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Current paper ZOO201

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1 .Name of animal of diplopoda?

Members of the class diplopods are Millipedes

Most millipedes are slow-moving detritivores, eating decaying leaves and other dead plant matter

2. Trepang ?

The body wall of sea cucumbers, when boiled and dried, is known as trepang in Asian countries.

3. Starfish stomach:

The mouth opens to a short esophagus and then to a large stomach that fills most of the coelom of the central disk.

The stomach is divided into two regions.

•The larger, oral stomach, sometimes called the **cardiac stomach**, receives ingested food.

•It joins the smaller, aboral stomach, sometimes called the **pyloric stomach**.

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4.Complete metamorphosis?

Complete metamorphosis is the type of insect development that includes egg, larva, pupal, and adult stages, which differ greatly in morphology. The lifecycle of butterflies, ants, fleas, bees, beetles, moths, and wasps are examples of the complete metamorphosis.

5. Ventilating process in insects? long

Most insects have ventilating mechanisms that move air into and out of the tracheal system.

- Insects do not breathe through their mouths as we do.

- The do not have lungs and their blood, which is a watery, yellowish liquid, does not carry oxygen and carbon dioxide around their bodies.
- Insects have a system of tubes, called **tracheae**, instead of lungs.
- These tracheae penetrate right through the insect's body.
- Air enters the tracheae by pores called **spiracles.**
- These spiracles are found on each side of the insect's abdomen. Each segment of the abdomen has a pair of spiracles.

•As oxygen diffuses from the tracheae to the body tissues, and is not replaced by carbon dioxide, a vacuum is created that draws more air into the spiracles. This process is called **passive suction.**

6. Skeleton of sea urchin? **Imp.long**

Sea urchins are rounded, and their oral end is oriented toward the substrate.

•Their skeleton, **called a test,** consists of 10 closely fitting plates that arch between oral and aboral ends.

Five rows of ambulacral plates have openings for tube feet, and alternate with five inter ambulacral plates, which have tubercles for the articulation of spines.

The base of each spine is a concave socket, and muscles at its base move the spine.

•Spines are often sharp and sometimes hollow, and they may contain venom dangerous to swimmers.

7. garden centipedes.

Members of the class Symphyla (sim-filah) (Gr. sym, same phyllos, leaf) are small arthropods (2 to 10 mm in length) that occupy soil and leaf mold, superficially resemble centipedes, and are often called **garden centipedes.**

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8. Phylum of sea urchin ?

Sea urchin is invertebrates and belong to phylum Echinoderm.

9. Circulatory system?

The **circulatory** system of insects is similar to that described for other arthropods, although the blood vessels are less well developed.

Insects, like all other arthropods, have an open circulatory system which differs in both structure and function from the closed circulatory system found in humans and other vertebrates. In a closed system, blood is always contained within vessels (arteries, veins, capillaries, or the heart itself).

10. Insects pollination? **long**

Insects are responsible for the pollination of approximately 65% of all plant species.

•Insects and flowering plants have co evolutionary relationships that directly benefit humans.

The annual value of insect-pollinated crops is estimated at $19 billion per year in the United States.

Insect pollination is crucial to most gardens and is as simple as insects like bees, butterflies and wasps flying from flower to flower in order to collect nectar.

•In the process, pollen collects on their bodies and rubs off on other flowers that they visit.

11. Juvenile hormone?

There are two main classes of hormones in insects:

• the true hormones produced by epithelial glands and belonging to the ecdysteroids or **juvenile hormones.**

12. Sea lily and star?

PHYSICAL CHARACTERISTICS:

Sea lilies have a stalk below the crown and look like flowers. **Feather stars** have a cluster of tentacles below the crown and look like ferns.

Feather star are white, purple, brown, green. Or violet. Sea lily are white.

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HABITAT:

Most sea lilies live in deep water and most feather star live on coral reefs.

DIET:

Both are planktonic

13.Locomotion in Sea Cucumber? Long repeated

Sea cucumbers are mostly sluggish burrowers and creepers, although some swim by undulating their bodies from side to side.

•Locomotion using tube feet is inefficient, because the tube feet are not anchored by body wall ossicles.

‘’Locomotion more commonly results from contractions of body-wall muscles that produce wormlike, locomotor waves that pass along the length of the body.

One way that sea cucumbers can confuse or harm predators is by propelling their own toxic internal organs from their bodies in the direction of an attacker.

•The organs grow back, and it may save them from being eaten.

14. Synchronous Fligh?

- Direct or synchronous flight is a mode of transportation that is fueled by wing muscles that insert directly into the wing base.
- The insertion point of the wing is hinged which enables the muscles downward movements to lift the wing portion upward and upward movements pull the wing portion downward.

15. How cycliophores produce by asexually?

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•It can reproduce asexually by producing a larva stage, called the pandora, that is released and settles on the same host.

•Because of this asexual reproduction, large number of symbion can build up on one host.

16. Nervous System of Insects? Long repeated

- The central nervous system consists of a series of ganglia that supply nerves to successive segments of the body.
- The three main ganglia in the head (protocerebrum, deutocerebrum, and tritocerebrum) commonly are fused to form the brain.
- The rest of the ganglionic chain lies below the alimentary canal against the ventral body surface.
- In most insects the number of separate ganglia has been reduced by fusion. The last abdominal ganglion always serves several segments.

- In homopterans and heteropterans all the abdominal ganglia usually fuse with mesothoracic and metathoracic ganglia

17.Class Crinoidea: General Features

- Stem and a crown consisting of a cup-like central body known as the theca.
- Five rays or arms.
- Mouth surrounded by feeding arms and is linked to a u-shaped gut.
- Passive suspension feeders.
- Dioecious
- Gonads are located in the pinnules but few in the arms.

18. Ossicles?

Series of overlapping skeletal plates known as ossicles.

The echinoderm skeleton consists of a series of calcium carbonate plates called ossicles.

19. Alarm pheromones:

Released to warn other individuals of danger; may cause orientation toward the pheromone source and elicit a subsequent attack or flight from the source.

20. insect have memory?

Research has demonstrated that insects are capable of some learning and have a memory.

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For example, bees (order Hymenoptera) instinctively recognize flowerlike objects by their shape and ability to absorb ultraviolet light, which makes the center of the flower appear dark.

21. Sea star regeneration?

Sea stars are well known for their powers of regeneration.

•They can regenerate any part of a broken arm.

•In a few species, an entire sea star can be regenerated from a broken arm if the arm contains a portion of the central disk.

Regeneration is a slow process, taking up to a year for complete regeneration.

22. for stages of metamorphosis?

Egg

larva

pupa

adult

23. pheromones?

Pheromones are chemicals an animal releases that cause behavioral or physiological changes in another member of the same species.

•Zoologists have described many different insect uses of pheromones.

24. Define vector

A vector is a living organism that transmits an infectious agent from an infected animal to a human or another animal. Vectors are frequently arthropods, such as mosquitoes, ticks, flies, fleas and lice

25. soil dwelling insect important?

Many other insects are also beneficial.

•Soil-dwelling insects play important roles in aeration, drainage, and turnover of soil, and they promote decay processes.

•Other insects serve important roles in food webs.

•Soil-dwelling insects are hidden in the soil and hard to detect until the sudden appearance of damage creates the demand for rapid, curative treatment.

26. Royal jelly?

Royal jelly is a honey bee secretion that is used in the nutrition of larvae, as well as adult queens. It is secreted from the glands in the hypopharynx of nurse bees, and fed to all larvae in the colony, regardless of sex or caste.

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27. Gaseous exchange in Ophiuroids?

- Ten bursa on the bottom of the central body disk.
- Cilia within the sacs direct water flow so that oxygen can be absorbed from the water
- Water flows through cilia or muscular contraction.
- Oxygen is transported by the hemal system.

28. Class Ophiuroidea belong to which phylum?

Phylum Echinodermata

29. Paurometabolous or metamorphosis ?

Paurometabolous is the process of gradual metamorphosis. Paurometabolous is the type of growth that occurs in insects such as cockroaches, which includes just three stages, i.e. egg, nymph, and adult. It is called incomplete metamorphosis or paurometabolous since it lacks the pupa stage.

30. There are two main classes of hormones in insects:

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1) the true hormones produced by epithelial glands and belonging to the ecdysteroids or juvenile hormones.

2) the neuropeptide hormones produced by neurosecretory cells.

31. Mating Behavior in Insects? long

Mating behavior:

Mating behavior is typically viewed as comprising all events from pair formation through courtship to the final breakup of the mating pair.

Locating and recognizing mates:

- Chemical attractants
- Humming sound
- Courtship ritual

Mating:

Internal fertilization by insertion of the male intromittent organ into the female genital tract for deposition of sperm is the usual method of **copulation**.

BY PPT: Most insects have complex mating behaviors for locating and recognizing a potential mate, for positioning a mate for copulation, or for pacifying an aggressive mate.

Mating behavior may involve pheromones (moths, order Lepidoptera), visual signals (fireflies, order Coleoptera), and auditory signals (cicadas, order Homoptera; and grasshoppers, crickets, and katydids, order Orthoptera).

32. Hemal system in echinoderm?

in echinoderms, the blood vascular system is called hemal system, which is poorly developed in star fish and plays little role in circulation. The system consists of small fluid-filled sinus-channels that lack a distinct lining. The haemal channels are actually intercommunicating spaces and are not true blood vessels.

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33. Dermal Branchiae?

- External gill-like structures are scattered across their body surface.
- Gas exchange.
- Papulae.
- Cilia beat and ventilate the respiratory surface.

- Outer ectodermal epithelium, gland cells and a small basiepithelial nerve plexus.
- Papulae function as a simple site of respiratory exchange.

34. Aristotle's Lantern in Echinoids

- Conical shaped chewing apparatus projecting from mouth.
- Complex arrangement of muscles and calcareous teeth constituting about 35 ossicles.
- Teeth are extruded to scrape algae and other food from rocks.
- Five strong teeth, 40 skeletal ossicles and 60 muscles.
- Masticating the food.
- Feed on algae, bryozoans, coral polyps, and dead animal remnants.

35. Class Asteroidea?

- 1,900 species and second largest group in the Echinodermata.

- They often live on hard substrates in marine environments.
- Thin folds of the body wall, called dermal branchiae.
- Pincher-like structures called pedicellariae.
- Ambulacral groove and paired rows of tube feet.
- Suction disks sensory receptors are distributed over the surface of the body and tube feet.
- Sea stars are dioecious, and external fertilization is the rule.
- Bipinnaria larva

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Regards Ch. Ismail

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