

Hemiptera Classification & Required Families

I. Suborder Enicocephalomorpha

1. Enicocephalidae - gnat bugs or unique-headed bugs

II. Suborder Dipsocoromorpha

III. Suborder Nepomorpha - aquatic bugs

1. Belostomatidae - giant water bugs
2. Corixidae - water boatmen
3. Gelastocoridae - toad bugs
4. Naucoridae - creeping water bugs
5. Nepidae - waterscorpions
6. Notonectidae - backswimmers
7. Ochteridae - velvety shore bugs
8. Pleidae - pygmy backswimmers

IV. Suborder Gerromorpha - semiaquatic bugs

1. Gerridae - water striders
2. Hebridae - velvet water bugs
3. Hydrometridae - water measurers
4. Mesoveliidae - marsh treaders
5. Veliidae - broad-shouldered water striders or riffle bugs

V. Suborder Leptopodomorpha

1. Saldidae - shore bugs

VI. Suborder Cimicomorpha

1. Anthocoridae - minute pirate bugs
2. Cimicidae - bed bugs
3. Lyctocoridae -
4. Miridae - plant bugs

5. Nabidae - damsel bugs

6. Reduviidae - assassin bugs
subfamily Phymatinae - ambush bugs

7. Tingidae - lace bugs

VII. Suborder Pentatomomorpha

1. Acanthosomatidae - acanthosomatid stink bugs

2. Alydidae - broad-headed bugs

3. Aradidae - flat bugs

4. Berytidae - stilt bugs

5. Blissidae - chinch bugs

6. Coreidae - leaf-footed bugs or coreid bugs

7. Cydnidae - burrower bugs

8. Cymidae

9. Geocoridae - big-headed bugs

10. Largidae - largid bugs

11. Lygaeidae - seed bugs or lygaeid bugs

12. Pachygronthinae

13. Pentatomidae - stink bugs

subfamily Asopinae - predaceous stink bugs

subfamily Podopinae - turtle bugs

14. Piesmatidae - ash-gray leaf bugs

15. Pyrrhocoridae - red bugs or cotton stainers

16. Rhopalidae - scentless plant bugs

17. Rhyparochromidae

18. Scutelleridae - shield-backed bugs

19. Thyreocoridae - negro bugs

HEMIPTERA

Common Name: True bugs.

Etymology: Hemi- = half; -ptera = wing.

Metamorphosis: Hemimetabolous: egg, nymph, adult.

CHARACTERISTICS

Body: Minute to large; form variable.

Head: Variable.

Mouthparts: Piercing-sucking; degenerate palpi.

Eyes: Compound eyes nearly always developed; ocelli 0 or 2.

Antennae: Variable; concealed in some; usually 4- or 5-segmented.

Wings: Present or absent; if present, the basal portion of the front wing is thickened and leathery and the apical portion is membranous (called hemelytron); hindwings membranous and shorter than front wings; held flat over abdomen at rest.

Legs: Well-developed; variable; many with raptorial front legs; tarsi 2- or 3-segmented; paired tarsal claws.

Abdomen: Cerci lacking.

Comments: Both plant feeders and carnivorous forms represented.

SUBORDERS

Enicocephalomorpha - primitive, containing single family: Enicocephalidae.

Dipsocoromorpha - contains several very small and rare families.

Nepomorpha - aquatic, short antennae concealed in grooves; corresponds to the old Hydrocorizae.

Gerromorpha - semi-aquatic, long antennae, 4 segmented, trichobothria on head; along with Leptopodomorpha corresponds to old Amphibicorizae.

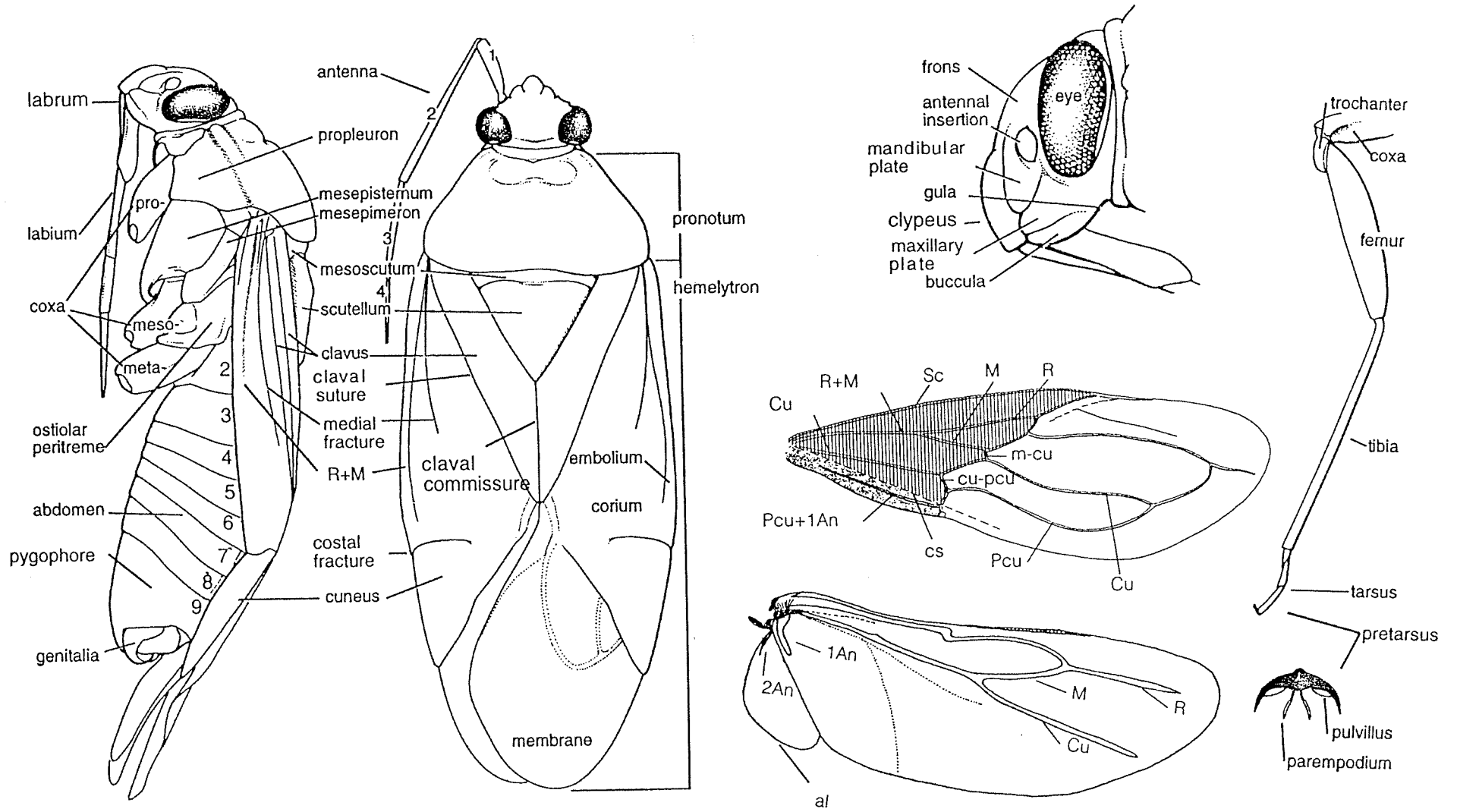
Leptopodomorpha - shore inhabiting bugs; long antennae, 4 segmented, trichobothria on head.

Cimicomorpha - terrestrial; no trichobothria on abdomen; along with the Pentatomomorpha corresponds to old Geocorizae.

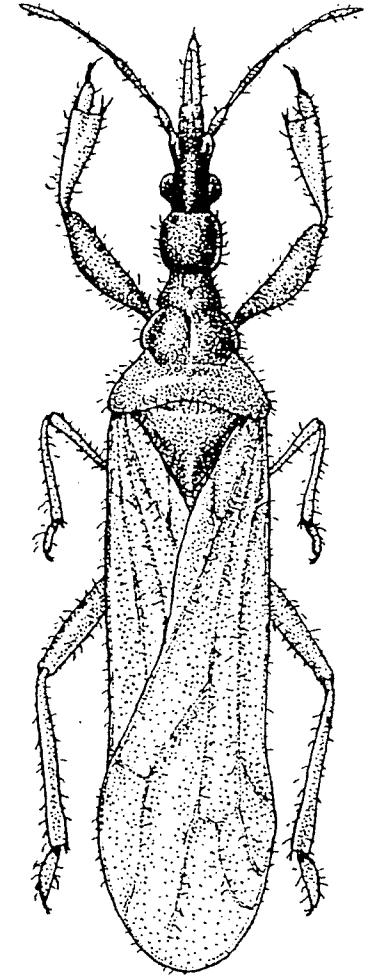
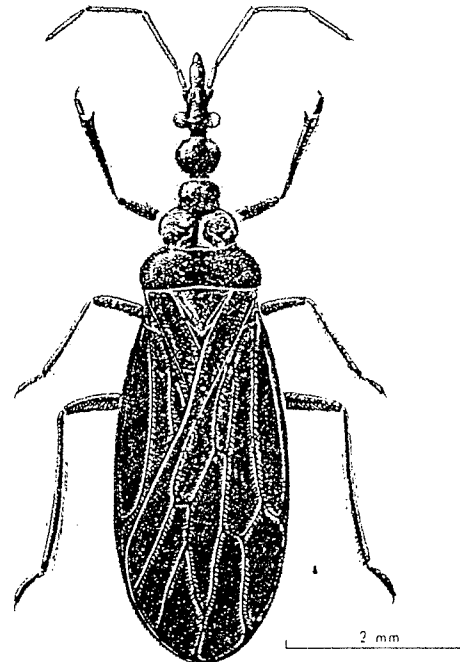
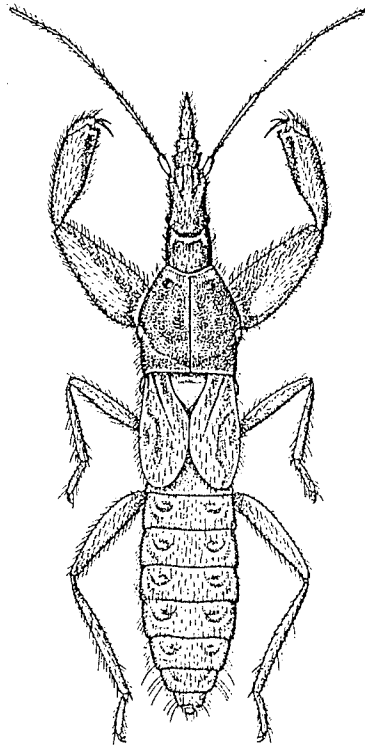
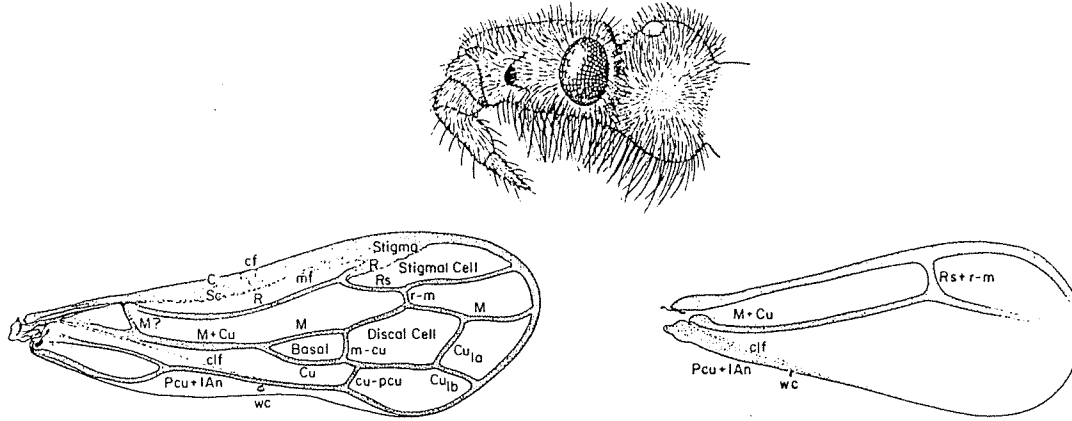
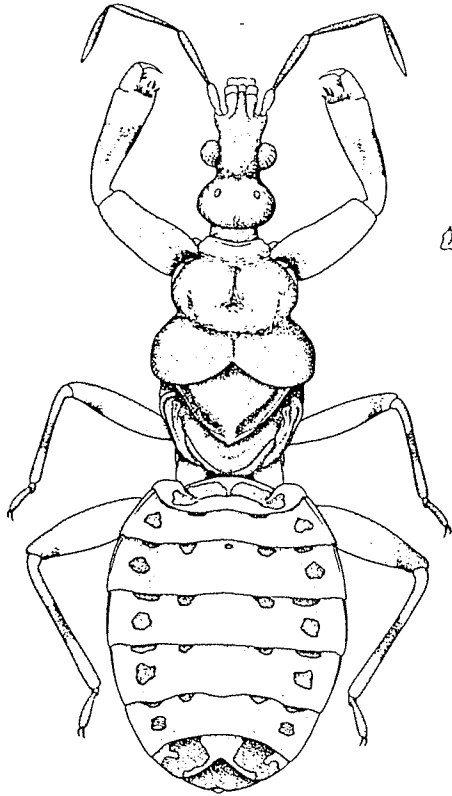
Pentatomomorpha - terrestrial, trichobothria on abdomen; related to the stink bugs.

Order Hemiptera

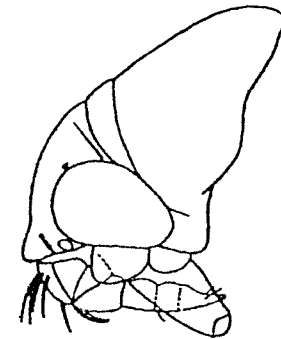
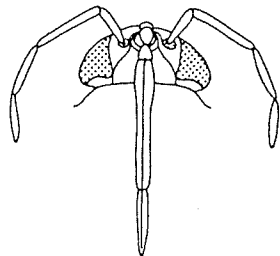
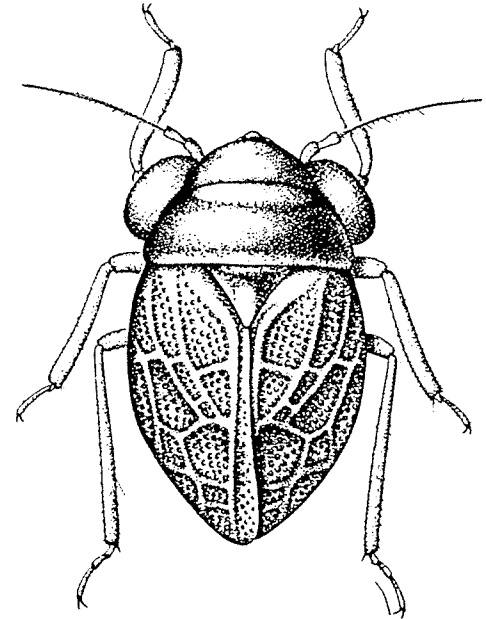
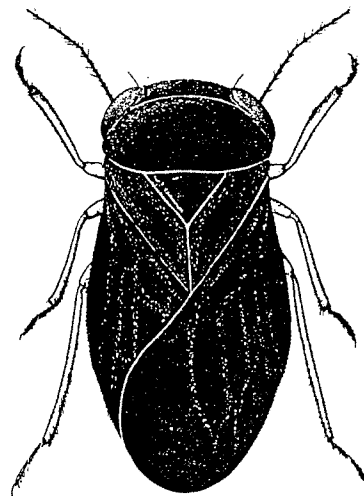
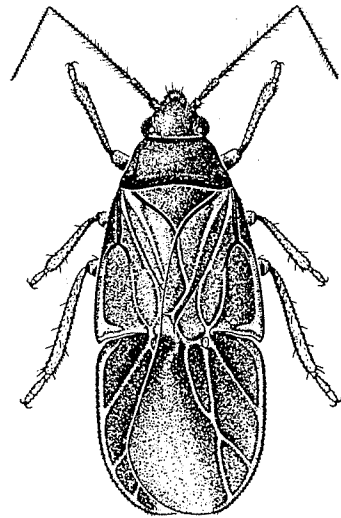
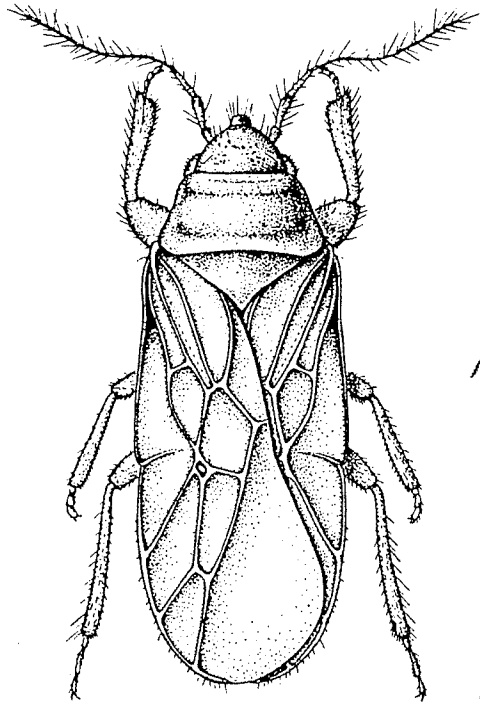
True bugs



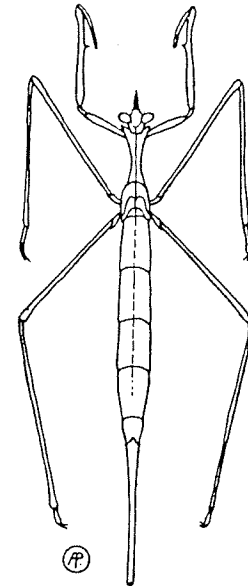
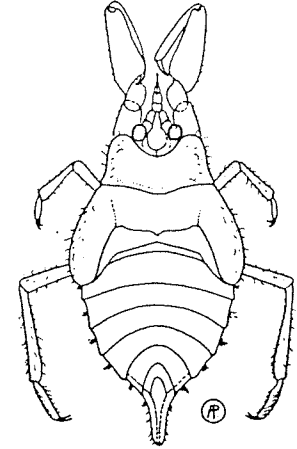
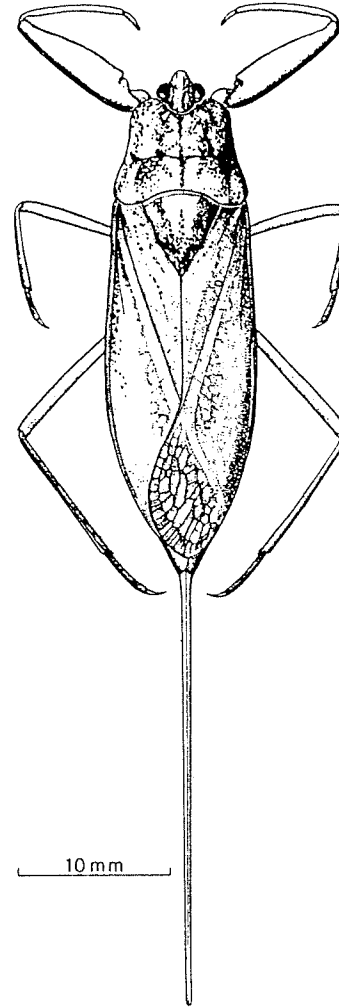
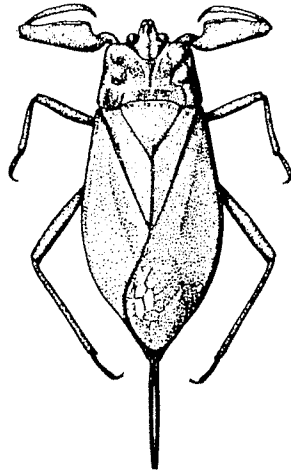
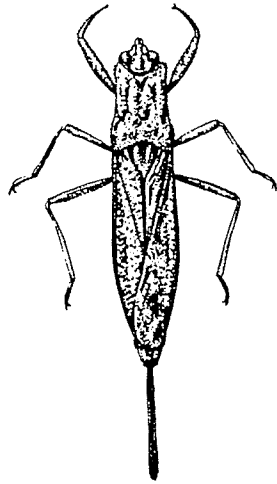
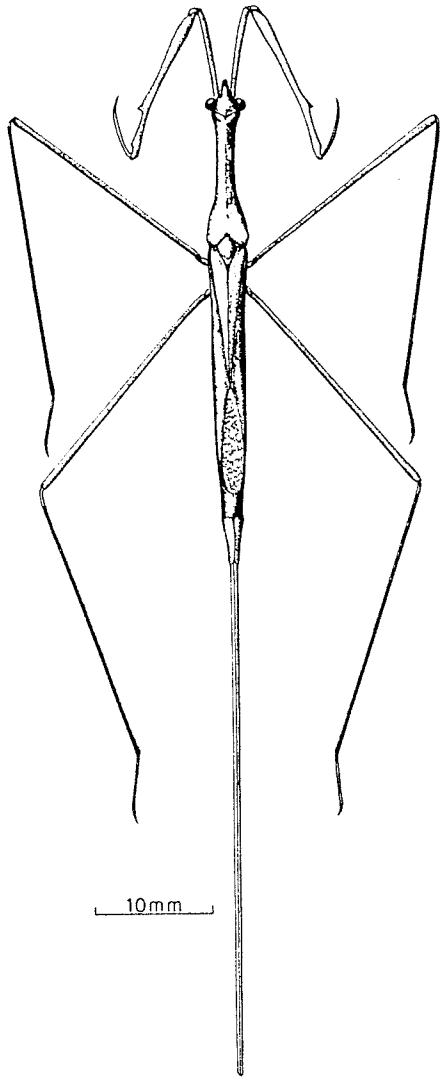
HEMIPTERA: Enicocephalomorpha
Family Enicocephalidae
Unique-headed bugs/ Gnat bugs



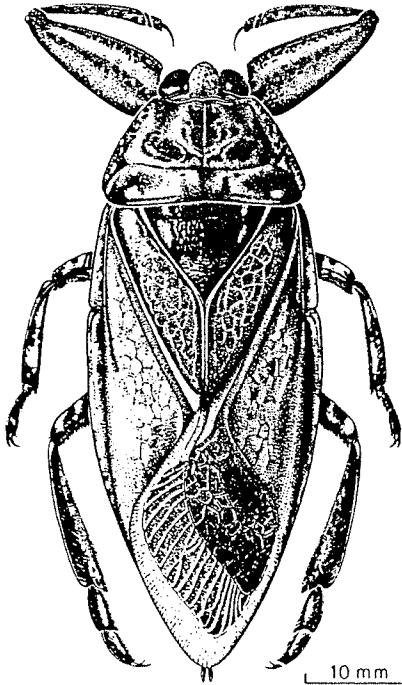
HEMIPTERA: Dipsocoromorpha
Family Dipsocoridae Family Schizopteridae
Jumping plant bugs



HEMIPTERA: Nepomorpha
Family Nepidae
Water Scorpions

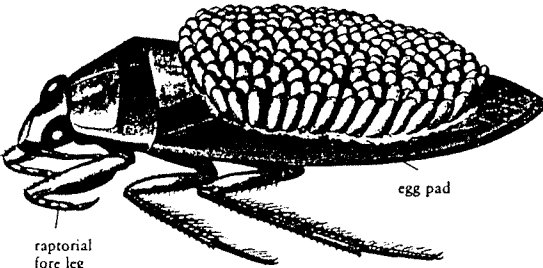


HEMIPTERA: Nepomorpha
Family Belostomatidae
Giant water bugs



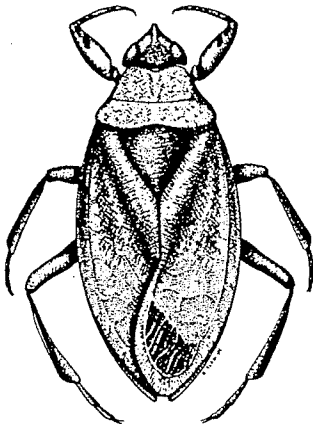
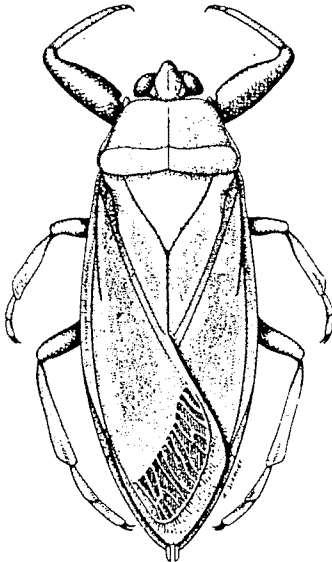
10 mm

Lethocerus americanus (Leidy)

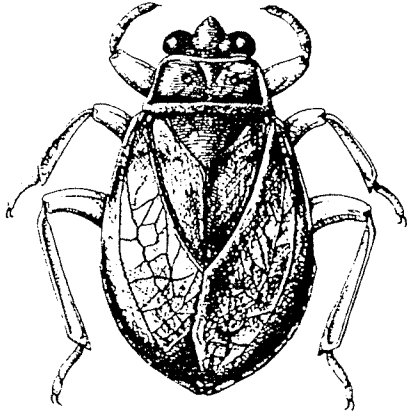


raptorial fore leg

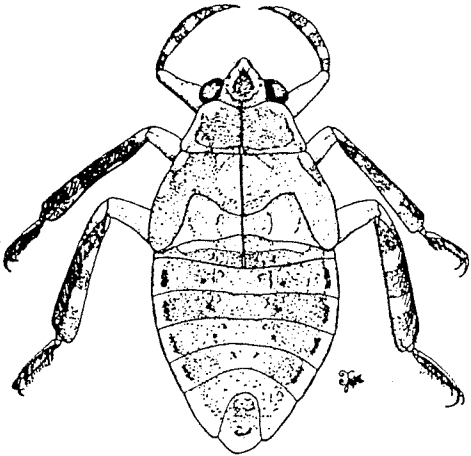
egg pad



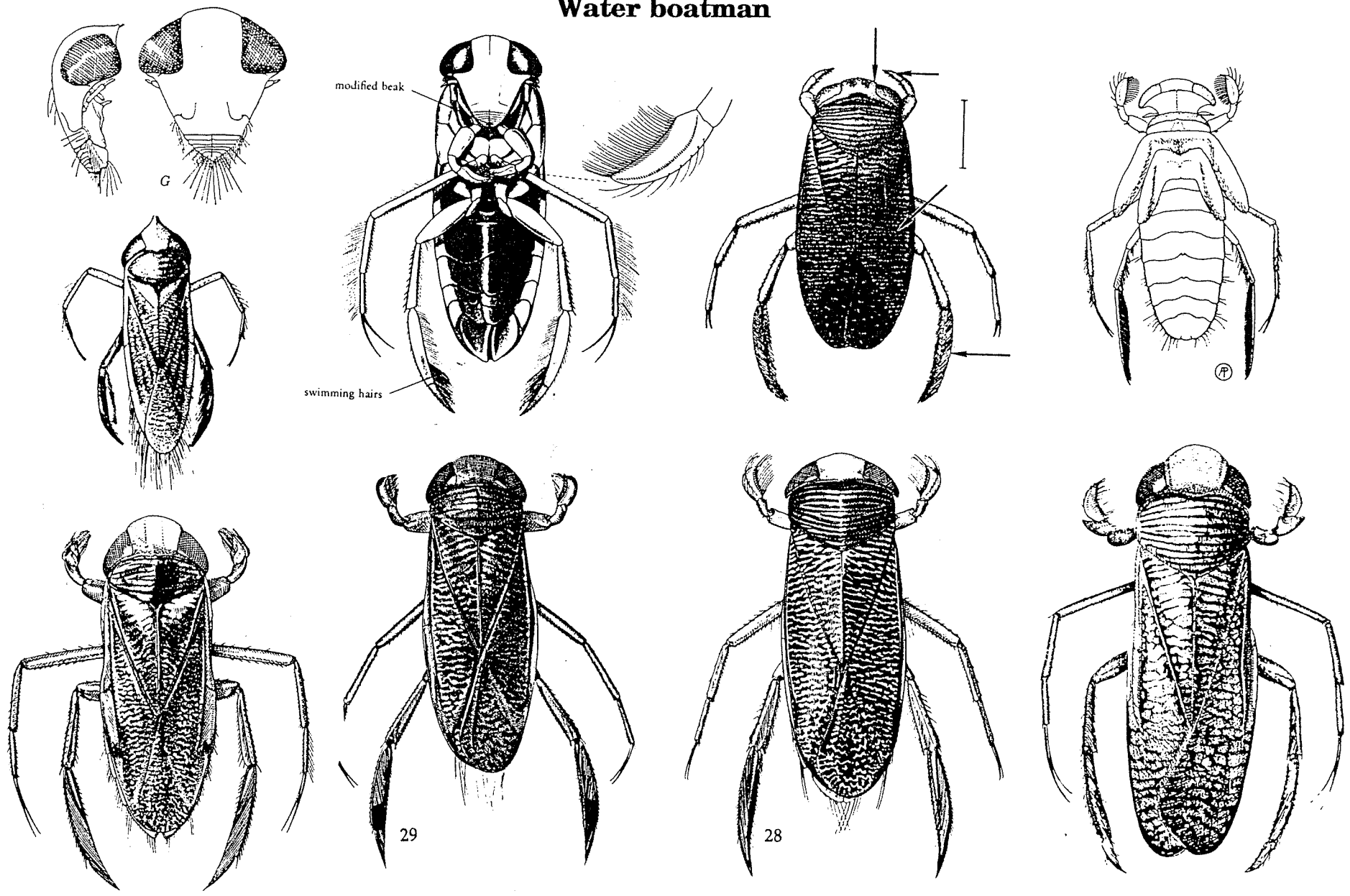
Belostoma flumineum Say



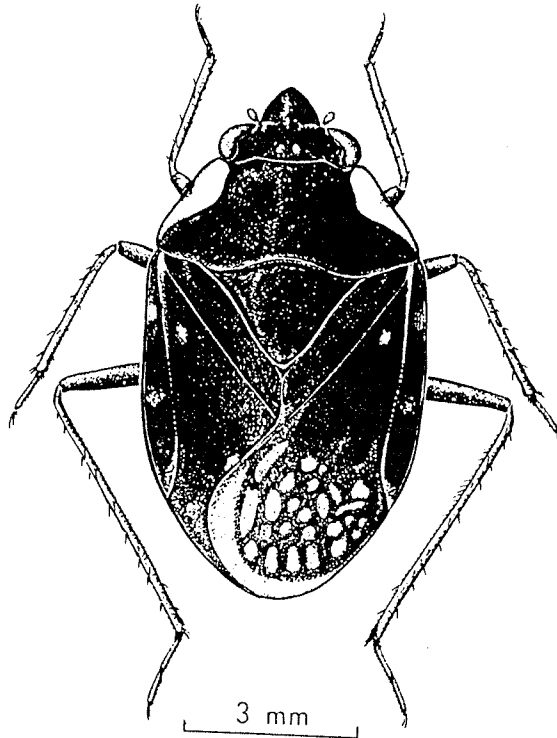
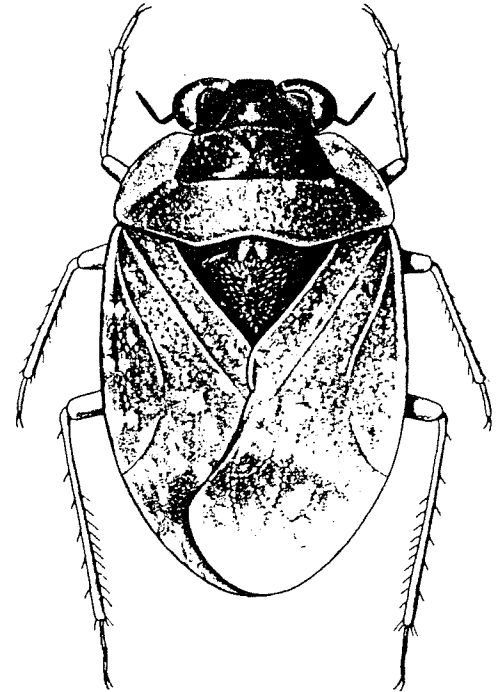
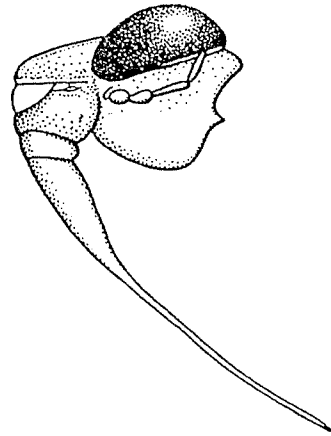
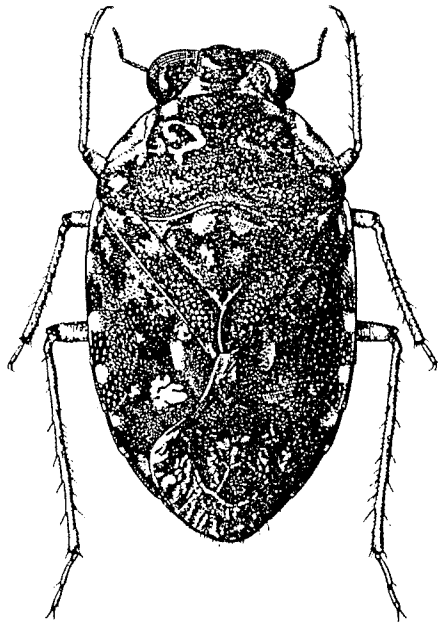
Abedus indentatus (Haldeman)



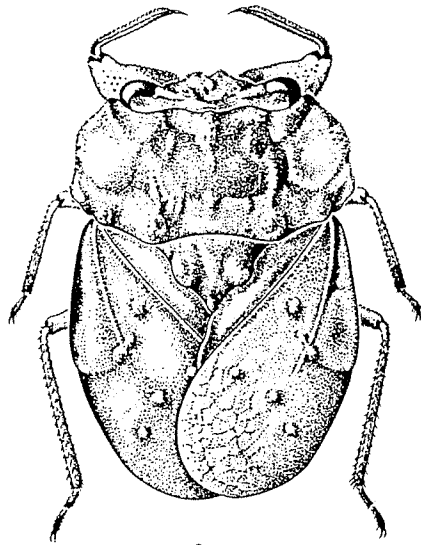
HEMIPTERA: Nepomorpha
Family Corixidae
Water boatman



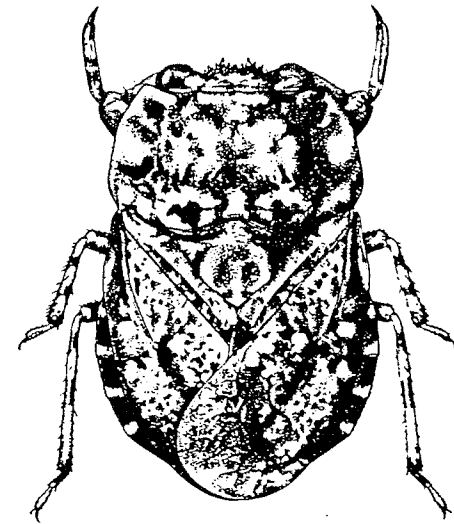
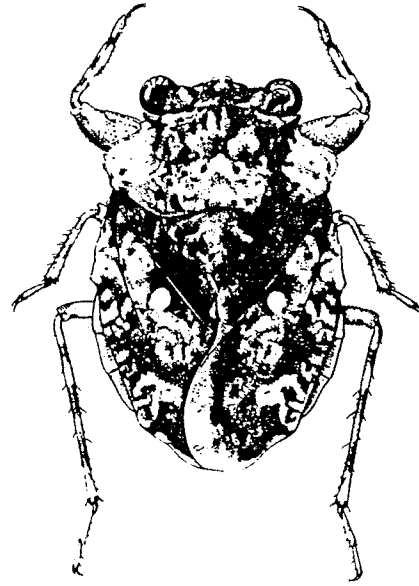
HEMIPTERA: Nepomorpha
Family Ochteridae
Velvety shore bugs



HEMIPTERA: Nepomorpha
Family Gelastocoridae
Toad bugs

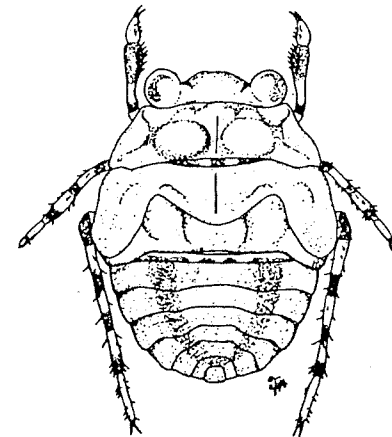
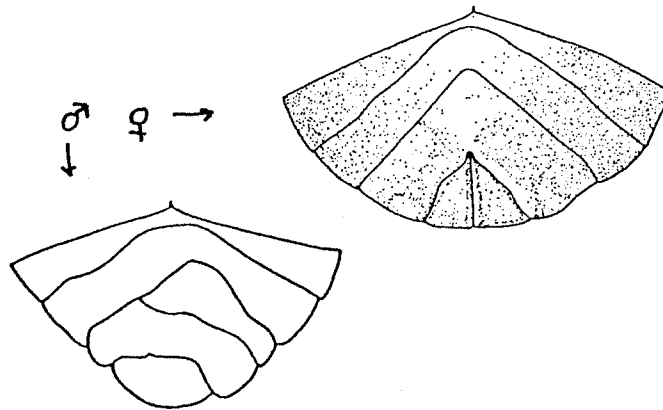


3 mm



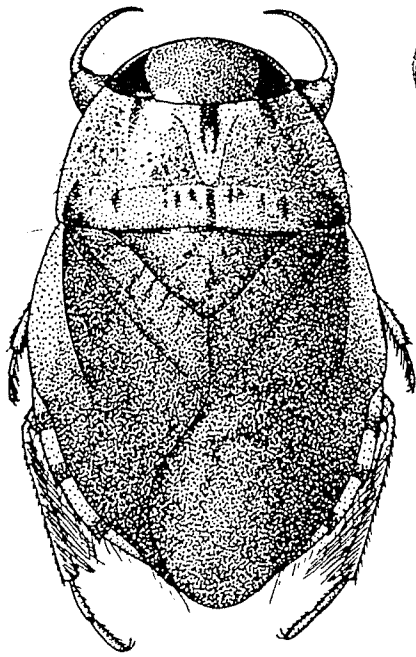
Nerthra martini

Nerthra nudata,

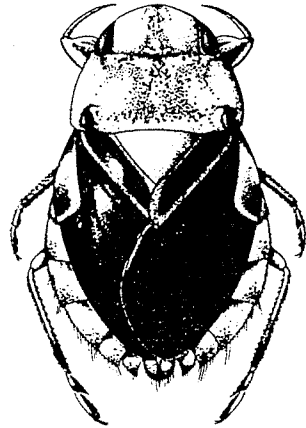


Gelastocoridae. Toad bug, *Gelastocoris oculatus*

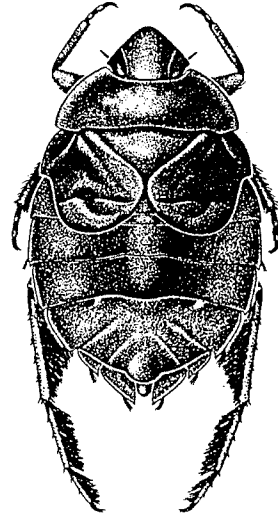
HEMIPTERA: Nepomorpha
Family Naucoridae
Creeping water bugs



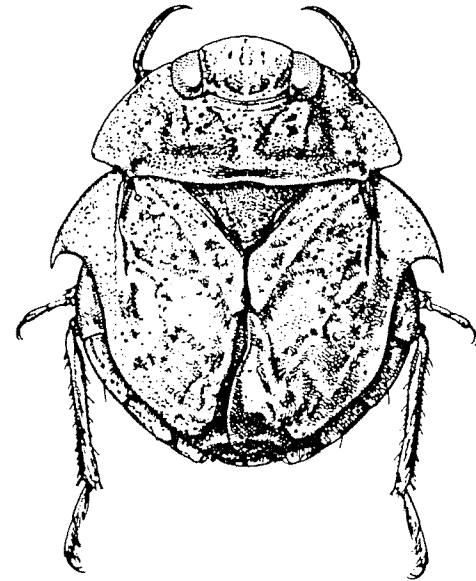
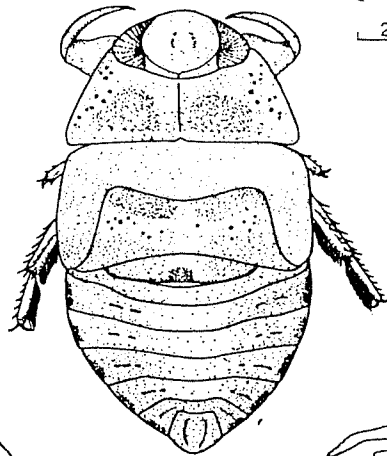
Pelocoris carolinensis



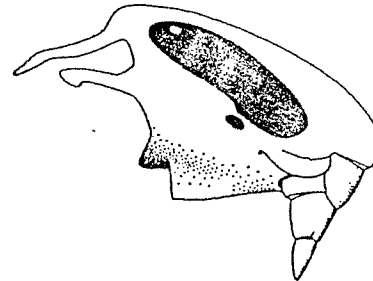
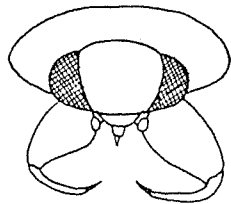
2mm



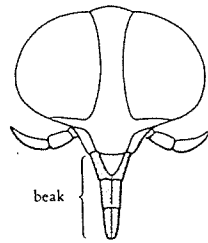
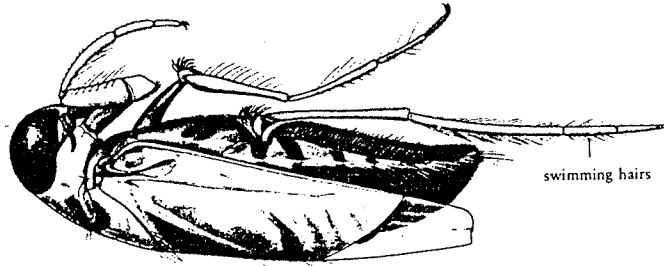
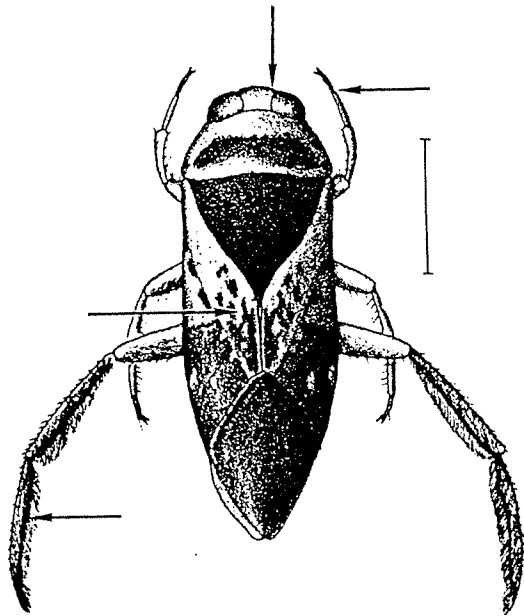
2mm



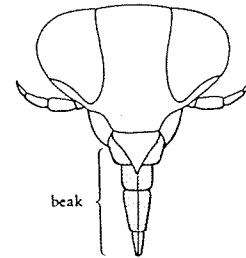
Usingerina moapensis



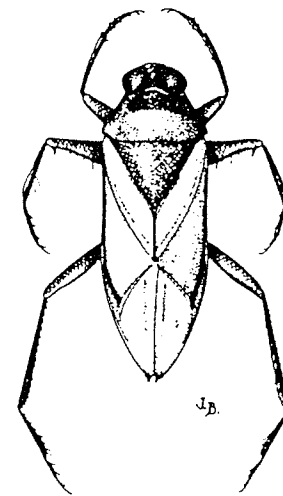
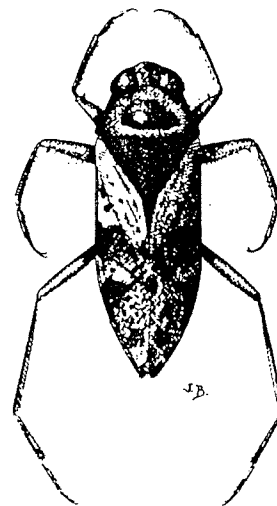
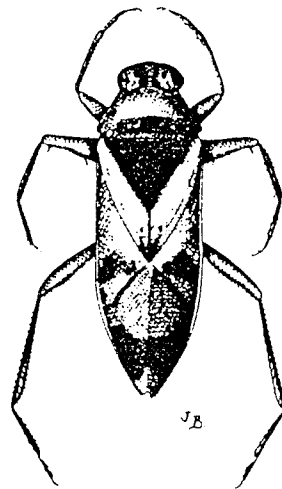
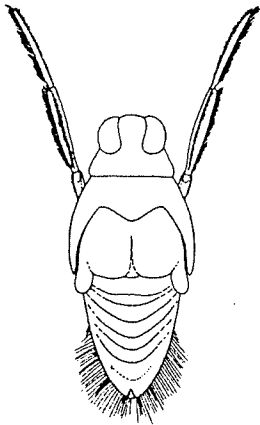
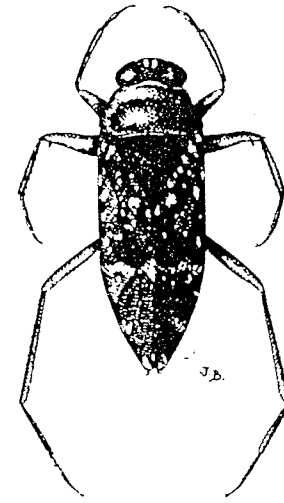
HEMIPTERA: Nepomorpha
Family Notonectidae
Backswimmers



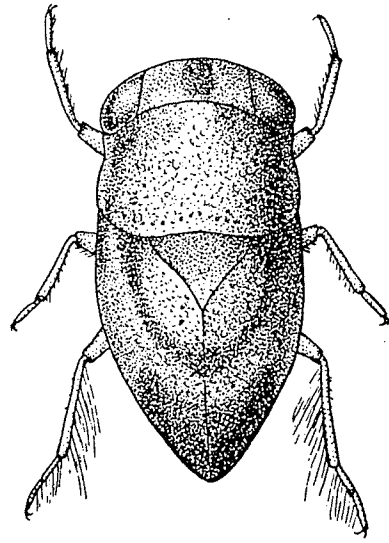
Anisopinae head



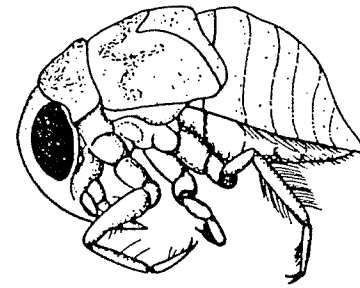
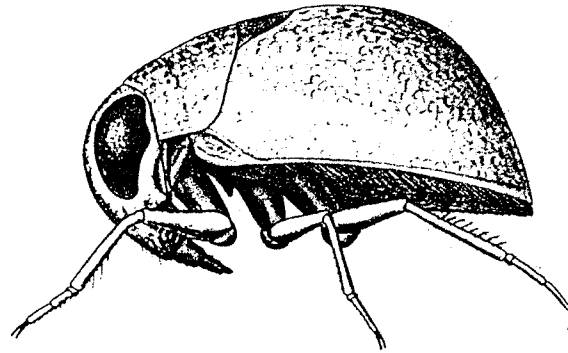
Notonectinae head



HEMIPTERA: Nepomorpha
Family Pleidae
Pygmy backswimmers

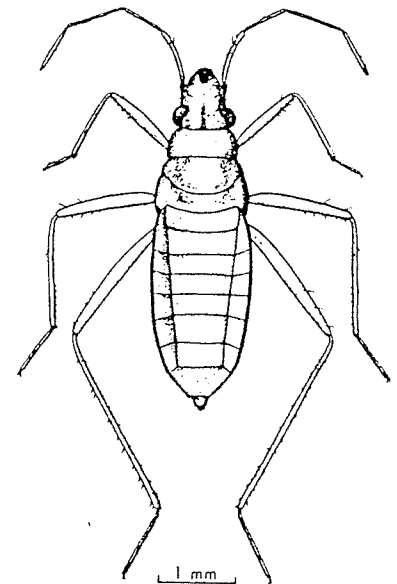
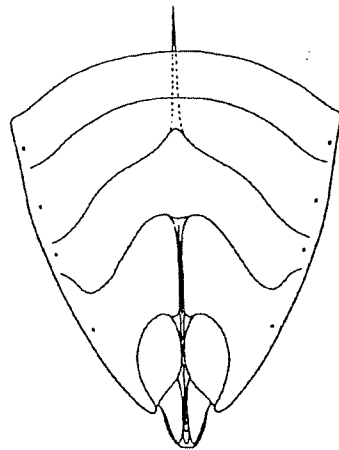
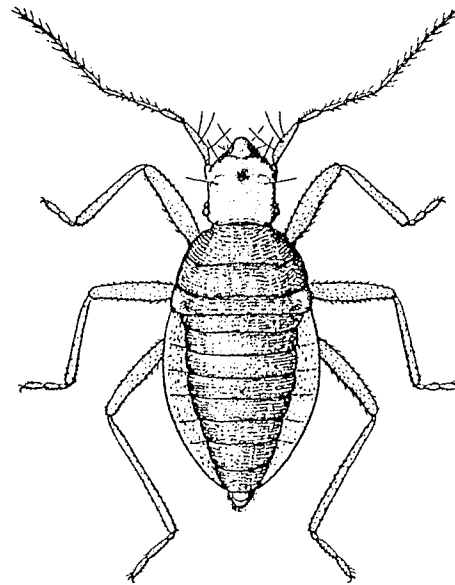
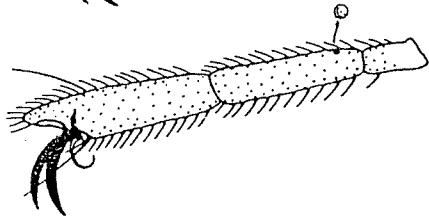
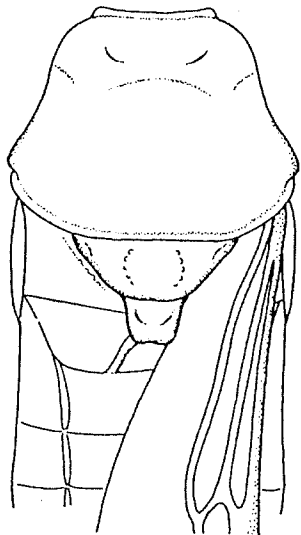
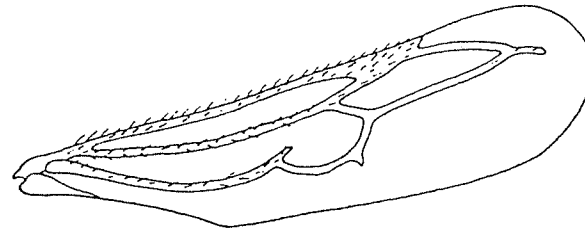
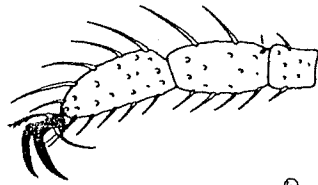
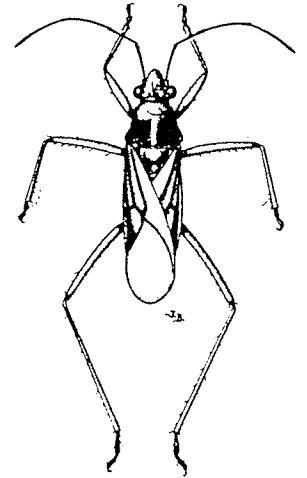
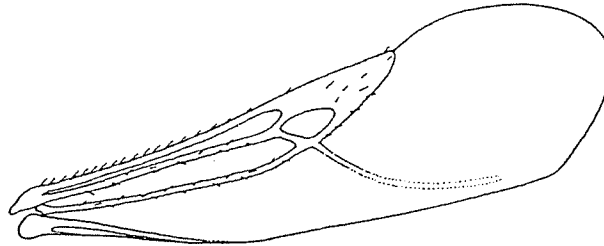
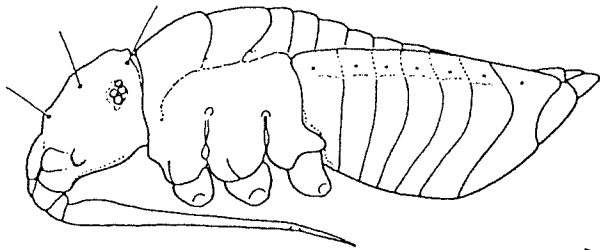


Neoplea striola

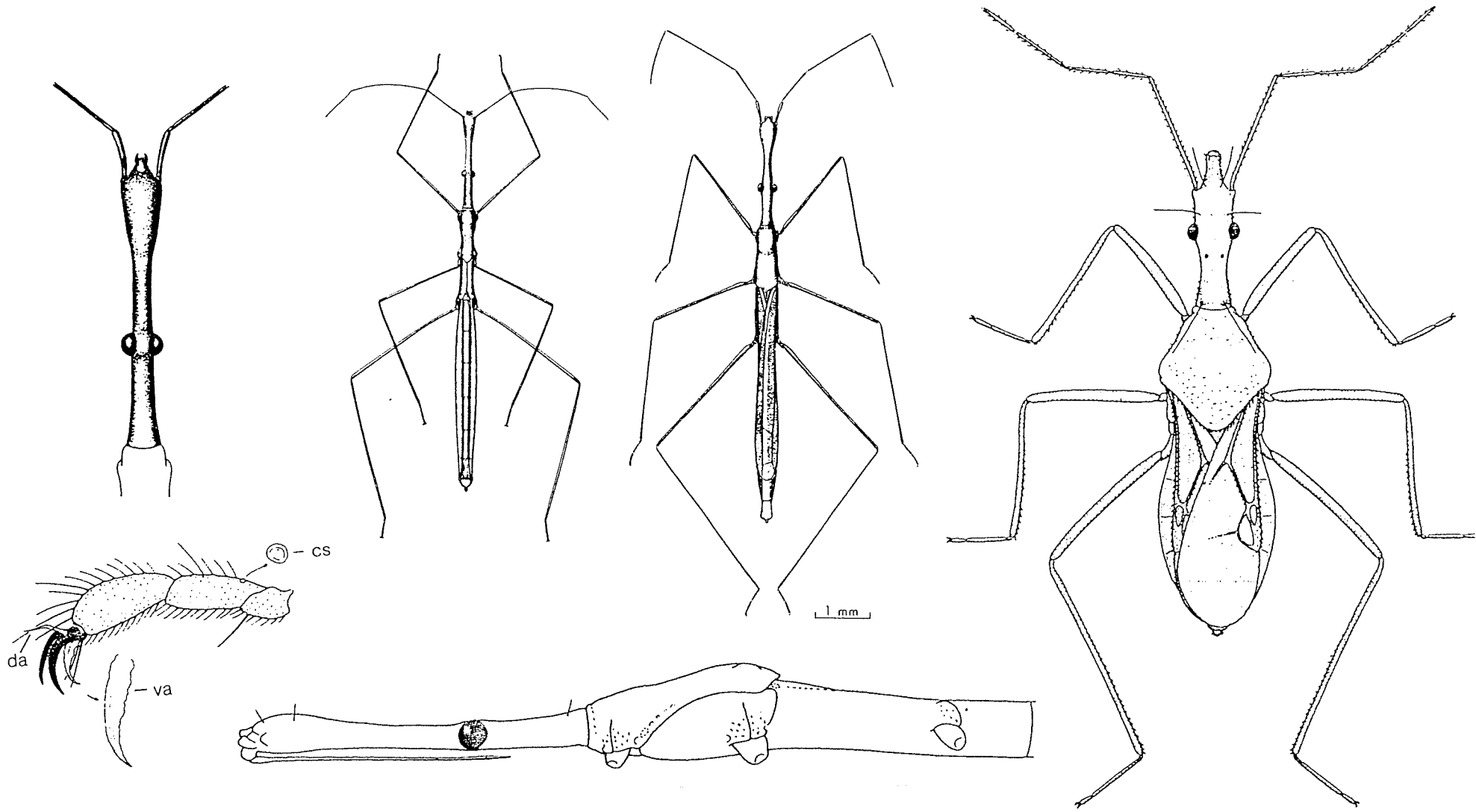


Pleidae. Pygmy backswimmer, *Neoplea striola*

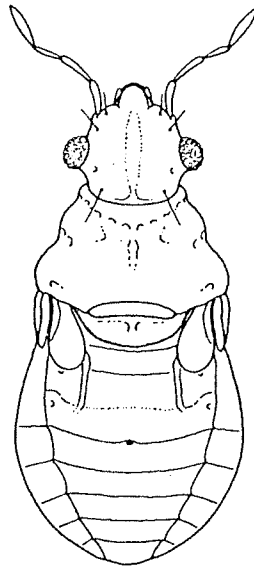
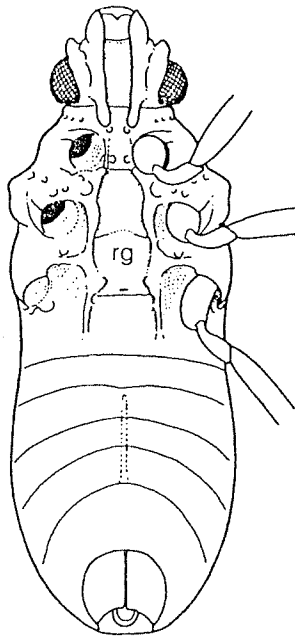
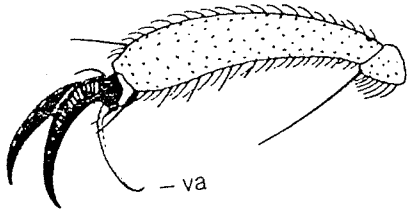
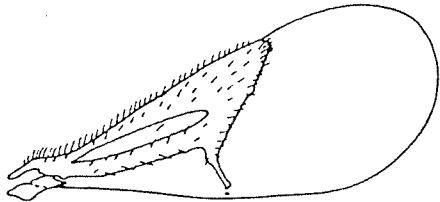
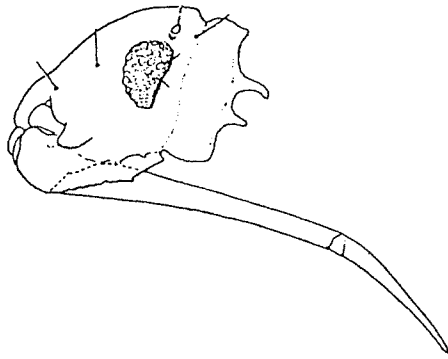
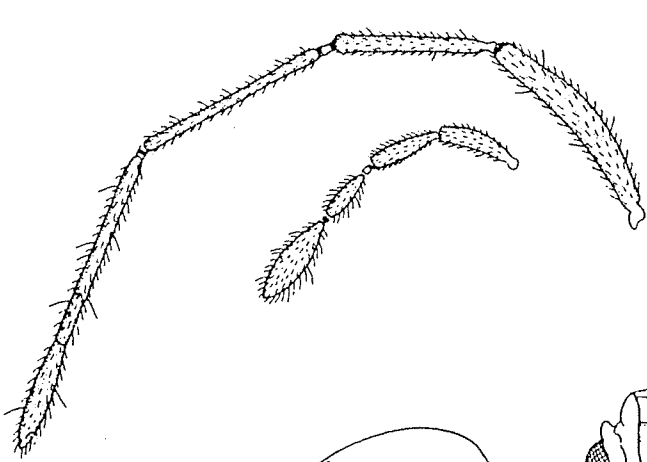
HEMIPTERA: Gerromorpha
Family Mesoveliidae
Water treaders



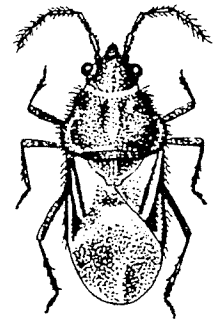
HEMIPTERA: Gerromorpha
Family Hydrometridae
Water measurers/ Marsh treaders



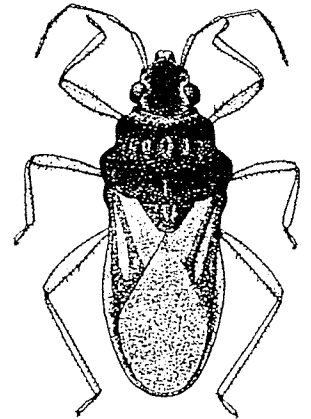
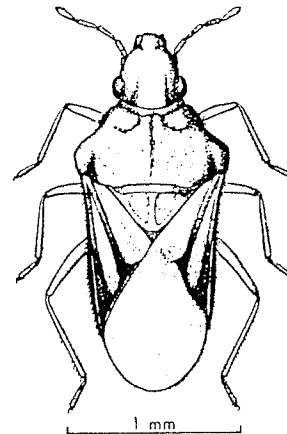
HEMIPTERA: Gerromorpha
Family Hebridae
Velvet water bugs



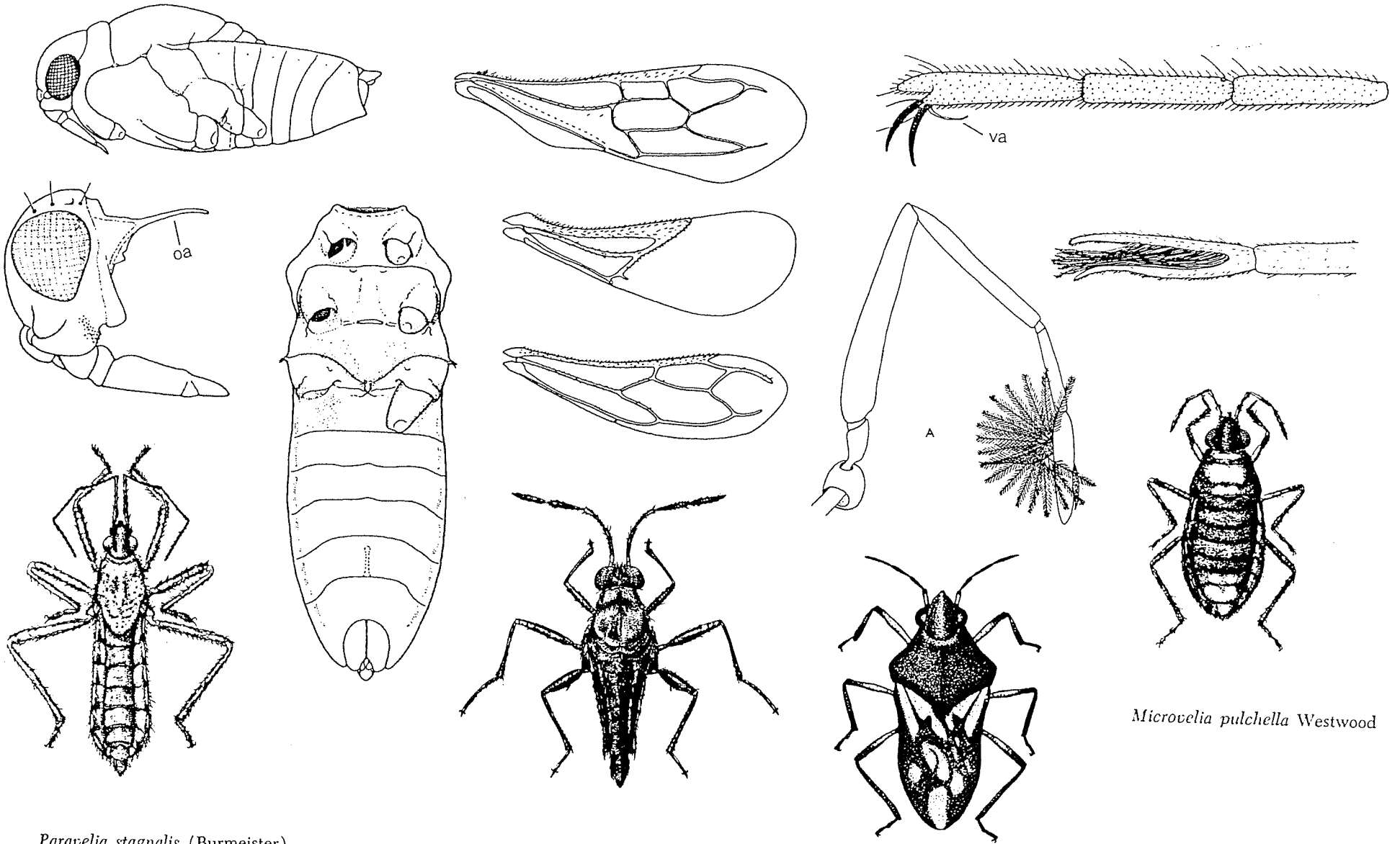
Merragata hebroides White



Hebrus sobrinus (Uhler)



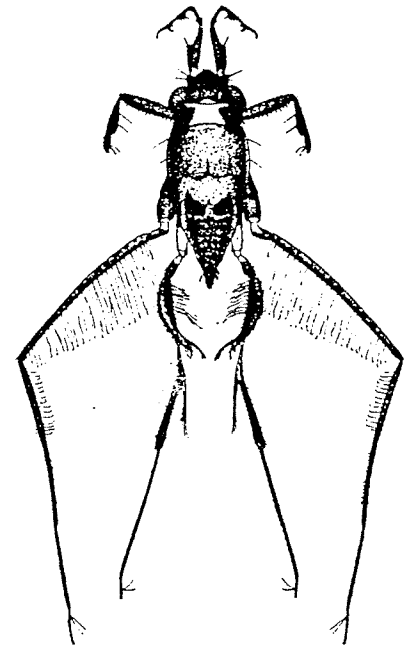
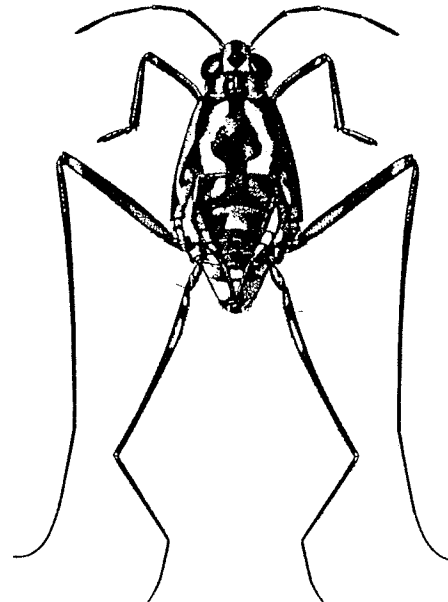
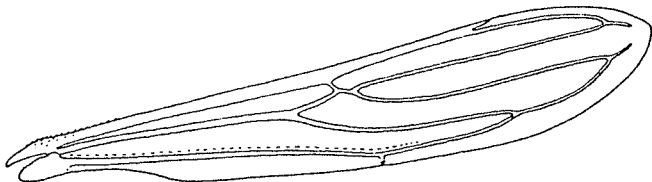
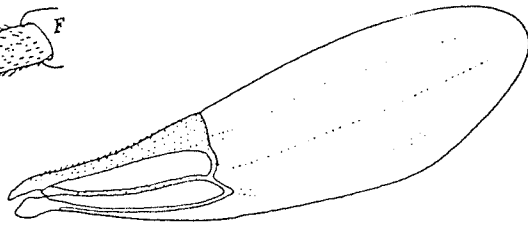
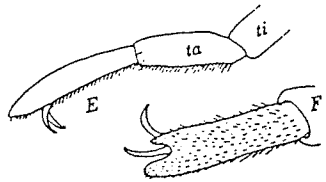
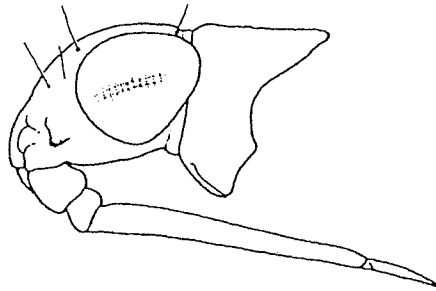
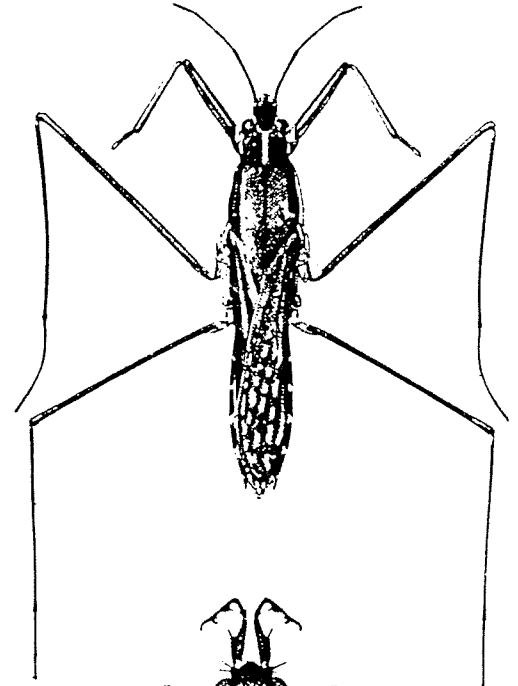
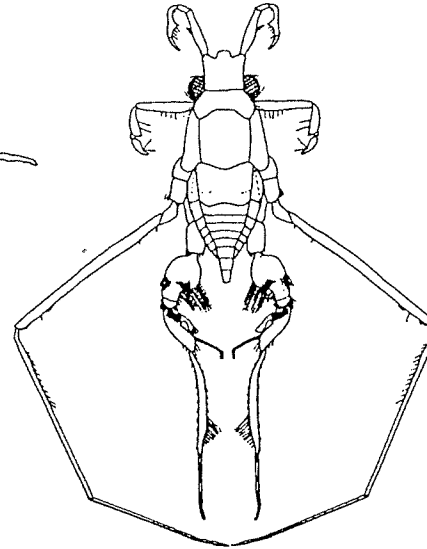
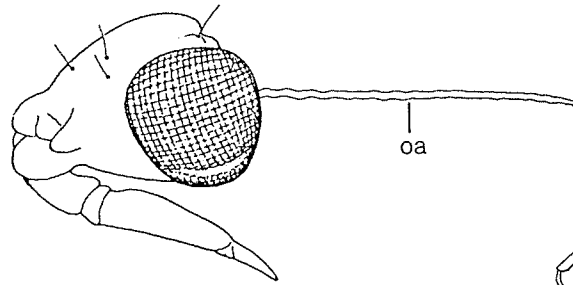
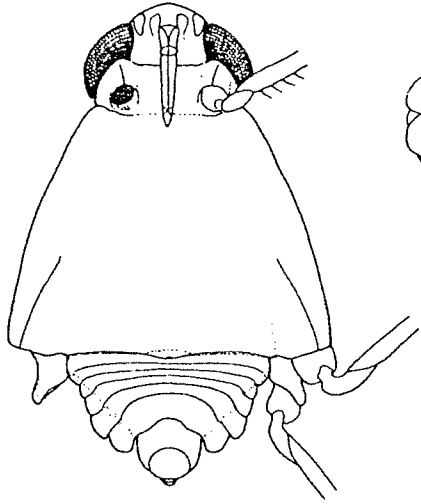
HEMIPTERA: Gerromorpha
 Family Veliidae
 Broad-shouldered water striders/ Riffle bugs



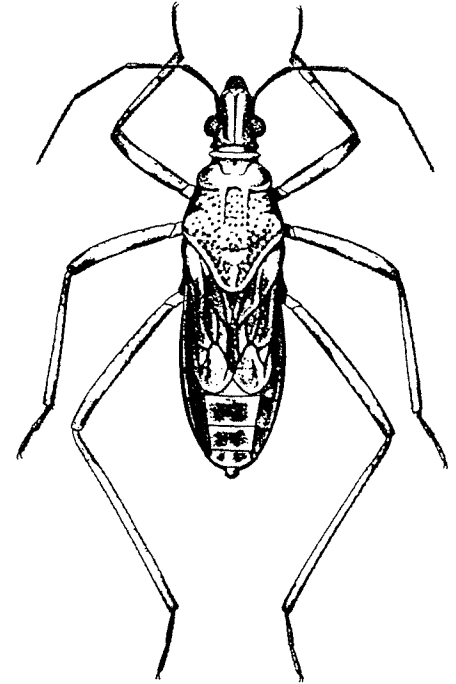
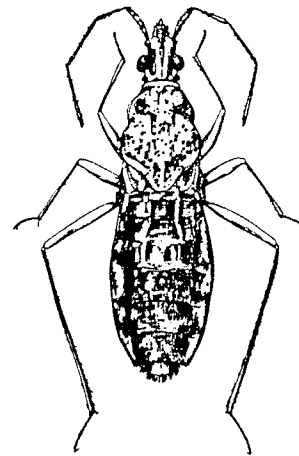
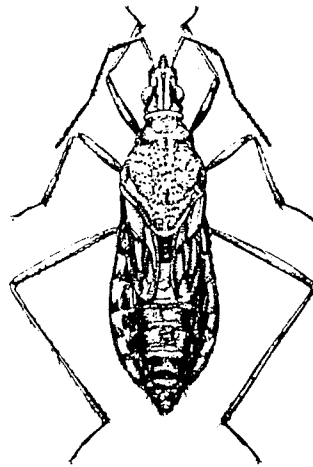
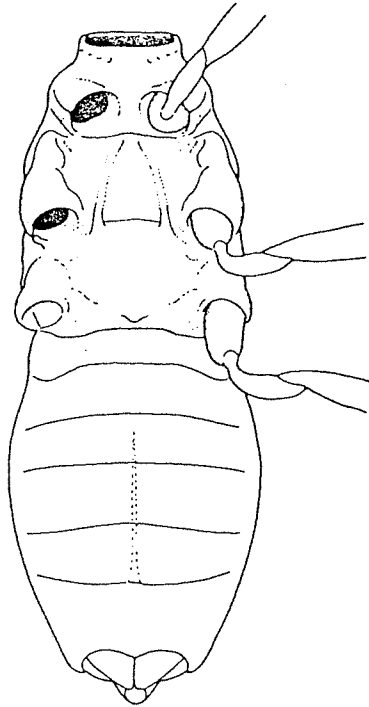
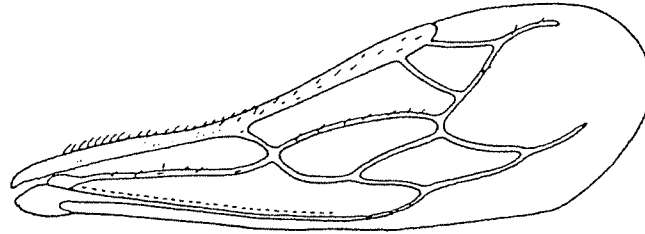
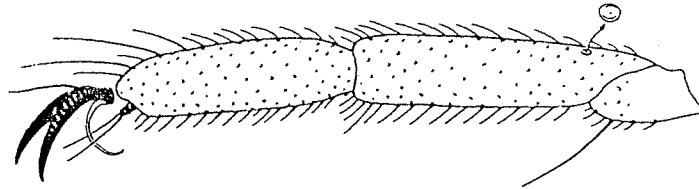
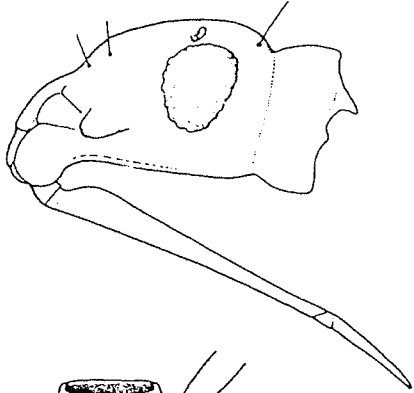
Paravelia stagnalis (Burmeister)

Microvelia pulchella Westwood

HEMIPTERA: Gerromorpha
Family Gerridae
Water striders



HEMIPTERA: Gerromorpha
Family Macroveliidae
Macroveliid shore bugs



HEMIPTERA: Leptopodomorpha
Family Saldidae
Shore bugs

