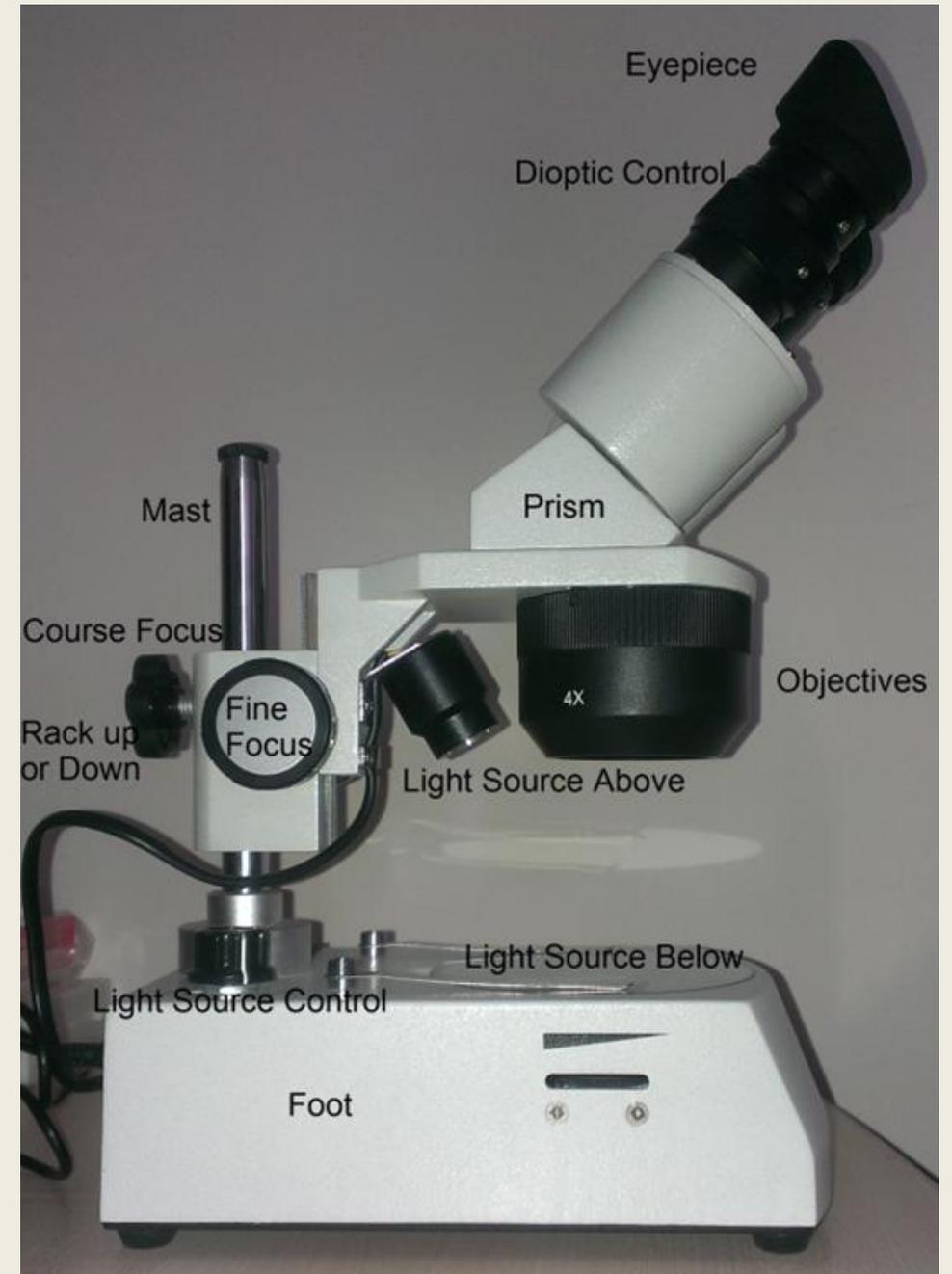


Honey Bee Acarine examination
followed by
Abdominal Dissection

Sean Stephenson

The setting up of a dissecting microscope for the identification of Acarine

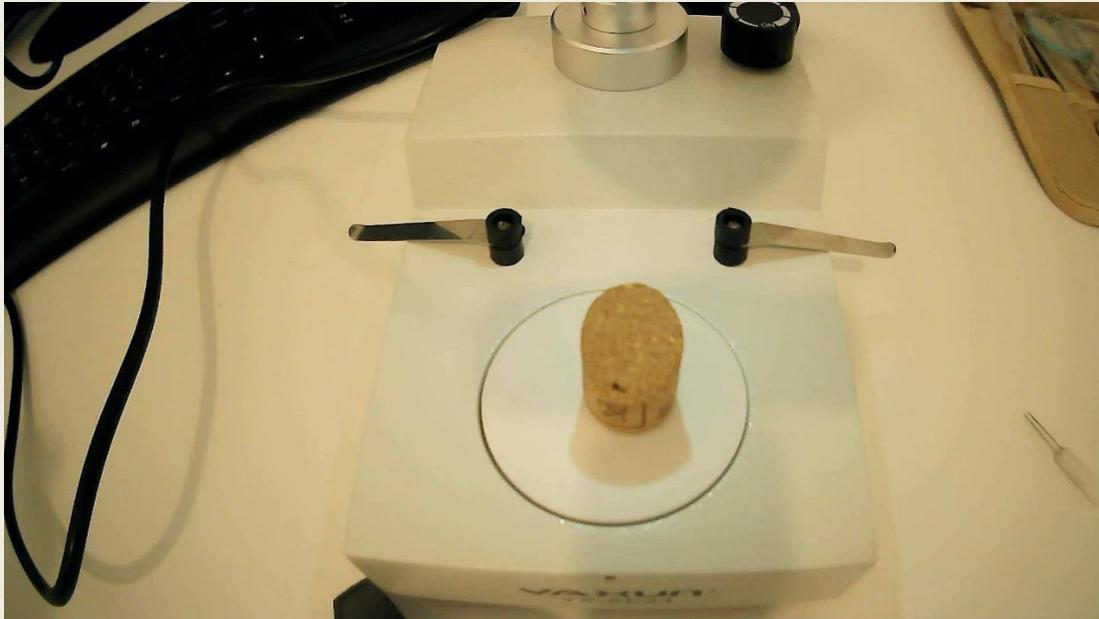
- Place dissecting cork in field of view and course focus on to the surface, lock off clamp on pillar
- With one eye fine focus the “fixed” eyepiece on the surface of the cork
- With the other eye fine focus, the adjustable eyepiece
- Look through both eyepieces and adjust the field of view to a single circle
- Ensure sufficient reflective light on subject, use additional lights if necessary



Tools

- Embedding dish with wax
- Soldering iron
- Scalpel
- Scissors
- Acarine pins
- Fine tip forceps
- Bent end forceps
- Dissecting pins to hold things in place
- Fine pointed needles
- 50:50 Isopropanol:water
- Pipette

Acarine investigation videos



Acarine investigation

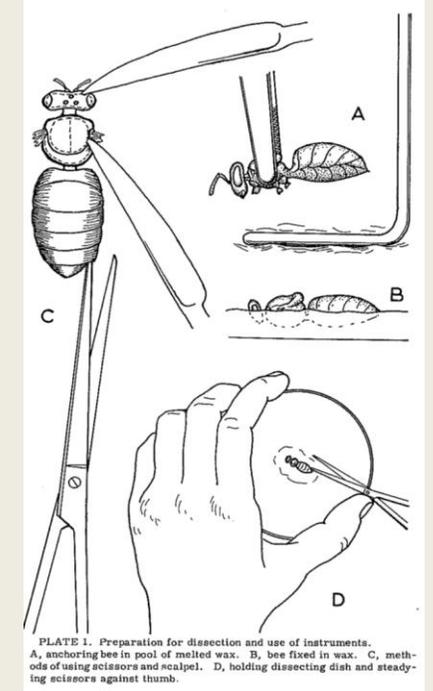
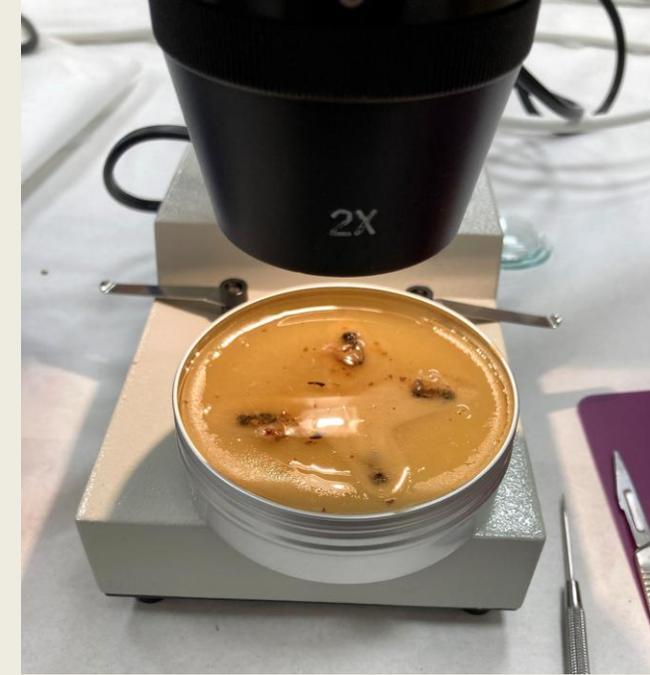
- Insert acarine pins between the 2nd and 3rd pair of legs at 45°
- Pin bee to the cork so that the neck is level
- Using the back of the scalpel blade
 - Rest under 1st pair of legs
 - Rock and gently push the head away from the thorax
- Re-adjust the mounting the bee so the collar is all in focus
- Make a small incision at 4 and 8 o'clock to prevent cuticle tearing
- Using tweezers remove the collar to expose the full length of the lateral trachea

Check for acarine

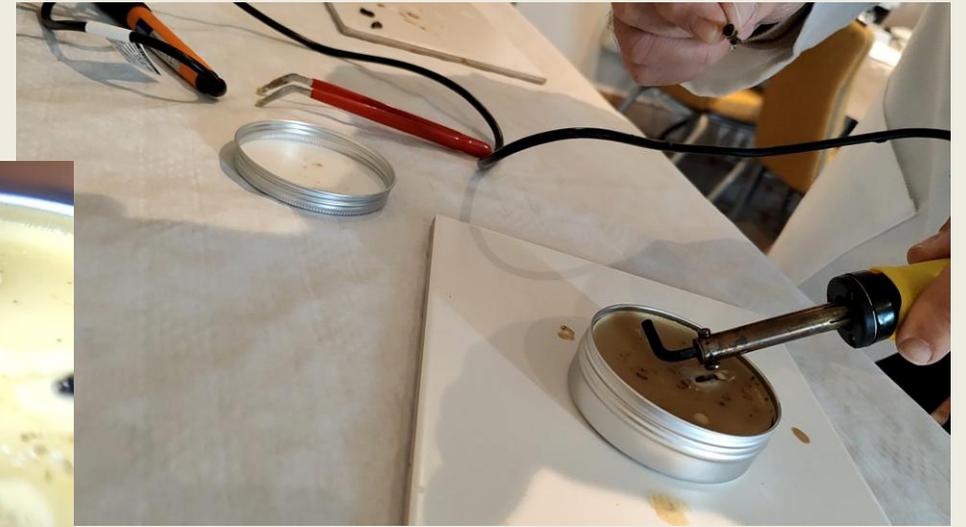


Embed Honey Bee

- Remove wings and legs of 4 Honey Bees
- Make a trough in wax using hot iron
- Lay Honey Bee in trough, head outwards
- Repeat for each bee back upwards
- Submerge the embedded bees in isopropanol:water 50:50



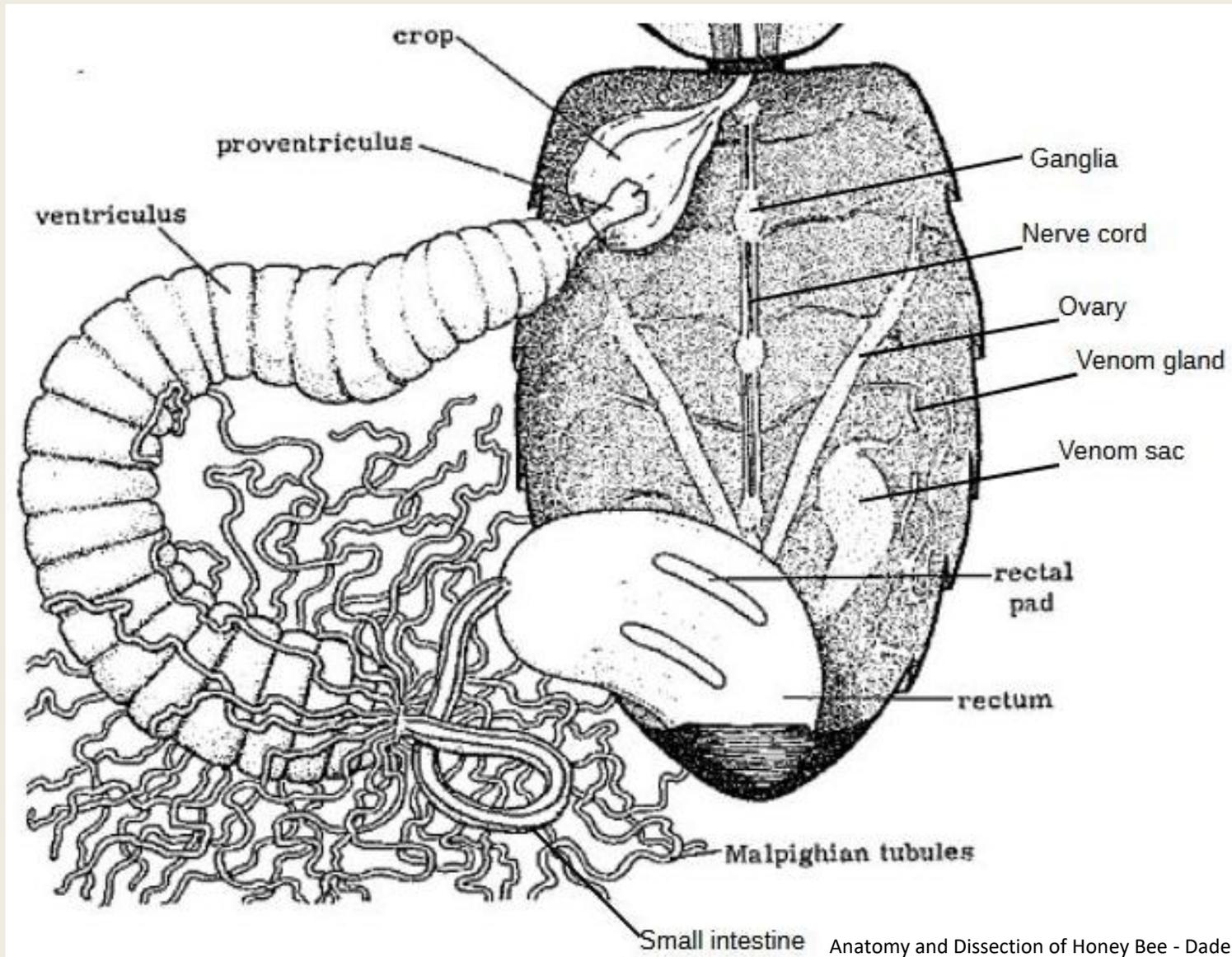
Dissection videos



Dorsal dissection

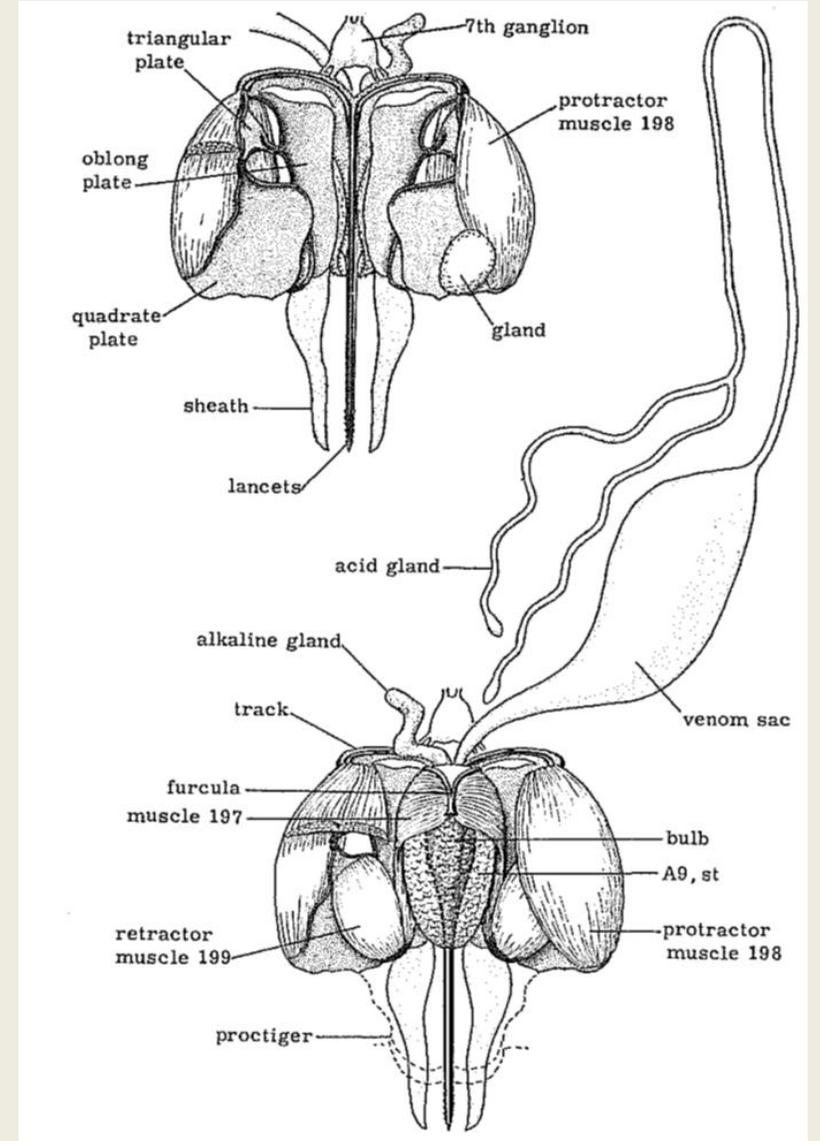
- Use scalpel/scissors to cut around the abdomen's exoskeleton, ease the back plate and check underside for the aorta
- Tease the alimentary system out to expose:
 - Crop
 - Ventriculus
 - Malpighian tubules
 - Rectum
- Tips:
 - Lift ventriculus up and out
 - Pin out parts as you go
 - Make sure bee is fully submerged

Abdominal parts



Removal of Sting

- Following the Abdominal dissection
- Cut away the rectum
- Identify the poison sac and gland
- Insert a seeker deep into the area of the anus
- Lever the seeker and the sting should appear



Sting

