

Insects and People - Entomology 101

Kin Folk - In-laws and Outlaws - Insect Relatives

Read: Field Guide to Insects, pp. 48-55

Phylum Arthropoda

The arthropods surpass all other organisms in terms of diversity of ecological distribution and in numbers of species and individuals. Approximately 80% of all described animal species are arthropods.

Subphylum Trilobita

- the trilobites (extinct - known from fossils only - 600mybp)
- trilobites were marine in distribution, somewhat elongate, flattened, with three rather distinct body divisions
- most trilobites were between one and five inches in length although some were as long as 2.5 feet!
- most trilobites appear to have been bottom feeders

Subphylum Chelicerata

- the chelicerates
- body divided into two sections, a cephalothorax and an abdomen; first pair of appendages are feeding structures called chelicerae; no antennae;

Class Arachnida - the arachnids

- the largest class of chelicerates (over 10,000 species)

Order Scorpiones - the scorpions

- fairly common in the southwest and west
- at least two species in Washington, not seriously toxic
- first pair of leg-like structures called pedipalps
- feed primarily on other arthropods including insects

Order Araneae - the spiders

- occur in a variety of terrestrial and semi-aquatic habitats
- nearly all spiders have venom glands
- body divided into cephalothorax and abdomen; four pair of walking legs
- eggs laid in silken sacs, usually hidden, sometimes carried by female
- for the most part, all spiders are predators feeding primarily on other arthropods including insects
- many construct silken webs; "ballooning"

Order Opiliones - the harvestmen or daddy longlegs

- small bodied arthropods with the cephalothorax and abdomen broadly joined (giving them the appearance of having a single body segment).

-predators or feed on decaying carrion and vegetation

Order Acari - the mites and ticks

-mites occur in a great variety of ecological habitats including soil, fresh and marine waters, soil, organic debris, etc.

-mites can be phytophagous, predaceous, omnivorous

-chiggers - ectoparasites on vertebrates

-phytophagous mites can be very destructive because of their debilitating effects

-ticks are very specialized blood feeders

-ticks may vector numerous diseases including Lyme diseases, Rocky Mountain Spotted fever, relapsing fever, and Texas cattle fever

-tick paralysis

Order Pseudoscorpiones - the pseudoscorpions

-look like small, sting-less scorpions

Subphylum Crustacea

the crabs, shrimp, crayfish, lobsters, sowbugs, barnacles, etc.

Order Isopoda - the sow- and pillbugs

-very common under rocks, wood, in cracks and crevices of buildings, basements

-scavengers and omnivores

Subphylum Atelocerata - millipedes, centipedes, and insects

Class Diplopoda - the millipedes

-elongate, worm-like, usually with 30 or more pairs of legs

-two pairs of legs per body segment

-found in a variety of damp places with high amounts of organic matter; most feed on decaying organic matter

-some millipedes capable of producing foul smelling secretions

Class Chilopoda - the centipedes

-elongate, flattened, usually with 15 or more pairs of legs

-one pair of legs per body segment

-centipedes are predators on other arthropods including insects

-most centipedes have poison glands with which they subdue prey

-some centipedes can have painful bites but the toxin does not have long-term effects

Class Hexopoda - the insects and others