

Nature Week at Heritage Village - June 28th

A natural born killer - bracken fern

Bracken fern is a ubiquitous old field plant. It unfurls to about knee high with each stalk topped with large, triangular, deeply-divided leaves. It is highly successful, growing in large patches in almost every old field around here. To what does it owe this success? It, like many plants, has an arsenal of defenses.



Defense against animals - nectaries

It is hard to be aggressive when you are a plant. Sometimes the best plan is to enlist help. That is one of the techniques used by the bracken fern in its fight against herbivores such as caterpillars and fly larvae - critters that would eat holes in its vital, sun-capturing leaves.

By offering up sugar, proteins, and amino acids from a gland called an extra-floral nectary, the fern attracts ants in the spring as it unfurls its leaf stalk. Many plant species do this. You have probably noticed the ants on peony plants sipping at the tiny nectaries on the margins of the flower buds. The ants keep the herbivores away - this is mutualism benefiting both the ant and the plant.



Field of bracken fern



Ants at the peony nectaries



Defense against plants - allelopathy

Bracken grows in every habitat around the world, in the driest deserts and in the coldest tundra. It is a survivor. One of the tools in its survival kit are the plant toxins it releases into the soil. These toxins inhibit the growth of other plants, creating a self-weeding and ever-expanding opening for the fern to occupy. Using its strong rhizome system it creates, and then fills, the open spaces around it. This too is a common plant defense mechanism.

Defense against humans - stomach cancer

One serious predator is mankind, who seem to have decided that the fiddleheads (the early spring unfurling leaves) are good to eat. Although reported to be tasty, like asparagus, almonds and black kale all in one, these greens are carcinogens, at least without special preparation to remove the chemical ptaquiloside. Since the resulting cancer occurs long after ingestion, apparently the plant is relying on mankind's ability to write newsletters like this to spread the word. So I have done my part - don't eat the bracken ferns - or at least not very much, not very often.

The bracken also provide an ideal habitat for wood ticks, the kind that carry Lyme disease. So beware the bracken.



Bibimbap is a Korean dish made with bracken fronds that was rated 40th in the top 50 tasty dishes of the world.



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