

Name: _____

"Hemiptera" (Heteroptera, Homoptera)

The "true bugs" of the Order Heteroptera are still frequently divided into 2 orders, Hemiptera and Homoptera, or treated as 2 sub-orders of the order Hemiptera. Your textbook treats them as two orders, Hemiptera and Homoptera. There are 45 families of Heteroptera in North America (Henry and Froeschner, 1988). Of these, at least 38 occur in Florida. Therefore, you cannot eliminate many from a comprehensive family key, so be prepared to key out any representative of the Heteroptera to family. There are far fewer families of Homoptera which are listed here.

Families of Homoptera you should be able to identify :

Sub order **Auchenorrhyncha**

Cicadidae

Membracidae

Aetalionidae

Cercopidae

Cicadellidae

Delphacidae

Derbidae

Cixiidae

Dictyopharidae

Achilidae

Tropiduchidae

Fulgoridae

Flatidae

Sub-order **Sternorrhyncha**

Psyllidae

Aleyrodidae

Aphididae

Scales and mealybugs

As an introduction to these taxa, use lab specimens to identify families and answer the following questions. Where appropriate fill in the information that is missing from the statements. Turn this in at the end of the lab period for credit.

1). How do the 2 orders differ (Heteroptera vs. Homoptera)? List 2 major differences (do not use size or color).

2) The term **hemelytron** refers to the front wing of Heteroptera. These wings are thickened basally and membranous apically. Hind wings of Heteroptera are entirely membranous Describe the front wings of Homoptera. How do they differ from the hind wings, or do they differ?

Name: _____

3). Describe the mouthparts of Heteroptera. How do they differ from mouthparts of Homoptera?

4). Heteroptera may be divided into terrestrial families and aquatic families. How do these differ in terms of **antennal size, shape**, and **number of segments**?

5). Many Heteroptera have ocelli as adults. Where are they located, and how many are there when present?

6). What is the range in the number of antennal segments in Heteroptera? (Look at a variety of family specimens to arrive at an estimate)

7). How many tarsal segments are present in Heteroptera?

8). Tarsal claws may be **apical** or **anteapical** in Heteroptera? What does this refer to? Which families have **anteapical** tarsal claws?

Name: _____

9). How do these insects (Homoptera and Heteroptera) differ from the other insect orders that you have seen (Dermaptera, Blattaria, Mantodea, Orthoptera)?

10). The Order **Homoptera** is divided into 2 suborders, **Auchenorrhyncha** and **Sternorrhyncha**, which differ by number of tarsal segments, antennal shape, and location of beak. Describe these 3 morphological differences for each sub-Order. Use your books and handouts if necessary. Be sure to look at specimens.

Characters	Auchenorrhyncha	Sternorrhyncha
No. Tarsal segments		
Antennae shape		
Beak location		
Comments		