



Do You Know What Galls Me?: Cynipid Wasps!

Have you seen those round, ball-like growths on oak leaves? Or the fuzzy moss-like unusual structures on rose stems? These are the results of a tiny parasitic wasp called a gall wasp or Cynipid. Galls are caused by the reaction of a plant to specialized growth hormones exuded by the larva of these wasps. The adult wasp lays its eggs in the tissue of the host plant and, when the larva hatches, it begins feeding on the plant, all the while giving off a substance that makes the tissue grow in an exaggerated fashion. This substance develops structures that are very different from the normal plant growth. The larva feeds on the cells of these modified plant parts. If you cut open one of these galls during the period when the larva is feeding, you would find small grubs of the wasp crawling around inside. In some species there is a single worm. In others, the one egg that the wasp has laid divides up into many larvae. This is similar to the way identical twins develop in humans, except on a large scale (10-20 offspring).

Many different galls can develop on the same kinds of plants. In addition to the large golf-ball sized gall on oak, there is a smaller oak gall that is called the jumping oak gall. These small BB sized galls easily fall off the plant and bounce around, giving the appearance of the gall jumping off the plant and trying to escape. Some rose galls are of the fuzzy, mossy type, and some are of the spiny, stickery type. These are galls that develop from a different kind of Cynipid wasp. It may be that the spiny surface of spiny galls protect the wasp larva from being preyed upon by other insects and/or birds, the mossy type may be a camouflage mechanism.

The thimbleberry has a gall wasp that causes a swelling in the stem. If you find one of these galls, and if the swelling does not have tiny escape holes in it from the wasps, you can bring them indoors, place them in a jar and watch for the tiny wasps to emerge from the gall in the spring. The female wasps have long ovipositors that they use to lay eggs in new plants. The males lack these structures and simply actively seek a mate. Check out the Cynipid wasps and galls in the reference collection drawer (labeled HYMENOPTERA) in the MG room to see some of these specimens in person!

Galls form an interesting type of relationship between insects and plants. Usually, the plant is not harmed a great deal, and the relationship helps the wasp to carry on its life functions using the modified plant as food. I guess it is not unlike us growing and using genetically engineered plants for our own use. What do **YOU** think????

