

Plant Bites Dog

To the naïve dog on a morning walk along the Potomac, biting into a stinging nettle can be quite a shock. One of my dogs, who I assumed knew the local edible flora, mistakenly sampled a leaf of *Urtica dioica* and instantly regretted her decision. The name *Urtica* comes from the urticating or stinging hairs of the plant that, like hypodermic needles, break off when touched and inject a small dose of histamine into the skin, causing a brief sensation of intense burning.

Only a small percentage of the 300,000 species of the Earth's flowering plants bite back. The nettle family (Urticaceae) consists of about 2,600 species and ranges throughout the world, but even in this group, not all sport stinging hairs. Our own stinging nettle has a wide distribution, being found throughout Europe, much of Asia, North Africa, and of course, North America. There are three other common members of the nettle family found along the river, but two of them have no sting. The other one to watch out for is wood nettle (*Laportea canadensis*) that has a more nuanced burn.

But almost all plants protect themselves from aggressors, if not in so effective a manner as the stinging nettle. Most shrubs and trees brim with noxious compounds, evolved to fulfill an essential purpose—to avoid being munched. In fact, a famous scientific paper once considered the fundamental question, “Why is the world still green?” When one considers the armies of sap-sucking bugs, leaf-chewing caterpillars, and voracious white-tailed deer feeding away, why don't their combined actions lead to denuding the Earth of green vegetation? The answer is in part that many creatures feast on plant-eating bugs and

ravenous deer and keep their numbers in check. Another reason is that plants evolved what are called secondary compounds, many of which are the precursors of our modern pharmacopeia, to make themselves unpalatable to herbivores.

Some wonderful animals do much better at handling nettles than did my Chesapeake retriever. The Milbert's tortoiseshell (*Nymphalis milberti*), a lovely butterfly pictured here, seeks out stinging nettle to lay its eggs. Its caterpillars devour the leaves. Nettles are essential forage for large herbivores, too. For example, the mountain gorillas of Uganda and Rwanda consider a species of *Laportea* found there to be a most nutritious snack. They even bed down in clusters of nettle which has no effect on them.

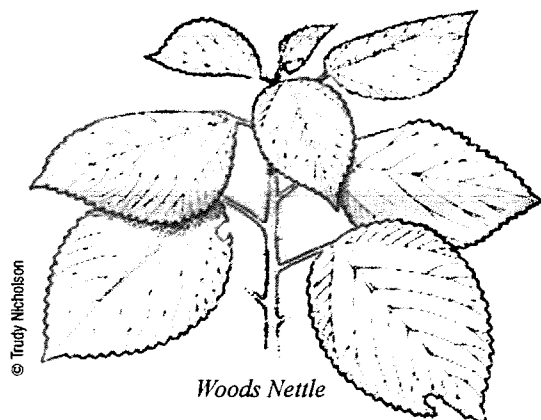


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Stinging Nettle and Milbert's Tortoiseshell butterfly

Handled properly, young nettle leaves are a delicacy, full of vitamins, and were once a mainstay of hungry Native Americans. Humans have their own ingenious way of detoxifying nettles and other edible plants—we boil them.

So the poor stinging nettle is only protecting itself. And, if you are stung by it, you can squeeze the sap of another nearby plant, jewelweed, whose own chemicals neutralize the burn. In this way we may see the forests along the towpath or the Cabin John Creek in a new light, as a battleground where chemical warfare by plants against animals is a daily occurrence. In turn, many animals have figured out ways to detoxify the chemicals—perhaps even humans who have learned to cook what we can't eat raw—and that in turn may lead plants to continually improve their arsenal. Evolution never stops.



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Woods Nettle