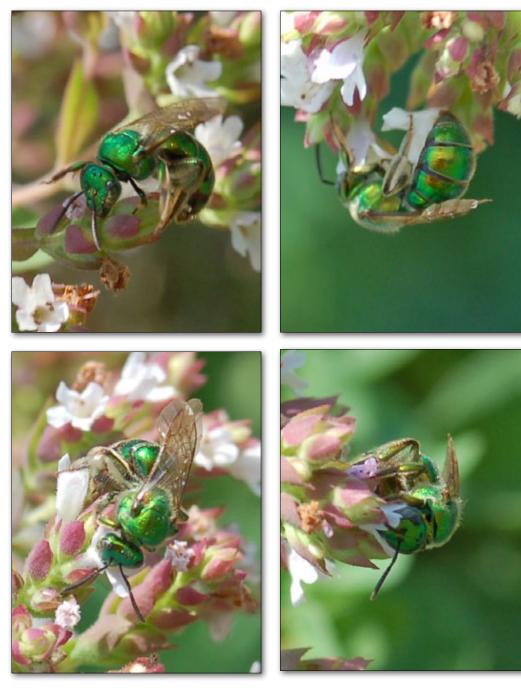


Eric A. Neubauer

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Bee group

This small metallic green bee appears to be *Augochlora pura*. It is similar to some sweat bees in the *Agapostemon* genus.

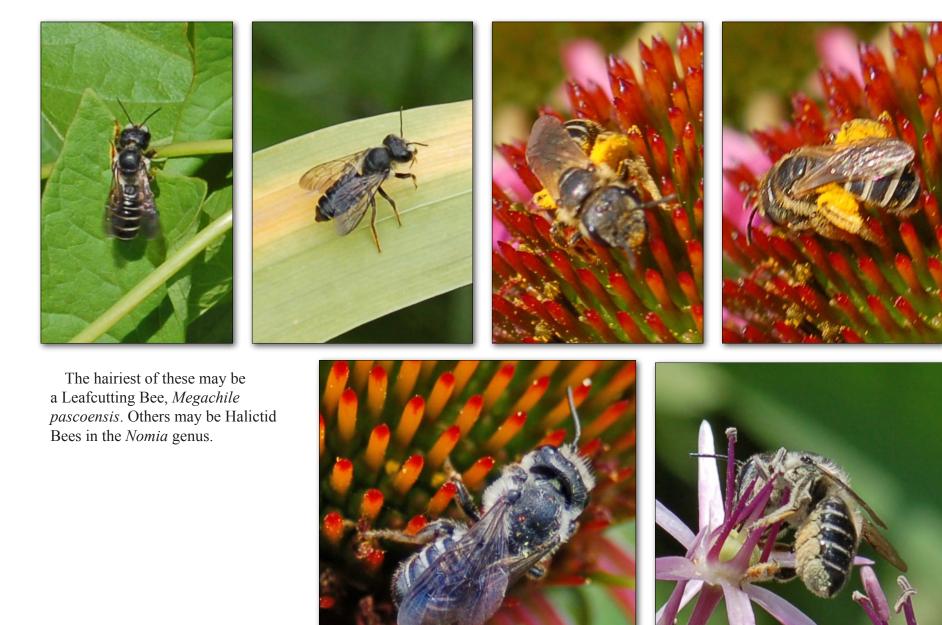


An unidentified small blue metallic bee, possibly a Halictid Bee.

An unidentified small blue-green metallic bee.









More bees that may include Leafcutting Bees.





This medium sized bee species looks like a hover fly. It appears to be a Cuckoo Bee in the *Triepeolus* genus.

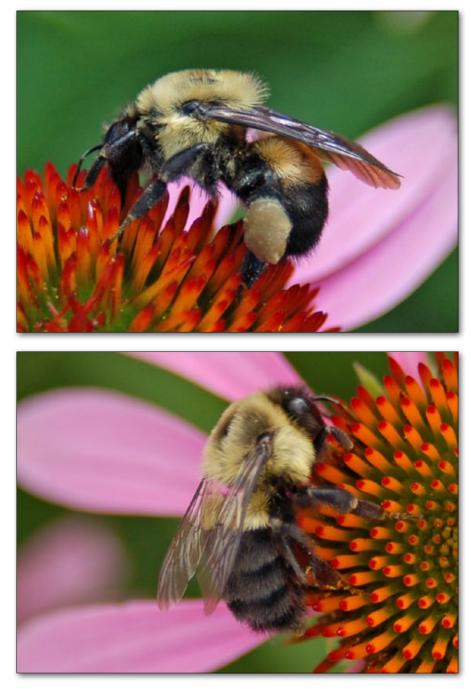


These are Honey Bees, *Apis melifera*. The colors of the upper one are typical. The lower one illustrates a darker form which began appearing later in the season.



This may be the Half-black Bumble Bee, *Bombus vagans*.

This is the Common Eastern Bumble Bee, Bombus impatiens.





These primarily yellow bees are probably the Two-spotted Bumble Bee, *Bombus bimaculatus*. The last three of five abdominal segments are darker. More photos on next page.







Abdomen has extra segment suggesting this is a bee other than a bumble bee or at least different from preceeding species.





The mostly hairless abdomen suggests these are carpenter bees rather than bumble bees. Fortunately, there is only one species in Pennsylvania, the Eastern Carpenter Bee, *Xylocopa virginica*.







This uncommon, large bee appeared to be a bumble bee at first, but it is clearly something else! I later saw a second one on a butterfly bush.





Ant group

This may be an Allegheny Mound Ant, Formica exsectoides.



Small numbers of orange ants started appearing on our milkweed in June.

Wasp group

This is a Cicada Killer, *Sphecius speciosus*, which is big enough to fly while carrying a cicada. Once you've seen one of these huge wasps, you're unlikely to forget it.









The Great Golden Digger Wasp, *Sphex ichneumoneus*, is one of our most common large wasps. Note that gold hair on its face and other places glows in sunlight. This species digs burrows in the ground which are provisioned with crickets and katydids for the wasp larva.

I had previously thought these were Caterpillar Wasps, *Podalonia fraternus*, showing how easy it is to mistake species without photos.





Wasp group



This is a Potter Wasp, *Eumenes fraternus*, which is frequently seen in our yard.





This larger wasp is almost certainly Parazumia symmorpha.

Another smallish wasp, this time with broken yellow stripes on the abdomen.



This medium-sized wasp is possibly *Euodynerus* genus or *Parancistrocerus pedestris*.



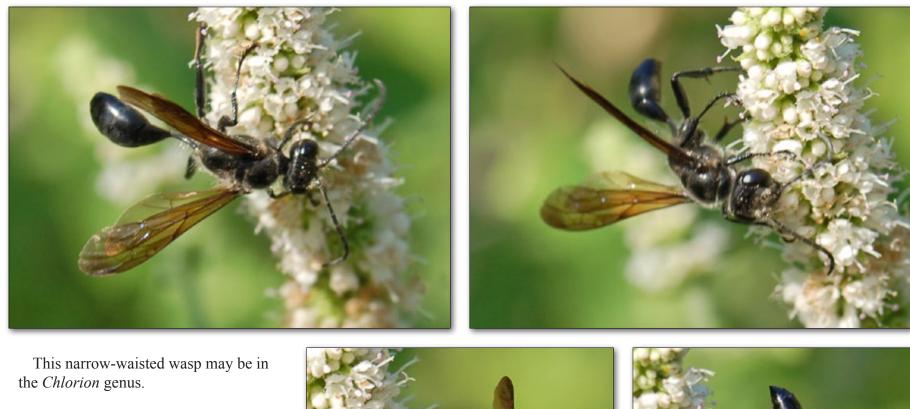
This distinctively patterned wasp is a Sand Wasp, *Bicyrtes quadrifasciatus* started visiting our Greek oregano in July. Note yellow legs.





An unidentified wasp seen in July.











This common, small wasp is black with tiny yellow marks: two on the face, four on the thorax, and two on the abdomen. The wings are tinted with brown.







This is a Potter or Mason Wasp, *Monobia quadridens*, which is widespread in North America.







These are Northern Paper Wasps, *Polistes fuscatus*. Note red spots on either side of the abdomen. The photo at the upper left is apparently the same species, but lacks the usual red spots.





These are European Paper Wasps, *Polistes dominulus*. They are very common in our yard and not at all aggressive. The wasps have gotten smaller and smaller as the season has progressed.



This Ruby Tailed Wasp in the *Chrysididae* family is a small but spectacular jewel-like insect. I won't attempt to identify the exact species or even genus. These are also known as parasitic or cuckoo wasps because the larva are usually parasitic on bees, wasps, and other insects. This species was fairly common but easy to miss due to the small size.





Here are some assorted wasps representing 4 different species.









This small-headed wasp species is characterized by a two-tone abdomen. The front two pairs of legs are red and the back pair are black.





This is an unidentified medium-sized wasp.

