

YOU'VE SEEN THEM AND WONDERED. WHAT ARE LICHEN?

If working outside or hiking you may notice some gray or orange crusty, dried-up looking coverings growing on the side of a rock, on an old branch, or blowing along the ground.

You may have wondered, "What are these – some kind of strange plant? And how on earth do they survive?"

These are lichens, and Wyoming has lots of them!

What is a lichen anyway?

Lichens are organisms composed of a fungi and algae or cyanobacteria.

In this association, algae or cyanobacteria aid fungi in carbohydrate production and to return the favor, fungi help create a protective shell around the algae or cyanobacteria to protect them from the elements.

What are lichens up to?

Lichens, though small, provide services to their surrounding environment. Soil lichens aid in soil stabilization, which is important in Wyoming. They help keep our soils from blowing or washing away. When raindrops hit the ground, the microtopography created by lichen colonies helps slow or impede overland flow of rainwater, allows it to pool, increasing the chance it will soak into the soil rather than eroding the soil.

I've included six common lichens one might see while sauntering across Wyoming landscapes and a few facts about each. Remember: think about the role lichens play in our state and don't bust the crust unless you must!



Psora decipiens

Common names: Blushing scale, sockeye scale, white-edged red scale, pink polka dot lichen

Notes: A common lichen across Wyoming rangelands and generally easily identified in the field. A pink/reddish tint with a white border makes *P. decipiens* stand out from most Wyoming lichens. While *P. decipiens* is common, it is mostly found on calcareous soils (soils which contain a lot of calcium carbonate).



Psora cerebriformis

Common names: Brain scale, cerebral fishscale, fissured scale lichen.

Notes: *P. cerebriformis* is more commonly found on calcareous soils in cool deserts and at higher elevations in warm deserts. Colonies of squamules (overlapping “scales” in lichens) typically form in a hemispherical shape, which resembles a brain. This is a lichen you will be sure to come across in your treks.

Acarospora schleicheri

Common name: Schleicher’s cracked lichen, soil paint lichen

Notes: A common lichen across Wyoming landscapes, it is often found displaying parasitic characteristics on another common lichen *Diploschistes muscorum* or *D. scuposus*. In this parasitism, *A. schleicheri* steals the other lichen’s algae for itself. This lichen is an indicator of old-growth.



Xanthoparmelia camtschadalis

Common names: Tumbleweed lichen

Notes: A widespread but sporadic lichen, more common east of the continental divide. There are seven *Xanthoparmelia sp.* in Wyoming and most appear very similar to each other without a trained eye; a hand lens is helpful when separating *Xanthoparmelia sp.* in the field.

Xanthoparmelia sp. are known as vagrant lichens and are free living, meaning they are unattached to rock and can be dispersed via wind. They are a common food source for wild and domestic ungulates and can also be used to dye clothing.

Collema tenax

Common name: Soil jelly lichen, collema

Notes: One of the more common and more variable lichens across Wyoming. Occurs most abundantly on mildly to moderately calcareous soils. One unique feature of *C. tenax* is its ability to extract nitrogen from the air and “fix” it into the soil.





Aspicilia hispida

Common name: Desert vagabond

Notes: *A. hispida*, like *Xanthoparmelia sp.*, are vagrant lichens and generally remain unattached to the soil surface, including rock or plant material. These are common lichens and are found throughout Wyoming on calcareous soils.

What are lichens? Now you know!



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