



ADAM MARTINEZ/OREGON STATE ANTHROPOD COLLECTION

Photographs made to put the Oregon State Anthropolod Collection online bring out tiny details of the insects. The actual sizes of these insects range from 6 mm to 30 mm.

OSU Web site spins easy access to identifying insects

Online | Old collections are being organized, with pictures big enough to be scary

By **CARRIE NUGENT**
THE OREGONIAN

In 1937, 20-year-old Harold E. Rice captured a Bremner's silverspot butterfly near Eugene.

Today, Rice is 91 and lives in Coburg, and that butterfly is a key piece of scientific evidence.

"If he hadn't collected that specimen," Christopher Marshall said, "we wouldn't have any evidence that this species

lived in the (southern Willamette) valley. But we know that it did — because he caught it."

Marshall safeguards Rice's butterfly, along with 2.7 million other insect specimens in the Oregon State Anthropolod Collection. The curator and collections manager values the contributions of casual insect collectors. "A childhood collection can make a really significant donation to science," Marshall said.

To encourage collectors and to aid scientists, Marshall embarked on a mission to photograph Oregon State Universi-

ty's collection and put it online for the public.

"I think we can get people far more excited about insects in their environment if we can bring them to them larger than life," Marshall said. To do this, the collection recently acquired an \$80,000 high-resolution microscope-camera system, similar to those used by forensics laboratories.

Adam Martinez, an OSU biology student, is the first to use this new equipment. This summer he is imaging carabid beetles to assist forest ecologists.

After expertly adjusting the lighting system, Martinez

snaps an image. The tiny, unremarkable beetle under the microscope is transformed into a fierce-looking creature with iridescent armor on the computer screen. This image, along with several others, is available to the public via the collection's Web site.

Marshall is also charged with protecting and cataloging the huge collection. "It's like building a cathedral — I'm never going to see the end of this," he said.

Enemies of the collection are humidity and "a ubiquitous little beast of a creature called the dermestid beetle." Wooden

trays can protect the delicate specimens from humidity, but the beetles are another matter.

"Everyone probably knows dermestid beetles," Marshall said. In houses, they feast on dead insects in light fixtures and windowsills. Some zoologists employ them to clean skulls for mammal collections. "But if they get into the collection here, it's like China Buffet."

Marshall takes his stewardship of the collection seriously. "I'm not just curating a bunch of bugs," he said. "I'm protecting someone's life's work," and preserving it for the future of science.

He looks to hobbyist collectors to gather key specimens for future scientists.

"We're having huge changes" in insect populations, Marshall said, due to warming, urbanization and the introduction of non-native species.

Insects that are common now might become rare or locally extinct in a few decades — and collections provide vital information for entomologists. "Without knowing what's in your backyard," today, Marshall said, "you don't know what you are losing."

Online: osac.science.oregon-state.edu/images