

## Misconceptions We Have About Nature

I came across an article recently on Goldenrod that got me to thinking about how easily people come to the wrong conclusions about cause and effect in the natural world. A widely held misconception is that goldenrod causes allergies in many people. Here are the facts.

Many allergies are caused by inhalation of substances in the air that our immune system does not recognize as harmless and this causes the immune system to react to attack of a foreign substance and it is the immune system that causes the symptoms that we experience. Many of these substances are pollen particles from flowering plants.

Some people are OK in the spring and summer, but in the early fall they get “allergies” or “hay fever.” And that is when the goldenrods begin to bloom with showy large yellow clusters at the top of the plants. So it is perfectly logical for folks to notice that they were OK before, but when the goldenrods began to bloom their sneezing and sniffing started--thus the goldenrods were causing their allergies.

But here is the problem with that. Goldenrod pollen is not airborne. Goldenrods are pollinated by insects and their pollen particles are too heavy to be blown around by the wind and suspended in the air. But guess what? Ragweed blooms at the same time of the year and it doesn't have showy colorful blooms to attract insects because it is wind pollinated. So goldenrod often gets the blame for ragweed-caused allergies.

Plants that are wind pollinated don't need to use the energy to produce large colorful blooms to attract insects, they just produce a lot of tiny pollen particles that can be carried by the wind. Hill Country residents are certainly familiar with the process in December and January when the ash juniper (cedar) pollen is produced and causes problems for lots of folks.

There are two species of goldenrod in the Hill Country. Tall goldenrod (*Solidago canadensis*) is, as the name implies, tall (3- to 6-feet tall). Prairie goldenrod (*Solidago nemoralis*) is probably the more common species and it only grows to 1 or 2 feet. Both bloom with showy yellow clusters at the top of the stem in September or October.

There are a lot of ragweed species that grow throughout the U.S. and many into Canada. It is difficult to get an idea of which ones are the most common in the Hill Country, but certainly annual, western and giant ragweed all grow here, some as short as 1 foot and the giant ragweed can be up to 6 or 8 feet tall! As best I can tell they are all in the same genus and thus all likely to be wind-pollinated and to cause allergies.

So a logical assumption that allergies are caused by goldenrods turns out to be false. We all know about what assumptions make us.

Another area where logical assumptions turn out to not be as simple as first thought has to do with controlling flooding along creeks and rivers. An old thought was in order to reduce the height of floodwaters, one should be clear the creek or river bank of trees

and other vegetation so as to let the water flow faster. But the faster the water flows the more energy it has and thus the greater amount of erosion that will occur, the greater amount of sediment it will carry, and the greater amount of water that will be passed on to downstream neighbors.

On the contrary, keeping the streamside trees and all other vegetation slows down the flow of water, reduces the amount of energy and thus the amount of erosion and sediment it can carry, and it allows the water more time to soak into the soil.

It turns out that humans do more damage to riparian areas, with their well-meaning actions, than if we just let nature take care of things.

Donnie Frels, manager at the Kerr Wildlife Management Area, likes to say, "Nature is not only more complex than we think, it is more complex than we CAN think.

Given all of the accomplishments our human civilization has made since we have been here, it is easy to assume we always know best. But Mother Nature may not always agree.

As a friend of mine used to say, "It ain't what we don't know, that pains us so, but the things we know, that just ain't so.

Until next time...

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