

| Family                                    | sub-category (if applicable) | # species  | Body size   |                                    | Habitat   |  | Motility   |   | Feeding mode   |  | Food delivered by:  |                               |
|---|------------------------------|------------|---|------------------------------------|---|--|--|---|--|--|---|-------------------------------|
|   |                              |            | I = interstitial; S = small (< ~2 cm); M = medium; L = large (> ~20 cm) |                                    | P = pelagic; E = epifaunal; I = infaunal; S = symbiotic |  | M = motile<br>D = discretely motile<br>S = sessile |   | I = micro; A = macro; O = omnivore; S = osmotroph, P = parasitic |  | T = tentacle/palps, M = mucus net;<br>P = muscular eversible pharynx, N = nonmuscular eversible pharynx; R = ramified or lamellar surfaces; O = other (e.g., non-eversible pharynx) |                               |
| <b>Aberrantidae</b>                       |                              | 4          | I   | < 7 mm                             | I, E  | Interstitial; in or on sediments                     | M  | ciliary crawling  | I,A  | requiring labile ingesta   | T   | palps                         |
| <b>Acoetidae</b>                          |                              | ~60        | L   | mostly large, up to > 2 m long     | I   | in sediments   | D  | tube-dwelling; can construct new tubes  | A  | carnivore; carrion feeder  | P   |                               |
| <b>Acrocirridae</b>                       | benthic                      | 38         | I-M   | up to 7 cm                         | I, E  | in or on sediments; some may be interstitial         | D  | discretely motile; slow burrowing   | I  | surface deposit feeder; labile (for small-bodied forms)              | T   | palps                         |
|   | pelagic                      | >9         | M   | up to 7 cm                         | P   | demersal to mid-water                                | M  | swimming  | I  | mostly passive suspension feeder                                     | T   | palps                         |
| <b>Aeolosomatidae</b>                     |                              | ~6         | I   | small (meiofaunal)                 | I   | mostly fresh and estuarine                           | M  | burrowing, swimming   | I,A  | requiring labile ingesta   | O   | vacuum suction, ciliated body |
| <b>Alciopidae</b>                         |                              | ~50        | M   | most 3 - 30 cm long; a few smaller | P   | upper and mid-water                                  | M  | strong swimmers   | A  | carnivore; herbivore on microalgae                                   | P   |                               |
| <b>Alvinellidae</b>                       |                              | ~12        | M   | 2-15 cm long                       | E   | on hard surfaces or bacterial mats at vents          | D  | mostly tube-dwelling; some nestle in crevices                                   | I  | bacterial mat feeder; surface deposit feeder                         | T   | tentacles                     |
| <b>Ampharetidae</b>                       | > 1 cm                       | ~230 total | M   | medium but varies                  | I, E  | in or on sediments; on hard substrata; some at vents | D  | tube-dwelling; can extend tubes and construct new tubes                         | I  | surface deposit feeder   | T   | tentacles                     |
|   | < 1 cm                       |            | I   |                                    | I   |  | D  |   | A  | herbivore on diatoms; carnivore on larvae; labile food               | T   |                               |
| <b>Amphinomidae</b>                       |                              | 165        | S-L   | variable                           | E, I  | on varied substrata; infaunal in sediments           | M  | crawling, burrowing, swimming (kleptoparasitic <i>Benthoscolex</i> is DM)       | A, O   | mostly carnivores or scavengers; some detritus and algae             | P   |                               |
| <b>Antillesomatidae, Sipuncula</b>        |                              | 1          | M   | up to 8 cm                         | I   | boring in rock; nestling in rubble                   | S, D   | boring individuals are sessile; some nestle in rubble and are discretely motile | I  | passive suspension feeder, ciliary mucoid feeder                     | T, M  | tentacles                     |
| <b>Aphroditidae</b>                       |                              | 120        | L   | mostly large                       | E, I  | on varied substrata; in sediments                    | M  | crawling; burrowing   | A, O   | carnivorous on both sessile and motile prey; some may deposit feed   | P   |                               |
| <b>Apistobranchidae</b>                   |                              | 6          | S   | small, < 12 mm                     | I   | infaunal in soft sediments; interstitial?            | D  | little known  | I  | deposit feeders; likely highly selective for labile material         | T   | palps                         |
| <b>Arenicolidae</b>                       | large-bodied                 | 19         | L   | fairly large                       | I   | in shallow muddy sands                               | D  | can be stationary in burrows or rotate head-shaft; can re-burrow                | I  | funnel feeders   | N   |                               |
|   | Branchiomaldane              | 4          | S   | < 4 cm                             | I   | infaunal; in crevices                                | D?   | little known  | I?   | subsurface deposit feeders?  | N   |                               |
| <b>Aspidosiphonidae, Sipuncula</b>        |                              | ~24        | S   | 4-40 mm                            | E, I  | nestles in crevices, shells, etc.                    | D, S   | inhabit shells, nestles, bores  | I  | surface deposit feeder; scraping detritus; subsurface deposit feeder | T   | tentacles; hooks for scraping |
| <b>Asteriomyzostomatidae, Myzostomida</b> |                              | 2          | S   | oval disk, < 10 mm                 | S   | endoparasitic  | D  | within host   | P  | parasitic or kleptoparasitic   | P   |                               |
| <b>Asteromyzostomatidae, Myzostomida</b>  |                              | ~5         | S   | ovoid, < 15 mm                     | S   | ectoparasitic  | S  | sessile on host   | P  | parasitic  | P   |                               |

| Family                                    | Pharyngeal/introvert structure                   |                                |                        |  |  |                                   |   | Nuchal Organs  | Eyes  | Other anterior sensory structures   |
|---|--|--------------------------------|------------------------|--|--|-----------------------------------|---|--|---|---|
|   | eversible (E); non-eversible (N); extensible (X) | muscular (M); non-muscular (N) | armed (J); unarmed (U) | (A) articulated jaws, (G) grasping fangs or stylets, (C) crushing teeth, (R) rasping or scraping teeth, (T) assorted other teeth | ciliated(C); papillated (P); tentaculate (T); none (N) | axial (A); ventral(V); dorsal (D) | additional details  | Invaginated. external, absent, unknown, other        | # simple cephalic photoreceptors; note if image-forming, on appendages or on body | write these in, it will be palps, write these in, it will be palps, tentacles, antennae and need number of each, length to body width <, = or > 1 |
| <b>Aberrantidae</b>                       | N?   | M?                             | U                      |  | C?   | V                                 | cilia lead to mouth   | external, inconspicuous                              | may have one small pair   | median antenna, paired lateral antennae (may be absent)   |
| <b>Acoetidae</b>                          | E  | M                              | J                      | A  | P  | A                                 | armed with hinged jaws; venom glands  | external, may be bilobed                             | most have two pairs, can be large, stalked (ommatophores) in some species         | long palps, pair of lateral antennae, may have medial antennae, tentacular cirri  |
| <b>Acrocirridae</b>                       | E  | ?                              | U                      |  | ?  | V                                 |   | variable, mostly external but some grooved           | up to three pairs   |   |
|   | E  |                                | U                      |  |  |                                   | eversible lateral lips; anteroventral   | variable, external                                   | absent  | palps and branchiae appear to be mechanosensory   |
| <b>Aelosomatidae</b>                      | N  | M                              | U                      |  | C?   | V                                 | cilia around the mouth  | invaginated pits                                     | none  |   |
| <b>Alciopidae</b>                         | E  | M                              | U, J                   | G?   | P  | A                                 | papillae may be chitinized to horn-like structures                              | external, around and in eyes                         | image forming   | three dorsal antennae, two ventral palps, 3-4 pairs tentacular cirri  |
| <b>Alvinellidae</b>                       | E  | M                              | U, J                   | T  | C  | V                                 | ciliated pharynx with rake-like rows of denticles                               | absent (?)   | none (?)  |   |
| <b>Ampharetidae</b>                       | N?   | M                              | U                      |  | T, C   | V                                 |   | external, ridge-like                                 | a few eyespots on the prostomium  | some have paleae  |
|   | ?  | M                              | J,U                    | R  | T, C   | V                                 | 3 spp have teeth; juveniles can use ventral pharyngeal bulb to scrape           |  |   |   |
| <b>Amphinomidae</b>                       | E  | M                              | U,J                    | R  | ridges, a few have cilia                               | V                                 | most with cuticular ridges; <i>E. complanata</i> has dorsolateral ciliary folds | external; well-developed, around and on the caruncle | may have two pairs  | pair of ventral palps, pair of anterior dorsal antennae and more posterior medial dorsal antenna  |
| <b>Antillesomatidae, Sipuncula</b>        | E  | ?                              | U                      |  |  | A                                 | introvert lacks hooks   | external, present around mouth                       | ocellar tubes   |   |
| <b>Aphroditidae</b>                       | E  | M                              | U, J                   | C  | ridges   | A                                 | some may have pharyngeal hardening/ridges but poorly studied                    | present in some species but not well studied         | may have a few  | median antenna on prostomium and a pair of ventral palps  |
| <b>Apistobranchidae</b>                   | E  | M                              | U?                     |  | ?  | ?                                 |   | present, exterior, around palp insertions            | not yet reported  |   |
| <b>Arenicolidae</b>                       | E  | N                              | U                      |  | P  | V                                 |   | present  | may have a few  | may have statocysts; have mechano and chemosensory cells on pygidium  |
|   | E  | N                              | U                      |  | P  | V                                 |   |  |   |   |
| <b>Aspidosiphonidae, Sipuncula</b>        | E  | ?                              | J                      |  | P  | V                                 | papillae and hooks on introvert   | external, surrounds tip of introvert                 | ocellar tubes   |   |
| <b>Asteriomyzostomatidae, Myzostomida</b> | N, X   | M                              | U                      |  |  | V                                 | salivary glands   | other (lateral organs)                               | absent  | eversible lateral sensory organs  |
| <b>Asteromyzostomatidae, Myzostomida</b>  | N, X   | M                              | U                      |  |  | V                                 | pharyngeal bulb   | other (lateral organs)                               | absent  | one or more pairs of lateral organs   |

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| <b>Bonelliidae, Echiura</b> |                              | 65        | M   | 2-10 cm      | I   | in sediments, crevices, or burrows made by other animals  | D  | burrow-dwelling   | I  | surface deposit feeder; may cache  | P   | proboscis                           |
| <b>Capitellidae</b>         |                              | 180       | S,M   | up to ~30 cm | I   | infaunal in sediments; exceptions are symbiotic/parasitic | M  | burrowing   | I  | subsurface deposit feeders; exceptions are parasitic/kleptoparasitic                                   | N   |                                     |
| <b>Chaetopteridae</b>       | benthic <i>Chaetopterus</i>  | 65 total  | M   |              | I, E  | most infaunal in U-shaped tubes; some epifaunal           | S  | tube dwelling   | I  | active suspension feeder   | M   | mucus net                           |
|                             | pelagic                      |           | M   |              | P   | pelagic, demersal/bathyl                                  | M  | weak swimmer  | I  | passive suspension feeder  | M   | mucus web                           |
|                             | other genera                 |           | S,M   |              | I, E  | in sediments; some epifaunal                              | S  | tube dwelling   | I  | passive suspension feeder with palps; surface deposit feeder; active suspension feeder with mucus bags | T, M  | palps and/or mucus nets             |
| <b>Chrysopetalidae</b>      | large-bodied                 | 80 total  | M,L   |              | E   | epibenthic  | M  | crawling  | A  | mostly predators   | P   |                                     |
|                             | small free-living            |           | S   | < 1 cm       | E, I  | varied, found at bacterial mats, whale falls, etc.        | M  | varied, mostly crawling   | A, I   | varied diet, some feed microphageously on bacterial mats   | P   |                                     |
|                             | Calamyzinae                  | 21        | S   |              | S   | ectoparasitic or commensal                                | D?   | parasites likely less motile, host-switching unknown                          | P  | ectoparasitic or commensal and likely kleptoparasitic  | P   | ?                                   |
| <b>Cirratulidae</b>         | tube-dwellers                | 240 total | M   |              | E   | on hard surfaces or soft sediments                        | S  | in hard tubes ( <i>Dodecaceria</i> ) or mudballs ( <i>some Monticellina</i> ) | I  | surface deposit feeders; possibly suspension feed as well  | T   | 2 palps                             |
|                             | short muscular segments      |           | S,M   |              | I   | in sediments  | M  | burrowing; <i>Cirratulus balaenophilus</i> crawls through holes in bone       | I  | most surface/subsurface deposit feeders; <i>Cirratulus balaenophilus</i> feeds on whale bones          | T   | > 2 palps                           |
|                             | moniliform midsections       |           | S,M   |              | I   | in sediments  | M  | burrowing   | I  | mostly surface/subsurface deposit feeders; <i>Caulerella galeanoi</i> is an herbivore on algae         | T   | >= 2 palps                          |
| <b>Cossuridae</b>           |                              | 24        | S,M   | 1-5 cm       | I   | in soft sediments   | M  | burrowing   | I  | subsurface deposit feeders   | P   | muscular eversible buccal tentacles |
| <b>Ctenodrilidae</b>        |                              | 9         | I,S   | < 1-2 cm     | E, I  | in or on organically rich substrata                       | M  | burrowing, epifaunal and interstitial crawling                                | I  | likely feed on labile material and bacterial mats  | P?  | eversible lower lip                 |
| <b>Dinophilidae</b>         |                              | 15        | I   | < 0.5 mm     | I   | interstitial in sands, infaunal in muds; among algae      | M  | ciliary gliding   | A, I   | herbivorous on diatoms; carnivorous on protists; microphageous on labile material                      | P, N  | varies                              |
| <b>Diurodrilidae</b>        |                              | 6         | I   | < 0.5 mm     | I   | interstitial in beach sands                               | M  | ciliary gliding   | I, A   | mostly small labile material   | O   | ciliophores                         |

| Family                      | Pharyngeal/introvert structure                   |                                |                        |  |  |                                   |  | Nuchal Organs                                    | Eyes  | Other anterior sensory structures   |
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|                             | eversible (E); non-eversible (N); extensible (X) | muscular (M); non-muscular (N) | armed (J); unarmed (U) | (A) articulated jaws, (G) grasping fangs or stylets, (C) crushing teeth, (R) rasping or scraping teeth, (T) assorted other teeth | ciliated(C); papillated (P); tentaculate (T); none (N) | axial (A); ventral(V); dorsal (D) | additional details   | Invaginated. external, absent, unknown, other    | # simple cephalic photoreceptors; note if image-forming, on appendages or on body | write these in, it will be palps, write these in, it will be palps, tentacles, antennae and need number of each, length to body width <, = or > 1 |
| <b>Bonelliidae, Echiura</b> | E  | M                              | U                      |  | C  | A?                                | highly extensible, forked proboscis, scoops and uses cilia to gather particles                   | other (sensory cells)                            | absent in nevertheless light-sensitive adults                                     | anterodorsal sensory cells on proboscis tip at point of branching   |
| <b>Capitellidae</b>         | E  | N                              | U                      |  | P  | A/D                               | at least one species has dorsal pharynx  | invaginated, eversible, form pits when retracted | may have one or more pairs  |   |
| <b>Chaetopteridae</b>       | N  | ?                              | U                      |  | ?  | A?                                | simple tube mouth  | absent   | may have one or two pairs   |   |
|                             | N  | ?                              | U                      |  | ?  | A?                                | presumably simple tube mouth   | absent   | may have one or two pairs   |   |
|                             | N  | ?                              | U                      |  | ?  | A?                                | presumably simple tube mouth   | present around palps                             | may have one or two pairs   |   |
| <b>Chrysopetalidae</b>      | E  | M                              | J                      |  | P, N?  | A                                 | pair of laterally opposed stylets  | variable   | up to two pairs   | pair of dorsal antennae, pair of ventral palps, dorsal median antenna   |
|                             | E  | M?                             | J                      |  | P, N?  | A                                 | pair of laterally opposed stylets  | variable   | up to two pairs   | pair of dorsal antennae, pair of ventral palps, dorsal median antenna   |
|                             |  |                                | U                      |  | ?  | A                                 | stylets absent   | unknown  | none  | may have pair of dorsal antennae, pair of ventral palps, dorsal median antenna  |
| <b>Cirratulidae</b>         | E  | M                              | U                      |  | N?   | V                                 | tongue-like buccal apparatus   | most invaginated                                 | a few may be present  |   |
|                             | E  | M                              | U                      |  | N?   | V                                 | tongue-like buccal apparatus   | most invaginated                                 | a few may be present  |   |
|                             | E  | M                              | U                      |  | N?   | V                                 | tongue-like buccal apparatus   | most invaginated                                 | a few may be present  |   |
| <b>Cossuridae</b>           | E  | M                              | U                      |  | C  | A                                 | adults have buccal tentacles; juveniles have unbranched, ciliated pharynx                        | invaginated pits or grooves                      | none  | one median tentacle, likely respiratory function  |
| <b>Ctenodrilidae</b>        | E  | M                              | U                      |  | N  | V                                 | eversible lower lip  | most invaginated                                 | none  | no anterior appendages  |
| <b>Dinophilidae</b>         | E, N   | M, N                           | U                      |  | ?  | V                                 | muscular eversible in <i>Dinophilus</i> and <i>Trilobodrilus</i> ; neither in <i>Apharyngtus</i> | present  | one pair may be present   | no anterior appendages  |
| <b>Diurodrilidae</b>        |  | M                              | U                      |  | C?   | V                                 | use prostomial ciliophores as a broom to collect small particles                                 | absent   | absent  | sensory ciliophores   |

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|                                      |                              |           | I = interstitial; S = small (< ~2 cm); M = medium; L = large (> ~20 cm) |                             | P = pelagic; E = epifaunal; I = infaunal; S = symbiotic |  | M = motile<br>D = discretely motile<br>S = sessile |   | I = micro; A = macro; O = omnivore; S = osmotroph, P = parasitic |  | T = tentacle/palps, M = mucus net;<br>P = muscular eversible pharynx; N = nonmuscular eversible pharynx; R = ramified or lamellar surfaces; O = other (e.g., non-eversible pharynx) |                                |
| <b>Dorvilleidae</b>                  |                              | ~200      | S   | most small, can reach 10 cm | I, E, S   | mostly interstitial or epifaunal on various habitats; a few species commensal  | M, D   | most crawl (larger) or use ciliary gliding (smaller); <i>Meiodorvillea</i> burrow; 3 <i>Ophryotrocha</i> spp. are tube-dwelling | O  | carnivore/scavenger; herbivore on diatoms, macroalgae, coralline algae; feed on bacterial mats, detritus, rich organic material; commensal/parasitic | P   |                                |
| <b>Echiuridae, Echiura</b>           |                              | 5         | M   | 3 - 30 cm                   | I   | in soft sediments  | D  | burrow-dwelling; can swim, crawl and dig new burrows  | I  | surface deposit feeder   | P   | proboscis                      |
| <b>Endomyzostomatidae, Myzostoma</b> |                              | 14        | S   | 2-11 mm diameter            | S   | internal symbionts of crinoids   | S  | sessile on host   | P  | kleptoparasitic or parasitic   | M   | muscle bulb containing pharynx |
| <b>Eulepethidae</b>                  |                              | 21        | M   | 3-8 cm long                 | I   | in soft sediments  | M, D   | burrowing; some inhabit tubes of other species  | A  | carnivore  | P   |                                |
| <b>Eunicidae</b>                     |                              | ~400      | L   | can be up to 6 m            | I, E  | in soft sediments; epifaunal or nestling in various substrata; associated with coral   | D, M   | crawling, burrowing; temporary or long-term tube-dwelling; nestling in crevices   | A, O   | carnivore; herbivore on macroalgae and angiosperms; some deposit feeding   | P   |                                |
| <b>Euprosinidae</b>                  |                              | 60        | S   | a few cm long               | E   | on sediments, mixed bottoms, other animals   | M  | crawling; poorly studied  | A  | carnivore on slow-moving or sessile prey; herbivory likely   | P   |                                |
| <b>Fabriciidae</b>                   |                              | 83        | S   | 0.85-10 mm long             | E   | epibenthic on hard and soft substrata  | S  | tube dwelling   | I  | suspension feeder; can also surface deposit feed   | T   | ciliated radioles              |
| <b>Fauvellopsidae</b>                |                              | ~24       | S   | 0.1 - 2 cm                  | I, E?   | in tubes, shells, and tests of other organisms; interstitial infaunal in sediments or hard substrata; commensal on echinoderms | M?   | poorly understood   | I  | labile material; subsurface (?) deposit feeder   | O   | dorsolateral ciliary folds     |
| <b>Flabelligeridae</b>               | benthic                      | ~150      | M   | 0.5-22 cm                   | I, S  | in soft sediments or hard substrata; commensal on echinoderms  | D  | slow burrowing, some long-distance dispersal by swimming  | I  | surface deposit feeder; labile (for small-bodied forms)  | T   | pair of palps                  |
|                                      | pelagic                      |           |   |                             | P   | deep midwaters and bottom boundary layers  | D  | swimming (slow?)  | A  | carnivore  |   |                                |
| <b>Glyceridae</b>                    |                              | 90        | M, L  |                             | I   | infauna in sediments and rubble  | D, M   | discretely motile in constructed burrows; burrowing, epifaunal crawling, swimming   | A  | carnivore  | P   |                                |
| <b>Golfingiidae, Sipuncula</b>       |                              | 80        | S, M  | < 20 cm long                | I, E  | in sediments; epifaunal in shells, tubes, tests  | D  | in constructed burrows or shells, tubes or tests  | I  | suspension feeding; surface and subsurface deposit feeding   | P   | introvert with tentacles       |
| <b>Goniadidae</b>                    |                              | 100       | M   |                             | I, E  | in and on sediments and hard substrata   | M, D   | burrowing; discretely motile in burrows   | A  | carnivore  | P   |                                |
| <b>Hartmaniellidae</b>               |                              | 3         | S   | < 1 cm                      | I, E?   | dredged from deep sea  | M?   | unknown   | A?   | jaws suggest carnivory   | P   |                                |
| <b>Hesionidae</b>                    |                              | 130-200   | S   | many < 1 cm                 | I, E  | in and on varied substrata   | M, D   | some crawl; some construct burrow galleries; most unknown   | A, O   | many carnivores; some bacterial mat feeders; smaller worms likely feed on varied rich foods  | P   |                                |
| <b>Histiobdellidae</b>               |                              | 14        | S   | < 2 mm                      | S   | symbionts on crustacean hosts  | D  | poorly understood   | I  | feed microphagously on rich bacteria and algae   | P   |                                |

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|                                      | eversible (E); non-eversible (N); extensible (X) | muscular (M); non-muscular (N) | armed (J); unarmed (U) | (A) articulated jaws, (G) grasping fangs or stylets, (C) crushing teeth, (R) rasping or scraping teeth, (T) assorted other teeth | ciliated (C); papillated (P); tentaculate (T); none (N) | axial (A); ventral (V); dorsal (D) | additional details                                       | Invaginated. external, absent, unknown, other             | # simple cephalic photoreceptors; note if image-forming, on appendages or on body | write these in, it will be palps, write these in, it will be palps, tentacles, antennae and need number of each, length to body width <, = or > 1 |
| <b>Dorvilleidae</b>                  | E  | M                              | J                      | A  | ?   | V                                  | most have jaws, except <i>Apodotrocha</i>                | many invaginated, but variable and poorly studied         | may have a pair   | one pair dorsal antennae, one pair ventral palps; either may be absent  |
| <b>Echiuridae, Echiura</b>           | E  | M                              | U                      |  | C   | A                                  |  | not known   | not known   | none  |
| <b>Endomyzostomatidae, Myzostoma</b> | N, X   | M                              | U                      |  |   | A, D                               |  | other (lateral organs)                                    | not known   | most lack lateral organs but some have up to 8  |
| <b>Eulepethidae</b>                  | E  | M                              | J                      | A  | P   | A                                  | jaws with 4 large plate-like teeth                       | external, anterior of first segment                       | variable  | two short anteroventral antennae; one anterodorsal antenna; pair of ventral palps   |
| <b>Eunicidae</b>                     | E  | M                              | J                      | A  |   | V                                  | articulated, hinged jaws                                 | external, but poorly studied                              | dorsal pair may be present  | 5 antennae or palps; some may be lost   |
| <b>Euprosinidae</b>                  | E  | M                              | J                      | R  | ridges  | V                                  | pharynx with cuticular ridges                            | complex, supported by caruncles                           | often present   | small pair of lateroventral antennae  |
| <b>Fabriciidae</b>                   | N  |                                |                        |  | C   | A                                  | no pharynx, ciliated mouth and gut                       | one pair of pits dorsal to the mouth                      | eyespot on peristomium and pygidium   | no antennae; radioles and ventral filamentous appendages likely have additional chemo- and mechanosensory cells                                   |
| <b>Fauveliopsidae</b>                | N  | N                              | U                      |  | C   | V                                  | dorsolateral ciliary folds; no pharyngeal organ          | external tufts, but <i>L. norvegica</i> has ciliated pits | ocellar tubes   | no head appendages  |
| <b>Flabelligeridae</b>               | E  | M                              | U                      |  | C   | V                                  | dorsolateral ciliary folds; ventral pharynx              | present   | up to four  | pair of palps and filamentous branchiae   |
|                                      |  |                                |                        |  |   |                                    |  |   |   |   |
| <b>Glyceridae</b>                    | E  | M                              | J                      | G  | P   | A                                  | long eversible muscular pharynx with 4 venomous fangs    | invaginated, eversible, poorly studied                    | absent  | 2 pairs short anterior antennae   |
| <b>Golfingiidae, Sipuncula</b>       | E  | M                              | U                      |  | T   | A                                  | introvert with variable tentacles                        | external; bulbous   | ocular tubes  |   |
| <b>Goniadidae</b>                    | E  | M                              | J                      | G  | P   | A                                  | very long eversible pharynx with numerous grasping teeth | present   | may be present  | 2 pairs short anterior antennae   |
| <b>Hartmaniellidae</b>               | E  | M                              | J                      | A  | ?   | V                                  | pharynx with hinged jaws                                 | small, pad-like, covered by lateral lappets               | absent  |   |
| <b>Hesionidae</b>                    | E  | M                              | U, J                   | T  |   | A                                  | most unarmed but variation among those with teeth        | external bands  | one pair may be present   | pair of palps and pair of antennae; some have medial antenna  |
| <b>Histriobdellidae</b>              | E  | M                              | J                      | A  |   | V                                  | pharynx with hinged jaws                                 | unknown   | absent  | pair of palps and three antennae  |

| Family                                    | sub-category (if applicable) | # species | Body size   |   | Habitat   |   | Motility   |   | Feeding mode   |  | Food delivered by:  |   |
|---|------------------------------|-----------|---|---|---|---|--|---|--|--|---|---|
|   |                              |           | I = interstitial; S = small (< ~2 cm); M = medium; L = large (> ~20 cm) |   | P = pelagic; E = epifaunal; I = infaunal; S = symbiotic |   | M = motile<br>D = discretely motile<br>S = sessile |   | I = micro; A = macro; O = omnivore; S = osmotroph, P = parasitic |  | T = tentacle/palps, M = mucus net;<br>P = muscular eversible pharynx; N = nonmuscular eversible pharynx; R = ramified or lamellar surfaces; O = other (e.g., non-eversible pharynx) |   |
| Ichthyotomidae                            |                              | 1         | S   | up to 1 cm  | S   | parasitic on eels                           | D  | poorly understood   | P  | parasitic  | P   |   |
| Ikedidae, Echiura                         |                              | ~3        | L   | up to 40 cm   | I   | in sediments                                | D  | burrow-dwelling   | I  | surface deposit feeder   | P   | spatulate proboscis   |
| Iospilidae                                |                              | 4         | S   | < 1 cm  | P   | upper photic zone, midwaters                | M  | swimming  | A  | herbivore on microalgae; carnivore   | P   |   |
| Iphionidae                                |                              | 9         | S   | 1-3 cm long   | E   | on varied substrata                         | M  | crawling  | A  | presumably carnivores  | P   |   |
| Lacydoniidae                              |                              | 10        | S   | < 1 cm  | I, E?   | soft and mixed sediments and hard substrata | M  | presumably motile   | A  | presumably carnivores  | P   |   |
| Laetmonectidae                            |                              | 1         | ?   |   | ?   |   | D?   |   | I?   | deposit feeder?  | ?   |   |
| Longosomatidae                            |                              | 7         | M   | 1-5 cm  | I   | in soft sediments                           | M?, D?   | presumably burrowers  | I?   | may be subsurface deposit feeders?   | ?   | presence of palps is questionable                                   |
| Lopadorrynchidae                          |                              | 19        | S   | few mm to few cm  | P   | upper and mid-water                         | M  | swimming  | A  | herbivore on microalgae; carnivore?  | P   |   |
| Lumbrineridae                             |                              | >300      | M, L  |   | I, E  | most infaunal                               | M; D   | burrowing; some discretely motile in burrows                  | A, I   | carnivore; may also be herbivorous or deposit feed   | P   |   |
| Magelonidae                               |                              | 70        | S   | long and very thin  | I   | in sands and muds                           | M; D   | mostly burrowing; a few tube-dwelling                         | I, A?  | surface deposit feeder; subsurface deposit feeder; carnivore   | T   | two long papillate palps  |
| Maldanidae                                |                              | ~250      | S-L   | <i>Micromaldane</i> is interstitial; others range in size | I   | in sediments                                | D  | tube-dwelling; can extend tube and re-burrow                  | I  | subsurface deposit feeding; funnel feeding; rare suspension feeding; small worms feed on labile material | N   | non-muscular pharynx or dorsolateral ciliary folds                  |
| <i>Mycomyzostoma</i> , <i>Myzostomida</i> |                              | 1         | S   | 4.5-9 mm diameter   | S   | cyst-forming on crinoids                    | S  | inhabits galls on crinoids                                    | P  | parasitic  | P   |   |
| <i>Myzostomidae</i> , <i>Myzostomida</i>  |                              | ~140      | S   | up to a few mm  | S   | commensal                                   | D, S   | discretely motile external on host; sessile in galls or cysts | P  | kleptoparasitic or parasitic   | P   | muscular eversible pharynx with pumping muscle bulb                 |
| Nephtyidae                                |                              | ~110      | S-L   | variable  | I   | in soft sediments                           | M, D?  | burrowers, crawlers, swimmers                                 | A  | primarily carnivores; some may deposit feed  | P   |   |
| Nereididae                                |                              | >500      | M-L   | variable; most medium to large                            | I, E  | most infaunal but in varied habitats        | M, D   | burrowers, crawlers, swimmers; some burrow-dwelling           | O  | highly omnivorous  | P   |   |
| Nerillidae                                |                              | 50        | I   | interstitial  | I   | in varied sediments                         | M  | mostly ciliary gliding  | I, A   | labile material  | P   |   |
| Oeonidae                                  |                              | ~100      | L   | can be up to 1 m  | I, P  | in muds and sands; parasitic                | M, D, S  | burrowing, crawling; parasitic forms presumably less motile   | A, P   | carnivore; parasite  | P   |   |
| Onuphidae                                 |                              | 318       | L   | can be large  | I, E  | in soft sediments, on varied substrata      | D, M   | many tubicolous, some crawl                                   | A, O   | herbivore on macroalgae and seagrasses; some scavengers; some evidence of detritivory                    | P   |   |
| Opheliidae                                |                              | 135       | M   | up to > 7 cm  | I   | in sediments                                | M  | burrowing, swimming   | I  | subsurface deposit feeders   | N   |   |
| Orbiniidae                                |                              | >150      | S-M   | up to 30 cm long  | I   | in sediments                                | M  | burrowing   | I  | subsurface deposit feeders   | N, P  | muscular pharynx replaced by nonmuscular ciliated pharynx in adults |
| Oweniidae                                 |                              | 55        | S-M   | < 1 up to 10 cm   | I   | in sediments                                | D  | tubicolous but can move tubes                                 | I  | suspension feeder; surface deposit feeder  | T   | tentacular crown, palps, or lips                                    |

| Family                            | Pharyngeal/introvert structure                   |                                |                        |   |   |                                    |  | Nuchal Organs                                 | Eyes  | Other anterior sensory structures   |
|-----------------------------------|--|--------------------------------|------------------------|---|---|------------------------------------|--|---|---|---|
|                                   | eversible (E); non-eversible (N); extensible (X) | muscular (M); non-muscular (N) | armed (J); unarmed (U) | (A) articulated jaws, (G) grasping fangs, (C) or stylets, (C) crushing teeth, (R) rasping or scraping teeth, (T) assorted other teeth | ciliated (C); papillated (P); tentaculate (T); none (N) | axial (A); ventral (V); dorsal (D) | additional details   | Invaginated. external, absent, unknown, other | # simple cephalic photoreceptors; note if image-forming, on appendages or on body | write these in, it will be palps, write these in, it will be palps, tentacles, antennae and need number of each, length to body width <, = or > 1 |
| <b>Ichthyotomidae</b>             | E  | M                              | J                      | A   |   | V                                  | modified hinged, scissor-like jaws and oral suction cup to attach to host        | may be present                                | cephalic with lenses  | pair of palps and three antennae  |
| <b>Ikedidae, Echiura</b>          | E  | M                              | U                      |   | ?   | A                                  | spatulate proboscis  | unknown                                       | unknown   |   |
| <b>Iospilidae</b>                 | E  | M                              | U, J                   | G   | P   | A                                  | unarmed or with laterally opposed fangs  | likely absent                                 | pair of lensed eyes   | pair of palps or antennae   |
| <b>Iphionidae</b>                 | E  | M                              | J                      | A   | P   | A                                  | parrot-beak-like jaws with venom glands  | external                                      | two pairs   | pair antennae; pair palps; facial tubercle and occipital papilla  |
| <b>Lacydoniidae</b>               | E  | M                              | U                      |   | ?   | A                                  | pharynx unarmed but has proboscis glands of unknown function                     | invaginated slits                             | may have one pair   | pair palps; three antennae  |
| <b>Laetmonectidae</b>             | ?  | ?                              | ?                      |   |   | ?                                  |  | ?   | ?   | ?   |
| <b>Longosomatidae</b>             | ?  | ?                              | ?                      |   |   | V                                  | ventral proboscis unstudied  | invaginated grooves                           | likely absent   | presence of palps is questionable   |
| <b>Lopadorrynchidae</b>           | E  | M                              | U, J                   | G   | ?   | A                                  | small mandibles, stylet-like hooks, or no jaws                                   | ciliated knobs, may be eversible              | may have a pair of lensed eyes  | pair antennae; pair palps   |
| <b>Lumbrineridae</b>              | E  | M                              | J                      | A   |   | V                                  | pharynx with hinged jaws   | invaginated pits                              | absent in most species  | absent in most species  |
| <b>Magelonidae</b>                | E  | M                              | U                      |   | N?  | A                                  | pharynx has radial muscles but not thick bands                                   | absent  | absent  | 2 long palps; no antennae   |
| <b>Maldanidae</b>                 | E  | N                              | U                      |   | C   | A, V                               | ventral dorsolateral ciliary folds or axial nonmuscular pharynx                  | invaginated slits                             | may have eyespots   |   |
| <b>Mycomyzostoma, Myzostomida</b> | E  | M                              | U                      |   |   | A?                                 | short proboscis inserts into host axial duct                                     | unknown                                       | absent  |   |
| <b>Myzostomidae, Myzostomida</b>  | E  | M                              | U                      |   | N   | A                                  | retractile muscular proboscis  | absent  | absent  | sensory cilia and sucker-like lateral organs  |
| <b>Nephtyidae</b>                 | E  | M                              | J                      | C   | P   | A                                  | crushing teeth posterior of the pharynx tip                                      | external protrusions                          | may be present  | pair short antennae; pair short palps   |
| <b>Nereididae</b>                 | E  | M                              | J                      | A   | P   | A                                  | jaws complexly articulating but not hinged                                       | invaginated pits                              | may have two pairs  | most have 3 antennae; two palps   |
| <b>Nerillidae</b>                 | E  | M                              | J, U                   | R   | C   | V                                  | very small teeth or rods for rasping   | invaginated pits                              | may have one or two pairs   | pair of palps; up to 3 antennae   |
| <b>Oeonidae</b>                   | E  | M                              | J                      | A   | ?   | V                                  | hinged jaws may be reduced in parasitic species                                  | invaginated eversible pits or knobs           | may have up to two pairs  | absent in most species  |
| <b>Onuphidae</b>                  | E  | M                              | J                      | A   | ?   | V                                  | hinged jaws; also have lower lip and labial palps                                | invaginated grooves                           | may have single pair  | 2 frontal, 5 occipital antennae   |
| <b>Opheliidae</b>                 | E  | N                              | U                      |   | C   | A                                  | shape varies from bubble-like to tentaculate                                     | invaginated pits, eversible                   | may have segmental and cephalic ocelli  | some have a small anterior palpode  |
| <b>Orbiniidae</b>                 | E  | N, M                           | U                      |   | C   | A, V                               | juveniles have ventral muscular pharynx; adults have axial, nonmuscular ciliated | invaginated slits                             | often one pair  | no anterior appendages  |
| <b>Oweniidae</b>                  | N  | M                              | U                      |   | C   | V                                  | eversible pharynx used in tube building, not feeding                             | absent  | absent  |   |



| Family                       | sub-category (if applicable) | # species | Body size   |                               | Habitat   |   | Motility   |   | Feeding mode   |  | Food delivered by:  |  |
|------------------------------|------------------------------|-----------|---|-------------------------------|---|---|--|---|--|--|---|--|
|                              |                              |           | I = interstitial; S = small (< ~2 cm); M = medium; L = large (> ~20 cm) |                               | P = pelagic; E = epifaunal; I = infaunal; S = symbiotic |   | M = motile<br>D = discretely motile<br>S = sessile |   | I = micro; A = macro; O = omnivore; S = osmotroph, P = parasitic |  | T = tentacle/palps, M = mucus net;<br>P = muscular eversible pharynx; N = nonmuscular eversible pharynx; R = ramified or lamellar surfaces; O = other (e.g., non-eversible pharynx) |  |
| Paralacydoniidae             |                              | 2         | M   | ~10 cm                        | I   | infaunal in muds  | M  | presumably burrowers  | A?   | may be predators?  | P   |  |
| Paraonidae                   |                              | >140      | S   | < 4 cm                        | I   | in sediments, primarily in the deep sea   | M  | burrowing   | I  | surface/subsurface deposit feeder  | N, O  | non-muscular pharynx or dorsolateral ciliary folds |
| Parergodrilidae              |                              | 2         | I   | < 1 mm                        | I   | interstitial in soils or high intertidal  | M?   | presumably motile but no data                                   | I  | presumably labile material   | N, P  | non-muscular or muscular tongue-like pharynx       |
| Pectinariidae                |                              | 60        | M   | ~1-10 cm                      | I   | in heterogeneous sediments  | D  | tubicolous  | I  | subsurface deposit feeders; funnel feeders                                       | T   | tentacles and paleae                               |
| Phascolosomatidae, Sipuncula |                              | 24        | M   | up to 12 cm                   | I   | in burrows, crevices or sandy pockets; primarily in dead coral, bathyal species in whale bones, wood, base of tubeworms | D  | species burrowing in wood or coral effectively sessile          | I  | surface deposit feeders  | P   | introvert with tentacles                           |
| Pholoidae                    |                              | 23        | S   | 0.2-3 cm                      | E, I  | shelf and bathyal sediments; some burrow at sediment water interface, also in hard substrate crevices or interstitially | M  | motile, will burrow but few data                                | A  | carnivore  | P   |  |
| Phyllodocidae                |                              | 400       | M-L   | most <10 cm, some up to 30 cm | E, I  | all substrates and depths   | M  | active burrowers and crawlers                                   | C  | carnivores or scavengers   | P   |  |
| Pilargiidae                  |                              | 100       | S-M   |                               | I   | infaunal, varied sediments  | M  | most active burrowers; some commensal in burrows                | C?   | presumably carnivores but very little data                                       | P   |  |
| Poecilochaetidae             |                              | 30        | S-M   | one to several cm             | I   | soft sediments  | D  | build Y-, V-, or U-shaped burrows                               | I  | presumably deposit and/or suspension feeders                                     | T   | pair of long palps                                 |
| Poeobidae                    |                              | 1         | S-M   | up to 27 mm                   | P   | midwater  | M  | weak swimmer  | I  | suspension feeder  | M, T  | mucus net and two long palps                       |
| Polygordiidae                |                              | 17        | I   | < 3 cm; very thin             | I   | in coarse sands   | M  | undulatory movements  | I, A   | labile material; may be carnivorous  | N   | very weak musculature                              |
| Polynoidae                   |                              | > 750     | M   | mostly 1-3 cm; can be large   | E, S, P   | varied  | M, D   | most crawl, some swim and burrow                                | A, P, I  | most carnivorous, some feed on microbial mats and detritus, some kleptoparasitic | P   |  |
| Pontodoridae                 |                              | 1         | S   | < 5 mm                        | P   | upper mixed layer and midwaters   | M?   | unknown   | A?   | presumably macrophageous but no data   | P?  |  |
| Protodrilidae                |                              | 35        | I   | < 3 cm, very thin             | I, P  | most interstitial in coarse sands; one swims in caves   | M  | ciliary gliding, undulatory swimming, duo-gland adhesive system | I, S   | <i>Protodrilus</i> feeds on labile material; <i>Astomus</i> uptakes DOC          | P, R  | some lack pharynx                                  |
| Protodriloididae             |                              | 2         | I   | 1-2 cm, very thin             | I   | sandy beaches   | M  | muscular, ciliary crawling                                      | I, A   | labile material; may be carnivorous  | O   | muscular suction pharynx                           |
| Protomyzostomatidae          |                              | 6         | S   | up to 1.3 mm                  | S   | in brittlestars and basketstars   | S  | limited mobility within host                                    | P  | endoparasitic  | P   |  |

| Family                              | Pharyngeal/introvert structure                   |                                |                        |  |   |                                    |   | Nuchal Organs  | Eyes  | Other anterior sensory structures   |
|-------------------------------------|--|--------------------------------|------------------------|--|---|------------------------------------|---|--|---|---|
|                                     | eversible (E); non-eversible (N); extensible (X) | muscular (M); non-muscular (N) | armed (J); unarmed (U) | (A) articulated jaws, (G) grasping fangs or stylets, (C) crushing teeth, (R) rasping or scraping teeth, (T) assorted other teeth | ciliated (C); papillated (P); tentaculate (T); none (N) | axial (A); ventral (V); dorsal (D) | additional details  | Invaginated. external, absent, unknown, other  | # simple cephalic photoreceptors; note if image-forming, on appendages or on body | write these in, it will be palps, write these in, it will be palps, tentacles, antennae and need number of each, length to body width <, = or > 1 |
| <b>Paralacydoniidae</b>             | E  | M                              | U                      |  | P   | A                                  |   | may be present as small knobs in depressions   | may have anterior eyespots  | pair small antennae; pair small palps   |
| <b>Paraonidae</b>                   | E, N   | N                              | U                      |  | C   | A, V                               | non-muscular axial pharynx or ventral non-eversible dorsolateral ciliary folds                    | invaginated slits  | often present   | single long median antenna; may have eversible anterior palpode   |
| <b>Parergodrilidae</b>              | E  | M, N                           | U                      |  | N   | V                                  | adhesive tongue; reduced muscle in <i>Stygocapitella</i> and non-muscular in <i>Parergodrilus</i> | present in <i>Stygocapitella</i> ; absent in <i>Parergodrilus</i>                            | none (?)  |   |
| <b>Pectinariidae</b>                | E  | M                              | U                      |  | C   | V                                  | ciliated buccal cavity and buccal tentacles   | present  | can be present in juveniles   | paleae and cephalic veil  |
| <b>Phascolosomatidae, Sipuncula</b> | E  | M                              | J, U                   | R  |   | A                                  | hooks on introvert for scraping   | external, dorsal, conical or hemispherical, surrounded by tentacles                          | ocellar tubes   | tentacles around nuchal organ   |
| <b>Pholoidae</b>                    | E  | M                              | J                      | A  | P   | A                                  | 4 hooked teeth; 9 pairs of terminal papillae  | not observed   | two pairs often present   | median antenna, often two lateral antennae; palps arise ventral to tentaculophores found on the first segment                                     |
| <b>Phyllodocidae</b>                | E  | M                              | U                      | T  | P   | A                                  | terminal papillae and papillae elsewhere on pharynx; some species with teeth                      | variable including nuchal papilla, pits, posterior prostomial lobes, or eversible structures | single pair of lensed eyes.   | paired antennae and palps, anteriorly-oriented cirri. Medial antenna or nuchal papilla may be present   |
| <b>Pilargiidae</b>                  | E  | M                              | J, U                   | T, G   | P, N  | A                                  | terminal papillae and papillae elsewhere on pharynx; some species with teeth                      | invaginated slits when present   | up to 5 pairs   | 0, 2, or 3 dorsal antennae; 2 ventral palps, may be fused   |
| <b>Poecilochaetidae</b>             | E  | M                              | U                      |  | C   | V                                  | short pharynx   | external as mound or lobes   | may have two pairs  | pair of long ciliated grooved palps; medial appendage projects from upper lip; most setigers have interrampal sense organs                        |
| <b>Poeobidae</b>                    | E  | M                              | U                      |  | C   | V?                                 | flexible tongue   | external ridges  |   | pair of long palps  |
| <b>Polygordiidae</b>                | E  | N                              | U                      |  | C   | V                                  | dorsolateral ciliary folds, very weak musculature   | ovoid  | none  | pair of anterior appendages   |
| <b>Polynoidae</b>                   | E  | M                              | J                      | A  | P   | A                                  | pair of beak-like jaws  | present, poorly documented   | two pairs   | many - paired lateral antennae, medial antennae, frontal tubercle, ventral palps  |
| <b>Pontodoridae</b>                 | E  | M                              | U                      |  | P   | A                                  | ring of papillae on tip and additional pointed papillae   | external, globular   | one pair  | pair dorsolateral antennae, pair ventrolateral palps  |
| <b>Protodrilidae</b>                | E  | M                              | J                      | R  | C   | V                                  | <i>Protodrilus</i> have a grating plate for scraping; <i>Astomus</i> lack mouth and gut           | present, variable  | may have a pair of eyes   | pair of palps   |
| <b>Protodriloididae</b>             | ?  | M                              | U                      |  | ?   | V                                  |   | present  | none?   | pair of palps   |
| <b>Protomyzostomatidae</b>          | N, X   | M                              | U                      |  | ?   | A                                  | no proboscis but some protrusion of pharynx occurs  | absent   | absent  | small lateral organs  |

| Family                               | sub-category (if applicable) | # species | Body size   |                                       | Habitat   |  | Motility   |  | Feeding mode   |  | Food delivered by:  |   |
|--------------------------------------|------------------------------|-----------|---|---------------------------------------|---|--|--|--|--|--|---|---|
|                                      |                              |           | I = interstitial; S = small (< ~2 cm); M = medium; L = large (> ~20 cm) |                                       | P = pelagic; E = epifaunal; I = infaunal; S = symbiotic |  | M = motile<br>D = discretely motile<br>S = sessile |  | I = micro; A = macro; O = omnivore; S = osmotroph, P = parasitic |  | T = tentacle/palps, M = mucus net;<br>P = muscular eversible pharynx; N = nonmuscular eversible pharynx; R = ramified or lamellar surfaces; O = other (e.g., non-eversible pharynx) |   |
| <b>Psammodriliidae</b>               |                              | 5         | I   | < 8 mm long                           | I   | in coarse sediments  | M, D   | variable among species   | I, O   | labile material; collar region may absorb dissolved material               | P, O  | suction by eversible or non-eversible pharynx                           |
| <b>Pseudocirratulidae</b>            |                              | 1         | M   | 14.5 cm                               | I   | intertidal   | M  | probably motile  | I?   | morphology suggests subsurface deposit feeding                             | ?   | presumably muscular or non-muscular pharynx                             |
| <b>Pulvinomyzostomatidae</b>         |                              | 3         | S   | < 6 mm long                           | S   | crinoid host   | D  | females restricted to mouth region of host tube-building   | P  | kleptoparasitic  | P   | retractile muscular proboscis   |
| <b>Sabellariidae</b>                 |                              | 130       | S-M   | most 1-6 cm                           | E   | build tubes of sand, some live on mud                        | S  |  | I  | passive suspension feeder; may also surface deposit feed                   | T   | palps and oral filaments  |
| <b>Sabellidae</b>                    |                              | 465       | S-L   | typically 1-10 cm but variable        | E, I  | on hard substrata; infaunal in sediments                     | S  | tubicolous   | I  | mixed (active/passive) suspension feeder                                   | T   | tentacular crown  |
| <b>Saccocirridae</b>                 |                              | 22        | I   | 0.3 - 2 cm long                       | I   | coarse sands   | M  | ciliary to inch-worm-like crawling; swimming   | I, A   | labile material; herbivorous or carnivorous                                | P, O  | <i>Pharyngocirrus</i> has muscular pharynx; <i>Saccocirrus</i> does not |
| <b>Scalibregmatidae</b>              |                              | 100       | M   | most 1-5 cm long but some variability | I   | mostly soft muds   | M  | burrowing, swimming  | I  | subsurface deposit feeders; may cache surface sediments                    | N   |   |
| <b>Serpulidae</b>                    |                              | ~670      | S-L   | 2 mm to > 10 cm long                  | E   | epibenthic in tubes  | S  | tubicolous   | I  | mixed (active/passive) suspension feeder osmotroph                         | T   | radioles  |
| <b>Siboglinidae</b>                  |                              | ~180      | S-L   | varies with morphotype                | E, I  | epibenthic or infaunal in tubes                              | S  | tubicolous   | S  |  | R   |   |
| <b>Sigalionidae</b>                  | pisionid morphotype          | 210 total | S   |                                       | I   | most sands but varied  | M  | crawl interstitially   | A  | carnivore  | P   |   |
|                                      | others                       |           | M   | 2-20 cm long                          | I   | most soft sediments, but varied                              | M, D   | most burrow, some construct tubes or crawl   | A  | carnivore  | P   |   |
| <b>Siphonositomatidae, Sipuncula</b> |                              | 11        | M-L   | 5-50 cm long                          | I   | soft sediments   | M  | burrowing  | I  | subsurface deposit feeders; may surface feed as well                       | P   | introvert   |
| <b>Sipunculidae, Sipuncula</b>       |                              | 11        | L   | up to 45 cm long                      | I   | soft sediments   | M  | burrowing  | I  | primarily subsurface deposit feeders                                       | P, T  | oral tentacles and eversible introvert                                  |
| <b>Sphaerodoridae</b>                |                              | ~110      | I-M   | some < 5 mm; some up to 5 cm long     | I, S  | surficial sediments; some commensal                          | M, D?  | poorly understood  | A, P   | likely carnivorous or parasites but not well understood                    | P   |   |
| <b>Spintheridae</b>                  |                              | 12        | S-M   | discoidal, up to 5 cm long            | S   | external commensal, mostly on sponges                        | D  | weak motility  | P  | parasitic or kleptoparasitic   | P   | tongue extends without turning inside out                               |
| <b>Spionidae</b>                     |                              | 552       | S-M   | typically 1-3 cm long                 | I, E, S   | most infaunal; some epifaunal on hard substrata or commensal | D, M, S  | most discretely motile in tubes; a few are more motile; boring species are unlikely to create a new tube | I  | suspension feeding, surface deposit feeding; occasional limited microphagy | T   | pair of palps   |
| <b>Stelechopodidae, Myzostomida</b>  |                              | 1         | S   | 3.5 mm long                           | S   | on stalked crinoids  | D  | can likely switch hosts  | P  | may be kleptoparasitic   | O   | non-eversible pharynx   |
| <b>Sternaspidae</b>                  |                              | 23        | S   | up to 3 cm                            | I   | in soft sediments  | M  | burrowing  | I  | subsurface deposit feeders   | P   | resembles introvert   |
| <b>Syllidae</b>                      |                              | 735       | S   | most very small; a few up to > 5 cm   | E, I, S   | mostly epifaunal, but variable                               | M, D   | crawling, burrowing  | A, O, P  | omnivorous on rich diets   | P   |   |

| Family                              | Pharyngeal/introvert structure                   |                                |                        |  |   |                                    |  | Nuchal Organs                                 | Eyes  | Other anterior sensory structures   |
|-------------------------------------|--|--------------------------------|------------------------|--|---|------------------------------------|--|---|---|---|
|                                     | eversible (E); non-eversible (N); extensible (X) | muscular (M); non-muscular (N) | armed (J); unarmed (U) | (A) articulated jaws, (G) grasping fangs or stylets, (C) crushing teeth, (R) rasping or scraping teeth, (T) assorted other teeth | ciliated (C); papillated (P); tentaculate (T); none (N) | axial (A); ventral (V); dorsal (D) | additional details   | Invaginated, external, absent, unknown, other | # simple cephalic photoreceptors; note if image-forming, on appendages or on body | write these in, it will be palps, write these in, it will be palps, tentacles, antennae and need number of each, length to body width <, = or > 1 |
| <b>Psammodrilidae</b>               | E, N   | M                              | U                      |  |   | V                                  | some vacuum feed   | ciliated pits                                 | may have two pairs  | no anterior appendages but have elongate thoracic cirri and apical sensory organ  |
| <b>Pseudocirratulidae</b>           | E?   | ?                              | U?                     |  | ?   | V?                                 |  | unknown                                       | unknown   | may have branchiae  |
| <b>Pulvinomyzostomatidae</b>        | N, X   | M                              | U                      |  | C   | A, V, D                            | retractile proboscis   | absent  | absent  | lateral organs  |
| <b>Sabellariidae</b>                | N  | N                              | U                      |  | C   | V                                  | oral filaments and palps   | present                                       | may be present  | no antennae; may have median cirrus; pair of palps  |
| <b>Sabellidae</b>                   | N  | N                              | U                      |  | C   | V                                  |  | invaginated pits                              | some have compound eyes on tips of radioles; may have pair anterior eyespots      | tentacular crown  |
| <b>Saccocirridae</b>                | E, N   | M, N                           | U                      |  | C   | V                                  | dorsolateral ciliary folds   | external, oval, elongated                     | 2 small   | 2 innervated palps  |
| <b>Scalibregmatidae</b>             | E  | N                              | U                      |  | C   | A                                  |  | invaginated, eversible and/or grooved         | may have one pair   | no antennae   |
| <b>Serpulidae</b>                   | N  | N                              | U                      |  | C   | V                                  | no buccal organ, ciliated esophagus  | single  | compound and simple; varied locations   | tentacular crown  |
| <b>Siboglinidae</b>                 | absent   |                                |                        |  |   |                                    | no mouth or digestive system; trophosome   | absent  | absent  | palps with varying structure  |
| <b>Sigalionidae</b>                 | E  | M                              | A, U                   | A  | P   | A                                  | 4 hooked teeth form a pair of beak-like jaws; <i>Anaploisone</i> is unarmed            | not observed                                  | one pair around 2nd or 3rd segment  | ventral palps, dorsal ventral cirri; may have median or paired frontal antennae   |
|                                     | E  | M                              | A                      | A  | P   | A                                  | 4 hooked teeth form a pair of beak-like jaws   | external pads                                 | may have two pairs  | pair palps; pair anterolateral antennae, median antennae  |
| <b>Siphonositidae, Sipuncula</b>    | E  | M                              | A, U                   | G  | P   | A                                  | may have hooks; prominent papillae   | external, ridged                              | ocellar tubes   | tentacular crown  |
| <b>Sipunculidae, Sipuncula</b>      | E  | M                              | U                      |  | P   | A                                  | tentacles are short  | invaginated pits                              | ocellar tubes; tentacular ocelli  | tentacles around mouth  |
| <b>Sphaerodoridae</b>               | E  | M                              | U                      |  | P   | A                                  | some variation in muscular development   | invaginated, eversible                        | up to two pairs   | 5 antennae or palps, often two elongate papillae  |
| <b>Spintheridae</b>                 | E  | M                              | U                      |  |   | V                                  | extendable tongue, weakly muscular   | unknown                                       | usually 4 eyes  | medial antenna  |
| <b>Spionidae</b>                    | E  | N, M                           | U                      |  | C   | A, V                               | non-muscular axial pharynx or ventral muscular pharynx with dorsolateral ciliary folds | present                                       | one or several pairs  | pair of palps; may have lateral horns and/or a medial antenna   |
| <b>Stelechopodidae, Myzostomida</b> | N  | M?                             |                        |  |   |                                    | small pharynx nonretractile, may be slightly extensible                                | absent (?)                                    | absent (?)  | may have lateral organs   |
| <b>Sternaspidae</b>                 | E  | M                              | J                      | external spines  | N   | A                                  | introvert comprised of anterior 5-6 setigers; spines on introvert                      | absent (?)                                    | may have eyespots (?)   | no appendages   |
| <b>Syllidae</b>                     | E  | M                              | U, J                   | T  | P   | A                                  | varied dentition; absent, stylet and/or smaller teeth                                  | variable; invagination or external            | two pairs eyes  | median, two lateral antennae; two palps   |

| Family                  | sub-category (if applicable) | # species | Body size   |                           | Habitat   |  | Motility   |  | Feeding mode   |  | Food delivered by:  |                           |
|-------------------------|------------------------------|-----------|---|---------------------------|---|--|--|--|--|--|---|---------------------------|
|                         |                              |           | I = interstitial; S = small (< ~2 cm); M = medium; L = large (> ~20 cm) |                           | P = pelagic; E = epifaunal; I = infaunal; S = symbiotic |  | M = motile<br>D = discretely motile<br>S = sessile |  | I = micro; A = macro; O = omnivore; S = osmotroph, P = parasitic |  | T = tentacle/palps, M = mucus net;<br>P = muscular eversible pharynx; N = nonmuscular eversible pharynx; R = ramified or lamellar surfaces; O = other (e.g., non-eversible pharynx) |                           |
| <b>Terebellidae</b>     |                              | 550       | M-L   | up to 40 cm               | I, E  | in and on sediments and hard substrata               | D, M, S  | mostly tube-dwelling; can burrow, extend tubes, nestle in crevices, and swim | I  | most surface deposit feeders; some species also suspension feed or subsurface deposit feed | T   | very long tentacles       |
| <b>Thalassematidae</b>  |                              | ~80       | M   | a few can get larger      | I   | soft sediments, mixed substrata, crevices            | D  | burrow-dwelling; most can re-burrow  | I  | surface deposit feeder; cacher   | P   | long proboscis            |
| <b>Tomopteridae</b>     |                              | ~50       | S-M   | 0.5-13.5 cm long          | P   | upper mixed layer                                    | M  | strong swimmers  | A  | carnivores; herbivores on diatoms  | P   |                           |
| <b>Trichobranchidae</b> |                              | ~70       | M   | most 1-3 cm, a few larger | I   | soft sediments                                       | M, D   | burrowing; tube-dwelling   | I  | subsurface deposit feeders   | T   | short buccal tentacles    |
| <b>Trochochaetidae</b>  |                              | 13        | S-M   | 1-10 cm                   | I   | soft sediments                                       | D  | tube-dwelling  | I  | likely surface deposit feeder, may also suspension feed                                    | T   | palps                     |
| <b>Typhloscolecidae</b> |                              | 20        | S-M   | 0.5-4 cm long             | P   | mostly upper mixed layer but throughout water depths | M, D?  | poorly understood  | P  | parasitic on chaetognaths  | P   |                           |
| <b>Uncispionidae</b>    |                              | 2         | S   | < 2 cm long               | I   | soft sediments                                       | D?   | may be tube-dwelling   | I  | surface deposit feeder (?)   | P   | palps                     |
| <b>Urechidae</b>        |                              | 4         | L   | 10-50 cm                  | I   | sediments  | D  | burrow-dwelling  | I  | active suspension feeder   | M   | mucus net (has proboscis) |
| <b>Yndolaciidae</b>     |                              | 3         | S   | 0.2-1 cm                  | P   | midwater and bottom boundary layer                   | M, D?  | undescribed  | A?   | may be carnivores  | P   |                           |

| Family                  | Pharyngeal/introvert structure                   |                                |                        |  |  |                                   |  | Nuchal Organs  | Eyes  | Other anterior sensory structures   |
|-------------------------|--|--------------------------------|------------------------|--|--|-----------------------------------|--|--|---|---|
|                         | eversible (E); non-eversible (N); extensible (X) | muscular (M); non-muscular (N) | armed (J); unarmed (U) | (A) articulated jaws, (G) grasping fangs or stylets, (C) crushing teeth, (R) rasping or scraping teeth, (T) assorted other teeth | ciliated(C); papillated (P); tentaculate (T); none (N) | axial (A); ventral(V); dorsal (D) | additional details   | Invaginated. external, absent, unknown, other          | # simple cephalic photoreceptors; note if image-forming, on appendages or on body | write these in, it will be palps, write these in, it will be palps, tentacles, antennae and need number of each, length to body width <, = or > 1 |
| <b>Terebellidae</b>     | N  | M                              | U                      |  | T, C   | V                                 | dorsolateral ciliary folds in juveniles develops into buccal tentacles | poorly understood; absent/present in different species | multiple  | buccal tentacles  |
| <b>Thalassematidae</b>  | E  | M                              | U                      |  | C  |                                   | very long proboscis  | other (sensory cells)                                  | absent  |   |
| <b>Tomopteridae</b>     | E  | M                              | U                      |  | P, N   | A                                 | variability in papillae  | external epaulettes                                    | pair with lenses  | long parapodial cirri extend from 2nd segment   |
| <b>Trichobranchidae</b> | N  | M                              | U                      |  | T, C   | V                                 | tentacles mostly ciliated but sometimes not                            | present in some species but not well studied           | may be present  |   |
| <b>Trochochaetidae</b>  | E?   | N?                             | U                      |  | C  | A                                 | simple pharynx   | invaginated slits                                      | one or two pairs  | may have medial antenna   |
| <b>Typhloscolecidae</b> | E  | M                              | U                      |  | N ?  | A                                 | papillae not observed  | external epaulettes                                    | absent  | may have median antenna or palpode  |
| <b>Uncispionidae</b>    | E  | ?                              | U                      |  | C  | A                                 | slender conical projections on everted pharynx                         | maybe invaginated slits                                | absent  | may have medial antenna   |
| <b>Urechidae</b>        | E  | M                              | U                      |  |  | A                                 | short proboscis  | other (sensory cells)                                  | absent  |   |
| <b>Yndolaciidae</b>     | E  | M                              | U                      |  | ?  | A                                 | short; poorly studied  | external, projecting                                   | absent  | no antennae or palps  |