

New-found old insect

A strange insect collected by graduate student Jill Stockbridge during her thesis research on Prince of Wales Island is a newly discovered species of snow scorpionfly. Derek Sikes, UA Museum of the North curator of insects, said it belongs to an enigmatic group that might help scientists understand the evolutionary origin of fleas.

Stockbridge got stuck when she tried to identify the tiny, flea-like insects she'd found. She turned to her thesis advisor, Sikes, who was equally baffled. He posted a

The researchers named the species *Caurinus tlagu* for the Tlingit tribes that have lived on the northern half of Prince



Photo by Jill Stockbridge.

of Wales Island for thousands of years. "The word *tlagu* means ancient, which we thought was appropriate since this creature has been around since the Jurassic," Stockbridge said. Fossil evidence indicates the

scorpionfly belongs to a group that dates back more than 145 million years.

The 2-millimeter-long animals are members of the insect order Mecoptera, which includes the scorpionflies, hangingflies and snow scorpionflies. Although their

mouthparts look like those of a predator, they feed on a leafy liverwort found in coastal forests rather than sucking blood like fleas. However, they hop like fleas, are the size and color of fleas, and even have the same shape when viewed from the side.



Photo by Jeep Slowick.

Jill Stockbridge and Derek Sikes, on Prince of Wales Island.

digital photo on Facebook to see if any of his entomologist friends could offer an opinion. Most of the suggestions were wrong, but one scientist, Michael Ivie, recognized that the specimen belonged to the genus *Caurinus*, of which only one species was previously known.



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Dinos on the Yukon



Hind footprint of an ornithomimid. The exact species of this type of herbivorous dinosaur has not yet been determined.



The four units of the Sustainable Village are the newest addition to student housing options on the Fairbanks campus. The homes use state-of-the-art energy-saving materials and utilities, and provide data for possible future uses through Alaska.



If you're ever on the Yukon, keep an eye out for dinosaurs, or at least what they left behind: footprints. A lot of them.

Researchers from the UA Museum of the North found a major new site for dinosaur fossils in Alaska along the Yukon River last summer. About 2,000 pounds of dinosaur footprints were added to the museum's collection, according to earth sciences curator Pat Druckenmiller.

"There aren't many places left in the world where paleontologists can just go out and find thousands of dinosaur footprints," Druckenmiller said. "This is the

kind of discovery you would have expected in the Lower 48 a hundred years ago."

The specimens date to about 90–100 million years ago, the middle of the Cretaceous Period, making them about 35 million years older than those from other well-known sites around Alaska.

The footprints are natural casts, formed when sand filled in the footprint after the dinosaur stepped in mud.

"These are not negative impressions," Druckenmiller said. "Rather they stick out from the rock and sometimes look like blobs with toes."

Those blobs were left by dinosaurs big and small, meat-eaters and plant-eaters.

"We found a great diversity of dinosaur types,"

Druckenmiller said, "evidence of an extinct ecosystem we never knew existed."

The museum is working with villages and Native corporations along the Yukon River to share information about the discovery with local communities and to coordinate future exploration.



Katherine Anderson, Meg O'Connor and Julie Rousseau wrap aluminum foil around tracks for safe transport to the museum while Druckenmiller makes field notes about the fossils.

Extra helpings

Some students are hungry for more than knowledge. They're hungry for food. Social work major Juan Cruz read a national news story about students not getting the proper nutrition because they were paying bills for school or other things. He started asking questions at student-centered offices at UAF. "Everybody had the same reaction," he said. "They all know somebody who needs food."

The Fairbanks Community Food Bank told him the same thing, that many clients there are UAF students.

"I thought, why not open a pantry right here at the university, so they don't have to go that far for food." The pantry, tucked away by the pool tables in Wood Center, is open two days a week. It fills a gap for students who live off campus and aren't on a meal plan, or during breaks in food service, like the winter holiday closure.

The pantry is overseen by the Student Activities Office but is very much the product of student initiative and perseverance. "It's a pantry," Cruz said, "for students, by students."

Green houses get good grades

The Sustainable Village, UAF's newest student housing complex, lived up to its name in its first year. The four 1,600-square-foot homes used less than half as much energy as an average new house in Fairbanks and substantially less than an average energy-efficient house during the first year of occupancy, according to an analysis by the Cold Climate Housing Research Center. The best-performing house used the equivalent of 366 gallons of heating oil. In contrast, the average same-size house in Fairbanks uses about 920 gallons, while the average new house meeting

energy-efficiency standards uses about 660 gallons a year. Even the biggest energy user at the village used only 463 gallons.

Each unit is built slightly differently so researchers can study which methods work best for cold climates, but all are superinsulated, with features like heat recovery ventilation, triple-pane windows and low-flow showerheads. The houses are also being monitored for a variety of things, including ground temperature (think permafrost) and indoor air quality.

On the web: <http://bit.ly/SusVill>.