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Soft-bottom polychaetes from the western coast of Baja California Sur, México. 3. A new species of *Ceratocephale* (Nereididae).

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Abstract : A new species of *Ceratocephale* is described on the basis of 155 specimens collected from the western coast of Baja California Sur, México at 52-220 m. This new species differs by the presence of a middorsal papillae, previously known in *C. hartmanae*, and sometimes in *C. andaman* ; from *C. hartmanae* the new species differ in the presence of eyes, and in the start of the double neuropodial cirri ; from *C. andaman* the new species differ by the start and development of the middorsal papillae, forthermore by the presence of sesquigomph spinigers. A key of all *Ceratocephale* species is given.

Résumé : Une nouvelle espèce de *Ceratocephale* est décrite, à partir de 155 exemplaires collectés sur la côte ouest de Basse-Californie Sud au Mexique, entre 52 et 220 m de profondeur. Cette nouvelle espèce se différencie par la présence de grosses papilles dorsales, préalablement décrites chez *C. hartmane* et observées seulement en quelques occasions chez *C. andaman*. *C. papillata* se différencie de *C. hartamanae* par la présence d'yeux et de *C. andaman* par le niveau d'apparition des grosses papilles et la présence de soies hétérogomphes épineuses. Une clé des espèces du genre *Ceratocephale* est également donnée.

The species belonging to *Ceratocephale* are poorly known, only 9 species have been described (Hutchings & Reid, 1990), in addition Hylleberg & Nateewathana (1988) included *Tambalagamia orientalis* (Hartman, 1974) in *Ceratocephale*. Only *C. pacifica* is known from Mexican waters (Salazar-Vallejo. *et al.*, 1988). *Ceratocephale* species are characterised by the presence of papillae on the oral ring of the pharynx, jaws with teeth. The prostomium is deeply incised. Dorsal cirri are simple throughout. Median body region carry dorsal cirri on elongated vascularized cirrophores ; middorsal transversal papillae may or may not be present. Double neuropodial cirri are observed on anterior parapodia. The pigidium has two short anal cirri.

In this paper, a new species of *Ceratocephale* is described ; it is part of a series of papers about soft-bottom polychaetes from the western coast of Baja California Sur, México (de León-González, 1991 ; de León-González, 1992). The specimens were collected aboard the B/O "EL PUMA" during 5 oceanographical cruises in 1987, 1988 and 1989. The type material is deposited in the National Museum of Natural History, Smithsonian Institution (USNM), and non-type specimens are in the author's collection (JAL-NERE-6).

A key to *Ceratocephale* species is included. In the section Material examined, the number in parenthesis is the number of specimens in each station. Table III shows a list with the sampling stations, including the type of sediments.

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Ceratocephale papillata n. sp.
(Fig. 1-3)

Material examined, 155 specimens collected as follows : A-4 (5), A-5 (1), A-9 (3), B-5 (47 USNM 142033), B-6 (3), B-11 (1), B-12 (2), B-14 (1), B-17 (3), B-19 (1), B-22 (8), B-24 (1), C-5 (1), C-7 (22), C-8 (1), C-9 (4), C-12 (2), C-17 (10), C-18 (1), D-3 (1), D-4 (3), D-5 (7), D-8 Holotype (USNM 142032) and (1), D-12 (1), D-16 (5), D-17 (1), D-19 (3), D-28 (1), E-7 (1), E- (1), E-14 (1), E-15 (5), E-19 (2), E-21 (4).

Description. The holotype is a complete specimen, yellowish, with no pigment patterns, subcylindrical ; 26 mm long and 3 mm wide including setae, with 103 setigers. Prostomium deeply incised, with a pair of distal antennae, biarticulated palps, palpostyle thin and long, two pairs of reddish brown eyes, the posterior pair smaller and spherical in shape, and the anterior one larger and reniform. Peristomium longer than the following segment, four pairs of tentacular cirri, the longest reaching back to setiger 4 (Fig. 1 a). Pharynx with a pair of light brown, serrated jaws, with 11 teeth each. Soft conical papillae on oral ring : Area V-VI = 3, Area VII-VIII = 7.

Setiger 1 and 2 uniramous (Fig. 1 b), with a pair of long and digitate parapodial lobes. The following parapodium biramous. Dorsal cirri on the first 7 setigers digitiform, with small cirrophore ; posteriorly the cirrophores are longer and vascularied, with the slender dorsal cirrus distally attached to cirrophore (Fig. 1 c, Fig. 2). In posterior parapodia (Fig. 1 d), the cirrophore diminishes in length, but remains vascularied. Notopodia with a long lobe, neuropodia with two digitate lobes, shorter than the notopodial one, in posterior setigers the notopodial and neuropodial lobes diminish in length. Double neuropodial cirri, from setiger 1 up to 42, the superior cirri shorter than the inferior one.

A papilla-like structure appears on the mid-dorsum of setiger 10, continuing up to setiger 41 ; each prolongation is broad and thin like as a flap, connected to the parapodia by a dorsal ridge (Fig. 3).

Setae include homogomph and sesquigomph spinigers, with the blade finely serrated generally ; in some spinigers the blade is strongly serrated. The number of homogomph spinigers in the first parapodia are 23, this setae increase in the setiger 10 (118), then posteriorly decrease in number ; setiger 13 (56), 20 (38), 50 (21), 53 (25), 80 (13). The number of sesquigomph spinigers in the first parapodia are 22, similar to the homogomph spinigers, the sesquigomph spinigers increase in the setiger 5 (49), posteriorly decrease in number ; setiger 10 (30), 13 (29), 20 (6), 50 (6), dissapear completly on setiger 53, and increase their number on setiger 80 (6). The table I shows the setal counts for selected parapodia of the holotype.

Discussion. *Ceratocephale* includes 10 numerical species : *C. loveni* Malmgren (1867) from the North Pacific, North Atlantic and adjacent seas ; *C. pacifica* Hartman (1960) from Southern California, USA and Australia ; *C. abyssorum* (Hartman & Fauchald, 1971) from the North-West Atlantic ; *C. hartmanae* (Hartman Banse (1977) from Southern California, USA ; *C. oculata* Banse (1977) from North Carolina, USA ; *C. andaman* Hylleberg & Nateewathana (1988) from the Anadaman Sea, Thailand ; *C. aureola* Hutchings & Reid

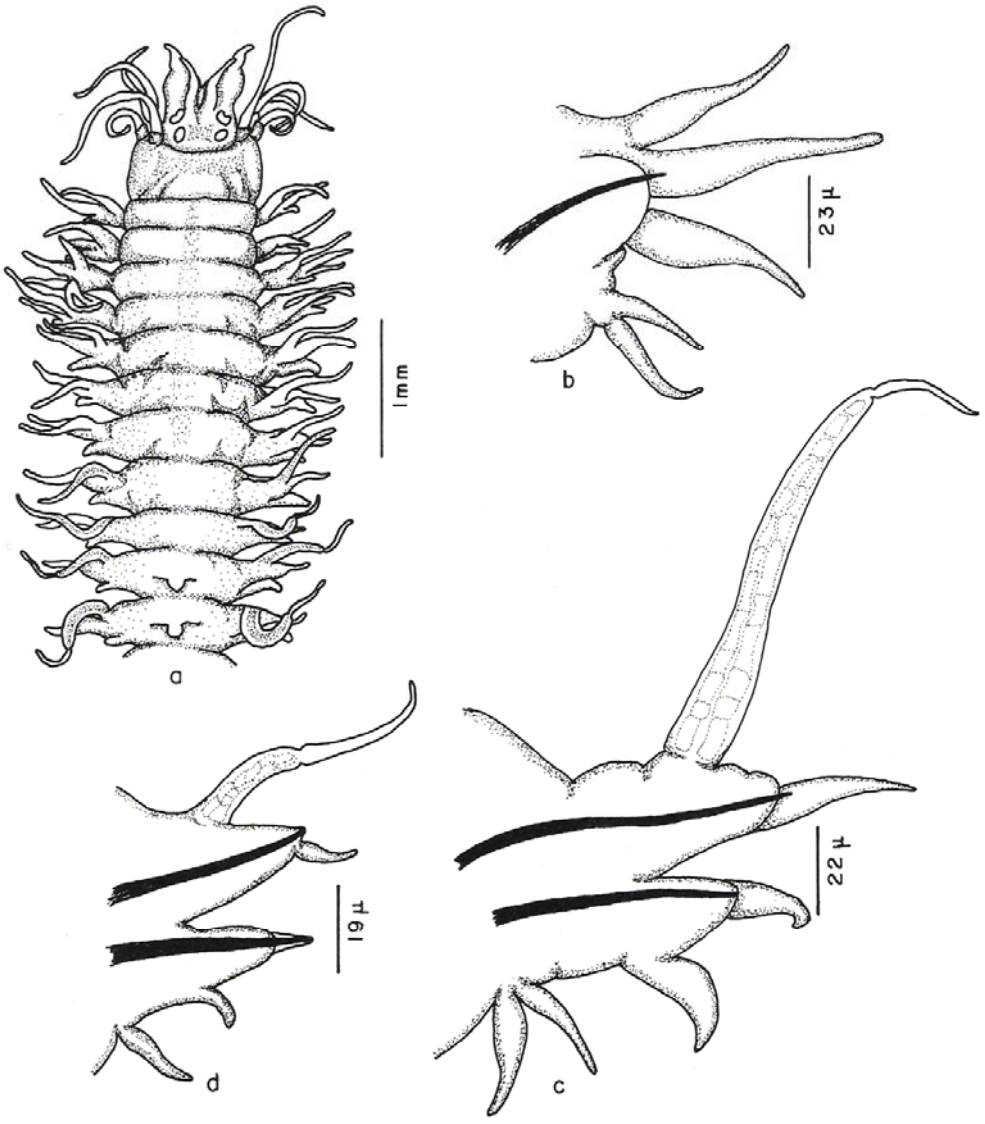

Fig. 1 : *Ceratocephale papillata* n. sp. (Holotype) a. Anterior end, dorsal view ; b. First parapodium ; c. 13th parapodium ; d. 53th parapodium. (Setae omitted).

(1990) from Australia ; *C. setosa* Hutchings & Reid (1990) from Australia ; *C. papillata* n. sp. from the western coast of Baja California Sur, México. Furthermore, according to Hylleberg & Nateewathana (1988), *Tambalagamia orientalis* (Hartman, 1974) described from the Arabian Sea and Bay of Bengal, should be included in *Ceratocephale*, in base of her description and Figure 5 g, in these figure shown the dorsal cirrophorus expanded, and the dorsal cirus distally attached, typical of *Ceratocephale*.

C. papillata n. sp. differs from the others species, principally by the presence of a well developed midorsal papilla, these papillae appear only in *C. hartmane*, and some times in *C. andaman ;* in the last named species, the papillae are present from setiger 22, and are very small in size. These 3 species are clearly distinguishable : whereas the eyes in *C. hartmane* are absent, and in *C. andaman* may be present or absent, *C. papillata* possess 4 eyes invariably ; furthermore, the double neuropodial cirri start on the setiger 1 in

TABLE I

Distribution and type of setae along the body of *Ceratocephale papillata* n. sp. (Holotype). NOTO = Notopodium, NEURO = Neuropodium, Supra = supracicular, Sub = subacicular, ho sp = homogomph spiniger, ses sp = sesquigomph spiniger.

Parapodia			ho sp	ses sp
1	NOTO		23	22
5	NOTO		23	7
	NEURO	Supra	39	11
		Sub	47	31
10	NOTO		45	0
	NEURO	Supra	29	9
		Sub	44	21
13	NOTO		18	11
	NEURO	Supra	16	5
		Sub	24	13
20	NOTO		13	3
	NEURO	Supra	12	0
		Sub	13	3
50	NOTO		7	0
	NEURO	Supra	8	0
		Sub	6	6
53	NOTO		5	0
	NEURO	Supra	9	0
		Sub	11	0
80	NOTO		3	0
	NEURO	Supra	6	0
		Sub	4	6

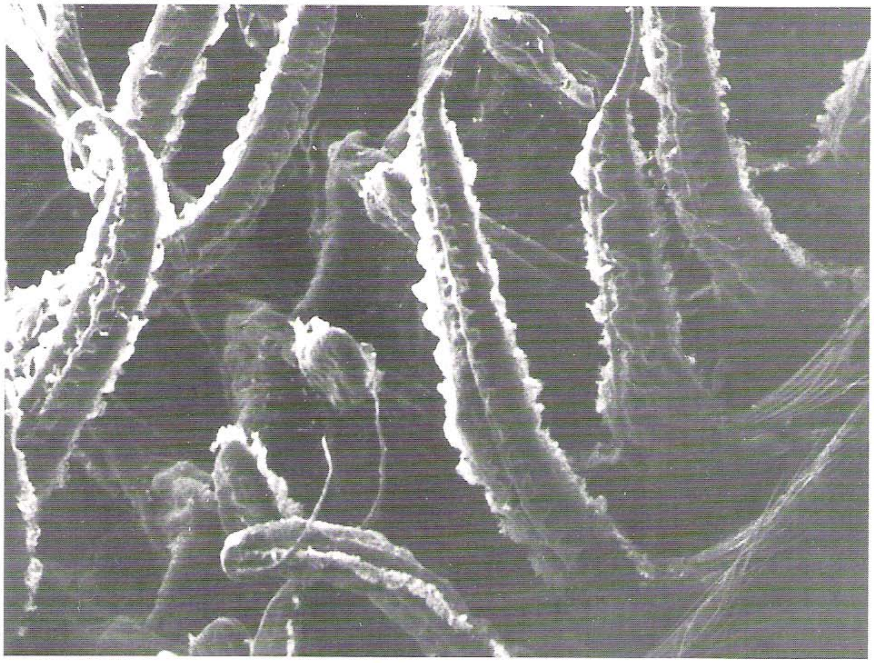

Fig. 2 : *Ceratocephale papillata* n. sp. (Non-type specimen). Scanning electron micrograph showing expanded dorsal cirrophores from mid body 78x.

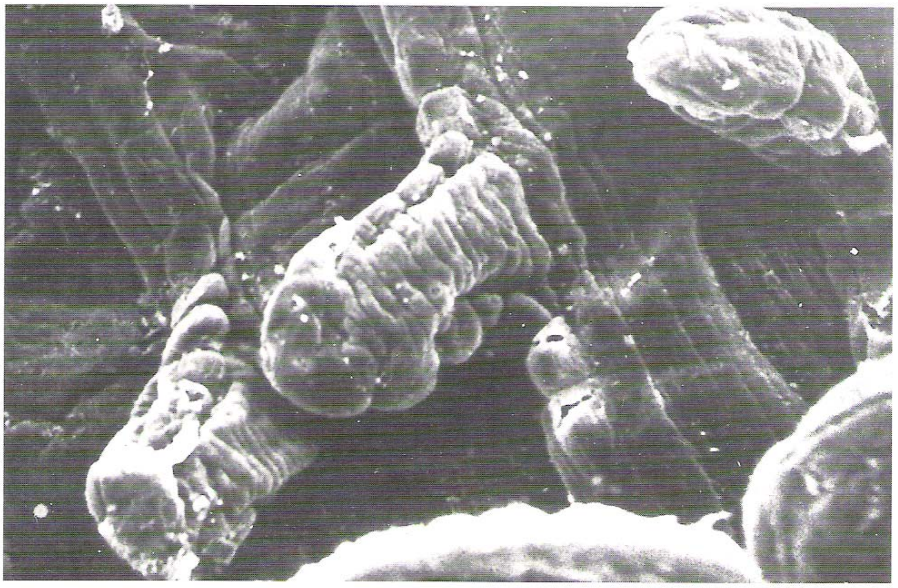

Fig. 3 : *Ceratocephale papillata* n. sp. (Non-type specimen). Scanning electron micrograph showing the middorsal papillae from mid body 170x.

Key to the species of *Ceratocephale*

1. - With mid-dorsal papillae in median body region 2
   Without mid-dorsal papillae in median body region 4
2. - Double neuropodial cirri from setiger 1 ; with eyes, some times absent 3
   Double neuropodial cirri from setiger 3; without eyes ..... *C. hartmanae*
3. - Mid-dorsal papillae always present, starting on setiger 10-11 ; setae homogomph and sesquigomph spinigers ..... *C. papillata* n. sp.
   Mid-dorsal papillae some times present, when are present start on setiger 22 ; setae homogomph spinigers ..... *C. andaman*
4. - Double neuropodial cirri from setiger 1 5
   Double neuropodial cirri from setiger 3 6
5. - Eyes present, dorsal cirrophores not connected by low ridges, with sesquigomph falcigers ..... *C. setosa*
   Eyes present or absent, dorsal cirrophores connected by low ridges from setiger 6, without falcigers ..... *C. loveni*
6. - Setae spinigers only 7
   With some falcigers present 9
7. - Setae homogomph spinigers 8
   Setae homogomph and sesquigomph spinigers, dorsal cirrophores connected by low ridges from setiger 8 ..... *C. pacifica*
8. - Expanded dorsal cirrophores from setiger 10, connected by low ridges from setiger 4 ..... *C. oculata*
   Expanded dorsal cirrophores from setiger 7, the connection by low ridges are unknown ..... *C. orientalis*
9. - Expanded dorsal cirrophores and the connection by low ridges from setiger 10, setae homogomph spinigers and sesquigomph spinigers and falcigers ..... *C. aureola*
   Expanded dorsal cirrophores in all setigers, without connections by low ridges, setae homogomph spinigers and falcigers ..... *C. abyssorum*

Note. The data for the setae are take from Hutchings and Reid (1990).

Resumen : Una nueva especie de *Ceratocephale* es descrita sobre la base de 155 especimenes colectados en la costa oeste de Baja California Sur, México, entre 52-220 m de profundidad. Esta nueva especie se difierencía por la presencia de faldones o papilas medio dorsales, previamente conocidas para *C. hartmanae*, y en algunas ocaciones observadas en *C. andaman*. De *C. hartmanae* la nueva especie se diferencia por la presencia de ojos y en el inicio del cirro neuropodial doble ; de *C. andaman* la nueva especie se diferencia por la primer aparición y el desarrollo de la papila mediodorsal, ademas por la presencia de espinígeros sesquigomfos. Se presenta una clave a todas las especies de *Ceratocephale*.

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