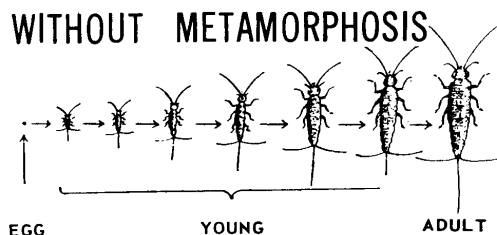


INSECT LIFE CYCLES

The LIFE CYCLE of an insect is from the egg stage to the reproducing adult. How and what it does during this period is its biology. METAMORPHOSIS is the name given to the change in shape of an insect as it grows. Insects are divided into four groups, depending upon their method of metamorphosis:

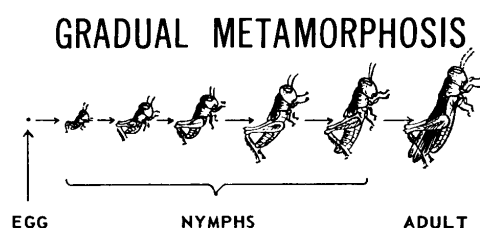
In GROUP 1 the insect that comes from the egg looks exactly like it will when full grown, except it is smaller.



ORDERS

- THYSANURA (Silverfish)
- COLLEMBOLA (Springtails)
- MALLOPHAGA (Biting lice)
- ANOPLURA (Sucking lice)

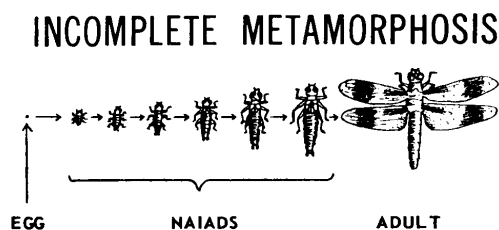
Insects in GROUP 2 change shape gradually. There are three stages of growth, egg, nymph, and adult.



ORDERS

- ORTHOPTERA (Grasshoppers)
- ISOPTERA (Termites)
- PSOCOPTERA (Book and bark lice)
- THYSANOPTERA (Thrips)
- HEMIPTERA (True bugs)
- HOMOPTERA (Aphids, leafhoppers)
- DERMAPTERA (Earwings)

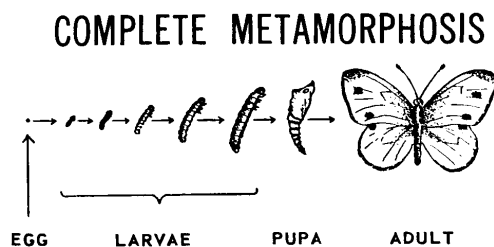
The young insects in GROUP 3 change shape gradually. They do not look like adults until shedding their last skin. Then there is a quick change.



ORDERS

- EPHEMEROPTERA (Mayflies)
- ODONATA (Dragonflies)
- PLECOPTERA (Stoneflies)

All insects in GROUP 4 go through four stages of growth. None of the young look like the adult. There is a great change in shape when the adult emerges from the pupal



ORDERS

- NEUROPTERA (Lacewings)
- COLEOPTERA (Beetles)
- STREPSIPTERA
- MECOPTERA (Scorpionflies)
- TRICHOPTERA (Caddisflies)
- LEPIDOPTERA (Moths, butterflies)
- DIPTERA (Flies)
- SIPHONAPTERA (Fleas)
- HYMENOPTERA (Bees, wasps)

Phillip E. Sloderbeck
Entomology, Southwest

H. Leroy Brooks
Pesticide Safety

George E. Lippert
Crop Protection, Southeast

(Publication Adapted from 4-H Entomology, Dell Gates, 1981, Kansas State Cooperative Extension Service)



COOPERATIVE EXTENSION SERVICE, KANSAS STATE UNIVERSITY, MANHATTAN
KSU, County Extension Councils, Extension Districts, and U.S. Department of Agriculture Cooperating. All educational programs and materials available without discrimination on the basis of race, color, national origin, sex, age, or disability.