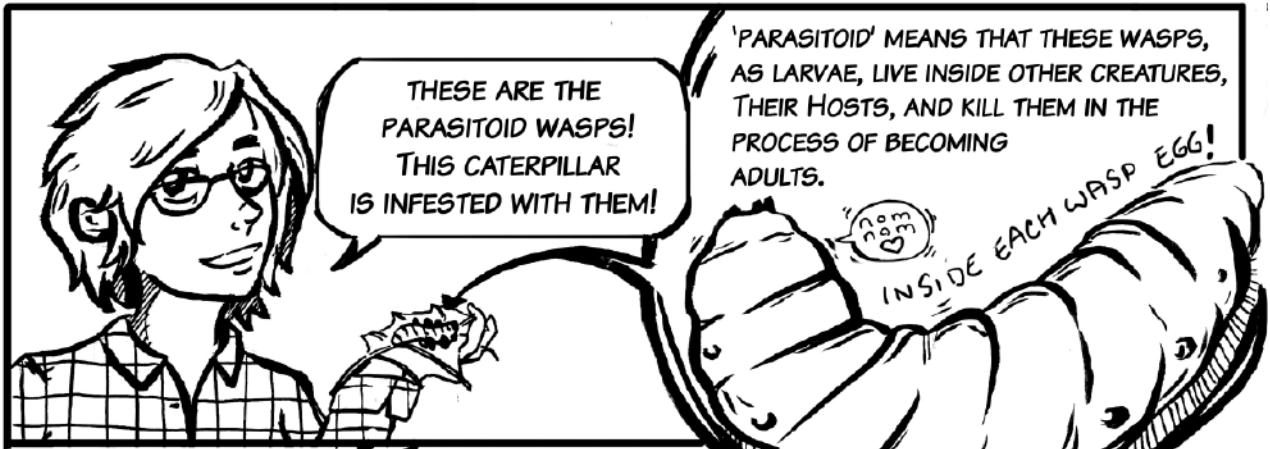
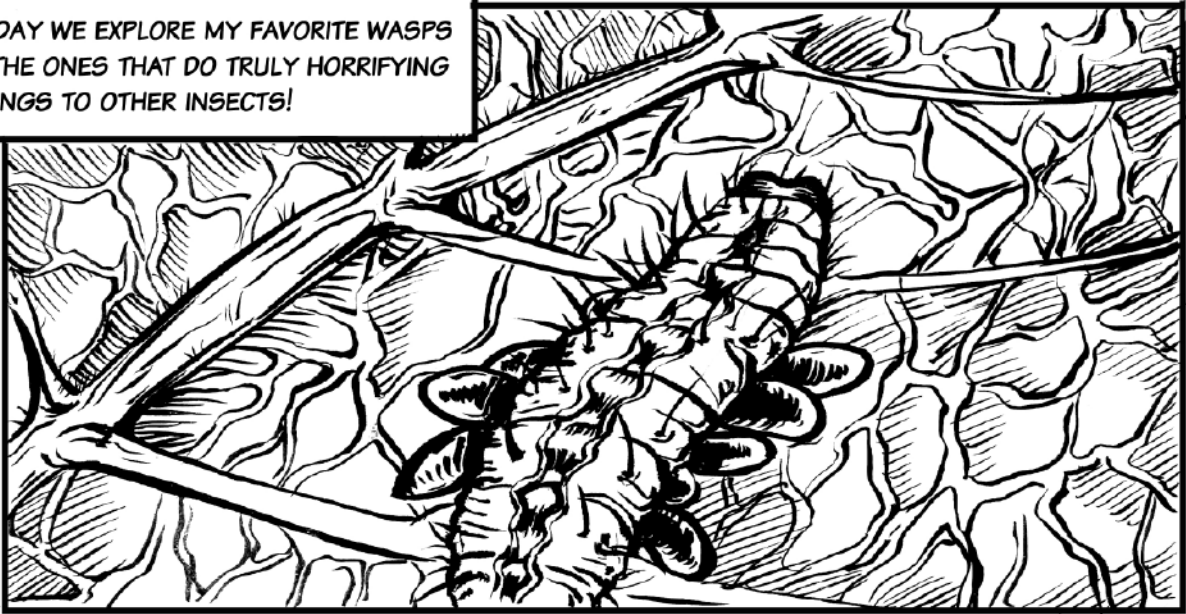


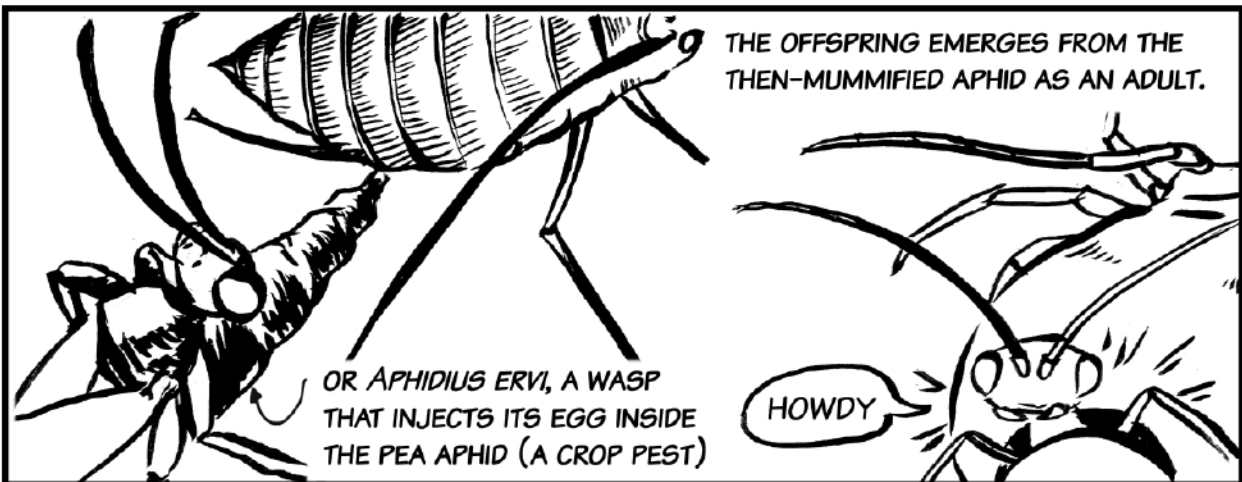
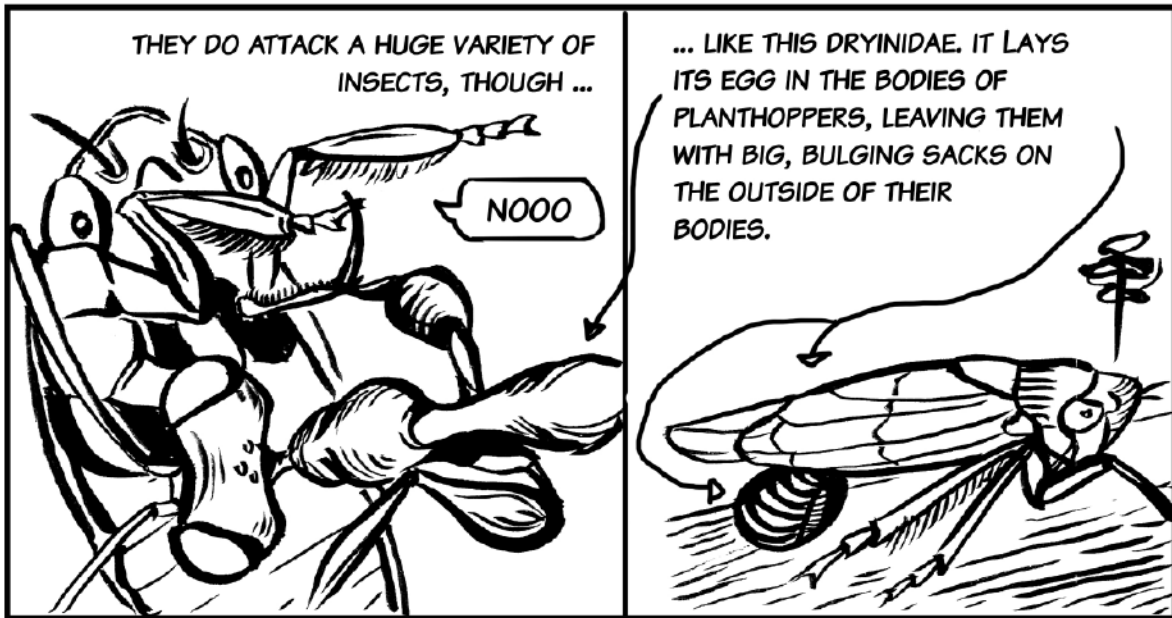
TODAY WE EXPLORE MY FAVORITE WASPS
- THE ONES THAT DO TRULY HORRIFYING
THINGS TO OTHER INSECTS!



NATURE'S HORROR PARASITOID WASPS

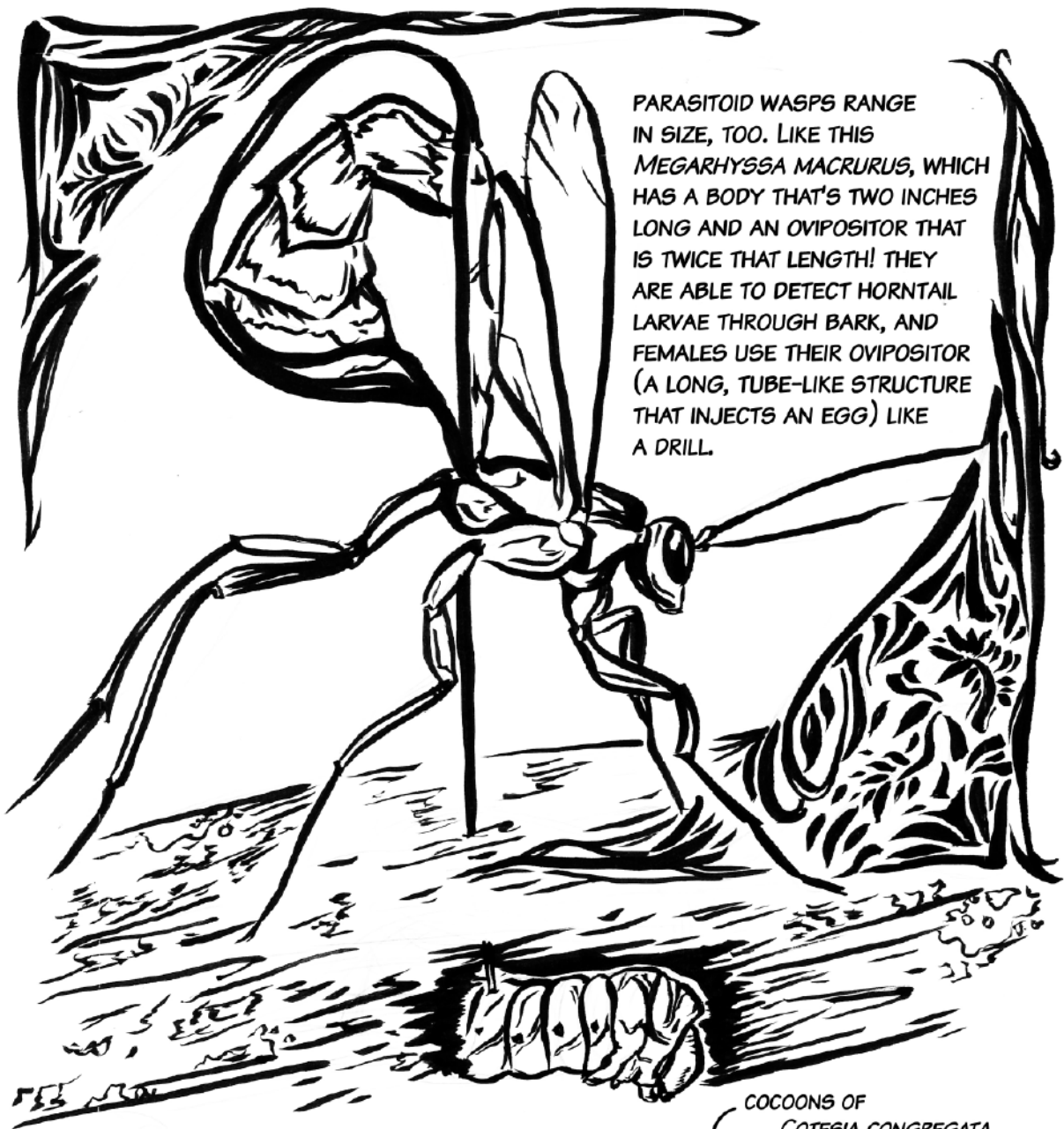
Early's Adventures in Wasp Land: Issue 4: Nature's Horror - Parasitoid Wasps

THERE ARE MORE PARASITOID WASPS THAN ANY OTHER TYPE OF WASP. BUT DON'T WORRY - THEY DON'T ATTACK PEOPLE!



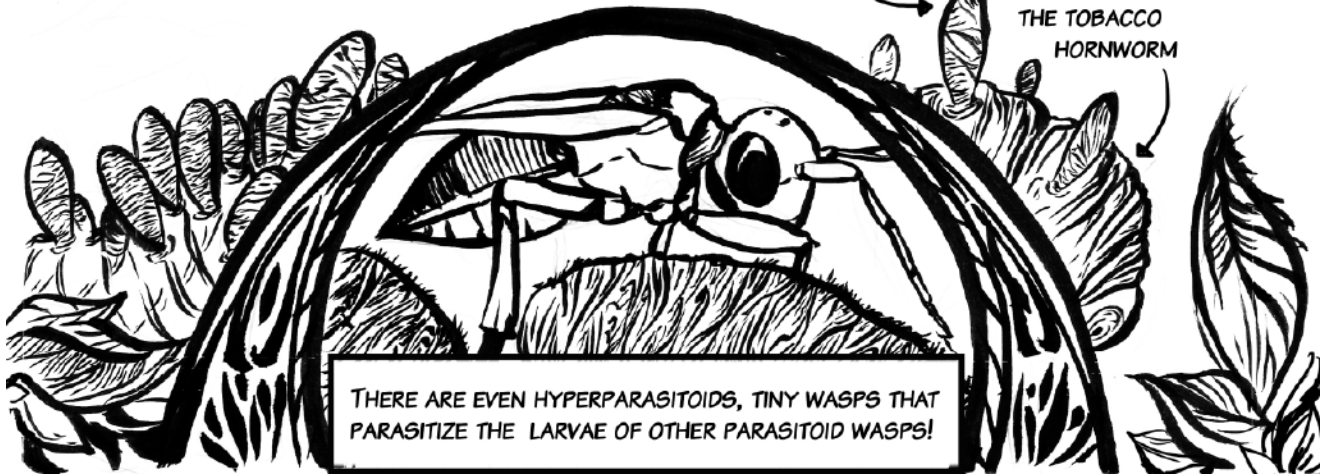
THERE ARE EVEN PARASITOID WASPS LIKE *ACRODACTYLA QUADRISCUPTA* THAT ATTACK INVERTEBRATES THAT ARE NOT INSECTS

THIS WASP IS AN EXTERNAL PARASITOID. THE LARVA ATTACHES TO THE ABDOMEN OF ITS SPIDER HOST, GROWING LARGER OVER TIME. IT EVENTUALLY KILLS AND CONSUMES ITS HOST BEFORE PUPATING INTO AN ADULT WASP.



PARASITOID WASPS RANGE IN SIZE, TOO. LIKE THIS *MEGARHYSSA MACRURUS*, WHICH HAS A BODY THAT'S TWO INCHES LONG AND AN OVIPOSITOR THAT IS TWICE THAT LENGTH! THEY ARE ABLE TO DETECT HORNTAIL LARVAE THROUGH BARK, AND FEMALES USE THEIR OVIPOSITOR (A LONG, TUBE-LIKE STRUCTURE THAT INJECTS AN EGG) LIKE A DRILL.

COCOONS OF *COTESIA CONGREGATA*, A PARASITOID OF THE TOBACCO HORNWORM

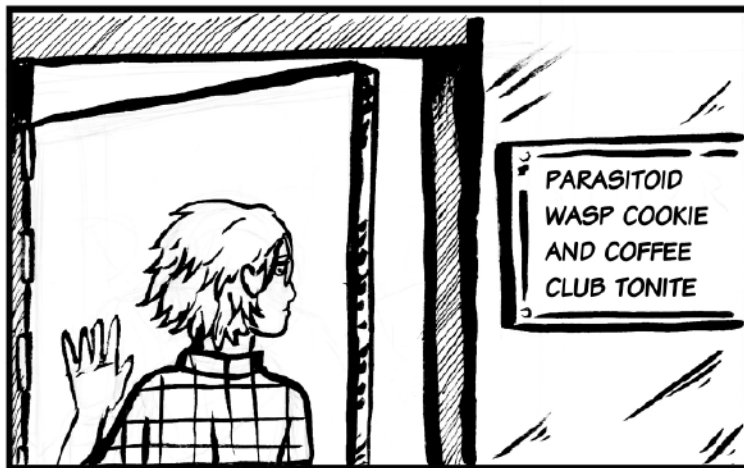
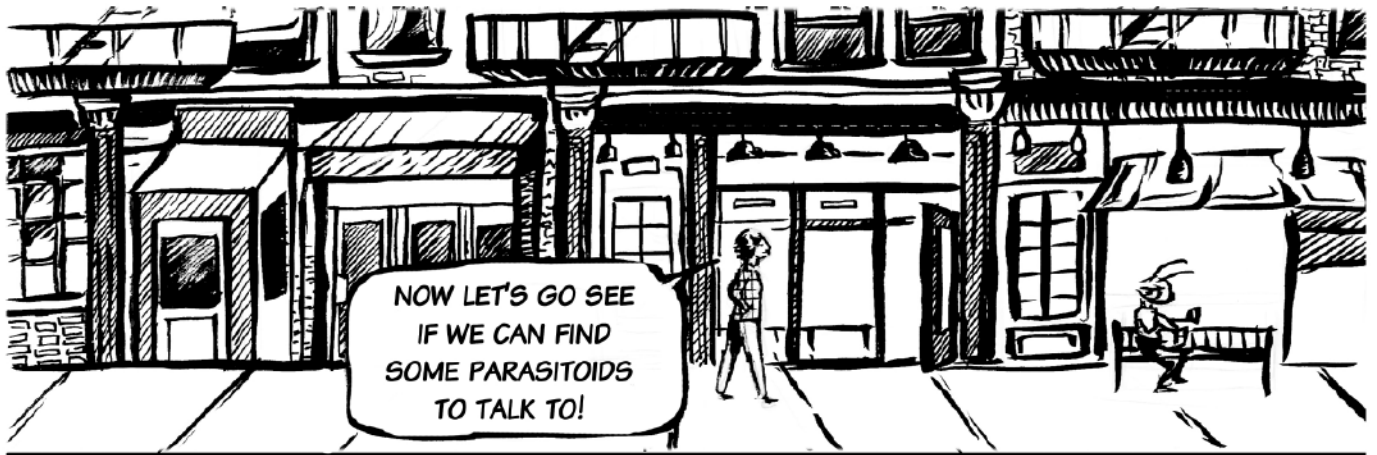


THERE ARE EVEN HYPERPARASITIDS, TINY WASPS THAT PARASITIZE THE LARVAE OF OTHER PARASITOID WASPS!



AND PARASITOID WASPS ARE VERY, VERY IMPORTANT TO HUMANS. WITHOUT THESE WASPS, WE WOULD HAVE SOME SERIOUS CROP PEST PROBLEMS. FOR EXAMPLE, THE CEREAL LEAF BEETLE (ABOVE) WOULD DECIMATE GRAIN CROPS IF IT WASN'T FOR TETRASTICHUS JULIS (BELOW) CONTROLLING ITS POPULATION. PARASITOID WASPS ARE AS IMPORTANT AS WOLVES OR BEARS WHEN IT COMES TO KEEPING HERBIVORE POPULATIONS IN CHECK.





YUP. WE ARE HERE TO LEARN ABOUT WHAT MAKES PARASITOID WASPS SPECIAL.



BUT WHY DON'T YOU TELL ME WHAT YOU THINK HUMANS THINK OF YOU FIRST.

I GUESS WE JUST FEEL... UNWELCOME.

EUCHARITIDAE- THEY ATTACK ANTS!

A small illustration of a wasp with a grumpy expression, looking down. It is wearing a white turtleneck sweater and a watch on its left wrist.

PEOPLE REALLY, REALLY, REALLY.

BETHYLIDAE THE FLAT WASPS

JUST DON'T GET US. THEY THINK WE'RE WEIRDOS.

A small illustration of a flat wasp with a grumpy expression, looking to the side. It is wearing a plaid shirt and a tie.

OR THEY THINK WE'RE SOME KIND OF HORROR MOVIE MONSTER!

DRYINIDAE - THEY HAVE PINCH CLAWS!

A small illustration of a wasp with a grumpy expression, looking forward. It is wearing a dark vest over a light shirt.

OR... MEAN...

EULOPHIDAE... THEY ARE SUPER DIVERSE!

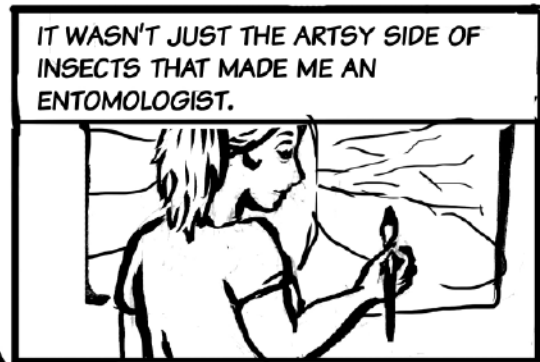
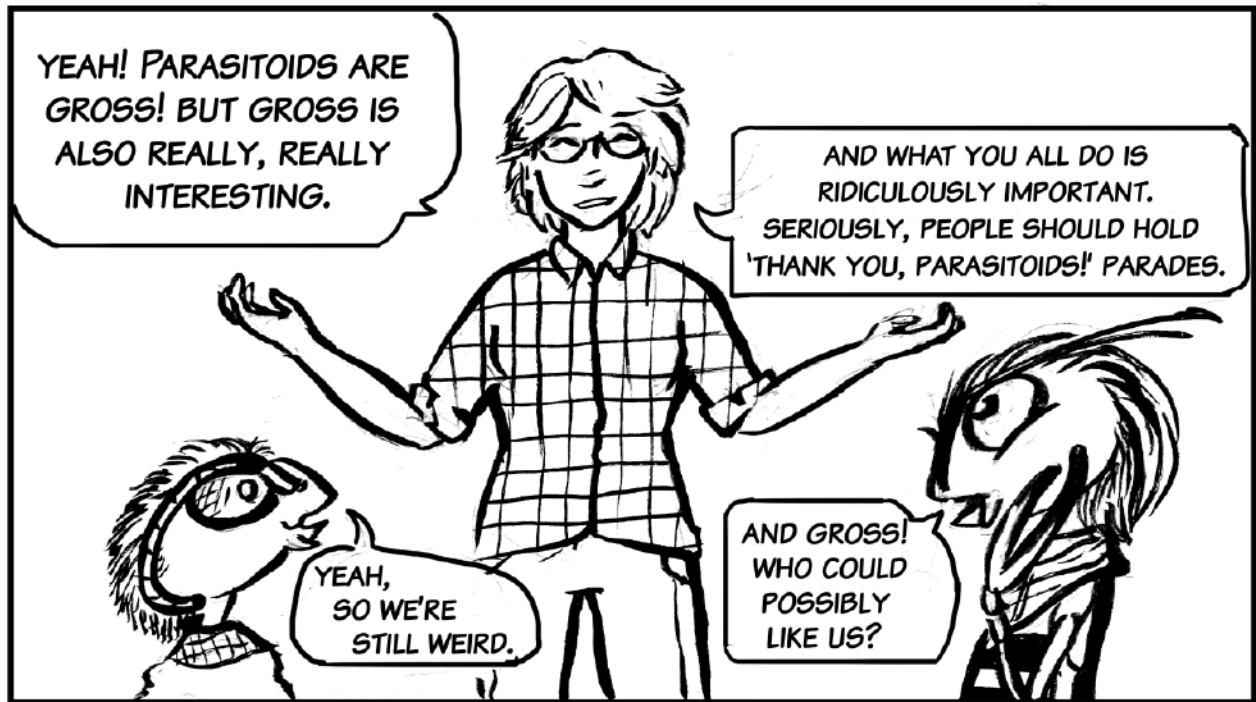
A small illustration of a wasp with a grumpy expression, looking forward. It is wearing a dark vest over a light shirt.

BUT...BUT THOSE ARE THE THINGS THAT MAKE YOU COOL! YOU ARE KIND OF GROSS AND WEIRD!

...GASP!

UH... GO ON...

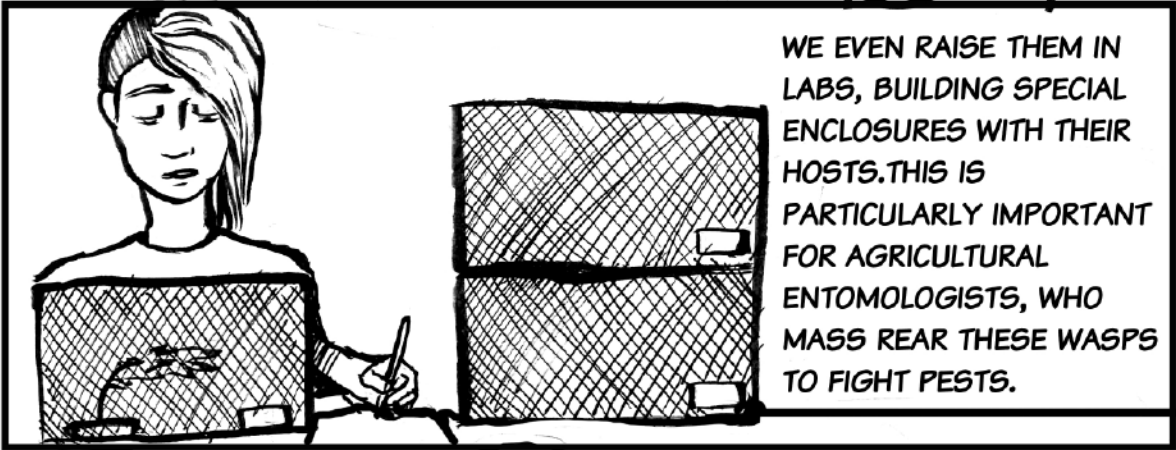
The boy is on the left, gesturing with his hands. Three wasps are on the right, looking shocked. One wasp has its mouth open in a gasp. The wasp on the far right is speaking.



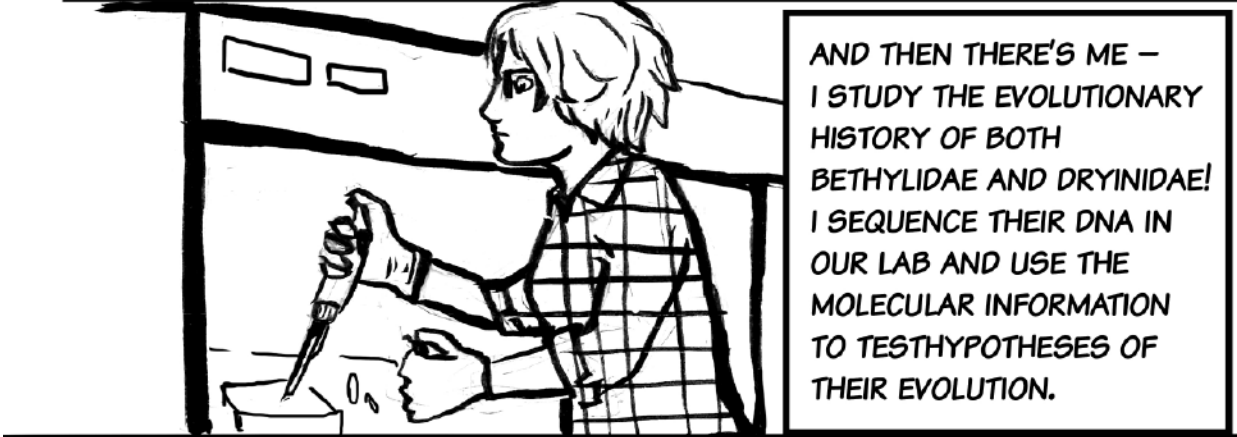


SO THE WEIRDNESS OF PARASITIDS HAS INSPIRED PLENTY OF SCIENCE FICTION MOVIES...BUT IT HAS ALSO INSPIRED TONS OF SCIENTISTS TO STUDY THEM - ME INCLUDED!

ALL OVER THE WORLD, ENTOMOLOGISTS COLLECT THESE WASPS IN THE FIELD. SOMETIMES WE COLLECT THE PARASITIZED HOSTS AND 'REAR' THE WASPS OUT.



WE EVEN RAISE THEM IN LABS, BUILDING SPECIAL ENCLOSURES WITH THEIR HOSTS. THIS IS PARTICULARLY IMPORTANT FOR AGRICULTURAL ENTOMOLOGISTS, WHO MASS REAR THESE WASPS TO FIGHT PESTS.

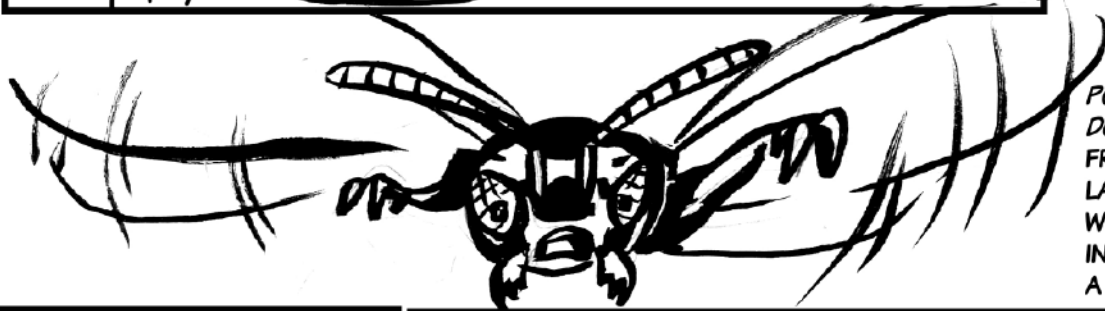
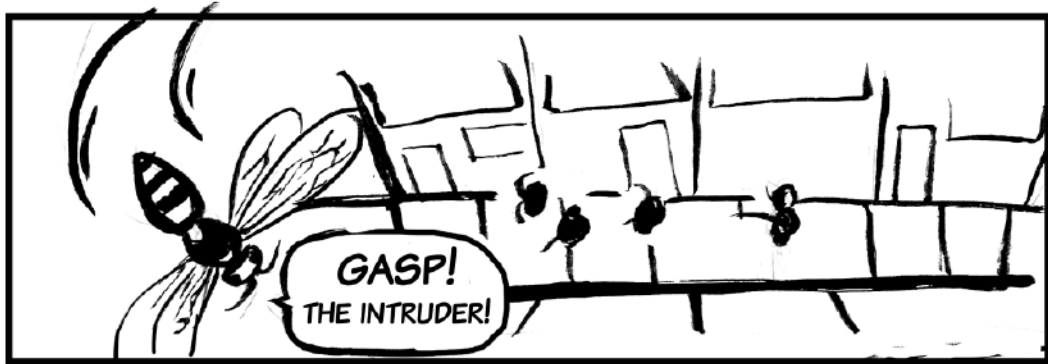


AND THEN THERE'S ME - I STUDY THE EVOLUTIONARY HISTORY OF BOTH BETHYLIDAE AND DRYINIDAE! I SEQUENCE THEIR DNA IN OUR LAB AND USE THE MOLECULAR INFORMATION TO TEST HYPOTHESES OF THEIR EVOLUTION.

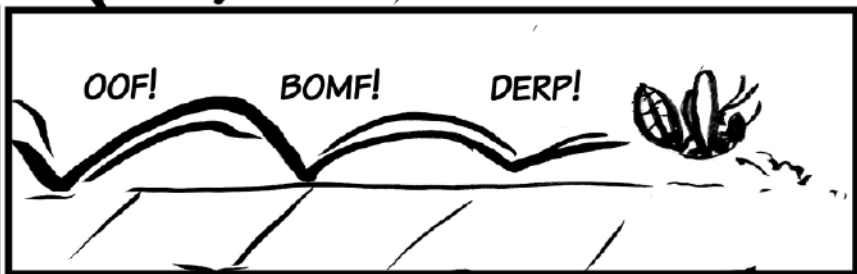


AND SO

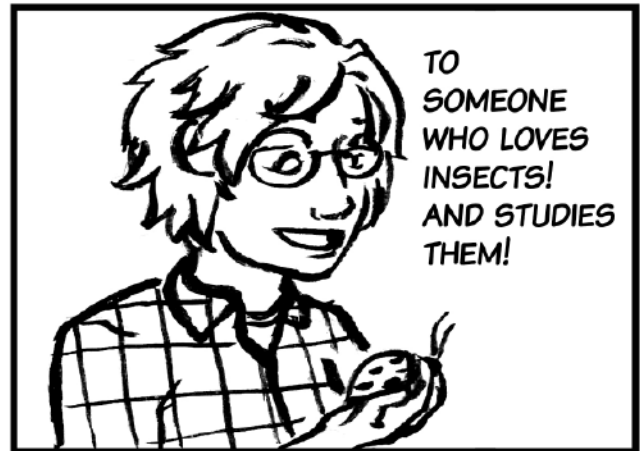
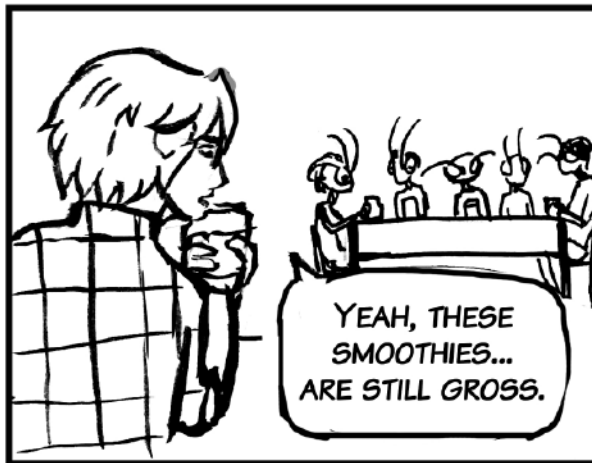




POLISTES
DOMINULA
FROM OUR
LAST ISSUE,
WHERE I
INFILTRATED
A WASP NEST



*BEMBIX
AMERICANA, IS. 2



AND WE GOT TO MEET SOME PRETTY COOL WASPS TOO! I HOPE YOU'VE ENJOYED OUR JOURNEY. AND IF YOU EVER WANT TO LEARN MORE ABOUT INSECTS, OR JUST WASPS, VISIT YOUR LOCAL NATURAL HISTORY MUSEUM OR JUST GO OUTSIDE AND FIND YOUR OWN!