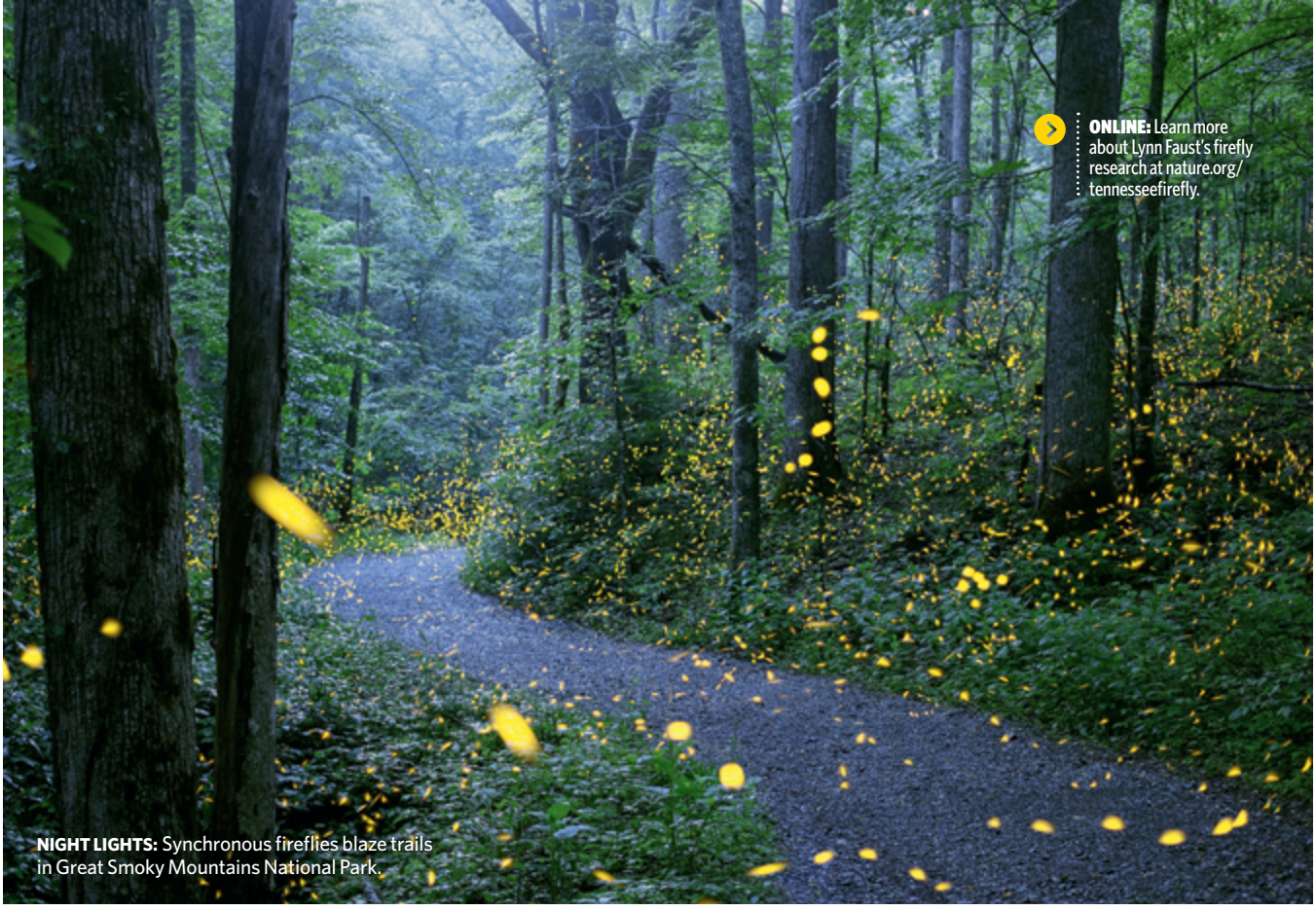

ONLINE: Learn more about Lynn Faust's firefly research at nature.org/tennesseefirefly.

NIGHT LIGHTS: Synchronous fireflies blaze trails in Great Smoky Mountains National Park.

Firefly Frenzy

A dip in firefly tourism may be benefiting Tennessee lightning bugs

THERE ARE ROUGHLY 2,000 SPECIES OF FIREFLIES, EACH with its own characteristic flash pattern that it uses to communicate. Some glow in unison as part of their mating ritual, a natural phenomenon that occurs in a handful of places, including the Great Smoky Mountains National Park in Tennessee.

Unfortunately, the lights of many firefly species are in danger of flickering out. Threats to the bioluminescent beetles include habitat loss, pesticides—and, paradoxically, a growing firefly tourism industry. Roughly 1 million people seek out the bugs' dazzling courtship displays each year. Light pollution from headlamps and vehicles can hinder mating success, and pairs that perch on low vegetation are easily trampled. In the Smokies, COVID-19 lockdowns gave the region's beetles a respite. "The events of 2020 surely benefited fireflies," says Lynn Faust, firefly field guide author and researcher who has spent decades studying *Photinus carolinus*, the synchronous firefly species that inhabits the national park. "More males and females found one another in the darkness, so more eggs were laid and more clutches likely survived."

Only time will tell, but more important than a temporary breather is the ongoing land protection work in the region. For two decades The Nature Conservancy has partnered with public agencies and private landowners to preserve more than 10,000 acres connecting portions of national forests and state wildlife management areas with the national park, says Gabby Lynch, director of protection for TNC in Tennessee. "These efforts safeguard key habitat, create natural pathways and eliminate threats posed to a number of species, including *P. carolinus*." —SARA KAPLANIAK

Firefly Flash Patterns

Male fireflies use a Morse code of flashing and flying to signal to females of their species.