

Invertebrate

Animals



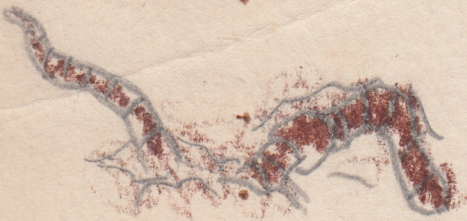
Protozoa



Sponge



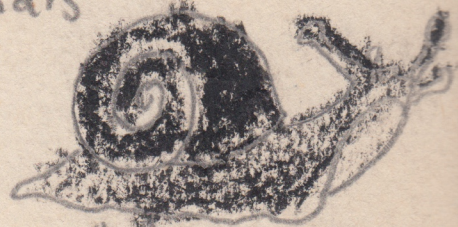
Hollow-Body
Animals



Worm

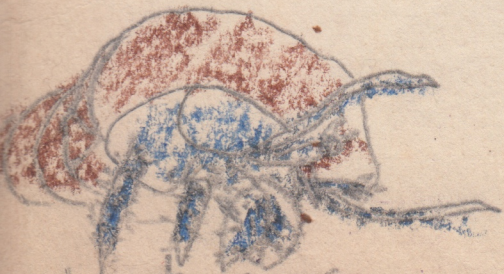


Spiny-Skinned
Animals

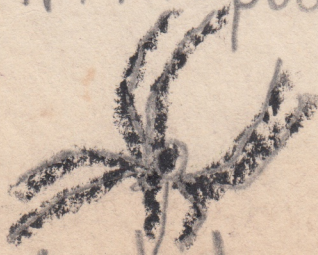


Mollusks

Arthropods



Crustaceans



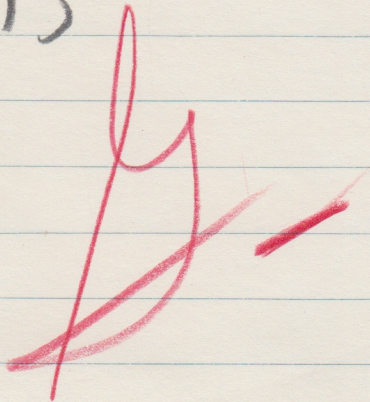
Arachnids



Insects

Mike Montague

Invertebrate Animals



Mike Montague
Robert Burns
Feb. 17, 1969
206-5
Miss Hogan

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Mike Montague Jan. 15, 1969
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The Protozoan Family

Protozoans are all alike in some ways. All protozoans have just one cell to their bodies. Most of them live in water. Some of them live in animals bodies.

Protozoa means "earliest form of animals." Scientists believe that protozoa were the first animals to appear on the earth.

I am going to tell you about two protozoa. They are called the "amoeba" and the "paramecium".

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The Amoeba

An amoeba is a very strange animal. It has no shape of its own.

The way an amoeba moves around is with a "pseudopod" or a "false foot." It stretches out a piece of its body and then the rest of the body slowly flows into the stretched-out part.

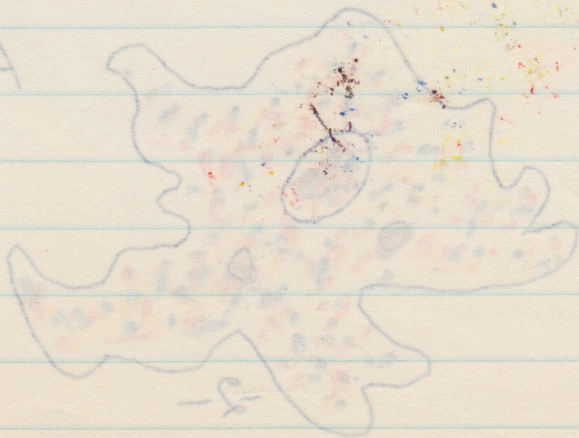
An amoeba also gets its food with a pseudopod. It stretches and wraps itself around its food. Then the food is in the amoeba.



Amoeba

When an amoeba makes other animals just like itself it splits in two. Then the two pieces may split into more pieces or it will just go away.

Amoeba



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The Paramecium

A paramecium looks like a slipper. The body of a paramecium has cilia all around it. A paramecium is surrounded by a tougher membrane than that around an amoeba. This tougher membrane gives the paramecium a definite shape. Because of its tough membrane, a paramecium cannot use its body to surround a bit of food. A paramecium has a groove in one side of its body through which it takes its food.

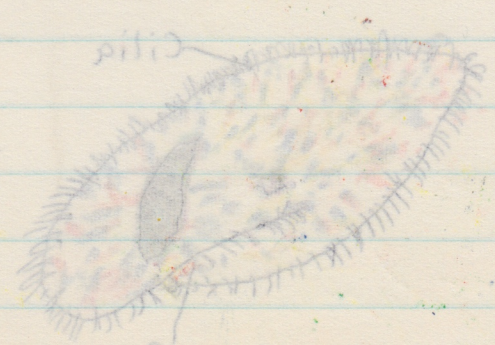


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Paramecium



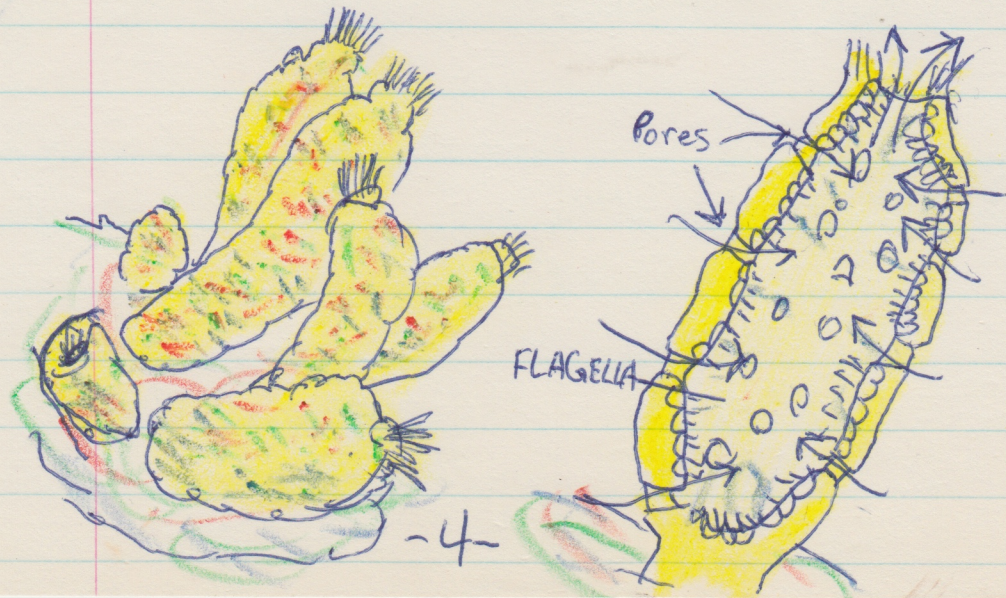
Groove

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Animals With Many Cells

One of the simplest of the many-celled animals is the sponge. Sponges can be found attached to solid objects in the sea. If you look carefully at the sponge, you will see that its body has holes, or pores. Tiny flagella grow all around the inside of the pores. The whipping back and forth of the flagella keeps water flowing through the pores. A sponge only an inch long draws as much as forty-five



gallons of water through itself in one day. The water carries with it small bits of food for the cells of the sponge. Each of the sponge cells digest food and rid itself of waste just as single-celled animals do.



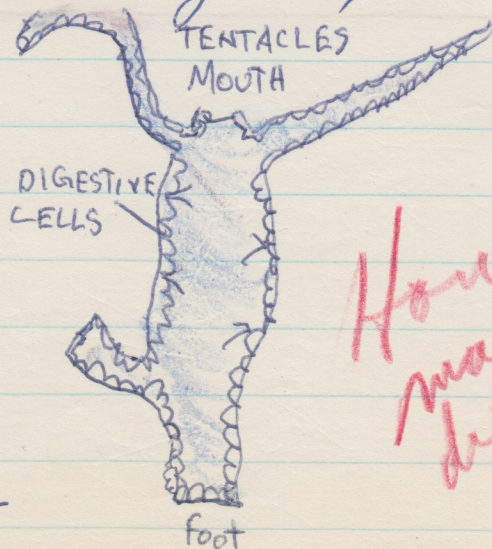
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Hollow Animals

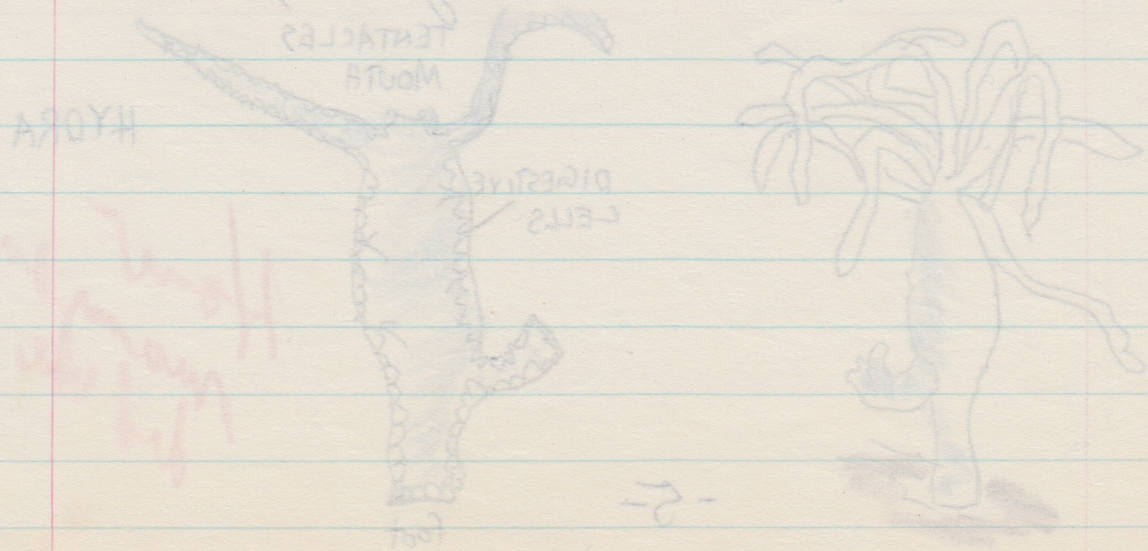
Another simple animal is the hydra. This little fresh-water animal is found attached to sticks, stones, and water weeds. The hydra sort of looks like a tube. At the top of the tube is the hydra's mouth. Around the mouth six to ten tentacles.

The hydra's outer layer of cells is tough and elastic. When a hydra is seeking food, its body stretches, and the tentacles wave back and fourth. If a small animal swims near the hydra, the



How many animals
did we study

tenacles, then shoot stinging darts into the animal. The hydra's tentacles then push the animal into the hydra's mouth. The inner layer of a hydra is made up largely of cells that digest food. Waste products are eliminated through the mouth.



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Worms



FLATWORMS



ROUNDWORM



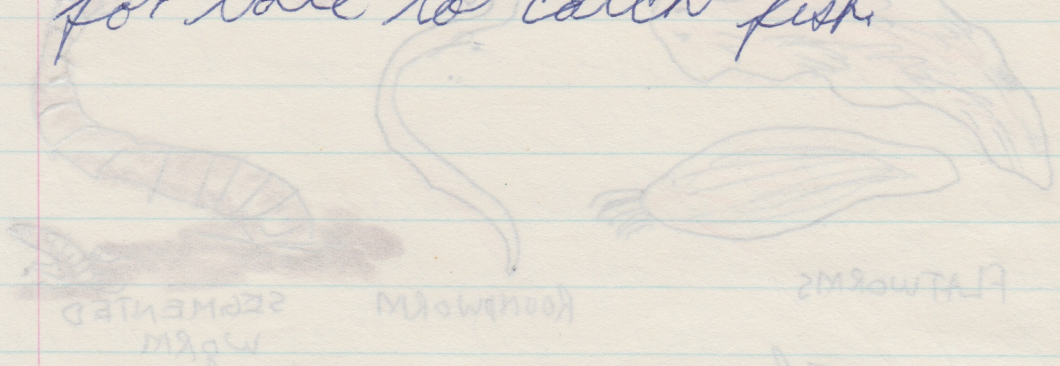
SEGMENTED
WORM

There are more than 6500 kinds of worms. All worms can be divided into three kinds: flatworms, roundworms, and segmented worms.

All flatworms are, of course, flat. It gets around with cilia. It has a flexible tube. Through this tube the flatworm gets food. It has eyes but can't see very well.

Roundworms are very strong. They can hook to about anything. Some roundworms live in water and in the soil. Most of these roundworms are harmless. 6-

The segmented worm lives mostly in the ground. We some times used segmented worms for bait to catch fish.



There are more than 500 kinds of worms. All worms can be divided into three kinds: flatworms, roundworms, and segmented worms. All flatworms are of course flat but they get around with cilia. It has a head like this. Through this tube the flatworm gets food. Its eyes but you can't see very well. Roundworms are very strong they can live to about any thing have roundworms live in water and in the soil. Most of these roundworms are harmful.

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Mollusks

Most mollusks protective shells. Clams, oysters, mussels, snails, octobuses, and squids are all mollusks.

Most of the mollusks have a muscular foot. Like mollusks snails move with a muscular foot. Clams, oysters and mussels has two shells. A very very stronge mussle keeps the shells together.



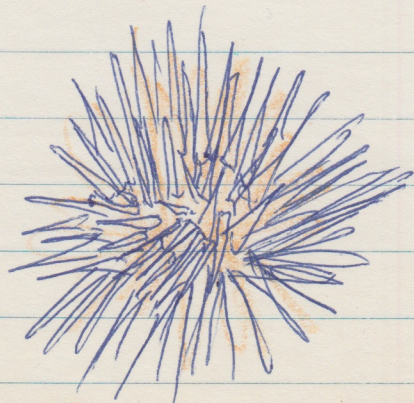
How many
mollusks
did we
study?

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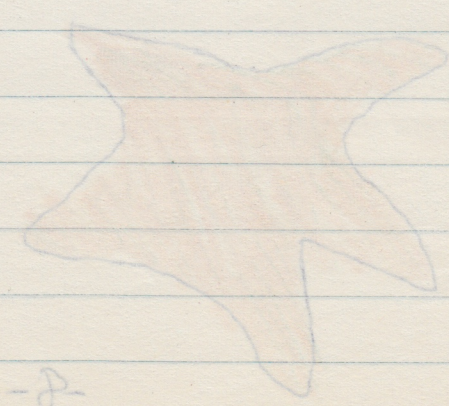
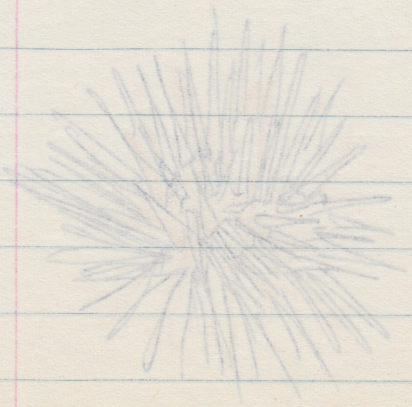
Spiny-Skinned Animals

If you have ever seen a sea urchin or a starfish, you know why these animals are called spiny-skinned. Both have skins covered with spines or prickly, stickerlike pieces. Long sharp spines protect a sea urchin from its enemies. Some sea urchin spines contain poison. Avoid stepping on a sea urchin when you go wading where sea urchins live. A sea urchin can move from place to place on



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its spines as if it were walking
on stilts

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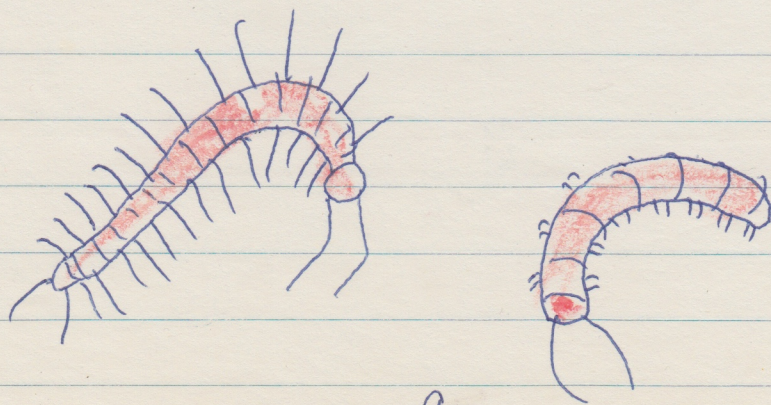
To which family
~~do~~ do these
animals
belong?

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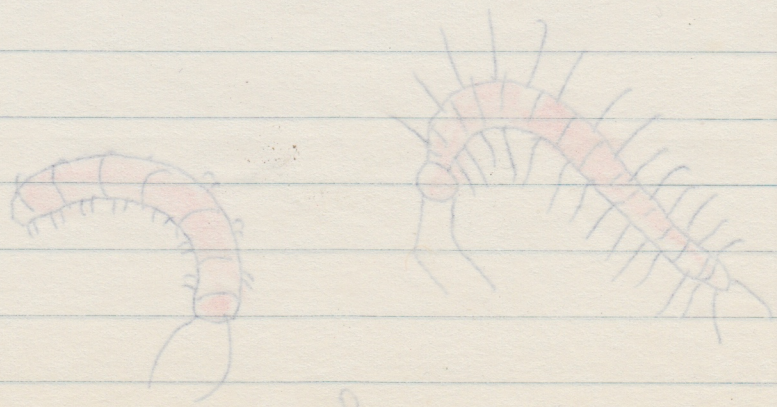
Myriapods

The myriapods are the centipedes and the millipedes. You have probably seen both these animals. You may have called the centipedes "hundred leggers" and the millipedes "thousand leggers". Actually, centipedes do not have a hundred legs, nor do millipedes have a thousand legs. Centipedes have one pair of legs of each segment of their bodies. Millipedes have two pairs of legs on each segment.



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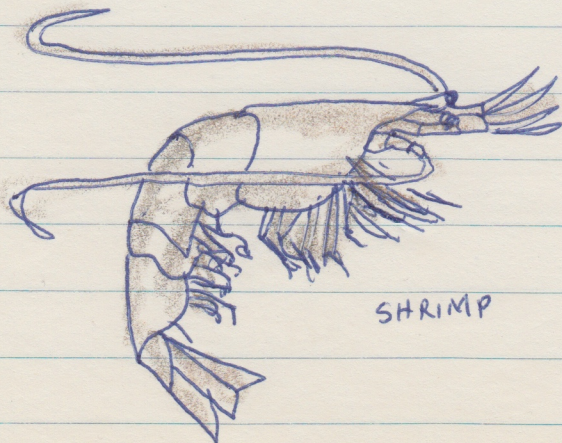


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Crustaceans

You have probably seen some crustations. Crayfish, lobsters, shrimps, and crabs are some of the many kinds of crustaceans. Some crustaceans, such as water fleas, are so small that you need a magnifying glass to see them. One crustation is a giant spider crab that measures 12 feet across. Most crustations have five pairs of legs. Almost all crustations live in water.



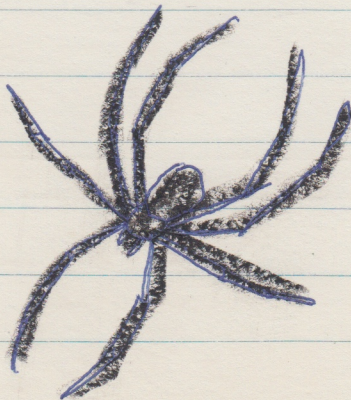
SHRIMP

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Arachnids

Spiders belong to the kind of arthropods called arachnids. A spider's body is divided into two parts. A spider has four pairs of legs for walking, and one pair of fellers for grasping prey. A spider has no jaws, but it does have a pair of fangs. Because the fangs are connected to poison sacs, a spider has a poisonous bite. However, the bite of most spiders is not harmful to human beings.



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Insects

A characteristic that enables us to tell insects from other animals is that insects have six legs. The bodies of insects are divided into three parts: head, thorax, and abdomen. The head is the fore part, the thorax is the middle part, and the abdomen is the hind part.



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