

Polychaete Key for Chesapeake Bay and Coastal Virginia

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Thanks to the following people for their help on the key: Robert Diaz, Julie Beck, Scott Lerberg, Harry N. ten Hove, Mary Elizabeth Petersen, Janet Nestlerode, Elizabeth Hinchey

Note on using this key: "*helpful hints*" in italics are also characteristic of the given family or species, but should not be considered the key characteristics used to separate families or species, as other species or families may also possess the characteristics described under "*helpful hints*". Use the hints to verify that you are on the right track.

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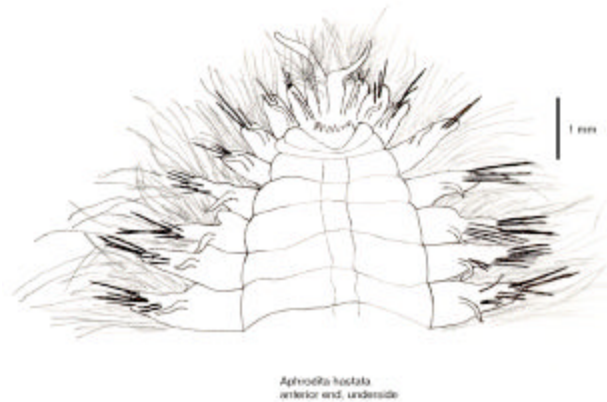
I would greatly appreciate your comments on this key. Any mistakes that you catch, or any "helpful hints" that you feel will improve the key are welcome. Please e-mail any comments to abartholomew@ausharjah.edu

Key to Polychaete Families of Chesapeake Bay and Coastal Virginia

1a. Dorsum with series of elytra (scales), or distinct elytral scars present on the dorsal side of notopodial bases on several segments; felt of matted notosetae may be present, which may obscure the elytra.....**2**

b. Dorsum without elytra, elytral scars, or felt.....**4**

2a. Dorsal felt largely obscuring elytra (see below); *helpful hints*: this worm looks like it has fur on its dorsal side, hence its common name "sea mouse".....**Aphroditidae**



b. Dorsum without felt, elytra or scars clearly visible.....**3**

3a. Neurosetae composite, notosetae simple; all posterior segments with elytra or scars.....**Sigalionidae**

b. Neurosetae and notosetae simple, some posterior segments lack elytra or scars; *helpful hint*: elytra alternating with dorsal cirri posteriorly.....**Polynoidae**

4a. Notopodia with expanded, golden setae in fan-like, transverse rows that more or less cover the dorsum; *helpful hint*: prostomium small, with a median antennae, and two lateral antennae, and four eyes.....**Chrysopetalidae**

b. Notosetae otherwise (may be absent).....**5**

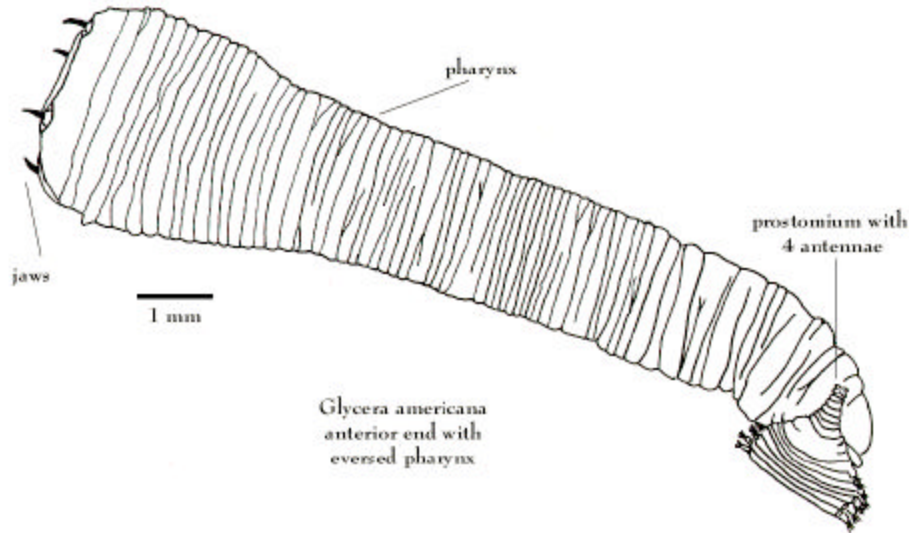
5a. Dorsal cirri large and very prominent, flattened, leaf-like or variably globular; *helpful hint*: two eyes present that are often prominent; four frontal antennae may also be present; two- four pairs of tentacular cirri are present on the first 1-3 segments.....**Phyllodocidae**

b. Dorsal cirri, if present, not very prominent, and not leaf-like or globular.....**6**

6a. Prostomium elongated, conical, annulated, ending distally in four minute antennae; *helpful hint*: large, eversible pharynx present, but may not be eversed.....**7**

b. Prostomium not as above.....8

7a. Parapodia similar, either all uniramous, or all biramous; eversible pharynx with four jaws arranged in a cross (see below); setigers biannulate (i.e. there appears to be two segment indentations for every one parapodia); branchiae present, although they may be retracted in one species.....**Glyceridae**



b. Parapodia dissimilar, anterior region with uniramous parapodia, posterior region with biramous parapodia; eversible pharynx with more than four jaws; setigers not biannulate; branchiae absent.....**Goniadidae**

8a. Biramous parapodia with rami well separated, and with long interrampal cirri extending downward from notopodia; prostomium flattened, shield-shaped or sub-rectangular with four small antennae; *helpful hints*: posterior part of prostomium above and within lateral border of the first one or more setigers; all setae simple; eversible pharynx present, although it may not be everted; the neuropodial lobe of the first setiger is broadly expanded and supports a conspicuous, laterally directed ventral cirrus; body subrectangular in cross section; neurosetae of first setiger face forward, rather than lateral to worm's body.....**Nephtyidae**

b. Parapodia and prostomium not as above.....9

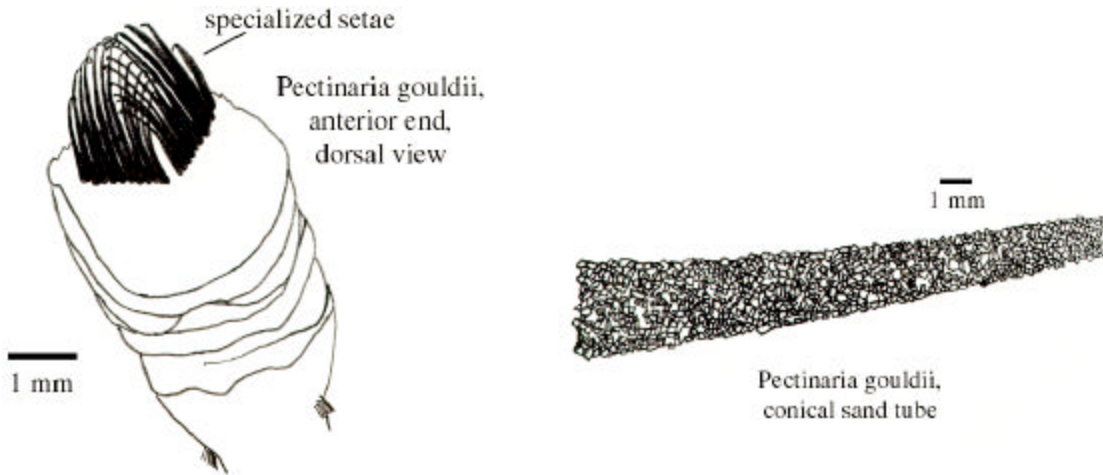
9a. Anterior end with one or several series of long, specialized setae, these setae either cover the anterior end in a protective cage, or form an operculum, or form a series of long, stout protective spines (paleae).....10

b. Anterior end without specialized setae forming a protective cage, or forming an operculum, or forming long, stout protective spines or paleae; *helpful hint*: elongated setae may be present on setiger 1, but they are not stouter than subsequent setae.....13

10a. Specialized setae long and chambered, forming a protective cage around the anterior end; body densely papillose; *helpful hint*: silt and sand grains are often irregularly adhered to the worm's body, giving it a grainy appearance, and obscuring papillae.....**Flabelligeridae**

b. Specialized setae do not form a protective anterior cage; skin papillae few and small, if present.....**11**

11a. Specialized setae in a transverse row (see below, left); conical tube formed of small, closely fitted sand grains (see below, right); *helpful hints*: tube open at both ends; 16 setigers present; paleae taper to fine, slightly curved tips.....**Pectinariidae**



b. Specialized setae either as fan-shaped group of paleae on either side of the anterior end, or forming an operculum; tube, if present, otherwise.....**12**

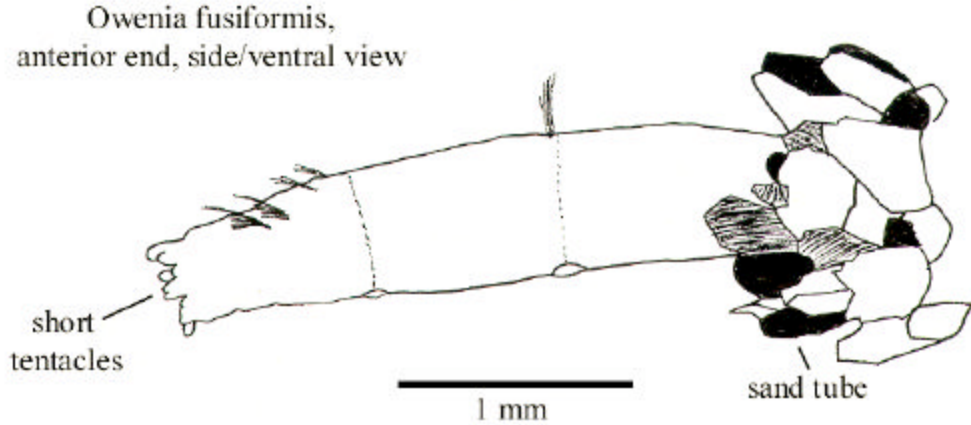
12a. Specialized setae form an operculum, with three apparent rows of concentric paleae; anterior branchiae absent; *helpful hint*: fleshy opercular peduncles present; ventral side of opercular peduncle has many filamentous buccal cirri**Sabellaridae**

b. Specialized setae form a fan-shaped group of paleae on either side of the anterior end; long, finger-like branchiae present, arising from first setiger, and extending beyond prostomium; *helpful hint*: numerous tentacles retractile into mouth (may be completely retracted).....**Ampharetidae** (part)

13a. Anterior end, including in part the prostomium, transformed into a tentacular crown.....**14**

b. Anterior end not transformed into a tentacular crown (antennae and tentacular cirri may be crowded near the anterior end, but not in a "crown-like", circular fashion).....**16**

14a. Tentacles on crown are short and digitate (see below); *helpful hints*: middle segments are longer than they are wide; tube made of sand grains affixed, and overlapping, in a way that give the tube a "shingled" look.....**Oweniidae**



b. Tentacles longer, and feather-like.....**15**

15a. One tentacle forms a stout, stalked operculum, or two tentacles form spoon-like, membranous opercula; tubes are calcareous; *helpful hint*: tubes often irregularly coiled, and are always attached to hard substrates; often these worms are densely settled.....**Serpulidae**

b. Opercula lacking; tubes flexible to sandy.....**Sabellidae**

16a. Setiger 4 with dark, stout, modified setae (relative to adjacent setigers); some median parapodia also highly modified; *helpful hints*: tubes either parchment-like (for the larger species), or clear and chitinous with annulations (for the smaller species); the smaller species usually has darkened band near setigers 7 and 8**Chaetopteridae**

b. Setiger 4 without thick, modified setae (other setigers may have modified setae); *helpful hint*: tubes, if present, never parchment-like, and if chitinous, never annulated...**17**

17a. Numerous thread-like, or filamentous tentacles present on lower side of prostomium, or on peristomium; body divisible into two distinct regions: a robust, cylindrical thorax with biramous parapodia, and a tapering abdomen with smaller neuropodia present, and notopodia rudimentary or lacking; *helpful hint*: branchiae, if present, are limited to a few anterior setigers and are prominent, usually cirriform or arborescent; branchiae often missing, but scars remain.....**18**

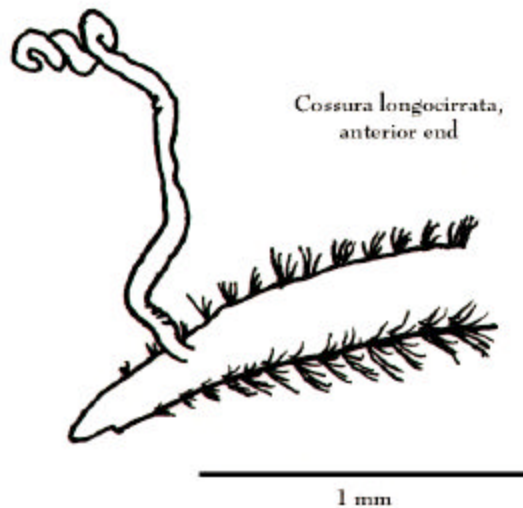
b. Anterior end with a limited number of tentacular cirri and /or antennae, or without appendages; body may be divisible into distinct regions, but not as described above.....**20**

- 18a.** A single thick branchial stalk present, bearing four partially fused lamellate lobes; *helpful hints*: 17-18 thoracic setigers present; lateral lobes on peristomium form a collar posterior to branchial stalk.**Trichobranchidae**
- b.** Branchiae otherwise.....**19**
- 19a.** Branchiae in a transverse or oblique row, appearing to arise from a dorsal ridge across segment three; branchiae long and generally cirriform, branchiae are longer than head, largely obscuring prostomium; tentacles retractile into mouth (may be fully retracted).....**Ampharetidae** (part)
- b.** Branchiae, if present, are on one to three successive segments; tentacles retractile, but not into mouth, thus obscuring prostomium; *helpful hint*: branchiae, if present, are branched, and are usually arborescent.**Terebellidae**
- 20a.** Prostomium with at least one pair of antennae; peristomium usually with paired palps, or tentacular cirri.....**21**
- b.** Prostomium without appendages, or with a single antennae; peristomium with paired dorsal palps, maximally two pairs of tentacular cirri, or without appendages.....**29**
- 21a.** Thin, brittle notosetae arranged in tufts on the notopodial lobe; branchiae as dorsal bushy, branched tufts; prostomium and peristomium with two pairs of lateral antennae, and a median antennae; a single dorsal cirri present on each notopodia, that is about as long as the notosetae; *helpful hint*: branchiae begin on setiger 3; worm has a "wooly" appearance due to its thin setae; notopodia and neuropodia well separated.**Amphinomidae**
- b.** Worm not as above.**22**
- 22a.** Palps absent; jaws present; *helpful hints*: three antennae arising from posterior margin of prostomium; four small eyes alternating with antennae; dorsal cirri foliaceous, and ventral cirri absent..**Lysaretidae**
- b.** Palps present, sometimes as ventrolateral pads on the peristomium, or fused to the anterior end of the prostomium so that it appears cleft, palps usually free and digitate; jaws may or may not be present..**23**
- 23a.** Palps biarticulated, free and digitate; 3, 4, 6, or 8 pairs of tentacular cirri present; *helpful hint*: 2 pairs of eyes usually present, although they may be partially fused.....**24**
- b.** Palps otherwise, sometimes fused to the prostomium so that it appears cleft, or forming ventrolateral pads on the peristomium; tentacular cirri may or may not be present; *helpful hints*: palps may appear to be multiarticulated, or they may be greatly reduced.....**25**

- 24a.** Notosetae compound; parapodia usually with varying degrees of development of extra tongue-like lobes (ligules); proboscis with a pair of distal, dentate, hooked jaws; 3 or 4 pairs of tentacular cirri present.**Nereidae**
- b.** Notosetae simple; parapodia without ligules; proboscis without jaws; 6 or 8 pairs of tentacular cirri present.**Hesionidae**
- 25a.** Prostomium with a pair of long, thin ventral palps; prostomium also equipped with a single pair of articulated antennae; *helpful hint*: palps may appear to be multiarticulated; tentacular cirri absent.**Dorvilleidae**
- b.** Palps otherwise.....**26**
- 26a.** Palps are ventrolateral pads on the peristomium; five long occipital, and two short frontal antennae present; *helpful hint*: setigers 1-4 usually have bidentate or tridentate hooded, pseudocompound hooks.....**Onuphidae**
- b.** Palps either fused anteriorly to the prostomium, or as free ventrolateral projections; maximally five antennae present.....**27**
- 27a.** Eversible pharynx with massive jaws present; *helpful hints*: Palps fused anteriorly to prostomium, so that it may appear anteriorly cleft; 1-5 occipital antennae present; two small eyes usually present.....**Eunicidae**
- b.** Eversible pharynx, if present, without jaws (small tooth or teeth may be present).....**28**
- 28a.** Neurosetae simple; dorsal boat-hook setae present, often quite prominent; *helpful hints*: prostomium usually has one median, and two lateral antennae; two pairs of tentacular cirri present.....**Pilargidae**
- b.** Neurosetae compound; dorsal boat-hook setae absent; *helpful hints*: prostomium usually with one median antennae, and two lateral antennae; one or two pairs of tentacular cirri present; usually four or more eyes present, often prominent; muscularized region of anterior digestive tract (proventricle) usually visible through body wall**Syllidae** (part)
- 29a.** Many body segments distinctly longer than wide; anal segment funneled, flattened or spatulate; dorsal surface of head forms a flattened plate (cephalic plaque).....**Maldanidae**
- b.** Body segments not distinctly longer than wide; anal segments and head otherwise...**30**
- 30a.** Anterior end, including only the pro- and peristomium without appendages (appendages may be present on some anterior setigers) *helpful hint*: grooved tentacular filaments may be present on 1st setiger, do not confuse these with appendages arising from the pro- or peristomium..**31**

b. Prostomium with a single median antennae, and/or peristomium with paired palps and/or tentacular cirri.....**41**

31a. With a single, mid-dorsal branchia arising from approximately the third or fourth setiger (see below); *helpful hints*: worm is quite small; length of branchia is approximately $\frac{2}{3}$ -rds of body length.....**Cossuridae**



b. Lacking single, mid-dorsal palp..**32**

32a. With a series of very long, filamentous, branchial filaments along the dorsal anterior length of the worm, two branchiae arising from each setiger (branchiae may have broken off, but scars remain); branchiae begin on, or very near to, setiger 1**Cirratulidae**

b. Branchiae, if present, otherwise.**33**

33a. Body divisible into two distinct regions by parapodial features: thorax with lateral parapodia, abdomen with both noto- and neuropodia in dorsal position; *helpful hints*: anterior region has smooth and flattened segments, posterior appears ragged; prostomium is smooth and pointed**Orbiniidae**

b. Body may be divisible into distinct regions, but not as above, or parapodial shapes and positions grade along the body.**34**

34a. Anterior end with a complex jaw apparatus; *helpful hints*: prostomium conical or sub-oval; body smooth, elongate, and cylindrical.....**35**

b. Anterior end without jaw apparatus.....**36**

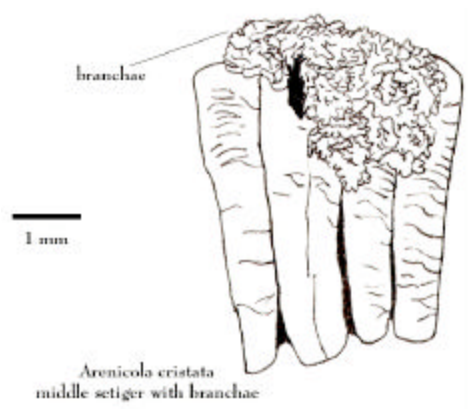
35a. Hooded hooks or crotchets present on at least some setigers**Lumbrineridae**

b. Hooded hooks or crotchets completely absent.....**Arabellidae**

36a. Branchiae absent; body separated into two regions with different kinds of setae in thoracic and abdominal regions; *helpful hints*: capillary setae present (except in one species) in thoracic region; some segments with hooded hooks; worms thread-like; food in digestive tract often in discrete, ovoid pellets.....**Capitellidae** (part)

b. Branchiae present; body usually not divisible by setae type.....**37**

37a. Mid-region with 11 pairs of dorsal brachae that are branched and bushy; body thick, large, and a dark greenish color (see below)**Arenicolidae**



b. Worm otherwise.**38**

38a. Prominant strap-like or foliaceous branchiae present dorsally starting on setiger 4 or 5, and numbering up to approximately 25 pairs**Paraonidae** (part)

b. Branchiae otherwise, beginning on different setigers.**39**

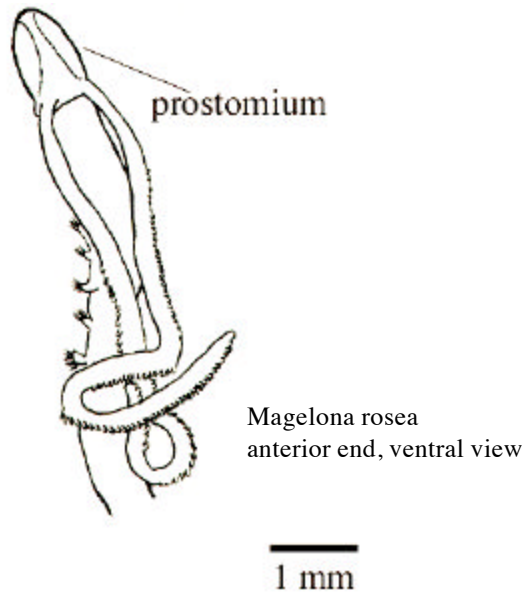
39a. Four pairs of arborescent branchiae present, beginning on setiger 2; prostomium t-shaped; furcate setae present.....**Scalibregmidae**

b. Branchiae not arborescent, and in different locations; prostomium pointed or rounded; furcate setae absent.....**40**

40a. All setae are simple capillaries, hooded hooks absent; *helpful hint*: worms often have a "grub-like" appearance.**Opheliidae**

b. All setae are not simple capillaries, hooded hooks present**Capitellidae** (part)

- 41a.** Median antennae present.**42**
- b.** Median antennae absent..**44**
- 42a.** Fifth setiger with modified, heavy, retractable setae**Spionidae** (part)
- b.** Fifth setiger with setae similar to adjacent setigers.....**43**
- 43a.** Prominent, muscularized region of digestive tract (proventricle) absent; strap-like or foliaceous branchiae present, beginning on setigers 4-10, and extending 15-25 segments back.**Paraonidae** (part)
- b.** Prominent, muscularized region present in anterior portion of digestive tract (proventricle); branchiae not as above**Syllidae** (part)
- 44a.** Body divided into two distinct regions: thorax consisting of head and first 9 setigers, and abdomen which is longer with many setigers; prostomium distinctly flattened and spatulate, and as wide as the widest part of the body (see below).....**Magelonidae**



- b.** Body segments roughly similar, changes grading over the entire body (except setiger 5 in some species which may have highly modified setae); prostomium may occasionally appear spatulate, but it will be slightly less wide than the widest part of the body .
.....**Spionidae** (part)