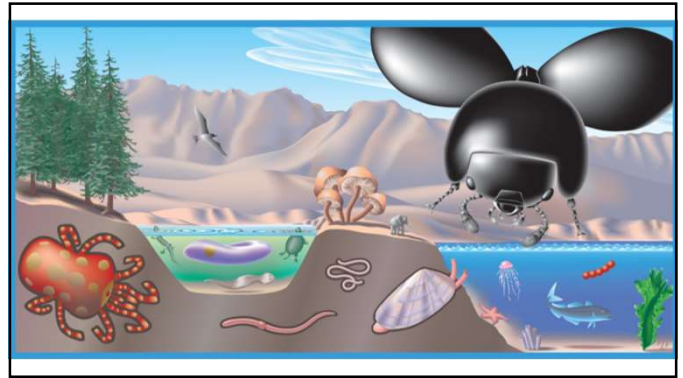


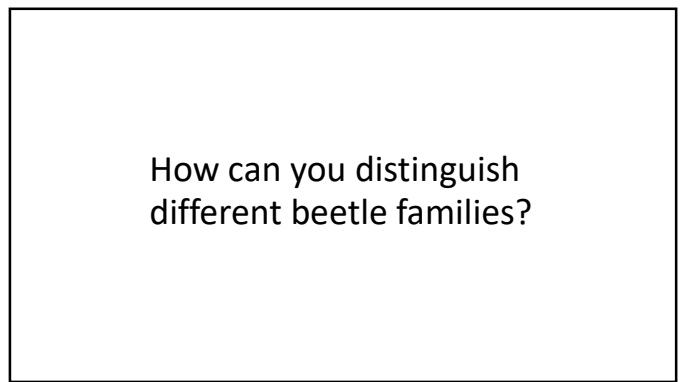
1



2



3



4





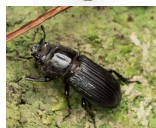

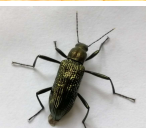

**THINK**

**PAIR**

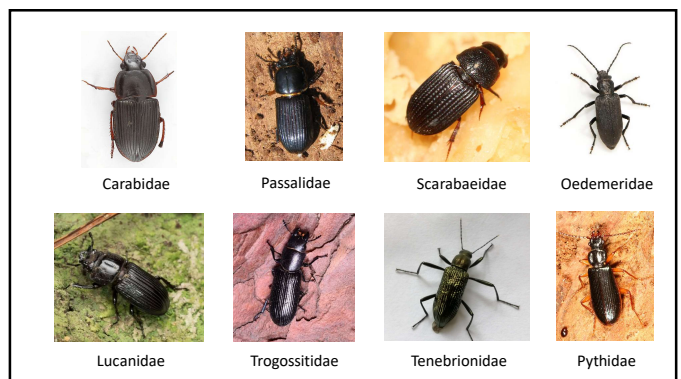
**SHARE**

- Find a partner or two (If you see someone without a partner, invite them to join you!)
- Discuss:

How many Coleoptera families are present in this slide?

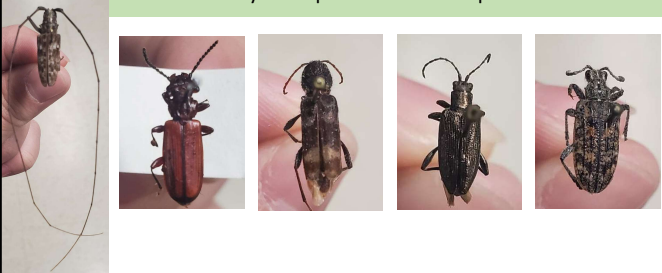
5



6

**THINK**  
**PAIR**  
**SHARE**

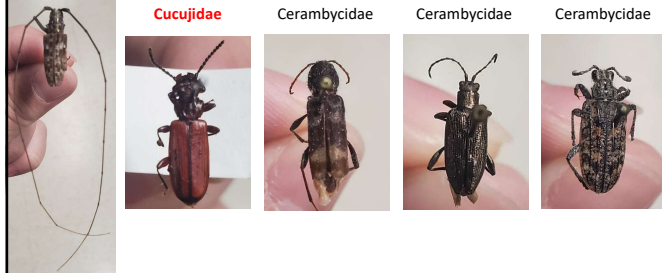
- Find a partner or two (If you see someone without a partner, invite them to join you!)
- Discuss:  
How many Coleoptera families are present in this slide?



7

Cerambycidae


**Cucujidae**      Cerambycidae      Cerambycidae      Cerambycidae



8

**THINK**  
**PAIR**  
**SHARE**

- Find a partner or two and discuss:
- How many Coleoptera families are present in this slide?



9

Only one – Chrysomelidae!



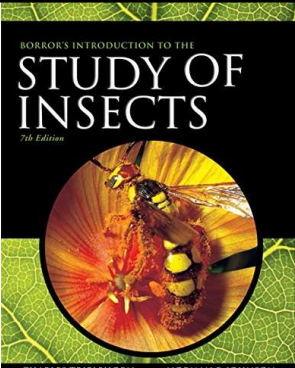
10

How can you distinguish different beetle families?

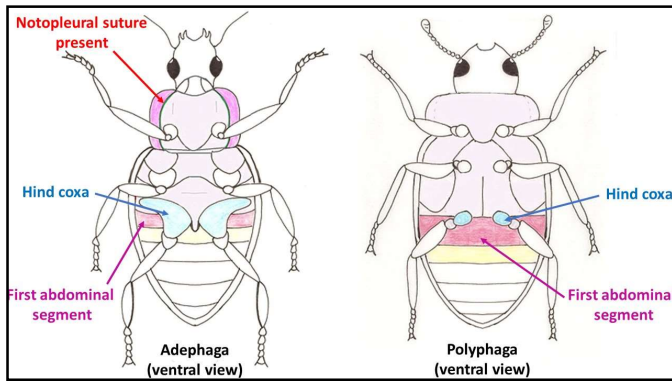
11

Identification Key

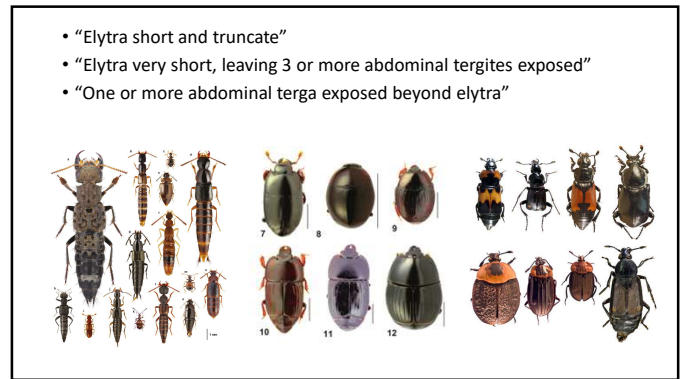
- Coleoptera divided into **four** suborders
- Archostemata and Myxophaga exceedingly **rare**
- Focus on **Adephaga** and **Polyphaga**



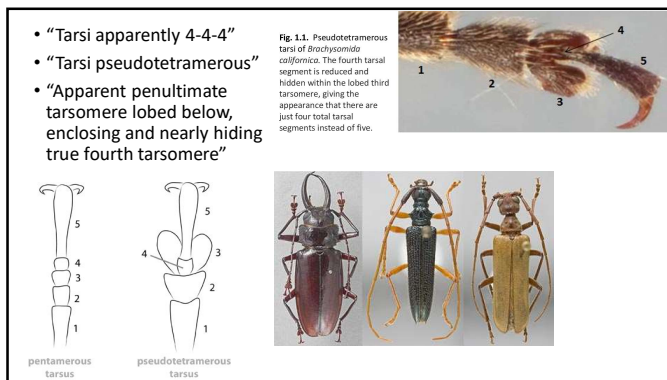
12



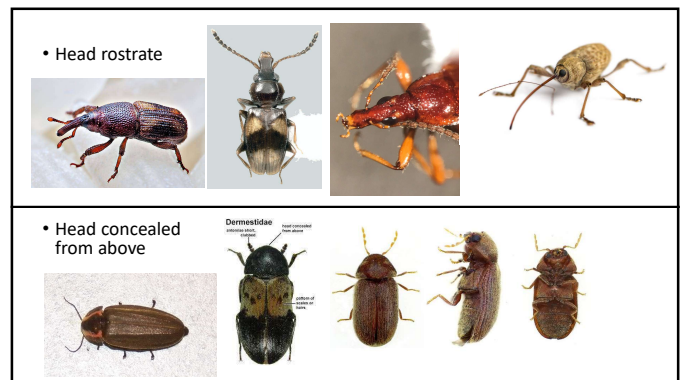
13



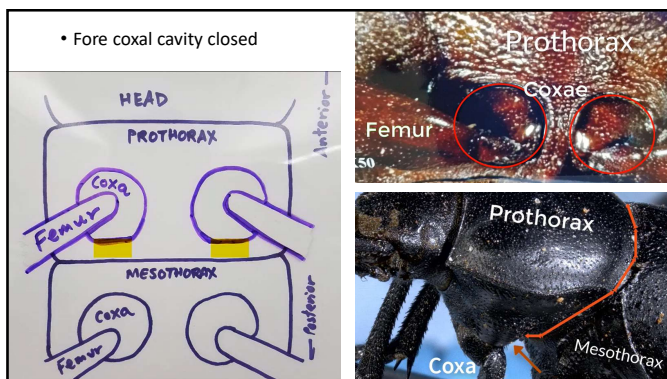
14



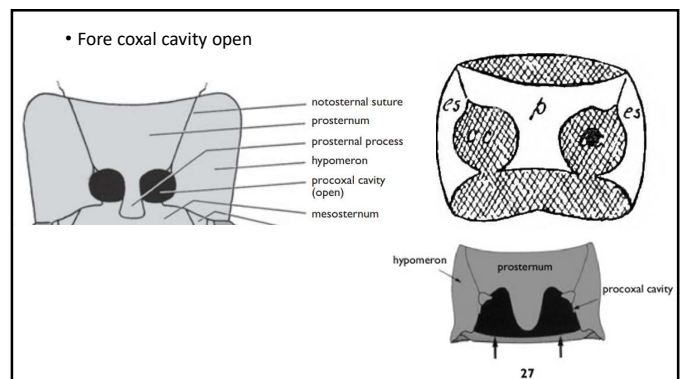
15



16

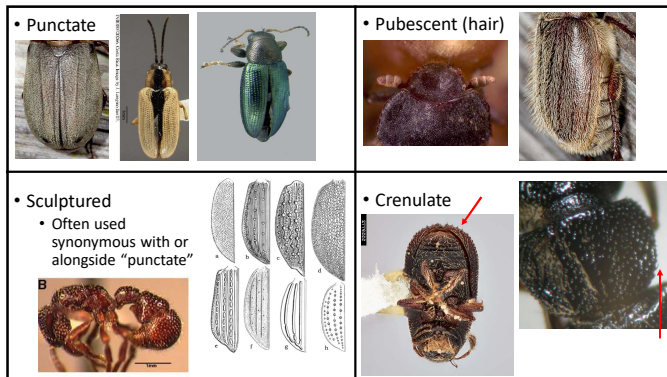


17



18





19

### Group activity

- Groups of 3-4 students
- Use the key to ID the specimens provided to you
- Be prepared to discuss your observations

#### Specimen A:

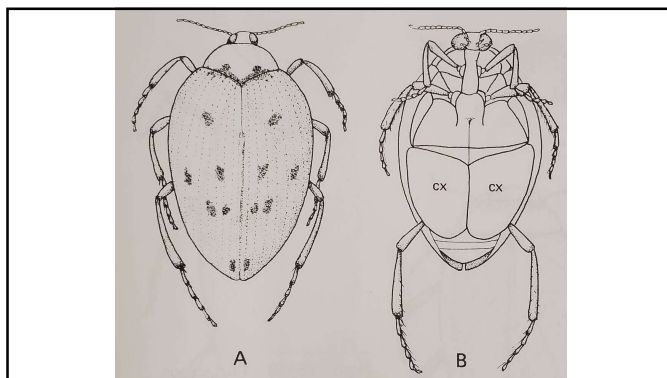
Suborder:

Family:

Steps on the key:

Diagnostic characters:

20

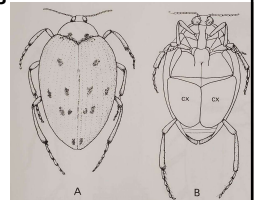


21

### Steps on the key

- Elytra present, complete, short, or reduced to flaplike stubs on the thorax.....2
- Elytra totally absent.....193

Notes:



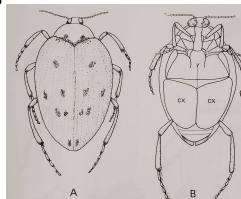
22

### Steps on the key

- Elytra present, complete, short, or reduced to flaplike stubs on the thorax.....2
- Elytra totally absent.....193

Notes:

1 - 2



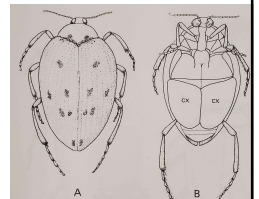
23

### Steps on the key

- Notopleural sutures present.....3
- Notopleural sutures absent.....12

Notes:

1 - 2



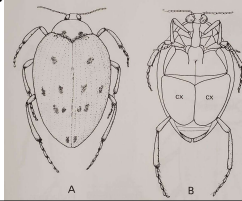
24

### Steps on the key

3. Hind coxa immovably fused to metasternum  
[...] .....4  
3'. Hind coxa free[...] .....10

#### Notes:

1 – 2 – 3



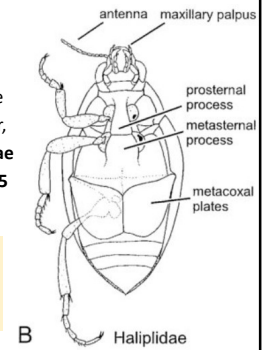
25

### Steps on the key

4. Hind coxa greatly enlarged, a ventral plate concealing trochanter and basal half of femur, covering most of 3 basal ventrites.....**Haliplidae**  
4'. [Other combination of characters].....5

#### Notes:

1 – 2 – 3 – 4



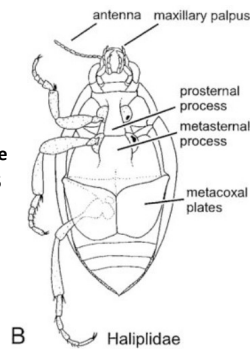
26

### Steps on the key

4. Hind coxa greatly enlarged, a ventral plate concealing trochanter and basal half of femur, covering most of 3 basal ventrites.....**Haliplidae**  
4'. [Other combination of characters].....5

#### Notes:

1 – 2 – 3 – 4 – Haliplidae



27

### Steps on the key

#### Notes:

1 – 2 – 3 – 4 – Haliplidae



28

### Discussion – Specimen A



29

### Discussion – Specimen A

- Suborder: Adephaga
- Family: Carabidae



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## Discussion – Specimen B



31

## Discussion – Specimen B

- Suborder: Polyphaga
- Family: Staphylinidae

K



32

## Discussion – Specimen C



33

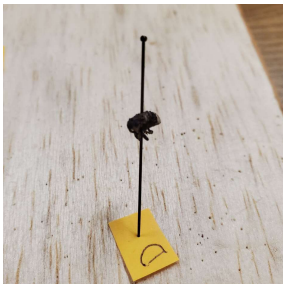
## Discussion – Specimen C

- Suborder: Polyphaga
- Family: Meloidae



34

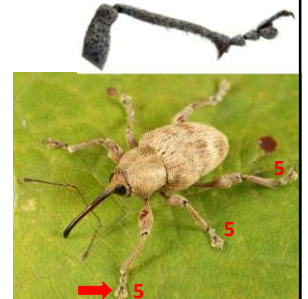
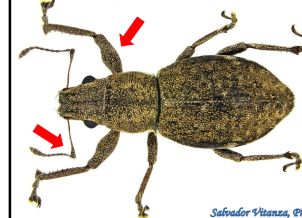
## Discussion – Specimen D (bonus)



35

## Discussion – Specimen D (bonus)

- Suborder: Polyphaga
- Family: Curculionidae



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