

## Teaching Tips:

### Bio-etymology PART – 9: ANNELIDA

#### LEARNING BIO- ETYMOLOGY

### ‘Making Biology students interested in Etymologies’ !!!

#### ❖ FUN TO LEARN BIOLOGICAL TERMINOLOGY

#### ❖ THE LANGUAGE OF BIOLOGISTS

#### ❖ SOWING SEEDS OF SYSTEMATICS / TAXONOMY AT THE GRASSROOT LEVEL



#### ➤ The Episode:

The episode of ‘**Bio-etymology**’ is devoted to analyzing the hidden meanings derived from the Names of various **Animal Phyla** and **Classes**, along with the terms specifically used to describe their respective diagnostics, important examples (Genus or species) etc.

#### ➤ Recollecting the Introduction of PART – 1:

At any level, may it be animals in general or Man in particular, there is some structured or indicative or behavioural system of communication. It is simply referred to as a kind of ‘**Language**’. In a broader sense, ‘**Language**’ is the method of communication that involves the use of various languages (in various countries) spoken by man. **Articulation of words** in a definite sequence is the basic of formulating a Language and **knowledge of words** forming it and their ‘**sense**’ is of utmost importance. Accumulation of a treasure of words constitutes what is called ‘**Vocabulary**’ defined variously as follows:

- 1. The words of a language.*
- 2. The body of words used in a particular language.*
- 3. All the words that exist in a particular language or subject.*
- 4. A list or collection of the words or phrases of a language, technical field etc.*
- 5. A listing either selective or exhaustive, containing the words and phrases of a language, with meaning or translations into another language.*

Over a period of time in past centuries, Science is general and Biology in particular has accumulated a vast array of words to **communicate fact(s)** or **phenomena** through deriving their meanings.

*{For the previous sections, Go to Blogs Menu}*

# BIO-ETYMOLOGY: PART – 9

## Phylum – Annelida

[L. *annelus* = ring + Gk. *eidōs* = form, structure]

The name of the Phylum literally means 'ringed worms' or 'segmented worms' ['metamerically segmented'], commonly called ragworms, earthworms and leeches; with over 22,000 extant species, dwelling the diverse ecological realms ranging from moist terrestrial to marine (tidal zones / hydrothermal vents) and fresh waters.



### THE COMMON NAMES

- **Ragworms:** Any of the various types of worms with rounded, cylindrical body (cylindrical in transverse section) e.g., *Ascaris* (Order – Ascaroidea).
- **Earthworms:** Earth + worm = A worm that lives in earth / ground (soil).
- **Leeches:** Named for the Old English or Middle Danish word 'laece', meaning a 'blood sucking worm'; doctors were also called 'laece' (but derived from Frisian 'laki'), meaning 'a physician', because of being used for medical purposes like 'hirudotherapy'; application of leeches on the body to cure diseases caused by 'insufficient micro-circulation'.

### HISTORY

The 'father of modern Taxonomy' and Swedish Botanist/Zoologist/Physician **Carl Linnaeus** or **Carl von Linné** or **Carolus Linnaeus** [Latinized name after becoming famous for formulating 'binomial nomenclature'; also becoming famous as **Carolus a Linne** after 1761] named a Group - '**Vermes**' (1758) to include all the soft-bodied worms. Lamarck (1801) established Phylum Annelida for higher worms.

### DEFINITION / DIAGNOSTICS

- **Free living** (marine, freshwater or terrestrial) **or parasitic** (on Plants and Animals).
- **Triploblastic:** [Gk. *triploos* / *triples*; Latin *tripplus* = threefold / three + *blast (os)* = denoting embryonic cell / germ layer of an embryo / germ / sprout + *-ic* < Latin *-icus* / Gk. *-ikos* = the suffix used to form adjectives], i.e., the animal body developing from three primary germ layers viz., Ectoderm, Endoderm and Mesoderm.
- **Vermiform:** [Latin *vermis* = worm + *forma* = form] i.e., body worm-like, **elongated, cylindrical**.
- **Bilaterally symmetrical:** [Gk. *bi* = two + *lateros* = sides], i.e., body divisible into two identical halves (right and left) only in one plane passing through the median longitudinal axis.
- **Body metamerically segmented:** [Gk. *meta* = after + *meros* = a part, a fraction]; [**Segment + ation** < Latin *segmentum* / Gk. *tmema* or *tmemata* = a strip or piece cut off; a division, section + *ation* = a suffix used in nouns, denoting 'action']  
Body of bilaterally symmetrical animals **may** or **may not** be divided into a linear series of parts (called segments), a phenomenon called as '**metamerism**'. This segmentation may further be '**Pseudo-** (false)' or '**true**' and **Homonomous** or **Heteronomous**.

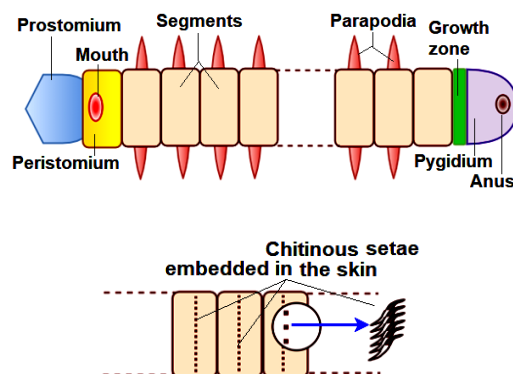
- **Locomotory organs present or absent;** when present they are **chitinous setae**, embedded in the skin or present on fleshy lateral extensions of a segment, called parapodia. **Seate are absent** in Leeches.

### PSEUDOMETAMERISM vs TRUE METAMERISM

Please refer to **Bioetymology PART – 5**

#### TRUE SEGMENTS vs PROSTOMIUM, PERISTOMIUM AND PYGIDIUM

- The anteriormost (**Prostomium & Peristomium**) and posteriormost (**Pygidium**) segments are not regarded as true segments.
- **Prostomium:** [Gk. *pro* = forward, forth, toward the front + *stoma* = mouth] *i.e.*, the part in front of mouth containing brain and sense organs.
- **Peristomium:** [Gk. *peri* = around + *stoma* = mouth] *i.e.*, the first segment behind prostomium and **around the mouth** opening. (When this segment bears **chetae/setae** and other appendages like other segments, as in Polychaetes, it is regarded as a true segment).
- **Pygidium or Periproct:** [New Latin *pygidium*; Gk. *puge* = tail, terminal part or hind segment of body] [Gk. *peri* = around + *proktos* = anus] *i.e.*, the hindermost segment of the body having downwardly directed anus.



### TELOBLASTIC GROWTH

The '**growth zone**' lies just in front of the '**pygidium**' *i.e.*, so that an Annelid's **youngest segment** lies in front of pygidium whereas the oldest segment is the '**peristomium**' or any other just adjacent to it. This pattern of growth is called '**teloblastic growth**' [Gk. *telos* = end + *blastos* = germ, sprout].

### FIXED NUMBER OF SEGMENTS

All '**leeches**' have fixed maximum number (**33**) of segments, while others add segments throughout their lives.

### HOMONOMOUS vs HETERONOMOUS METAMERISM

Please refer to **Bioetymology PART – 5**

- **Eucoelomate:** [Gk. *eu* = true, well, good + *koiloma* / *koilia* = hollow, cavity]  
In all the higher bilateria, from Annelids onwards, the blastocoel gets obliterated by the development of endodermal '**archenteron**' [embryonic gut] and another space (true coelom or **eucoelom**) is created between two layers of mesodermal cells (**peritoneum**) present between the gut (endoderm) and the body wall (ectoderm).

**Examples: Annelida to Chordata. .... Bio-etymology PART – 9 onwards.**

**For the types of Coelom in 'Bilateria', please refer to  
Bioetymology PART – 5**

- **Digestive system complete and straight.**
- **Blood vascular system closed type with hemoglobin dissolved in plasma.**
- **Respiration through moist skin or gills.**
- **Nervous system with a circumenteric ring and 2 ventral nerve cords.** [Lain **circum** = round, around + Gk. **enteron** = gut / alimentary canal] *i.e.*, the part of central nervous system made of highly ganglionated 'nerve ring' encircling the pharynx.
- **Sensory organs include tactile organs, taste buds, statocysts, photoreceptor cells or eyes in some.**
- **Dioecious or monoecious.**  
**Dioecious:** [Gk. **di** = two + **oiki (on)** or **oikos** = house]; male and female reproductive organs (Gonads) at two separate places *i.e.*, male and female individuals.

Or

- **Monoecious:** [Gk. **mono** = one + **oiki (on)** or **oikos** = house]; male and female reproductive organs (Gonads) are in one individual (bisexual or hermaphrodite).
- **Fertilization internal or external. Development direct or indirect.**

## CLASSIFICATION

**Based on the presence, absence and number locomotory organs called, 'setae', the Phylum is divided into 4 Classes.** Further, division of Classes into Subclasses and then into Orders is based on living habit, reproductive organs or location of **gonopores** or presence or absence of jaws on the proboscis.

**Class – Polychaeta:** [Gk. **poly** = many + **khaite / chaeta** = long hair, (chitinous) bristle or setae] *i.e.*, the worms having many locomotory bristles like setae; placed on lateral fleshy extensions of skin of every segment called, **Parapodia** [Gk. **para** = at or to one side of, side by side + **podos** or **pod** = foot ].

**Subclass- Errantia:** [L. **errare**, to wander, roam, ramble] *i.e.*, wandering or free-living Polychaetes.

### EXAMPLE(S):

- **Aphrodite (Sea Mouse):** [Gk. **aphrodite** = ancient goddess of love] *i.e.*, supposed to be named on account of its resemblance with human female genitalia. Common name 'sea mouse' is due to its resemblance to a wettened house mouse when washed ashore.

[Ref.: <https://www.metmuseum.org/art/collection/search/254697>; <https://www.earthtouchnews.com/natural-world/how-it-works/this-rainbow-wonder-is-one-of-the-worlds-weirdest-worms/>; <https://www.faunafondness.com/aphrodita-sea-mouse/>]

- **Nereis (Clamworm, Sand Worm):** [Ancient Gk. **Nereis** = sea nymph or **Nereus** = the sea-god Nereus] *i.e.*, a name applied to his daughters by **Doris**, who were regarded by the ancients as marine nymphs of the Mediterranean , in contra-distinction from the '**Naiades**' or the nymphs of fresh water and '**Oceanides**' or the nymphs of the great ocean. Another explanation is 'The Nereides were 50 sea-nymph daughters of Nereus, the old man of the sea. They were goddesses of sea's rich bounty and protectors of sailors and fishermen, coming to the aid of those in distress'.

Common name '**clam worm**' and '**sand worm**' arises out the fact they live in burrows in sand or mud, often with '**clams**' (a common name for several kinds of bivalve Molluscs).

[Ref.: [https://www.flickr.com/photos/a\\_semenov/6514998793/](https://www.flickr.com/photos/a_semenov/6514998793/); <https://chess.myspecies.info/file-colorboxed/360>; [https://www.allamaigbalcollege.edu.in/uploads/download\\_2005300555.pdf](https://www.allamaigbalcollege.edu.in/uploads/download_2005300555.pdf)]

**Subclass – Sedentaria:** [L. **sedens** or **sedentarius** = sitting, tending to sit around a lot] *i.e.*, sedentary Annelids or those which are not freely moving but living inside burrows.

### EXAMPLE(S):

- **Chaetopterus (Parchment worm or parchment tube worm or paddle worm):** [Gk. **chaeta / cheta / chaetae** = chitinous bristle(s) or setae + **pteryx** = wing] *i.e.*, the common name '**parchment worm**' arises from the parchment-like U-shaped tubes (made in the sand or mud) in which the worm lives; and '**paddle worm**' arises from paddle-like parapodia creating a feeding current of water propelled by fan-like (**wing-like**) parapodia, particularly aliform or wing-like parapodia of 10<sup>th</sup> segment and 3 sets of parapodial fans of the middle region.

[Ref.: <https://library.ucsd.edu/dc/object/bb04788169>; <https://alchetron.com/Chaetopterus/>]

- **Arenicola (Lugworm):** [Gk. **arena** = sand + **colo** = to inhabit] i.e., living or burrowing in sand.  
[Ref.: [https://commons.wikimedia.org/wiki/File:Arenicola\\_marina\\_poliqueta\\_sedentario.png](https://commons.wikimedia.org/wiki/File:Arenicola_marina_poliqueta_sedentario.png);  
[https://commons.wikimedia.org/wiki/File:Arenicola\\_marina.JPG](https://commons.wikimedia.org/wiki/File:Arenicola_marina.JPG); <https://epadigestive.weebly.com/lugworm-arenicola-marina.html>]
- **Amphitrite:** [Gk. **amphi** = round about, on both sides + **trite** = third] i.e., meaning thereby 'three times around', perhaps on account of posteriorly coiled forms of the specimens. In Greek mythology, 'Amphitrite' is the name of a daughter of Nereus and Doris. Some considered her a personification of sea itself. She was the wife of Poseidon. Poseidon and Amphitrite had a son 'Triton', the Greek God of the sea, used to live in a golden palace on the bottom of the sea. Triton's special attribute was a twisted sea shell ('**conch shell**'), on which he blew to calm or raise the waves. Triton is also represented as a 'merman' (the male equivalent of mermaid), with the upper body of a human and tailed lower body of a fish. At some places, Amphitrite was depicted in Greek vase painting as a young woman, often raising her hand in a pinching gesture. In mosaic art the goddess usually rides beside her husband in a chariot drawn by fish-tailed horses or 'hippokampoi'. Sometimes her hair is enclosed with a net and her brow adorned with a pair of crab-claw 'horns'  
[video: <https://www.theoi.com/Pontios/Amphitrite.html>;  
[https://www.greekmythology.com/Other\\_Gods/Amphitrite/amphitrite.html](https://www.greekmythology.com/Other_Gods/Amphitrite/amphitrite.html)].  
The similarity of the animal 'Amphitrite' with the sea Goddess 'Amphitrite' comes from the fact that, The long, filiform 'tentacles' on the peristomium and branched 'gills' on first three segments provide appearance similarity with 'hair' of the goddess.  
The posterior coiled end of 'Amphitrite' perhaps resembles 'twisted seashell of Triton' or 'fish-tailed horses or 'hippokampoi'.  
[Ref.: <https://www.faunafondness.com/amphitrite/>;  
[https://commons.wikimedia.org/wiki/File:Terebellidae\\_\(YPM\\_IZ\\_080460\)\\_002.jpeg](https://commons.wikimedia.org/wiki/File:Terebellidae_(YPM_IZ_080460)_002.jpeg)]

**Class – Oligochaeta (Clitellata):** [GK. **oligos** = few + **khaite / chaeta** = long hair, (chitinous) bristle or setae] [L. **clitellae** = a pack-saddle + **ate(a)** = possessing, having the appearance of or a group having a certain function] i.e., the worms (Oligochaeta) having fewer setae (than Polychaeta), embedded in the skin.

Alternatively, the worms (Clitellata) having a thickened glandular section of body wall and secreting a viscid sac in which the eggs are deposited [literally it is meant 'a pack-saddle' because a saddle is specifically designed for holding or supporting the load on a 'pack' animal (= sumpter animal or beast of burden, a working animal used for transporting material by attaching them so that their weight bears on the animal's back].

**Order – Plesioptora (Plesiothecata):** [Gk. **plesion** = near + **porus** = pore + **theke** = case + **ate(a)** = possessing, having the appearance of or a group having a certain function] i.e., indicating about most 'tube-dwelling' worms having the 'male gonopores' on the segment immediately following (or near) that which contains 'testes' or 'spermathecae' in the testes-containing segments or 'nearby'.

#### EXAMPLE(S):

- **Tubifex:** [L. **tubus** = tube + **facere** = make] i.e., a freshwater worm living in 'tubes made of mud' at the muddy bottoms of lakes, ponds and streams.  
[Ref.: <https://killifish.biz/product/sealed-live-tubifex-in-bulk/>; <https://alchetron.com/Tubifex-tubifex>;  
<https://www.waterwereld.nu/tubifexeng.php>]

**Order – Prosopora:** [Gk. **pro** = before+ **porus** = pore] i.e., indicating about some (parasitic) worms having the 'male gonopores' anterior (pro-) to female pores; on the same segment or on the segment containing the second pair of testes.

#### EXAMPLE(S):

- **Branchiobdella:** [Gk. **branchia** = gill(s) + **bdella** = leech] i.e., a small parasitic worm living on the 'gills' of a crayfish attached by a 'sucker' (the posterior end modified into an adhesive sucker; like a 'leech').  
[Ref.: <https://en.wikipedia.org/wiki/Branchiobdellida>; <https://www.kmae-journal.org/articles/kmae/pdf/2002/03/kmae200236711.pdf>; <http://nonchordatesworld.blogspot.com/2016/11/phylum-annelida.html>]

**Order – Opisthopora:** [Gk. **opisthe** = behind, opposite + **porus** = pore] i.e., indicating about most terrestrial burrowing worms having the 'male gonopores' some distance 'behind' the testes-bearing segments.

#### EXAMPLE(S):

- **Lumbricus** [L. **lumbricus** = earthworm] i.e, a 100 – 180-segmented earthworm commonly found in Europe and America, with a clitellum in 33 – 37 segments.  
[Ref.: [http://www.naturenorth.com/fall/ncrawler/Night\\_Crawlers\\_02.html](http://www.naturenorth.com/fall/ncrawler/Night_Crawlers_02.html)]
- **Pheretima:** [Gk. **Pheretima** = wife of the Gk. Cyrenaean King Battus III].:  
**NOTE:** No proper explanation could be found about the similarity between the Genus *Pheretima* and the queen's name *Pheretima* except the following excerpts where the name 'worms' appears:

"As a postscript to these grisly events, *Pheretima* herself ended badly. Herodotus reports that during the return to Egypt, she contracted a disease which saw her body horribly waste away, consumed by worms before her very eyes".

[video: <https://www.encyclopedia.com> ]

An earthworm with about 100 – 120 segments and a clitellum surrounding 14 – 16 segments.





[Image-1, *Pheretima* sp.]

[Video-1, *Pheretima* sp. At the End of the Document/Blog, please refer]

- **Megascolex:** [Gk. *megas* = great + *skolex* = worm] i.e., a large-sized (may reach up to 2.0 m) earthworm, with up to 100 segments and clitellum in 14 – 17 segments.

[Ref.: <https://en.wikipedia.org/wiki/Megascolecidae>; [https://www.brainkart.com/article/Earthworm---Lampito-mauritii\\_33172/](https://www.brainkart.com/article/Earthworm---Lampito-mauritii_33172/)]

**Class – Hirudinea:** [L. *hirudo* / *hirudinis* = a leech] [Middle English *leche* or Old English *laece* = blood-sucking worm] i.e., typically dorso-ventrally flattened, segmented (33 segments) worms, provided with an anterior sucker, employed for blood sucking, and a posterior sucker, employed only for adhesion.

**Order – Acanthobdellida:** [Gk./L. *a* = not, without, lacking, deficient + *acantho* = spine + *bdella* = leech + *eidos* = form, type] i.e., a primitive order (= ancient leeches with chaetae / setae in anterior 5 segments) of European and North American fish leeches (parasitizing Salmons), without (= *a*) an anterior sucker and jaws (= *acantho*).

#### EXAMPLES:

- **Acanthobdella:** [meaning same as that of the 'Order']: The only Genus parasitizing Salmons.

[Ref.: <https://www.hindawi.com/journals/tswj/2012/652827/>; <https://www.faunafondness.com/acanthobdella/>]

**Order – Rhynchobdellida:** [Gk. *rhunkhos* = snout + *bdella* = leech + *eidos* = form, type] i.e., the leeches with a protrusible proboscis (= snout) and without jaws. Their food consumption behaviour exhibits a stereotyped pattern involving the proboscis, used to penetrate a host's body wall and suck body fluids.

#### EXAMPLES:

- **Glossiphonia:** [Gk. *glossa* = tongue + L. *siphon* = tube] i.e., flattened, leaf-like, parasitic (on vertebrates like Amphibians and invertebrates like Oligochaetes and snails) leeches with poorly developed anterior sucker, often changing into an extensible and elastic (tongue-like) 'proboscis', used to penetrate a host's body wall and ingest (siphoning) body fluids.



[Image-2, **a, b, c & d:** *Glossiphonia* sp. found amongst the biota collections from the marshy habitats of Doon Valley (Uttarakhand, India) streams (Aasan and Suswa River). Quite fascinating to observe the remarkable 'PARENTAL CARE', the youngs attached to the belly (b) of a gravid individual and also found strewn (c,d) after being detached from the belly.]

[Video-2, *Glossiphonia* sp. in action, at the End of the Document/Blog, please refer]

Leeches in the family Glossiphoniidae, utilize a very different strategy, and care for their eggs and young for an extended period of time. It will be fascinating to watch the moving leech and the remarkable phenomenon of 'PARENTAL CARE'. Following hatching, parents will continue to protect and ventilate the young leeches, being attached to the belly of the parent, immediately after hatching.

- *Piscicola*: [L. *piscis* = fish + *coleus* = sack for liquids or grains] i.e., a very common 'fish' leech; attaching to fish's body with its anterior end before puncturing its skin with its proboscis and sucking its blood (body acting as a sac to get filled with sucked blood).

[Ref.: [https://en.wikipedia.org/wiki/Piscicola\\_geometra](https://en.wikipedia.org/wiki/Piscicola_geometra)]

[Video-3, *Piscicola* sp. in action, at the End of the Document/Blog, please refer]

An individual of *Piscicola* sp. put in a water-filled petridish. Worth watching its movements (common to all leeches). The anterior and posterior suckers play an important role. When the posterior sucker is attached to a surface, the circular muscles contract, beginning at the posterior end. The leech thus elongates and the anterior sucker fastens to the surface. When the posterior sucker is released, a wave of contraction of the longitudinal muscles moves in a forward direction. All these actions are repeated in every cycle.

[Observed amongst the biota collections from the marshy habitats of Doon Valley (Uttarakhand, India) streams (Aasan, Suswa and Song Rivers)].

**Order – Gnathobdellida:** [Gk. *gnathos* = jaw + *bdella* = leech + *eidos* = form, type]: i.e, the blood-sucking proboscis-less leeches with 3 chitinous jaws.

#### EXAMPLES:

- *Hirudo*: [L. *hirudo* / *hirudinis* = a leech]: This Genus includes 'medicinal leeches' e.g., *H. medicinalis* (European medicinal leech), used in 'leech therapy' or 'blood letting', the withdrawal of blood from a patient to prevent or cure illness and disease. (The Asian medicinal leech is *Hirudinaria manillensis* whereas the North American medicinal leech is *Macrobdella decora*).

[Ref.: <http://nonchordatesworld.blogspot.com/2016/11/phylum-annelida.html>; <https://www.britannica.com/animal/European-medicinal-leech>]

- *Hirudinaria*: [L. *hirudo* / *hirudinis* = a leech]: A Genus of large Asian leeches (e.g., the Indian cattle leech, *Hirudinaria granulosa* and Asian medicinal leech, *Hirudinaria manillensis* etc.).

[Ref.: <https://www.faunafondness.com/hirudinaria-granulosa%E2%80%8B/>]



[Image-3, *Hirudinaria granulosa*.]

[From marshy habitats of the Song River (at Nakraunda) in Doon Valley, Uttarakhand, India]

**Order – Pharyngobdellida:** [Gk. *pharyngo-* = throat/pharynx + *bdella* = leech + *eidōs* = form, type]: i.e., the leeches provided with a non-protrusible pharynx. Jaws absent, but one or two styles may be present. Not feeding on blood but instead they are predators of small aquatic invertebrates.

**EXAMPLES:**

- ***Erpobdella*:** [Gk. *erpo-* / *herpo-* = walk, crawl, creep, slink + *bdella* = leech]: A nocturnal pattern of creeping / crawling and swimming is shown by these predatory leeches.

[NOTE: Studies have shown that swimming or crawling (or both) methods of locomotion are differentially regulated according to an innate circadian rhythm. Also that, these types of (carnivorous) leeches abandon feeding by either swimming or crawling].

[Ref.: <https://commons.wikimedia.org/wiki/Category:Erpobdella>; <https://alchetron.com/Erpobdella>; <https://www.alamy.com/stock-photo/erpobdella.html>]

**Class – Archiannelida:** [Gk. *arkhaios* / *arkhe* / *arkhein* = ancient, primeval; beginning; to be the first] i.e., a Class of small 'primitive' (ancient/ancestral) or secondarily simplified marine worms, lacking external segmentation, setae and having a larva (= Trochophore) of Polychaetes.

**EXAMPLES:**

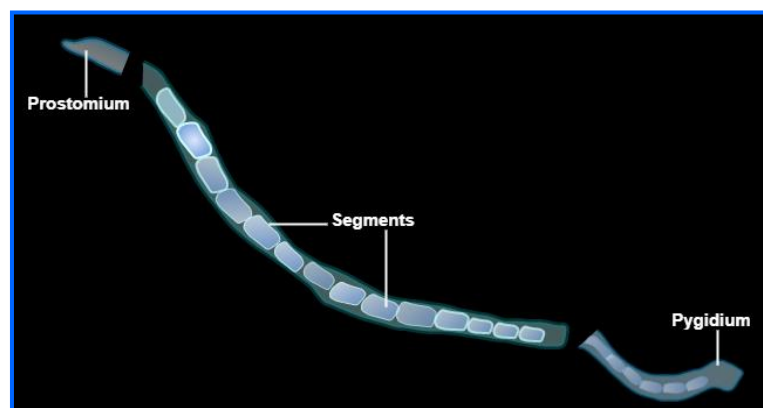
- ***Polygordius* (More knot worm):** [Gk. *polus* / *polloi* = many + L. *Gordius* or Gk. *Gordios* = a \*'Gordian knot']  
[\*The story of Alexander's cutting the fatal 'Gordian knot' on the chariot of the ancient Phrygian king Gordius is connected with his stay in this place. The phrase "cutting the Gordian knot" has thus come to denote a bold solution to a complicated problem. See more details in <https://www.britannica.com/topic/Gordian-knot>]

The literal meaning of the worm is hidden in its common name – 'More knot worm' i.e., a worm with many 'Gordian knots', signifying external segmentation by faintly marked by grooves in anterior region and clearly marked in posterior region (as if the body is provided with equidistant 'knots').

Or

The trunk shows no signs of external segmentation and is reminiscent of nematodes (L. *Gordian* / *Gordius* = a genus of long, slender, nematoid worms) or ribbon worms (Nemertea), though the septa of the segments can be seen internally with the appropriate lighting. The trunk, which can have 200 or more segments, terminates in a pygidium.

[Ref.: <https://www.mdpi.com/1424-2818/12/4/146>]



[Image-4, *Polygordius*.]

[Diagrammatic]

The literal meaning of the worm is hidden in its common name – 'More knot worm' i.e., a worm with many 'Gordian knots' (inside), signifying external segmentation by faintly marked by grooves in anterior region and clearly marked in posterior region (as if the body is provided with equidistant 'knots').

- ***Protodrilus*:** [Gk *protos* = first + L. *drilus* = earthworm / Gk. *drilos* = penis with the foreskin withdrawn or circumcised penis] i.e., small primitive worms restricted to the interstitial environment of marine sediments, ranging from fine sand to gravel.

[Ref.: <https://hmr.biomedcentral.com/articles/10.1007/s10152-013-0358-z>; <http://www.marinespecies.org/photogallery.php?album=673&pic=104030>; <http://cifonauta.cebimar.usp.br/taxon/protodrilidae/>]

..... Continued (Videos)



Learning process is an on-going process:  
Keep on venturing more into the fantastic world of Etymology  
and feel **ANNELID** – friendly !!!



**COMING UP NEXT, 'BIO-ETYMOLOGY'**

**PART - 10**

**Phylum: ARTHROPODA & ONWARDS...**