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An Early Holocene Paper Wasp from Paisley Caves, Oregon Martin E. Adams¹

The Paisley Five Mile Point Caves site (35LK3400), hereafter referred to as Paisley Caves, is the oldest archaeological site in Oregon, yielding a vast wealth of artifacts spanning ~10,000 years of seasonal human occupation. The site, located in Lake County, consists of a series of eight caves and the most excavated of these is Cave 2, which has also yielded many hundreds of insect remains. Although some of these insect remains can be used to infer things about human behavior or reconstruct past environments and climates, others are essentially "background fauna" —they just happen to be there, and died of natural causes through no human agency whatsoever. That does not make them any less interesting, however, and one such species is the golden paper wasp, *Polistes aurifer* (Hymenoptera: Vespidae).

Two specimens, designated 1896-PC-2/6D-50-8I and 1896-PC-2/6D-51-18A, were recovered, both specimens represented only by their heads. One specimen (-51-18A) is pristine in appearance, with no apparent damage to it (Figure 1), while the other (-50-8I)

is heavily damaged, missing approximately 20 percent of the head, though still retaining enough features for a positive identification. The specimens were indirectly dated, and the surrounding context puts these two at approximately 10,900 to 12,200 years old.

Polistes aurifer enjoys a modern distribution in western North America, from British Columbia east to Alberta and possibly as far as Manitoba, south into the United States to California extending as far east as Montana and western Texas, and even going further south into northern Mexico. They have even been introduced into Hawaii and several other Polynesian islands. Like other paper wasps, they construct their nests out of chewed and regurgitated wood and plant fibers, and suspend them on a single petiole usually in a sheltered area, in this case most likely the overhang of Cave 2. These two specimens are still within the modern range of *Polistes aurifer*, and likely represent the earliest record of the species thus far.



Figure 1. Left: Frontal view of the head of *Polistes aurifer*, specimen 1896-PC-2/6D-51-18A, recovered from the Paisley Caves site in Lake County, Oregon. Scale bar = 3 mm. Right: Photo of modern specimen of *Polistes aurifer* from Jackson County, Oregon courtesy of Travis Owen.

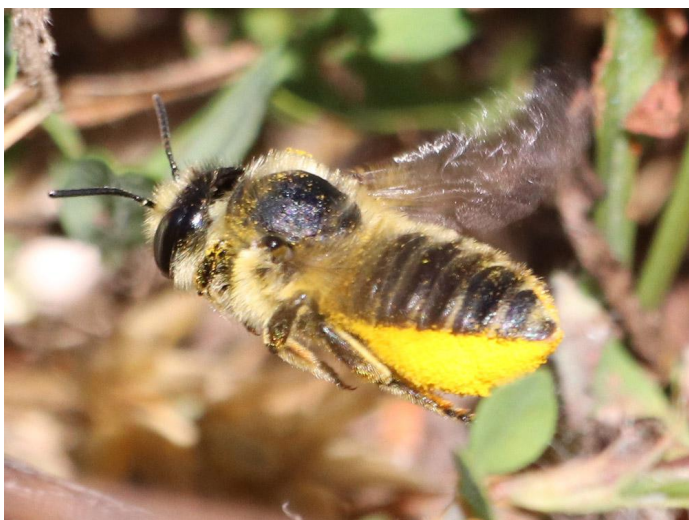
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A *Megachile* Moment

Ron Lyons



Carrying green leaf fragments the female approaches the nest site on two different runs. Top 06 August 2017 4:00 pm. Bottom 06 August 2017 4:44 pm.



With a full load of bright yellow pollen, the female *Megachile*, drops down to the ground near the entrance to her nest. Photographed 12 August 2017 at 3:55 pm.

On the afternoon of August 6, I spotted a leafcutter bee (*Megachile* sp.) carrying a length of green leaf; she flew to a spot in my rather weedy lawn, landed and disappeared down a hole in the ground. Over the next hour, I watched this area as the bee made a number of forays to gather more material for her nest; the average time between leaving the nest hole and returning was about 2 minutes. In flight, she held on to the leaves with her legs and mandibles; some leaves were rolled. I didn't see the bee collecting material but, based on my pictures, at least one of the leaves looked like it came from *Spiraea douglasii*. Her aerial approach to the nest reminded me of an adept surfer working a wave.

The next afternoon, I watched the nest area for about 40 minutes. Initially, the bee was still returning with leaf material, but later she switched to bright yellow pollen. I saw her and other *Megachile* bees collecting pollen, mainly from false dandelions in the yard. (I have seen these bees on our blackberries, but their flowers were pretty much over by this time; I have never noticed them on our Shasta daisy flowers.) With the pollen load she was easy to pick out in the lawn, and appeared to enter her nest almost vertically.

I observed the nest area again on August 10 for about 40 minutes; she came back with leaf fragments on two trips, and some pale yellow pollen on others.

On August 12, working in the same area, she attracted the attention of a brood parasite, a cuckoo leafcutter bee (*Coelioxys* sp.), which at one point visited the nest area for a short period right after the female had left. I watched for just over 2 hours.

I photographed the bee in the nest area a number of times, but most of the pictures are out of focus—due to the bee's motion, and/or the limited depth of field available with my close-up lens. The bee with its leaf blends in with the nearby background.



A cuckoo leafcutter bee (*Coelioxys* sp.) flies in to visit the nest area right after the female departed. Photographed 12 August 2017 at 3:57 pm.

Butterfly BioBlitz at Oregon Caves *Ron Lyons*

Oregon Caves National Monument is a small area (~500 acres) in the mountains of Josephine County, a few miles east of Cave Junction. In 2015, the monument was expanded to include about 4000 acres transferred from the United States Forest Service. The expanded area, now called the Oregon Caves National Monument and Preserve, includes the Bigelow Lakes botanic area, which ranges in elevation from ~5850' at the lakes to 6391', the summit of Mount Elijah.

On Saturday July 1, 15 people from California and Oregon gathered to survey the Bigelow Lakes area for butterflies and day-flying moths. While it was pretty hot down in the valley at nearby Cave Junction, in the area of the survey it was sunny and quite pleasant, temperature-wise. After a short trip from the monument headquarters along a hilly, gravel road, everyone assembled in the small parking area near the lakes.

The participants, organized into 4 groups each led by an expert lepidopterist, hiked a short distance towards the lake basin together, before splitting up to survey the various ecozones present. The group I was in took the high loop trail which wound up through the woods and across the ridgeline overlooking the lakes to Mount Elijah before heading down across drier terrain and then back to the parking area, about 4 miles from start to finish. There was still some snow in sheltered areas near the crest.

The fauna was late this year, and some things that had been expected were not seen. However, a number of butterflies were found including Pale Tiger Swallowtail and Gray Marble, several blues, checkspots, Lorquin's Admiral, Western Meadow Fritillary, and California Tortoiseshell. The survey logs were turned in to the Park Service at the end of the day.

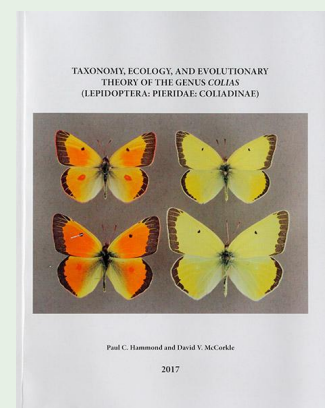


The 15 in the parking area near the trailhead all decked out and ready to go. Photo by Ron Lyons.

New Book on the Sulphur Butterflies

"Taxonomy, Ecology, and Evolutionary Theory of the genus *Colias* (Lepidoptera: Pieridae: Coliadinae)," a new book written by Pacific Northwest lepidopterists Paul C. Hammond and David V. McCorkle is now available. The book is 265 pages long with 6 figures and 12 color plates in a 8 1/2 by 11 inch format. It is only available at present in a soft-cover version for \$50.

To obtain a copy please contact Paul Hammond at 2435 E. Applegate, Philomath, OR 97370, or email him at <copablepharon@gmail.com>.



39th Northwest Lepidopterists' Workshop

When: Saturday and Sunday, 21 and 22 October 2017

Where: Cordley Hall, Oregon State University, Corvallis, Oregon

Hosts: Drs. Paul Hammond and David McCorkle

Sponsored by the Oregon State Arthropod Collection and the Oregon State Department of Integrative Biology

Saturday Program, 21 October

9:00 AM Register at Cordley Hall, room 2113 (east wing). No fee.

Workshop Preview: Arrange study specimens, etc. Cordley Hall room 1070 (west wing)

10:00 Welcome and announcements, Cordley Hall room 2113 (east wing)

Drs. David Maddison and Christopher Marshall

10:30 Activity reports: new state and county records, meeting reports, book announcements, etc.*

12:30 PM Group picture. Location to be announced

12:45 Lunch at local restaurant

2:00 Workshop session: Cordley Hall room 1070. (Preceded by a brief orientation to this year's groups if requested.)

Groups of emphasis for this year:

► Butterflies: Whites (Pieridae), Swallowtails (*Papilionidae*), and Green Hairstreaks (*Callophrys*)

► Moths: tiger moths (Arctiidae), *Catocala* and other Erebidæ

Also specimens of any Lepidoptera from recent field trips or of special interest.

Information exchange and specimen gift exchange is encouraged.

4:00–4:45 Oregon State Arthropod Collection Open House (Cordley 4082). **On display will be material from the butterfly collection of Dr. Bill Neill, from Portland, Oregon, received earlier this year.**

NOTE: Please contact Chris Marshall (<Christopher.marshall@oregonstate.edu>) if you want to use the collection before or after the meeting. The collection will not be available for research Friday, Saturday or Sunday.

5:00 Workshop session conclusion

5:30 Dinner at the Old Spaghetti Factory, 603 NW 2nd St., Corvallis

7:15 Evening session: Ag Life Science Building (ALS) room 4001

Brief planning session followed by the evening lecture:

keynote speakers: Robert Pyle and Paul Hammond

"A review of *Lycæna mariposa* and discovery of the Makah Copper"

9:30 Meeting recessed until Sunday morning

*Please bring your NW collecting records with you in written form. Dana Ross will put them into a master file and send any significant county records to Jon Shepard for inclusion in the Lepidopterists' Society Season Summary (include state, county, location and date, and if available, range & township or lat/long coordinates as well as elevation). Ann Potter is also soliciting records especially for Washington State.

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Program continued...

Sunday Program, 22 October

8:30 AM Workshop session resumed, Cordley Hall room 1070 (west wing)

10:00 Glenn Gorelick: “*Callophrys* – how many species?”

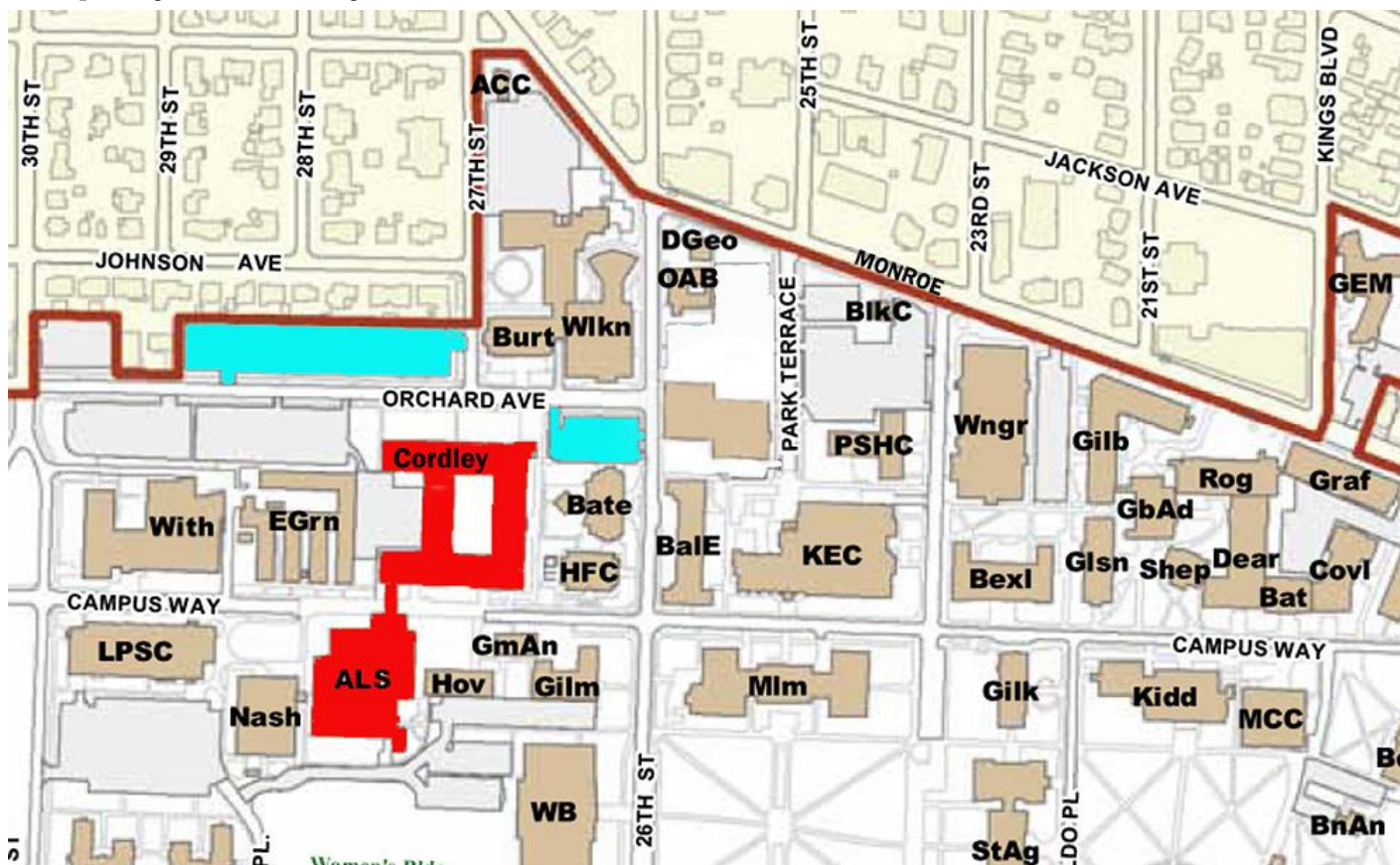
10:00 Field trip reports and other contributions. PowerPoint, etc. Cordley Hall room 2113 (east wing)

This is your opportunity to contribute a presentation on or related to Lepidoptera, e.g. field trip report, favorite images, etc. (Please notify Paul Hammond prior to this meeting of your equipment needs and if your presentation is likely to exceed 10 minutes.)

“12:00” Meeting concluded

The map below shows Cordley Hall and the ALS Building in red. Most of the meeting takes place in Cordley Hall. Enter this building through the weekend entrance—the entrance closest to the small parking lot colored in turquoise. The Saturday evening presentation in Ag 4001 is on the 4th floor of the ALS building, reached from the 3rd floor of Cordley Hall via a sky bridge.

The smaller of the two parking areas colored in turquoise is the one favored by participants as it is the one closest to the weekend entrance for Cordley Hall (access this lot via Orchard Ave). This smaller lot has some handicapped parking spots. Street parking is available along Orchard Ave.



Visit <<http://transportation.oregonstate.edu/parking/maps>> for a full campus map with the parking areas marked. You can download this map as a PDF, if desired.

The latest workshop information can be accessed at <<http://osac.oregonstate.edu/PNWLEPWorkshop>>.