

Honey Bee Abdominal Dissection, dorsal and ventral

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Tools

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

Embed Honey Bee

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

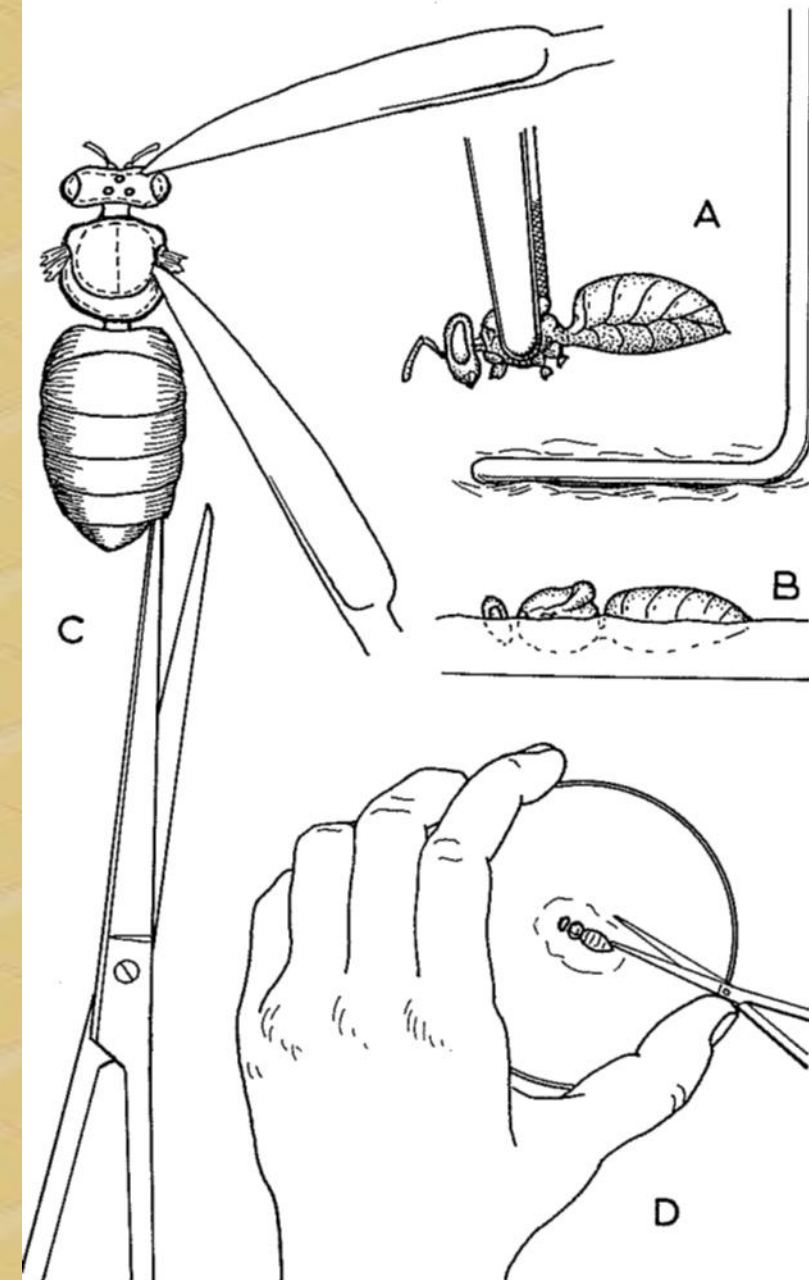
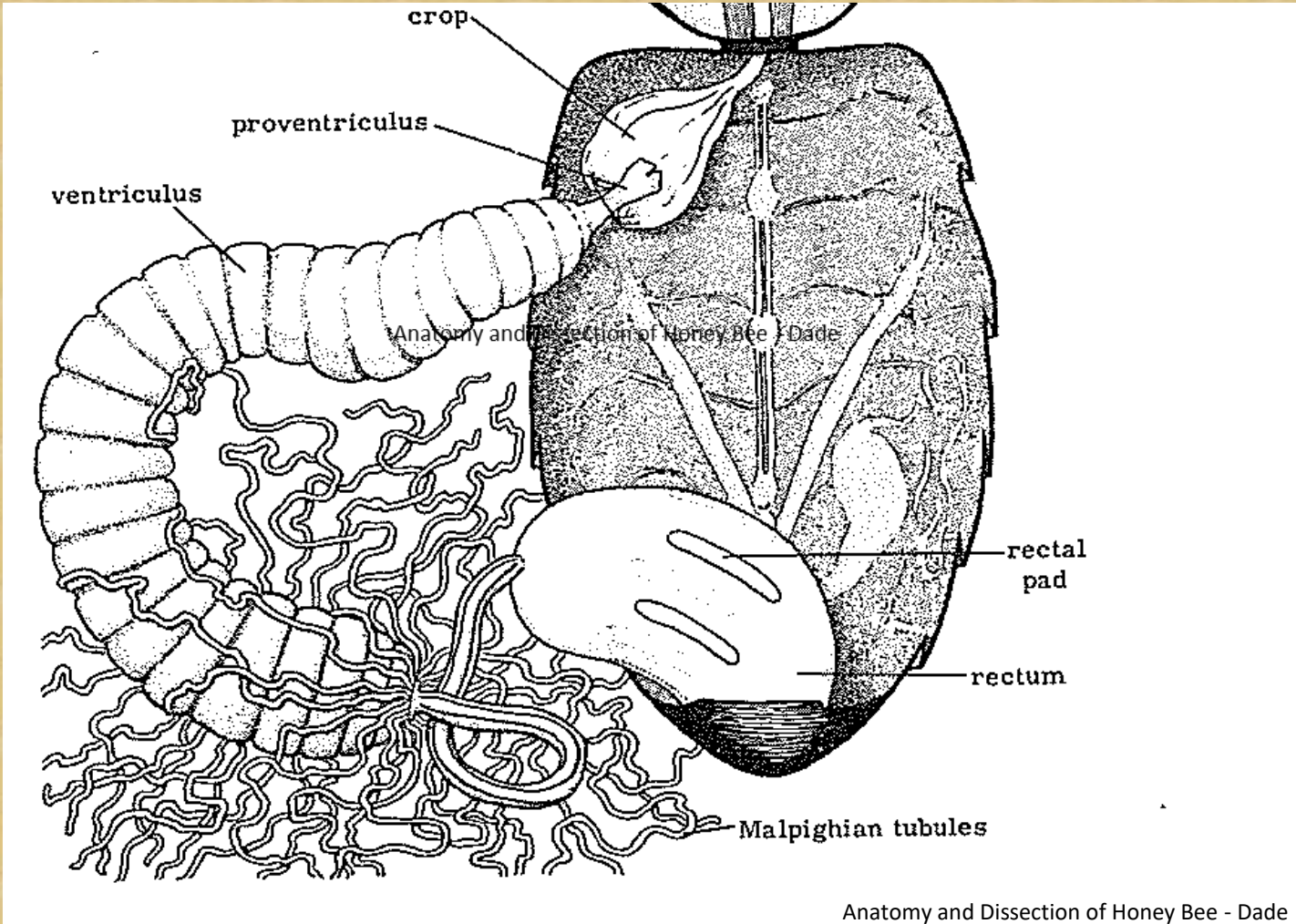


PLATE 1. Preparation for dissection and use of instruments. A, anchoring bee in pool of melted wax. B, bee fixed in wax. C, methods of using scissors and scalpel. D, holding dissecting dish and steadying scissors against thumb.

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

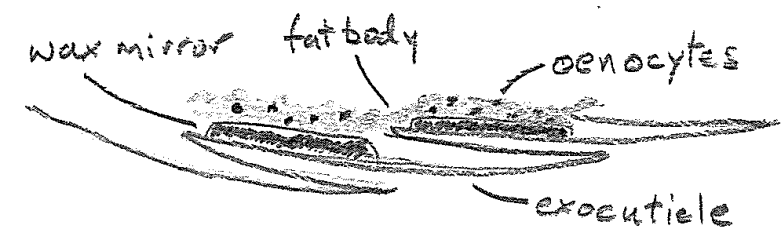
Alimentary system



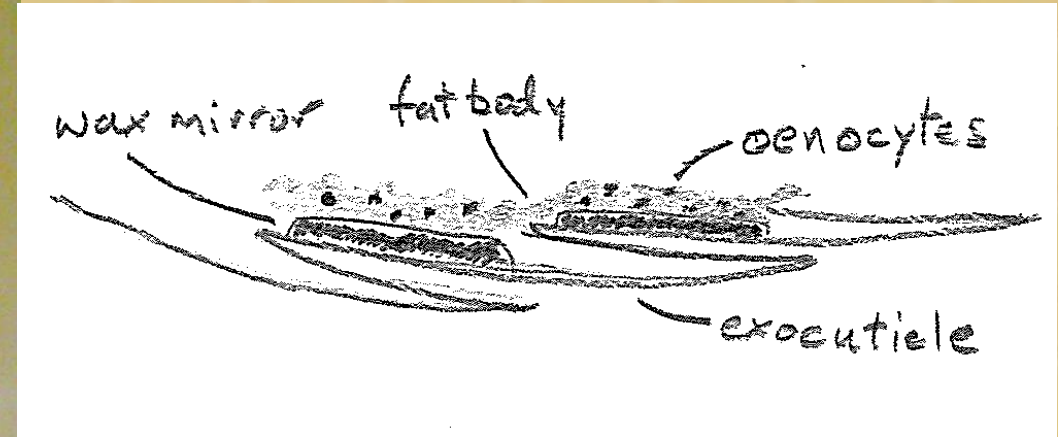
Ventral dissection

- Cut away the ventral segments
- Investigate the central nervous system, linked ganglia should be exposed on the removed exoskeleton
- Examine the muscle structure linking the sternites
- Identify the fat body and oenocytes
- Expose the wax mirrors
- Remove the sting, poison gland should still be connected

Wax Glands



Wax Glands cont.



Google image

Sting

