EAS Master Beekeeper Lab Exam 2018

The EAS Lab Exam consists of ? stations each with one or more items. There are 2-5 questions per station each worth 1 or 2 points. Total exam value = 100 pts. Passing grade = 85 points. **Read the questions carefully.**

STATION 1. Here before you are 6 microscopes each with a slide containing a mystery item. Please identify the object (1 point each).

1a_____ Varroa
1b_____ Corbicula
1c_____ Name unique feature on leg, Antennal cleaner
1d_____Spermatheca
1e_____ Sting
1f_____Pollen grains

Station 2. Name each pathogen/organism (1 point each).

2a._____Chalkbrood

2b._____Small Hive Beetle larvae

2c._____Wax moth larvae

2d._____Small Hive Beetle adult

2e._____Black Queen Cell Virus

Station 3. What is the name and purpose of each tool (2 points each)

3a. _____Stainless steel German tool

     _____ for grafting larvae to make queens

3b. _____Queen number discs

     _____marking queens

3c. _____nicot or jenter system

     _____raising queens

3d. _____ queen cage

     _____transporting queens

3e._____Fondant

_____food for bees (20)

Station 4. Identify the object, and why one would use it. (2 points each)

4a. _____queen excluder

_____to keep queen from honey supers

4b. _____feeding shim

_____to create more space for top feeding

4c._____pollen trap

_____to collect pollen

4d._____propolis trap

_____to collect propolis

4e._____fume board

_____-to remove bees from supers

Station 5. Identify the object and answer associated question (2 points each).

5a. _____hot knife

Name a potential negative aspect of using this tool ?

_____

5b. _____==wicking needle==

When would one use this tool_____

5c._____a wad of propolis

What type of products could one make with this
substance?_____

5d. Name this equipment_____

When would one use this piece if equipment_____triangle board

Station 6. Honey bee relatives (2 points each)

6a. What kind of insect uses this house as its home?_____

Where does this insect get its food?_____Mason bees

6b. What is the common name of this insect? _____
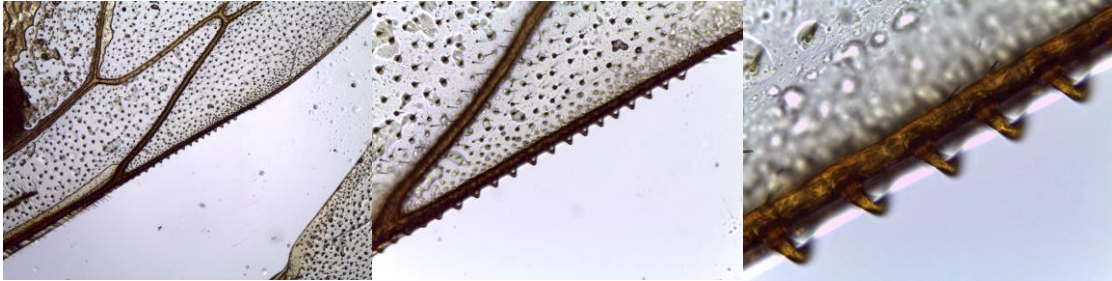
Where does it make its nest?_____bumble bees

6c. What insect makes this type of nest?_____

Where would one find this nest on the landscape?_____Yellow jacket

6d. What is the common name of this insect?_____

What type of substrate does it nest in?_____carpenter bee

Station 7. Identify the structure in the picture and answer the associated question(s). (2pts)

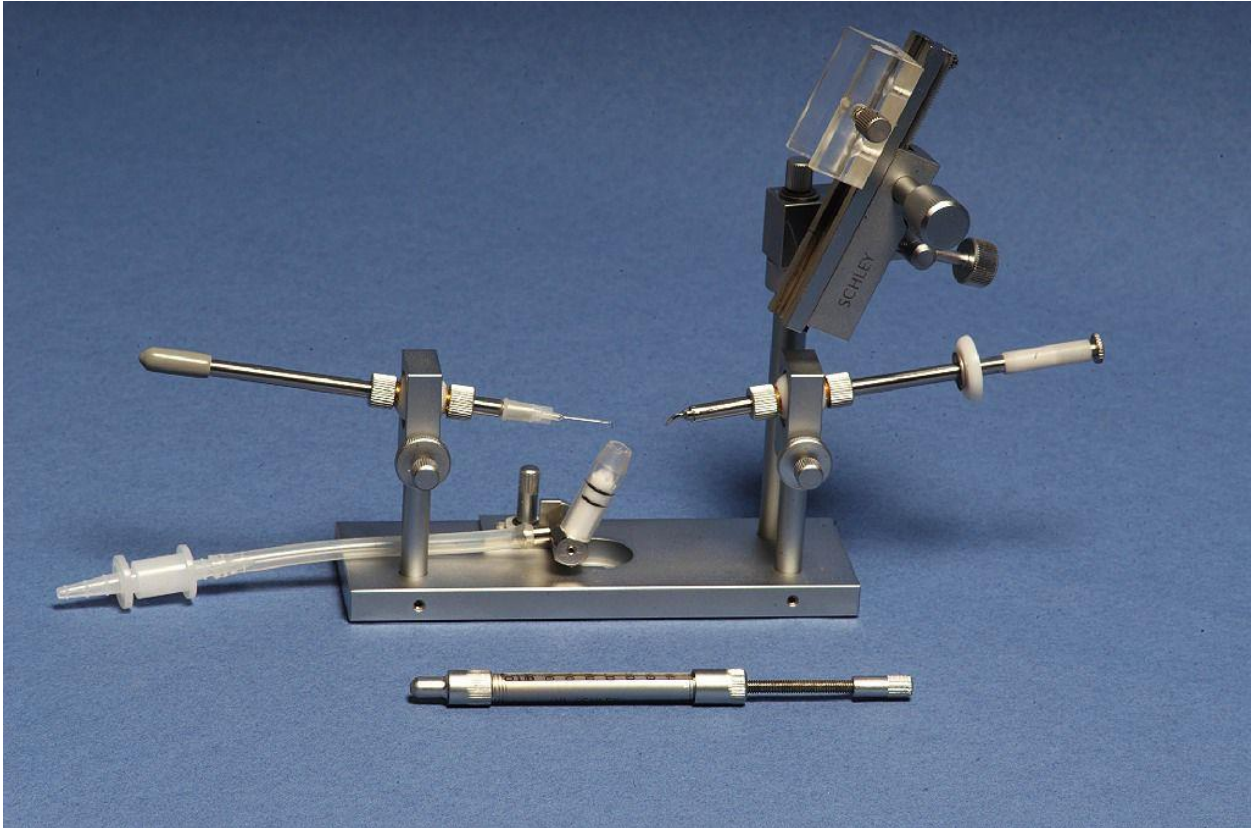7a. _____ This is a characteristic of wings of which insect order?
Hymenoptera

Look at this picture of a queen sting (A). Name the structure labeled B.

7b. B_____
How does a queen and worker stinger differ morphologically?Barbs

7c. What is the name and function of this structure?_____endophallus, sperm delivery (2pts)

7d. What is this piece of equipment and what is it used for? (2pts)

Station 8. Pests and pest management

8a. Name four methods for mite monitoring (4 pts)

1. Alcohol wash (1pt)
2. CO_2 (1pt)
3. sticky board (1pt)
4. Powdered sugar (1pt)
5. Fogging (1pt)
6. Visual inspection (1pt)

8b. Name three products currently registered for Varroa management, include and identify the one that is approved for use during nectar flows (4pt)

1. Apivar (1pt)
2. Oxalic acid (1pt) – "The killing material naturally is found in vegetables such as _spinach/leafy veg/brassicas _ and _rhubarb_& legumes" (1pt) from 2017 exam
3. Formic Acid (1pt) – approved for use during nectar flow (1pt) this chemical is naturally produced by what hymenopteran relative of bees? Ant. (1pt)

8c. What damaged this frame? (1pt) Wax moth

8d. What damaged this frame? Small Hive Beetle. Where does this organism lay its eggs (crevices in the hive not on frames. 2) where does this organism pupate? In the soil (3pts)

Station 9. Foraging behavior and honey (3 pts each)

9a. What three things are required on a honey label? [a: common name of product, net weight, contact information] (3pts)
1.
2.
3.

9b. What are three commonly vended forms of honey? [a: liquid, comb, chunk, cut comb] (3 pts)
1.
2.
3.

9c. Look at the picture A provided. Please match each waggle dance with its corresponding foraging source. (3pts)
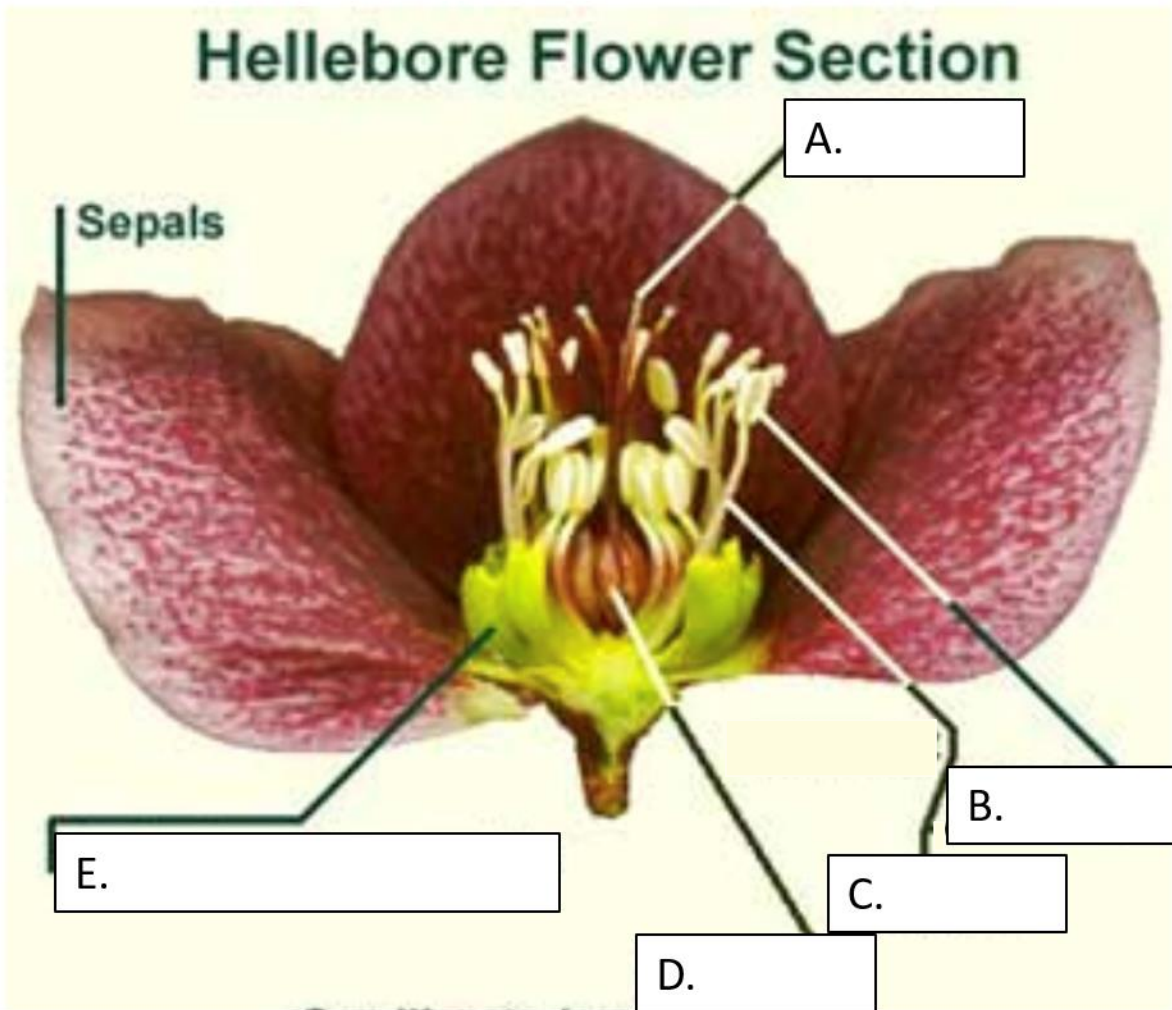Foraging source 1.
Foraging source 2.
Foraging source 3.

Station 10. Flower biology (5pts)

1. Label the anatomical parts of the flower

A.

B.

C.

D.

E.

Hellebore Flower Section

A.

Sepals

B.

E.

C.

D.

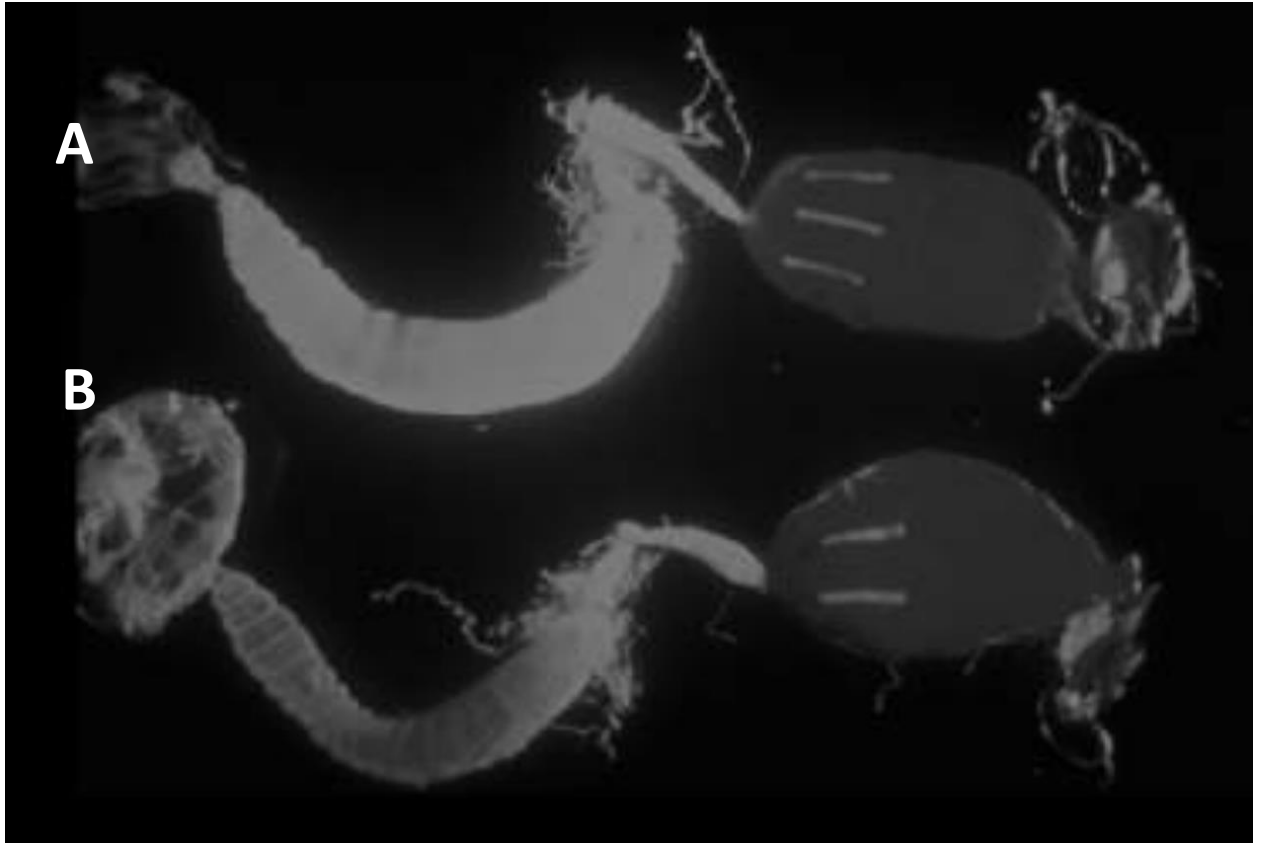10f. Where does the nectar come from? a: Nectaries (1pt)

10g. From where to where is pollen transferred during pollination? a: Anther to Stigma (1pts)

10h. Name three ways flowers attract pollinators. a: scent, UV spectrum color, size, shape (3pts)

Station 11. Pest, Pathogen and disease pictures

1.

11a. Please name the structure in the photograph. (1pt.)

11b. What is structure (A or B) is infected with *Nosema* sp.? Midgut and A (pts)

11c. What brood pathogen is causing the symptomology you see in this picture? AFB (1pt)

11d. Name three symptoms that can be used to identify this pathogen? (3pt)

    1. perforated , sunken cells

    2. smell

    3. ropey brood

11e. What brood pathogen is causing the symptomology you see in this picture? EFB (1pt)
11f. Name three symptoms that can be used to identify this pathogen? (3pt)
    1. yellow coloration
    2. twisted
    3. protruding tongue as a scale