

Entomology History Background - Review





- Entomology – Definition
- Insecta vs. Hexapoda
- (Ref. David Horn: Biology of Insects)



- Insects and Human
 - Harmful insects
 - Vectors, plant pests, commodity pests,..
 - Beneficial insects
 - Pollinator, Decomposition (Decomposer), Natural enemies- Biology, behavior and genetic researches.....

Insect Fossils



- Permian time 200 millions years ago.
- Insects were enemies of ancient people
- Utilized honey as long as the Stone age



- 7000 BC Spanish cave a man remove a nature honey.
- Insects as food such as flies locust and preserved them
- The sacred scarab beetles and ancient Egyptian.

- **History**

- Insects were the first relatively small animals to successfully invade and colonize land. The first land plants were abundant by the Silurian period approximately 400 million years ago .
- In the next 100 million years, during the late Carboniferous times, a wide diversity of insects was present. Insects which are very similar to present day forms were present 300 million years ago .
- By the Permian period (270 million years ago) various groups of insects had completed virtually every major step in their evolution that is observed in present day forms. These major evolutionary events include the origin of wings, the ability to fold wings over the body, and a type of developmental process called complete metamorphosis. In this type of development an insect hatches from an egg into an immature form -- the larva. The larva develops through several stages and then changes into a pupa. In the pupa there is a complete reorganization of body form, producing an adult. Butterflies are a well-known example of complete metamorphosis.
- If the terms Silurian, Carboniferous, and Permian don't make sense to you, have a look at the [geologic timescale](#).



Insects as vectors



- Vectors of disease- The black death.
- Typhus by human louse.
- Malaria by the anopheline mosquitoes
- <http://links.jstor.org/sici?sici=0003-0147%28192703%2F04%2961%3A673%3C173%3ATNOME%3E2.0.CO%3B2-W&size=LARGE&origin=JSTOR-enlargePage>

Pioneers in Entomology

William D. Peck



- William D. Peck 1795, Wrote the Description and History of the Cankerworm.
- He became first professor of natural history at Harvard University.

Thaddeus William Harris



- Student of Prof. peak.
- Became a distinguished early entomologist
- 1841 Wrote a report “A report on the insects of Massachusetts injurious to vegetation

Ash Fitch 1809-1879



- He was a medical doctor, but in 1840 began to study insects.
- Wrote a book of Injurious insects of New York.
- He studied a life history of many insects.
- He described many insect species.

Charles V. Riley



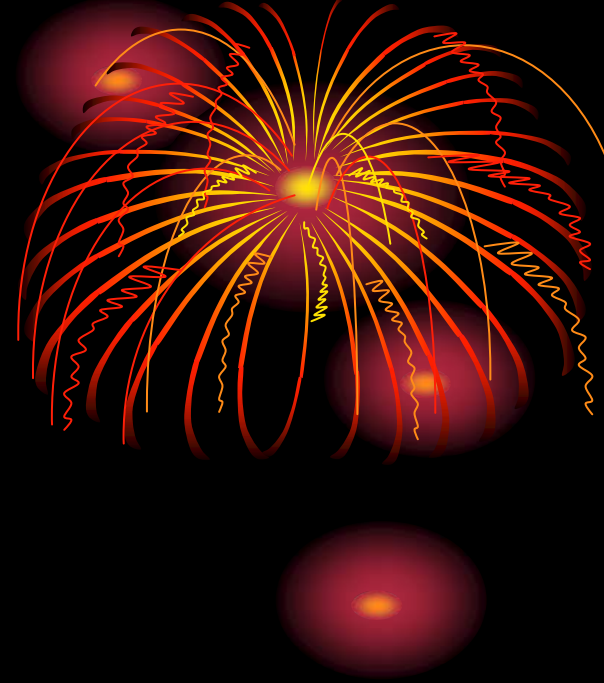
- Born in London and educated in France and Germany.
- He immigrated to USA at age of 17.
- He wrote nine state reports about insects.
- He is a founder of U. S. Entomological Commission.

Charles V. Riley

- He founder of Bureau of Entomology.



- Charles Mariatt
- Lee Stong
- Edward F. Knipling



Leland O. Howard

- He made lasting contributions to medical entomology, biological control, insect taxonomy,.





- <http://www.stanford.edu/class/humbio103/ParaSites2004/Trypanosomiasis/history.htm>