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Redescription of *Perinereis taorica* Langerhans (Polychaeta : Nereididae) from Tenerife (Canary Islands)

Redescription de Perinereis taorica *Langerhans (Polychaeta : Nereididae) à Ténérife (Iles Canaries)*

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ABSTRACT

Núñez Jorge, 1993 - Redescription of Perinereis taorica *Langerhans (Polychaeta : Nereididae) from Tenerife (Canary Islands). Mar. Life, **3** (1-2) : 31 - 35.*

Perinereis taorica *Langerhans, 1881, is redescribed from specimens collected from the type locality (Puerto de la Cruz, Tenerife). It is compared to* P. cultrifera *(Grube, 1840) and* P. oliveirae *(Horst, 1889) and clearly distinguished by the number, arrangement and size of paragnaths on the pharynx. The type material of this species deposited at the University of Freiberg (Germany) was lost in 1944 during the Second World War.*

RÉSUMÉ

Núñez Jorge, 1993 [Redescription de Perinereis taorica *Langerhans (Polychaeta : Nereididae) à Ténérife (îles Canaries)]. Mar. Life, **3** (1-2) : 31 - 35.*

Perinereis taorica *Langerhans, 1881, a été redécrit à partir d'exemplaires récoltés dans la localité typique de Puerto de la Cruz, Ténérife. Cette espèce est comparée avec* P. cultrifera (Grube, 1840) *et* P. oliveirae *(Horst, 1889) dont elle se distingue facilement par le nombre, la disposition et les dimensions des paragnathes du pharynx. Le matériel typique de cette espèce, déposé à l'Université de Freiberg (Allemagne), a disparu en 1944, pendant la Deuxième Guerre mondiale.*

INTRODUCTION

The paper published by Langerhans (1881) is the most important work on the polychaete fauna of Tenerife (Canary Islands). Fifty-two species were reported of which twelve were new to science ; one of these, *Perinereis taorica,* is only known for this single record all the world over.

Four species belonging to the genus *Perinereis* Kinberg, 1866, have been reported from the Canarian coasts : *Perinereis cultrifera* (Grube, 1840) (Langerhans, 1881, Hartmann-Schröder, 1988, Núñez, 1990), *P. taorica* Langerhans, 1881 (Langerhans, 1881), *P. oliveirae* (Horst, 1889), (May, 1912 ; Núñez *et al.*, 1981) and *P. marioni* (Audouin & M. Edwards, 1834) (Núñez *et al.*, 1981 ; Kirkegaard, 1983).

Perinereis cultrifera is especially common on muddy-stony and sandy-stony substrates of the Canarian midlittoral (Núñez, 1990). *P. taorica* has been collected in similar substrates, but only from Tenerife island. *P. oliveirae* is frequent in hard bottoms (crevices in basaltic rocks and corallinacea algae) as well as soft bottoms from the Archipelago. *P. marioni* has only been recorded from Lanzarote and Fuerteventura islands on crevices in basaltic rocks.

MATERIAL AND METHODS

The material examined was collected from two stations of Tenerife, in March 1983 from Puerto de la Cruz (northern coast) and December 1990 from Ensenada de los Abades (southern coast). Samples were taken in the midlittoral zone by excavating on soft bottoms an area 50 x 50 cm^2 (Talavera *et al.*, 1984).

A discriminant analysis was performed with the three closely related species (*Perinereis taorica, P. cultrifera* and *P. oliveirae*), excluding *P. marioni* for having an arrangement of the paragnaths very different with respect to the others species, separating them with relation to 6 variables that correspond to the number of paragnaths counted respectively on the areas of the pharynx. Area VI was excluded because a single tooth was found in every case, being of no significance from the point of view of the discriminant analysis (Table 1). The purpose of the discriminant analysis is to determine what are the variables that better discriminate in accordance with the initial hypothesis (Bisquerra, 1989).

RESULTS AND DESCRIPTION OF THE MATERIAL EXAMINED

From the discriminant analysis carried out (Bisquerra, 1989) it is observed that the three species are remarkably segregated (Figure 1). The discriminant function 1 ($\lambda_1 = 37.51$) explains the 82.01 % variance contained in the sample, while the discriminant function 2 ($\lambda_2 = 8.23$) only accounts for 17.99 %. Despite the fact that both functions presented significant discriminant differences ($\chi^2_{12} = 320.11$ and $\chi^2_5 = 121.13$; $P<0.0001$), the discriminant function 1 is considerably more important.

Perinereis taorica Langerhans, 1881 (Figure 2)
Perinereis taorica Langerhans, 1881 : 110, pl. 1, *fig. 15 a-c.*

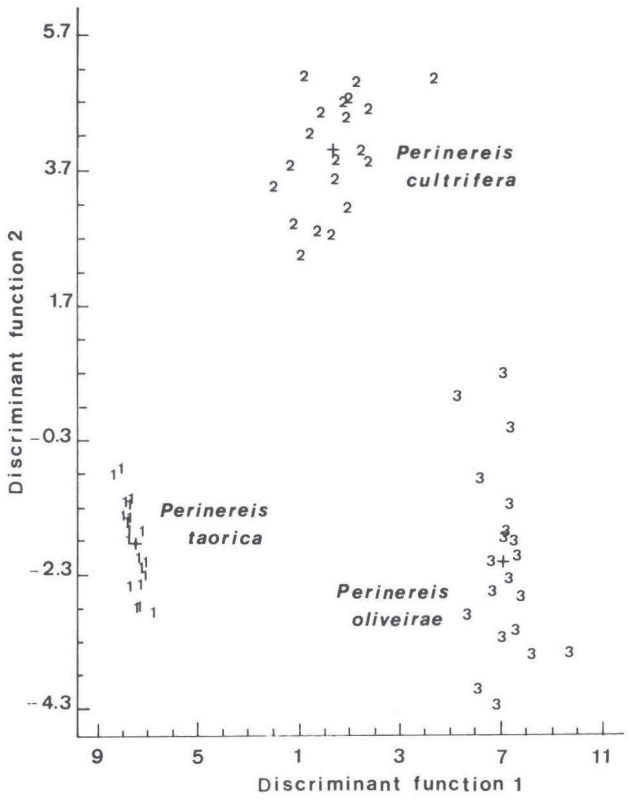

Figure 1 - Discriminant analysis for the species *Perinereis taorica, P. cultrifera* and *P. oliveirae* with respect to 6 variables (number of paragnaths on the areas I, II, III, IV, V and VII)./ *Analyse de discrimination des espèces* Perinereis taorica, P. cultrifera et P. oliveirae en fonction de six variables (nombre de paragnathes des zones I, II, III, IV, V et VII).

Neotype No. AN/0191 TFMC, 7 specimens No. AN/0093 TFMC and 19 specimens No. PO/0097 DZUL from Puerto de la Cruz, Tenerife, 24 March 1983, coarse black sand and stones, 0 m,4 specimens No. UD 52 MNHNP from Ensenada de los Abades, Tenerife, 19 December 1990, muddy-stony, 0 m. Deposited in the Museo Insular de Ciencias Naturales of Santa Cruz de Tenerife (TFMC), Departamento de biología animal (zoo-

Table 1 - Minimum, maximum, arithmetical mean and standard deviation of the number of paragnaths on the pharynx areas for 60 specimens analysed (20 specimens for each species). / *Minimum, maximum, moyenne arithmétique et écart type du nombre de paragnathes du pharynx pour les 60 échantillons analysés (20 échantillons par espèce).*

	P. taorica				*P. cultrifera*				*P. oliveirae*			
Areas	Min.	Max	$\bar{X}$	STD	Min.	Max.	$\bar{X}$	STD	Min.	Max.	$\bar{X}$	STD
I	0	2	1.05	0.39	1	2	1.50	0.51	2	8	5.05	2.10
II	4	11	7.25	1.74	4	9	6.30	1.45	9	25	18.15	3.71
III	4	18	11.30	2.55	3	11	6.65	2.27	22	54	36.10	6.90
IV	14	24	18.10	2.73	6	19	13.75	3.14	30	55	44.30	6.00
V	1	3	1.55	0.68	0	3	1.85	0.87	1	1	1.00	0.00
VI	1	1	1.00	0.00	1	1	1.00	0.00	1	1	1.00	0.00
VII-VIII	3	6	4.30	2.55	24	42	30.20	4.23	38	50	43.00	2.50

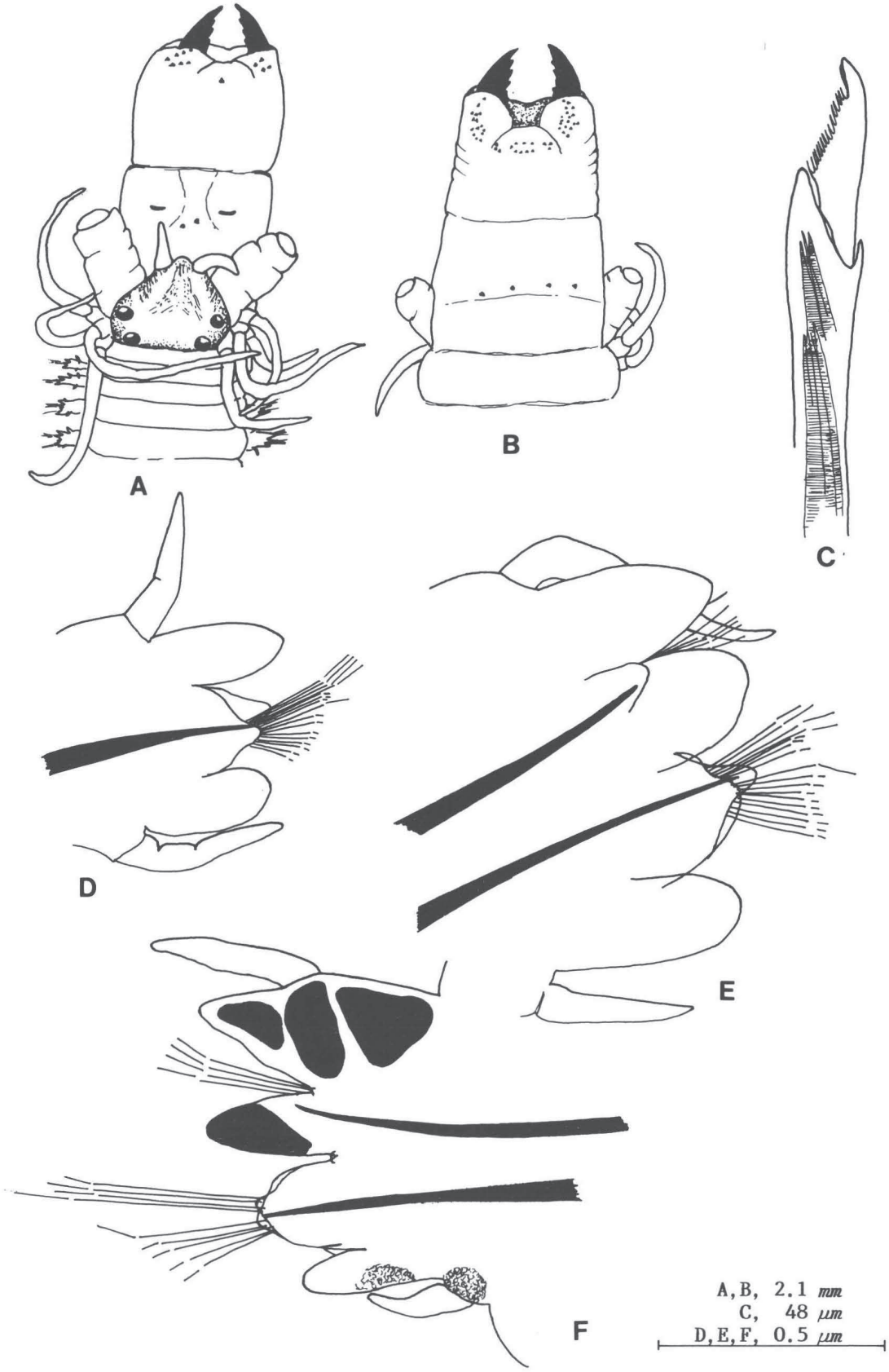

Figure 2 - *Perinereis taorica* Langerhans, 1881 - A, anterior end, pharynx, dorsal view ; B, pharynx, ventral view ; C, heterogomph falciger neuroseta ; D, first parapodium ; E, middle-posterior parapodium ; F, posterior parapodium. *A, extréminté antérieure, pharynx, vue dorsale ; B, pharynx, vue ventrale ; C, soie composite ; D, premier parapodium; E, parapodium média-postérieur ; F, parapodium postérieur.*

logía) de la Universidad of La Laguna, Tenerife (DZUL) and the Muséum National d'Histoire Naturelle de Paris (MNHNP).

Neotype with 72 setigers ; length 35 mm, width 2 mm excluding parapodia and setae. Colour in life, dark in anterior end, rosy in the following segments. Prostomium subpiriform (*Figure 2 A*), wider than long, antennae half as long as the prostomium, palps as long as prostomium, palpostyle globular. Two pairs of elliptical black eyes of the same size and forming a trapezoid pattern on posterior half of prostomium. Four pairs of tentacular cirri, the longest reaching setiger 6-7. Paragnaths of two kinds, cones and bars on oral ring and cones on maxillary ring (*Figure 2A, B*), with the following arrangement : Area I = 1 cone ; II = a group of 4-7 cones ; III = 14 cones in 3 clusters, central cluster oval with 8 cones, 2 lateral clusters each with 3 cones ; IV = 15-18 cones in a triangular patch ; V = 2 ; VI = 1 short bar ; VII-VIII = 4 cones in a single row. Jaws dark brown with 5 teeth on cutting edge. Parapodia of the first two setigers uniramous (*Figure 2 D*), with dorsal cirrus as long as dorsal rounded ligule, subtriangular presetal and postsetal lobes ; dorsal and ventral ligules similar in form and size, ventral cirrus as long as ventral ligule. Following parapodia biramous, with basically the same structure. Anterior and median parapodia with superior and median ligules subequal in length and distally rounded tips (*Figure 2 E*), with a short conical superior lobe, dorsal cirrus slightly longer than rounded dorsal ligule. Neuropodia similar to uniramous parapodia, ventral cirrus slightly shorter than rounded ventral ligule. Posterior setigers with base of notopodial superior ligule increasing in size with pointed-conical tip, superior lobe absent, median ligule pointed ; presetal and postsetal lobes similar to anterior parapodia, ventral ligule shorter than median and superior ligules (*Figure 2 F*). Glandular body occurs on the dorsal and ventral notopodial lobes. Notosetae homogomph spinigers ; neurosetae homogomph spinigers and heterogomph falcigers (*Figure 2 C*) in supra-arcicular position, and heterogomph spinigers and falcigers in infra-acicular position. The setal arrangement is described in *table 2*.

CONCLUSION

The original description of this species (Langerhans, 1881), although succinct, is very clear, being based on those characters that differentiate it from *Perinereis cultrifera* and the variety *P. cultrifera var. floridana,* collected by P. Langerhans in the locality of Puerto de la Orotava, now Puerto de la Cruz, Tenerife. Unfortunately, Langerhans' type material was lost during the destruction of the Institute of Zoology at the University of Freiburg (Germany) in 1944.

The material studied is in accordance with the original description and figures. This is an interesting species that presents characteristics intermediate between two species also present in the Canaries, *P. cultrifera* and *P. oliveirae,* the fundamental difference from these two species being a single row of paragnaths on area VII-VIII, while the other two species present 2-3 rows.

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Table 2 - Setal composition in anterior, median and posterior parapodia of *Perinereis taorica.* / *Composition des soies sur les parapodies antérieurs médians et postérieurs de* Perinereis taorica.

Anterior parapodium	Notopodium		4-6 homogomph spinigers
	Neuropodium	Supra-acicular	4-5 homogomph spinigers 3-4 heterogomph falcigers
		Infra-acicular	1 heterogomph spiniger 10-13 heterogomph falcigers
Median parapodium	Notopodium		4-9 homogomph spinigers
	Neuropodium	Supra-acicular	3-4 homogomph spinigers 2-3 heterogomph falcigers
		Infra-acicular	1 heterogomph spiniger 5-9 heterogomph falcigers
Posterior parapodium	Notopodium		3-6 homogomph spinigers
	Neuropodium	Supra-acicular	3-7 homogomph spinigers 1-3 heterogomph falcigers
		Infra-acicular	1 heterogomph spiniger 4-5 heterogomph falcigers

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