

IT'S ALL CONNECTED

Inspiring ↔ Informative ↔ Actionable

presented by



Is This My Leaf Or Yours?

Did you know that Puerto Rico is a small island just half the size of Massachusetts, yet it amazingly supports 11 species of anole lizard? Each species eats basically the same diet - insects. But they have evolved to take advantage of different parts of the habitat. Some anoles inhabit areas high up in the trees, the trunks, the understory, the sunny side, or the shadier areas. This is an excellent example of

resource niche partitioning in nature.

Temporal niche partitioning is easily illustrated by looking at hawks and owls. Both rely on the same food source, small rodents, but hunt at different times of day. This allows them to coexist in the same environment without direct competition.

[Niche partitioning](#) occurs in every environment and by all types of organisms, and includes more categories than just resource and temporal partitioning. There is spatial partitioning where organisms occupy different parts of a habitat, and even behavioral partitioning, such as birds that sing at different frequencies.

Animals co-evolve within the similar niches that they occupy. For example, [bumblebee species](#) have evolved different proboscis lengths to take advantage of various flower species. Birds have specialized bills with myriad shapes and sizes to exploit a wide range of food sources.

A slight twist on niche partitioning is easily observed by the differences between Toyon (*Heteromeles arbutifolia*) leaves for the plants on mainland California versus those on Catalina Island. The mainland Toyon leaves have evolved to be thicker and have longer spines than those on the island. This is a response to predation by deer. Until the early 1900's, deer were not present on the island and Toyon had no need to defend itself whereas the deer and Toyon coexisted on the mainland, so the plant slowly created a tougher leaf in order to eke out a niche to survive among the herbivores.



Nearly all living things seek to gain a competitive advantage over others, and the miracle of evolution drives them to occupy unique niches. As a result, niche partitioning promotes increased biodiversity and robust ecosystems, allowing more species to coexist. We know that a healthy ecosystem is important and provides many [valuable services](#) such as nutrient recycling, pollination, carbon sequestration, filtration of pollutants, and more.

Species diversity and distribution is a direct result of this niche partitioning. But species adapted to narrow spaces or resources cannot easily adapt and change in response to threats posed by climate change and human activities. Factors that threaten these habitats certainly disrupt the use of resources and likely spell doom for some or many species in any given ecosystem.

Humans are part of the natural world, and we happen to be the most dominant creature on Earth. With few natural predators, we are able to take full advantage of every resource available, often to the detriment of other species, and to ourselves. The fact that homo sapiens no longer partake in niche partitioning suggests that our actions could be considered an [invasive behavior](#).

Niche partitioning offers a fascinating lens through which to understand the intricate web of interactions that shape our natural world. **As stewards of the Earth, we have the power to apply the principles of niche partitioning to our conservation efforts.** By supporting habitat restoration projects, advocating for biodiversity conservation, and embracing sustainable practices, we can create environments where species can flourish by minimizing competition and maximizing resource availability.

Hands-on Learning

We all keep pretty busy these days, but if you can set aside a few hours here and there, we urge you to consider volunteering at a nearby State Park, National Park, native plant nursery, restoration site, zoo, aquarium, wetland area, wildlife sanctuary, or anything else that strikes your fancy. These places and many others all rely on volunteer help to make things run smoothly.



In addition to giving back, you'll get **free training and hands-on experience** in things like growing and maintaining native plants, close up interactions with animals, learning where the best hiking trails are located in your parks, history and geology of your wild spaces, understanding why restoration is important, and so much more. On top of that, you'll meet some other like-minded people too. Get out there and try some volunteering, you'll definitely get back as much as you give.



How Do I Love Thee?

Our recent newsletter happened to fall on Valentine's Day and we asked for photos of love in the natural world. We thank subscriber Nicki for sharing this photo of a loving and protective mother Wood Duck (*Aix sponsa*).

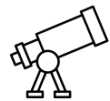
Quick Connections

Books, websites, documentaries, podcasts, events, quotes, and more



Did You Know?

We leave a sound footprint in nature, so here are some [best practices](#) to mitigate it. Your nature friends will thank you.



Learn about [PACE](#), the new satellite NASA launched to better understand plankton, algal blooms, and pollution in our oceans.



Quote we're pondering

Destroying rainforest for economic gain is like burning a Renaissance painting to cook a meal. - **E. O. Wilson**



Field Guide

Enjoy this free poster download of [white-headed gulls](#) from John Muir Laws.

Community Connections

We want to connect with you. There are innumerable opportunities to volunteer and get hands-on experience with nature. Tell us about your favorite places to spend your time helping out, so we may share with others and shout out the good work these organizations are doing.

We read each and every response and will share selected reader stories in upcoming newsletters.

Your feedback is important. [Tell us](#) how we are doing and what you would like to see covered in future newsletters.

Every connection counts! Please help grow our community of everyday heroes by sharing this newsletter with a friend or colleague.

Thank you,

Laura Schare, Editor

Michael Hawk, Founder

Jumpstart Nature

PO Box 53842

San Jose, California 95153

You received this email because you signed up on our website.

[Unsubscribe](#)

