

THROUGH THE LEPIDOPTERAN LENS

Fender's Blue Butterfly—from endangered to threatened

BY LINDA KAPPEN

Fender's Blue (*Icaricia icarioides fenderi*), of the family Lycaenidae, was thought to be extinct until Paul Hammond, PhD, research associate in the Department of Entomology, Oregon State University, rediscovered the butterfly in 1989. Until then the butterfly existed only in collections from the past, with 1937 being the last known year.

In 2000 the US Fish and Wildlife Service (USFW) listed the Fender's Blue as endangered. In 2023, USFW reclassified the Fender's Blue from endangered to threatened, with plans for conservation.

The Fender's Blue is an endemic butterfly found only in the prairies and oak savannah habitats of the Willamette Valley of Oregon. Its host plant, the uncommon Kincaid's lupine—also endemic to the Willamette Valley and listed as threatened—is a critical plant for the survival of the Fender's Blue. Only two other host plants, sicklekeel lupine and long-spur lupine—are recorded as being used by the butterfly.

Due to severe habitat loss, recovery plans have been used for restoration of meadows, the host plant, and other wildflowers. The results have been slow but good on the 30-plus restoration sites throughout the Willamette Valley, with small populations of the butterfly increasing.

The Fender's Blue is a small butterfly with a wingspan of one inch. The male's dorsal view is a brilliant blue and the

female a soft brown with black borders and white fringe. The ventral views of this butterfly show gray and tan backgrounds with black spots outlined in white.

Females lay eggs singly on host plants from mid-April to June. The larvae then feed on the plants until they senesce (grow older). The larvae diapause (become dormant) through fall and winter. Larvae break their diapause in early spring to feed on lupine when it reappears. They then metamorph into adult butterflies.

My son, Tyler, and his partner, Kate, live on a property in Echo Hills Farm in the Willamette Valley where conservation is taking place. Thanks to property owners Karen Fleck-Harding and Tom Harding, I was given permission to do a small study of the Fender's Blue during Memorial Day weekend. On Karen and Tom's 285 acres in the Echo Hills, I observed the butterfly in the restoration of a 2.5-acre meadow. The restoration of this meadow began in 2013 by removing the invasive Scotch broom shrub. Restoration was assisted by the Mary's River Watershed Council and the Institute for Applied Ecology (IAE). Plans to extend the habitat for the Fender's Blue at this property are in place with IAE and USFW. The Fender's Blue was first seen at this property in 2021.

I was able to observe three days of the Fender's Blue, resulting in some rewarding finds.

Day one. I observed the Fender's Blue flying habits and behavior.

Day two. I suggested we watch for mating Fender's Blues on the tops of the native grasses. Sure enough, Tyler found a pair on the tip of a grass stem. I followed the paired butterflies to a cool spot in the

shade where I was able to carefully photograph them.

Day three. I was searching for ovipositing of eggs. I was about to work my way out of the meadow, stepping carefully, when I observed a female with egg-depositing behavior at the base of a lupine flower stalk. I tried to be careful and ended up with a decent enough photo, but not a super clear shot of an egg being deposited.

What an experience! Visit these links for further explanations of the history and recovery efforts for this threatened species: (1) appliedeco.org/build-it-and-they-will-come-fenders-blue-butterfly-seen-this-spring-at-echo-hills-farm and

(2) fws.gov/story/2023-01/fairy-prairie-fenders-blue-butterfly-fluttering-back-brink-extinction.

The conservation efforts for the Fender's Blue are a perfect example of how we here in our Siskiyou region should keep our mountain meadows and lower valley habitats healthy and free from habitat loss through development, other disturbances, and cattle entering our headwaters at higher elevations.

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Fender's Blue on Tolmie Star Tulip (*Calochortus tolmei*).



Female Fender's Blue ovipositing on Kincaid's Lupine (*Lupinus oregonus* var. *kincaidii*).

Photos by Linda Kappen



Ventral view of mating pair of Fender's Blue butterflies shows identifying marks on wings.

Applegater's 30th Birthday Bash



The Applegater's first editor, J.D. Rogers, regaled the crowd with stories about the paper's beginnings in 1994. After 19 years as editor, J.D. resigned in 2014. Photo: William Whitney.

There was so much to celebrate at the Applegater's milestone 30th birthday on June 2 at Vista 222 in Grants Pass. The weather was perfect, the dinner by Black Barn Farm was delectable, the speakers were more than entertaining, and everyone had a grand time bidding for auction items and buying raffle tickets. Many thanks to the staff at Vista 222 for their impeccable service and to all of our supporters who joined in on the fun.

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