistal spine, and long serrations on edge, especially on uppermost setae; anterior dorso-ventral gradation in length of falcigers; anterior falcigers 17 μm above, 10 μm below, posterior falcigers 15 μm above, 10 μm below; shafts becoming thicker more ventrally and posteriorly. Solitary dorsal simple seta from anterior parapodia, unidentate, provided with 2–3 thick, subdistal spines (Fig. 1H). Posterior parapodia each with solitary ventral simple sigmoid unidentate seta (Fig. 1I). Solitary thick aciculum in each parapodium, distally rounded and hollow at the tip (Fig. 1C, E). Pharynx wide, extending through about three segments, provided with a conspicuous, conical middorsal tooth on the anterior rim. Proventriculus shorter than pharynx, extending through about two segments, and with about 18 rows of muscle cells. Pygidium with two anal cirri, longer than dorsal cirri (Fig. 1B).

Reproduction.—The holotype is a mature female collected in April, with one oocyte in setigers 12, 15, 16, 17, 18 and 20. One of the specimens collected from Selvagens Islands in May is a female exhibiting external gestation; juveniles on the dorsolateral body surface above parapodia 15–19. This kind of gestation is a common feature of the Exogoninae (Pierantoni 1903).

Remarks.—*Parapionosyllis macaronesiensis* is very similar to *P. brevicirra* Day, 1954 in having some compound setae with long blades; however they differ in the following:

The compound setae of *P. macaronesiensis*, especially the long bladed ones, have very long, upwardly extending serrations on the margins of the blades; the serrations of the blades of *P. brevicirra* are short and straight.

Parapionosyllis brevicirra was described as lacking parapodial glands (Day 1954,

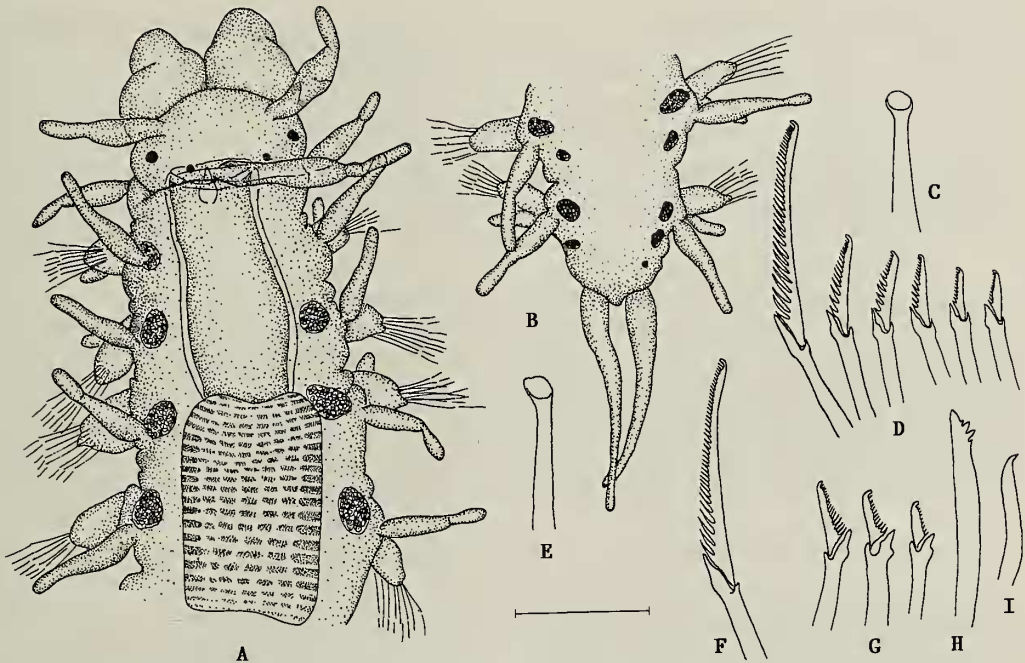


Fig. 1. *Parapionosyllis macaronesiensis*, new species, Holotype. A. Anterior end and midbody, dorsal view. B. Posterior end, dorsal view. C. Aciculum, anterior parapodia. D. Anterior compound setae. E. Aciculum, posterior parapodia. F. Long-bladed compound seta from posterior parapodia. G. Posterior compound setae. H. Dorsal simple seta. I. Ventral simple seta. Scale bar: 90 μm for A, B; 20 μm for C–I.

Hatmann-Schröder 1962, San Martín 1984); however, Alós et al. (1983) described several specimens of this species from the Mediterranean sea, which only differed from previous descriptions in having parapodial glands with fibrillar material; in the same material, several specimens had few glands or lacked them. *P. macaronesiensis* has parapodial glands only with granular material.

The dorsal simple seta of *P. brevicirra* has similar spines on its margin; *P. macaronesiensis* has the dorsal simple seta with spines of different sizes.

Parapionosyllis macaronesiensis differs from *P. minuta* (Pierantoni, 1903), *P. gestans* (Pierantoni, 1903), *P. elegans* (Pierantoni, 1902), *P. labronica* Cognetti, 1965, *P. longicirrata* (Webster & Benedict, 1884) (Perkins 1981), and *P. cabezali* Parapar et al., 2000, mainly in the shape and size of the compound setae. All these species have compound setae with much shorter blades

and also shorter serration on the edge. *P. cabezali*, furthermore, has two kinds of parapodial glands.

Parapyonossyllis uebelackeare San Martín, 1991 is also a very similar species but it has long-bladed compound setae only on the anterior parapodia, which are proportionally shorter and provided with shorter serrations (San Martín 1991). *P. floridana* San Martín, 1991 has longer, apparently biarticulated dorsal cirri, a longer pharynx, lacks parapodial glands and the dorsal simple seta has several, equal serrations.

Ecology.—The collecting depth varied from 4 m in the station of Madeira to 18 m in the Selvagens Islands. The specimens inhabited sandy areas lacking vegetation as well as areas within beds of the seagrass *Cymodocea nodosa*. In reference to the vertical distribution in the sediment, all the individuals were collected in the superficial level (0–5 cm).

Distribution.—Central East Atlantic:

Madeira Islands, Selvagens Islands and Canary Islands.

Etymology.—The *derivatio nominis*, of Greek etymology, refers to Macaronesia (makáro = happiness; nesoi = islands), the biogeographical region in which the specimens of this species were collected.

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