

Microscopy Explorations

Plants have tiny parts that do big things.

Have a closer look!

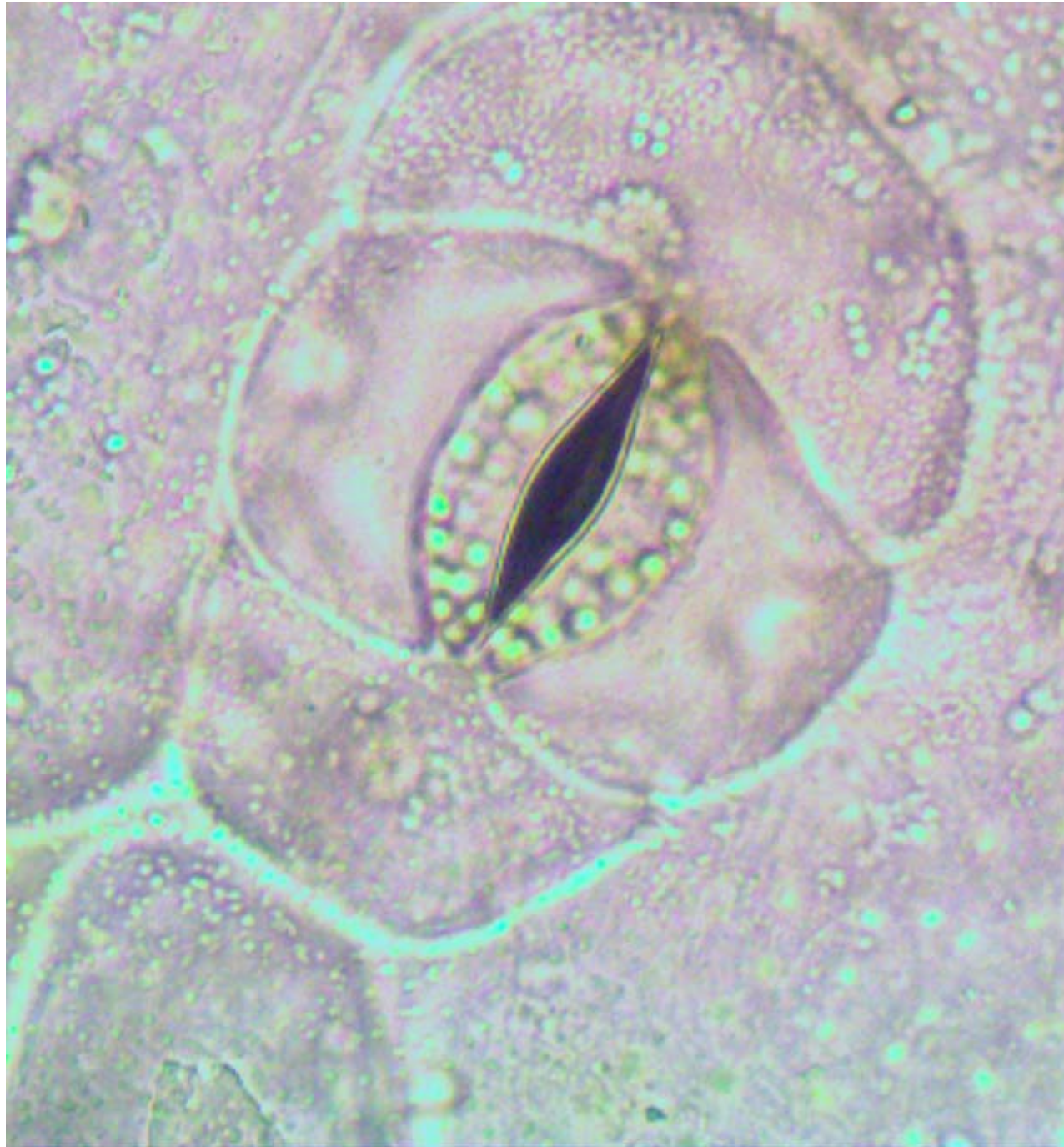


These bumps on clover roots are homes for bacteria!



These bumps are called root nodules. They are made by bacteria that infect the root cells. But, these are good bacteria! They take nitrogen from the air and turn it into fertilizer for the plant. In return, the plant roots provide food and a nice home for the bacteria.

(Photo by Brittany Pritt, 2016)



There are
small mouths
on these leaves!



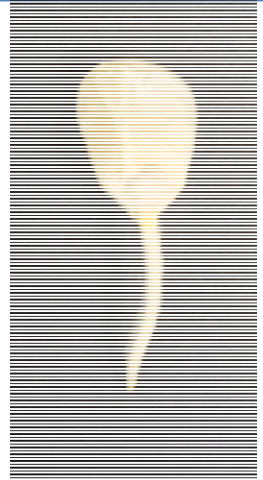
Small cells on the lower side of the leaf make the mouths of the plant. These are called stomata.

Stomata help the leaves exchange gases. That way the leaves take up carbon dioxide to make food by photosynthesis.

(Photo by John Faltaous,
2016)



Look closely
at this fuzzy
corn root.



The root is fuzzy because it has
small root hairs growing on it.

These root hairs help the new
plant absorb lots of water and
gather nutrients.

(Photo by Emily Jones, 2016)

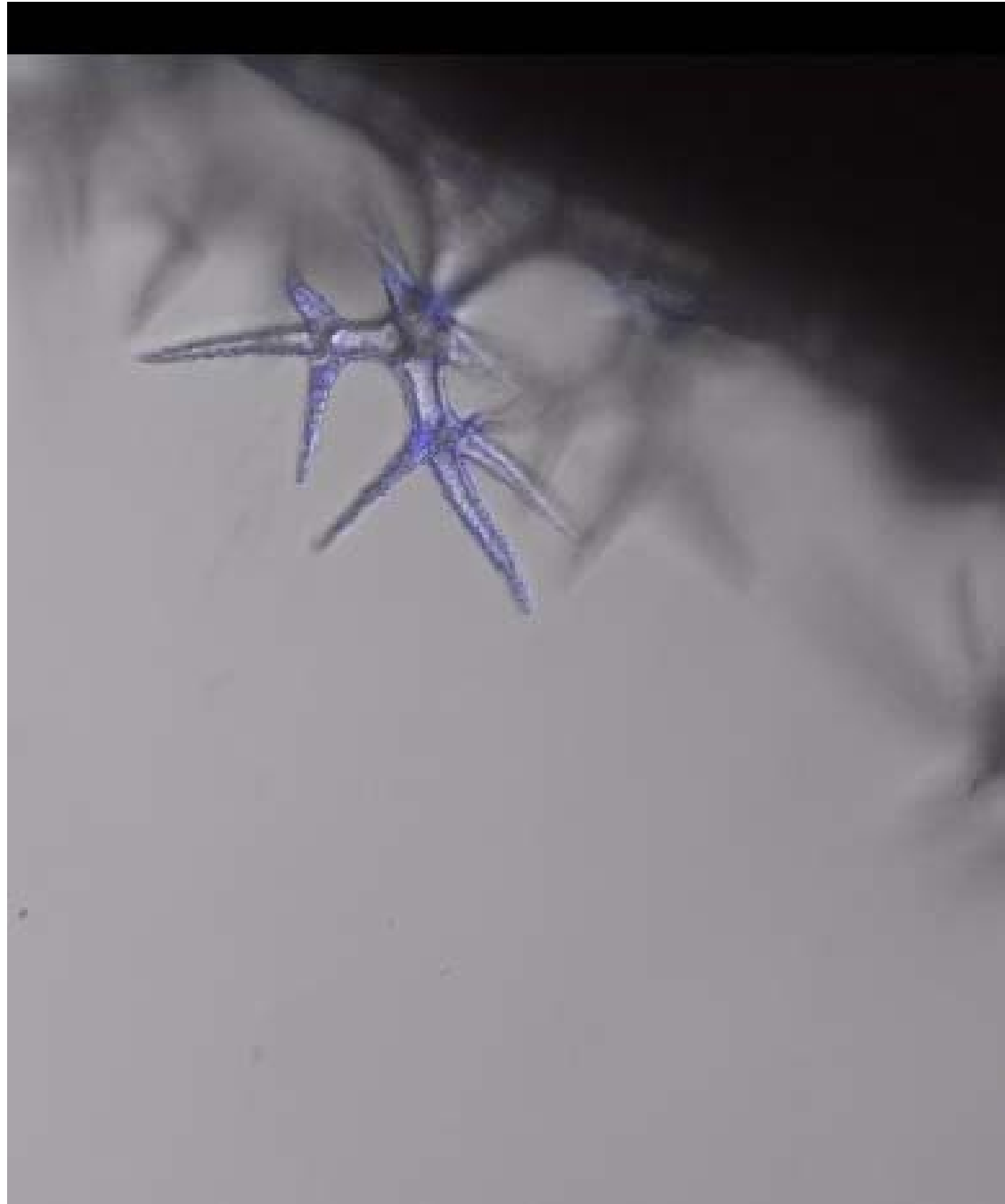
The leaves of this lavender plant are very hairy!



These pointed hairs protect against pests who like to eat plants. They also help keep moisture around the leaf.

Lavender has large, branched hairs that project out of the leaf surface. Plant hairs are called trichomes. Many plants have trichomes, but not many look like little trees.

(Photo by Tommy Trupo and Marcia Harrison, 2016)



The leaves of this lavender plant are very hairy!



Using a special microscope that can view fluorescence, the lavender leaf become colorful. The tree-like hairs become blue. The round glands (large blue dots) are oil glands that produce the plant's aromatic oil. That's why lavender smells so good! The red color is from the chloroplasts in the cells under the leaf surface.

(Photo by Tommy Trupo and Marcia Harrison, 2016)

