



Diversity Of Soil Organisms
Macrofauna - Myriapoda

Morphology

Myriapods (centipedes, millipedes, pauropods and symphylans) are small- to large-sized arthropods (0.5 - 385 mm) with elongated segmented bodies and many legs (from eight pairs up to 750 pairs). Myriapods' bodies have a head and a more or less uniformly segmented trunk. Millipedes have fused pairs of segments and, consequently, they have two pairs of legs per segment. Centipedes have forcipules, the first pair of modified walking legs on their trunk segment that contain venom glands to catch and immobilise prey. Pauropoda are very small and have branched antennae with segmented stalks. By contrast, Symphyla have a pair of conical cerci with spinning glands on the posterior part of their body.



Taxonomy

Myriapods are categorised into four classes: Diplopoda (millipedes, 16 orders, approximately 12 000 species), Chilopoda (centipedes, five orders, approximately 3 000 species), Pauropoda (two orders, approximately 800 species) and Symphyla (one order, approximately 200 species). The most diverse orders are: Polydesmida (flat-backed millipedes, 3 500 species) and Geophilomorpha (soil centipedes, 1 300 species).

Microhabitat

Generally, myriapods are soil dwellers. Larger species burrow, while smaller and thinner species use crevices and spaces in the soil. They can be found in both deep and shallow soil layers. They all thrive at high humidity, stable temperatures and low ultraviolet radiation levels; therefore, they are typically found under stones, logs and barks, and in litter, in tree hollows, stumps and caves. Some species of millipedes and centipedes can climb trees.

Diversity, abundance and biomass

Myriapods are found in almost all terrestrial habitats from deep soil layers and caves to above the timberline in mountains. Antarctica is the only continent with no myriapods. Myriapods are not exceptionally abundant in any habitats, with the exception of some millipede species. In some temperate forest soils, millipedes can reach densities of over 1 000 m². Different myriapod groups have different feeding preferences. Centipedes are generally predators and often regulate populations of smaller animals, although some feed on decaying plant matter. Symphylans are root-feeders, or saprophagous. Pauropods are fungal-feeders, although some species prey on small animals or suck liquids from rotting plant material. Millipedes are important decomposers of leaf litter. They are estimated to break down 10 - 15 % of the annual leaf fall, and their significance for litter processing is higher than that of earthworms in boreal forests.

Farming Secrets says: Another essential creature in the soil food web.

Ref: A Global Atlas of Soil Biodiversity p 57