

## Hemimetabolous Exopterygota Neoptera (new wing)

- Hemipteroid orders
    - Psocoptera- book lice\*
    - Pthiraptera- Wingless lice\*
    - Suborder Mallophaga – chewing lice
    - Suborder Anoplura – sucking lice
    - Thysanoptera – thrips\*
    - Hemiptera – True bugs\*
    - Suborder Heteroptera –plant and predaceous bugs
    - Suborder Homoptera- leaf hoppers, aphids cicadas
- and more

\*= commonly encountered or problematic in ornamental systems.

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## Hemipteroid Neopterous Exopterygota

- Psocoptera- Book lice
- Pthiraptera- Wingless lice
- Thysanoptera - Thrips
- Hemiptera – True bugs

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## Psocoptera- Barklice and Booklice



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## Pthiraptera- Wingless Lice

Two Suborders

- \* Mallophaga -chewing lice
- \* Anoplura - sucking lice

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## Sucking Lice (Anoplura) 2 obligate human parasites



Head, or body louse



Pubic louse

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## Thysanoptera - Thrips



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## Hemiptera (True Bugs)

Suborders:

Heteroptera- Plant and predaceous bugs

Homoptera -Aphids, scales, cicadas,etc

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## Heteroptera



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## Heteroptera



Heteroptera

Homoptera

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## Homoptera



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## Holometabolus Endopterygota

- Neuroptera -- Lacewings, antlions, \*
- Coleoptera-- Beetles
- Diptera -- true flies \*
- Mecoptera -- scorpionflies
- Siphonaptera -- fleas
- Trichoptera -- caddisflies
- Lepidoptera -- butterflies and moths\*
- Hymenoptera—ants, wasps, and bees\*

\* of ornamental importance or interest

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## Neuroptera (Lacewings and others)



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Neuroptera (Lacewings and others)



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Coleoptera-- Beetles



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Diptera -- true flies



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Siphonaptera -- fleas



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Lepidoptera -- butterflies



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Hymenoptera—ants, wasps, and bees



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