

Revision of Some Genera and Species of Cirratulidae (Polychaeta) from the Western North Atlantic

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ABSTRACT

A partial revision of the bipalpatate cirratulid genera is proposed based upon an examination of type material and new collections from the U.S. Atlantic continental shelf, slope, and rise. Syntypes of the type species of *Tharyx*, *T. acutus* Webster & Benedict, 1887, have been found to possess neuropodial knob-tipped spines; the species thus does not agree with the concept of *Tharyx* as usually understood, i.e., where species have only capillary setae. Based upon this observation, *Tharyx* is redefined to include species having capillaries and irregular knob-tipped spines. Those species having only capillaries with a sawtooth edge are referred to *Monticellina* Laubier, 1961, while those having capillaries with smooth edges are referred to a new genus, *Aphelochaeta*. *Tharyx acutus* is redescribed and a new species, *T. kirkegaardi*, is described. *Tharyx dorsobranchialis* (Kirkegaard, 1959) is redescribed and referred to the genus *Monticellina*. *Tharyx annulosus* Hartman, 1965 and *Monticellina heterochaeta* Laubier, 1961 are referred to synonymy with *M. dorsobranchialis*. A new species, *M. baptisteae*, is described.

Keywords: Polychaeta, Cirratulidae, systematics, revision, *Tharyx* redefined, *Monticellina* reinstated, *Aphelochaeta* n. gen., western North Atlantic.

INTRODUCTION

The currently accepted definitions of three closely related genera of Cirratulidae, *Chaetozone*, *Caulleriella*, and *Tharyx*, were established by Hartman (1961). According to her definition, all three genera are similar in placement of the single pair of palps, reduction of the parapodia, and general appearance of the anterior and posterior ends of the body. The only reliable differences are in the form and arrangement of the setae. Hartman (1961) clarified these differences by confirming that species of *Tharyx* have only setae with capillary tips; species of *Caulleriella* have acicular setae with distally bifid tips; while species of *Chaetozone* have acicular spines with entire, or at least not bifid tips. Hartman's concept of *Caulleriella* and *Chaetozone* differed from earlier definitions in that Fauvel (1927), Berkeley & Berkeley (1952), and more recently, Day (1967) distinguished between the two genera on the basis of whether or not spines formed cinctures encircling the posterior body segments. *Chaetozone* had such cinctures, while *Caulleriella* lacked them. Presently, most authors follow Hartman's definitions, with genera separated on the basis of the form of the setae.

For the most part, these definitions have sufficed. Most new species described since 1961 have, within limits, been referable to one of the three genera. Recently, however, while working with cirratulid collections from the continental shelf, slope, and rise of the western North Atlantic, the discovery of numerous new species and variation in the mor-

phology of several known species necessitated the examination of the type specimens of several species. During the course of these studies, the uniformity of the setal characters used to define the three genera was called into question. Continued examination of type specimens and an evaluation of the undescribed new species from the western North Atlantic led to the conclusion that a revision of the genera *Tharyx*, *Caulleriella*, and *Chaetozone* was required. For instance, the syntypes of *T. acutus*, the type species of the genus, were found to have irregular knob-tipped spines in posterior neuropodia.

The present paper provides a revision of species referred to the genus *Tharyx*, along with the descriptions of two new species and redescriptions of three others.

This study represents a contribution to the systematics of polychaetes from the U.S. Atlantic shelf, slope, and rise. Most of the specimens treated in this study were collected as part of programs conducted by Battelle Ocean Sciences (1981-1987). Numerous individuals assisted in the sorting and processing of the benthic samples from which these cirratulids were identified. Ms. Ellen M. Baptiste was especially helpful in recognizing rare or unusual species and in helping with the descriptions. The manuscript benefited from the careful review of Dr. Nancy J. Maciolek, who also encouraged the completion of this work and will undoubtedly continue to lobby for the publication of the numerous additional new species in the collections. The following institutions and individuals have provided important and critical type specimens relevant to this study: Allan Hancock Foundation (AHF), University of Southern California (Ms. Susan Williams); National Museum of Ireland (NMI), Dublin (Dr. Colm E. O'Riordan); National Museum of Natural History, Smithsonian Institution (USNM) (Drs. Marian H. Pettibone and Meredith L. Jones); and the Zoological Museum, University of Copenhagen (ZMUC) (Drs. Jørgen Kirkegaard and Mary E. Petersen). Dr. Lucien Laubier arranged for loan of specimens of *Tharyx heterochaeta*. This study was supported by Grant No. DEB-8103210 from the National Science Foundation and by Contract Nos. 14-12-0001-29192 and 14-12-0001-30064 from the Minerals Management Service, U.S. Department of the Interior.

SYSTEMATIC ACCOUNT

Tharyx Webster & Benedict, 1887, emended

Type species: *Tharyx acutus* Webster & Benedict, 1887.

Diagnosis. — Prostomium conical; peristomium elongate, with pair of grooved palps arising anterior to setiger 1; first pair of branchiae frequently on peristomial segment, arising immediately posterior to palps; abdominal segments not beadlike; setae include simple capillaries and acicular spines with irregular knobbed tips; knobs sometimes with shallow notches, but never with distinct teeth.

Remarks. — Species presently referred to *Tharyx* fall into two groups, one of which has species with the capillary setae all simple, limbate, and with essentially smooth margins, the other of which has species with capillaries with one edge distinctly sawtoothed. *Tharyx acutus* Webster & Benedict, 1887 is the type species of *Tharyx* and has long been believed to belong to the former group. In the original description of the genus, Webster & Benedict (1887) characterized the setae as capillary, but did not provide any fine morpho-

logical details. Although this species has been reported in several ecological surveys (Blake & Baptiste 1985; Blake et al. 1987b; Maciolek-Blake et al. 1985), no description has been provided since the original account from Eastport, Maine.

Syntypes of *Tharyx acutus* are archived in the collections of the USNM in Washington, D.C. and were made available for study. Upon initial examination, all of the setae on these animals appeared to be simple capillaries. Since the types are mounted on slides, it was not possible to manipulate the specimens to examine the critical posterior neurosetae. On one slide, however, one complete specimen clearly had some neurosetae with knobbed tips. In all other characteristics, these specimens resembled a common intertidal New England cirratulid that I had identified as *Caulleriella* in the 1960's. The posterior neurosetae bear short, irregular knob-tipped hooks or spines in addition to capillaries. Since these characters are also present on the types of *T. acutus*, I conclude that the present concept of the genus *Tharyx* must be revised. One alternative would be to consider the knob-tipped spines as a form of hook rather like the setae found in the species presently referred to *Caulleriella*. However, four additional species with these knob-tipped setae are known. None of these setae are distinctly bifid, although two short knobs are usually present. It seems best to separate the *Tharyx acutus*-like forms from the rest of the bipalate cirratulids rather than refer all species of *Caulleriella* to *Tharyx*.

With the redefinition of the genus *Tharyx* to include species with knob-tipped spines, the remaining species with only capillary-tipped setae must be referred elsewhere. These species are logically grouped into two distinct genera: one with setae that have a saw-toothed edge, and one with setae that have only smooth edges (see below).

Species referred to *Tharyx* as redefined include:

T. acutus Webster & Benedict, 1887.

T. killariensis (Southern, 1914), new combination.

T. kirkegaardi new species.

T. longisetosa (Hutchings & Murray, 1984), new combination.

T. retusiseta (Hutchings & Murray, 1984), new combination.

***Tharyx acutus* Webster & Benedict, 1887, revised**

Figure 1

Tharyx acutus Webster & Benedict, 1887: 742, figs. 99-103. — Maciolek & Grassle 1987:306. — Maciolek-Blake et al. 1985:32, 58, 66, 74, 79, figs. 33, 41. — Blake & Baptiste 1985: 140-142, 155-156, figs. 82, 93. — Blake et al. 1987b:8-101, figs. 6, 14, 26. — Not Appy et al. 1980.

Tharyx setigera Hartman, 1945: 35, pl. 7, figs. 1-3. New synonymy.

Material examined. — Western North Atlantic: Maine, Eastport, coll. H.E. Webster, 6 syntypes (USNM 55006); Damariscotta River, coll. Aug. 1968, J.A. Blake from various coves and inlets, numerous specimens (JAB). — Massachusetts, Georges Bank, coll. Battice, numerous specimens taken during Georges Bank Benthic Infauna Monitoring Program (1981-84), 80-160 m (USNM); also at one 255-m station off Georges Bank taken during U.S. North Atlantic Slope and Rise Program (USNM). — Connecticut, Waterford, coll. Sept. 1977 (5). — North Carolina, Beaufort, intertidal in sand, holotype and paratypes of *T. setigera* (AHF Poly 0580-1). — Gulf of Mexico: off Louisiana, Eugene Island, Sta. 10, Rep. 2, coll. Battice, March 1986, (1), 10 m.

Description. — A moderate-sized species, with one complete syntype measuring 7.8 mm long and 0.4 mm wide across thorax for 75 setigers; Georges Bank specimens 9-10 mm long, 0.5 mm wide at mid-body, 0.6 mm wide across posterior end for 98-115 setigers.

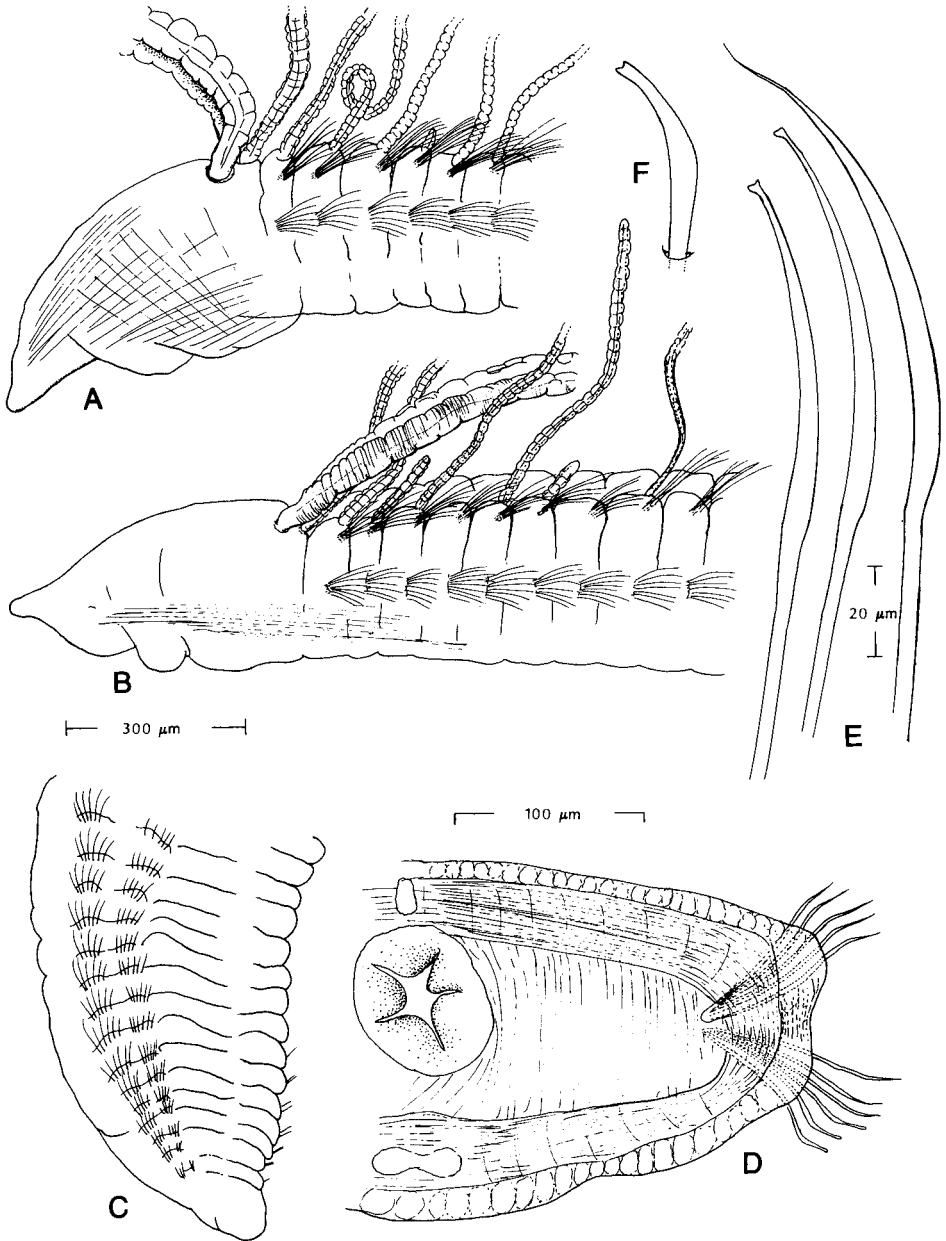


Fig. 1. *Tharyx acutus* (Maine, Damariscotta Estuary). - A, B, Anterior ends of two specimens, lateral view. - C, Posterior end in ventrolateral view. - D, Cross section of posterior setiger. - E, Hooks and capillary seta from posterior neuropodium. - F, Neuropodial hook from far posterior setiger.

Prostomium elongate, sometimes distinctly pointed; eyes usually absent, but rarely with a single pair of small pigment cups present on southern specimens; peristomium thickened, elongate, with palps originating about one segment length anterior to setiger 1, first pair of branchiae arising immediately posterior to palps and anterior to setiger 1 (Fig. 1A, B). Second pair of branchiae present on setiger 1, located dorsal to notosetae; branchiae continuing to near posterior end.

Parapodia simple, low, with spreading setal fascicles (Fig. 1D); notosetae all capillaries; neurosetae all capillaries except in far posterior setigers where 1-3 irregular knob-tipped spines replace capillaries in neuropodia (Fig. 1E, F); spines beginning on setiger 100 in one 115-setiger specimen from Georges Bank; both capillaries and knob-tipped spines bent, thickened on convex side.

Posterior fifth of body expanded laterally, terminating in simple conical pygidium (Fig. 1C).

Remarks. — *Tharyx acutus* is widespread on the U.S. Atlantic coast, ranging from the intertidal zone to upper continental slope depths. It is one of the dominant species on Georges Bank, where seasonal life-history data suggest a two-year life cycle with summer and fall recruitment sequences (Blake & Baptiste 1985). In intertidal mud flats in Maine, the species was observed to be viviparous in winter months (Blake, unpublished). The species occurs in a variety of sediment types, but appears to attain its highest densities where both sand and silt are high (Blake et al. 1987b).

T. acutus is the only described species of *Tharyx* to have the knob-tipped spines limited to the neuropodia. Four related species have the knob-tipped setae in both noto- and neuropodia. These include *T. kirkegaardi*, a new species from deeper continental slope depths on the U.S. Atlantic coast; *T. killariensis*, from European waters; *T. longisetosa*, from Australia; and *T. retusiseta*, also from Australia. An examination of the syntypes of *Chaetozone killariensis* Southern, 1914 has revealed that the bifid crotchets present in the noto- and neuropodial fascicles are actually of the irregular knob-tipped variety characteristic of species of *Tharyx*. Originally described from Ireland, *T. killariensis* has since been reported from elsewhere in European waters. Both of the Australian species have knob-tipped spines of the same type as described here for *T. acutus*.

Distribution. — U.S. Atlantic coast, Maine to North Carolina, intertidal to 255 m, in mixed sand and silt sediments; off Louisiana, 10 m.

Tharyx kirkegaardi new species

Figure 2

Tharyx sp. 1: Blake et al. 1985:21-33; 1987a:60-82, 115-136, 186, C-2.

Caulleriella annulosa Banse & Hobson, 1968:31, fig. 7a.

Material examined. — Western North Atlantic, U.S. Atlantic continental slope and rise, 255-3015 m, Canadian border to off South Carolina. Numerous specimens collected by Battelle from 41 of 44 stations during U.S. Atlantic Slope and Rise Program. — Gay-Head Bermuda Transect, 2 specimens removed from paratype vial of *Tharyx annulosus*.

Type-material. — Off Cape Hatteras, N.C., 2003 m, Sta. 10, U.S. South Slope and Rise Program, 35°26.7'N, 74°41.3'W, coll. May 1985, holotype and 59 paratypes (USNM 116405-6); same station, Nov. 1985, 82 paratypes (USNM 116407).

Description. — A moderate-sized species, with largest specimens measuring 19-20 mm long and 0.7-0.8 mm wide for 120-150 setigers. Body thickened somewhat in thoracic

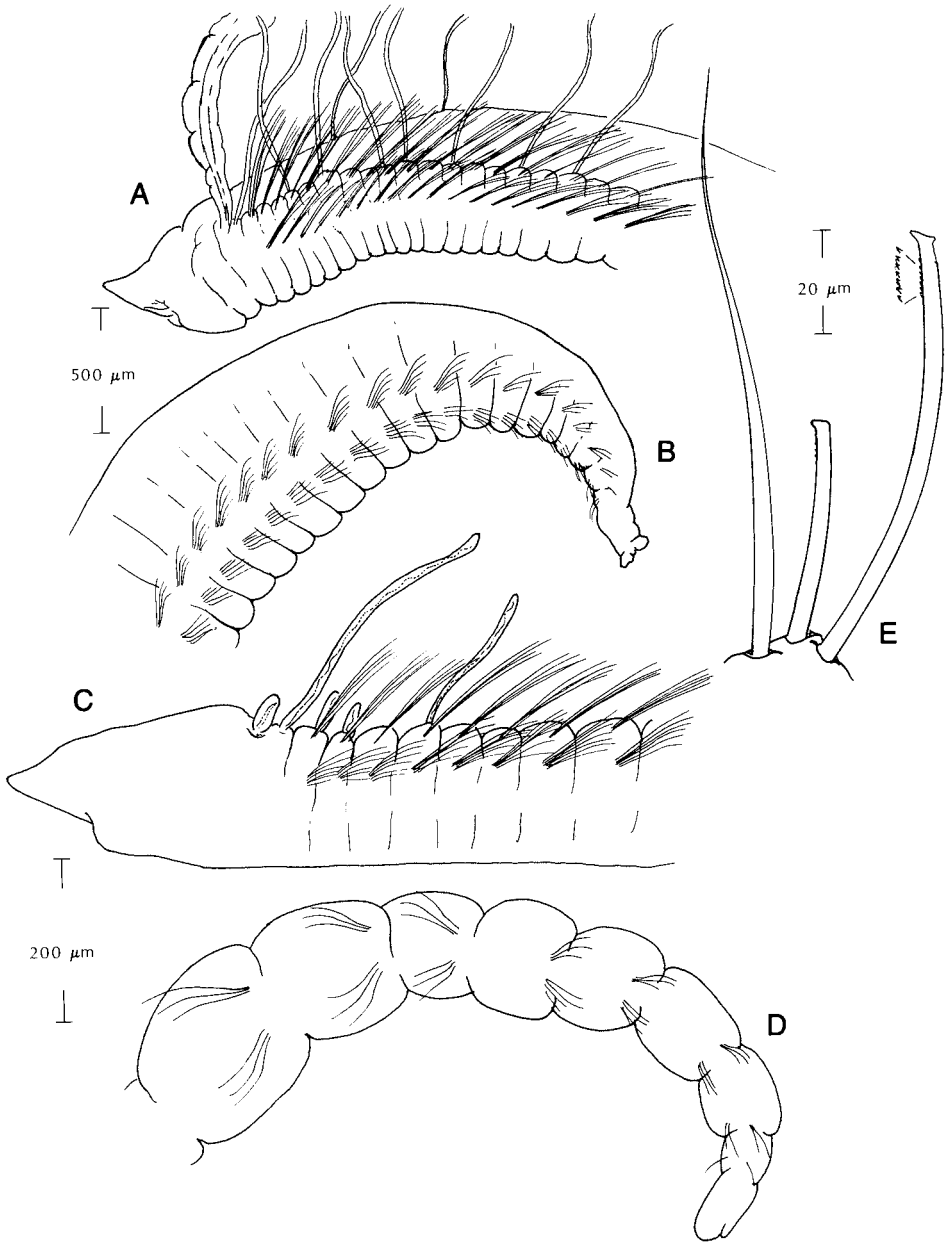


Fig. 2. *Tharyx kirkegaardii* (Paratype, USNM 116406). - A, anterior end of large specimen, lateral view. - B, Posterior end of large specimen. - C, Anterior end of small specimen, lateral view. - D, Beaded posterior end of small specimen. - E, Hooks and capillary seta from posterior setiger.

region, with segments crowded (Fig. 2A) and not beadlike; abdominal segments longer, beadlike in juveniles; posterior end tapering from thickened segments to narrow, pygidial segment (Fig. 2B, D); anal opening somewhat dorsally located. Color in alcohol light tan, with black pigment spots sometimes apparent on lateral sides of peristomium. Prostomium acutely pointed (Fig. 2A, C), eyes absent; peristomial segment about as wide as long, usually with two pseudoannulations; palps arising anterior to setiger 1, with first pair of branchiae immediately following (Fig. 2A, C). Second pair of branchiae on setiger 1, followed by additional pairs on following setigers. Branchiae arising dorsal to notosetae, most numerous in thoracic region, less common in middle body segments and mostly absent from posterior segments.

Parapodia simple, low tori, bearing fascicles of long, thin noto- and neurosetae in anterior and middle setigers; setae of posterior setigers include shorter, thicker, curved spines in both notopodia and neuropodia; these spines with slightly expanded knoblike tip and bearing faint serrations on concave edge near tip (Fig. 2E); spines beginning in posterior one-third of body in neuropodia (setiger 95 in 145-setiger specimen) and in far posterior setigers in notopodia (setiger 125 in same 145-setiger specimen); neuropodia initially with 2 spines in inferiormost position, accompanied by 4-6 capillaries, then spines increasing to 4 in far posterior setigers and entirely replacing capillaries; notopodia initially with single spine in superiormost position accompanied by 3-4 capillaries, spines increasing to 4 and entirely replacing capillaries in last 4-5 segments. Sexually mature specimens with very long capillaries in anterior and middle body segments.

Remarks. — *Tharyx kirkegaardi* differs from *T. acutus* in having the knob-tipped spines in both noto- and neuropodia instead of only in the neuropodia. These spines are blunter in appearance and rarely have any development of a central depression as in the hooks of *T. acutus*. Furthermore, the presence of serrations on the convex side of these spines is unique in the bipalpatate cirratulids. *T. kirkegaardi* is most closely related to *T. killariensis* from European waters and two Australian species, *T. longisetosa* and *T. retusiseta*. All of these species have knob-tipped spines in the noto- and neuropodia, but differ from *T. kirkegaardi* in the form of the knobby tip and in lacking the distinctive serrations. The syntypes (NMI 328.1914) of *Chaetozone killariensis* have been examined. The species was well described by Southern (1914), but some minor differences have been observed. Most importantly, the hooks or crotchets described as distinctly bifid are of the knob-tipped type characteristic of *T. acutus*. The first pair of branchiae originate immediately posterior to the palps, not lateral to them as reported by Southern. A distinct difference between *T. killariensis* and other species is a very distinct ventrolateral swelling of the posterior margin of the thorax.

Tharyx kirkegaardi is widely distributed on the U.S. Atlantic continental slope and rise. In the U.S. South Atlantic region, the species was among the top 20 species at 8 out of 12 stations between depths of 600-2000 m (Blake et al. 1987a). At one 2000-m station off Cape Hatteras, North Carolina (Station 10), *T. kirkegaardi* occurred in densities exceeding 1100 individuals per m². Sediment characteristics for this station, in terms of mean percent sand, silt, and clay with one standard deviation were as follows: May 1985 [sand, 53.1 ± 8.8; silt, 27.5 ± 4.2; clay, 19.4 ± 4.7]; Nov 1985 [sand, 37.8 ± 11.5; silt, 39.8 ± 6.2; clay, 22.4 ± 5.4].

Etymology. — This species is named for Dr. Jørgen B. Kirkegaard, Convenor of the Second International Polychaete Conference, and Curator of polychaetes of the Zoological Museum, University of Copenhagen. Dr. Kirkegaard has made major contributions to the systematics of deep-water polychaetes.

Distribution. — Widespread on the U.S. Atlantic continental slope and rise, 255-3000 m, dominant in sediments having high sand and silt content.

Monticellina Laubier, 1961, reinstated

Type species: *Monticellina heterochaeta* Laubier, 1961.

Diagnosis. — Prostomium long, sometimes pointed; peristomium elongated to short, with palps usually arising anterior to setiger 1; middle body segments frequently bead-like; setae include capillaries with distinct sawtooth (denticulate) edge.

Remarks. — The genus *Monticellina* was established by Laubier (1961) for a species having denticulated capillaries. The genus was established in the Ctenodrilidae. In a subsequent publication, Laubier (1966) referred his species to the cirratulid genus *Tharyx* and compared it with three other described forms having similar types of denticulate capillaries. With the redefinition of the genus *Tharyx* to include species having knob-tipped spines in posterior setigers, those species having denticulate capillaries and formerly assigned to *Tharyx* are herein referred to *Monticellina*, the next available name.

Five described species of *Tharyx* have sawtooth capillaries and are herein transferred to the genus *Monticellina*: *T. dorsobranchialis* (Kirkegaard, 1959); *T. annulosus* Hartman, 1965; *T. heterochaeta* (Laubier, 1961); *T. tessellata* Hartman, 1960; and *T. aphelocephalus* Hutchings & Murray, 1984. An examination of new specimens from the western North Atlantic and type materials indicates that the first three species should be combined. *T. dorsobranchialis* was named first and is therefore the senior synonym; it and a new species belonging to this group are described below. *Tharyx secundus* Banse & Hobson and *T. serratisetis* Banse & Hobson have finely serrated capillaries, which are not the same as those with sawtooth edges.

***Monticellina dorsobranchialis* (Kirkegaard, 1959), new combination**

Figure 3

Cirratulus dorsobranchialis Kirkegaard, 1959: 34, figs. 2-3.

Tharyx dorsobranchialis. — Day 1961: 501-502; 1967: 506, fig. 20.2.f-h. — Hartmann-Schröder 1974: 178. — Intes & Loeuff 1977: 222.

Monticellina heterochaeta Laubier, 1961: 601-604, fig. 1. New synonymy.

Tharyx heterochaeta. — Laubier 1966: 631-638. New synonymy.

Tharyx annulosus Hartman, 1965: 167-168, pl. 34. — Hartman & Fauchald 1971: 111. — ?Day 1967: 506; ?1973: 82. New synonymy.

Not *Cauleriella annulosa* Banse & Hobson, 1968: 31, fig. 7a (= *Tharyx kirkegaardii*).

Material examined. — Western North Atlantic: Georges Bank, numerous specimens from 7 stations, 70-144 m; off Georges Bank, numerous specimens from 3 stations, 255-560 m; Gay-Head Bermuda Transect, paratypes of *Tharyx annulosus* (AHF Poly 0578). — Off New Jersey, a single record, 2150 m. — Off North Carolina, in upper slope depths, 600-1000 m, coll. Battelle. — Mediterranean: France, Golfe de Fos, near Marseille, 35 m, coll. C. Salen-Picard (10 specimens of *Tharyx heterochaeta* provided by L. Laubier). — Off West Africa: Angola, Bay of Lobito, "Galathea" Sta. 120, 27 m, 3 paratypes of *Cirratulus dorsobranchialis* (ZMUC).

Description. — Body long and thin, with abdominal segments coiled in preservation; thorax expanded in middle; abdominal segments longer than wide, sometimes becoming weakly moniliform; posterior end only weakly expanded, pygidial segment terminally pointed (Fig. 3C). Largest specimens from Georges Bank 16-20 mm long, 0.5-1.0 mm wide in expanded portion of thorax, with 105-120 setigerous segments. Paratypes from West Africa larger, up to 35 mm long and 0.5 mm wide for about 120 setigers.

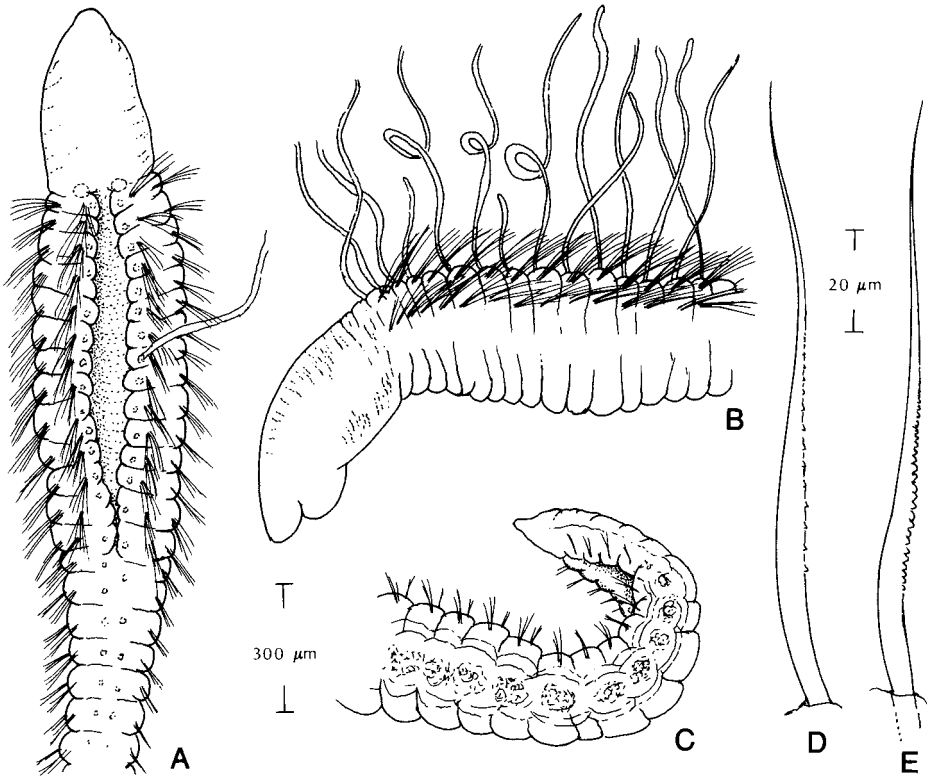


Fig. 3. *Monticellina dorsobranchialis* (Georges Bank). - A, Anterior end in dorsal view. - B, Anterior end in lateral view. - C, Posterior end. - D, Sawtooth capillary neuroseta from posterior abdominal setiger. - E, Sawtooth capillary neuroseta from middle abdominal setiger.

Prostomium bluntly conical, without eyes, followed by greatly elongated peristomium (Fig. 3A, B); peristomium without pseudosegmentation; palps arising from anterior edge of setiger 1. Thoracic region expanded, with prominent dorsal groove (Fig. 3A); parapodia elevated in this region, with notosetae located directly dorsal and branchial bases on slope of groove; first pair of branchiae on setiger 1.

Parapodia low, simple, with spreading fascicles of capillary setae; capillaries of thoracic region with smooth margins; capillaries of abdominal region with distinct sawtooth edge. Capillaries of middle abdominal region with more distinct teeth on edge (Fig. 3E) than those of posterior setigers (Fig. 3D); inferior capillaries in a ramus usually with less distinct dentition.

Remarks. — *Monticellina dorsobranchialis* is widespread in the Atlantic Ocean, being common on the U.S. Atlantic continental shelf and slope from 70-1000 m. It is also known from the Mediterranean and along the western coast of Africa from depths of 20-108 m. Off the U.S. Atlantic coast, the species is most abundant in fine, silty sediments such as the Mud Patch at 70 m depth south of Georges Bank. The species forms tubes of mucus and silt, with the tube adhering tightly to the worm after preservation.

The U.S. Atlantic specimens have been compared with the type specimens of *Cirratulus dorsobranchialis* Kirkegaard, 1959, and *Tharyx annulosus* Hartman, 1965, and with specimens of *Monticellina heterochaeta* Laubier, 1961. All have been determined to represent the same morphological species and are herein combined as *Monticellina dorsobranchialis*, because the latter name is the senior synonym.

Hartman's collections of *Tharyx annulosus* contain specimens representing several species. Banse & Hobson (1968) observed that one of these specimens had acicular spines and erroneously assumed that *Tharyx annulosus* had been placed in the wrong genus by Hartman (1965). These authors referred *T. annulosus* to the genus *Caulleriella*. The specimen they examined appears to be *Tharyx kirkegaardi* and not the species that Hartman described as *T. annulosus*. The name *Caulleriella annulosa* thus appears to represent a misinterpretation of type material by Banse & Hobson (1968) and is thus referred to synonymy with *T. kirkegaardi* (see *T. kirkegaardi*).

Monticellina dorsobranchialis was collected extensively during the 3-year Georges Bank Benthic Infauna Monitoring Program (Maciolek-Blake et al. 1985). The species was found to be most abundant at stations having sediments with high percentages of silt and very fine sands.

Distribution. — Widespread in the western North Atlantic, 70-2150 m (?4150 m); off northeastern South America, 520-1500 m; Mediterranean, 37 m; West Africa, 20-108 m.

Monticellina baptistae new species

Figure 4

Tharyx annulosus. — Maciolek-Blake et al. 1985:18-76. — Blake & Baptiste 1985: 140-178. — Blake et al. 1987b:8-85, fig. 15. — Maciolek & Grassle 1987:306. — Not Hartman, 1965.

Material examined. — Western North Atlantic: Massachusetts Bay, 21-33 m, numerous specimens collected in March, May, and August 1987 as part of an outfall siting program; Georges Bank, 70-152 m, hundreds of specimens collected during the Georges Bank Benthic Infauna Monitoring Program (USNM); off Georges Bank, 255-560 m, numerous specimens collected during the U.S. North Atlantic Slope and Rise Program (USNM).

Type Material. — Georges Bank, Georges Bank Benthic Infauna Monitoring Program, Sta. 5-8, 40°40.1'N, 67°46.1'W, 80 m, Nov. 1981, holotype and 3 paratypes (USNM 116401, 116403); Sta. 5-14, 40°39.5'N, 67°44.7'W, 86 m, Feb. 1982, 23 paratypes (USNM 116402); Sta. 5-25, 40°39.3'N, 67°49.0'W, 89 m, Nov. 1981, 1 paratype (USNM 116404).

Description. — A small, threadlike species with approximately 100-110 setigers for specimens 6.5 mm long and 0.35 mm wide at the thorax. Thoracic region distinctly expanded, with ventral glands (Fig. 4A) that stain conspicuously with Rose Bengal; abdominal segments larger, sometimes appearing weakly beadlike; posterior segments slightly expanded, dorsoventrally flattened; pygidium terminating in pointed protuberance (Fig. 4B).

Prostomium elongate, conical; eyes lacking; peristomium as wide as long, without pseudoannulations (Fig. 4A); palps arising from anterior margin of setiger 1, but distinction between setiger 1 and peristomium vague. Branchiae arising dorsal to notosetae.

Parapodia reduced, low, simple; setae all capillaries with sawtooth edge well developed (Fig. 4C, D); denticles on setae best developed in middle body segments; neurosetae shorter and broader than notosetae.

Remarks. — *Monticellina baptistae* is one of the most abundant cirratulids on the continental shelf of the U.S. Atlantic coast. It is readily recognized by the pigmentation of the

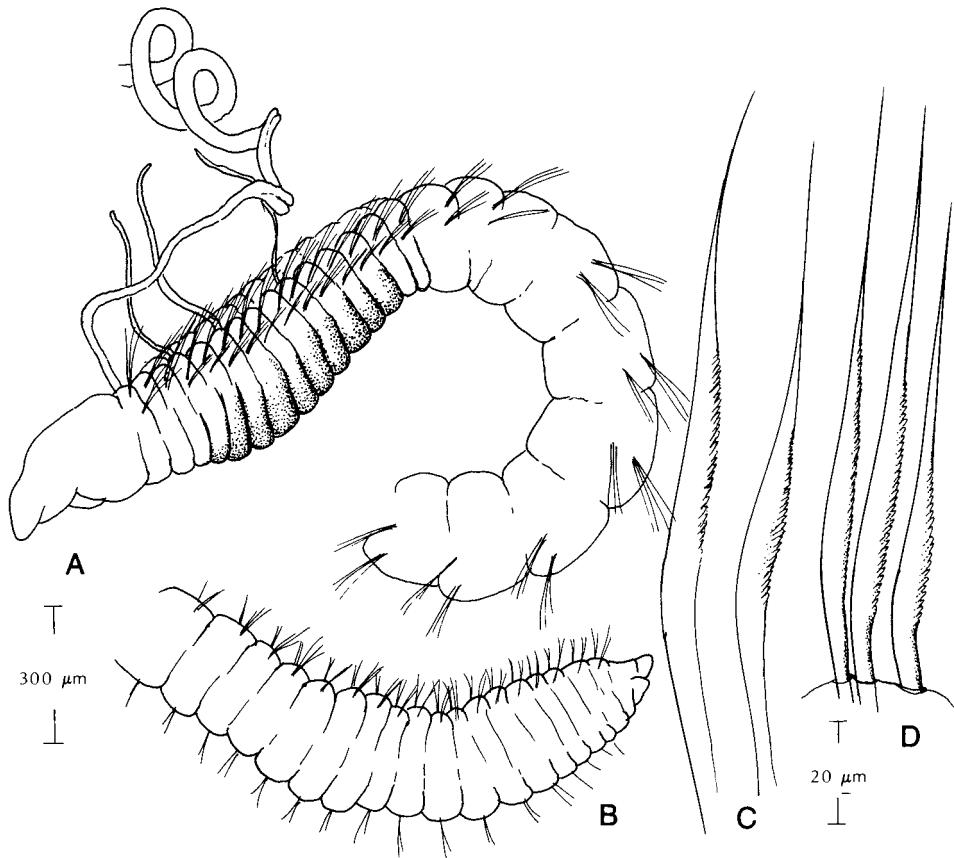


Fig. 4. *Monticellina baptisteeae* (Paratype, USNM 116402). - A, Anterior end in lateral view. - B, Posterior end in dorsal view. - C, Sawtooth capillary notosetae from middle abdominal setiger. - D, Sawtooth capillary neuroseta from middle abdominal setiger.

thorax. When unstained, the glands on the ventral half of the thorax appear golden; when stained with Rose Bengal, these glands retain the red color long after the stain has faded from the rest of the body. Hence, in sorting samples, *M. baptisteeae* can readily be separated from other cirratulids on the basis of this pattern. This species forms tattered tubes similar to those reported for *Tharyx tessellata* Hartman, 1960 from southern California. The latter species, however, is much larger (up to 55 mm long) and has a more conspicuously inflated posterior end. *M. baptisteeae* has frequently been identified as *T. annulosus* (= *M. dorsobranchialis*, see above) in ecological surveys on the U.S. Atlantic coast. *M. dorsobranchialis*, however, differs in lacking the prominent glands on the thorax and in having more coarsely serrate capillaries.

As part of a life history study of dominant polychaete species on Georges Bank, *M. baptisteeae* (as *T. annulosus*) was found to spawn in the spring with recruitment taking place in the summer (Blake & Baptiste 1985). As part of a study of benthic assemblages in Mas-

sachusetts Bay, *M. baptisteeae* (as *T. annulosus*) has been found to exhibit a high correlation with silt ($r = 0.855$) and a moderate correlation with clay ($r = 0.617$) using Spearman's coefficient of rank correlation (Blake et al. 1987b). On Georges Bank, the species was a numerical dominant at stations having high silt content (Maciolek-Blake et al. 1985).

Etymology. — This species is named for Ms. Ellen Baptiste, in recognition of her expertise with cirratulid identifications and assistance in benthic data analysis.

Distribution. — Western North Atlantic, widespread on the continental shelf, 30-152 m in sediments having high silt content; upper slope depths of 255-560 m.

Aphelochaeta new genus

Type species: *Tharyx monilaris* Hartman, 1960.

Diagnosis. — Prostomium conical; peristomium elongate, with pair of grooved palps arising either on or anterior to setiger 1; abdominal segments frequently beaded in appearance; setae all simple capillaries, lacking distinct denticulations or sawtooth edge; posterior end frequently expanded.

Etymology. — The name is derived from the Greek, *apheles* for smooth and *chaetos* for long hair, referring to the smooth capillaries characteristic of this genus. Gender feminine.

Remarks. — As discussed above, this genus is established to contain those bipalate cirratulids having simple, non-denticulate capillaries. At least 10 species, all of which have been treated as species of *Tharyx*, can presently be referred to this genus:

1. *Aphelochaeta monilaris* (Hartman, 1960), new combination.
2. *Aphelochaeta marioni* (Saint-Joseph, 1894), new combination.
3. *Aphelochaeta aequisetata* (Hartmann-Schröder, 1962), new combination.
4. *Aphelochaeta filibranchia* (Day, 1961), new combination.
5. *Aphelochaeta longisetosa* (Hartmann-Schröder, 1965), new combination.
6. *Aphelochaeta multifilis* (Moore, 1909), new combination.
7. *Aphelochaeta nigrorostrum* (Hartman & Fauchald, 1971), new combination.
8. *Aphelochaeta parva* (E. Berkeley, 1929), new combination.
9. *Aphelochaeta secunda* (Banse & Hobson, 1968), new combination.
10. *Aphelochaeta serratiseta* (Banse & Hobson, 1968), new combination.

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