

Are these bee cadavers the remains of attack by the phorid fly, *Apocephalus borealis*? Michael Meyer has been finding headless bees for the past five years or so; as many as 100 in front of some hives.





**Michael Meyer collected about 100 bees, 11 Jan 2012, with severed heads - in front of one hive and sent them to me. Bees were placed on a duct tape adhesive platform, used for dissecting specimens. No larvae were found. Several were placed in ethanol-water-lactic acid solution to clear tissues for examination. We hope to find larval skins and possibly egg chorions in the abdomens and hollowed out thoraces. Heads were seen but not collected.**

**Headless bee vertically sectioned with single edge stainless steel razor blade; abdomen still contains pollen and has not been eaten by the arthropod. A small portion of the anterior abdomen has been hollowed out (arrow). The thorax has been hollowed out, with just a remnant of flight muscle tissue left behind.**





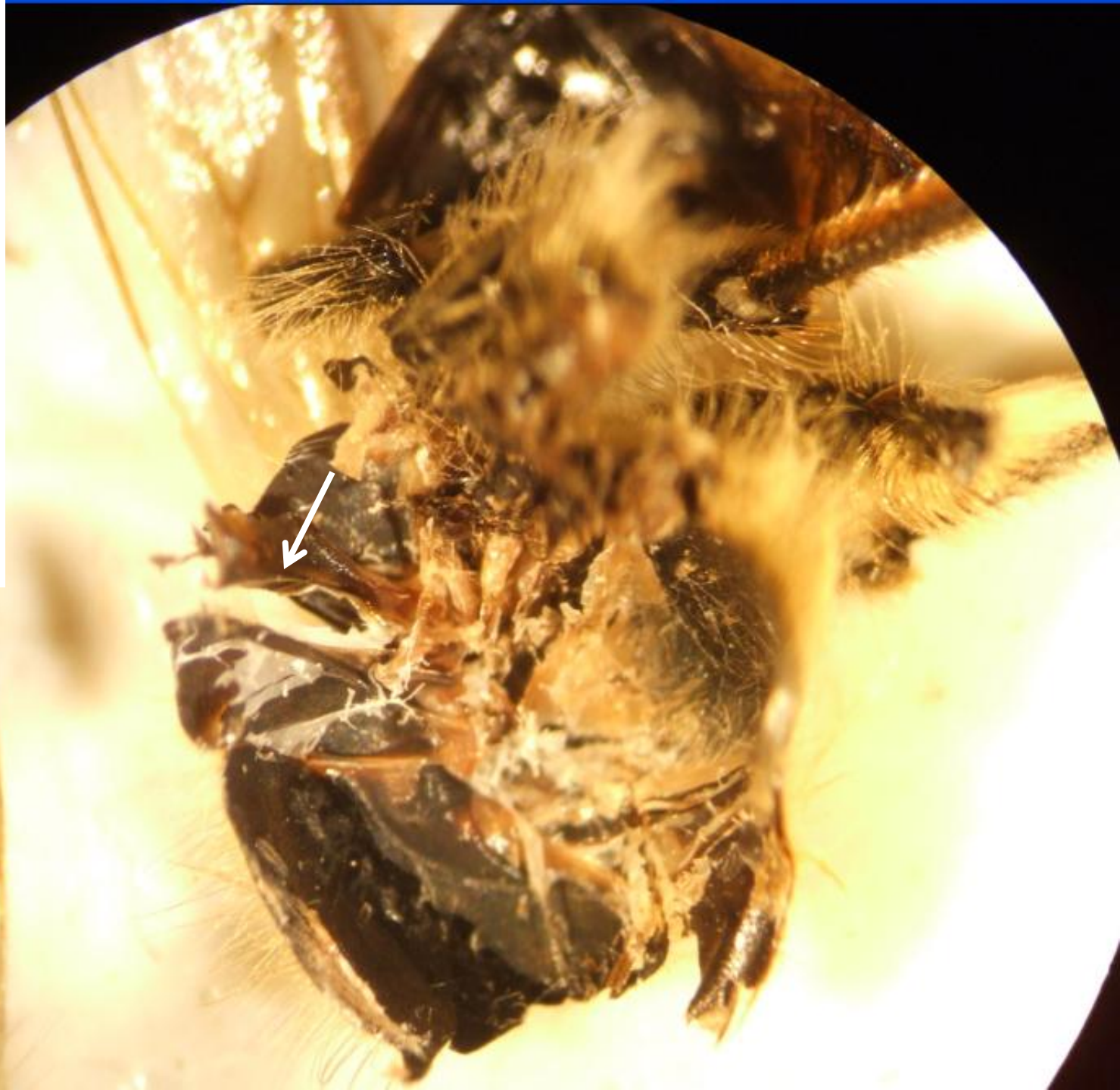
**Anterior abdomen hollowed out by some arthropod; we think the phorid, *Apocephalus borealis*. Note that tracheae are left intact. Phorids have weak mouthparts, they are fluid feeders: they secrete enzymes that dissolve tissues then suck up the nutritious fluids.**

**Ants or yellow jackets have sharp mandibles and would have devoured tracheae along with other tissues; they would also have dismembered the bees.**



**Vertically sectioned thorax hollowed out by phorid maggots; note the tracheal trunk (arrows) at lower right. The flight muscles were entirely dissolved and devoured. Top is posterior, at the junction with the abdomen.**

**Another vertically sectioned worker; thorax mostly hollowed out; tracheal trunk intact (arrow). Some of the thoracic muscles (yellow) are still present. The abdomen was mostly unconsumed.**



**Michael says he saw small seed-like objects – the color of light brown propolis - on frames and hive walls. He will check the bees next weekend [mild weather expected] and send some to me if found. He will also collect samples of soil in front of the hive in case larvae dropped down from the bottom board.**

**With over 100 headless bees in front of the hive, and an average of 4 larvae attacking each bee, there should be 400 or more puparia in the hive. Will they hibernate over the winter. Or, will puparia in the cluster area emerge and attack new worker bees?**

