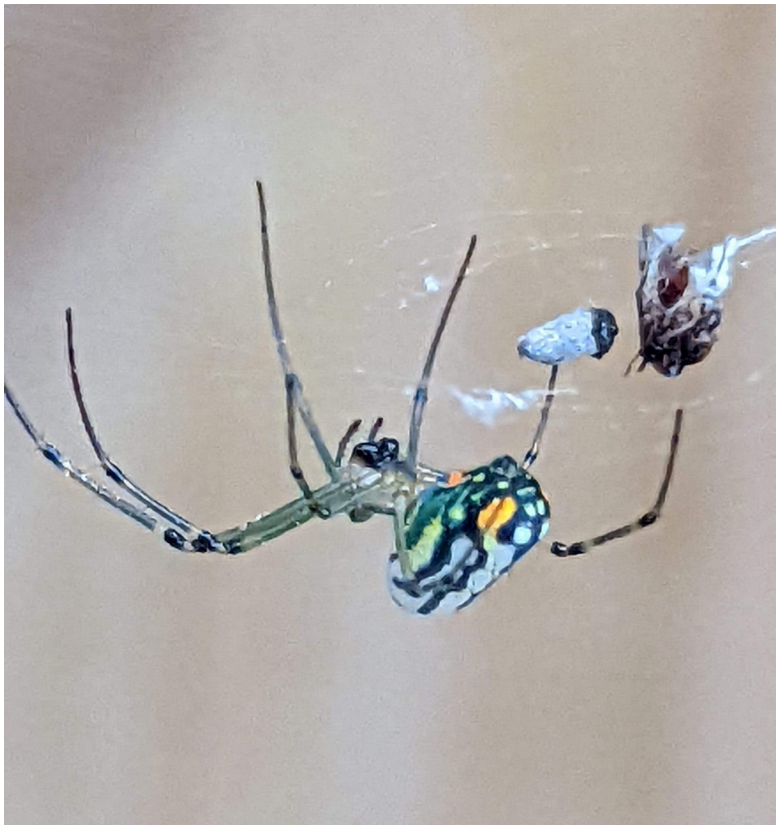
Mabel's Orchard Orb Weaver

Article & photo by M. Kathy Raines, Rio Grande Valley Chapter

Its rich geometric patterns of blue, yellow, orange, green and black recall delicately inlaid stones in Zuni jewelry or a tinted cut-glass pendant. I wonder where this elegant creature has been hiding the 40 some years I've lived in the Valley, but then realize it is I who have been inobservant.

The lustrous Mabel's orchard orb weaver (*Leucauge argyrobapta*) derives its species name from ancient Greek words meaning "baptized in silver." It, along with its more northerly, far less abundant Valley cousin, *Leucauge venusta*, belongs in the family Tetragnathidae, for long-jawed orbweavers, spiders with especially big, strong jaws, or chelicerae.



Mabel's orchard orb weaver (*Leucauge argyrobapta)*

This spider, which commonly occupies citrus groves, also thrives in meadows, woodland edges, woody suburbs, flowerbeds and beneath eaves of houses. Records show it in the southern United States, Mexico and Brazil, but it may be more widespread.

With its hind feet, an orb weaver draws out liquid strands of silk of various sorts from the spinnerets at the tip of its abdomen. The Mabel's orchard orb weaver may create a nearly horizontal web with a slope of less than 45 degrees, but sometimes one that is nearly vertical. The spider awaits prey on the underside of a central hub amid sticky spirals. It also frequently creates a barrier web underneath, which may dissuade other creatures from destroying its carefully wrought construction. When food is abundant, these gregarious spiders sometimes hitch their webs together.

Often the spider constructs its web near that of a golden silk orb weaver (*Trichonephila clavipes*). In this case, the orchard orb weaver builds a loftier, sometimes nearly upright web, which helps it snag flying creatures, but may hinder its capture of crawlers and jumpers. Also, this spider's proximity to a neighboring web may spare it the labor of constructing a barrier web.

Hunting both in the daytime and evening, the Mabel's orchard orb weaver feasts on all manner of insects, particularly mosquitoes and small flies. Like other orb weavers—noted for their poor vision—it awaits vibrations in its web, then ventures out from its hub to procure the captive stuck on sticky strands, an insect which may outsize the spider. The orb weaver bites and wraps the captive in silk, turning it with its forelegs and wrapping silk with other legs, thereby preventing the victim's escape. The spider carries it to the center and, piercing it with fangs, injects digestive enzymes which liquefy its guts. Then it eats, straining out waste materials.

This orb weaver lays eggs in a sac that it fastens to a leaf or twig. Spiderlings can weave webs shortly after they hatch.

Enchanted by this jewel, I insist on showing off my photos, sometimes, I admit, to those who find spiders abhorrent. But orb weavers like these are major controllers of mosquitoes and other pests that spread diseases and damage crops.

Foes of Mabel's orchard orb weavers include mud-dauber wasps, which paralyze them and place them in nests for their own larva to eat, and also *Rhomphaea projiciens*, a small spider which may stroll onto the web, bite the orb weaver, pump enzymes into the wound and suck out its guts.

We must be thoughtful and vigilant in protecting these helpful spiders, along with others of our fellow creatures, even when we use pesticides nonlethal to them. Some of these substances have been found to render orb weavers sluggish in making webs and capturing prey, giving even decimated mosquito populations a good chance to rebound from their poisoning.