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## Arriving at the Whole Story



ALL PHOTOS THIS ARTICLE: SAM JAFFE

Left to right: *Cecropia Giant Silk Moth*, *Hyalophora cecropia*: found on buttonbush, Boston MA. *Elm Sphinx*, *Ceratomia amyntor*: Mimic of dried elm leaves, found at Oxbow National Wildlife Refuge, Harvard MA. *Abbott's Sphinx*, *Sphecodina abbottii*: False-eye and grape-patterns, found in Newton, MA on fox grape.

**M**y name is Sam Jaffe, and I founded The Caterpillar Lab — an educational outreach, art, and science non-profit organization that uses native caterpillars and their stories to engage and inspire the public with their own, local, and ecologically important creatures. The Caterpillar Lab is a fluid thing, constantly changing as we learn from our audiences and our creatures alike. I would like to share with you a little about how my work, my perspectives, and The Caterpillar Lab's goals have shifted over the years and present a short piece that demonstrates how we now understand our caterpillars and how we hope to challenge our audiences to see the natural world in a new way.

Twelve years ago, my work was only caterpillars. But much has changed over the last decade. When I started photographing and educating with these charismatic insects, my attention was squarely focused on the caterpillar as an object, a moment in time, something beautiful, curious, and unexpected. My images of caterpillars, which highlighted their impressive camouflage,

bright warning colors, or strange inflatable tails and false eye-spots drew people in, sparked interest and imagination. But today, caterpillars represent so much more to me. From working so closely with these insects for so long, from rearing over five hundred species and countless thousands of individuals, and from bringing them to meet audiences every spring, summer, and fall, the world of caterpillars has exploded in size.

A caterpillar is indeed beautiful and inspiring on its own; I will never tire of them as individual characters that deserve our attention just for being... awesome! But a caterpillar also represents something much bigger, and much more meaningful. At the Lab, we have seen caterpillars grow, shed, pupate, and emerge as adults, we have gathered a seemingly endless variety of host plants to supply for our specialist feeders, and we have witnessed time and time again as parasitoid wasps and flies have fed on our caterpillars internally, emerged, and moved through their own cycles of growth and reproduction.

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The whole story of a caterpillar's life and influence in the natural world is an endless one — one that I now hope to tell and promote through The Caterpillar Lab. As you will read, that story is not always easy to witness, and it is not always beautiful on its surface. The whole story represents something beautiful; an endless series of relationships traveling up, down, and across food webs that redefine caterpillars as more than simple, isolated organisms. *Caterpillars are at the center of it all, consuming and passing on energy and balancing the ecological world.*

A caterpillar's whole story can teach us so much: the crucial importance of biodiversity, the threat of rapid environmental change, and the incredible, nearly inconceivable scope of the world around us. It is a story that is important to tell, a story that challenges, and a story that The Caterpillar Lab now champions. *Twelve years ago, my work was only caterpillars. Today, my work is the entirety of the ecological world, with my caterpillars standing front and center.*

As you read through the following piece, I hope you begin to see the scope of this story with the same eyes that I do and embrace the challenges it presents.

**Beautiful. This is beautiful.**

No more apologies. No more excuses. If we value the natural world, we must accept the importance, the meaning, and the beauty of moments like this one. A natural interaction. An ending and a beginning. Energy passed on, changed, and repurposed. If we are naturalists, birders, gardeners, walkers, lovers of any particular small corner of the ecological world, then we owe it to what we love to

recognize what an image like this one truly represents.

A web of connections. The smallest, most insignificant things made infinite through all they come to represent. In isolation, a creature is just an object. Placed in its environment, using and being used, a creature becomes more. It is the seed of pollination, of migration, of diversity, of sustenance, and resilience. A creature



*Speared Dagger, Acronicta hasta, playing host to an Aleiodes parasitoid wasp. After consuming the caterpillar from the inside, the wasp larva turns the body of its host into its cocoon, earning it the name mummy-making wasp. This species is host specific and uses only a few species of dagger.*



*Dolba Sphinx, Dolba hyloeus, playing host to multiple Microgastrine parasitoid wasps. The wasp larvae feed on the caterpillar internally, emerge, and spin their silk cocoons upon the caterpillar's back. Also pictured is a green Pteromalid hyperparasitoid wasp that emerged from one of the Microgastrine wasp cocoons. A wasp for a wasp for a caterpillar. These likely use only a few species of sphinx caterpillars.*

rot. But these actions build so perfectly upon and across each other. Native organisms interacting in strange, wonderful, gruesome, close, so-close-it's-gross ways are what build, nourish, and sustain everything we value in the natural world.

So today I feel like being bold. When it comes to native and balanced organisms in our environment... it is not okay to hate a wasp. It is not okay to turn away from an unpleasant moment. To play favorites. Because that is not how the natural world works. That is not how ecology



*Brown Angle Shades caterpillar, Phlogophora meticulosa, with a cluster of ectoparasitoid Eulophid wasp larvae. These wasps are more broadly generalized and use many early spring feeding caterpillars as hosts. As with all parasitoids, the caterpillar does not survive the encounter.*

can be pretty in isolation, but in the talons of a raptor, or buzzing in the calyx of a bloom, or feeding on a leaf, or in the body of its host, it is simply radiant.

The natural world can indeed turn stomachs on occasion. It can shock and sting and devour and

works. That is not how evolution works. All of the things we love are here because it is ALL here. All interacting, using, winning, losing, breeding, dying, decomposing, bleeding, and transferring energy in a magnificent never-ending web that is as hard to hold in our minds as an infinite universe or the beginning of time.

The bees and the butterflies. The birds and the bugs. They are MORE because of a moment like this. They are here because of moments like this. Do you

celebrate the colors, characters, and diversity of plants? Then there is no choice but to celebrate the same in the caterpillars which have shaped them and that balance them. Do you celebrate the colors, characters, and diversity of caterpillars? Then there is no choice but to celebrate the same in the parasitoid wasps which have shaped them and that balance them.

Spend this next spring and summer following the threads of connection. Be a naturalist investigator. I trust you will

come to the same conclusion we have. There is only a myth of isolation. Every single native creature out there is a super organism made bigger and more beautiful through what it takes and provides than it could ever be on its own. So be shocked. Be grossed out. But don't miss how beautiful this is.

**How beautiful it ALL is. ♦**

🌿 Sam Jaffe, Director - *The Caterpillar Lab*  
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