

AMERICAN MUSEUM *Novitates*

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY
CENTRAL PARK WEST AT 79TH STREET, NEW YORK, N.Y. 10024
Number 2967, 19 pp., 12 figs. February 28, 1990

Two New Genera of the Subfamily Fabriciinae (Polychaeta: Sabellidae)

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ABSTRACT

Two new genera of Sabellidae, *Pseudofabriciola* and *Novafabricia*, are described. *Pseudofabriciola* contains two new species, as well as *Fabriciola australiensis* Hartmann-Schröder, 1981, which is redescribed. *Pseudofabriciola* is similar to *Fabriciola* Friedrich in displaying a membranous, anterior peristomial ring collar and pygidial eyespots. This collar is, however, complete middorsally. *Fa-*

brica filamentosa Day, 1963, probably belongs in this genus. *Novafabricia* contains two new species, *Fabriciola chilensis* Hartmann-Schröder, 1962, and *Fabricia gerdi* Hartmann-Schröder, 1974. *Novafabricia* resembles *Fabricia* Blainville except that the dorsal lips are reduced to low, narrow ridges. *Fabricia gerdi* may be a junior synonym of *Fabricia bansei* Day, 1961.

INTRODUCTION

The generic concepts of *Fabricia* Blainville and *Fabriciola* Friedrich have been confused for quite some time owing to the different diagnostic characters used by various workers. For example, Friedrich (1939) differentiated the two genera on the basis of manubrium length of abdominal uncini, while Banse (1956, 1957) pointed out that *Fabriciola* has a pair of nonvascularized, ventral filamentous appendages (sensu Fitzhugh, 1988, 1989). In addition, *Fabriciola* is said to have a relatively complete collar, which is reduced to a ventral liplike structure on *Fabricia* (e.g., Banse, 1956, 1957). The collar in

these genera is actually not homologous to the collar typically seen in most sabellids, or serpulids, in that it originates from the anterior, and not the posterior, peristomial ring (Fitzhugh, 1988, 1989, and below).

Matters were complicated by Hartman (e.g., 1959, 1969), who apparently never wholly accepted Banse's criteria. The generic placement of *Fabricia limnicola* Hartman, 1951, by Banse (1956) and subsequently by Hartman (1959, 1969; this species is being redescribed and placed in a new genus by Fitzhugh, in press) is an example. The definitions of *Fabricia* and *Fabriciola* given by Day

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(1967; see also Fauchald, 1977) were vague and implied that the principal difference between the two genera was again the length of the abdominal uncinal manubrium. Further confusion has been created by inaccurate use of the term "palps" for a variety of branchial crown structures (see review by Fitzhugh, 1988, 1989).

The present report is part of an extensive revision of Fabriciinae (sensu Fitzhugh, 1989) sabellid polychaetes. The terminology employed here (e.g., anterior peristomial ring collar or pseudospatulate setae) follows from the review of sabellid morphology made, in part, by Perkins (1984) and Fitzhugh (1988, 1989).

Pseudofabriciola, new genus

DIAGNOSIS: Small-bodied fabriciina species with eight thoracic and three abdominal setigers. Branchial crown with three pairs of radioles; distal ends of radioles filamentous, about same width as pinnules. Pinnules terminate at same height as radioles. Dorsal lips erect, well developed, triangular or reduced to low, narrow ridges. Ventral lips absent. Ventral filamentous appendages vascularized, slender, unbranched, or absent. Branchial lobes narrow, elongate; with attachment region to peristomium very restricted. Branchial hearts present. Anterior margin of anterior peristomial ring forming a well-developed, high, entire membranous collar; even height all around; margin smooth or with several shallow notches. Anterior peristomial ring (excluding anterior peristomial ring collar) wider than long. Annulation between anterior and posterior peristomial rings distinct except middorsally. Peristomial eyes black, rounded to crescentic; pygidial eyes black, rounded. Superior thoracic notosetae elongate, narrowly hooded. Inferior thoracic notosetae of setigers 2–8 short, elongate, narrowly hooded. Thoracic uncini acicular; teeth above main fang small, subequal; hood present. Abdominal uncini as rasp-shaped plates; manubrium about same length as dentate region; dentate region with several teeth per row. Abdominal neurosetae modified, elongate, narrowly hooded. Body wall pigmentation absent.

TYPE SPECIES: *Pseudofabriciola incisura*, new species.

ETYMOLOGY: The genus name, a combination of the Latin prefix *Pseudo*, meaning "false," and the genus name *Fabriciola*, refers to differences in the membranous, anterior peristomial ring collar on species of both genera.

REMARKS: *Pseudofabriciola* is unique among the Fabriciinae in that the collar of the anterior peristomial ring is very high and not separated by a middorsal gap. A membranous collar with a middorsal separation is typical of *Fabriciola* and *Manayunkia* Leidy. All Sabellinae (sensu Fitzhugh, 1989) except *Desdemona* Banse display the more typical collar form, i.e., originating on the posterior peristomial ring (see Fitzhugh, 1988, 1989) and also separated middorsally.

A feature correlated with the anterior peristomial ring collar condition in *Pseudofabriciola* is the more elongate nature of the branchial lobes. It is not known if the placement of the radioles and associated structures more distally has some functional significance in relation to the high collar.

Pseudofabriciola most closely resembles *Fabriciola* in that both (1) have membranous, anterior peristomial ring collars, (2) have only short, elongate, narrowly hooded setae in inferior thoracic notosetal fascicles, and (3) lack the distinctive, large tooth above the main fang on thoracic uncini. At present, there are three species recognized in the genus, two of which are new.

KEY TO SPECIES OF *PSEUDOFABRICIOLA*

- 1a. Margin of anterior peristomial ring collar with shallow notches middorsally and dorsolaterally 2
- b. Margin of anterior peristomial ring collar smooth *P. longa*, n. sp.
- 2a. Large conical process between middorsal margin of collar and mouth *P. australiensis* (Hartmann-Schröder)
- b. Conical process between collar and mouth absent *P. incisura*, n. sp.

Pseudofabriciola australiensis (Hartmann-Schröder, 1981), new combination

Fabriciola australiensis Hartmann-Schröder, 1981: 60–61, figs. 138–145; 1984: 47; 1985: 89.

MATERIAL EXAMINED: AUSTRALIA. Holotype (ZMH P-16501) and 5 paratypes (ZMH P-16502), Horrocks, Western Australia, en-

crusting algae, seagrass, and sand on rock terrace, coll., G. Hartmann-Schröder and G. Hartmann, 17 October 1975. 10 specimens (ZMH P-118758), Adelaide, South Australia, 13 December 1975.

DESCRIPTION: Holotype female, ovigerous, incomplete (branchial crown missing); body length 2.03 mm. Branchial crown characters unknown (see Remarks). Anterior peristomial ring collar slightly longer than posterior peristomial ring; rim with small middorsal notch, pair of shallow V-shaped notches dorsolaterally. Conical structure dorsally between collar and mouth; basal portion may be fused to middorsal base of collar. Superior thoracic notosetae elongate, narrowly hooded; 4–5 per fascicle. Inferior notosetae of setigers 2–8 short, elongate, narrowly hooded; 2–3 per fascicle. Main fang of thoracic uncini somewhat expanded medially; 6–12 uncini per fascicle, in single row or irregular double rows. Abdominal uncini with 6–7 teeth in profile, 5–6 teeth per row; manubrium about same length as dentate region. Tubes unknown. Methyl green staining produces no distinct patterns.

REMARKS: The above description supplements that given by Hartmann-Schröder (1981), although there are several discrepancies between them. In the original description, the branchial crown was described from one of the paratypes. Of the five paratypes (ZMH P-16502), two specimens are species in the taxon referred to as “Genus B” by Fitzhugh (1988); this new genus is in the process of being described (Fitzhugh, in press). There is only one specimen with a branchial crown and it is from this undescribed genus. Since no other specimens in the type collection have a branchial crown, I assume that the original description was based on the crown of this individual.

Contrary to the original description, the anterior peristomial ring collar is not separated middorsally by a narrow gap (cf. Hartmann-Schröder, 1981: fig. 138). Although she described this species as lacking ventral filamentous appendages, Hartmann-Schröder (1981) probably placed the species in *Fabriciola* on the basis of the collar.

Pseudofabriciola australiensis is almost identical to one of the new species in this genus, *P. incisura* (not taking into account the branchial crown). The two species differ

only in that *P. incisura* lacks the conical structure above the mouth, as illustrated by Hartmann-Schröder (1981: figs. 139–140).

It is likely that the branchial crown of *Pseudofabriciola australiensis* resembles that of *P. incisura* (described below), which has unbranched, vascularized ventral filamentous appendages. The main fang of thoracic uncini is distinctive in both species in that it has an expanded or swollen appearance, such that it does not taper as gradually toward the tip as seen in the other species.

The holotype vial contains two specimens. According to Hartmann-Schröder (1981), the holotype was an ovigerous female; only one specimen in the vial is ovigerous and is assumed to be the holotype.

Specimens examined from Adelaide, Australia (ZMH P-118758) are not *Pseudofabriciola australiensis*. The anterior margin of the anterior peristomial ring resembles that of *Augeneriella* Banse and the new genus *Novafabricia* (described below); pigmentation is also similar. Dr. Hartmann-Schröder (personal commun.) has stated that the specimens referred to as *Fabriciola australiensis* in the Hartmann-Schröder (1984, 1985) are actually *Augeneriella bansei* Hartmann-Schröder, 1986, and that *F. australiensis* is only known from the type material.

The specimens from Adelaide do not belong in the genus *Augeneriella*. Among the specimens with a branchial crown that I have examined, none have ventral filamentous appendages, the dorsal lips are reduced to narrow ridges, and the inferior thoracic notosetae of setigers 2–8 are short, elongate, narrowly hooded, not pseudospatulate (sensu Fitzhugh, 1989). At this time I consider this to be an undescribed species of the new genus *Novafabricia*.

Pseudofabriciola incisura, new species

Figures 1–3

MATERIAL EXAMINED: INDIAN OCEAN. Holotype (USNM 122050); Q6-83-6. Paratypes: 1 specimen (USNM 122051), Q6-83-4; 4 specimens (USNM 122052), Q6-83-7; 3 specimens (USNM 122053), Q6-83-8; 1 specimen (USNM 122054), Q6-83-9; Picard Island, Aldabra Atoll, coll., K. Fauchald, B. Kensley, P. Hutchings, M. Schotte; station Q6-83: replicates 1–15, *Thalassodendron*



Fig. 1. *Pseudofabricioloa incisura* (paratypes, USNM 122052): A, B. Dorsal and lateral (left side) views, respectively, of the anterior end.

grass bed in front of wet lab, April 1983. Two paratype specimens (USNM 122055), 85-Q3B-Cover, same locality, coll. K. Fauchald, B. Kensley, K. Fitzhugh, M. Schotte; station 85-Q3: replicates A-E, substrate surface, *Thalassodendron* bed, 18 March 1985.

DESCRIPTION: Holotype incomplete (left half of branchial crown missing) with eight thoracic and three abdominal setigers; length 3.19 mm (0.95 mm comprising branchial crown), maximal width 0.24 mm. Branchial crown less than one-half total body length; very slender. Three pairs of radioles; distal ends filamentous, same diameter as pinnules. Radioles each with four to five pairs of pinnules, all terminating at same height as radioles. Dorsal lips triangular (fig. 3B), distally rounded; ventral lips absent. Ventral filamentous appendages vascularized, unbranched; somewhat flattened along entire length; about one-third length of radioles; distinctly set off from dorsal lips; distal ends blunt; surface relatively smooth or with few wrinkles (fig. 3A, B). Body cylindrical, anterior and posterior

regions tapering slightly. Peristomial eyes rounded to crescentic, black; pygidial eyes rounded, black. Anterior peristomial ring collar slightly longer and narrower than posterior peristomial ring (figs. 1A, B, 2A). Collar rim smooth except for small, shallow middorsal notch and pair of slightly deeper V-shaped notches dorsolaterally. Middorsal region of collar slightly thicker than surrounding region (figs. 1A, 2B). Conical structure above mouth absent (fig. 2B). Setiger 1 about same length as posterior peristomial ring, wider than long; setigers 2-4 each slightly longer; setigers 5-7 longer than wide, about twice as long as setigers 1 or 2; setiger 8 shorter than 7. Setiger 9 shorter than 8; setiger 10 about two-thirds length of 9; setiger 11 one-half length of 9; setigers 9 and 10 each about same width as thoracic setigers, setiger 11 narrower. Pygidium slightly longer than setiger 11, tapered, bluntly rounded (fig. 2C). Superior thoracic notosetae elongate, narrowly hooded; 4-5 per fascicle. Inferior thoracic notosetae of setigers 2-8 short, elongate,

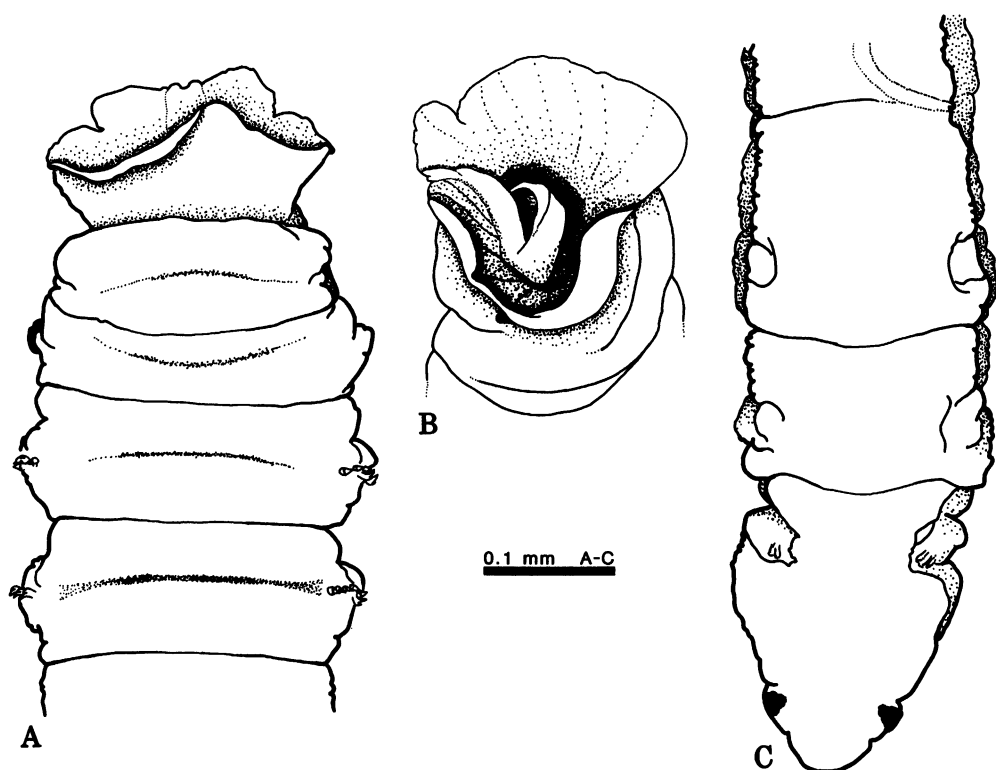


Fig. 2. *Pseudofabriciola incisura* (paratypes, USNM 122052): A. Ventral view of anterior end. B. Slightly oblique view of the anterior end from the right side. C. Posterior end, dorsal view.

narrowly hooded; 1–2 per fascicle. Abdominal neurosetae modified, elongate, narrowly hooded; 2–4 per fascicle. Main fang of thoracic uncini somewhat expanded medially (fig. 3C); 8–11 uncini per fascicle, in single rows. Abdominal uncini with 8–9 teeth in profile, 3–4 teeth per row; manubrium slightly constricted below dentate region, width uniform proximally (fig. 3D); 15–20 uncini per fascicle. Tubes unknown. Methyl green staining produces no distinct patterns.

ETYMOLOGY: The specific name, *incisura*, Latin for “notch,” refers to the distinct dorsolateral V-shaped notches in the anterior peristomial ring collar.

REMARKS: *Pseudofabriciola incisura* is known only from the Aldabra Atoll, Indian Ocean; occurring in *Thalassodendron* grass beds. This species is almost identical to *P. australiensis* (Hartmann-Schröder, 1981), differing from the latter species in lacking the conical structure above the mouth (cf. Hartmann-Schröder, 1981: figs. 139–140). The

branchial crown is easily detached and missing on most specimens.

Pseudofabriciola longa, new species

Figures 4, 5

MATERIAL EXAMINED: FLORIDA. Holotype (USNM 122056); 41 paratypes (USNM 122057), numerous paratypes (FSBC I 34047), off Highland Beach, north of Boca Raton, 26°24'6"N, 80°03'01"W, 18 m depth, fine calcareous sand, Florida Marine Research Institute field No. EJ-78-155, station 5-W, coll., S. Wainwright, 23 February 1978.

DESCRIPTION: Holotype complete with 8 thoracic and 3 abdominal setigers; length 6.20 mm (1.60 mm comprising branchial crown), maximal width 0.28 mm. Three pairs of radioles; distal ends filamentous, same thickness as pinnules. Branchial crown one-half to one-quarter total body length. Radioles each with 6–7 pairs of pinnules, terminating at same height as radioles. Dorsal lips reduced

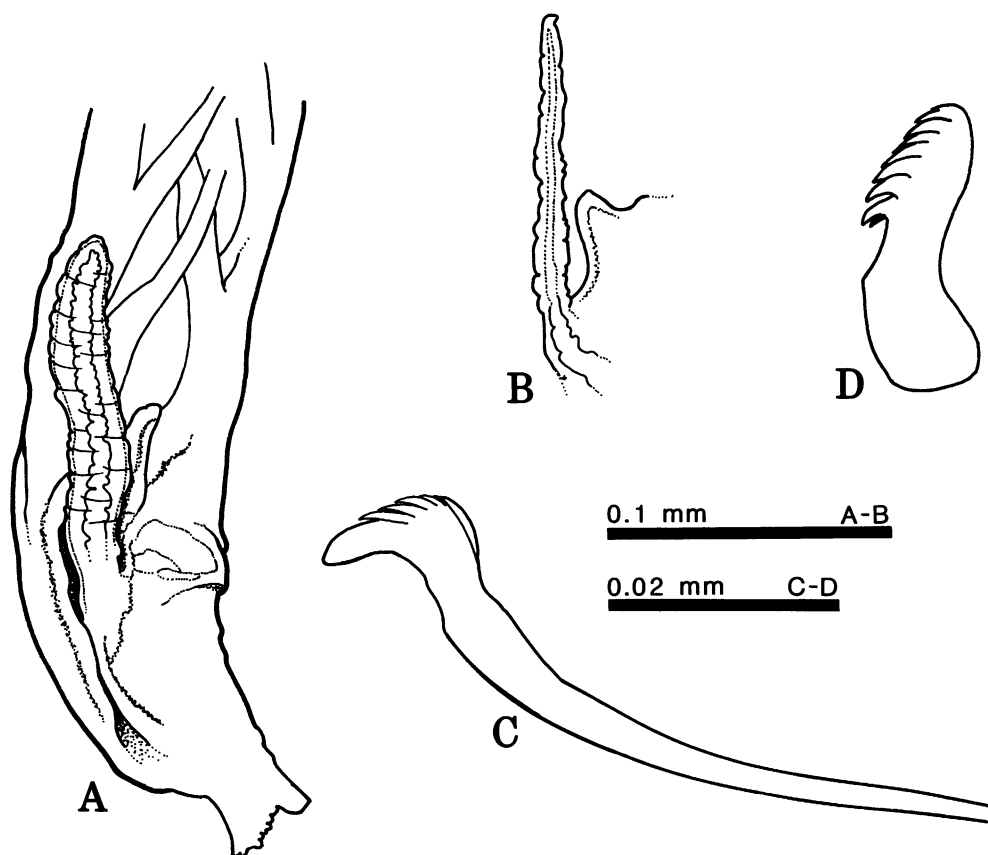


Fig. 3. *Pseudofabriciola incisura* (paratypes, USNM 122052): A. Right half of branchial crown, inner margin, ventrolateral view. B. Lateral view of dorsal lip and ventral filamentous appendage from same. C. Thoracic uncinus from setiger 5. D. Abdominal uncinus from setiger 10.

to narrow, bluntly rounded ridges (fig. 5A); ventral lips absent; ventral filamentous appendages absent. Body cylindrical; width uniform except for tapering posteriorly. Peristomial eyes black, rounded to crescentic; pygidial eyes black, rounded. Anterior peristomial ring collar very long, about same length as posterior peristomial ring or slightly longer (fig. 4A-C); rim smooth (often torn), same length and thickness all around or slightly oblique. Setigers 1-3 each of equal length, slightly longer than wide; setiger 4 about one-quarter longer; setiger 5 about twice as long as setiger 4; setigers 6-8 each about twice as long as 5; dimensions in specimens varying somewhat due to contraction. Setiger 9 about one-half length of 8; setigers 10-11 successively shorter, narrower. Pygidium ta-

pered, rounded; about same length as setiger 11 (fig. 5B). Superior thoracic notosetae elongate, narrowly hooded setae; 5-7 per fascicle. Inferior thoracic notosetae of setigers 2-8 short, elongate, narrowly hooded; 2-4 per fascicle. Abdominal neurosetae modified, elongate, narrowly hooded; 3-4 per fascicle. Thoracic acicular uncini 7-11 per fascicle, in single rows or irregular double rows (fig. 5C); main fang slender. Abdominal uncini with 7-8 teeth in profile, 3-4 teeth per row; manubrium slightly expanded proximally (fig. 5D); up to 30 uncini per fascicle in setiger 9, 20 per fascicle in setigers 10-11. Tubes thin, mucoid, with quartz and calcium carbonate sand grains, same length as animals. Methyl green staining produces no distinct patterns.

ETYMOLOGY: The specific name refers to

the length of the anterior peristomial ring collar.

REMARKS: *Pseudofabriciola longa* differs from *P. australiensis* (Hartmann-Schröder, 1981) and *P. incisura*, new species, in having a much longer anterior peristomial ring collar. Unlike the two latter species, the main fang of thoracic uncini has the typical tapered form, the dorsal lips are reduced in size, and there are no ventral filamentous appendages.

Species Probably Referable to *Pseudofabriciola*

Based on the descriptions provided by Day (1963, 1967), *Fabricia filamentosa* Day, 1963 [referred to *Fabriciola* by Day (1967)], probably belongs in *Pseudofabriciola*. Because of delays in receiving specimens from the British Museum (Natural History), the type material of this species has not yet been examined. The anterior peristomial ring collar is obviously well developed, long, and membranous (e.g., Day, 1967: fig. 37.9.b). Day (1967: 784) stated that the collar has "a short dorsal lappet and a smooth-edged, cup-shaped flange which is continuous ventrally." Considering the delicate nature of the collar and its tendency to be folded somewhat, Day's interpretation of the presence of a dorsal "lappet" is probably incorrect. Instead, I would predict that the collar is entire.

Day reported that ventral filamentous appendages ("filamentous palps") are absent. These may have been overlooked. The ventral filamentous appendages of *Pseudofabriciola incisura* are short and translucent, and only visible when one lobe of the branchial crown has been removed. Based on Day's figures, however, *Fabriciola filamentosa* appears quite similar to *P. longa* with respect to collar construction. Thus, ventral filamentous appendages are probably absent.

Like species of *Pseudofabriciola*, *Fabriciola filamentosa* has only elongate, narrowly hooded setae in inferior fascicles of thoracic notopodia. The figure of an abdominal uncinus in profile provided by Day (1967: fig. 37.9.f) is probably incorrect; instead, the manubrium is probably wider (e.g., figs. 3D, 4C). This misinterpretation has been common in descriptions of *Fabricia*, *Fabriciola*, etc. (e.g., see Fitzhugh, 1988, 1989, in press).

Fabriciola filamentosa has been reported outside the type locality (e.g., Amoureux et al., 1978). Giangrande and Castelli (1986) reported and illustrated the species from the Mediterranean Sea. Based on the figure of the anterior end provided by Giangrande and Castelli (1986: fig. 1B), their specimens are definitely a species of *Pseudofabriciola*, closely resembling *P. australiensis* and *P. incisura*. The figure of the anterior end appears to indicate the presence of two pairs of shallow, dorsolateral notches on the collar. Details of the branchial crown are not given and no thoracic setal forms are shown. It is unlikely that the specimens described by Giangrande and Castelli are *F. filamentosa*.

Uebelacker (1984) described the species, *Fabricia* sp. A, from the Gulf of Mexico. Based on the description and figures, the membranous collar is entire and has a pair of dorsolateral notches. The median region of the collar is broadly rounded and slightly longer. Ventral filamentous appendages are reported to be absent. Setal forms agree with those seen in *Pseudofabriciola*. I have not yet examined the specimens, but predict that they represent an undescribed species of *Pseudofabriciola*.

Novafabricia, new genus

DIAGNOSIS: Small-bodied fabriciina species with 8 thoracic and 3 abdominal setigers. Branchial crown with 3 pairs of radioles; distal ends filamentous, about same width as pinnules. Pinnules terminating at same height as radioles. Dorsal lips reduced to low, narrow ridges. Ventral liplike structures variously developed or absent. Ventral filamentous appendages absent. Branchial hearts present. Anterior margin of anterior peristomial ring developed as low ridge laterally and dorsally; rounded lobe ventrally, developed to varying degrees. Anterior peristomial ring wider than long. Annulation between anterior and posterior peristomial rings usually distinct all around except middorsally. Peristomial eyes black, developed to varying degrees; pygidial eyes black, rounded. Superior thoracic notosetae elongate, narrowly hooded. Inferior thoracic notosetae of setigers 2–8 short, elongate, narrowly hooded, or with pseudospatulate setae in setigers 3–5 or 3–6.

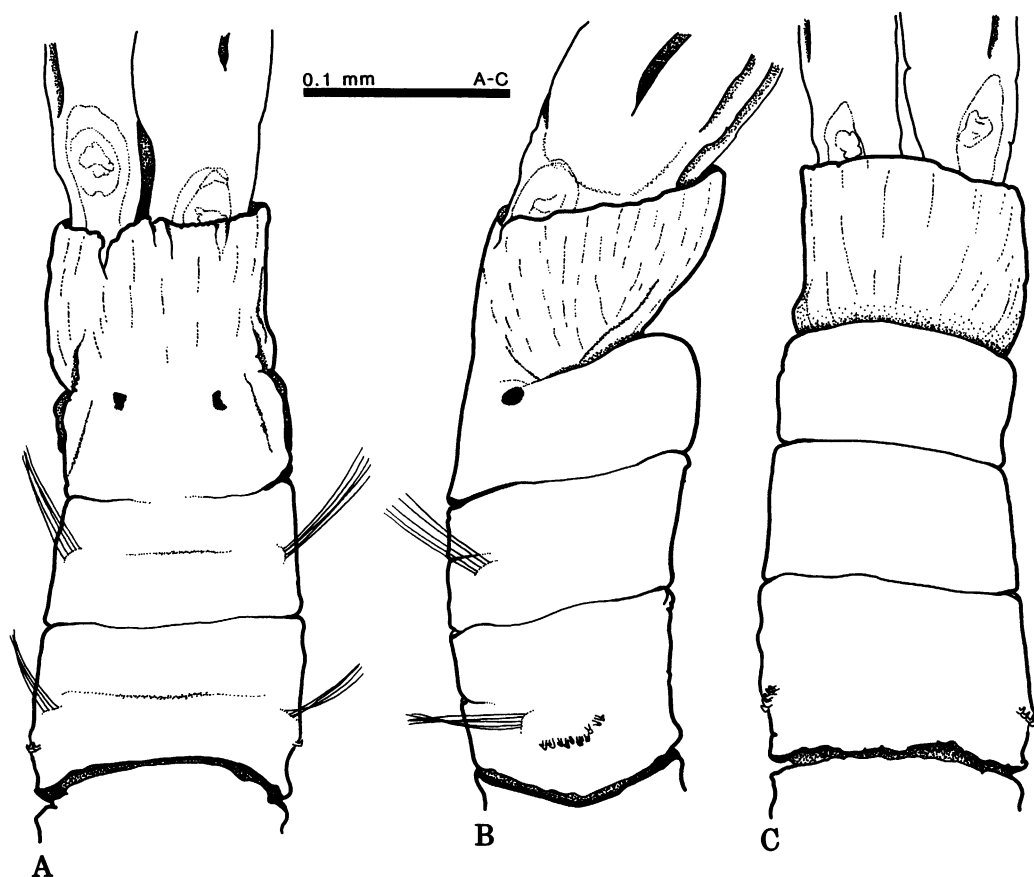


Fig. 4. *Pseudofabriciola longa* (holotype, USNM 122056): A-C. Dorsal, lateral (right side), and ventral views, respectively, of the anterior end.

Thoracic uncini acicular; large tooth above main fang; hood present. Abdominal uncini usually rasp-shaped plates, sometimes verging on saw shaped; manubrium about same length as dentate region or twice as long; dentate region with one to several teeth per row. Abdominal neurosetae modified, elongate, narrowly hooded.

TYPE SPECIES: *Fabriciola chilensis* Hartmann-Schröder, 1962.

ETYMOLOGY: The prefix *nova* is taken from the Latin for "unusual" or "unheard of," and refers to the odd shape of the dorsal lips, which distinguishes the genus from the otherwise very similar *Fabricia*.

REMARKS: The monophyly of *Novafabricia* is based on the reduction of the dorsal lips to low, narrow ridges, although lips are apparently completely lost in some specimens of *N. triangularis*, new species. Unlike other

genera, inferior thoracic notosetal forms and abdominal uncinal manubrium length display much more interspecific variability. The genus contains three known species which, in the past, have been referred to either *Fabriciola* or *Fabricia*, and two species described herein.

Novafabricia most closely resembles *Fabricia* and *Augeneriella* in that all have only a ventral, lobelike process, sometimes referred to as a collar, extending from the anterior margin of the anterior peristomial ring. *Fabricia* and *Augeneriella*, however, have well-developed, erect dorsal lips.

The presence of ventral lips in several species of *Novafabricia* is questionable. When present, these structures appear as low, rounded swellings or incompletely formed pinnules at the base of the proximalmost pinnule of ventral radioles.

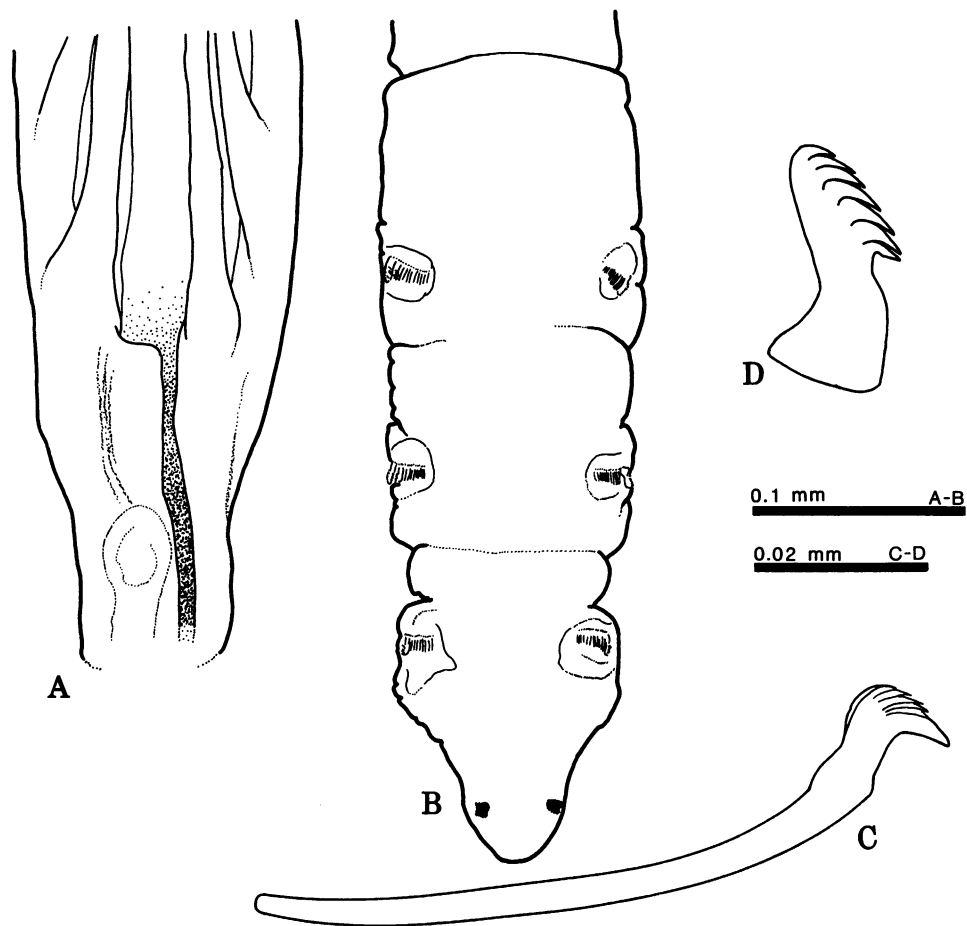


Fig. 5. *Pseudofabriciola longa* (A, C, D from paratypes, USNM 122057; B from holotype, USNM 122056): A. Left half of branchial crown, inner margin. B. Posterior end, dorsal view. C. Thoracic uncinus from setiger 5. D. Abdominal uncinus from setiger 9.

KEY TO SPECIES OF NOVAFABRICIA²

- 1a. Inferior thoracic notosetae of setigers 2–8 short, elongate, narrowly hooded *N. tenuiseta*, n. sp.
- b. Some inferior thoracic notosetal fascicles with only pseudospatulate setae 2
- 2a. Inferior thoracic pseudospatulate notosetae limited to setigers 3–6 *N. chilensis* (Hartmann-Schröder)
- b. Inferior thoracic pseudospatulate notosetae limited to setigers 3–5 3
- 3a. Manubrium of abdominal uncini at least 2 times length of dentate region *N. infratorquata* (Fitzhugh)
- b. Manubrium of abdominal uncini about same length as dentate region 4
- 4a. Abdominal uncini in face view with at least several rows of teeth *N. triangularis*, n. sp.
- b. Abdominal uncini in face view with only one row of teeth proximally, surmounted distally by 1–2 transverse rows with 2–3 teeth *N. gerdi* (Hartmann-Schröder)

Novafabricia chilensis
(Hartmann-Schröder, 1962),
new combination
Figure 6

² *Fabricia bansei* Day, 1961, probably belongs in this genus; see Remarks for *Novafabricia gerdi* (Hartmann-Schröder).

Fabriciola chilensis Hartmann-Schröder, 1962: 161–162, figs. 212–215. Hartman, 1965: 76.
MATERIAL EXAMINED: CHILE. Holotype

(ZMH P-15224) and 4 paratypes (ZMH P-15225), Arica, rhizoids of *Macrocystis*, 27 July 1960.

DESCRIPTION: Holotype complete with 8 thoracic and 3 abdominal setigers; length 2.40 mm (branchial crown comprising 0.60 mm), maximal width 0.14 mm. Branchial crown about one-third total body length. Three pairs of radioles; distal ends filamentous, same width as pinnules. Radioles each with 6–7 pairs of pinnules, all terminating at same height as radioles. Some specimens with proximal pinnule of median radiole swollen, with enlarged blood vessel (fig. 6A); slightly wider than other pinnules; surface smooth or with minute wrinkles; distal end blunt; proximal half of pinnule fused to dorsal margin of radiole; total length (fused and free) one-third to three-quarters total radiole length. Dorsal lips low, narrow ridges (fig. 6B); ventral lips erect, digitiform, longer than wide. Body cylindrical, slightly tapered anteriorly and posteriorly. Peristomial eyes black, rounded to crescentic, sometimes obscured by body wall pigmentation; pygidial eyes black, rounded. Anterior margin of anterior peristomial ring a low ridge dorsally and laterally; ventrally a well-developed tonguelike lobe, distal margin broadly rounded, 2–2.5 times longer than posterior peristomial ring. Anterior peristomial ring (without ventral lobe) one-third to one-half length of posterior ring. Dorsal and lateral margins of anterior ring sometimes obscured by overlapping posterior ring. Superior thoracic notosetae elongate, narrowly hooded; 4–5 per fascicle. Inferior thoracic notosetae of setigers 2 and 7–8 short, elongate, narrowly hooded; 2 per fascicle; setigers 3–6 with pseudospatulate setae; 1–2 per fascicle. Abdominal neurosetae modified, elongate, narrowly hooded; 2–3 per fascicle. Thoracic acicular uncini in distinct double rows, 9–14 per fascicle (fig. 6C). Abdominal uncini with 6 large teeth in profile, slightly separated, one tooth per row (fig. 6D); manubrium same length as dentate region, proximally expanded with quadrangular base. Branchial crown unpigmented; peristomial rings (except ventral lobe) and setigers 1–3 of some specimens light to dark brown; remainder of body cream colored. Tubes unknown. Methyl green staining produces no distinct patterns.

REMARKS: The above description supple-

ments that given by Hartmann-Schröder (1962). General body dimensions, etc., can be found in the original description. Pseudospatulate setae resemble those of other species.

Novafabricia chilensis is distinctive in that the ventral peristomial collar lobe is large and tonguelike, and similar to that of *Fabricia brunnea* Hartman, 1969. *Novafabricia chilensis* is also similar to *Fabricia bansei* Day, 1961 and *N. gerdi* (Hartmann-Schröder, 1974; see below) in that abdominal uncini of the two latter species have only a single tooth in most rows. The manubrium of abdominal uncini of *N. chilensis* differs from that described by Hartmann-Schröder (1962: fig. 215) in that it is not slender or of even width.

I am not certain why Hartmann-Schröder (1962) placed this species in *Fabriciola*; no ventral filamentous appendages were described and the collar is more like that seen in *Fabricia*. The short, digitiform dorsal lips she referred to are probably what have been described here as ventral lips. The original description does not mention the pinnules with enlarged blood vessels; it is not known if these are preservation artefacts. A similar phenomenon is seen in an undescribed species of *Fabriciola* (Fitzhugh, in prep.).

Novafabricia gerdi
(Hartmann-Schröder, 1974),
new combination
Figure 7

Fabricia gerdi Hartmann-Schröder, 1974: 199–200, figs. 195, 196, 203–205.

MATERIAL EXAMINED: SOUTH-WEST AFRICA: Holotype (ZMH P-15219) and 3 paratypes (ZMH P-15218), Luderitz Bay, encrusting and bushlike algae from edge of rock pools, 21 August 1967. SOUTH AFRICA. 2 paratypes (ZMH P-15220), Knysna estuary, rocky shore of the "Heads," dense mats of encrusting algae, 4 September 1967.

DESCRIPTION: Holotype complete with 8 thoracic and 3 abdominal setigers; branchial crown present; total length 3 mm (Hartmann-Schröder, 1974); in very poor condition, body partially decomposed, much of branchial crown epithelium sloughed off. Three pairs of radioles; distal ends filamentous, same width as pinnules. Radioles each with 8 pairs

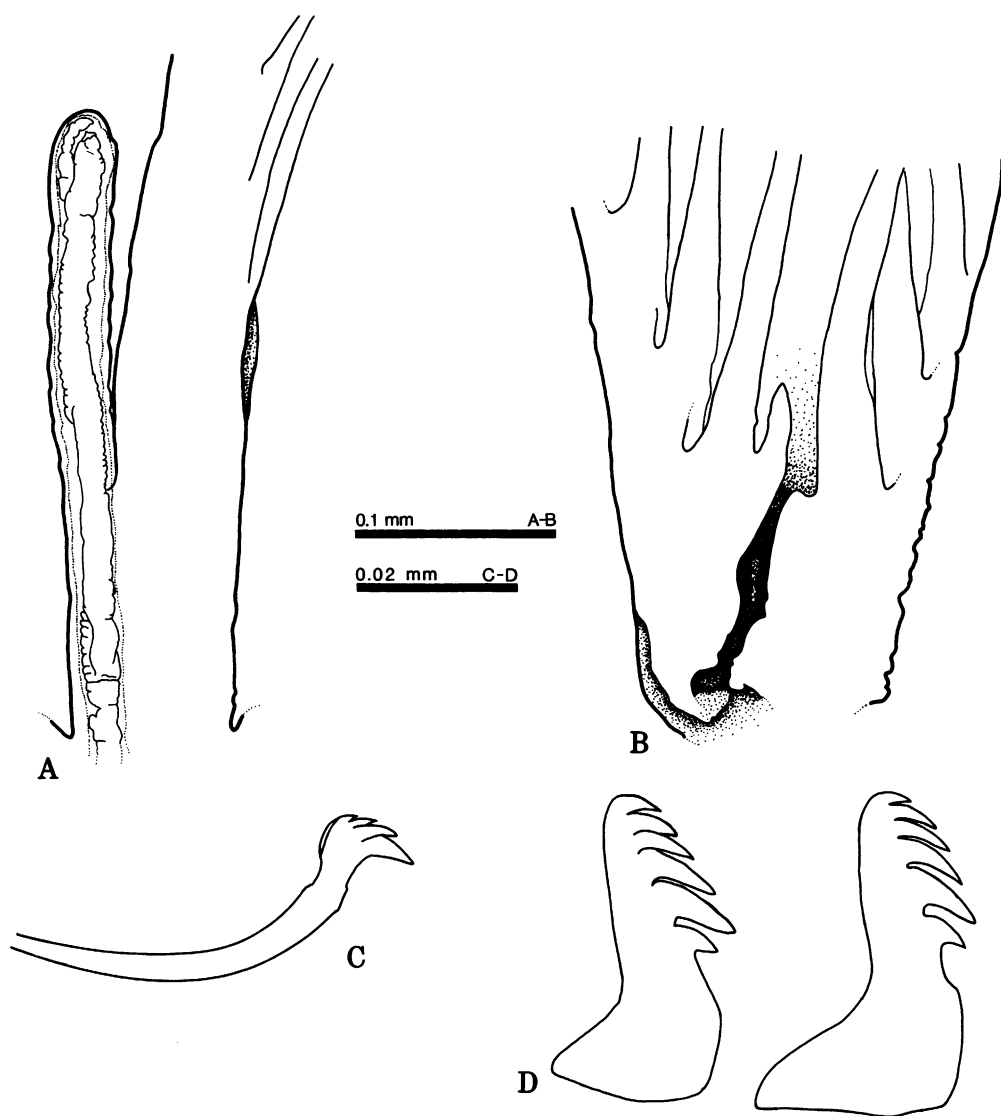


Fig. 6. *Novafabricia chilensis* (paratypes, ZMH P-15225): A. Outer margin of proximal region of radiole 2 from the right half of the branchial crown. B. Right half of branchial crown, inner margin. C. Thoracic uncinus from setiger 4. D. Abdominal uncini from setiger 9.

of pinnules, all terminating at same height as radioles. Dorsal lips low, rounded ridges; ventral lips erect, digitiform, slightly longer than wide (ZMH P-15218). Thorax and abdomen cylindrical, tapered slightly posteriorly. Anterior margin of anterior peristomial ring a low ridge dorsally and laterally; ventrally a rounded lobe. Anterior ring (excluding ventral lobe) about one-half length of posterior ring. Peristomial eyes black, round-

ed to crescentic; pygidial eyes black, rounded. Superior thoracic notosetae elongate, narrowly hooded; 4–6 per fascicle. Inferior thoracic notosetae of setigers 2 and 6–8 short, elongate, narrowly hooded; 1–2 per fascicle. Setigers 3–5 with pseudospatulate setae; 2–3 per fascicle (fig. 7A). Abdominal neurosetae modified, elongate, narrowly hooded; 2–3 per fascicle. Thoracic acicular uncini in double rows; 12–14 per fascicle. Abdominal uncini

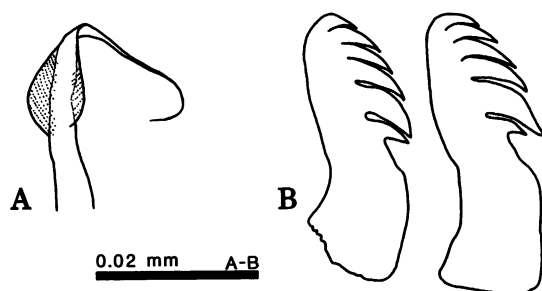


Fig. 7. *Novafabricia gerdi* (paratypes, ZMH P-15220): A. Pseudospatulate seta from setiger 4. B. Abdominal uncini from setiger 9.

with 5–6 teeth in profile, with a single large tooth per row proximally, surmounted by 1–2 rows of 2–3 small teeth distally; proximal teeth slightly separated; manubrium constricted below dentate region, slightly expanded proximally, base quadrangular (fig. 7B); 15–16 uncini per fascicle. Branchial crown, peristomial rings, and setiger 1 dark brown; setiger 2 light brown; remainder of body cream colored. Tubes unknown.

REMARKS: Much of the type material examined is in very poor condition, apparently partially decomposed as a result of being in dilute alcohol. Hartmann-Schröder's (1974) original description provides details regarding body dimensions.

In the original description the dorsal margin of the peristomium is illustrated as an undivided segment (Hartmann-Schröder, 1974: fig. 195). Anterior and posterior peristomial rings are actually distinct all around, similar to what is seen in other species of the genus. Hartmann-Schröder (1974: fig. 204) illustrated the manubrium of an abdominal uncinus as a slender, shaftlike process. This interpretation was probably based on observing uncini lying side by side in the fascicle. The manubrium is actually similar to that seen in other species.

Novafabricia gerdi is very similar to *Fabricia bansei* Day, 1961, with regard to abdominal uncinal dentition, presence of the ventral peristomial lobe, and pigmentation. Hartmann-Schröder (1974) noted this similarity but considered *N. gerdi* distinct since (1) thoracic uncini in *F. bansei* are fewer (6–12 per fascicle as opposed to 12–14), (2) the

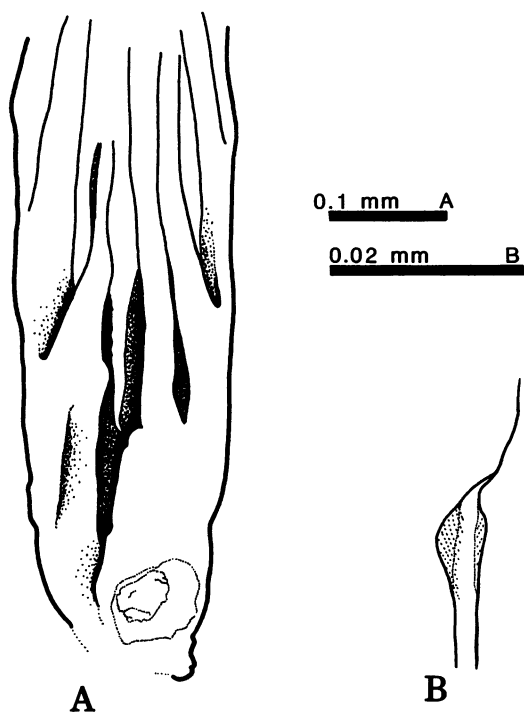


Fig. 8. *Novafabricia infratorquata* (paratype, USNM 74646): A. Right half of branchial crown, inner margin. B. Pseudospatulate seta from setiger 5.

number of abdominal uncini per fascicle in *F. bansei* is lower (up to 14 as opposed to 16–21), (3) abdominal uncini in *F. bansei* have fewer teeth (five large teeth and several smaller apical teeth, as opposed to six large teeth and about five smaller apical teeth), (4) the peristomium is "longer" in *N. gerdi*, and (5) some thoracic setigers of *N. gerdi* are more elongate.

Based on Hartmann-Schröder's description, I cannot determine if she derived her conclusions from an examination of the type material of *Fabricia bansei* or just the original description. Requests to obtain the type material of *F. bansei* from J. H. Day have not been answered. I do not consider the difference in thoracic or abdominal uncini to be conclusive evidence for discerning between the two species. Quantified variability for the two species based on large numbers of specimens has not been published by either Day

or Hartmann-Schröder. Instead, the number of uncini for *F. bansei*, as stated by Hartmann-Schröder, appears to be based only on Day's original description. Similarly, Hartmann-Schröder's distinction between abdominal uncini having five large and several smaller rows of teeth, as opposed to six rows of teeth, cannot be considered as firm evidence for separating the two species. Uncini from the *N. gerdi* paratype I examined (ZMH P-15218) have a dentition pattern similar to that of *F. bansei*.

In comparing the ventral peristomial lobe of *Novafabricia gerdi* with that figured by Day (1967: fig. 37.8.h, entire worm in lateral view), I fail to see the fundamental length differences indicated by Hartmann-Schröder (1974) for separating the two species. Similarly, the differences in length of thoracic setigers noted by Hartmann-Schröder appear minimal. Finally, both *Fabricia bansei* and *N. gerdi* have been found in South African waters. Considering the apparent lack of differences between the two species, it is very likely that *N. gerdi* is a junior synonym of *F. bansei*. A decision on this matter must, however, await access to the type material of *F. bansei*.

Novafabricia infratorquata
(Fitzhugh, 1983),
new combination

Figure 8

Fabricia infratorquata Fitzhugh, 1983: 284–289, figs. 3d–j, 4.

ADDITIONAL DESCRIPTION: Dorsal lips low, narrow, indistinct ridges (fig. 8A); ventral lips low, rounded swellings at bases of proximal pinnule of ventral radioles. Pseudospatulate setae (setigers 3–5) of typical form (fig. 8B).

REMARKS: *Novafabricia infratorquata* is similar to *N. gerdi* (Hartmann-Schröder, 1974; and thus presumably *Fabricia bansei*, see above) and *N. triangularis*, new species (see below), in that all have pseudospatulate setae limited to setigers 3–5. *Novafabricia infratorquata* and *N. triangularis* also have anterior and posterior peristomial rings which are of equal length (excluding ventral lobe), although this is more obvious in *N. infratorquata*. *Novafabricia infratorquata* is distinctive in that it lacks body wall pigmenta-

tion and the manubria of abdominal uncini are at least twice as long as the dentate region.

Novafabricia tenuiseta, new species

Figures 9, 10

MATERIAL EXAMINED: INDIAN OCEAN: Holotype (USNM 122058): 85-Q2H; Picard Island, Aldabra Atoll, station 85-Q1: replicates F–K, reef flat, in *Thalassodendron* and *Thalassia*, 12 March 1985. Station 85-Q2: replicates A–E (15 March 1985) and F–K (22 March 1985), lagoon, inside Passe Femme, 10 cm depth. Station 85-Q3: replicate E-Core, in *Thalassodendron* bed, 18 March 1985; replicate F-Canopy, in *Thalassodendron* washings, 21 March 1985; coll., K. Fauchald, B. Kensley, K. Fitzhugh, M. Schotte. Paratypes: same locality; 3 specimens (USNM 122059), 85-Q1K; 10 specimens (USNM 122060), 85-Q2A; 1 specimen (USNM 122061), 85-Q2B; 1 specimen (USNM 122062), 85-Q2C; 6 specimens (USNM 122063), 85-Q2J; 23 specimens (USNM 122064), 85-Q2H; 3 specimens (USNM 122065), 85-Q2K; 1 specimen (USNM 122066), 85-Q3E-Core; 1 specimen (USNM 122067), 85-Q3F-Canopy. Same locality, station Q7-83: replicates 6–10, lagoon, *Caulerpa* on limestone pavement, 10 April 1983. Station Q8-83: replicates 1–5, lagoon just inside Passe Femme, *Thalassia*, 16 April 1983; coll., by K. Fauchald, B. Kensley, P. Hutchings, M. Schotte. 7 specimens (USNM 122068), Q7-83-9; 10 specimens (USNM 122069), Q8-83-3; 3 specimens (USNM 122070), Q8-83-5.

DESCRIPTION. Holotype complete with 8 thoracic and 3 abdominal setigers; length 2.00 mm (0.60 mm comprising branchial crown), maximal width 0.12 mm. Branchial crown one-half to one-third total body length. Three pairs of radioles; distal ends filamentous, same width as pinnules. Radioles each with three pairs of pinnules, all terminating at same height as radioles. Dorsal lips low, narrow, indistinct ridges (fig. 10C); ventral lips slightly raised, rounded swellings below proximal pinnule of ventral radioles. Ventral filamentous appendages absent. Thorax and abdomen cylindrical; width of thoracic setigers uniform; abdomen slightly tapered. Anterior

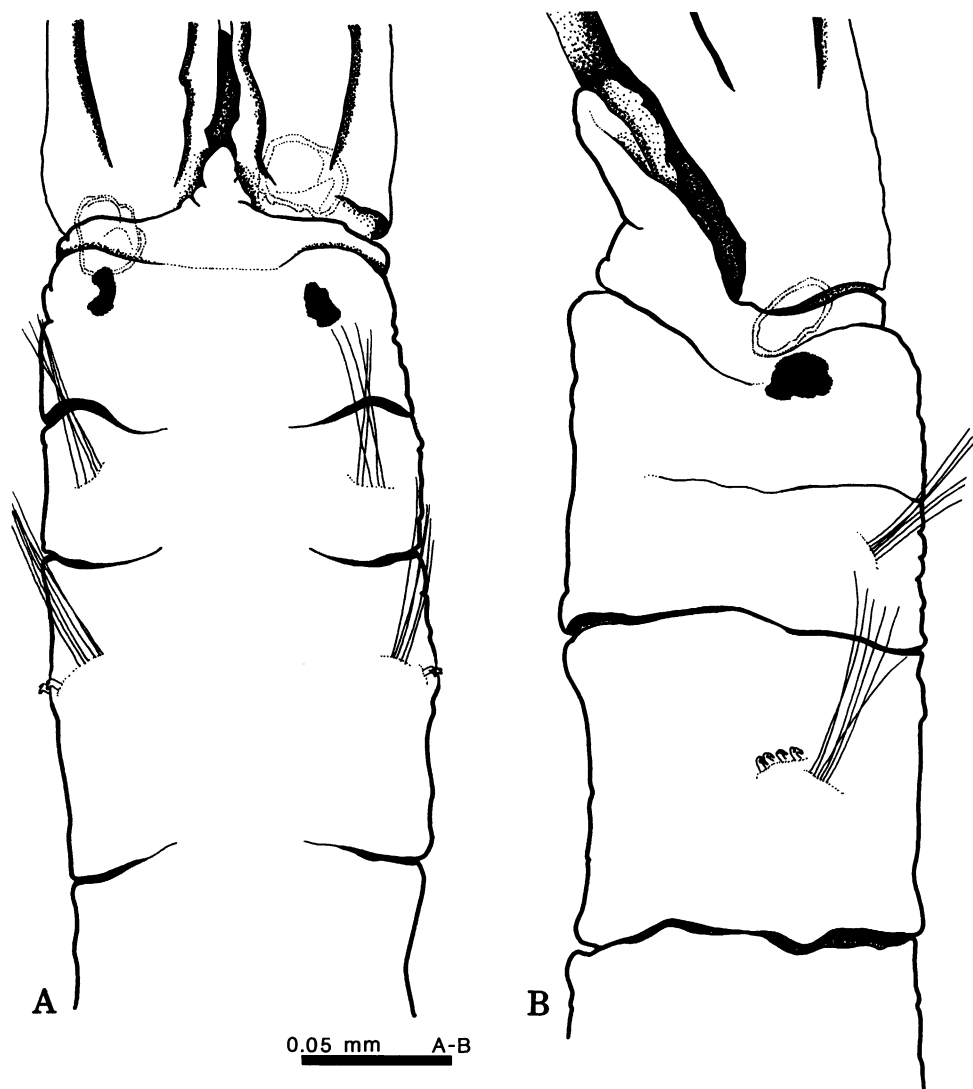


Fig. 9. *Novafabricia tenuiseta* (holotype, USNM 122058): A, B. Dorsal and lateral (right side) views, respectively, of the anterior end.

margin of anterior peristomial ring a low ridge dorsally and laterally (fig. 9A, B); ventrally a well-developed lobe, widest proximally, abruptly tapering to bluntly narrow distal end, slightly longer than total length of both rings (fig. 10A). Posterior ring 2–2.5 times longer than anterior ring (excluding lobe). Annulation between peristomial rings distinct dorso-laterally and laterally. Peristomial eyes

black, rounded to crescentic; pygidial eyes black, rounded. Setiger 1 about same length as posterior ring, wider than long; remaining thoracic setigers each at least twice as long as setiger 1, posterior setigers may be slightly longer. Setiger 9 about two-thirds length of setiger 8, similar width; setigers 10 and 11 successively shorter and narrower. Pygidium same length as setiger 11, tapered, rounded

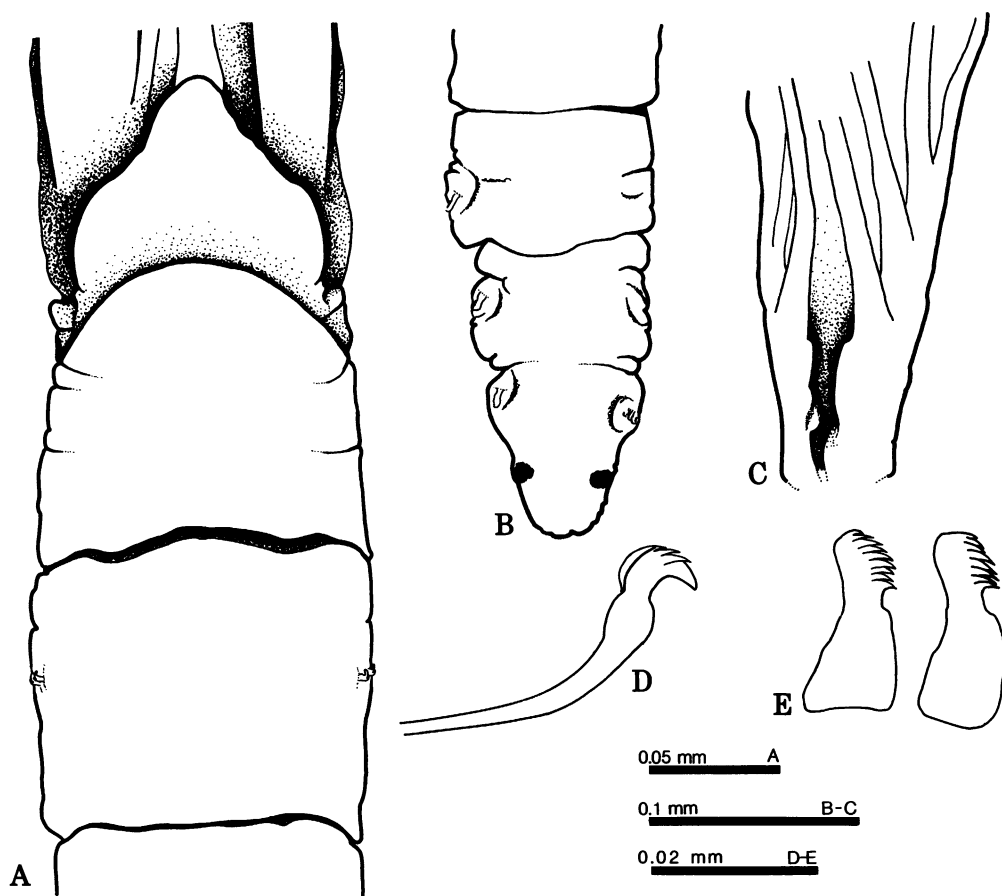


Fig. 10. *Novafabricia tenuiseta* (A from holotype, USNM 122058; B-E from paratypes, USNM 122060). A. Anterior end, ventral view. B. Posterior end, dorsal view. C. Right half of branchial crown, inner margin. D. Thoracic uncinus from setiger 6. E. Abdominal uncini from setiger 10.

(fig. 10B). Superior thoracic notosetae elongate, narrowly hooded; 4-5 per fascicle. Inferior thoracic notosetae of setigers 2-8 short, elongate, narrowly hooded; 2 per fascicle. Abdominal neurosetae modified, elongate, narrowly hooded; 1-2 per fascicle. Thoracic acicular uncini in single rows, 3-6 per fascicle (fig. 10D). Abdominal uncini with 8-9 teeth in profile, about 4 teeth per row; manubrium slightly constricted below dentate region, slightly expanded proximally to quadrangular base, about twice length of dentate region (fig. 10E); 10-13 uncini per fascicle. Some specimens with branchial hearts pigmented dark brown; anterior and posterior peristomial rings (excluding ventral lobe) usually

pigmented light brown; unpigmented specimens cream colored. Tubes loosely constructed with detrital material, same length as animals. Methyl green staining dark on anterior (including ventral lobe) and posterior peristomial rings and setigers 1-3 or 4; remaining thoracic setigers staining lightly; abdomen and pygidium stain dark.

ETYMOLOGY: The specific name *tenuiseta* from the Latin *tenuis* (slender) and *-seta* refer to the occurrence of only elongate, narrowly hooded setae in inferior thoracic notosetal fascicles.

REMARKS: *Novafabricia tenuiseta* is distinct from other species of this genus in displaying only short, elongate, narrowly hood-

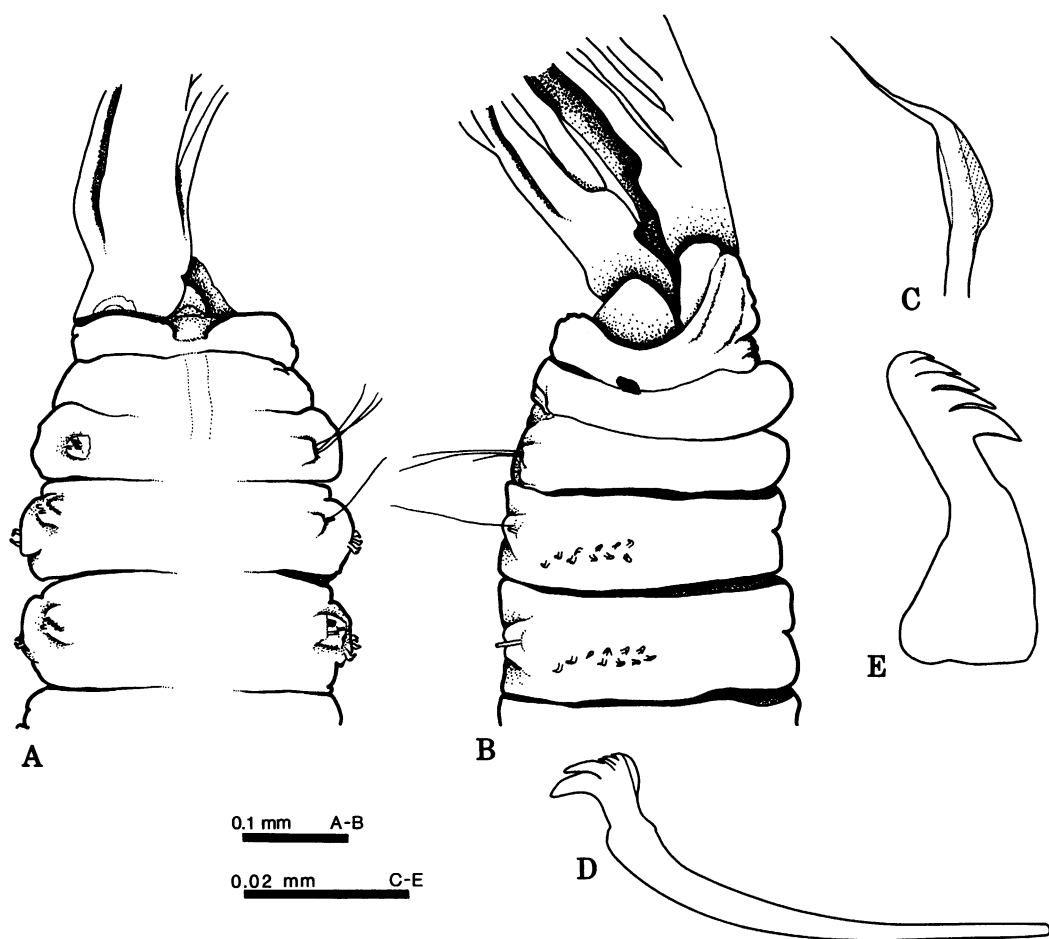


Fig. 11. *Novafabricia triangularis* (paratypes, USNM 122072): A, B. Dorsal and lateral (right side) views, respectively, of the anterior end. C. Pseudospatulate seta from setiger 5. D. Thoracic uncinus from setiger 5. E. Abdominal uncinus from setiger 10.

ed setae in inferior thoracic notosetal fascicles. The species is similar to *N. infratorquata* (Fitzhugh, 1983) in having abdominal uncini with manubria at least twice the length of the dentate region.

***Novafabricia triangularis*, new species**
Figures 11, 12

MATERIAL EXAMINED: CALIFORNIA: Holotype (USNM 122071) and numerous paratypes (USNM 122072), Dutch Harbor, San Nicolas Island, Channel Islands, low intertidal among roots of *Phyllospadix* and rocks, collected by R. Seapy, 5 May 1977.

DESCRIPTION: Holotype complete with 8

thoracic and 3 abdominal setigers; length 3.20 mm (branchial crown comprising 0.92 mm), maximal width 0.24 mm. Branchial crown one-half to one-third total length. Three pairs of radioles; distal ends filamentous, same width as pinnules. Radioles each with 7 to 8 pairs of pinnules, all terminating at same height as radioles. Dorsal lips short, narrow ridges (fig. 11B) or absent (fig. 12B); ventral lips swollen, shelflike processes below proximal pinnule of ventral radioles. Body cylindrical, tapering slightly anteriorly and posteriorly. Peristomial eyes black, rounded to crescentic, most visible laterally; pygidial eyes black, rounded. Anterior margin of anterior

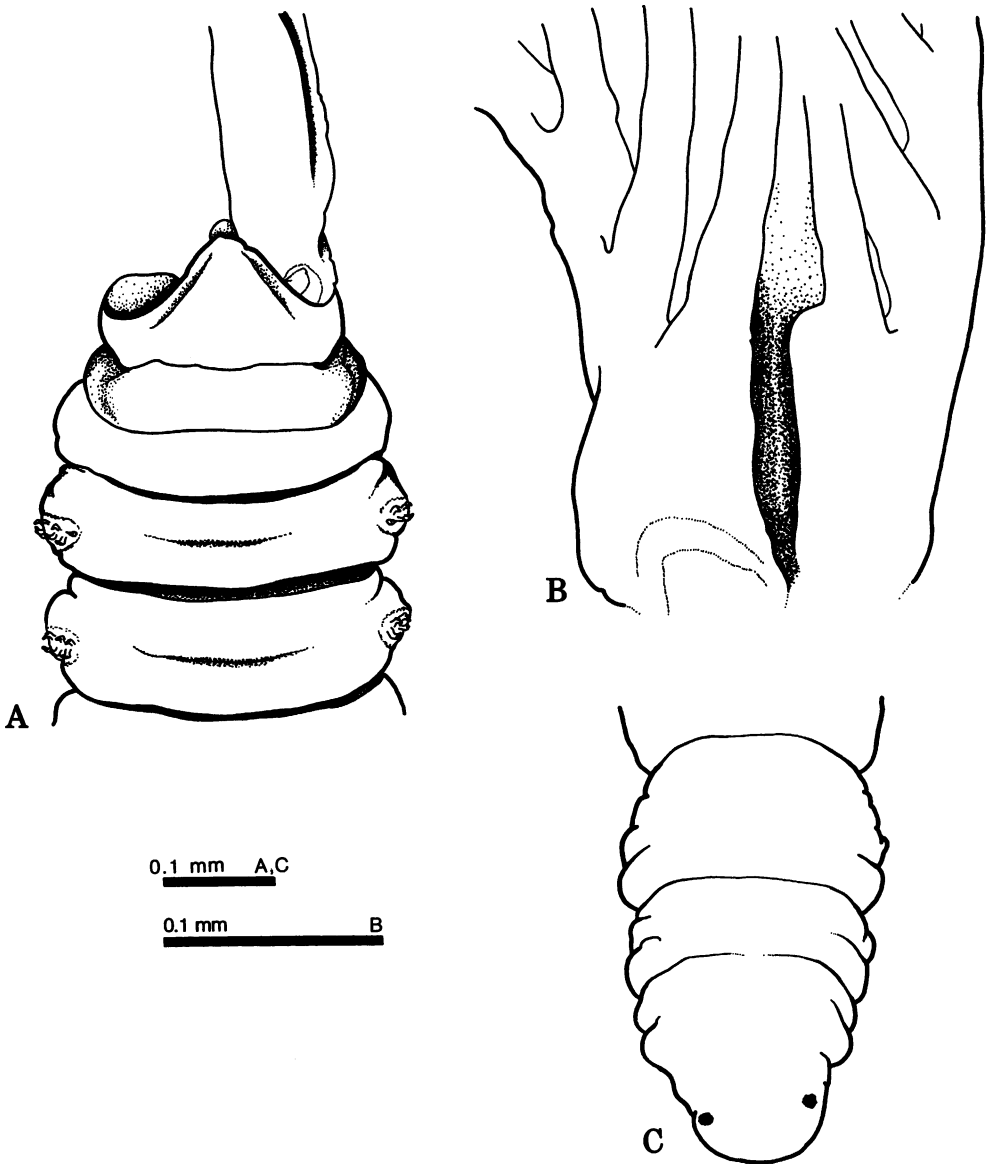


Fig. 12. *Novafabricia triangularis* (paratypes, USNM 122072): A. Ventral view of anterior end. B. Left half of branchial crown, inner margin. C. Posterior end, dorsal view.

peristomial ring a low ridge dorsally and laterally (fig. 11A, B); ventrally a triangular lobe, distally rounded, slightly longer than adjacent margin (fig. 12A). Conical process above mouth narrow in frontal view (fig. 11A), very broad in lateral view (fig. 11B). Anterior and posterior peristomial rings, excluding ventral lobe, each about same width as setiger 1. Dimensions of thoracic setigers varying with

degree of contraction; anterior setigers usually shortest, wider than long; posterior setigers longer, becoming as long as wide. Setiger 9 about one-half length of setiger 8; setigers 10–11 successively shorter. Pygidium broadly rounded, slightly narrower than setiger 11 (fig. 12C). Superior thoracic notosetae elongate, narrowly hooded; 4–5 per fascicle. Inferior thoracic notosetae of setigers 2

and 6–8 short, elongate, narrowly hooded; 1–2 per fascicle. Setigers 3–5 with pseudospatulate setae; 1–2 per fascicle (fig. 11C). Abdominal neurosetae modified, elongate, narrowly hooded; 1–3 per fascicle. Thoracic acicular uncini in irregular double rows, 8–13 per fascicle (fig. 11D). Abdominal uncini with 5 teeth in profile, proximal tooth largest (fig. 11E); proximal tooth row with single tooth, other rows with up to 3 teeth per row; manubrium slightly longer than dentate region, constricted below dentate region, slightly expanded proximally to quadrangular base; 14–17 uncini per fascicle. Anterior peristomial ring light brown, concentrated mainly on ventral lobe; posterior peristomial ring and setiger 1–2 darker brown; pigmentation diminishing in following setigers, with last thoracic setigers and abdomen unpigmented, cream colored. Tubes loosely constructed with quartz sand grains and some detrital material, about same length as animals. Methyl green staining darkest on ventrum of posterior peristomial ring, and dorsolaterally, laterally, and ventrally on setiger 1; ventral peristomial lobe staining lightly midventrally, remaining thoracic setigers lightly, abdomen and pygidium dark.

ETYMOLOGY: The specific name refers to the triangular-shaped, ventral anterior peristomial ring collar lobe.

REMARKS: *Novafabricia triangularis* is similar to *N. gerdi* (Hartmann-Schröder, 1974) and *N. chilensis* (Hartmann-Schröder, 1962) in that the manubrium of abdominal uncini is about the same length as the dentate region. The former species differs from the two latter species in having more than a single tooth in all but the proximal tooth row of abdominal uncini. The ventral peristomial lobe of *N. triangularis* is characteristically triangular, whereas it is broad and tonguelike in *N. chilensis* and more broadly rounded in *N. gerdi*. *Novafabricia triangularis* occurs in the same habitat as an undescribed species in another new genus being described by Fitzhugh (in press).

ACKNOWLEDGMENTS

Reviews of the manuscript by Kristian Fauchald, Robert E. Knowlton, Diana L. Lipscomb, Meredith L. Jones, Vicki A. Funk,

Thomas H. Perkins, and Leslie H. Harris are gratefully acknowledged. I thank Brian Kensley and Kristian Fauchald for specimens of *Pseudofabriciola incisura* from the Aldabra Atoll, and for allowing me to participate in the 1985 expedition, and Thomas H. Perkins for providing the specimens of *P. longa*. Gesa Hartmann-Schröder, Zoologisches Institut und Zoologisches Museum, Hamburg (ZMH) loaned the type material of *P. australiensis*, *Novafabricia chilensis*, and *N. gerdi*. Most other type material examined has been deposited in the U.S. National Museum of Natural History, Smithsonian Institution (USNM). Paratypes of *P. longa* have also been deposited in the Florida Marine Research Institute (FSBC I).

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