NOVAFABRICIA BILOBATA SP. NOV. (POLYCHAETA, SABELLIDAE, FABRICIINAE) FROM THE MEDITERRANEAN

Daniel Martin[1] & *Adriana Giangrande*[2]

[1] Centre d'Estudis Avançats de Blanes (CSIC), Camí de Santa Bàrbara s/n, 17300-Blanes (Girona), Spain

[2] Dipartimento di Biologia, Universita di Lecce, Via Prov. le Lecce-Monteroni, 73100-Lecce, ltaJy

ABSTRACT

A new species belonging to the genus *Novafabricia* Fitzhugh is described. The main diagnostic features are the distribution pattern of thoracic pseudospatulate setae, limited to setigers 3-7, and the presence of two dorsal lobes on the anterior margin of the anterior peristomial ring, The presence of *N. bilobata* in the Mediterranean suggests a world-wide distribution for the genus.

INTRODUCTION

The genus *Novafabricia* was recently erected by Fitzhugh (1990) as a result of a review of genera within the Family Sabellidae (Fitzhugh 1988, 1989). *Novafabricia* is a member of the subfamily Fabriciinae sensu Fitzhugh (1989), the subfamily being considered monophyletic on the basis of the presence of the manubrium in abdominal uncini. *Novafabricia* is monophyletic on the basis of reduction of the dorsal lips to low, narrow ridges. The presence of ventral lips in some species is questionable; these structures, when present, appearing as low, rounded swellings at the bases of the ventral-most radioles. The genus is also characterized by the absence of ventral filamentous appendages (Fitzhugh 1990).

Novafabricia is most closely related to those Fabriciinae genera with unequalsized teeth above the main fang of thoracic uncini and with pygidial eyes: *Fabricia* Blainville, *Pseudofabricia* Cantone, *Pseudofabriciola* Fitzhugh, and *Augeneriella* Banse. *Novafabricia* most closely resembles *Fabricia, Augeneriella* and *Pseudofabricia* in having a ventrallobelike process, commonly described as a collar, which extends from the anterior margin of the anterior peristomial ring (Fitzhugh 1990). These genera, however, have well-developed, erect dorsal lips.

The type species of *Novafabricia* is *N. chilemis* originally placed in *Fahriciola* by Hartmann-Schroder (1962). *Novafabricia* also includes two other species which inthe past have been referred to *Fabricia: N. gerdi* (Hartmann-Schroder, 1974) and *N. infratorquata* (Fitzhugh, 1983). In addition, two species are described by Fitzhugh (1990): *N. triangularis* and *N. tennuiseta.*

We would like to thank]. M. Fortuno of the S. E. M. Service of the "Institutode Ciencias del Mar" (C.S. I.C.). Barcelona (Spain), for assistance in the preparation and observation of specimens using scanning electron microscopy.

MATERIAL AND METHODS

Specimens of *N. bilobata* were found in the EIs Alfacs Bay (Fig. 1), Ebro Delta (North-East Iberian Peninsula, Western Mediterranean). Samples were taken between July 1986

and July 1987 using a 30 cm2 corer removing sediment to a depth of 5 cm. Samples were washed on a 500 *JLm* net and fixed in 10 % formalin. Specimens were examined with the use of light microscopy and S.E.M.

Type material of *N bilobata* has been deposited in the "Museo Nacional de Ciencias Naturales", Madrid, MNCNM (Spain) and with the collection of S.E.M. Service of the "Instituto de Ciencias del Mar", Barcelona, SEMSB (Spain). Additional material is maintained in the personal collections of the respective authors.

NOVAFABRICIA BILOBATA SP. NOV.

Family Sabellidae, subfamily Fabriciinae sensu Fitzhugh, 1989, genus *Novafabricia* Fitzhugh, 1990.

Type specimen: Ho]otype: MNCNM (No. 16-01-791). Paratypes: MNCNM (10 specimens) (No. 16-01-792 to 16-01-796) and SEMSB (3 specimens) (No. Nova-1, Nova-2, Nova-3). Additional material: ten specimens in the collections of D. Martin and four in the collections of A. Giangrande.

Ty*pe locality:* EIs Alfacs Bay, Ebro Delta, North-East Iberian Peninsula, Western Mediterranean (40° 33' - 40° 38' N, 0° 32' - 0° 44' E).

Etymology: The specific name refers to the presence of two dorsal lobes on the anterior margin of the anterior peristomial ring.

Description: Holotype complete with 8 thoracic and 3 abdominal setigers; length 3.2 mm (branchial crown comprising 0.8 mm of this length), maximum width 0.3 mm at setiger 6 (Fig. 2a). Body cylindrical, slightly tapered anteriorly and posteriorly. Branchial crown with 3 pairs of radioles with filamentous distal ends Fig. 2a, b). Radioles with 7-8 pairs of pinnules, all terminating at same height as radioles (Fig. 2a, b). Inner margins of all parts of tentacular crown covered by cilia (Fig. 2b). Dorsal lips reduced to low, narrow ridges (Fig. 3). Peristomial (Fig. 4a, c) and pygidial (Fig. 5a, c) eyes black, rounded. Anterior margin of anterior peristomial ring developed dorsally as

two rounded lobes (Fig. 4c, f) varying in size in different specimens, and ventrally as a triangular, flattened lobe (Fig. 4df); ventral margin completely ciliated (Fig. 4e). Middorsum of posterior peristomial ring as a ciliated groove which is continuous posteriorly with the ciliated faecal groove (Fig. 4c). Conical structure above mouth present (Fig. 4b, d). Anterior peristomial ring short, sometimes laterally covered by posterior ring (Fig. 4a, b). Posterior peristomial ring about same width as setiger 1 ventrally (Fig. 4e), about half the length of setiger 1 laterally and dorsally (Fig. 4a, c). Setigers 3-8 each increase in length, with setiger 8 half as long as setiger 9 (Fig.2a). Setiger 9 three times longer than setigers 10 or 11, respectively (Fig. 5a-c). Pygidium slightly longer than setiger 11 (Fig. 5a-c).

First thoracic setiger with notosetae only (Fig. 2c). Superior thoracic notosetae elongate, narrowly hooded, 5-8 per fascicle (Fig. 2d, e). Inferior thoracic notosetae of setigers 1-2 and 6-8, short elongate narrowly hooded, 1-2 per fascicle (Fig. 5d). Thoracic pseudospatulate setae (Figs 2d, e, 6a) present in setigers 3-7, 1-2 per fascicle. Superior abdominal neurosetae modified, elongate narrowly hooded, 2-4 per fascicle. Inferior abdominal neurosetae are short forms of superior neurosetae (Fig. 5e), 1-2 per fascicle (Fig. 5a). Thoracic acicular uncini with one large tooth above the main fang, both surrounded by irregular rows of smaller teeth (Fig. 6e, d), 9-13 per fascicle, arranged as irregular double rows (Fig. 2d). Manubrium of thoracic uncini not expanded proximally (Fig. 6g). Abdominal uncini from 35 to 20 per fascicle; with one tooth in proximal-most row, 3-7 teeth in more distal rows (Fig. 6c), and 6-7 teeth in profile (Figs 6b, f). Numerous smaller teeth present on distal end opposite dentate region (Fig. 6b). Manubrium slightly constricted below dentate region, about same length as dentate region (Fig. 6f).

Anterior and posterior ends of the body pigmented light brown, not extending more than four segments, especially the anterior peristomial ring. Tubes unknown.

DISCUSSION

Novafabricia bilobata is distinct from *N. tennuiseta* by the presence of pseudospatulate setae in the former. The distribution of pseudo spatulate setae in *N. bilobata* differs from that of other species of the genus. *Novafabricia chilensis* has thoracic pseudo spastulate setae limited to setigers 3-6, while *N. infratorquata, N. triangularis* and *N.*

gerdi show thoracic pseudospatulate setae limited to setigers 3-5. In the case of *N bilobata,* they are distributed over setigers 3-7, *N. bilobata* sp. nov. also differs from *N. chilensis* in the absence of a swollen proximal pinnule on the median pair of radioles and in the number of teeth per row in abdominal uncini (single tooth per row in *N. chilensis*). As far as this last character is concerned, *N. bilobata* sp. nov, also differs from *N. gerdi,* which has a single, large, proximal tooth, surmounted by 1-2 rows of small teeth distally. The length of the manubrium on the abdominal uncini is another difference between *N. bilobata* sp. nov. and *N. infratorquata,* being at least twice as long as the dentate region in the latter.

Lastly, some other features distinguish *N. bilobata* sp. nov. from *N. triangularis.* The anterior peristomial ring is shorter in *N. bilobata* sp. nov. than in *N. triangularis.* The anterior margin of the anterior peristomial ring of *N. triangularis* a low ridge dorsally, not exactly with two lobes. In this latter species, the ventral lobe is distally rounded, not pointed as in *N. bilobata* sp. nov.. The posterior peristomial ring is shorter in *N. triangularis* than in *N. bilobata* sp. nov. Both species also differ in the number of superior thoracic notosetae and superior abdominal neurosetae per fascicle, as well as in the number of teeth of the abdominal uncini and the number of abdominal uncini per fascicle.

The occurrence of *N. bilobata* sp. nov. in the Mediterranean suggests a world-wide distribution for the genus *Novafabricia.* World-wide distribution of the genus *Novafabricia* also includes: southern Chile, *N. chilensis* (Hartmann-Schroder 1962); South and South-West Africa, *N. gerdi* (Hartmann-Schroder 1974); Belize, *N. infratorquata* (Fitzhugh 1983); Indian Ocean, *N. tenuiseta* (Fitzhugh 1990); and California, *N. triangularis* (Fitzhugh 1990).

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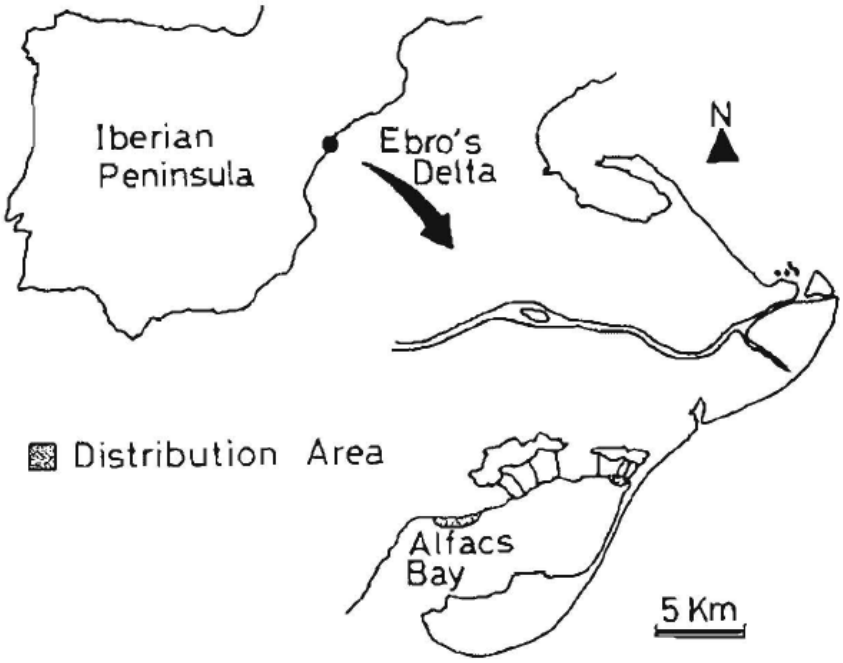

Fig. 1. Location of the collection area.

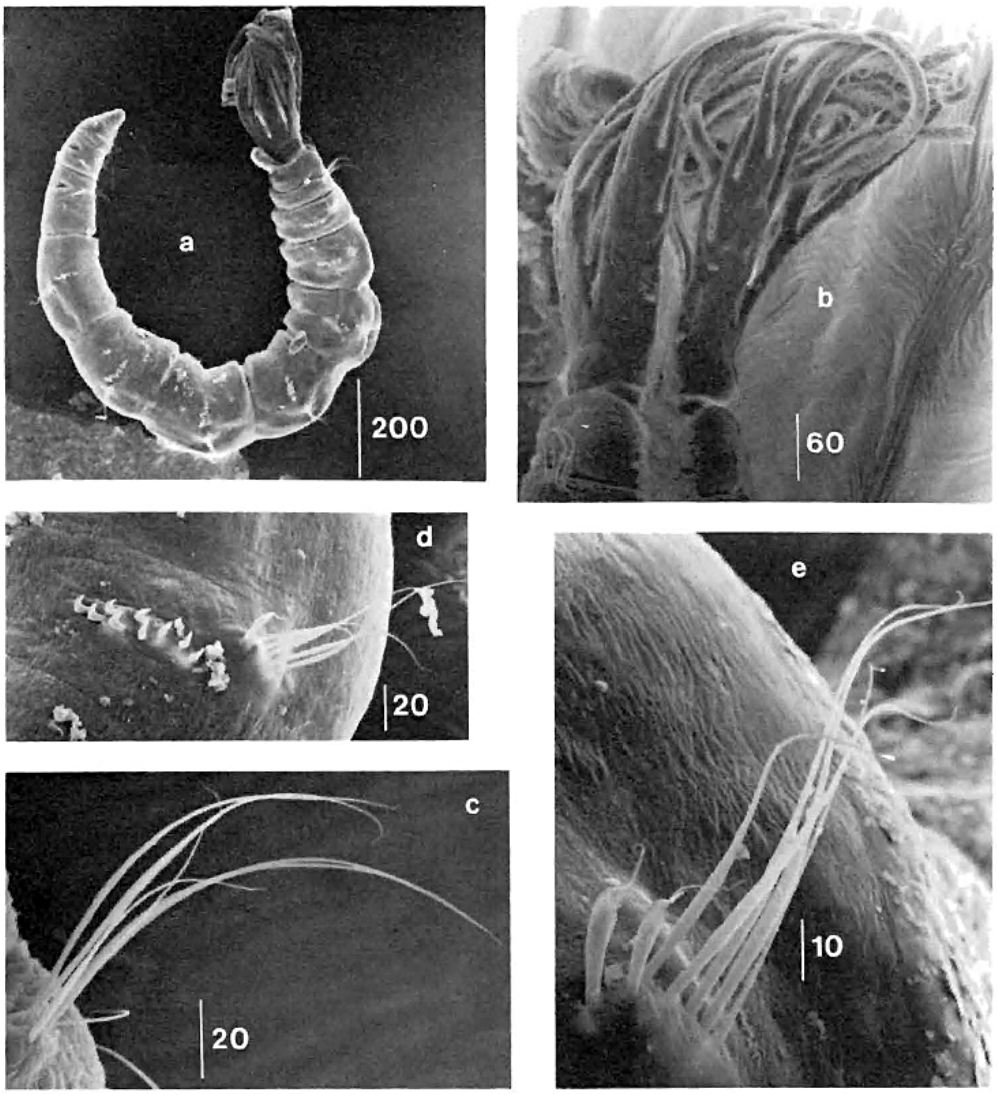

Fig. 2. *Novajabricia bllobata* sp. nov. (Paratype SEMSB Nova-1): a) Entire worm. b) Anterior end. c) Notosetae from setiger 1. d) 7th thoracic parapodium. e) Notopodial fascicle from 6th thoracic parapodium. Scale bars in *μm.*

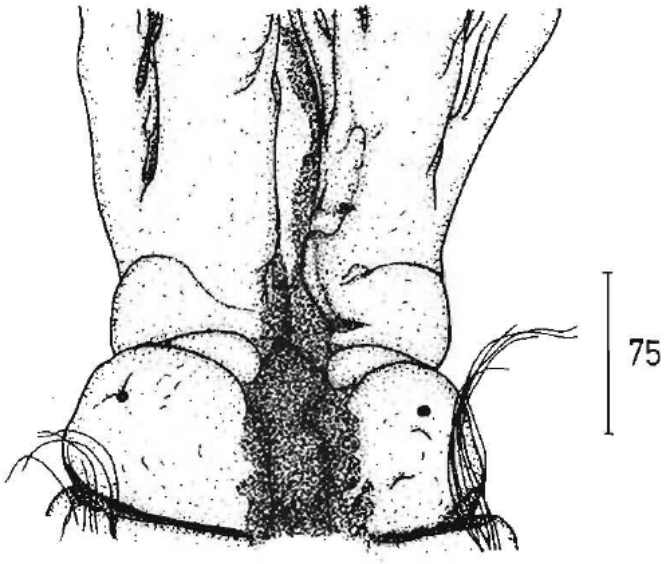

Fig. 3. *Novafabricia bilobata* sp. nov. (Paratype SEMSB Nova-1): Branchial Crown showing a dorsal lip on the right half. Scale bar in μm.

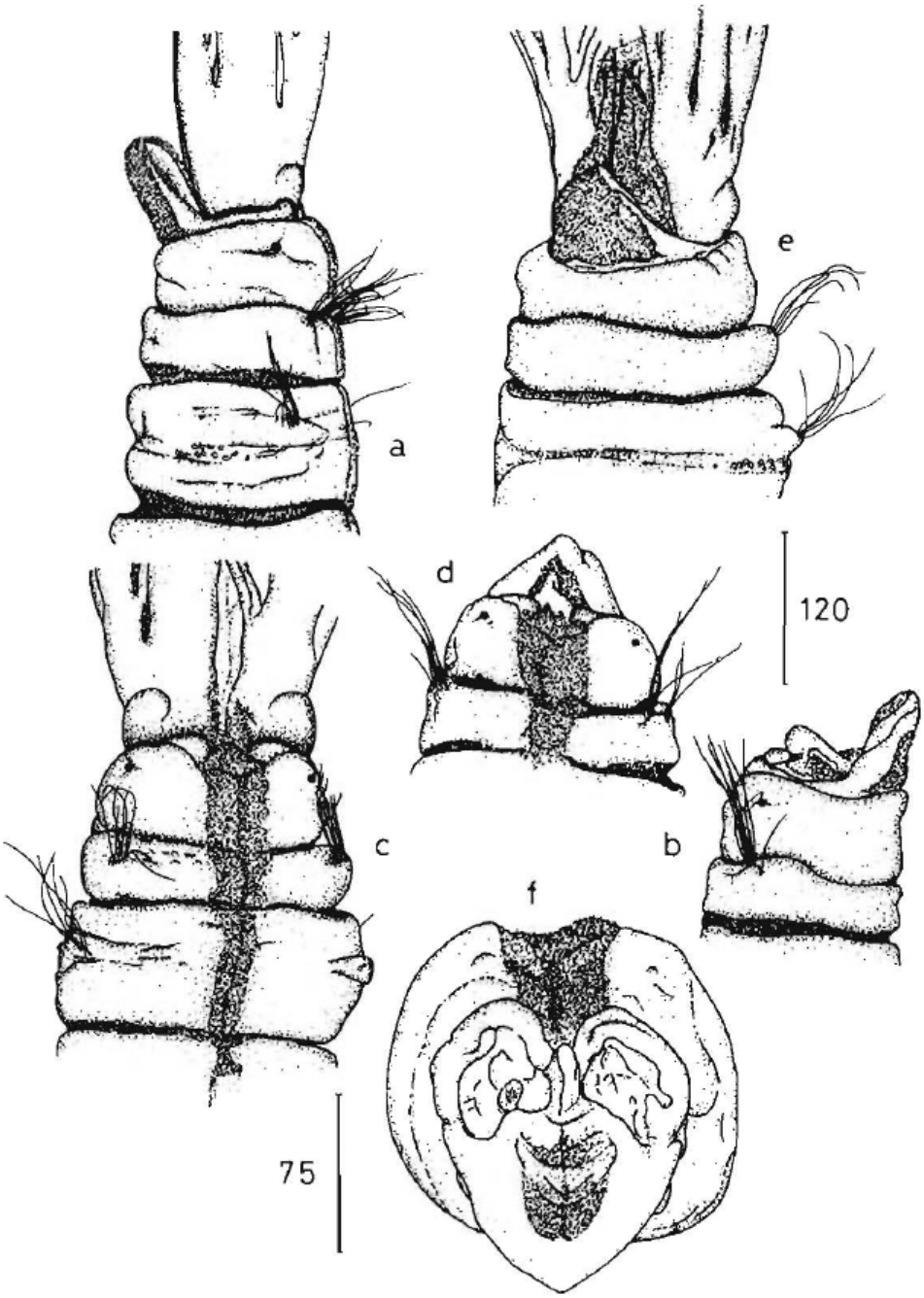

Fig. 4. *Novafabricia bilobata* sp. nov. (Paratype SEMSB Nova-2): a, b) Lateral views of anterior end, with (left side) and without (right side) branchial crown, respectively. c, d) Dorsal views of anterior end with and without branchial crown, respectively. e) Ventral view of anterior end. f) Upper view of anterior and posterior peristomial rings. Scale bars in μm.

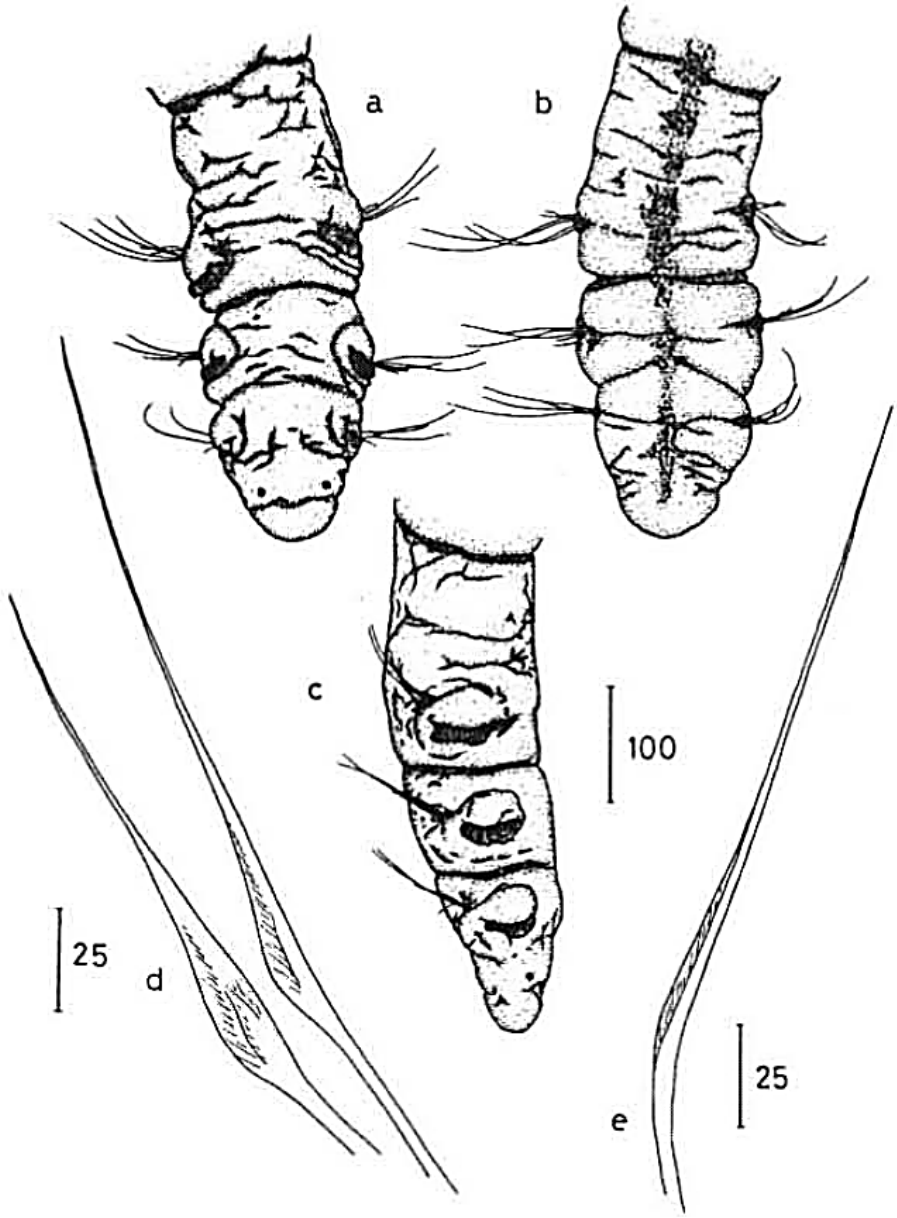

Fig. 5. *Novafabricia bilobata* sp. nov. (Paratype SEMSB Nova-1): a, b, c) Dorsal, ventral and lateral (left side) view, of posterior end. d) Inferior thoracic notosetae from setiger 5. c) Inferior abdominal neuroseta from setiger 9. Scale bar in μm.

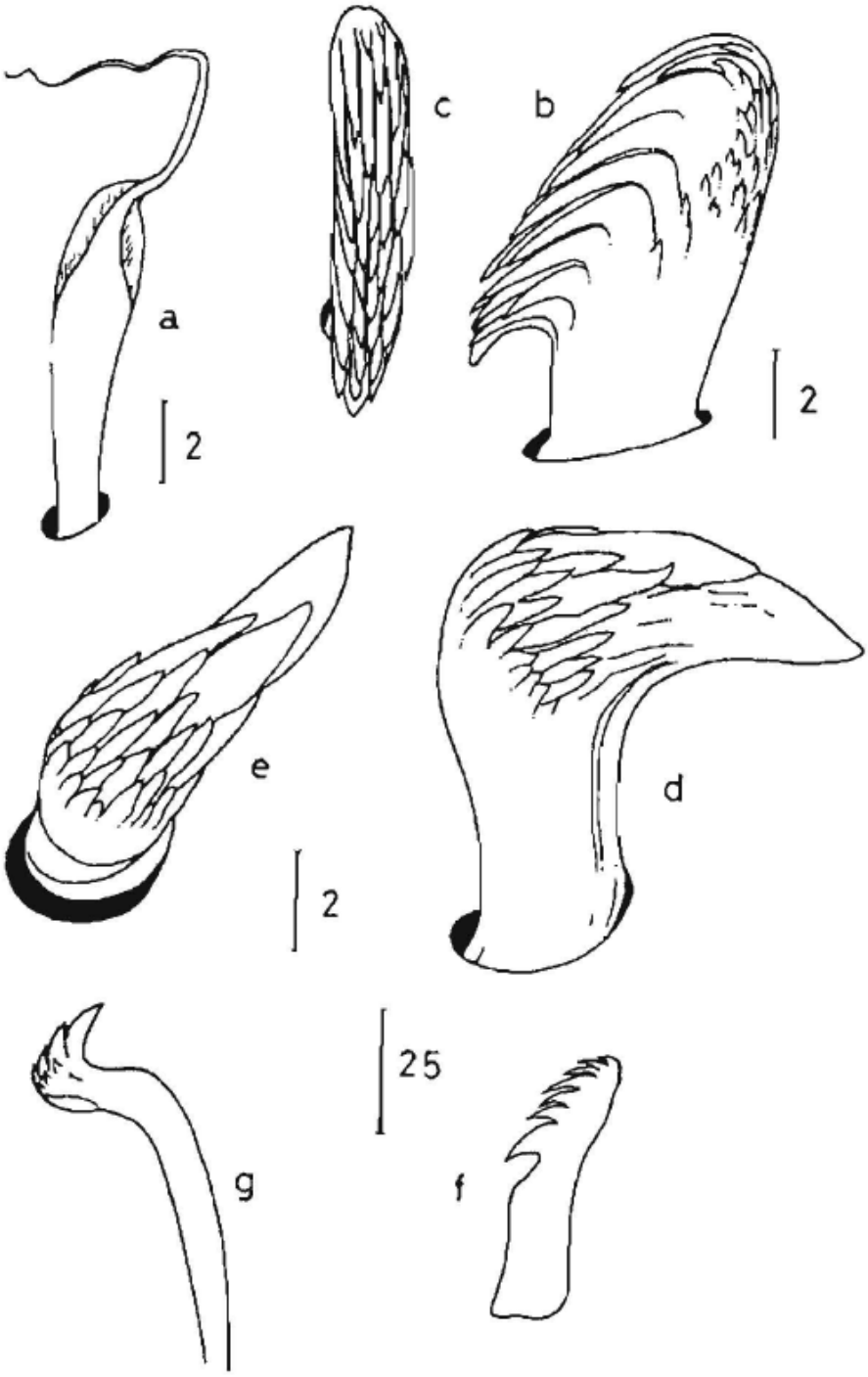

Fig. 6. *Novafabricia bilobata* sp. nov. (Paratype SEMSB Nova-1): a) Pseudo spatulate setae from setiger 6. b, *c)* Dentate region of abdominal uncini from setiger 9, profile and frontal views, respectively. d, e) Anterior end of thoracic uncini from setiger 6, profile and upper views, respectively. f, g) Entire views of uncini, abdominal (9th setiger) and thoracic (6th setiger), respectively. Scale bars in *μm.*