

ARTHROPODS

Insects

410 MYA – PRESENT

Insects are a large class of mostly land-living, air-breathing invertebrates belonging to the phylum Arthropoda. They have an exoskeleton of chitin, a three-part body consisting of a head, thorax, and abdomen, three pairs of jointed legs, and compound eyes often made up of hundreds of small lenses. Insects have two antennae, and some

have one or two pairs of wings. Insects were the first animals on Earth to fly and continue to be the only invertebrates that can fly. Insects undergo significant change, or metamorphosis, during their lives. The change from caterpillar to butterfly is a very well-known example of metamorphosis.

Domain	Eukaryota
Kingdom	Animalia
Phylum	Arthropoda
Subphylum	Hexapoda
Class	Insecta

Fossil Record

Because they mostly lived on land, insects are very rare in the fossil record. The oldest fossil insect discovered is from the middle Devonian about 380 million years ago, in Scotland. It is likely that this insect evolved during the Silurian as the fossil is quite complex. The largest fossil insect ever discovered was a dragonfly-like insect, which had a wingspan of up to 75 cm. It is from the Carboniferous when atmospheric oxygen levels were much higher than today.

Habitat and Lifestyle

Most insects live alone, but some are social and live in colonies such as bees, ants, and termites. Insects are found on most continents and live in a wide range of environments.

Many insects are predators and predate on other insects. Others are parasites, plant eaters, and nectar eaters also serving as important pollinators for many angiosperms. It may have been a coevolution of insects and flowering plants that facilitated angiosperms to diversify and dominate the modern flora.



A bright iridescent beetle.
Image from Krukower, pixabay.



Fossilised wing of *Clathrotitan andersoni*, Triassic (about 240 million years old), New South Wales.
Image from Jim Frazier.

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DID YOU KNOW

Over a million species of insects have been described and it is believed there are another 5 to 8 million species yet to be discovered and studied. It is estimated that 90% of all animal species on Earth are insects!

