

Wild Wednesday 29 September 2021. It's Complicated, by Walt Anderson

If you hear that someone is checking out “comps,” you might think immediately that they are comparing house prices. But if you hear that from naturalists, you can be pretty sure that they have their noses in some pretty flowers, especially abundant in late summer and early fall prior to the first frosts. So what is a “comp” as understood by a naturalist? And who else is drawn to them at this magical time of floral transition?



A “comp” is a composite, a member of the Asteraceae (formerly Compositae), the same family as sunflowers, thistles, dandelions, and daisies. When you glance at the image above, you might think you are looking at three flowers, but in fact, you are looking at hundreds. “Composite” means an assemblage of many flowers, all clustered together to create a major target for potential pollinators. There are straplike ray flowers on the periphery and densely packed disk flowers (each here with five fused petals—look closely). The cluster is a type of inflorescence called a head or capitulum (if you pick one, you have decapitated it, but it’s one way to get a head).

OK, if you understand all this, it’s not **too** complicated.



But when you actually start to try to identify species of comps, it can indeed become complicated! There are more than 32,000 (!) species identified in this family, with more than 1900 genera! It takes a genus genius to tell them all apart. Consequently, you will even have botanists scratching their heads and referring to some as DYC's ("damn yellow composites").



In Prescott and other parts of Yavapai County in late September, vast fields of gold carpet the landscape, usually on shallow rocky soils, like these of basaltic origin along Willow Lake.



“There’s gold in them thar hills!” That phrase, made famous by Yosemite Sam in Looney Tunes cartoons (Sam was always outwitted by the very clever Bugs Bunny), could certainly apply to many of our landscapes this year, particularly because of the generous monsoon rains. Most of us, however, drive by these golden hills without knowing the name of this prolific plant or the world of dependent life the flowers support. Few even know that these are “comps.”

As a defender of the neglected and overlooked, I hereby wish to compliment these comps with their given name: Annual Goldeneye, *Heliomeris longifolia* var. *annua*. Actually, it gets more complicated (as you would expect with a comp). It formerly was known as *Viguiera annua* or *Viguiera longifolia* var. *annua*, but the genus was changed. In addition, the common name (as if “common” could be applied to a plant so few people seem to know) also goes by Longleaf False Goldeneye. So is it a goldeneye or a false goldeneye? And is it related to the Common or Barrow’s Goldeneyes, which are ducks? I’ll duck that answer.



On stormy days like this, the goldeneye flowers provide a welcome splash of color under the gray skies, but those cool winds keep the insects hidden and unable to engage in their pollination services. The breezes also prohibited me from getting good closeups of the flowers, so I had to return the next day when the sun was out.



And on the sunny day, I really hit the jackpot. Bees, wasps, moths, beetles, katydids, grasshoppers, and especially butterflies were everywhere I looked—and I was looking. In fact, the more I waited and watched, the more I discovered. What a thrill to get wonderful views of beauties like this Orange Sulphur nectaring on a goldeneye!



Walt Anderson

Or this brilliant Sleepy Orange, named for spots that suggested to somebody a “closed eye. Some butterflies have both a summer form and a winter (or fall) one, which can add to the complexity (another form of “comp”) of butterfly identification. The emergence period can also be limited for many—you have to be there at just the right time.



Here is a winter form of Sleepy Orange to contrast with the previous photo (taken on exactly the same day) of a summer form. For a while, the two forms were thought to be different species. In addition, butterfly sizes can vary significantly depending on the nutritional value of the host plant to the caterpillar. So if you think birding can be hard . . . Many birds, at least, can be identified by sound, but butterflies don't utter a peep (or a tweet). And some are really dinky! Without close-focusing binoculars, you'd really face some ID challenges.



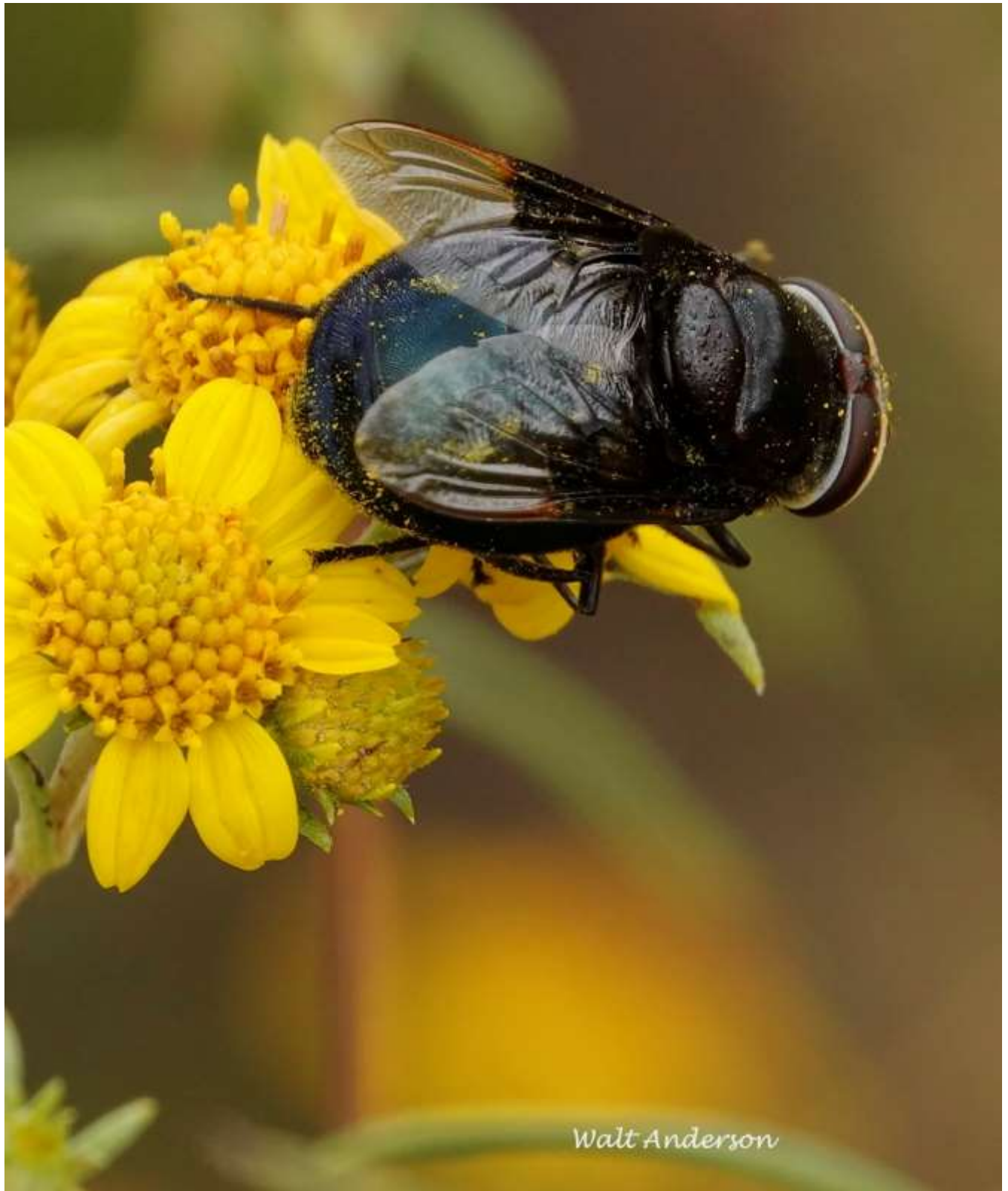
Here's one of the dinky ones—a Dainty Sulphur. Notice how the butterfly is smaller than the width of the flower head, and compare that to the previous photo. These little ones are easy to miss, but what gorgeous jewels they are if you can observe them!



Adding to the complexity, this isn't even a butterfly. It's a day-flying Corn Earworm Moth (*Helicoverpa zea*). Other common names include Cotton Bollworm and Tomato Fruitworm. Yes, those names mean trouble for gardeners or farmers. Estimated annual crop damage by the caterpillars of this species exceeds \$100 million dollars, and pesticide costs to attempt to control it can be as high as \$250 million, according to the unimpeachable facts listed in Wikipedia. I'm just kidding about Wikipedia being "unimpeachable," but more authoritative sources agree, and one fruit crop known to be damaged is the Peach, which I guess is peachable. Anyway, I only found a couple of these moths amidst hundreds of butterflies, and I have to admit it's rather cute and fuzzy.



Another visitor to the flowers is a Large-headed Grasshopper with a bit of a hopping handicap, as you can see. This is not your typical pollinator, and it's just hanging out until it can get back to grazing the grasses it relishes. Grasshoppers can sometimes be present in vast numbers (in fact, locust plagues are caused by nomadic grasshoppers), and in many areas, they consume more grass biomass than all the native ungulates combined. Grasshoppers can be a good source of protein; they are much more efficient in converting plants to edible energy than most critters, and if we could get past our cultural biases, we might benefit from feasting upon them (properly spiced, of course).



This Mexican Cactus Fly is a true pollinator (check out the pollen on its ample, iridescent behind). It breeds in decaying cacti, perhaps the Whipple Chollas nearby.



What a thrill it was to find this green-eyed horsefly, a bee mimic and also a pollinator. Flies have just two visible wings; that's why they are in the order Diptera. The dark and light abdomen bands are pretty convincing to potential predators that this insect might have a sting (though it doesn't).

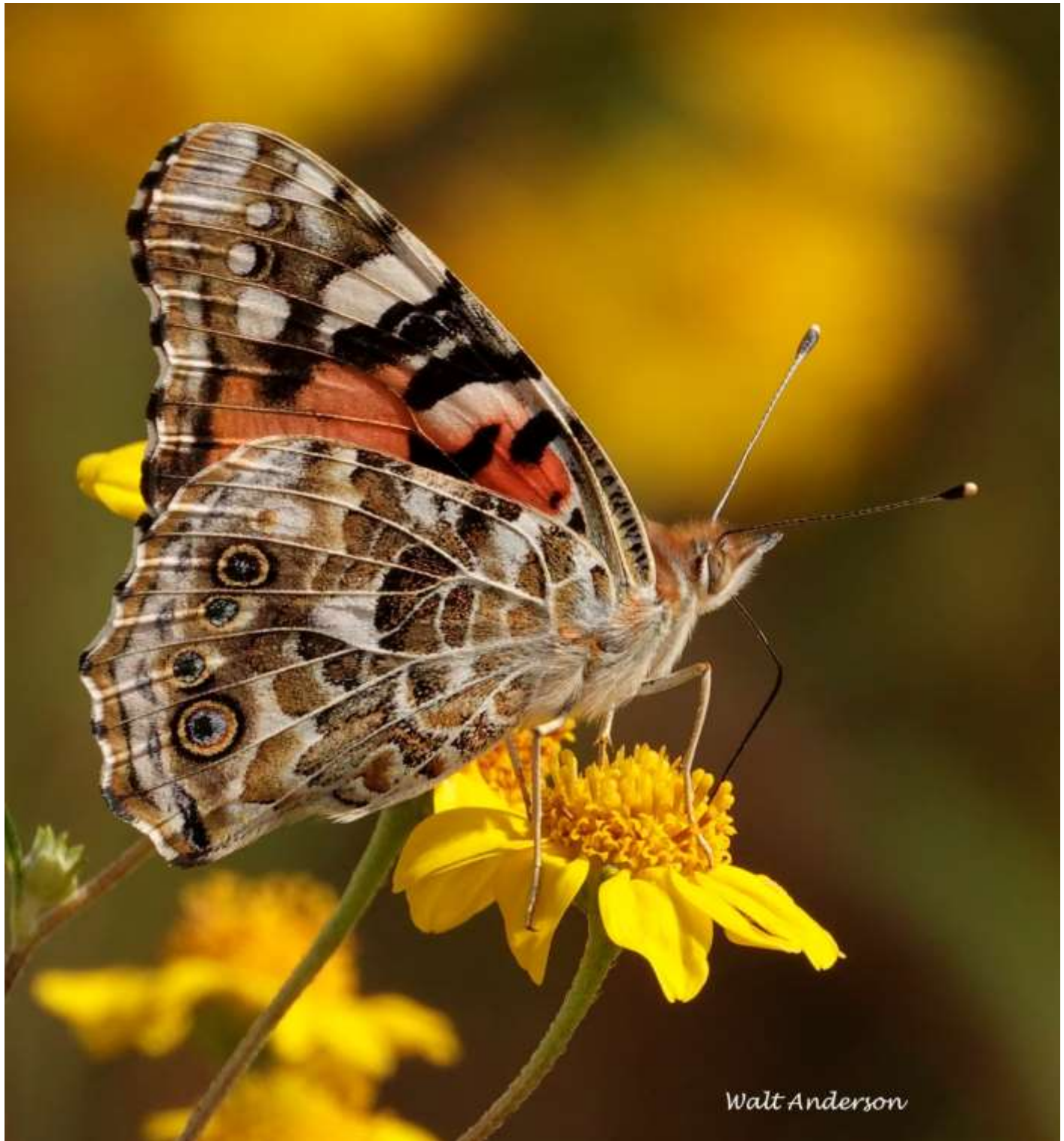
There are major advantages to taking photos of insects, though the challenges can be difficult. They help one find references for identification instead of relying on (faulty) memory. They also provide surprises when you discover someone else in the photo, like the inchworm just down to the right of the fly. I just can't emphasize enough the joys of discovering the little things. We really need to pay attention! All of these insects, and many more, were just waiting for me to attend, and it completely made my day.



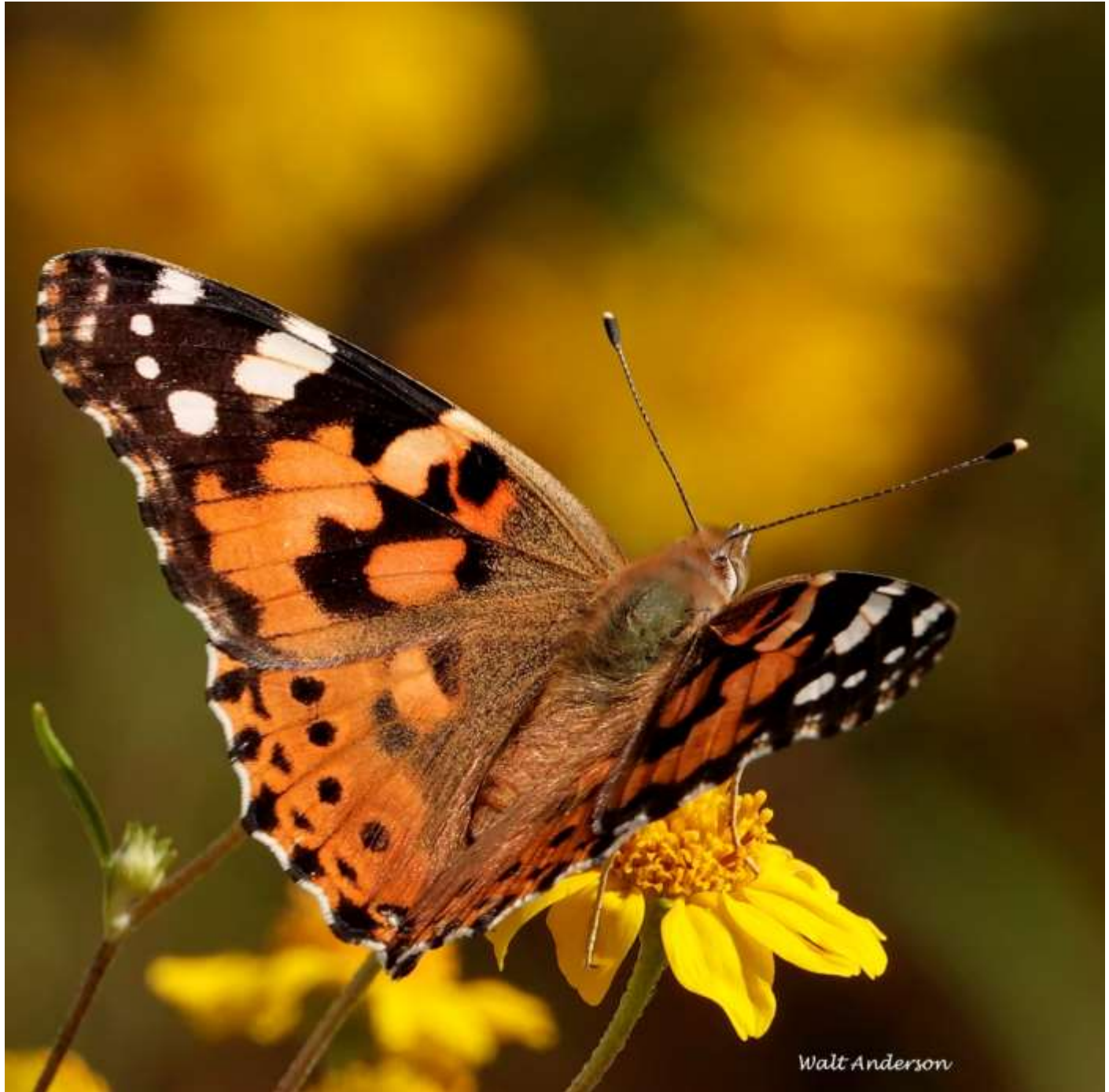
There was royalty there too, like this Queen nectaring on a White Prairie Aster, *Symphyotrichum falcatum*.



The Queen is equally gorgeous when displaying the underside of her wings (OK, I know some Queens are males).



And there were ladies in attendance, like this Painted Lady (not all are found in Las Vegas). Compare the elaborate underwings to the upper sides in the next image.



The Painted Lady is also called the Cosmopolitan, as it has a worldwide distribution. Ours winter in the deserts south of us and migrate north in the spring, some stopping to breed here, while others continue on as far as Canada and Alaska. The European population has an annual migration of around 4500 miles, making it the longest migration of any insect, even putting the Monarch to shame.



Walking through a field dominated by Annual Goldeneyes is an **incomparable** seasonal treat, especially this year. Remember that the flowers are more than mere scenery; they constitute an amazing ecosystem in which hundreds of other organisms exist. Imagine the seed bank that overwintered here, waiting for those life-giving monsoonal rains. Imagine the daily dramas of life and death that occur here, secrets that we can only sample if we take time and really observe. Without direct experience, our very imaginations are so limited. So go for the gold! Get out there, wherever you are.