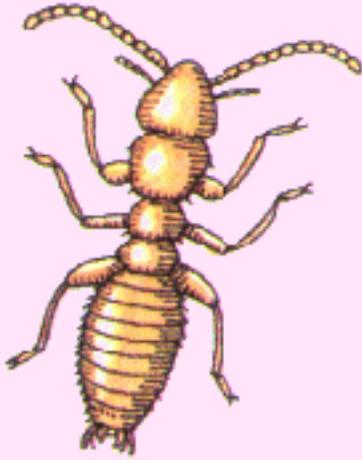


ZORAPTERA



Zorapterans / Angel Insects

The name Zoraptera, derived from the Greek "*zor*" meaning pure and "*aptera*" meaning wingless, was given to the order before winged forms were discovered.

Classification	Life History & Ecology	Distribution
	Physical Features	Economic Importance
Major Families	Fact File	Hot Links

Life History & Ecology:

Members of the order Zoraptera are small (less than 4 mm) and usually found in rotting wood, under bark, or in piles of old sawdust. They live in small aggregations and appear to scavenge on spores and mycelium of fungi, or occasionally, on mites and other small arthropods. Little more is known about their biology. Some Zoraptera are blind, pale in color, and wingless, while other members of the same species may be darkly pigmented with compound eyes and wings. The winged individuals are rather uncommon; they may be dispersal forms. The wings break off easily near the base, leaving only stubs.

Distribution:

Rare. Usually found only in association with rotting wood or piles of aged sawdust. Known to occur in all biogeographic regions except the Palearctic.

	North America	Worldwide
Number of Families	1	1
Number of Species	2	30

Classification:

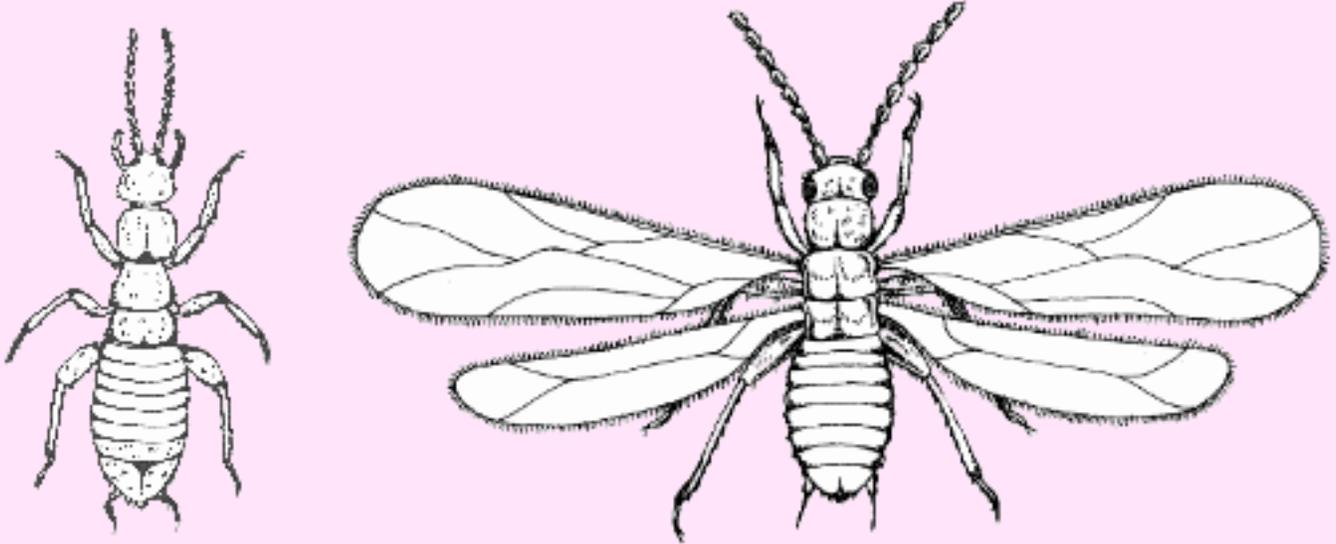
Hemimetabola

incomplete development (egg, nymph, adult)

Orthopteroid

closely related to Orthoptera, some entomologists believe they may represent an evolutionary link between the orthopteroids and the hemipteroids (particularly Psocoptera).

Physical Features:



Adults:

1. Antennae 9-segmented
2. Mouthparts mandibulate, hypognathous
3. Soft-bodied, small (usually less than 3 mm)
4. Wings often absent, with reduced venation when present
5. Tarsi 2-segmented
6. Cerci one-segmented

Immatures:

1. Structurally similar to adults
2. Always wingless

Economic Importance:

The Zoraptera do not have any economic significance. They are rarely collected.

Major Families:

- **Zorotypidae** -- this single family includes all known species of Zoraptera.

Fact File:

- Zoraptera is the third smallest insect order. Only Mantophasmatodea and Grylloblattodea contain fewer species.
- Some species of Zoraptera have been found living in the nests of termites and mammals. No one is sure what these insects are doing there.
- In most Zoraptera, there are two forms of adults: winged individuals are usually brown in color and have both eyes and ocelli, wingless individuals are usually blind and pale (unpigmented) in color.

Hot Links and Illustrations:

- [Gordon Ramel's Zoraptera Page](#)
- [Tree of Life Web Project - Zoraptera](#)
- [Discover Life - Zoraptera](#)

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