Natter's Notes
Found in OR: A Native Squash Bee
Jean R. Natter

This month, let's talk about a friendly "first record" for Oregon. Instead of a new pest, it's a native bee previously thought not to be in OR: the squash bee, *Peponapis pruinosa*, collected for the first time in southern Oregon during 2018.

Thanks for the effective sampling goes to citizen scientists collecting native bees for a survey sponsored by the recently formed Oregon Bee Atlas (OBA). A second sample was acquired later on, again in southern Oregon.

The Oregon Bee Atlas (OBA) represents the first steps towards gathering and organizing knowledge about our state's native bees. The OBA's mission (2018-2021) is to train citizen scientists (committed volunteers) to identify the many native bees known to reside in the state, and to seek new native bee records for the state. After a species checklist has been created, periodic follow-up surveys will be able to determine whether the numbers and health of Oregon bees is improving or declining.

As a result of finding these two bees, the OBA has issued a "squash bee call to action."

Now that we "have two confirmed samples," they say, "it would be great to get a map this year of the extent to which these bees have spread through Oregon – even negative results are welcome" In other words, OBA would like its volunteers start looking specifically for squash bees.

This is a project perfect for early risers. Volunteers need to go out early – dawn -- before the flowers open, and manually unfurl the flowers.

[Currently, it's thought likely that squash bees won't be in the northern part of the Willamette Valley. But who knows? Nature may surprise us.]

Differentiating between squash bees and the common honey bees will be easy. The two bees are about the same size, but the abdomens of squash bees (Fig. 1) are marked with well-defined white bands whereas honey bee abdomens aren't. (Fig.2)

The OBA Protocol for locating squash bees:

1. Early in the morning, open mature flowers of the larger flowered *Cucurbita* species and count the squash bees inside. These will be male bees.

Figure 1: Female squash bee. Peponapis pruinosa. Notice the numerous pollen grains clinging to the scopa (pollen-collecting hairs) on the hind leg of this female squash bee; males won't have those hairs nor a pollen load. Also, notice the squared jaw typical of both the females and males. Female squash bees are solitary and dig their nests in the ground.
(https://bugguide.net/node/view/1420105/bgimage)

Figure 2: Female honey bee, Apis mellifera, the most common non-native bee in landscapes and gardens country-wide. Honey bees are social insects which live in large perennial colonies. Notice her heart-shaped face.
(https://bugguide.net/node/view/1364844)

2. Survey only zucchini, pumpkin, and other large flowered squashes. Not cucumbers or small flowered plants.

3. Take photos (clear, focused) of the flowers with squash bees.

4. Record how many squash bees you find in the flowers, collect the bees, then preserve them in rigid containers in your freezer until you contact me (j.r.natter@aol.com). I'll forward your documentation to the OBA.

5. OBA also requests you record the date and time of the collection; your name; the address; latitude; longitude; the flower (pumpkin; squash, etc.); and the number of squash bees in each.

Figure 3: A typical view of males when you unfurl a squash blossom <u>very</u> early in the morning, their heads downward, their banded butts in the air. Notice the lack of scopa on the hind legs of males.
(https://bugguide.net/node/view/83553/bgimage)

Resources

Video: "Journey of the Squash Bees" (UC Davis)
https://www.youtube.com/watch?v=pAQVNl0C-H0

Video: "Squash Bee Natural History" (UC Davis) describes how squash bees create their nests in the soil.
https://www.youtube.com/watch?v=WobQObH4oDE

"The Bees in Your Backyard" (Wilson & Carril; Princeton University Press; 2016; pages 224-225.)

Images of squash bees (*Peponapis pruinosa)* in various poses.
(https://bugguide.net/node/view/83553/bgimage)