



*A Caddis fly emerges from an Opal-encrusted cocoon.*

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## *The Caddis Fly—Fish Bait or Fine Jewelry Maker?*

Jewelry is often claimed to be the path to a woman's heart. Rings, necklaces, bracelets, and earrings all can easily smooth the way to earning a woman's favor.

If you ask me, I believe today's jewelry has been significantly beaten by the dull stick. Either it comes off screaming "costume jewelry!" or it's too drab to be noticed. Kathy Stout, an energetic mother of three residing in the mountains of Wheeling, West Virginia, has astoundingly remedied this situation.

Kathy and her husband, Benjamin, have a lifelong fascination with nature. Their specific passion for ecology, though, led them to experiment with varied wildlife, as all "scientifics" love to do, turning and twisting certain elements until new outcomes arise. Ingenious as Kathy and Ben have become in their studies of ecology, the discovery

they have made with a unique aquatic insect, the Caddis fly, has definitely surprised even them.

First, let's take a trip into the life of a Caddis fly. Known as the "Great Brown Autumn Sedge" by fly fisherman, it's titled scientifically *Pychnopsyche gentiles*. A rather scary-looking insect with its fierce mandibles and scratchy little legs, it's often overlooked in the book of nature as just another insect that recreates, cocoons itself for protection and evolution into adulthood, and then dies shortly after mating and laying eggs back in the stream. A major part of the food chain in many streams and rivers, their ability to protect themselves from predators undeniably had to be kicked up a notch. The Caddis fly, in its larva form usually during early spring, productively gathers small pebbles in the beds of their home streams and "glues" them together

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Photo “A” right: Three cocoons—far right is the first cocoon the Caddis fly makes, it is triangular and made from leaves. Once the leaf cocoon is made and the Caddis fly takes up residence, he begins to encrust the cocoon in stone from the creek bottom (see photo “B”). The stones look like they were fitted together by a stone mason. The stones offer protection to the Caddis fly during the season before he emerges as a full grown Caddis, leaves the cocoon behind, and mates. Back to photo “A”—center cocoon encrusted with Opals; far left cocoon, made by another type of Caddis fly, is made entirely of small twigs and remains without stones.

Photo “C” shows a Caddis fly in the process of applying Opal pieces to his cocoon. The process is done entirely underwater (photo is taken in water).

Photos “D”, “E” and “F” show various views of the Caddis fly busying himself with the cocoon.

Note: The cocoon is about three quarters of an inch long. Generally, the narrower cocoons are made by the male and the wider cocoons by the female. The stones are “glued” together with a silk like thread the Caddis fly spins from its mandibles.





with silk strands their bodies generate. When the Caddis fly's "cocoon" is complete, about a month later, they set in for a long summer's nap. The transformation that takes place in September from a gangly, prickly larva into a beautiful, whisper-light adult holds true the tale of the ugly duckling. This process is much more easily seen than explained, so be sure to check out Animal Planet's® "Most Extreme Builders", part of the "Most Extreme" series, where Kathy is featured describing the process as it takes place. (<http://www.animalplanet.com>)

By now all of you reading this are wondering, what does this bug have to do with jewelry? That's where Kathy and Ben's ingenuity makes its grand entrance.

After months and months of overcoming ever-changing odds like pH levels, temperatures, aeration, and proper nutrition, they created a simulated streambed in their garage where they could house Caddis fly larva in its stage before the cocoon.

The Caddis fly reserved in the couple's garage/lab started reaching for small stones to start the cocoon process; however, the stones they found were a touch more precious...

Crushed obsidian, fool's gold, lapis, opal, malachite, feldspar, picture jasper, red and gold tiger's eye, even diamonds and rubies, you name it, Kathy has added it to the insects' selection of cocoon material in an eclectic and lovely display of colors.

An insect that makes jewelry? Seems unreal, but it's true and extremely collectible, seeing as how no two pieces can ever be alike.



When the cocoon is shed the Caddis flies are released back into the wild, never the wiser, or changed for the experience, except maybe a bit snobbier and highly sought after as a food source due to the expensive house they inhabited for a few months!

Kathy's intricate and long-wrought course of action after they cast off their cocoons is what *really* makes the jewelry. After she preserves the shell of quilted stones with epoxy, she enlists the help of her mother and sister-in-law to develop exclusive pieces,

arrange means for different jewelry materials to be obtained, and finally, tie the whole ensemble together, keeping it a close knit family business.

A quaint, delicious smelling store named "The Soap Shop" in Penn Alps Artisan Village (see Artisan story on page 32) sells her jewelry on consignment.

You can experience the simulated streambed and gaze upon many of Kathy's desirable pieces of jewelry when she makes her appearance at three major scientific gatherings during the year: the Entomological Society of America (ESA), the North American Benthological Society (NABS), and the Society for Ecological Toxicology and Chemistry (SETAC).

Smiling, Kathy admits she will probably showcase a magnificent pair of Opal earrings on eBay® sometime this year with a starting bid of \$500, just to see what happens.

Visit Kathy's web page at <http://www.wildscape.com> for more contact information and instructions on special ordering.





*Facing page:  
A beautiful finished Turquoise and  
Silver necklace with Turquoise cocoon.*

*This page, top left:  
A colorful Opal and silver necklace with  
Opal cocoon.*

*Top right:  
Kathy, "the bug lady" (a moniker she's  
proud of), holds three Caddis fly cocoons  
to give an idea of their size. She is wearing  
a pair of cocoon earrings.*

*Inset left:  
A cocoon of coal and gold pieces on a  
gold chain.*

*Inset right:  
Cocoon made of Pyrite (fools gold) crystals  
and Jade. The silver part is a sculpture  
look-alike of a Caddis fly emerging from  
the cocoon.*

*Editor's Note: The Caddis fly larva is very important  
for the stream ecosystem. The Caddis fly eats the bacteria and  
fungi off leaves that have fallen into the streams. This keeps  
the water quality optimal for other insects and fish who live  
in the streams.*

