



# THE AGATEER

The Newsletter of the Madison Gem and Mineral Club

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June 2008

## June 24 Meeting - North American Jaspers

The June 24 meeting of the Madison Gem and Mineral Club will feature Alan Vonderohe speaking about North American jaspers. Alan really needs no introduction – unless you have missed every meeting for the last couple of years. He always brings and shares his latest lapidary work, and it is always spectacular. As an introduction to his talk, a brief synopsis follows:

### North American Jaspers – Alan Vonderohe

Just what is a jasper? Let me tell you that after researching this question for quite some time, one thing is clear: there is great confusion in the lapidary and petrology communities as to what the answer might be. Most everyone agrees that jasper is silica and has quartz in it. But then, this is true for many of the other kinds of rocks on Earth. It is also true that most everyone agrees there are taxonomical relationships among chert, flint, chalcedony, agate, and jasper. But, that is about where the consensus ends. For purposes of writing this article, we will use the taxonomy published by the United States Geological Survey and definitions drawn from various other sources.

According to USGS, chert, flint, agate, and jasper are all forms of chalcedony. Chert and flint originate primarily in sedimentary rocks and agate and jasper originate

primarily in volcanic rocks (although they are not, themselves, volcanic). Chalcedony (the taxonomic parent) is a cryptocrystalline form of quartz, with some definitions calling for a continued on P. 2

### Next Meeting:

**Tuesday, June 24, 7:00 PM**

**AB20 Weeks Hall**

**UW Department of Geology and Geophysics  
1215 West Dayton Street**

### June 21 Field Trip:

#### Eagle Cave

Ken and Megan Woodford have put together the following field trip to Eagle Cave on Saturday, June 21. We will plan to meet at the US Bank Bldg. at Old Sauk Road and The Beltline at 8:30 am and depart at 8:45 am.

**Time:** 8:30am Leave by 8:45 am.

**Place:** US Bank Bldg...Old Sauk and Beltline

**Event:** Guided Tour thru Eagle Cave Wis. largest Onyx Cave

**Tour:** The tour last approx. 1 hr and cave temperature is 52 degrees all yr long, so dress appropriately

See May Agateer for directions to the cave, or go to:

<http://www.eaglecave.net/directions.htm>

Any questions, please call Ken 830-3500, ext 3529.

## 2008 Member Competition

All members are urged to bring specimens for the monthly competition.

**June - organic material (amber, ivory, shell, pearl, bone etc)**

July - any reddish material (jasper, cinnabar, coral etc)

August – no competition

Questions may be directed to Metje Butler, Education Chairperson, at 244-3659.

### Wonderful World of Agates July 10-13 Menasha, WI

The largest agates-only event ever to be held in the United States is rapidly approaching. And best of all, it is right here in Wisconsin!

Registration is \$75.

For more information see:

[www.agateshow2008.com](http://www.agateshow2008.com)

### Calendar

June 21 Eagle Cave field trip

June 24 Monthly meeting - Madison Gem and Mineral Club  
North American Jasper – Alan Vonderohe

July 10-13 The Wonderful World of Agates – Menasha

July 22 Monthly meeting – Madison Gem and Mineral Club  
Members Show and Tell

August 24 Club picnic potluck, 11:30 a.m. Festge Park,  
Cross Plains

### Jasper continued

smaller percentage of moganite. Agates and jaspers typically form from siliceous solutions accumulated in voids in volcanic material, often rhyolite or basalt. The voids in the surrounding material sometimes arise from trapped volcanic gases (e.g. in rhyolite) or from formation fissures (e.g. in basalt). Thus, agates and jaspers are typically found as nodules of varying size, in veins or seams of varying thickness, or as more irregular structures. Mineral impurities in chalcedony give rise to the wide variety of colors found in both agates and jaspers. Depositional, flow, and mechanical processes give rise to their sometimes incredible patterns.

So, if agates and jaspers are so closely related, what is the difference between them? Here we go with more confusion amongst us. The most consistently used distinction is that agates are more translucent and jaspers are more opaque. However, some very translucent materials are referred to as "jaspers" and some very opaque materials are referred to as "agates". Worse yet, some rhyolites (igneous) are called "jaspers" (which some purists classify as sedimentary). In any case, in the midst of all this chaos, what follows is an overview of some North American jaspers.

Although jaspers can be found across much of the continent, the most sought after materials are found in Mexico and the western United States, most notably eastern Oregon and southwestern Idaho. Some beautiful brecciated jaspers are found in Wyoming and California. Stefonite, from Wyoming, is a light brown or tan brecciated jasper with the fractures healed by blue agate. It cuts spectacular cabochons. Stone Canyon Jasper, found in northern California, has a base material that can be brownish yellow, red, maroon, or black. The cementing material is usually white. Stone Canyon is not overly hard and takes a glossy polish. A brilliantly red brecciated jasper is also found in northern California. This material nearly glows when wet, but when polished it takes a dull matte finish.

Thunder eggs are often thought of as containing agate, but many contain mixtures of agate and jasper (and sometimes common opal), while some contain only jasper. White Fir Springs Thunder Eggs, found in north central Oregon, are renowned for their cream, tan, yellow, and maroon jasper.

Biggs and Deschutes Jaspers are closely-related silicified volcanic muds that can contain astonishing patterns of brown, white, blue, and purple. Their patterns often resemble the rolling hills of north central Oregon where these two jaspers are found. Biggs was discovered in the early 1960's as a highway was being constructed along the Columbia River Gorge near Biggs Junction. Since, then a number of other deposits have been found and are still

being mined. A sole deposit of Deschutes was found, near the confluence of the Deschutes and Columbia Rivers, soon after the Biggs discovery. Deschutes was mined by a single person until the deposit was exhausted in the 1970s. This highly-sought-after jasper is distinguished from Biggs by its more detailed, more complex, and more angular (nearly serrated) patterns. High-grade Biggs and Deschutes have a hardness of 7+ and take mirror polishes.

There are five North American rocks that are sometimes referred to as "the fine jaspers" because of their great hardness, the porcelain finishes taken by them, and, particularly, for their propensity for containing successively-embedded orbicular patterns. These jaspers are some of the most sought-after in the world. Royal Imperial Jasper is found in one location northwest of Mexico City, near Zacatecas. Its cousin, Imperial Jasper, is found much more extensively in Mexico and can also be found in the United States, notably Utah. Royal Imperial is found in chalk-encrusted nodules ranging from a few centimeters to two feet or more in diameter. It is characterized by concentric or overlapping orbicular patterns of red, pink, green, purple, blue, brown, tan, or gray. The orbs sometimes "float" in a surrounding pool of green chalcedony. Royal Imperial can contain banded patterns, that appear to overlay the orbs, or healed fissures with intrusions that penetrate the orbs. The central orbs are sometimes brecciated, with the fractures healed by clear druzy.

The other four fine jaspers are found in southeast Oregon and southwest Idaho. Blue Mountain Jasper is found in a single deposit on Blue Mountain near the Oregon-Nevada border. It is not clear to me whether the jasper is named for the mountain or the mountain is named for the jasper. This is because, although the jasper can include many different colors and patterns, it is perhaps best known for its overlapping deep blue orbs. Blue Mountain is found in nodules and has been mined by a single person since its discovery. The exact location of the deposit is known to only a few individuals.

Willow Creek jasper is found in a single deposit a few miles northwest of Boise, Idaho. This jasper is renowned for its beautiful pastel colors and patterns of billows and orbs. Colors include greens, browns, oranges, pinks, lavender, and white. Although Willow Creek patterns are most often soft and hushed, like its colors, they can include wildly jagged and irregular features. Flow and fracture patterns that clearly show mixing of colors and materials over time can often be seen. Willow Creek is found in nodules ranging in size up to a hundred pounds or more. Mining of the material is difficult and the mine is not open to the public.

Bruneau Canyon Jasper is found on two or three remote private claims on one side of the Bruneau River Canyon, to the southeast of Boise, Idaho. Bruneau is well known for its characteristic cream-colored, concentric or overlapping orbs on a background of reddish brown. However, Bruneau can also be found in black, green, and white mixes. It is typically found in nodules, but some slabs I have seen appear to have come from seams.

Morrisonite (sometimes referred to as "King of the Jaspers") is found on five adjacent and / or overlapping claims, halfway up the east side of the Owyhee River Canyon, northwest of Jordan Valley, Oregon. The Owyhee River Canyon is rich with deposits of well-known jaspers and agates. In fact, the Wild Horse, Owyhee, and Rocky Butte Jasper mines are all within three miles of one another in this area. Morrisonite is the most sought-after of them all. It is found primarily in seams and can contain almost any mix of colors, with patterns ranging from soft, consistent gradations, to overlapping billows and orbs, to unexplainable bolts of lightning mixed up with what looks like fractured and pieced together pictures of landscapes, seascapes, storms, people, animals, and places other than Planet Earth. This material is so beautiful, astonishing, and enticing that many myths and much lore have arisen around it. For example, it is true that the jasper is named after Jim Morrison, but it is not true that this is the same Jim Morrison who founded the Doors and wrote "Light My Fire". Both of these Jim Morrisons were into beautiful hard rock, but only one of them had anything to do with lapidary. It is also true that no Morrisonite has been mined since 1996, but this is not because it is mined out. No parking lot has been built over the deposit. And there is no prohibition to mining of Morrisonite because the Owyhee River has been designated as wild and scenic. If you want to know why Morrisonite has not been mined since 1996, come to the membership meeting at 7:00pm in Weeks Hall on Tuesday, June 24.

*Alan Vonderohe*

## **New Member**

We welcome our newest club member:

**Craig Annen**

The Agateer is the official publication of the Madison Gem and Mineral Club. It is published monthly, and mailed as a benefit of membership to all Madison Gem and Mineral Club members.

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Membership is open to all individuals, and applications for membership will be accepted upon payment of annual dues, which are \$12.00 for adults (18 and older), \$5.00 for junior members (ages 6-17), and \$16.00 for families.

**Visit the official website of the Madison Gem and Mineral Club at [www.madison.com/communities/madisonrockclub/contact.php](http://www.madison.com/communities/madisonrockclub/contact.php) for more information**

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