

## A new eunicid polychaete from the Caribbean Coast of Mexico

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**Abstract:** *Eunice riojai* n. sp., is described from the Caribbean Coast of Mexico based upon one specimen collected among intertidal sponges. This species belongs to the Pantropical fuscus-unidentatus group. It has a peculiar parapodial development and vranchial distribution. Main morphological characters of the species of this group are compared and a Key to the group is included.

The family Eunicidae has 8 valid genera, of which *Eunice* comprises most species. This genus was splited in groups by Hartman (1944), on the basis of shape and color of the subacicular hooks. These were:

- A. flavus-bidentatus.  
Subacicular hooks yellow and bidentate.
- B. fuscus-bidentatus.  
Subacicular hooks dark or black and bidentate.
- C. flavus-tridentatus.  
Subacicular hooks yellow and tridentate.
- D. fuscus-unidentatus.  
Subacicular hooks dark of black and unidentate.

Fauchald (1970) further subdivided the groups, on the basis of the start and ending of the branchiae. He divided each group into th following subgroups:

- 1. Branchiae present before setiger 10 and ending before setiger 100.
- 2. Branchiae present before setiger 10 and continuing to the end of the body.
- 3. Branchiae present after setiger 10 and ending before setiger 100.
- 4. Branchiae present after setiger 10 and continuing to the end of the body.

In this paper I describe a new species that belongs to the fuscus-unidentatus group, sub-

group 2. and I include a key to all species of the group.

### MATERIAL & METHODS

The Islas Perez, Yucatan (86° 41' 45" N, 22° 23' 36" W) belong to a little group of coral reefs in the Mexican Caribbean. L. Leal (1979) collected by hand some intertidal sponges and gave us the polychaetes. In that material I found a specimen of an undescribed species of *Eunice*.

*Eunice riojai* n. sp.  
(Fig. 1a-f, 2a-d)

**Material examined:** Type material deposited at the National Museum of Natural History, Smithsonian Institution (USMN).

**Type:** Islas Peres, Yucatan, Mexico. 18 July 1979. (USMN 105342).

**Etymology:** The specific name is in honor of Dr. Enrique Rioja.

**Description:** The holotype is a complete specimen with 170 setigers; it is 126 mm long and 9 mm wide including the setae. It is reddish

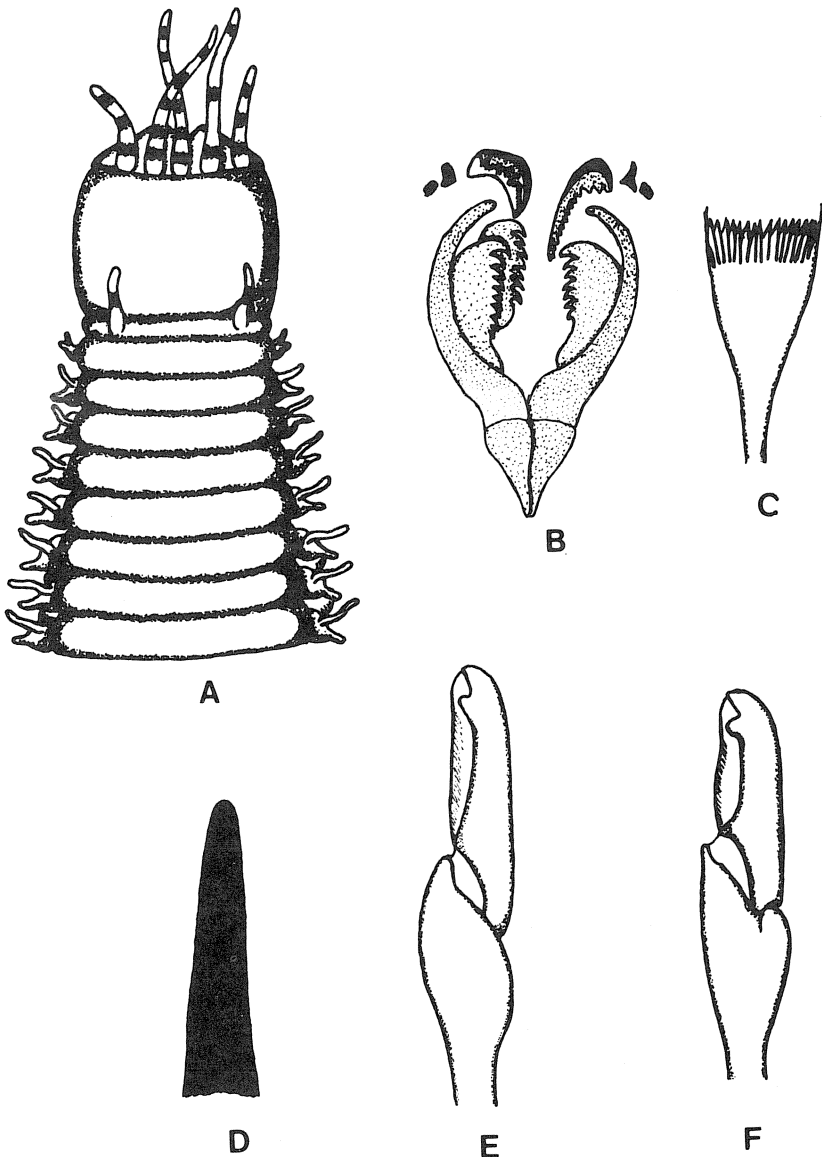


Fig. 1. *Eunice riojai* n. sp. A, anterior end; B, maxillae in dorsal view; C, pectinate seta; D, distal end of the subacicular hook from median parapodium; E, composite falciger from anterior parapodium; F, composite falciger from posterior parapodium.

brown dorsally; the ventral region is more pale than the dorsum.

Prostomium longer than wide. The smooth occipital tentacles are longer than the prostomium; the median one is the longest, reaching backwards the second setiger; the inner laterals reach the first setiger, and the outer laterals the prostomial segment. The tentacles are brown

banded, the number of bands are as follows: five in the median, five in the inner lateral left, three in the inner lateral right and three in the outer lateral pair. The occipital ceratophores are raised above the surface of the prostomium. The peristomial segment is as long as the first three setigers. The tentacular segment is smaller than the following segment, with a pair of short and slender peristomial cirri (Fig. 1A).

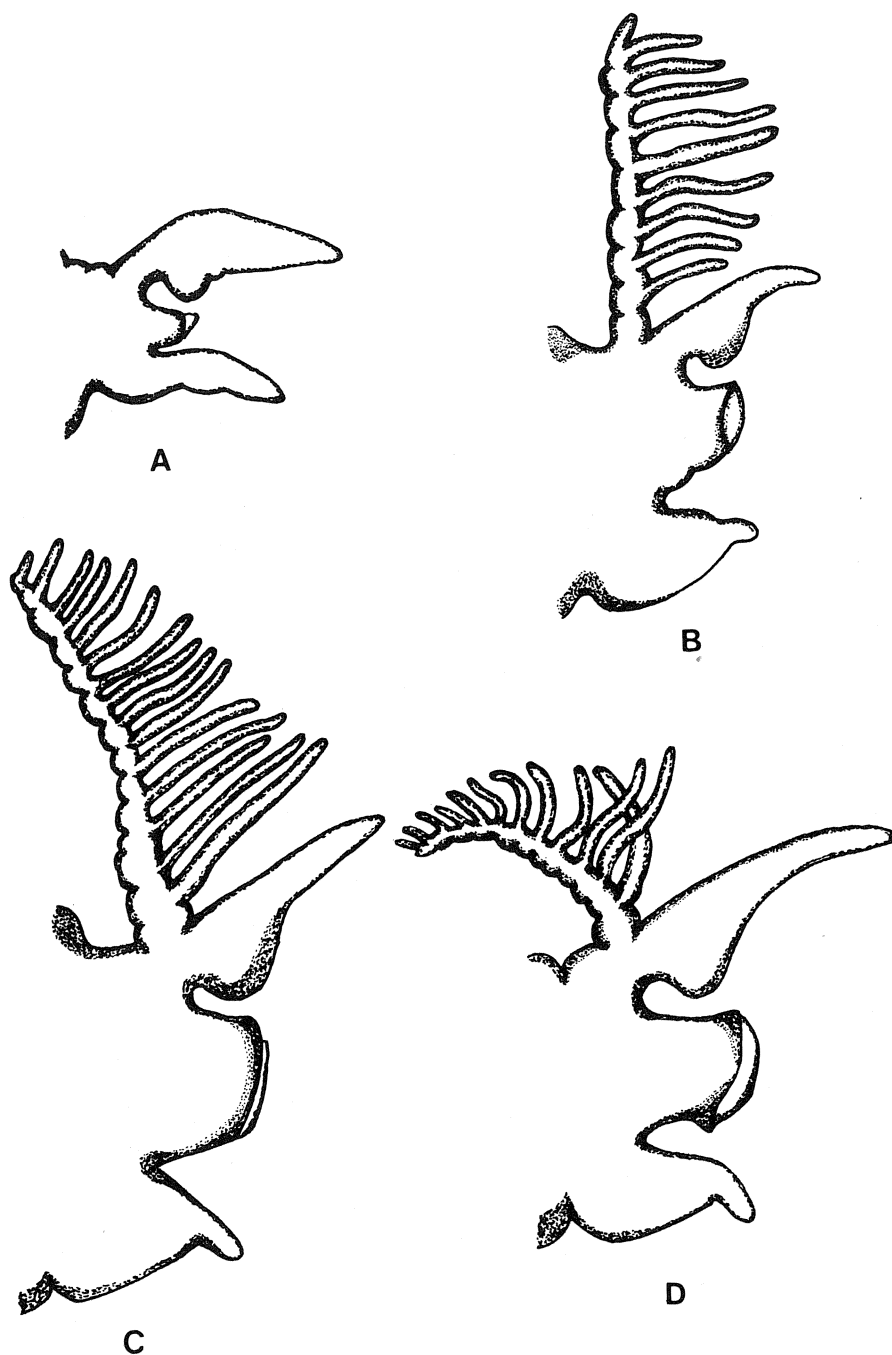


Fig. 2. *Eunice riojai* n. sp. A, first parapodium; B, 20<sup>th</sup> parapodium; C, 60<sup>th</sup> parapodium; D, 140<sup>th</sup> parapodium.

First setiger (Fig. 2A) with small parapodia with truncated setal lobes. Dorsal cirri with a basal protuberance, ventral cirri long and digitiform. In the branchial region the ventral cirri

is basally swollen, but the distal portion is digitiform (Fig. 2B-D).

Branchiae are regularly distributed starting with five branchial filaments on the 7<sup>th</sup> setiger

TABLE 1

*Morphologic characteristics of the fuscus unidentatus species*

	Start of the branchiae	Maximal number of branchial filaments	Start of the subacicular hooks	Maxilar Formula
<i>E. fauveli</i>	17-end	14	39	MxI= (1 + 1) MxII= (4 + 4) MxIII= (7 + 0) MxIV= (3 + ?)
<i>E. marenzelleri</i>	28-?	1	37	MxI= (1 + 1) MxII= (3 + 4) MxIII= (5 + 0) MxIV= (3 + 4)
<i>E. riojai</i> n. sp.	7-end	15	28	MxI= (1 + 1) MxII= (8 + 7) MxIII= (8 + 0) MxIV= (7 + 13)
<i>E. schemacephala</i>	5-end	8	40	MxI= (1 + 1) MxII= (4 + 4) MxIII= (6 + 0) MxIV= (4 + 6)
<i>E. sonorae</i>	41-680	6	52	MxI= (1 + 1) MxII= (3 + 4) MxIII= ((3-5) + 0) MxIV= (3 + 6)
<i>E. unidentata</i>	28-?	4-5	20-25	?

to the end of the body. Number of filaments increases regularly from five to fifteen filaments in the median region, in pectinated arrangement covering part of the dorsum. On the first setiger, a single branchial filament is present on the left side only. Dorsal cirri supported by one slender and black acicula. Parapodial lobe with four black aciculae. Black subacicular hooks (Fig. 1D) present from the 28<sup>th</sup> setiger to the end of the body, two per parapodium on setigers 28-145, one per parapodium in posterior segments. Each dorsal setal fascicle with 15 to 20 capillary setae and many (20+) pectinate setae, each one with 18 to 20 teeth (Fig. 1C). Ventral setal fascicle with composite bidentate hooded hooks. The anterior ones (Fig. 1E) are longer with the inferior tooth small and pointed, and the hood finely serrated. Posteriorly (Fig. 1F), these hooks become shorter, with subequal superior and inferior teeth and finely serrated hood; each setal shaft finely spinulated along and in its interior margin.

Pigidium with terminal anus and 2 short anal cirri, each cirrus with three dark bands.

The pharyngeal apparatus has the following maxillar formula: MxI = (1 + 1), MxII = (8 + 7) MxIII = (8 + 0) MxIV = (7 + 13).

## DISCUSSION

*Eunice riojai* n. sp. belongs to the little Pan-tropical group fuscus-unidentatus because it has black unidentate subacicular hooks, and to the subgroup 2 because it possesses the branchiae after the setiger 10 and continuing to the end of the body. The fuscus-unidentatus group contains 5 species: *E. fauveli* Gravier 1900; *E. marenzelleri* Gravier 1900; *E. schemacephala* Schmarda 1861; *E. sonorae* Fauchald 1970; and *E. unidentata* Rioja 1962.

*E. riojai* n. sp. is closely allied to *E. schemacephala*. Both belong to the same subgroup, but the beginning and the number of the branchial

Key to the *Eunice* species of the fuscus unidentatus group

1. With one branchial filament only . . . . . *E. marenzelleri*  
With up to 15 branchial filaments . . . . . 2
2. Branchiae before the setiger 10 . . . . . 3  
Branchiae present after the setiger 10 . . . . . 4
3. Branchiae with maximal number of 15 filaments, subacicular hooks start on setiger 28. . . . .  
. . . . . *E. riojai* n. sp.  
Branchiae with maximal number of 8 filaments, subacicular hooks start on setiger 40. . . . .  
. . . . . *E. schemacephala*
4. Branchiae with more than 10 filaments . . . . . *E. fauveli*  
Branchiae with less than 10 filaments . . . . . 5
5. Subacicular hooks from setiger 20-25 . . . . . *E. unidentata*  
Subacicular hooks from setiger 52 . . . . . *E. sonorae*

filaments are different in these two species. *E. riojai* n. sp. has paired branchiae from 7<sup>th</sup> setiger, with up to 15 terminal filaments. In *E. schemacephala* paired branchiae begin on the 5<sup>th</sup> setiger, and have a maximum of 8 filaments. Further, they differ in the shape of the falcigers. The diagnostic features of the species of the fuscus-unidentatus group are shown in the Table 1.

The fuscus-unidentatus group species have a Pantropical distribution, *E. fauveli* and *E. marenzelleri* are known only from the Red Sea; *E. schemacephala* from the Caribbean Sea; *E. sonorae* from the Gulf of California (de León-González & Salazar-Vallejo 1987) and *E. unidentata* from San Roque and Asunción Islands in Western Mexico, Pacific Ocean.

**Distribution:** *E. riojai* n. sp. is known only from its type locality (Islas Perez, Yucatan, Caribbean Sea), where it lives among sponges in the intertidal zone.

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## RESUMEN

Se describe *Eunice riojai* n. sp., del Caribe Mexicano, con base en un espécimen colectado entre esponjas de la zona de entremareas. Esta especie pertenece al grupo pantropical fuscus-unidentatus. Se caracteriza por un desarrollo peculiar de los parapodios y de la inserción branquial. Se comparan las principales características morfológicas de las especies de este grupo, y se incluye una clave.

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