



Long Ago, But Not Far Away!

Insects have been around a long time - a very, very long time! Insects developed when living forms first moved out from the oceans of our planet and began to live on land. This was a time called the Carboniferous era, the time when great quantities of plant life lived and eventually produced the large expanses of coal we use today.

The first insects were very primitive, tiny, lacking wings or complicated body structures. Over eons of time, however, insects grew larger in size and numbers of species. By the time the early amphibians were developing, winged insects were all over the place. Giant dragonflies with a two and a half foot wingspan (the largest insects in the world) were common. Cockroaches dominated this period and are the most abundant of insect fossils we have found from that time. The period is sometimes called the "Age of Cockroaches". Species of scorpions and spiders and other invertebrates were also quite common.

The Carboniferous period gave way to the age of dinosaurs and with it the rise of insect orders that we would recognize today. The true bugs, beetles, wasps, aphids and other groups were very common. Insects and plants began to develop close relationships. Flowers were pollinated by various insects and the flowers, in turn, provided food for those insects. This was a time when trees exuded a lot of sap that would eventually become amber. Many insects were attracted to the sap and became mired in it. We are able to study fine details of the body parts of these insects entrapped in the amber. Recently, a new species of butterfly was discovered in amber from that time.

As time marched on, climatic changes occurred over long periods of time, causing insects to disperse as "cool" adapted or "warm" adapted species. The changing climates caused diversification in the numbers and kinds of insects in a particular region. During the Pleistocene era, the great ice age occurred. Temperatures fluctuated through extremes from very cold, with great ice sheets, to warm interglacial periods. This tremendous fluctuation caused insects to redistribute throughout the world. Since we are still in the Pleistocene, we are probably in one of those interglacial periods.

Today we have about 90,000 species of insects that live in North America, but throughout the world there are over 800,000 species that have been identified. This is quite different from the few primitive insects that first developed on earth over 200 million years ago. So, I guess we must say about insects, "You've come a long way, baby!" The development of insect species and groups is a dynamic that continues to evolve. New species and subspecies are constantly being discovered.

Insects have been very adaptable for a long, long time!

