

Coleoptera Classification and Required Families

- I. Suborder Archostemata
- II. Suborder Myxophaga
- III. Suborder Adephaga
 - 1. Family Carabidae - ground beetles
 - a. subfamily Omophroninae - round sand b.
 - a. subfamily Cicindellinae - tiger beetles
 - 2. Family Gyrinidae - whirligig beetles
 - 3. Family Haliplidae - crawling water beetles
 - 4. Family Dytiscidae - predaceous diving beetles
- IV. Suborder Polyphaga
 - A. Superfamily Hydrophiloidea
 - 1. Family Hydrophilidae - water scavenger beetles
 - 2. Family Histeridae - hister beetles
 - B. Superfamily Staphylinoidea
 - 1. Family Silphidae - carrion beetles
 - 2. Family Staphylinidae - rove beetles
 - C. Superfamily Scarabaeoidea
 - 1. Family Lucanidae - stag beetles
 - 2. Family Passalidae - bess beetles
 - 3. Family Trogidae - skin beetles
 - 3. Family Scarabaeidae - scarab beetles
 - a. Subfamily Scarabaeinae - dung beetles
 - b. Subfamily Melolonthinae - June beetles, chafers
 - c. Subfamily Dynastinae - rhinoceros beetles, Hercules beetles, elephant beetles
 - d. Subfamily Cetoniinae - flower beetles
 - e. Subfamily Rutelinae - shiny leaf chafers
 - D. Superfamily Scirtoidea
 - 1. Family Scirtidae - marsh beetles
 - E. Superfamily Buprestoidea
 - 1. Family Buprestidae - metallic wood-boring b.
 - F. Superfamily Byrrhoidea
 - 1. Family Elmidae - riffle beetles
 - 2. Family Dryopidae - long-toed water beetles
 - 3. Family Heteroceridae - variegated mud-loving b.
 - 4. Family Psephenidae - water-penny beetles
 - G. Superfamily Elateroidea
 - 1. Family Elateridae - click beetles
 - 2. Family Lycidae - net-winged beetles
 - 3. Family Phengodidae - glowworms
 - 4. Family Lampyridae - lightningbugs
 - 5. Family Cantharidae - soldier beetles
 - H. Superfamily Bostrichoidea
 - 1. Family Dermestidae - dermestid beetles
 - 2. Family Bostrichidae - branch and twig beetles
 - a. subfamily Lyctinae - powderpost beetles
 - 3. Family Anobiidae - anobiid beetles
 - a. subfamily Ptininae - spider beetles
 - I. Superfamily Cleroidea
 - 1. Family Trogossitidae - bark-gnawing beetles
 - 2. Family Cleridae - checkered beetles
 - 3. Family Melyridae - soft-winged flower beetles
 - J. Superfamily Cucujoidea
 - 1. Family Nitidulidae - sap beetles
 - 2. Family Silvanidae - silvanid beetles
 - 3. Family Cucujidae - flat bark beetles
 - 4. Family Languriidae - lizard beetles
 - 5. Family Erotylidae - pleasing fungus beetles
 - 6. Family Endomychidae - handsome fungus b
 - 7. Family Coccinellidae - lady-bird beetles
 - K. Superfamily Tenebrionoidea
 - 1. Family Mordellidae - tumbling flower b.
 - 2. Family Tenebrionidae - darkling beetles
 - a. subfamily Alleculinae - comb-clawed b.
 - 3. Family Oedemeridae - false blister beetles
 - 4. Family Meloidae - blister beetles
 - 5. Family Anthicidae - antlike flower beetles
 - L. Superfamily Chysomeloidea
 - 1. Family Cerambycidae - long-horned beet.
 - a. Subfamily Parandrinae
 - b. Subfamily Prioninae
 - c. Subfamily Lamiinae
 - d. Subfamily Lepturinae
 - e. Subfamily Cerambycinae
 - 2. Family Chrysomelidae - leaf beetles
 - a. subfamily Bruchinae - seed beetles
 - b. Subfamily Donaciinae - long-horned leaf beetles
 - c. Subfamily Chrysomelinae
 - d. Subfamily Galerucinae
 - e. Subfamily Hispinae - leaf-mining beetles
 - M. Superfamily Curculionoidea
 - 1. Family Anthribidae - fungus weevils
 - 2. Family Attelabidae - tooth-nosed snout b.
 - 3. Family Brentidae - straight-snouted weevils
 - a. subfamily Apioninae - apionid weevils
 - 4. Family Curculionidae - weevils
 - a. subfamily Platypodinae - pinhole borers
 - b. subfamily Scolytinae - bark beetles, engraver beetles, ambrosia beetles

COLEOPTERA

Common Name: Beetles.

Etymology: Coleo- = sheath; -ptera = wing.

Metamorphosis: Holometabolous; terrestrial or aquatic larvae; usually exarate pupae. A few with unusual metamorphosis (triungulin larvae in Meloidae, Rhipiphoridae).

CHARACTERISTICS

Body: Minute to very large; hard-bodied.

Head: Free; hypognathous or prognathous.

Mouthparts: Ectognathous; chewing; prognathous or hypognathous.

Eyes: Compound eyes present or absent; ocelli usually lacking, but 1 or 2 in certain groups; larvae lack compound eyes; usually 2 ocelli.

Antennae: Variable; usually 9, 10, or 11-segmented; small in larvae.

Wings: Forewings heavily sclerotized (elytra), thickened, apparently veinless; hindwings membranous with reduced venation; at rest, hindwings folded under elytra; wings sometimes reduced or absent.

Legs: Strong; variously adapted; tarsi 5-segmented in primitive forms, reduced to 3 or 4 segments in others; post tarsi with paired or single claws.

Abdomen: Cerci absent; some larvae with posterior pair of prolegs.

Comments: Larvae often called grubs; largest order in the Animal kingdom, over 300,000 spp.; 112 families in North America.

SUBORDERS

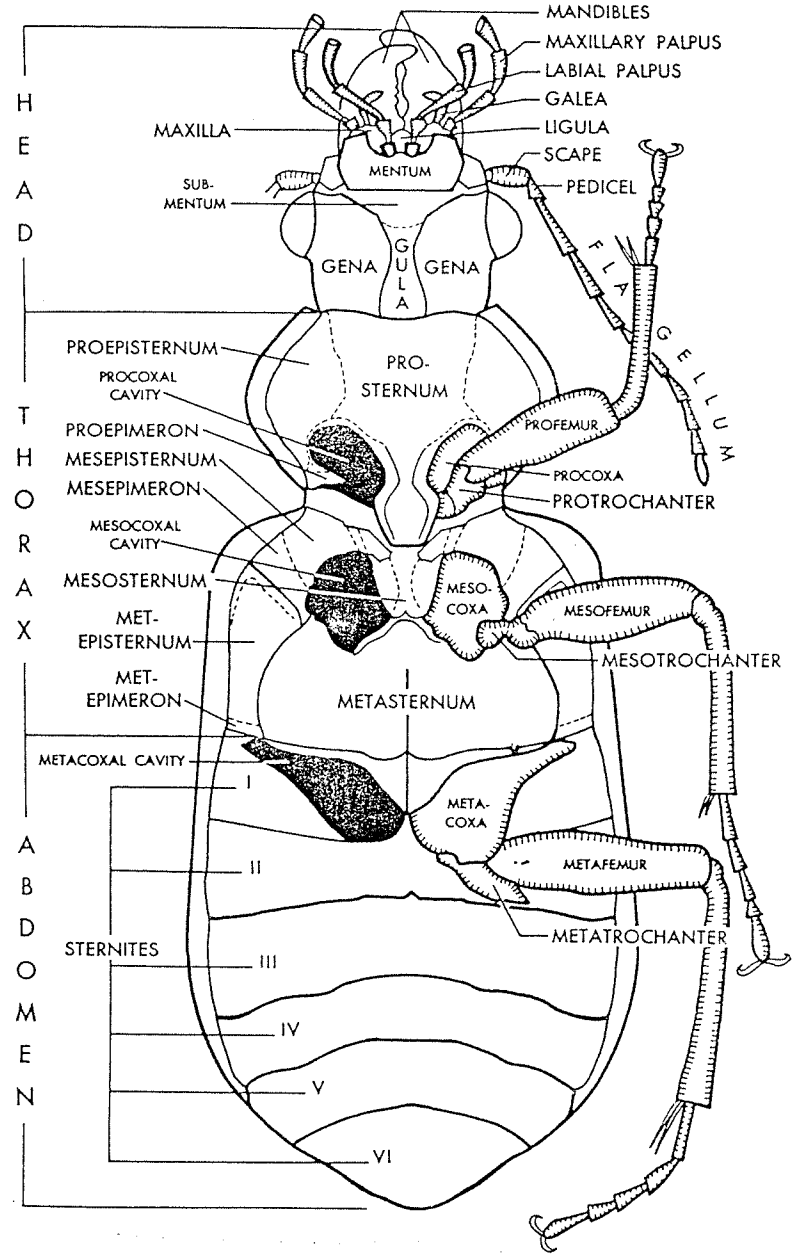
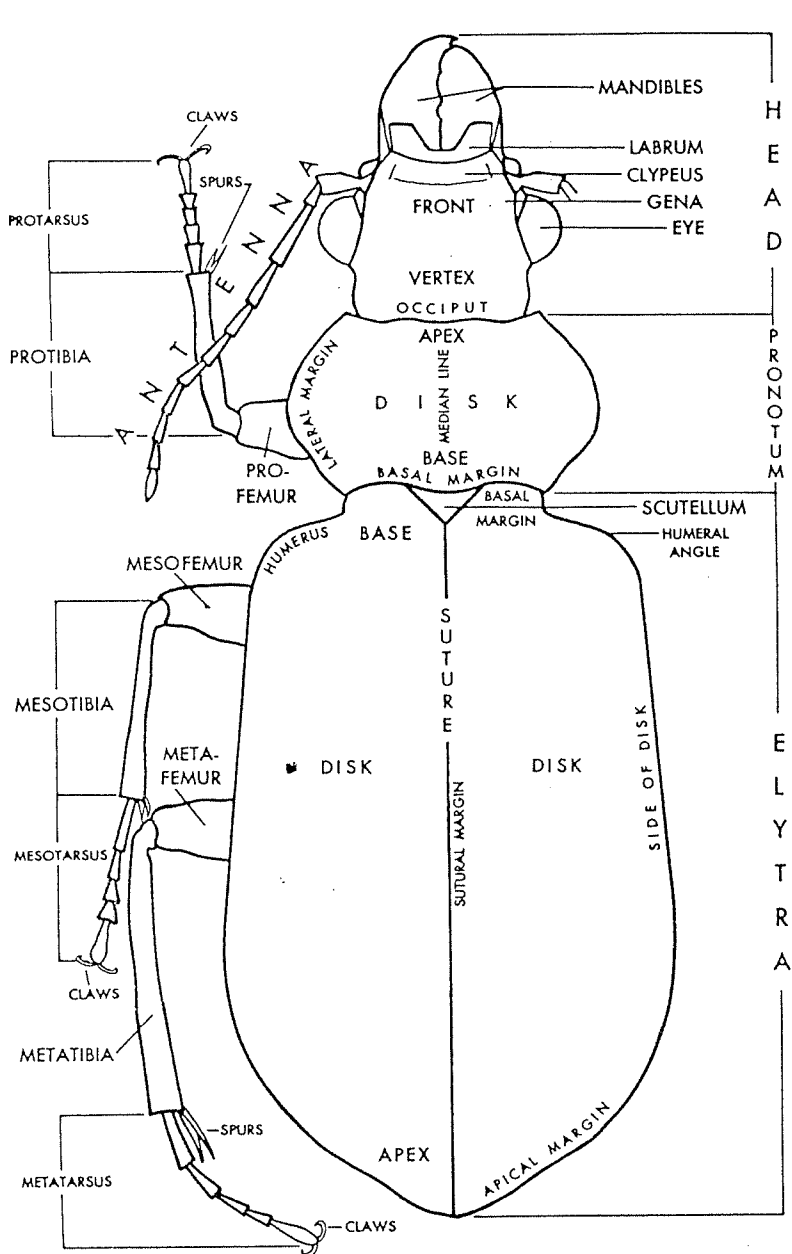
Archostemata: densely scaly; reticulate elytra; tarsi 5-segmented.

Adephaga: Hind coxae divide the first visible sternite; notopleural sutures present; most have filiform antennae and 5-5-5 tarsi.

Polyphaga: First visible abdominal sternite not divided by hind coxae; notopleural sutures absent; antennae and tarsi variable.

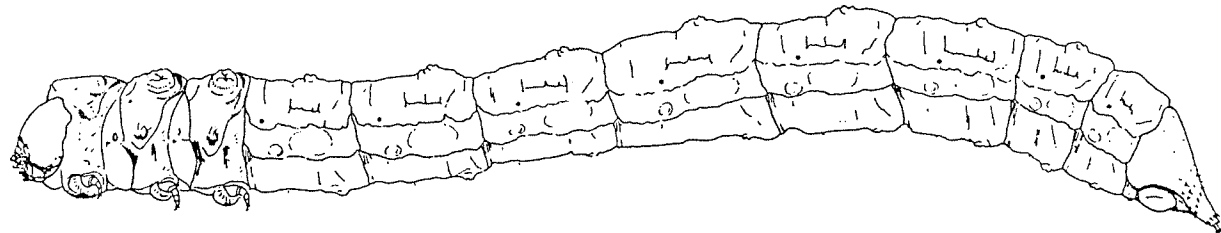
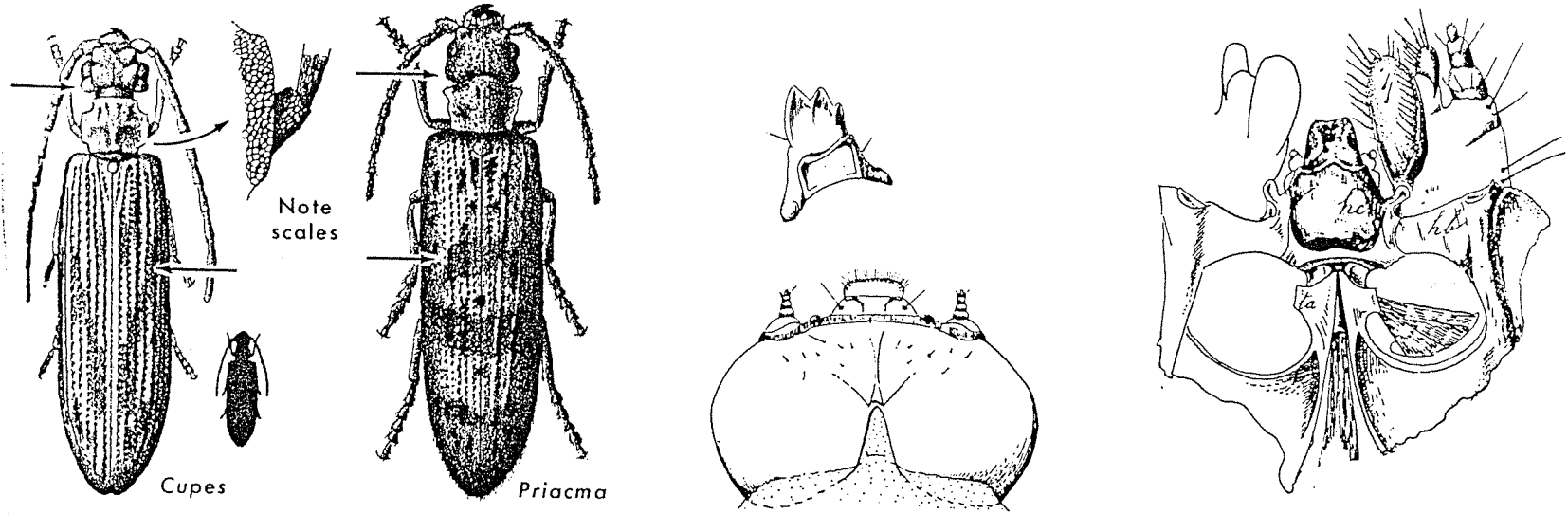
Order Coleoptera

Beetles



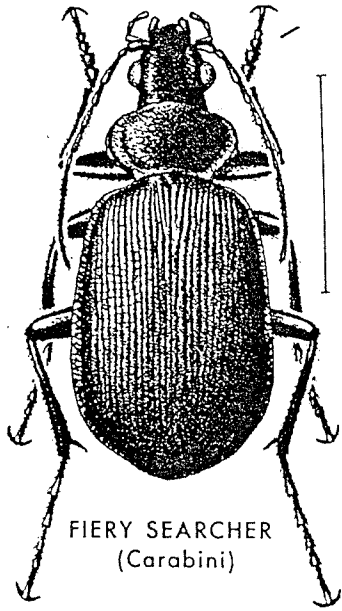
Order Coleoptera
Suborder Archostemata

Family Cupedidae
Reticulated Beetles

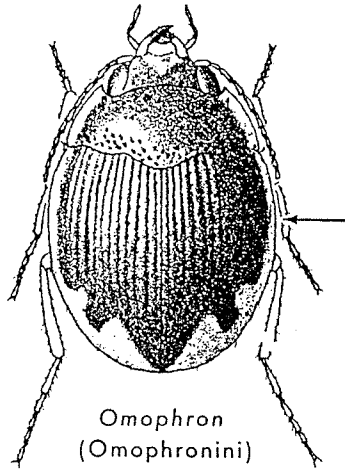


Order Coleoptera
Suborder Adephaga

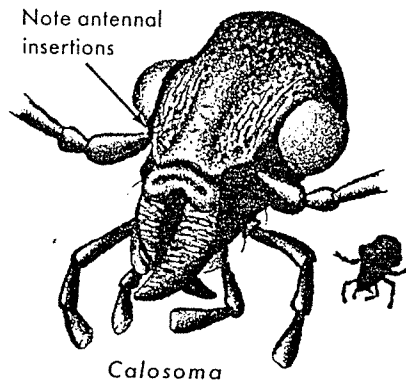
Family Carabidae
Ground Beetles



FIERY SEARCHER
(Carabini)

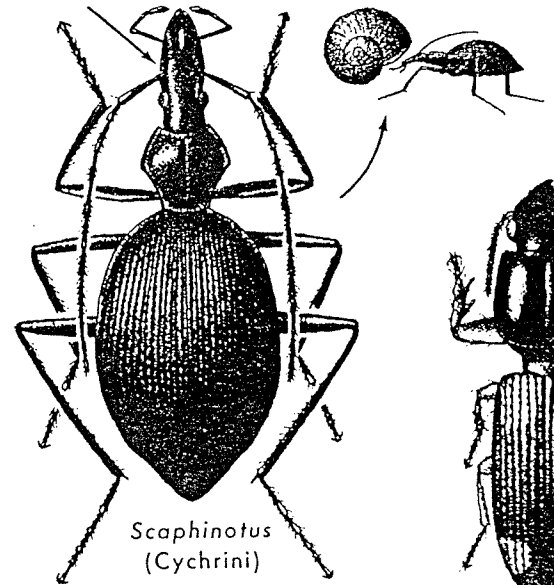


Omophon
(Omophonini)

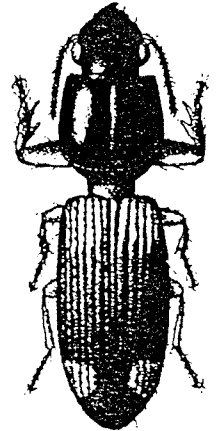


Note antennal
insertions

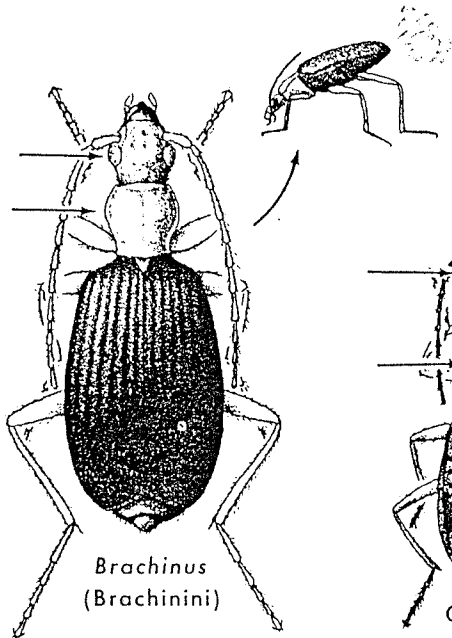
Calosoma



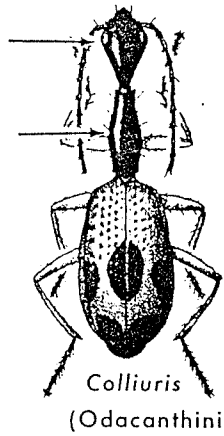
Scaphinotus
(Cychrini)



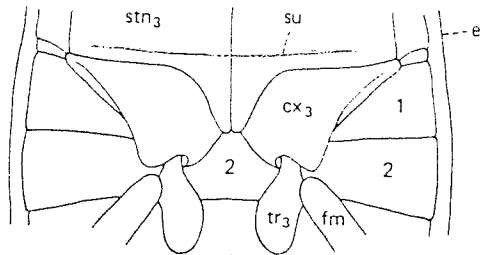
Clivina (Scaritini)



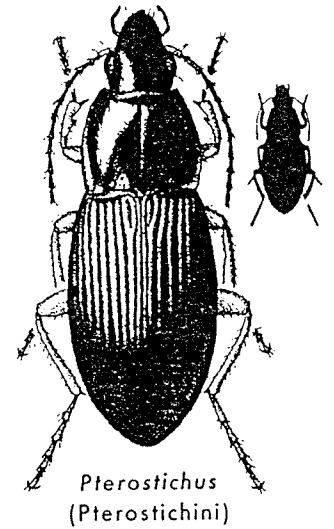
Brachinus
(Brachinini)



Colliuris
(Odacanthini)



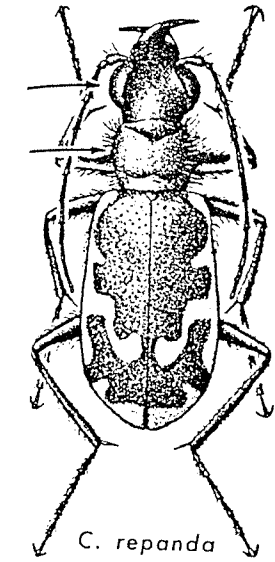
SEEDCORN BEETLE
(Harpalini)



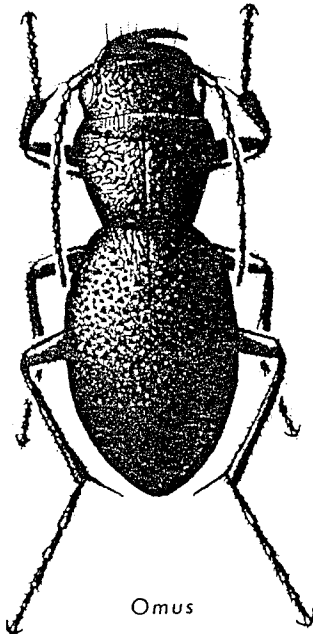
Pterostichus
(Pterostichini)

Order Coleoptera
Suborder Adephaga

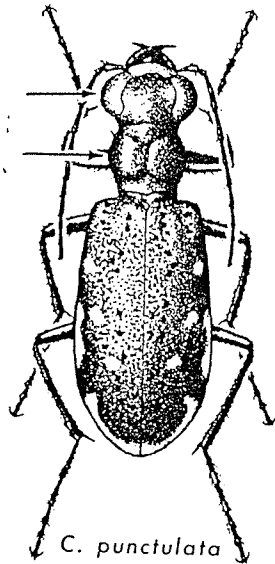
Family Cicindelidae
Tiger Beetles



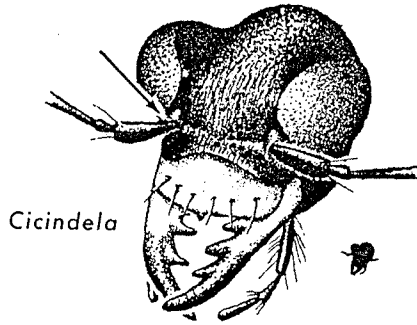
C. repanda



Omus

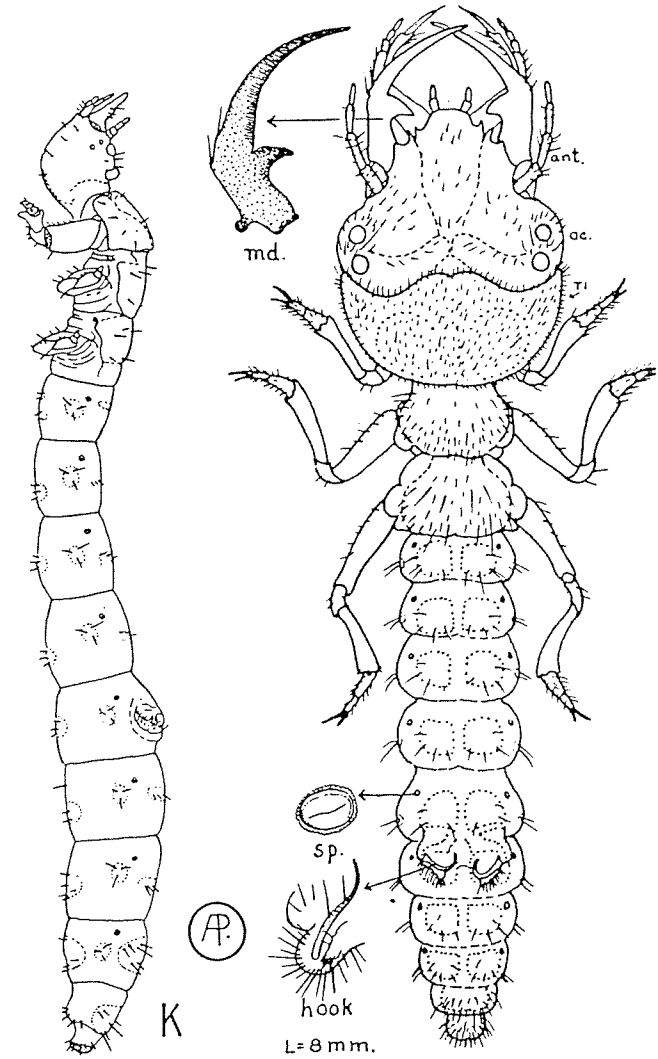
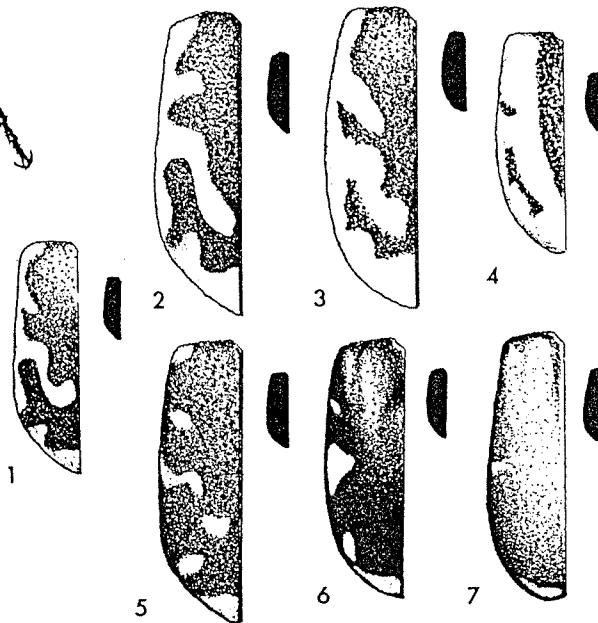


C. punctulata



Cicindela

Note antennal insertions

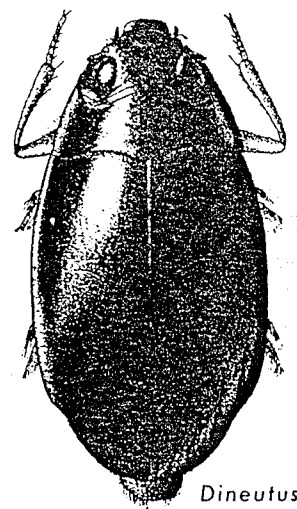


Collyris sp.

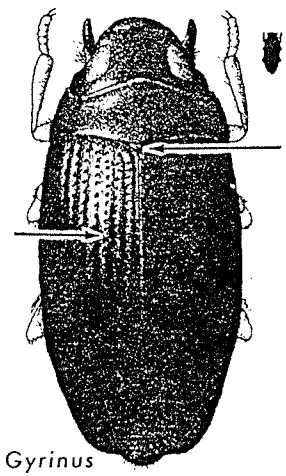
Cicindela horticollis

Order Coleoptera
Suborder Adephaga

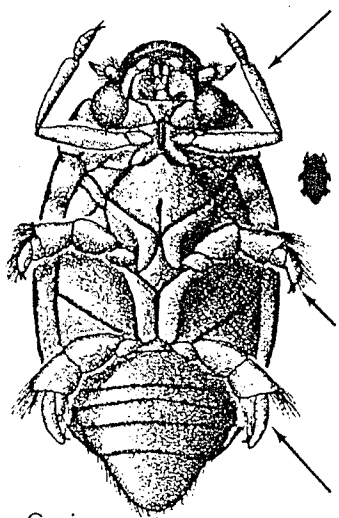
Family Gyrinidae
Whirligig Beetles



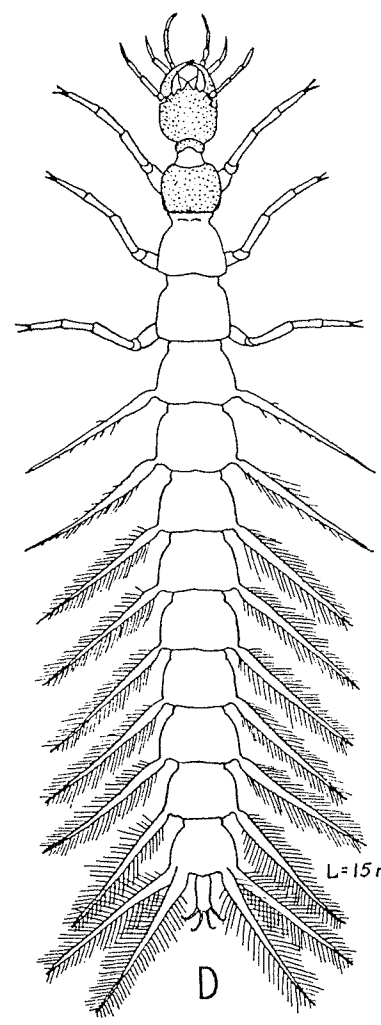
Dineutus emarginatus



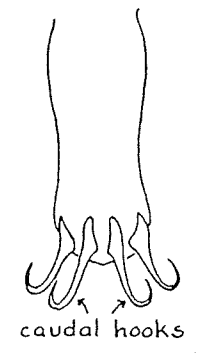
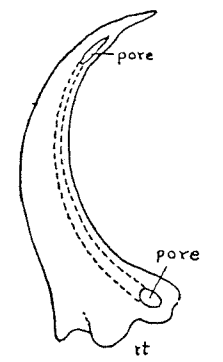
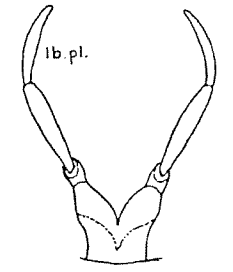
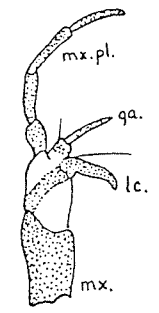
Gyrinus rockinghamensis



Gyrinus



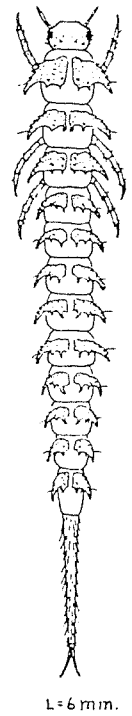
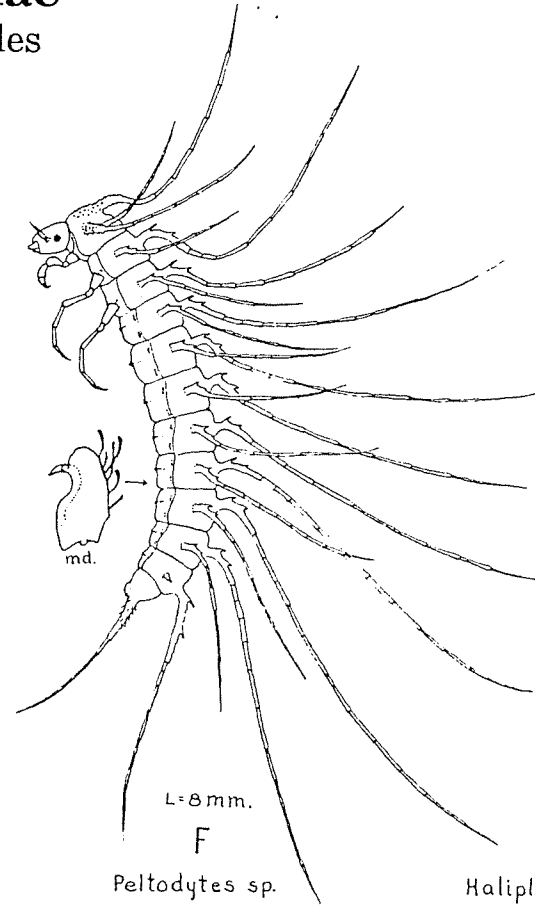
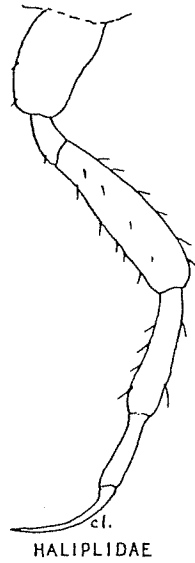
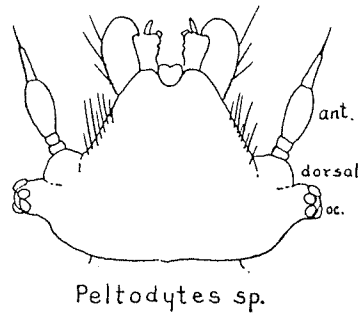
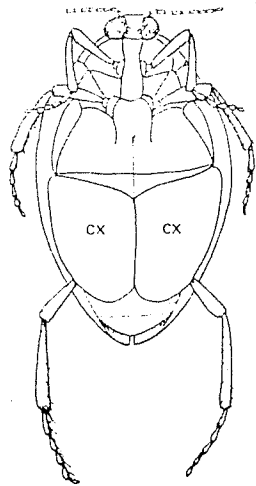
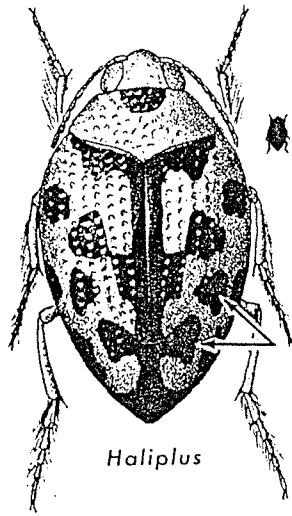
D
Dineutes sp.



caudal hooks

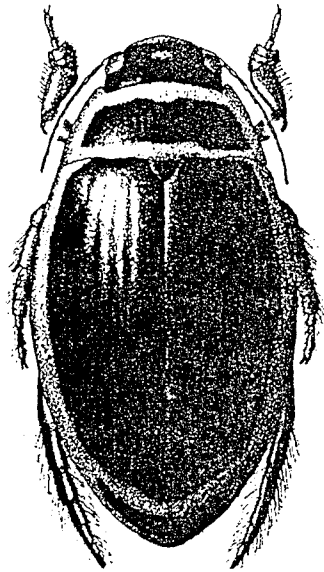
Order Coleoptera
Suborder Adephaga

Family Haliplidae
Crawling water Beetles

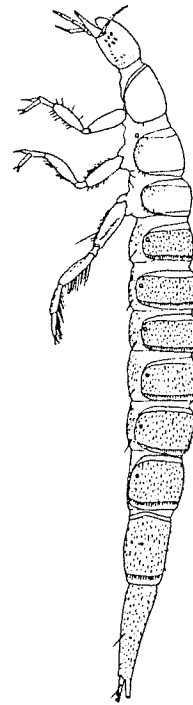
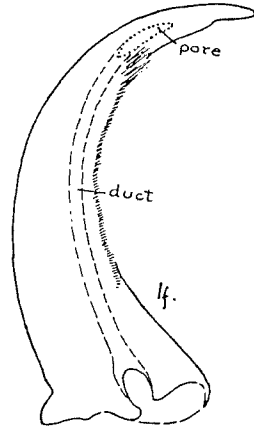


Order Coleoptera
Suborder Adephaga

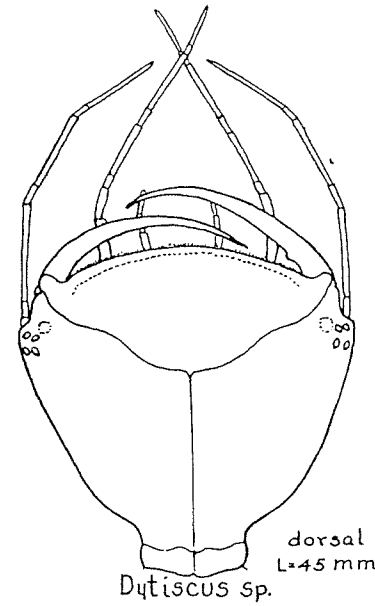
Family Dytiscidae
Predaceous diving Beetles



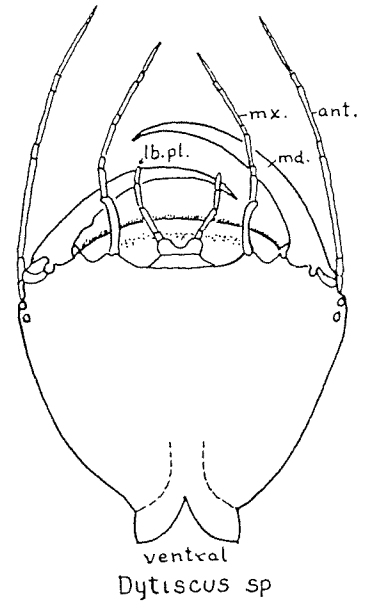
Dytiscus harrisi



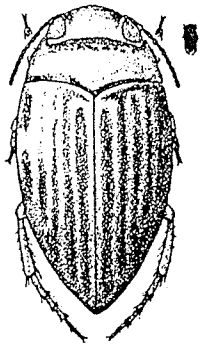
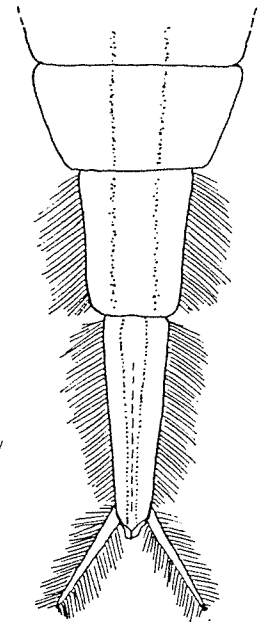
Matus sp.
L=13mm.



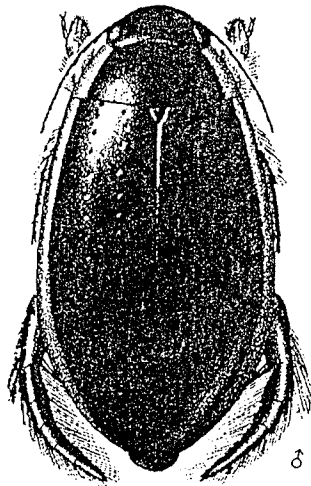
dorsal
L=45 mm
Dytiscus sp.



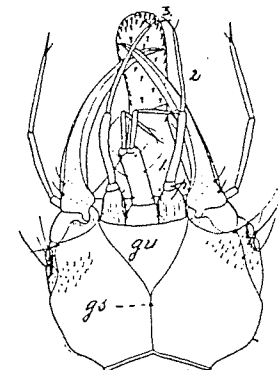
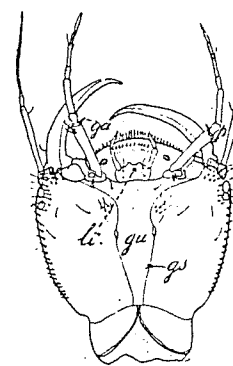
ventral
Dytiscus sp.



Hydroporus vittatipennis

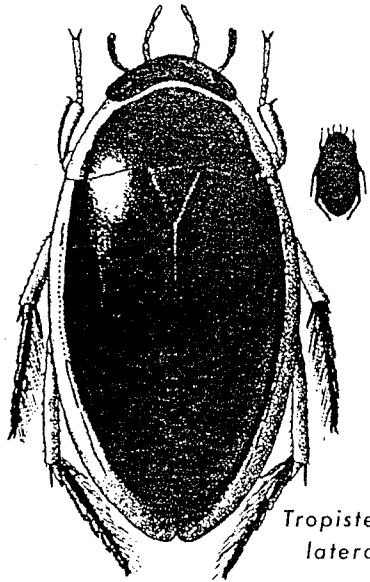


Cybister fimbriolatus ♂

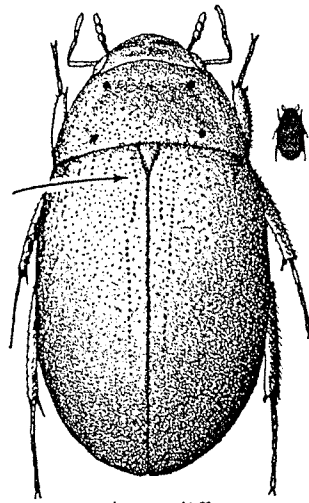


Order Coleoptera
Suborder Polyphaga
Superfamily Hydrophiloidea

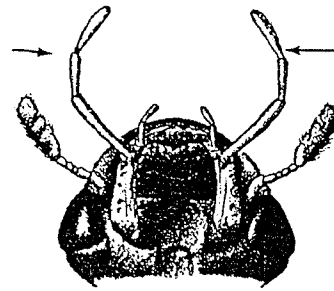
Family Hydrophilidae
Water scavenger Beetles



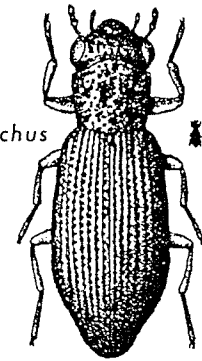
*Tropisternus
lateralis*



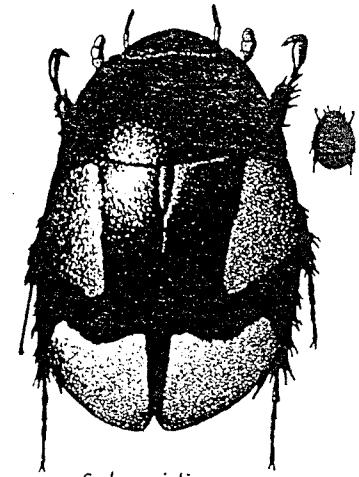
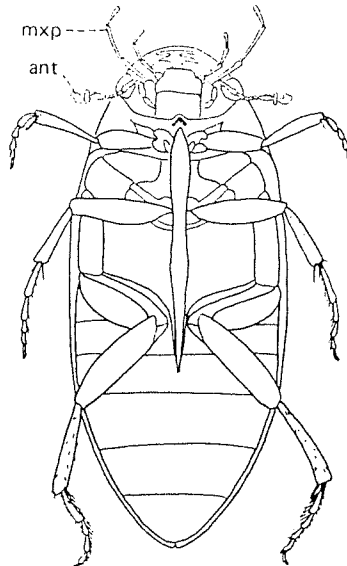
*Enochrus
diffusus*



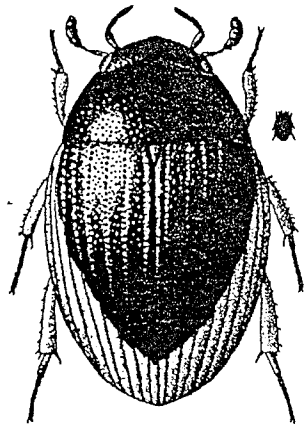
Hydrochus



Helophorus



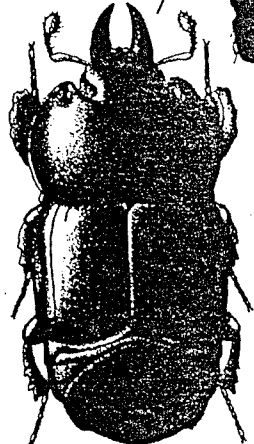
Sphaeridium



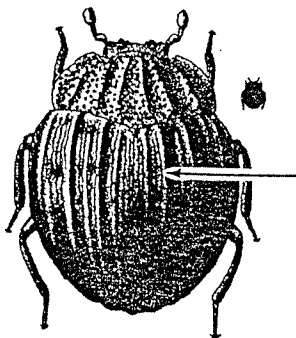
Cercyon

Order Coleoptera
 Suborder Polyphaga
 Superfamily Hydrophiloidea

Family Histeridae
 Hister Beetles



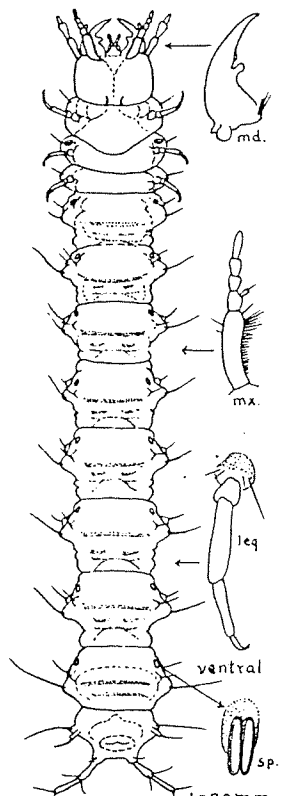
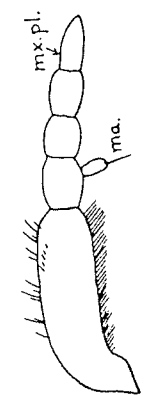
Hololepta



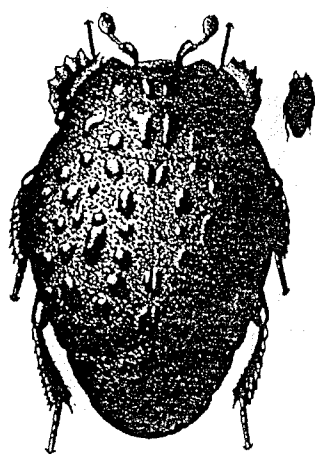
Onthophilus



Cylistix



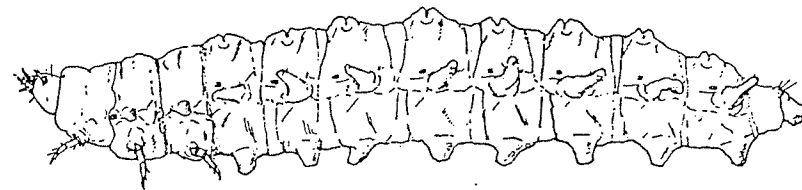
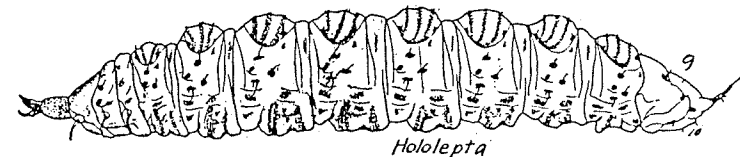
L=20mm.
 Hololepta aequalis



Margarinotus

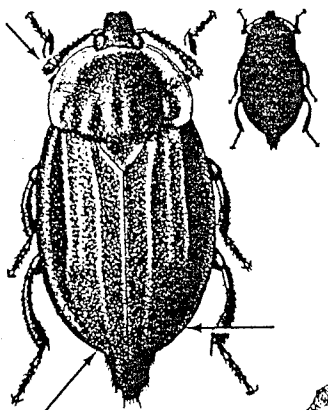
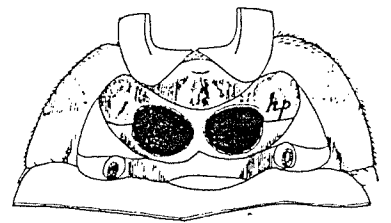
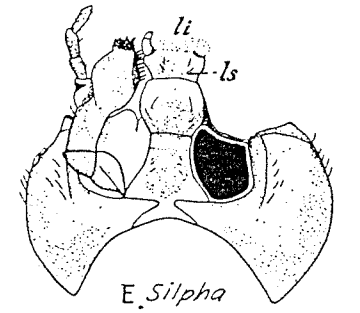
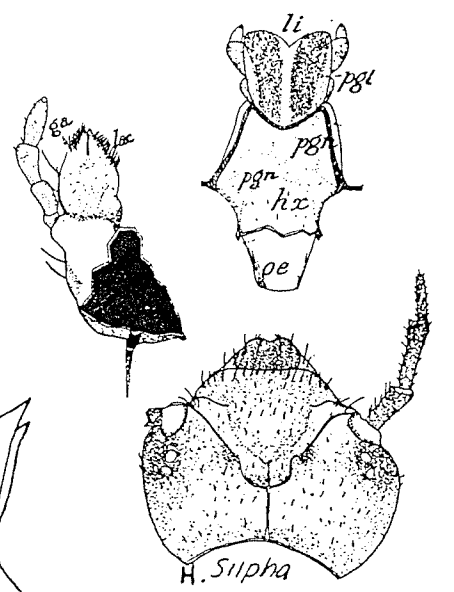
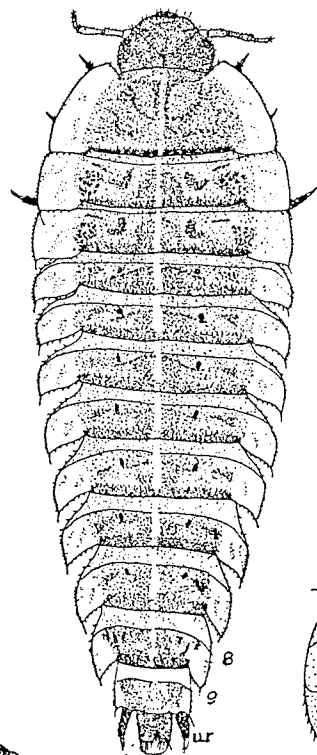
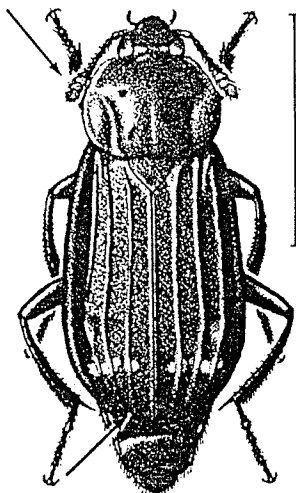


Hister



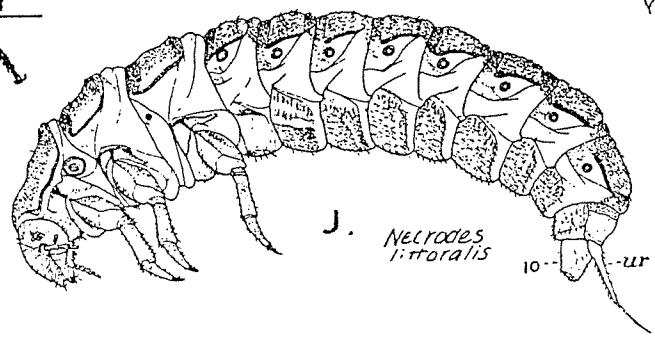
Order Coleoptera
 Suborder Polyphaga
 Superfamily Staphylinoidea

Family Silphidae
 Carrion Beetles



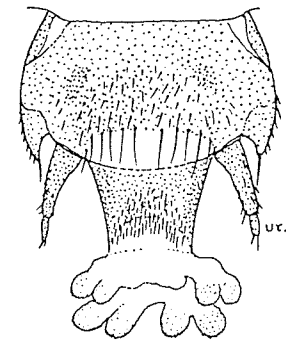
Necrodes

Silpha



J. Necrodes littoralis

Silpha

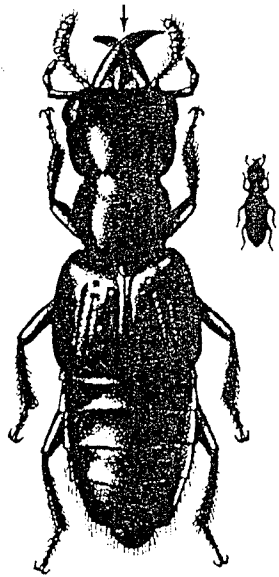


Silpha inaequalis
 L=16mm.

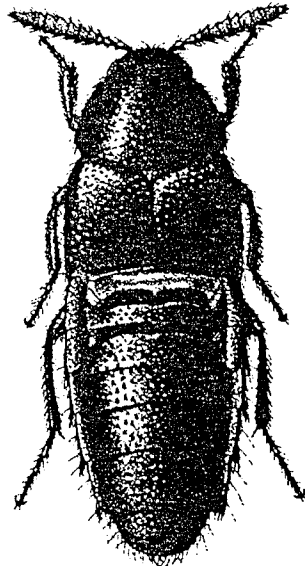


Order Coleoptera
Suborder Polyphaga
Superfamily Staphyloidea

Family Staphylinidae
Rove Beetles



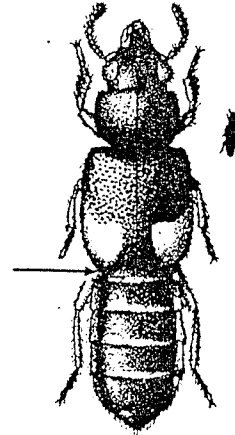
Oxyporus



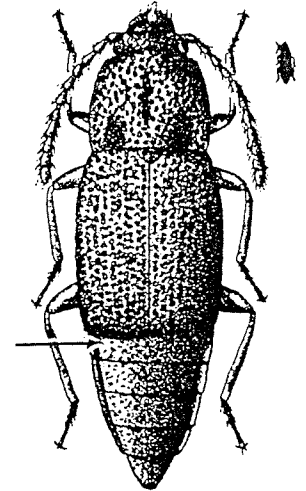
Aleochara



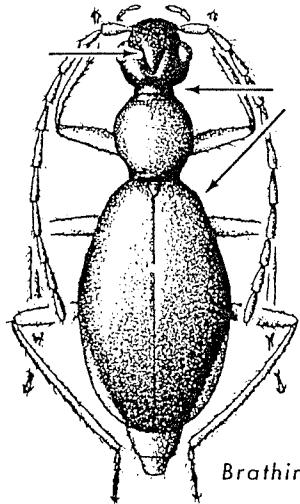
Bledius



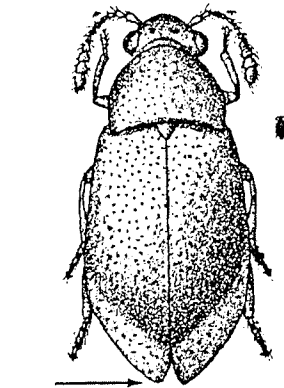
Stenus



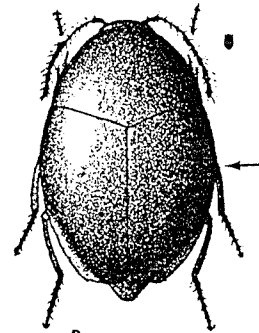
Trigonurus



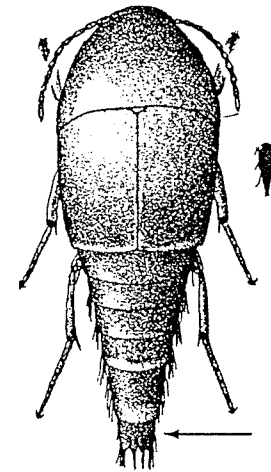
Brathinus



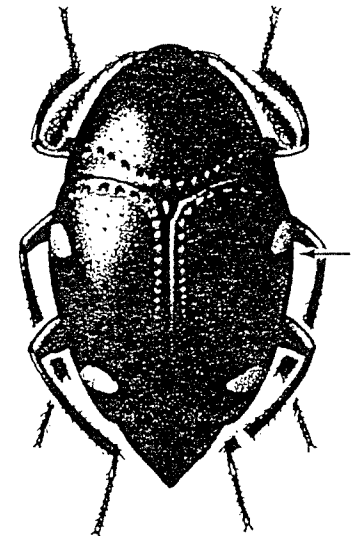
Eusphalerum



Baeocera



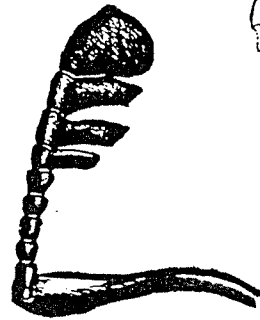
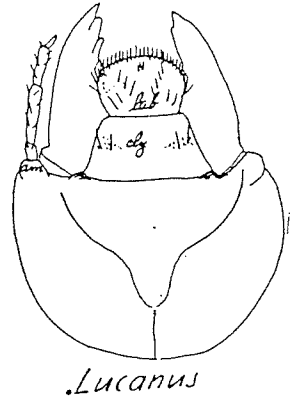
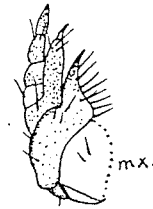
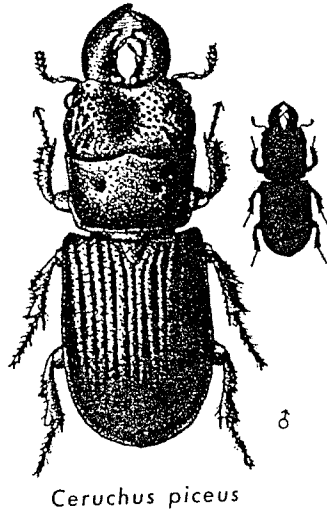
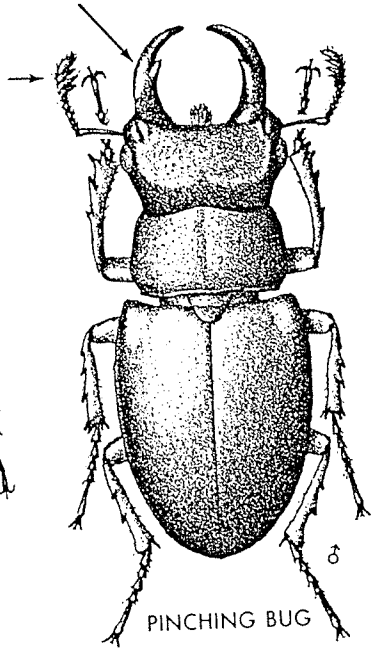
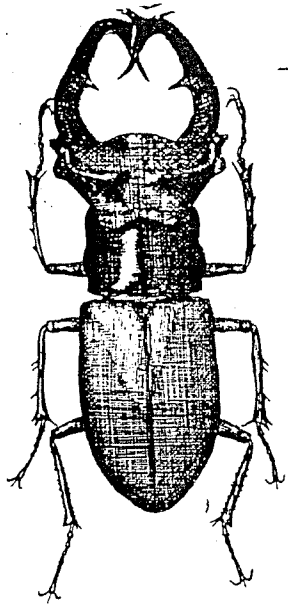
Sepedophilus



Scaphidium

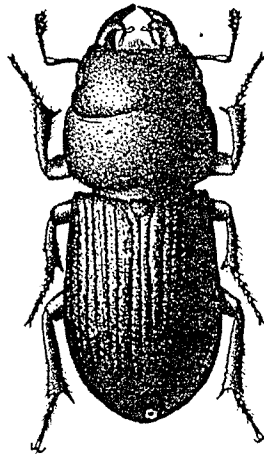
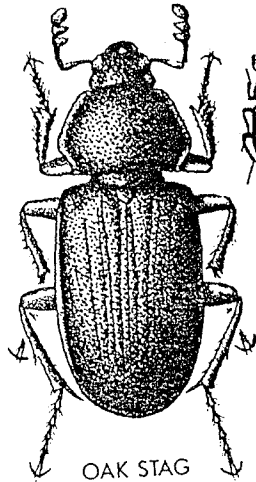
Order Coleoptera
 Suborder Polyphaga
 Superfamily Scarabaeoidea

Family Lucanidae
 Stag Beetles



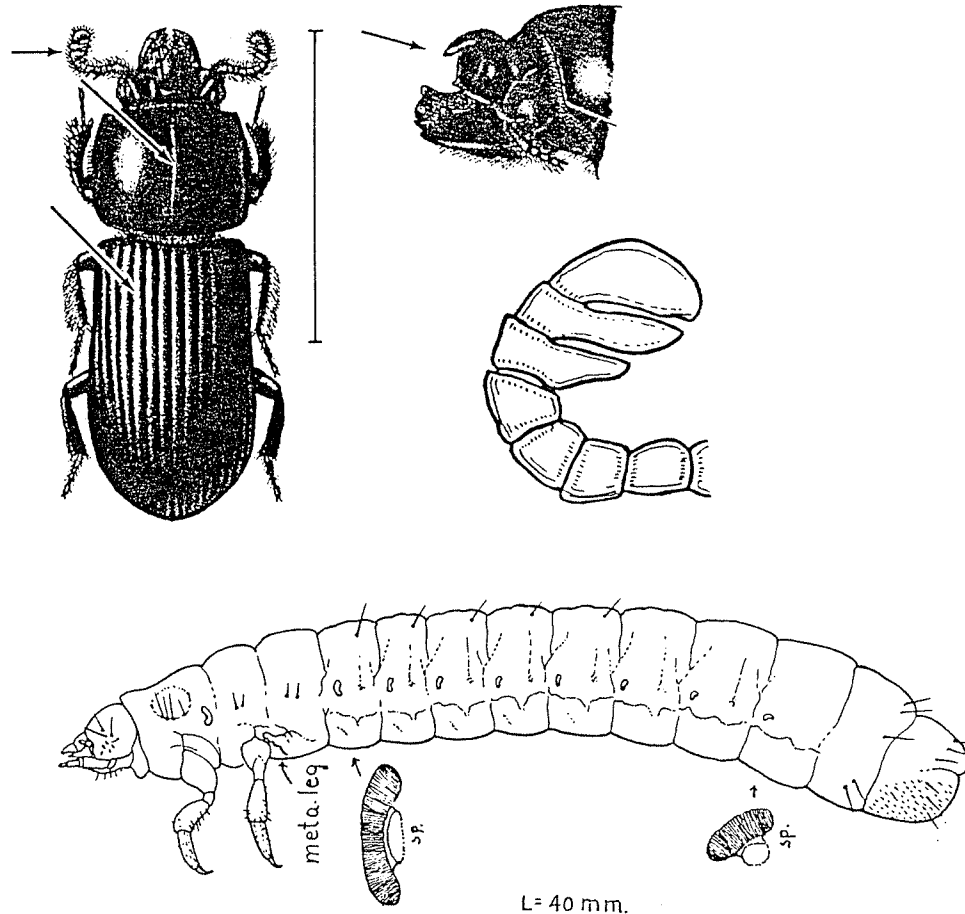
L= 21 mm.

Ceruchus piceus



Order Coleoptera
Suborder Polyphaga
Superfamily Scarabaeoidea

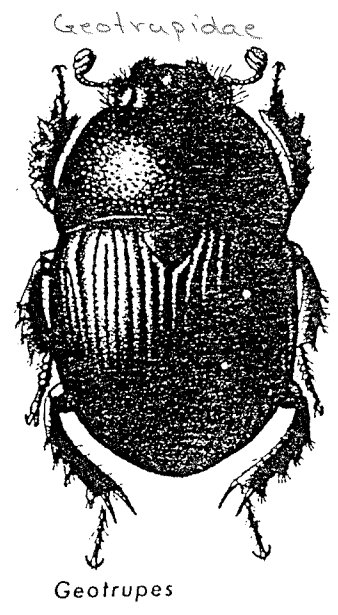
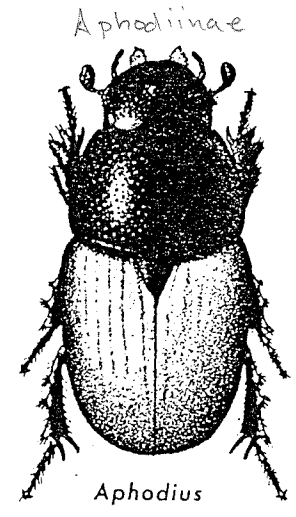
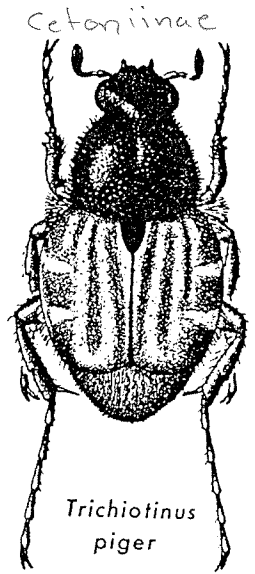
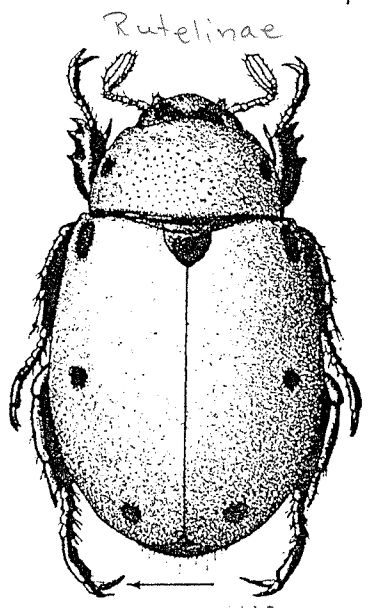
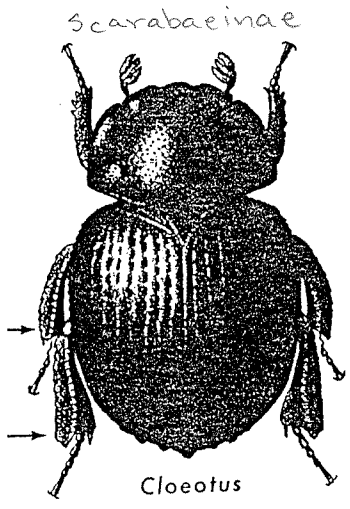
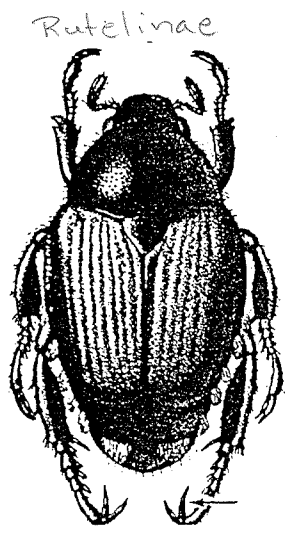
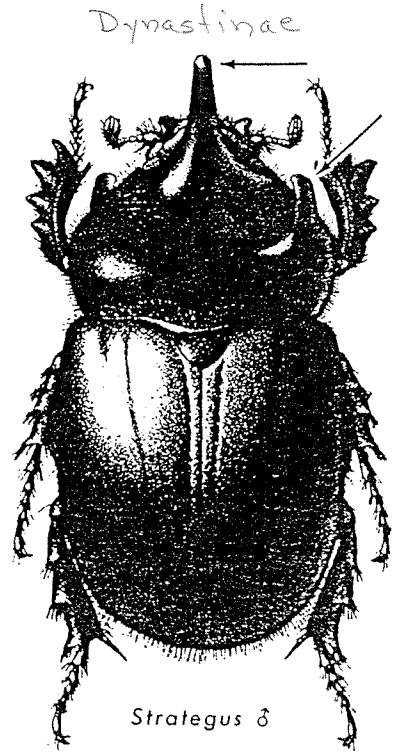
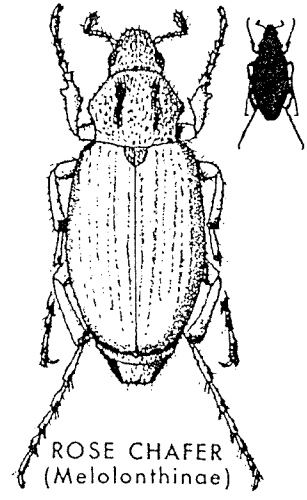
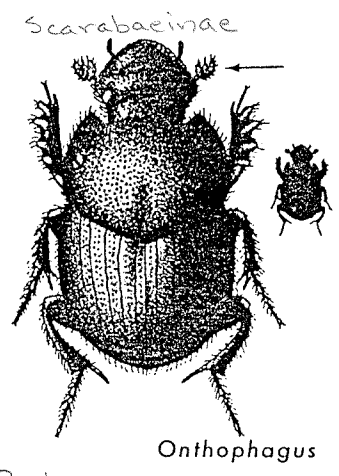
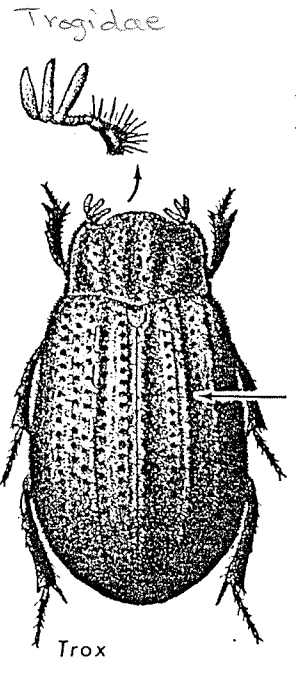
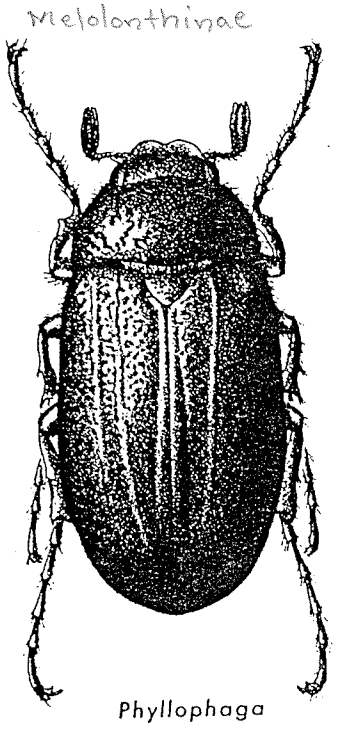
Family Passalidae
Bess Beetles



HORNED PASSALUS

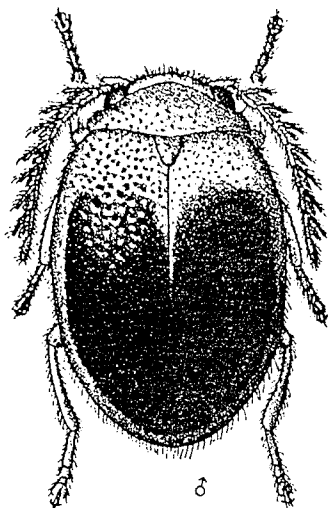
Order Coleoptera
Suborder Polyphaga
Superfamily Scarabaeoidea

Family Scarabaeidae
Scarab Beetles

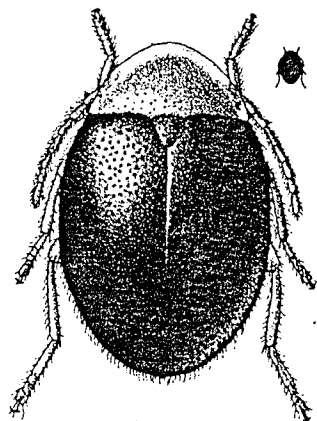


Order Coleoptera
Suborder Polyphaga
Superfamily Eucinetoidae

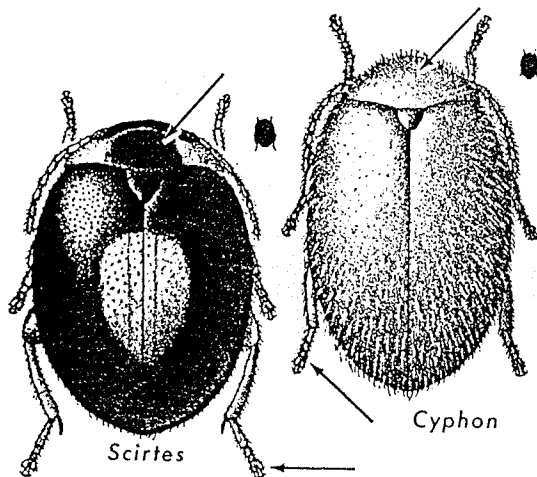
Family Scirtidae
Marsh Beetles



Prionocyphon discoideus

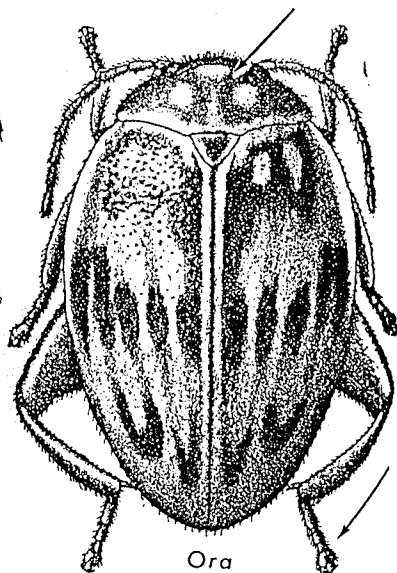


Elodes

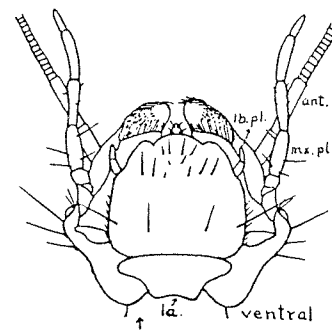
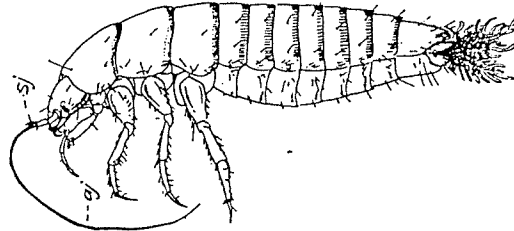
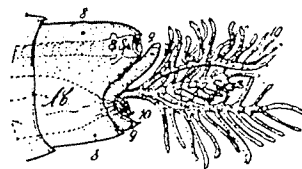
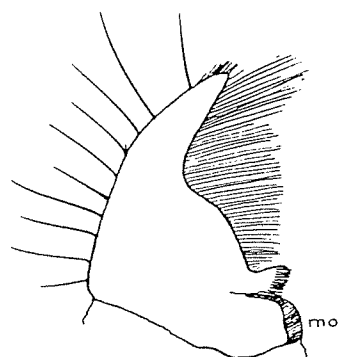
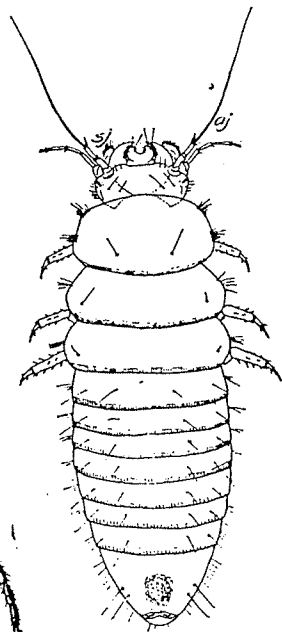


Scirtes

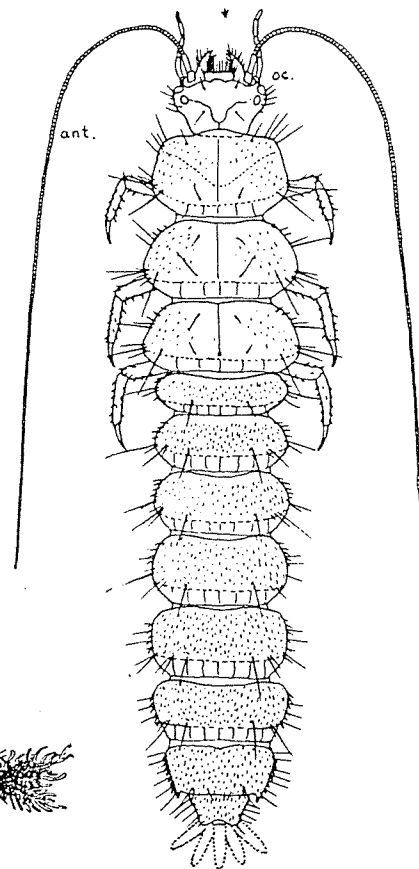
Cyphon



Ora

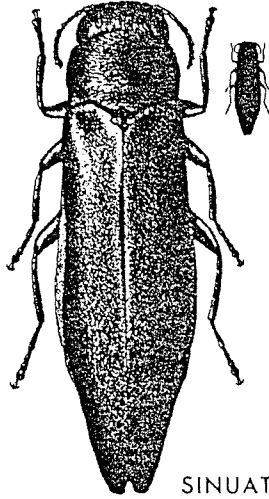


Cyphon sp

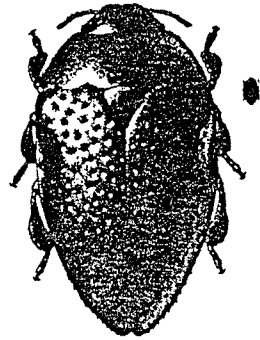


Order Coleoptera
Suborder Polyphaga
Superfamily Buprestoidea

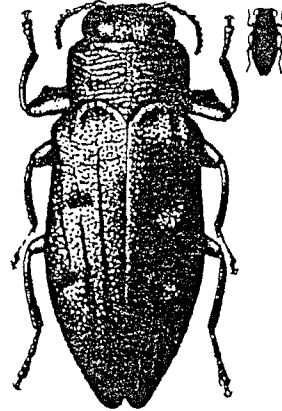
Family Buprestidae
Metallic wood-boring Beetles



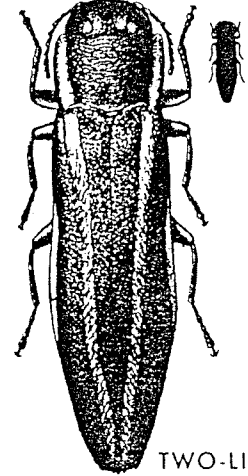
SINUATE
PEAR TREE BORER



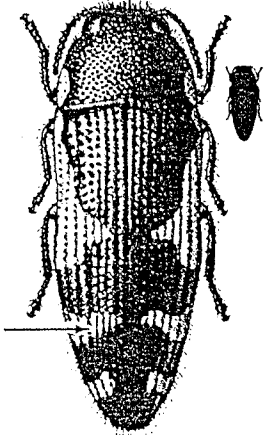
Pachyschelus



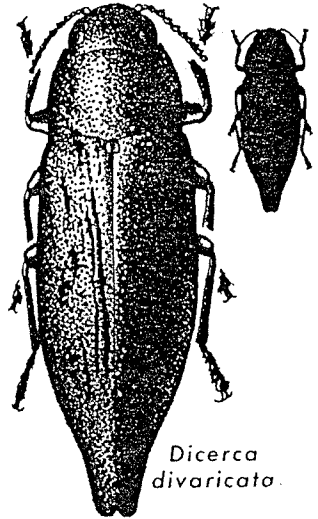
Chrysobothris



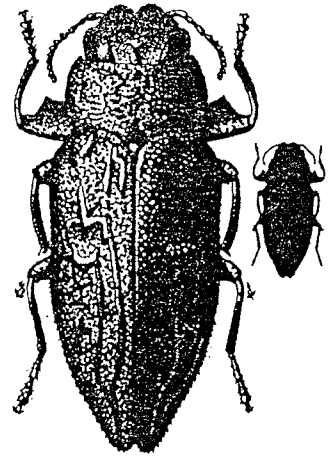
TWO-LINED
CHESTNUT BORER



Acmaeodera pulchella



*Dicerca
divaricata*



FLAT-HEADED
APPLE TREE BORER