



# Nature Journeys

By Vince Pinto

One palpable joy of being a naturalist in southeastern Arizona is that our winters are so eclectic. The variability in December invertebrate activity here generally trumps that of many other places in North America. The presence of any number of ectothermic species in what often can be a rather frigid month owes much to our nearly subtropical latitudes, as well as warmer nooks in the landscape. Add enough moisture and rather balmy temperatures, and our December diversity is decidedly decent!

During December, the lower elevations of the Sky Islands can play host to a number of lepidopterans—butterflies and

moths. Generally speaking, moth diversity may be around 15 times that of butterflies in any one area. So, since about 334 butterflies have been recorded in Arizona, a rough estimate of our moth fauna is about 5,010 species! Noel McFarland in the Huachucas has documented 950 species of moths on his place alone—more than all of the butterfly species in North America! Unless you spend a lot of time outside after sunset, however, moths may elude you.

Not so a handful of butterfly species that may be active in December. Pipevine swallowtails will show up at any time of year, as their larval food

plant—*Aristolochia watsonii* (Southwestern pipevine)—can possess leaves year-round. The bright orange-red caterpillars hide in plain sight, advertising their distastefulness to lurking predators such as birds. Touch one and you may be dabbled with a foul-smelling chemical from two tentacle-like organs behind the larva's head—the osmeterium. As with the better-known coevolution of monarch butterflies and toxic milkweeds, the chemicals of the pipevine are sequestered within the flesh of the caterpillar and later the butterfly itself. If that were not enough to deter a predator, the pipevine swallowtail also flies erratically enough to minimize attacks. If a predator does attack, then it may aim at the butterfly's fake posterior heads or tails. Look at enough adults of this species and you'll certainly see individuals that survived bird predation attempts by losing their tails instead of their true heads.

Joining the pipevine swallowtails are dainty sulphurs, among our smallest butterflies. Most adults are approximately the size of my thumbnail. Given that the caterpillars of this species consume plants in the aster family, it is no great surprise to see them in December when this group of plants thrives in cooler tem-

peratures. Interestingly, the summer and winter forms of the dainty sulphur can vary considerably in appearance. Summer butterflies show a pale yellow hindwing, whereas in winter it's a dusky green. Perhaps darker winter forms absorb more heat. They also fly closer to the ground in winter.

The town of Nogales is a good place for December butterflies. Apparently, the combination of warm hills and flowering rosemary plants form a bit of a refugium for such species as southern dogface, pipevine swallowtail, cloudless sulphur, and eufala skipper. A short trip to Tucson and its warmer climes may well net you additional species.

Don't overlook Patagonia itself, as warmer days may host a few butterflies. While you're afoot seeking lepidopterans, keep an eye peeled for gray bird grasshoppers, tip-up beetles, spine-waisted ants, desert encrusting termites, and others that defy our normal impressions of winter.

Happy hunting! *Vincent Pinto and his wife, Claudia, run Raven's Way Wild Journeys. They offer local tours dedicated to the preservation of the incredible biodiversity in the Sky Islands.*

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