



## Table of Characters of the Family Capitellidae

(Arranged in Order of Increasing Thoracic Segments {Peristomium not counted in thoracic segments})

Revised based on B. Haggin 2023 Capitellidae review & presentation



\*\*\* Highlighted genera with species listed in SCAMIT Ed. 14. Underlined genera contain only 1 described species \*\*\*

Genus	# Thoracic Segments	# Thoracic Chaetigers	1st Segment Achaetous	# Capillary Notochaetae	Thoracic Formula (*)	Chaetigers w/ Genital Spines	1st Chaetiger complete / incomplete	Branchiae (**)	Comments
<u><i>Abyssocapitella</i></u>	4	4	-	4(5)	$\frac{(4c)}{(4h)} + \frac{(1m)}{(1h)}$	-	Complete	A	Hooded hook dentition unknown Hadal Zone (6000+m)
<i>Amastigos</i>	8	8	-	0	$\frac{(8h)}{(8h)}$	-	Complete	A	chaetigers 1-2 elongate; hooded hook dentition not described
<u><i>Octocapitella</i></u>	8	8	-	8	$\frac{(8c)}{(8c)}$	-	Complete	A	Hooded hook dentition unknown
<u><i>Baldia</i></u>	9	9	-	0	$\frac{(9h)}{(9h)}$	-	Complete	?	Hooded hook dentition unknown intertidal
<i>Capitella</i>	9	9	-	4 - 7	variable by species <i>Capitella capitata</i> formula: $\frac{\sigma^7 \rho^2 (7c+2g)}{(7c+2e)}$	8-9	Complete	E	females sometimes without genital spines; hooded hooks w/ multiple rows of teeth above main fang
<u><i>Leiocapitellides</i></u> †	9	9	-	9	$\frac{(9c)}{(8c+1h)}$	-	Complete	A	Hooded hooks w/ 4 rows of small teeth above main fang
<i>Neomediomastus</i>	9-10	9-10	-	6	$\frac{(6c+3(4)h)}{(6c+3(4)h)}$	-	Complete	E	branchiae from far posterior segments
<u><i>Undecimastus</i></u>	10	10	-	2 + 8s	$\frac{(2c+8s)}{(2c+8s)}$	-	Complete	?	thorax with modified spatulate chaetae
<i>Mediomastus</i> ♣	10 (9-11)	10 (9-11)	-	4	$\frac{(4c+6(5-7)h)}{(4c+6(5-7)h)}$	-	Complete	A	sometimes paddle-like chaetae in the thorax and capillaries in far posterior abdomen; hooded hook dentition unknown
<u><i>Parheteromastides</i></u> §	10	10	-	6	$\frac{(5c+1m+4h)}{(0+5c+4h)}$	-	Incomplete (Noto. Only)	A	Hooded hooks with many small teeth above the main fang in multiple rows
<i>Decamastus</i>	10	10	-	10	$\frac{(10c)}{(0+9c)}$ or $\frac{(10c)}{(8(9)c+2(1)m(e))}$	-	Either (Noto. Only if Incomplete)	A	juveniles possibly with hooks in neuropodia of last 2 thoracic chaetigers; hooded hooks multidentate
<u><i>Neonotomastus</i></u>	10	10	-	12	$\frac{(10c)}{(0+9c)} + \frac{(1c+1m)}{(1m+1h)}$	-	Incomplete (Noto. Only)	?	Hooded hook dentition unknown
<u><i>Pseudonotomastus</i></u> ‡	11	10	+	10	$(-) + \frac{(10c)}{(0+9c)}$	-	Incomplete (Noto. Only)	?	Hooded hooks with many small teeth above the main fang in multiple rows
<i>Peresiella</i>	11	11	-	3	$\frac{(3c+8s)}{(0+2c+8s)}$ or $\frac{(3c+2s+6c)}{(3c+2s+6h)}$ or $\frac{(3c+7s+1h)}{(0+2c+7s+1h)}$	-	Incomplete (Noto. Only)	E	With modified spatulate chaetae in thorax; Hooded hook dentition unknown
<u><i>Parheteromastus</i></u> ♣	11	11	-	4	$\frac{(4c+7h)}{(4c+7h)}$	-	Complete	A	Hooded hook dentition unknown
<i>Heteromastus</i>	11	11	-	5	$\frac{(5c+6h)}{(5c+6h)}$	-	Complete	E	Hooded hook dentition unknown

Genus	# Thoracic Segments	# Thoracic Chaetigers	1st Segment Achaetous	# Capillary Notochaetae	Thoracic Formula (*)	Chaetigers w/ Genital Spines	1st Chaetiger complete / incomplete	Branchiae (**)	Comments
<i>Barantolla</i>	11	11	-	6(7)	$\frac{(6c+1m(h)+4h)}{(0+5c+5h)}$ or $\frac{(6c+1m(h)+4h)}{(8c+3h)}$	-	Either (Noto. Only if Incomplete)	E	1-6 capillaries; 7 mixed; 8-11 hooks only; neuropodia with variability in chaetigers 6-8
<i>Neoheteromastus</i>	11	11	-	8	$\frac{(8c+3h)}{(0+6c+4h)}$	-	Incomplete (Noto. Only)	A	Hooded hook dentition unknown
<i>Capitellethus</i>	11	11	-	11	$\frac{(11c)}{(10c+1e)}$	-	Complete	E	hooded hooks w/ 1 or more rows of teeth above main fang; basal row with 2 teeth
<i>Notomastus</i>	11	11	-	11	$\frac{(11c)}{(10c+1e)}$ or $\frac{(11c)}{(0+10c)}$ or $\frac{(11c)}{(0+9c+1e)}$	-	Either (Noto. Only if Incomplete)	E	hooded hooks w/ basal row with more than 2 teeth
<i>Rashgua</i>	11	11	-	11	$\frac{(11c)}{(11c)}$	-	Complete	E	most abdominal setigers w/out notochaetae; hooded hook dentition unknown
<i>Notodasus</i>	11	11	-	13	$\frac{(11c)}{(11c)} + \frac{(1(2)c)}{(1(2)e(m))}$	-	Complete	P	Hooded hook dentition unknown
<i>Polymastigos</i>	11	11	-	13+	$\frac{(11c)}{(10c+1e)} + \frac{(>2c)}{(>2h)}$ or $\frac{(11c)}{(0+9c+1e)} + \frac{(>2c)}{(>2h)}$	-	Either (Noto. Only if Incomplete)	E	Hooded hook dentition unknown
<i>Neopseudocapitella</i> £	11	11	-	11+	$\frac{(11c)}{(0+10c)} + \frac{(?m)}{(?h)}$	-	Incomplete (Noto. Only)	?	Hooded hook dentition unknown
<i>Mastobranthus</i> £	11	11	-	20+	$\frac{(11c)}{(9c+2e)} + \frac{(>9m)}{(>9h)}$ or $\frac{(11c)}{(0+8c+2e)} + \frac{(>9m)}{(>9h)}$	-	Either (Noto. Only if Incomplete)	E	up to 9 or more anterior abdominal chaetigers can have mixed capillaries and hooks in the notopodia; hooded hook dentition unknown
<i>Dodecamastus</i>	12	12	-	10	$\frac{(10c+2h)}{(10c+2h)}$	-	Complete	P	branchiae dendritic; hooded hook dentition unknown Deeper water, 500+m
<i>Pseudoleiocapitella</i> ¥	12	12	-	12	$\frac{(12c)}{(0+9c+2h)}$	-	Incomplete (Noto. Only)	A	Thoracic hooded hooks with 2 small teeth in above main fang; abdominal hooded hooks with 3 small teeth above main fang, 2 in basal row and 1 above
<i>Leiochrides</i> ¥	12	12	-	12	$\frac{(12c)}{(10c+2e)}$ or $\frac{(12c)}{(0+9c+2e)}$	-	Either (Noto. Only if Incomplete)	E	abdominal notochaetae all hooded hooks; hooks present in thoracic neuropodia of chaetigers 11 & 12; hooded hook dentition unknown
<i>Promastobranthus</i>	12-13	12-13	-	many	$\frac{(12(13)c)}{(12(13)c)} + \frac{(?c)}{(?h)}$	-	Complete	?	Notopodia with capillary chaetae only, even in Abdomen Hooded hook dentition unknown

Genus	# Thoracic Segments	# Thoracic Chaetigers	1st Segment Achaetous	# Capillary Notochaetae	Thoracic Formula (*)	Chaetigers w/ Genital Spines	1st Chaetiger complete / incomplete	Branchiae (**)	Comments
<i>Leiochrus</i> ♣	13	13	-	13	$\frac{(12c+1m)}{(12c+1m)}$	-	Complete	A	Hooded hook dentition unknown
<i>Dasybranchus</i> €	13	13	-	13	$\frac{(13c)}{(13c)}$	-	Complete	P	Hooded hook dentition unknown
<i>Nonatus</i> €	13	13	-	13	$\frac{(13c)}{(13c)}$	-	Complete	P	Hooded hook dentition unknown
<i>Leiocapitella</i> ♦	13-14	13-14	-	13-14	$\frac{(13(14)c)}{(0+11c+1(2)e)}$	-	Incomplete (Noto. Only)	E	Hooded hooks w/ 2-3 teeth in first row above main fang
<i>Scyphoproctus</i> †	10-15	9-14	+	9-14	$(-) + \frac{(9-14c)}{(8-13c+1e)}$	-	Complete	A	achaetous peristomium and an achaetous segment; last thoracic segment may have hooks in neuropodia; abdominal notochaetae change to acicular spines in posterior chaetigers; anal plaque present
<i>Dasybranchethus</i>	15	15	-	15	$\frac{(15c)}{(15c)}$	-	Complete	E	Hooded hooks multidentate
<i>Pseudocapitella</i>	17	17	-	17	$\frac{(17c)}{(0+13c+3h)}$	-	Complete	A	Hooded hook dentition unknown
<i>Anotomastus</i>	17-18	17-18	-	17-18	$\frac{(17-18c)}{(0+15-16c+1m)}$	-	Incomplete (Noto. Only)	P	hooded hook dentition not known
<i>Capitobanchus</i> ♥	18	18	-	18	$\frac{(18c)}{(14c+4h)}$	-	Complete	P	Hooded hook dentition unknown
<i>Paracapitella</i>	18	18	-	22	$\frac{(18c)}{(0+9c+8h)} + \frac{(4c)}{(4h)}$	-	Incomplete (Noto. Only)	A	Hooded hook dentition unknown
<i>Eunotomastus</i>	20	20	-	20	$\frac{(16c+4m)}{(16c+4h)}$	-	Complete	?	Genus poorly defined; Hooded hook dentition unknown
<i>Lumbricomastus</i>	20	20	-	20	$\frac{(20c)}{(0+19c)}$	-	Incomplete (Noto. Only)	P	Hooded hook dentition unknown

#### Key to Thoracic Formulas

achaetous segment +  $\frac{(\text{thoracic notopodia})}{(\text{thoracic neuropodia})} + \frac{(\text{abdominal notopodia})}{(\text{abdominal neuropodia})}$

c=capillary, h=hooded hooks, e=either, m=mixed fascicle, g=genital spines, s=spatulate, p=paddle-like, (-)=achaetous segment present, 0=without chaetae

#### Comments

† Hartmann-Schröder's original generic description was a little vague, leading to a reduction in the number of thoracic chaetigers in Fauchald's (1977) diagnosis. Reviewing the description of *Leiocapitellides analis* and the figures provided, the presence of the eyes on the large prostomium (Fig. 177 in Hartmann-Schröder, 1960), reveal the achaetous segment mentioned in the description to be the peristomium. One can also ascertain that Hartmann-Schröder intended the genus to be comprised of 10 thoracic segments with 9 chaetigers. She continues on with the description (translated) "The last thoracic segment is followed by a segment which is identical in external shape to the thoracic segments (Fig. 178). It has bristles in the notopodia, but ventrally has 1 hook on each side. The abdominal segments that follow are translucent in the front section, finely ringed and end in a ring bulge at the back, which like the thoracic segments, is granulated and opaque."

The physical similarities of what Hartmann-Schröder called the first abdominal segment to the thoracic segments and the presence of notopodial capillaries and neuropodial hooded hooks, a common feature of the last thoracic segments of many capitellid genera, leads to the generic interpretation of *Leiocapitellides* used in this key.

This interpretation of *Leiocapitellides* differs from that given in Magalhães & Blake (2020).

♣ The generic diagnosis of *Mediomastus* Hartman, 1944 was emended by Warren et al. (1994) to expand the thoracic chaetiger range from 10 to 9-11. The thoracic formula for *Parheteromastus* Monroe, 1937 now falls within the expanded thoracic range of *Mediomastus*. Genetic data will likely be needed to resolve the relationships of these two genera. If the two are found to be synonymous, I believe that *Parheteromastus* would have priority.

Genus	# Thoracic Segments	# Thoracic Chaetigers	1st Segment Achaetous	# Capillary Notochaetae	Thoracic Formula (*)	Chaetigers w/ Genital Spines	1st Chaetiger complete / incomplete	Branchiae (**)	Comments
-------	---------------------	-----------------------	-----------------------	-------------------------	----------------------	------------------------------	-------------------------------------	----------------	----------

§ Fauchald (1977) stated that the notopodia of chaetiger 6 (segment 7) in *Parheteromastides* had a mixed fascicle of capillaries and hooded hooks and the neuropodia had hooks. The original description of Hartmann-Schröder stated that the same chaetiger had a mixed fascicle of capillaries and hooded hooks in the notopodia and capillary chaetae in the neuropodia. The above thoracic formula uses Hartmann-Schröder's description of chaetiger 6.

‡ The presence of a true achaetous segment is somewhat unique within the Capitellidae, being found only in the genus *Scyphoproctus* and possibly, *Pseudonotomastus*. The original description for *Pseudonotomastus* strongly implies that a true achaetous segment is present in the thorax but the images provided are not of a quality that allow for conformation of this characteristic. The thoracic formula of *Pseudonotomastus* falls within that of *Scyphoproctus*, only differing in the incomplete first chaetiger. Also, all specimens collected during the original description were incomplete and thus no description of the pygidium is known. New samples from the type location would be needed to determine the validity of this genus and should be considered for synonymy with *Scyphoproctus*.

£ Green (2002) emended the generic diagnosis of *Mastobranchnus* to include a possible achaetous segment in the thorax to accommodate a re-evaluation of *Mastobranchnus loii* Gallardo, 1968 and an undescribed *Mastobranchnus* near *loii*. *Mastobranchnus loii* was redescribed by da Silva & Amaral (2022) and was shown to be regenerating its prostomium, peristomium and 1st chaetiger. The regeneration was missed by Gallardo during the original description and by Green in her interpretation of *M. loii*. Since all described species lack an achaetous segment in the thorax and the thoracic formula of *Mastobranchnus* near *loii* also falls within that of the genus *Scyphoproctus*, one of the only capitellid genus with a true achaetous segment, and is incomplete, the diagnosis of the genus *Mastobranchnus* is emended to include only species with a thoracic achaetous segment absent.

This interpretation of *Mastobranchnus* differs from that given in Magalhães & Blake (2020).

Rullier & Amoureux (1979) did not give a generic diagnosis of *Neopseudocapitella*, but only described the species. They stated that the first 3 chaetigers with mixed fascicles in the notopodia could be considered as part of the thorax, and the start of the abdomen is marked by a slight contraction, leaving the generic diagnosis loosely at 14 thoracic chaetigers. This led to the genus *Neopseudocapitella* for its similarity to *Pseudocapitella*, with 14 thoracic chaetigers, and Neo-, from the new world. *Pseudocapitella*, however, does not have any fascicles of mixed chaetae reported. Amoureux (1983) made the distinction of the thorax consisting of the chaetigers with capillary chaetae only, the chaetigers with mixed fascicles marking the start of the abdomen, reducing the generic diagnosis to only 11 thoracic chaetigers.

The presence of 11 thoracic chaetigers with capillary chaetae and numerous anterior abdominal notopodia with mixed fascicles of capillaries and hooded hooks, and the absence of a true achaetous segment in the thorax place *Neopseudocapitella* within the emended definition of the genus *Mastobranchnus* and should be considered as a synonym of *Mastobranchnus*. The description of *Neopseudocapitella brasiliensis* matches very well with the description of the newly described *Mastobranchnus brasiliensis* da Silva & Amaral, 2022, described from the same region. A review of the type material of *Neopseudocapitella brasiliensis* would be needed to confirm the characters and determine the proper name and authority of the two species.

This interpretation of *Neopseudocapitella* differs from that given in Magalhães & Blake (2020).

¥ There seems to be some confusion in Fauchald's (1977) diagnosis of the genus, possibly due to a comment made by Harmelin when comparing *Pseudoleiocapitella* to *Pseudomastus*, resulting in a reduction of thoracic chaetigers. Reviewing the original generic diagnosis, species description of *Pseudoleiocapitella fauveli* and the images provided in Harmelin (1964), it is clear that *Pseudoleiocapitella* should have 12 thoracic chaetigers. Thoracic chaetigers with notopodial capillaries and neuropodial hooded hooks is a common diagnosis of many capitellid genera, and the change in dentition between chaetigers 11-12 and the remaining chaetigers reinforce this idea. The emended generic diagnosis above is based mostly off of Harmelin's (1964) original description and corrects the incorrect diagnosis given in Fauchald (1977).

The new generic diagnosis of *Pseudoleiocapitella* Harmelin, 1964 matches that of *Leiochrides* Augener, 1914, including the dentition of the abdominal hooded hooks with three small teeth in two rows surmounting the main fang, and should possibly be placed in synonymy with *Leiochrides*. A detailed review of the type of *Pseudoleiocapitella* would be needed to resolve this issue.

This interpretation of *Pseudoleiocapitella* differs from that given in Magalhães & Blake (2020).

◆ This interpretation of *Leiochrus* differs slightly from that given in Magalhães & Blake (2020) as the mixed fascicle is considered thoracic and not abdominal.

€ The thoracic formula and generic diagnosis of *Nonatus* matches that of the genus *Dasybranchus*, differing only in the degree of fusion of the prostomium and peristomium. A detailed review of the type of *Nonatus longilineus* to compare the structure and dentition of the abdominal hooded hooks would be needed to determine the validity of the genus *Nonatus*.

◆ The genus *Leiocapitella* was emended by Ewing (1984) to accommodate two undescribed species of *Leiocapitella*. As these species remain undescribed, the generic definition has been emended to only include described species.

This interpretation of *Leiocapitella* differs from that given in Magalhães & Blake (2020).

♥ This interpretation of *Capitobranchnus* differs from that given in Magalhães & Blake (2020).