



2011-2012 Officers

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Holiday Greetings Everyone!

Let's get together this week for our annual Christmas Party.

Ham & potatoes are what's in store.
We each bring a dish. You know there's room for more.
Bring your friends, your grandma too.
Don't be alone and don't be blue.
We gather at 6... Try to eat a little later.
Prepare something we've never had.
Perhaps a little alligator?
Don't be surprised if Emeril shows and shouts "Bam!".
I for one, am be glad Rocky's cooking the ham.

For further info, check out our website at www.wcgmc.org or call Pat Chapman at 607-868-4649.

Christmas exchange- \$10 rock-related item-

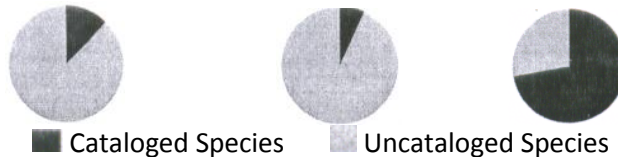
Label male or female according to your gender
Parents please bring a present for your youngster.

Silent Auction of Wheaton Rocks & Minerals so bring your \$!

Science Stats - UNDISCOVERED SPECIES

According to a new estimate, Earth may hold 8.7 million eukaryote species, only about 1.2 million of which have been cataloged.
Eukaryote group and total estimated species

Animals 7.8 million Fungi 611,000 Plants 298,000



Science News 10-8-11 Pr 4

[submitted by Don Schiltz.]



Dinosaur-era feathers trapped in ancient amber

Preserved plumage reveals pigment and fine details

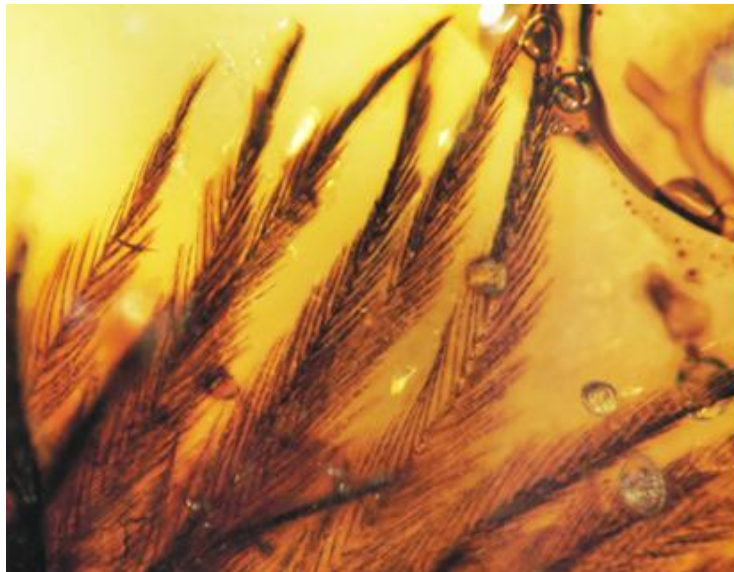
By Susan Millus *Science News* 10-8-11 pg 5-6

Bits of filaments and feathers trapped in amber 70-80 million years ago offer an unusually wide-ranging view of what late dinosaurs and early birds were wearing.

The 11 small amber-bound specimens found in Canada span an evolutionary range of last Cretaceous fashion. They include what appear to be unbranched filaments—which have been proposed as the first stage of feather evolution – to bits of sophisticated, corkscrewy barbs like those seen in the wettable feathers of modern diving birds. A team from the University of Alberta describes the finds in the Sept. 16 *Science*.

Such a range has shown up squashed in rock fossils, but “we’re seeing the same thing preserved in beautiful 3-D forms,” says coauthor Ryan McKellar. “It’s preserved down to the point of having pigment, which opens up the doorway of all sorts of weird and wonderful investigations.”

To find the 11 specimens, McKellar screened more than 4,000 pieces of amber, collected from the discards of a coal mining operation near the town of Grassy Lake in southern Alberta. McKellar speculates that back in the day, the area was a salt march along the edge of the great seaway that ran through what is today western North America.



A cluster of small barbs (shown), which once branched off a main feather upright, show remains of pigment but not interlocking hooks. The barbs might have come from the ends of the outermost layer of body feathers. Credit: Science/AAAS

This trove of amber offers independent evidence that ancient feathers and even simple filaments did indeed carry pigment, says evolutionary ornithologist Richard Prum of Yale University. “I was stunned to see the level of detail preserved,” he says.

How feathers evolved has roused heated debate in recent years, as paleontologists have reported finding compressed-rock fossils of dinosaurs with remnants of filaments or feathers. Well-preserved dinosaur fossils such as *Anchiornis* even show modern-looking feathers with small barbs branching from a central shaft. All but the most complicated asymmetrical flight feathers have shown up so far in dinosaurs. Prum notes.

Simple filaments or clusters of filaments, potential early stages of feather evolution that couldn’t have an animal off the ground, might have been of use for insulation or courtship displays. Fancier structures that weren’t flight-capable may have given an aerodynamic boost for animals rushing up steep slopes.

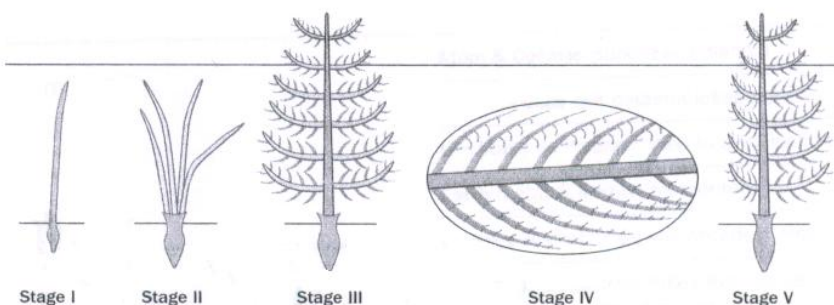
A few fragments of ancient feathers or protofeathers have been found in amber before, including bits from Lebanon, France and New Jersey. But none of the previous finds from dinosaur times have shown the diversity of the newly described assemblage, McKellar says.

He and his colleagues found not only what looks like an unbranched filament but also what has been proposed as a possible second stage in feather evolution, a cluster of filaments. Prum ranks the second-stage feathery bit as “really great” and convincingly identified, but admits to nagging reservations about how definitively the simple filament can be linked to a dinosaur or bird instead of some other source of debris snagged in amber. [continued on page 3]



Dinosaur-era feathers trapped in ancient amber [continued from page 2]

A separate, striking amber specimen shows a birdlike feather branching into secondary twigs, or barbules, with hooklets like those in modern bird feathers that zip together side-by-side barbules to make a tight, interlocked surface. Barbules on another specimen spiral at the base, a feature that allows a feather's elements to uncoil and pick up water. Such feathers on a modern waterbird ease diving by reducing trapped air, and they allow parents to soak their feathers in water and then ferry the drink back to chicks. (McKellar notes that researchers know a lot about details of modern bird feathers, thanks in large measure to the aviation industry's interest in identifying what species get sucked into airplane engines.)



Researchers suggest feathers evolved from single (stage I) then multiple (stage II) filaments that later developed a central shaft (stage III) covered in barbs and barbules that further differentiated and branched (stages IV and V). Scientists have found specimens in amber from stages I, II, IV and V of feather evolution.

miniature feather bits showed up, too.

Paleontologist Jakob Vinther of the University of Texas at Austin says he was pretty excited when he heard McKellar talk about the amber fossils. Vinther has explored microscopic color-generating features of fossil feathers and has even reposted signs if iridescent color. He tried to persuade McKellar to give up some small bits of his specimens for examination by scanning electron microscope. But McKellar, who averaged a feathery find every 360 specimens or so, says he's not ready to sacrifice any of the samples just yet.

Submitted by Don Schiltz



• 1,000-year-old Maya royal kitchen found

By Sandra Parra McClatchy Newspapers *The Leader* 11-20-11 Pg C1

Mexico City

Archaeologists on Thursday were still digesting this week's announcement of the discovery of a royal kitchen from the time of the Mayas in the Kabah archaeological area, in the southeastern Mexican state Yucatan.

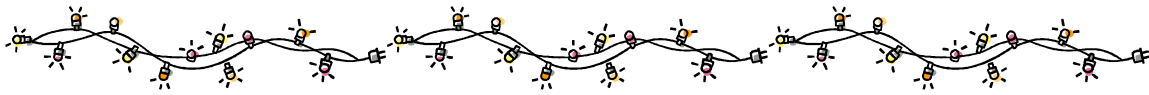
Mexico's National Institute of Anthropology and History, which announced the finding late Wednesday, said a large number of pots, stone artifacts and other materials were found in the area, along with evidence of fires.

The kitchen is believed to have been 40 meters wide, and researchers date it at 750-950 A.D., when the pre-Hispanic town of Kabah was in its prime. There is, however, evidence of a human presence in the area as early as 300 B.C., the institute said.

The kitchen is believed to have been part of a palace.

"We think large quantities of food were cooked in palaces, which is why utensils were larger, they were more of them and they had varied shapes for different uses," said archaeologist Lourdes Toscano.

Toscano said researchers were struck by the absence of animal bones at the site, which led them to believe that waste was taken elsewhere. Archaeologists plan to study the traces of organic matter they did find, however, to find out what food was eaten by the community.



SILICON DIOXIDE ~ SiO₂

Diamond Dan's *Mini-Miner Monthly* November 2010 pg. 5

"Silicon Dioxide" is the chemical formula for the mineral Quartz. (You know that, didn't you?!) This word search contains words that are related to quartz in one way or another. The words can go from left to right, right to left, top to bottom, bottom to top and diagonally.

C	I	T	R	I	N	E	M	O	M	W	S	C	Q	R
H	H	E	X	A	G	O	N	A	L	A	S	A	W	U
A	C	R	D	A	D	P	W	E	S	T	R	I	U	T
L	N	M	Y	Q	U	A	R	T	Z	C	R	R	I	I
C	M	O	M	S	D	L	S	H	I	H	E	N	L	L
E	W	T	A	L	O	Y	S	D	F	E	P	G	M	A
D	O	N	T	Y	H	P	G	L	A	S	S	O	I	T
O	D	I	S	T	G	H	R	Y	U	O	A	R	L	E
N	V	C	E	E	T	A	G	A	B	U	J	M	K	D
Y	T	M	V	H	O	L	L	Y	S	M	O	K	Y	F
C	A	V	E	N	T	U	R	I	N	E	F	E	S	U
O	W	Q	N	O	D	G	O	A	N	N	A	H	G	Y
L	D	E	D	N	A	B	S	C	E	P	T	E	R	F
D	H	Y	A	L	I	T	E	D	I	A	M	O	N	D
R	O	C	K	C	R	Y	S	T	A	L	D	A	N	P

Quartz, Amethyst, Smoky, Milky, Rose, Cairngorm, Rock Crystal, Citrine, Agate, Sand Seven, Glass, Watches, Hyalite, Opal, Chalcedony, Hexagonal, Rutilated, Chrysoprase, Jasper, Banded (a type of agate) Aventurine, Cold, Scepter

Some of these words may be new or unknown to you. Get a good book or go to the internet and look them up. The more you know, the more you will enjoy your mineral collection.



Wayne County Gem & Mineral Club, Inc.

Meetings held 2nd Friday of each month
Mini-Miner Program at 6:30 P.M.
Regular Program & meeting at 7:00 P.M. at
Park Presbyterian Church
Maple Court, Newark, NY 14513
WEBSITE: www.wcgmc.org

Organized: 1973 Incorporated: 1976
Objective: To stimulate interest in earth sciences,
collecting, classification of minerals, & in the art of
gem cutting.

Fiscal Year: Oct. 1st to Sept. 30th

Dues: Due Oct. 1st.

Juniors or students [18 yr.> w/o parent in club] \$10.00

Single Adult [over 18 years old] \$15.00

Family Membership [includes 2 adult votes & kids] \$20.00

Send dues to WCGMC

PO Box 4, Newark, NY 14513

Affiliated with the American Federation of
Mineralogical Societies [A.F.M.S.] www.amfed.org
The Eastern Federation of Mineralogical
& Lapidary Societies [EFMLS] www.amfed.org/efmls
The Eastern Field Trip Alliance [E.F.T.A.] www.efta.biz



**WCGMC -
Always looking For
New Places to Dig!**

Upcoming Events

December

9th WCGMC Christmas Party- Gather at 6. Eat at 6:30.
Please bring a dish to pass. Club will provide ham & potatoes.
If you'd like to participate in the gift exchange, wrap a rock-
related item and label it man or woman depending on your
gender. Shoot for the \$10 range.
Kid's parents should prepare a present for their child.
Silent auction of Wheaton Rocks & Minerals.



Fa la la la la la

First Class: Dated, Meetings & Time Valued

The Public is Always Welcomed



Wayne County Gem and Mineral Club
P.O. Box 4
Newark, New York 14513