Canada: 30 Northland Road, Waterloo, Ontario, N2V 1Y1 PO Box 13409 Anderson, SC 29624

No. 5912

Insect X-Rays and **Picture Cards**





We've printed and laminated photographs of 36 "bugs". On the top of the card is the top of the bug. Flip the card over to see the underside of the insect. Match all of the photographs to the x-rays. Place the x-rays on the top of the card to see both internal and external structures of the insects.

True insects are members of the class Insecta, distinguished from all other arthropods (arachnids, crustaceans and others) in part by having ectognathous, or exposed mouthparts. Insects always have three body parts: head, thorax and abdomen. Many insect groups are winged as adults and usually have two antennae. All insects have exoskeletons. An exoskeleton is made of chitin, a material that resembles our fingernails. Insects have no bones.

True bugs are members of the order of Hemiptera. They have symmetrical piercing and sucking mouthparts housed in a "beak". Bugs are limited to a liquid diet.

Spiders are neither insects nor bugs. They belong to the Arthropod group, from the Arachnid family. Distinctive characteristics of the spiders are: eight walking legs, simple eyes and piercing fangs. Spiders do not fly.

All the creatures belong to the Kingdom Animalia and Phylum Arthropoda. True insects and bugs belong to the class insecta, while animals such as centipedes belong to chilopoda and spiders and scorpions belong to class arachnida.

Scientific Name: Trypoxylus Allomyrhina Dichotomus Order: Coleoptera Diet: Larvae eat mainly rotten wood. Adults eat sugary liquids.

Size: 35-90 mm (11/2-31/2") Locale: Rainforests in Costa Rica and the Amazon

Basin

Scientific Name: Xylotrupes Gideon Order: Coleoptra Diet: Decaying wood and leaves.

Size: 45-65mm (13/4-21/2") Locale: Malaysia



Scientific Name: Trichogormphus Martabani Order: Coleoptera Diet: Nectar, sap, fruit. Size: 45 mm (1¾") Locale: Thailand



Scientific Name: Cetonia Aurata Order: Coleoptera Diet: Flower pollen. Size: 17 mm (0.65") Locale: Europe and America



Scientific Name: Chalcosoma caucasus Order: Coleoptera Diet: Fruit and decaying

vegetation.

Size: 75-130 mm (3-5") Locale: Malaysia



Scientific Name: Torynorrhina Flammea

Order: Coleoptera Diet: Fruit and nectar. Size: 35 mm (1½") Locale: Thailand



Scientific Name: Locasta Migratia

Order: Coleoptera Diet: Soft wood and rotting vegetation.

Size: 50-100 mm (2-4") Locale: Thailand



Scientific Name: Macro **Gyrus Striolatus** Order: Coleoptera Diet: Injured or dead insects in or on the water. Size: 14-18 mm (1/2-3/4") Locale: Eastern Australia



Scientific Name: Cyrtotrachelus Dux Boheman Order: Coleoptera Diet: Bamboo shoots. Size: 18-38 mm (3/4-11/2") Locale: Bangladesh, China, India, Myanmar and Sri Lanka



Scientific Name: **Eupatorus Birmanicus** (Female) Order: Coleoptera Diet: Rotting fruit and

Size: 6 cm (2½") Locale: Thailand



Scientific Name: Dorysthenes Walkeri Order: Coleoptera Diet: Sugar cane and vegetable matter. Size: Males can be 73 mm

(3") long

Locale: South East Asia and Thailand

Scientific Name: Odontolabis Elegans Order: Coleoptera Diet: Nectar and sap. Size: 25-85 mm (2-31/4") Locale: Thailand



Scientific Name: Pachyteria Equestris Order: Coleoptera Diet: Leafy vegetation. Size: 30 mm (11/4") Locale: Indonesia, Malaysia



Scientific Name: Lucanus Elaphus Order: Coleoptera Diet: Rotting wood and tree sap.

Size: 80 mm (31/4") Locale: Europe, Asia and Taiwan



Scientific Name: Anoplophora glabripennis Order: Coleoptera Diet: Rotting wood,

plants.

Size: 25 mm (1") Locale: Thailand,

Malaysia



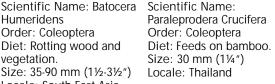


Insect X-Rays and Picture Cards

Humeridens Order: Coleoptera Diet: Rotting wood and

vegetation.

Size: 35-90 mm (1½-3½") Locale: South East Asia



Scientific Name: Blaberus Giganteus

Order: Blattodea

Diet: Fruits and vegetables. Size: 88 mm (3½")

Locale: West Indies, Panama, and northern South America



Scientific Name: Solenostethium Lilligerum Order: Hemiptera Diet: Sap and fruit juice. Size: 15 mm (0.6") Locale: Thailand





Scientific Name: Angamiana Floridula

Order: Hemiptera Diet: The larvae eat roots. Adults never eat-they mate and die.

Size: 14 cm (5½") wing tip to

wing tip.

Locale: Thailand, South East

Asia



Scientific Name: Dundubia Spiculata

Örder: Hemiptera Diet: Larvae eat roots. Adults never eat—they mate and die.

Size: Up to 14 cm (5½") Locale: Thailand, South

East Asia



Scientific Name:

Pyrops Candelaria

Diet: Plants

Order: Homoptera

Size: 50-75 mm (2-3")

Scientific Name: Aegimia Elongata Order: Orthoptera Diet: Vegetables and leaves.

Size: 50-75 mm (2-3")

Locale: Costa Rica



Scientific Name: Cryptotympana Aquila Order: Hemiptera Diet: Cicadas feed by piercing the surface of plants and sucking the

sap.

Size: 30mm (11/4") Locale: Thailand





Scientific Name: Henicopsaltria Eydouxii Order: Homoptera Diet: Plant sap.

Size: 40mm (1½") Locale: Australia

Coronatus Order: Mantodea Diet: Crickets and other small insects. Size: 3-6 cm (11/4-21/2") Locale: Indonesia, Malaysia and Sumatra rain forests

Scientific Name: Hymenopus



Scientific Name: Hierodula Stalii Order: Mantodea Diet: Highly predatory. It eats insects, small frogs, birds and other mantii. Size: 40-300 mm (11/2-12") Locale: Malaysia



Scientific Name: **Deroplatys Desiccata** Order: Mantodea Diet: Smaller insects. Size: 75-85mm (3-3½") Local: Malaysia, Borneo, Indonesia and Sumatra



Scientific Name: Lithobius Forficatus Order: Lithobiomorph Diet: Preys on small

insects.

Size: 25-200 mm (1-8")



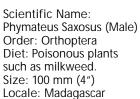
Locale: United Kingdom



Phymateus Saxosus (Female) Order: Orthoptera Diet: Poisonous plants such as milkweed.

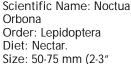
Scientific Name:

Size: 100 mm (4") Locale: Madagascar



Scientific Name: Tettigoniidae Order: Orthoptera Diet: Omnivorous: feeds on vegetation, seeds, carrion and occasional prey.

Size: 50-75 mm (2-3") Locale: Thailand, Malaysia



Locale: Asia



Scientific Name: Nephila **Pilipes**

Order: Araneae Diet: Other insects. Size: 125-180 mm (5-7") Locale: Thailand









Scientific Name: Heterometrus spinifer Order: Scorpiones Diet: Insects, centipedes, millipedes, snails, spiders, soifugids, other scorpions and even small reptiles and mice. Size: 40-127mm (1½-5") Locale: Asia



