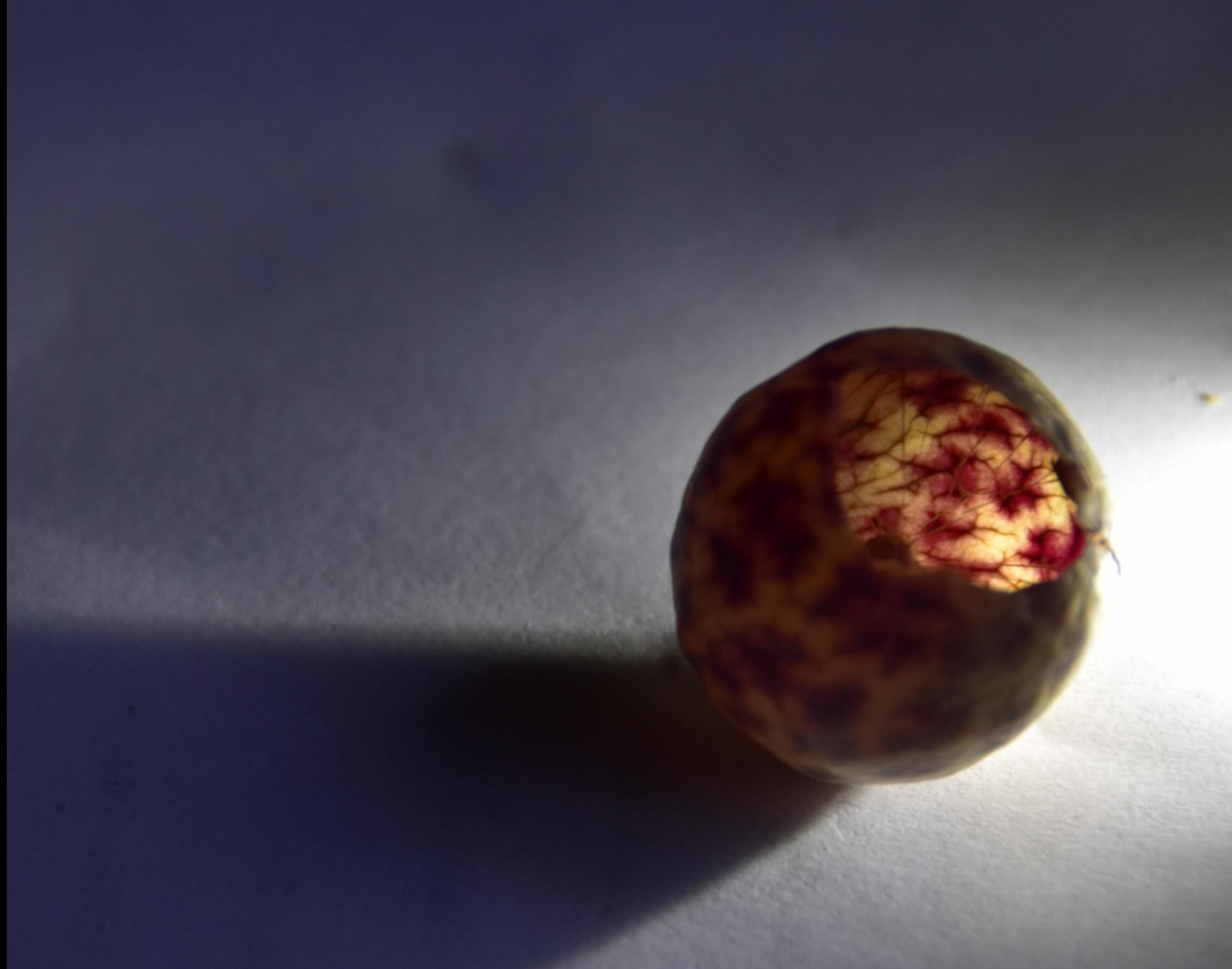
Wall Art.....

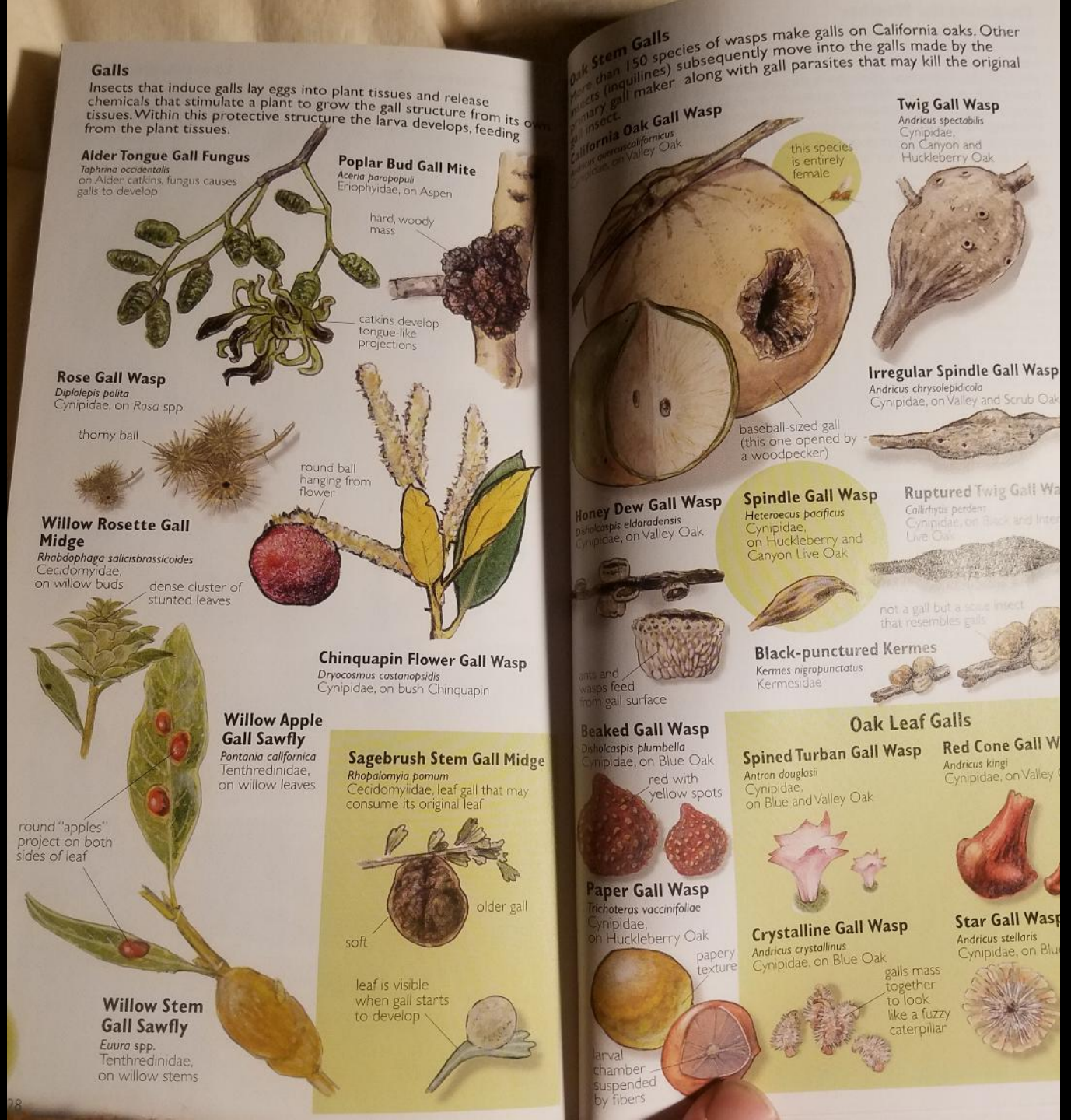


Or Gall Art?

Photos and presentation by
Judith Hildinger, June 2020

John Muir Laws fills 2 whole pages with examples of insect galls—what are they?

A fascinating blend of insect life cycle and plant response—and an amazing story that keeps unfolding…



A common shrub in the Lake Tahoe Basin is the Chinquapin, normally known by it's spiky fruits that can puncture your barefeet.

But look closer, and you are likely to call it nature's gumball machine!

A small wasp, about 5 mm long, lays an egg on the flower. As it hatches into a larvae, the plant perceives a threat and begins to grow a ball like structure around it. The delicate parts of the plant are protected, but the larvae has plenty of food to eat and grow.

Amazingly, the larvae never have to poop! They have no anus. Eventually, the larvae pupate, and then hatch into the wasp.

You also can find Spindle Gall Wasps on Huckleberry Oak shrubs around Lake Tahoe.

Here is a spindle wasp gall I found on a huckleberry oak bush. Can you see the holes? The wasp has to drill it's way out of the gall! And continue the cycle. Adult wasps are short lived and don't need to EAT!

Fascinating! And even weirder…..

Wasps can go through 2 life cycles per year, one of which is parthogenetic, or female only, cloning themselves with no male contribution needed!

In addition, sometimes a secondary wasp will lay eggs into a pre-existing gall! Then a different species inhabits the gall. These are called inquiline species----from the latin meaning ‘tenant’ or lodger.

Apparently this branch I found had lots of egglayers alight.

Why do the plants grow around the insect? No one really knows…..John Tooker, associate professor in the Department of Entomology at Penn State University says, “The best evidence suggests that the insect fluids are somehow influencing plant hormones, which are then influencing the gene expression that forces the gall tissue to grow, but there is a lot of hand-waving there.”

Galls are known as larva nurseries-the plant apparently takes on little damage while supplying the larvae with nutrients.

You can try it too—if you collect galls in containers at the right time, you will see the wasp hatching out!

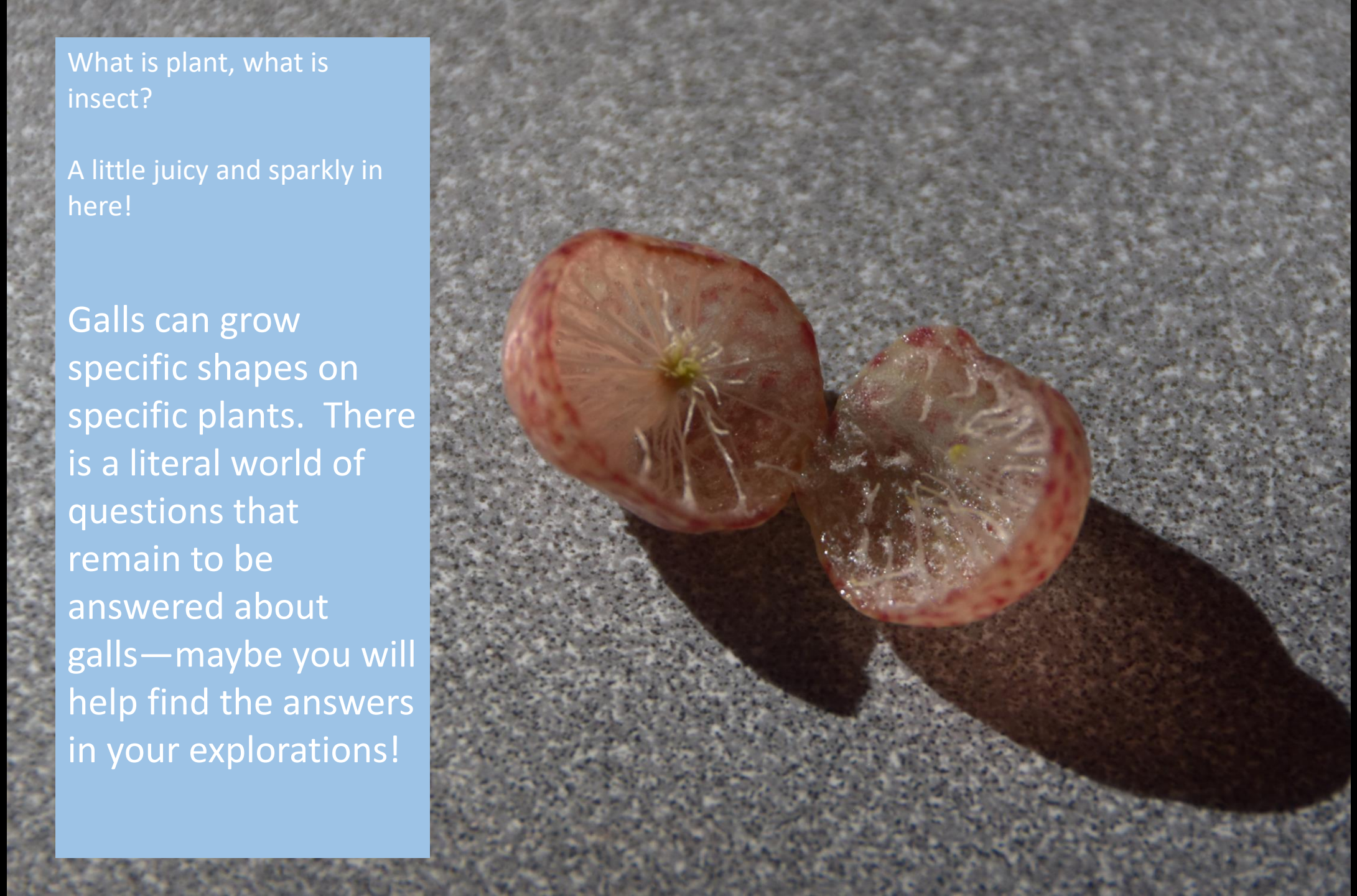
Galls have quite the cycle of life. Here are examples of older decaying structures, and a newer reddish gall that is likely from this spring. The older ones are crunchy and hard skinned.....

What do you think is inside the new one? Let's take a peek, in the name of science.....

What is plant, what is insect?

A little juicy and sparkly in here!

Galls can grow specific shapes on specific plants. There is a literal world of questions that remain to be answered about galls—maybe you will help find the answers in your explorations!



References:

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