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A NEW SPECIES OF *FLABELLINA* (GASTROPODA, NUDIBRANCHIA) FROM THE GIBRALTAR STRAIT (SOUTHERN SPAIN)

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SYSTÉMATIQUE
OPISTHOBRANCHES
FLABELLINA BAETICA n.sp.

RÉSUMÉ. — Description de *Flabellina baetica*, nouvelle espèce de Flabellinidae du Détroit de Gibraltar. Le corps est de couleur blanche hyaline, les ramifications de l'hépatopancréas des papilles sont de couleur crème et vers les extrémités, rouge obscur ou bordeaux; le cnidosac blanc. Les rhinophores sont rugueux. La formule radulaire est $35 \times 1.1.1$. Les dents latérales ne possèdent pas de denticules, mais les centrales en ont 7 à 9 de chaque côté.

TAXONOMY
OPISTHOBRANCHES
FLABELLINA BAETICA n.sp.

ABSTRACT. — A new species of Flabellinidae from the Strait of Gibraltar, *Flabellina baetica*, is described. The body has a white hyaline colour and the hepatic ramifications on the cerata are cream with dark-red near the tips; the cnidosac is white. The rhinophores are rugose. The radular formula is $35 \times 1.1.1$. The lateral teeth have no denticles and the central teeth have 7 to 9 on each side.

INTRODUCTION

Two specimens of an unknown eolid have been found in the Strait of Gibraltar. Though their rhinophores resemble those of *Berghia* or *Jason*, their internal anatomy is similar to that of *Coryphella* or *Flabellina*. In this paper *Flabellina* is distinguished from *Coryphella* by having horizontally ringed rhinophores and cerata inserted in peduncles which can be bi or tripartite (in *Coryphella*, rhinophores are smooth or rough — but not perfoliated —, and cerata are disposed in transverse rows on each side).

In spite of its unusual rhinophores, the disposition of cerata and other morphological characters are similar to those of *Flabellina*, so rather than describe a new genus, we consider our eolid to belong to the genus *Flabellina*.

Family : *Flabellinidae*

Genus : *Flabellina* Voigt, 1834
Flabellina baetica n. sp.

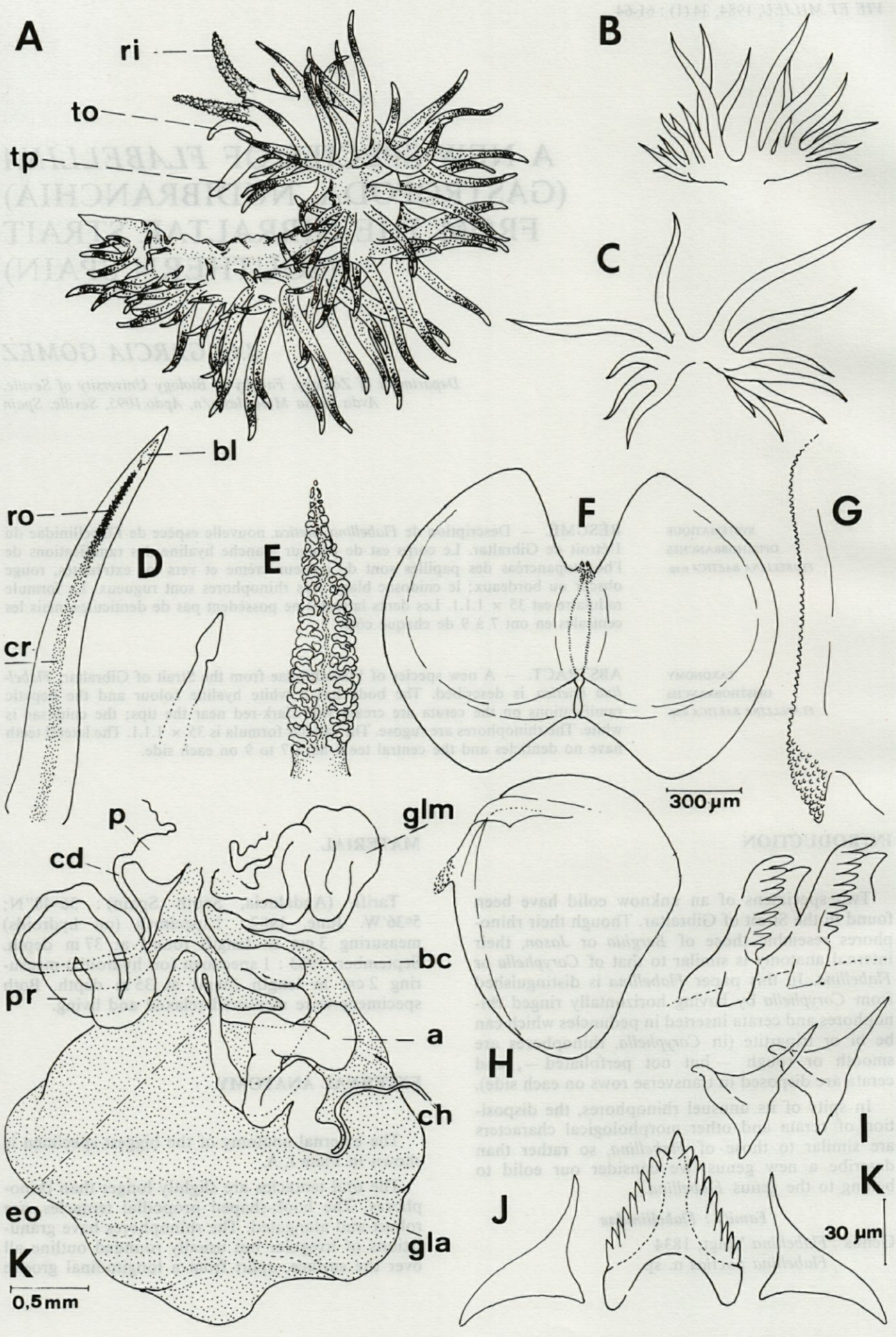
MATERIAL

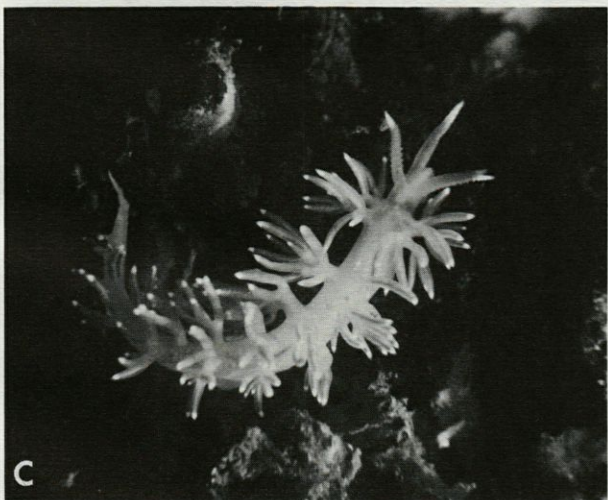
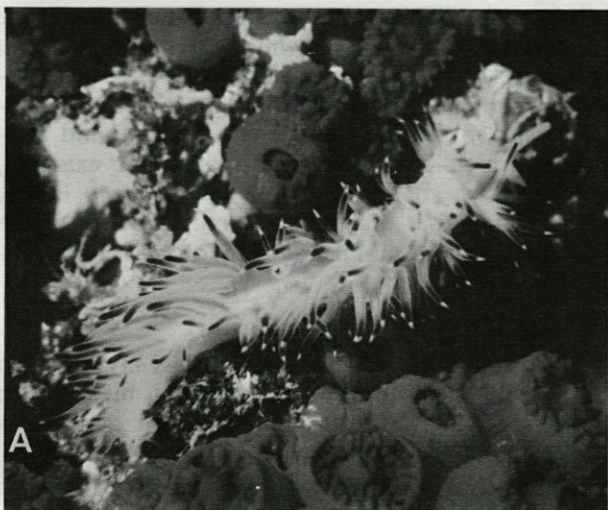
Tarifa (Andalucia, South Spain) : $36^{\circ}48'N$; $5^{\circ}36'W$. June, 1982 : 1 specimen (on hydroids) measuring 3 cm in length found at 37 m depth. September, 1983 : 1 specimen (on hydroids) measuring 2 cm in length found at 35 m depth. Both specimens were measured relaxed and living.

EXTERNAL ANATOMY

The external anatomy of the biggest specimen is shown in Plate I, A.

The oral tentacles are slightly longer than rhinophores. The hook-shaped propodial tentacles, are robust and elongated. The rhinophores have granulations of irregular but usually rounded outline all over the surface, apart from a longitudinal groove





from base to tip on the posterior surface which in some parts becomes sinuous (Pl. I, E). The cerata arise from stalked peduncles and are arranged in 7 groups on each side. Each ceras is long and thin, and widest at the base, especially when the animal is at rest. The arrangement of each group is represented in Plate I, A, B and C. The cerata of the first groups are larger and more numerous than the rest, and they frequently interlace so that they conceal the cephalic region even when at rest, and so make the eolid look like an anemone. The tail is short.

The genital orifice is located at the level of the first right group of cerata and the anus at the level of the second right group of cerata. Just in front of the anal papilla is the renal pore.

COLORATION

The body is uniform hyaline white. The rhinophores, oral tentacles, propodial tentacles and foot are of the colour. The body is transparent so the rose-coloured internal organs can be seen. The cerata are hyaline white but the hepatic ramifications, visible due to transparency, are of cream colour merging to dark-red or bordeaux-red towards the extremities (Pl. I, D). The cnidosacs are white. Towards the tail, the cerata are shorter with smaller cream areas.

Garcia & Martin (1983) published a photograph of *F. baetica* (p. 48) which shows the coloration of this species.

INTERNAL ANATOMY

Radular formula : $35 \times 1.1.1$ for the 3 cm specimen. The lateral teeth lack denticles while the central teeth have from seven to nine on each side of the prominent central cusp (Pl. I, I and J).

The jaws are brown or ochreish and their masticatory edges are denticulate (Pl. I, F, G and H).

The reproductive system is illustrated in Plate I, K. The ampulla is enlarged with foldings in its wall like the prostate. The vas deferens is thin has a clear

Plate II. — A, *Flabellina baetica* n.sp.; B, *F. babai*; C, *F. affinis*.

Plate I. — *F. baetica* n. sp. : A, dorso-lateral view of the animal; B and C, detail of groups of ceratas; D, a normal ceras and part of another one with a malformation at its tip; E, rear view of the rhinophores; F, jaws (seen from their convex face); G, detail of the masticatory edge; H, jaw seen from its internal face (concave); I, radular teeth : two central teeth in side view and two lateral teeth; J, a row of radular teeth in dorsal view; K, genital organs.

a, ampulla; bc, bursa copulatrix; bl, white; cd, vas deferens; ch, hermaphrodite duct; cr, cream; eo, spermiduct; gla, albumen gland; glm, mucous gland; p, penis; pr, prostate; ri, rhinophore; ro, dark-red; to, oral-tentacle.

ductus ejaculatorius, (what have many *Flabellina* species, whereas in *Coryphella* the ductus ejaculatorius is often inconspicuous) and the penial sac wide and short. The penis is unarmed. The bursa copulatrix is pear shaped and situated near the bifurcation of the gonoduct into vas deferens and oviduct.

Origin of the name

The specific name of *baetica* refers to Andalucia, the Spanish region to which we dedicate our species.

Holotype

The smaller specimen is designated holotype, and has been deposited in the Natural Sciences Museum of Paris (no catalogue numbers used). The paratype is sectioned specimen, which remains, together with a colour slide of the animal, at the Department of Zoology, University of Seville.

DISCUSSION

Due to the anatomic characteristics of our species, we include it within *Flabellina* and it can be

distinguished from the two european species of *Flabellina*, *F. affinis* (Gmelin, 1791) and *F. babai* Schmekel, 1972 by its coloration, its rugose rhinophores, and the smooth lateral teeth. The rhinophores, also distinguish it from species found elsewhere which have them perfoliated, for example, *F. annuligera* (Bergh, 1900), *F. macassarana* Bergh, 1905 and *F. telja* Marcus & Marcus 1967, from the Hawaiian Islands, Makassar (Indonesia) and California, respectively.

ACKNOWLEDGMENTS. I wish to express my thank to Dr. M. Edmunds for the revision of this manuscript; we also thank J. Martin for specimen defined as holotype, collected by Scuba diving.

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SCHMEKEL L., 1972. *Flabellina babai* n. sp., ein neuer Aeo- lidier (Gastr. Nudibranchia) aus dem Mittelmeer. *Pubbl. Staz. Zool. Napoli*, 38 : 316-327.

INTERNAL ANATOMY

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The reproductive system is illustrated in Plate I. K. The ampulla is enlarged with foldings in its wall like the prostate. The vas deferens is thin and clear

Plate II - *A. Flabellina baetica* n.sp.; B, E, detail of groups of ctenidia; C, D, normal ctenidia.

Plate I - *A. Flabellina* sp. A, horizontal view of the animal; B and C, detail of groups of ctenidia; D, a normal ctenidium; E, detail of another one with a malformation at its tip; F, ventral view of the rhinophores; G, jaws (seen from their convex face); H, detail of the mesentoy edge; I, jaw seen from its internal face (convex); J, radular teeth; two central teeth in side view and two lateral teeth; K, a row of radular teeth in dorsal view; L, genital organs.