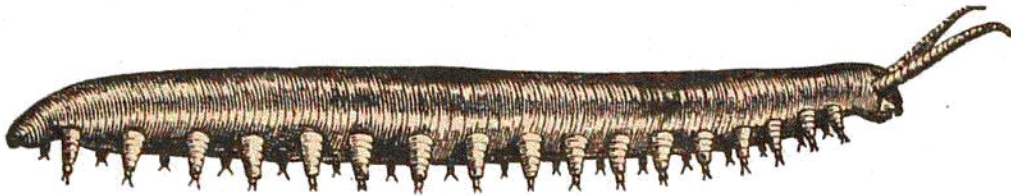


*Peripatus* is an animal of the very highest importance and antiquity, and I believe it to be a nearly related representative of the ancestor of all air-breathing Arthropoda, *i.e.*, of all insects, spiders, and Myriapods.

The animal has the appearance of a black caterpillar, the largest specimens being more than three inches in length, but the majority smaller. A pair of simple horn-like antennæ project from the head, which is provided with a single pair of small simple eyes. Beneath the head is the mouth provided with tumid lips and within with a double pair of horny jaws. There are seventeen pairs of short conical feet, provided each

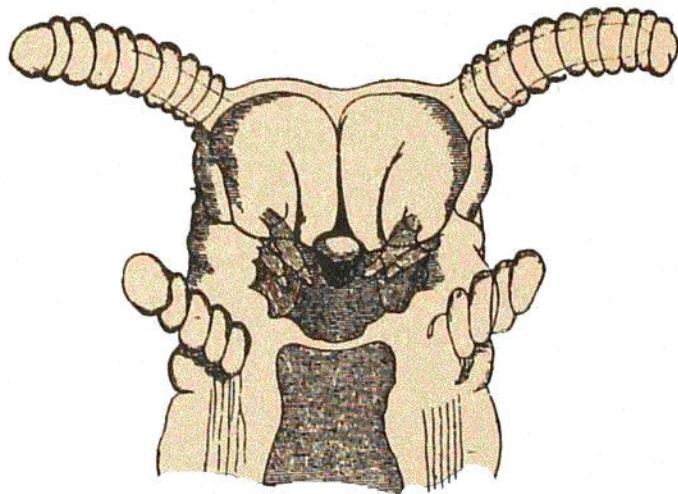


PERIPATUS CAPENSIS. (Natural size).

with a pair of hooked claws. The skin is soft and flexible, and not provided with any chitinous rings.

The animal breathes air by means of tracheal tubes like those of insects. These, instead of opening to the exterior by a small number of apertures (*stigmata*) arranged at the sides of the body in a regular manner as in all other animals provided with tracheæ, are much less highly specialized. The openings of the short tracheæ are scattered irregularly over the whole surface of the skin.

It appears probable that we have existing in *Peripatus* almost the earliest stage in the evolution of tracheæ, and that these air tubes were developed in the first tracheate animal out of skin glands scattered all over the body. In higher tracheate animals the tracheal openings have become restricted to certain definite positions by the action of natural selection.



HEAD OF EMBRYO OF PERIPATUS CAPENSIS, SHOWING THE DEVELOPMENT OF THE JAWS.

The sexes are distinct in *Peripatus*.

The males are much smaller and fewer in number than the