

TAR HEEL



ROCKHOUND

JULY 2026

Catawba Valley Gem & Mineral Club, Inc.

2026 Officers and Committees

President:	Ben Houston 704-284-2565	Education:	George Max 828-328-9107
Vice President:	Joan Glover 828-446-7633	Show Chairman:	Amanda Redfern 704-450-2273
Treasurer:	Terry Russell 828-303-1563	Scholarship:	George Max 828-328-9107
Secretary:	Dean Russell 828-303-1448	Field Trip:	Cindy Wechter 828-514-2142
Editor:	Tracie Jeffries 828-430-1341		

Club Address: PO Box 2521, Hickory NC 28603-2521
Regular Meetings: Second Tuesday, 7:00 PM
St. Luke's United Methodist Church 52 16th Avenue NW, Hickory NC 28601
In the Family Life Center
Annual Dues: Family, \$25, Individual, \$18

The purpose of the Club is to increase the individual's knowledge of the earth sciences and to aid in the development of lapidary and related arts and skills; to promote fellowship and exchange of ideas; to hold exhibitions, contests, lectures and demonstrations for educational purposes; to help interest more people in the gem and mineral hobby; and to capture and preserve the beauty of nature, the arts, and the works of man.

CATAWBA VALLEY GEM AND MINERAL CLUB, INC.

Web Master: Mike Streeter

<http://www.cvgmc.com>

Editor: Tracie Jeffries,
3118 Barus Street, Valdese, NC
botanynerd89@gmail.com

CONTENT

President's Note.....	2
June Minutes	2 - 3
July Program:	3
MAJOR ANNOUNCEMENT	3
Geology Made Easy: Mineral Crystal Habits.....	4 - 17
Field Trip Opportunities	17 - 18
What's Happening in Our Area	19

PRESIDENT'S NOTE

Hello Club Members,

I look forward to our new meeting place this month. This will be a great move to accommodate our growing group for the future. While it is too hot to go out rock hounding, it is a great time to clean and organize collections. Perhaps even planning out for next year's display cases!

Thanks,

Ben

CVGMC MINUTES FOR JUNE, 2026

The June 9, 2026 meeting of the CVGMC was called to order by President Ben H. at 7:05 PM.

Program: 'Earth's Box of Chocolates'. Joan G. will share and discuss a recently donated collection from Faw Brittain.

Minutes: A motion was made by Harry P and seconded by Tracie J. to accept the April 14, 2026 minutes. Motion was passed by the Club membership. The club held its annual picnic in May, so there are no minutes for May.

Treasurer Report: The Treasurer was on vacation so no report was given.

Education Committee: Tracie J. did a program on fossils at the Maiden Library on June 4th. It was well attended. All the children received some fossils donated by the Aultman's.

Show Committee: The Show Committee chair was on vacation, so no report was given.

Field Trip Report:

1. Cindy W. the Field Trip Chair was on vacation.
2. Jeff S. invited the club to join the Winston club on a field trip in July. (Information is later in the newsletter)

3. Cindy wants to hear from club members if they are interested in out of state trips. For example, a trip to New York to look for Herkimer Diamonds.

Old Business: None

New Business: Harry Polly made a motion to make a donation to the Eastern Federation in memory of Wayne Bowman. The motion was seconded by Jimmy S. The club voted in favor of the motion.

Announcements:

1. Don't forget we will start meeting at our new location, St. Luke's United Methodist Church, in July.
2. June 20th the Sawtooth Center in Winston Salem will host an open house for lapidary arts. If you are interested in faceting or cabbing this is a great opportunity to observe, ask questions, and give it a try!

Closing of Business: The meeting was adjourned at 7:48 PM

Respectfully Submitted,
Tracie Jeffries

JULY PROGRAM

Member Jeff S. will give a presentation on "**Collecting at Diamond Hill**". He will also have specimens for members to look at. Remember, this is a potential future field trip for the club.

MAJOR ANNOUNCEMENT

Please note that the club meeting place will change **starting in July**. We will meet at the **same time**, the 2nd Tuesday of each month at 7:00 PM but at a **different location**. The new meeting place will be at:

St. Luke's United Methodist Church
52 16th Avenue NW, Hickory NC 28601

Family Life Center

Parking lot entrance across from Viewmont Elementary School

GEOLOGY MADE SIMPLE: MINERAL GROWTH HABITS

By T Jeffries

First, let's review and clarify some terminology. A crystal is a solid with a defined and repeating pattern/arrangement of atoms. This repeating pattern is the crystal lattice. The crystal lattice dictates the mineral's external structure and physical properties (See Image 1).

Crystal form describes the geometric shape of a mineral based on the arrangement of its faces (planar surfaces) (See Image 2). Crystal forms can be further organized into thirty-two classes and six crystal systems: hexagonal, isometric (cubic), monoclinic, orthorhombic, triclinic, and trigonal. Crystal forms and their classification are very specific, involving geometry, symmetry, and internal lattice.

Crystal or mineral habit describes the general outer shape or appearance of a crystal or cluster of crystals. A mineral's growth habit depends upon many factors, such as the chemical composition of the mineral, the presence of impurities, temperature, pressure, and available room for crystal growth. The crystal/growth habit is usually characteristic of a mineral and can be useful in identification (See Image 2). However, some minerals, such as Hematite, have many variations that may exhibit different growth habits. Just remember that crystal habit is a general description and may be open to interpretation.

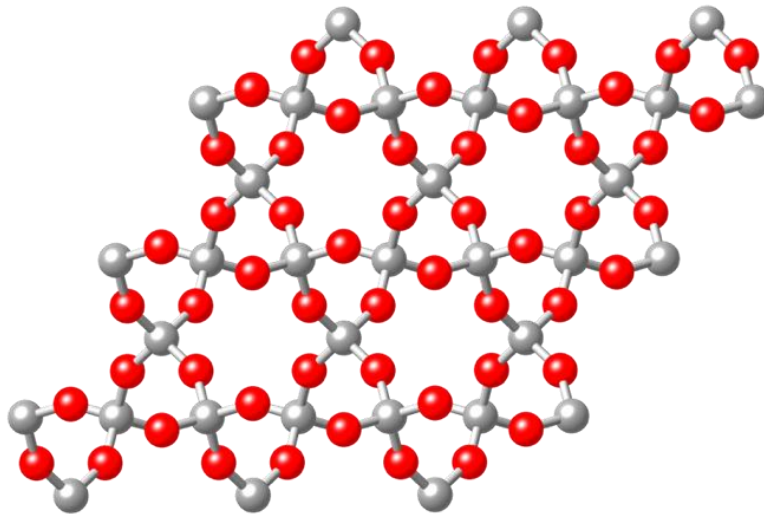


IMAGE 1: The above is an example of the atomic structure or lattice of Beta quartz. Note the highly ordered and repeating units of interlocking silica dioxide molecules. By Ben Mills via Wikimedia Commons



IMAGE 2 : The picture on the left shows a beautiful specimen of Pyrite with cubic crystals. Note the smooth planar surfaces (crystal faces) and well-defined geometric shapes. The image on the right is also Pyrite. This is a Pyrite concretion from Sparta, Illinois, with outward-radiating crystals. This form of Pyrite represents a mineral crystal habit. Left - <https://www.jjharrison.com.au/>
Right - Photo by John St John

There are many types of mineral growth habits. Some terms describe individual crystals, whereas others describe clusters or aggregations of crystals. While terms and definitions vary slightly from source to source, they are still useful in describing and identifying minerals. This article will describe some of the more common terms.

ELONGATED HABITS

Acicular

The word 'acicular' is derived from the Latin term '*acicula*', meaning 'little needles'. Acicular crystals are long, thin, and often pointed (See Image 3). Examples of minerals with acicular crystals include: Rutile, Millerite, Natrolite, and Mesolite.

Capillary, Filiform, and Fibrous

The terms capillary and filiform are often used interchangeably; both refer to long, extremely thin individual crystals. Filiform crystals have a hair or thread-like appearance (See Image 4). Fibrous is more correctly used to describe an aggregate of filiform/ capillary crystals. Minerals that may exhibit a filiform/fibrous habit include: Tremolite (Asbestos), Jamesonite, and Millerite. Filiform/capillary crystals are finer than acicular crystals, but at what point is a crystal

considered too thick to be filiform? Remember, due to natural variation, there is often a continuum of crystal length, thickness, and size.



IMAGE 3: A nice specimen of Natrolite. The individual crystal habit can be described as acicular. The grouping of the crystals demonstrates a radial habit. In a radiating habit the cluster/aggregate of crystals grow outward from a central point.

<https://commons.wikimedia.org/wiki/File:Natroliteinde1.jpg>



IMAGE 4: The Millerite, on the left, is best described as filiform. The individual crystals are much finer/thinner compared to acicular crystals. This sample was collected near Harrodsburg, Indiana. The Silver, on the right, has individual wire-like strands that illustrate a filiform growth habit. The aggregate of strands is also a great example of a fibrous growth habit.

Millerite photo by James St. John, Silver photo by Rob Lavinsky, iRocks.com – CC-BY-SA-3.0

Prismatic, Columnar, Stalactitic

The prismatic habit is one of the most common and easily recognized habits. Prismatic crystals are elongated, slender crystals with flat, parallel faces. The crystals tend to be fairly uniform in thickness along their length and may have distinct terminations (See Image 5). They are much thicker than acicular crystals (think of a pencil). Examples of prismatic crystals include Beryl, Quartz, Tourmaline, Hornblende, Apatite, and Topaz.

While prismatic is usually used to describe individual crystals, columnar is generally used for an aggregate of prismatic or other elongated crystals (See Image 5). A columnar habit implies a stout structure made of many parallel, elongated crystals. The giant Selenite crystals in the "Cave of the Crystals" in Chihuahua, Mexico, are a great example of columnar growth.



IMAGE 5: This is a beautiful cluster of Beryl crystals. Note the prismatic growth habit, long slender crystals with sharply defined faces. These three clustered crystals could also be described as having a columnar growth habit. <https://www.etsy.com/shop/SourcefieldShop>

Stalactitic is a habit name for minerals that grow similarly to stalactites and stalagmites (See Image 6). This habit type obviously needs space for growth, such as a cave system or hollow geode. Like stalactites, they are elongated, usually broader at the base, and often hollow. When cut in cross-section, many display concentric rings similar to tree growth rings. Examples of minerals that may have this growth habit include Aragonite, Calcite, Chalcedony, Chrysocolla, Calcite, Goethite, Malachite, Quartz, and Rhodochrosite.



IMAGE 6: A beautiful orange Calcite specimen with Stalactitic growth. This specimen was collected in Carter County, Montana.

https://commons.wikimedia.org/wiki/File:Calcite_7.jpg

Bladed

Minerals with a bladed crystal habit have crystals that are longer than they are wide, and wider than they are thick, similar to a knife blade. They may occur as single crystals or grouped in various masses such as columns or radiating clusters. Examples include Actinolite, Gypsum, Kyanite, and Stibnite.

ROUNDED – SPHERICAL HABITS

Colloform, Globular, Reniform, Botryoidal, and Mammillary (Mamillary)

Colloform is a generic term for rounded mineral growth habits such as globular, reniform, botryoidal, and mammillary, regardless of size. Globular is the term for radiating individual crystals that form spherical or hemispherical masses (See Image 7). In a globular habit, the individual masses are more defined and distinct compared to the interlocking masses seen in reniform, botryoidal, and mammillary habits.

The remaining terms, reniform, botryoidal, and mammillary, are often used interchangeably. All three terms refer to rounded, interconnecting aggregates of crystals. There are differences, but to the average rockhound, distinguishing between the terms can be confusing and difficult. The three habits often blend along a continuum with respect to the size of the globules, degree of interconnection, and roundness.

Mammillary means 'breast-like'. Mammillary is used when describing large, low, smooth, rounded mounds that are interconnected (See Image 8).

The term 'botryoidal' is derived from the Greek '*botrys*', which means 'bunch of grapes'. Strictly speaking, botryoidal masses are smaller and more distinct (more ball-like)(See Image 9) than mammillary aggregates.

Reniform is derived from '*renis*', the Latin word for 'kidney-shaped'. Reniform is very similar to botryoidal, but the former tends to have larger and fewer lobes (See Image 10).



IMAGE 7: Beautiful globular aggregates of Calcite crystals on Quartz. This specimen is from Guanajuto, Mexico. Note that the individual globules are well defined and distinct.

https://commons.wikimedia.org/wiki/File:Globular_calcite_on_quartz.jpg



IMAGE 8: The Hematite sample above exhibits a classic mammillary growth habit. Also, notice the radiating crystal fibers within the broken globule at the bottom right.

https://commons.wikimedia.org/w/index.php?title=User:Géry_PARENT&action=edit&redlink=1



IMAGE 9: This specimen of Purple Grape Agate demonstrates a classic botryoidal growth habit. Note the smallish, rounded, ball-like masses.
https://commons.wikimedia.org/wiki/User:JJ_Harrison



IMAGE 10: The Smithsonite sample above exhibits a reniform crystal habit.

<https://www.flickr.com/photos/120391619@N03/>

Most minerals with colloform growth habits tend to have radiating fibrous or acicular crystals. Examples would include Chalcedony, Chrysocolla, Hematite, Malachite, Smithsonite, and Sphalerite.

Oolitic and Pisolitic

Oolitic and pisolitic habits are similar to each other and mainly differ in size. They are both aggregates of rounded mineral crystals. Oolites are less than four mm in diameter while pisolites are greater than four mm (approximately pea sized or larger). Examples of oolitic and pisolitic minerals include Calcite, Aragonite, Hematite, Chert, Bauxite, Limonite, and Siderite (See Image 11).



IMAGE 11: On the left is an example of oolitic Chert from Big Hollow, University Park, Pennsylvania. On the right is a polished slab of pisolitic Bauxite ore. Note that the pisolites vary in size and some of the smaller ones could be described as oolites.

Oolitic Chert Photo by James St. John, Pisolitic bauxite

ore https://www.etsy.com/shop/MineraliumStore?ref=nla_listing_details

BRANCHING HABITS

Arborescent, Dendritic

The Merriam-Webster dictionary defines arborescent as “resembling a tree in properties, growth, structure, or appearance” and dendritic as “branching like a tree “ (See Image 12). Many resources try to distinguish between dendritic and arborescent, but the supposed differences are confusing and at times contradictory. Therefore, this article will treat them as the same. Minerals with this habit often form in volcanic or hydrothermal environments, and examples include manganese oxides such as Pyrolusite, and native metals such as Silver, Gold, and Copper. Dendritic/arborescent growth habits are very plant-like in appearance and sometimes mistaken for plant fossils.



IMAGE 12: On the left is an excellent example of dendritic growth habit. This is Pyrolusite on Limestone. Note the extensive branching pattern all along the growth. This sample was collected from Bavaria, Germany. To a novice this may look like a plant fossil. The Gold sample on the right is also described as having a dendritic growth habit.

https://commons.wikimedia.org/wiki/File:Psilomelane-pyrolusite_7100.4900.jpg, The Gold photo is by John St. John

PLATY/LAYERED HABITS

Foliated vs Micaceous vs Lamellar

A foliated habit is described as overlapping flakes that can be easily separated. These minerals often have a wavy texture (See Image 13). Examples include Talc and Graphite.

Micaceous habits have overlapping, thin, sheet-like layers that easily peel off into individual sheets (See Image 14). Compared to foliated, micaceous sheets are flat and more clearly defined. Classic examples of micaceous habits include Biotite and Muscovite Mica.

The lamellar habit is very similar to micaceous, but the layers are thicker than individual mica sheets (See Image 15). Examples of minerals with a lamellar habit include Hematite and Molybdenite.

The differences in the habits above may be hard for some to distinguish. But don't worry, many sources treat foliated, micaceous, and lamellar as synonymous.



IMAGE 13: A nice Talc specimen from Argonaut Quarry, Vermont. Notice, that the layers are more like large overlapping flakes rather than distinct layered sheets.

<https://www.flickr.com/photos/30486689@N08/3561500792/>

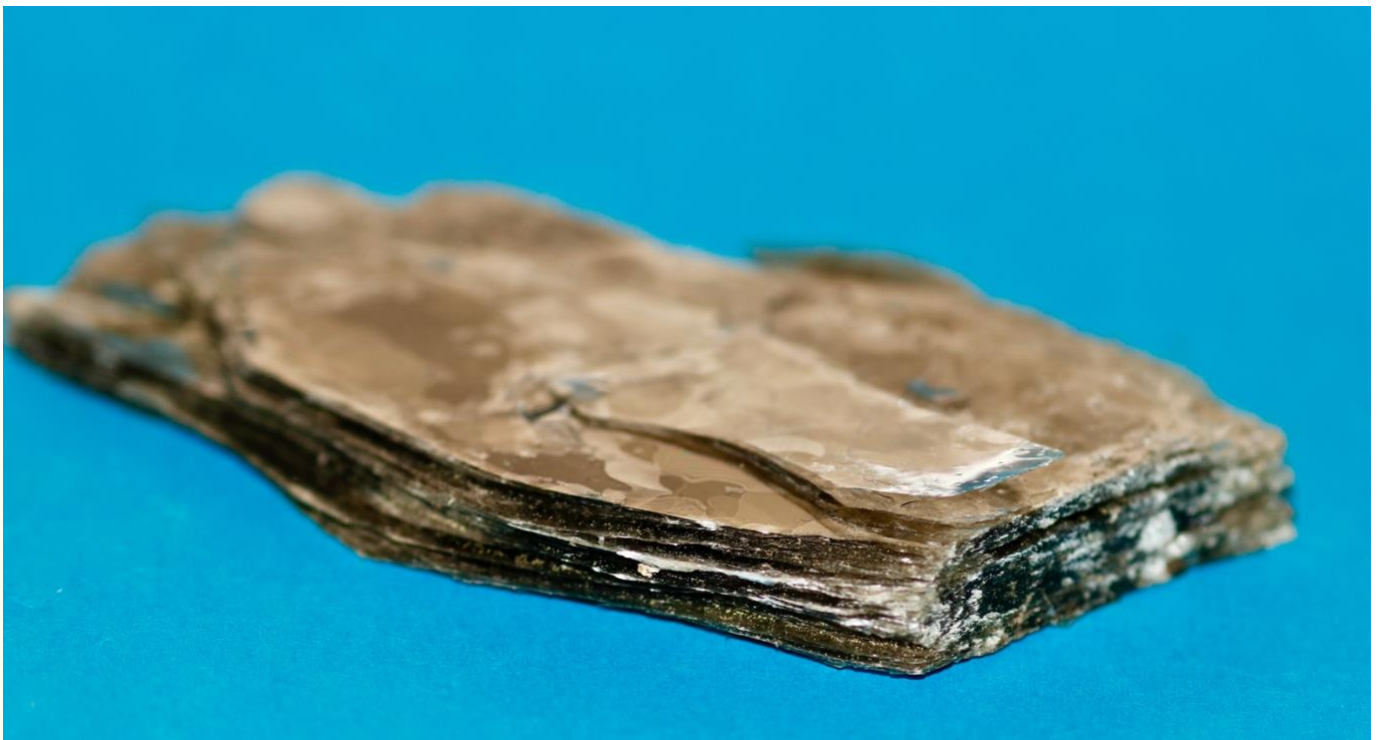


IMAGE 14: Here is a nice book of Muscovite Mica. Mica is often referred to as a 'book' because the numerous, thin, flat layers are similar to the pages of a book. Photo by T Jeffries



IMAGE 15: How would you describe this unique piece of quartz from Catawba Co., N.C. ? It is obviously composed of thin layers of quartz. It is not flaky like foliated and the layers are too thick to be micaceous. Does it represent a lamellar habit? Photo by T Jeffries

OTHER MISCELLANEOUS HABITS

Tabular

Minerals that reflect a tabular habit are wider and longer than they are thick (See Image 16). They may also be referred to as platy or plate-like. Platy can also be used to describe foliated habits. Examples include, Barite, Corundum, Feldspar, Topaz, and Vanadinite.



IMAGE 16: The hexagonal Corundum crystal on the right can also be described as having a tabular growth habit. The crystal is wider and longer than it is thick.
<https://www.flickr.com/photos/orbitaljoe/38724607>

Druzy

Druzy (Druse, Drusy) is a mineral habit in which many small crystals cover a surface (See Image 17). Druzy is derived from the German word druse and means 'cluster of crystals'. Druzy coatings are usually found in geodes, vugs, and rock fractures. The druzy mineral habit is very common in Quartz but can also be found in Azurite, Calcite, Chalcedony, Chrysocolla, Malachite, and many other minerals.



IMAGE 17: The specimen above is covered in druzy Quartz. The Quartz crystals are so small and numerous it is have to distinguish individual crystals. Photo by T Jeffries

Massive

Massive is a term used to describe mineral specimens with no noticeable crystal habit (See Image 18). The crystals are too small to be seen/distinguished with the naked eye. Almost every mineral has a massive form.



IMAGE 18: The Quartz specimen above is a great example of massive Quartz. Note that there are no visible crystals structures. Photo by T Jeffries

This article covered a large majority of the mineral crystal habits. Hopefully, the reader feels more comfortable recognizing and describing mineral crystal habits.

FIELD TRIP OPPORTUNITIES

Our new field trip coordinator, Cindy W. is doing a great job. There are several trips the club may do depending on interest. **If you are interested in any of the trips below or need more information, please contact Cindy at 828-514-2142.** Cindy also wants to hear from club members if they are interested in out of state trips. For example, a trip to New York to look for Herkimer Diamonds.

Always check your e-mail for the monthly DMC Field Trip.

July 18 - Jeff S. has kindly invited our club to join the Forsythe Club on a field trip **Saturday, July 18th. The trip** will be a guided tour of the NC Minerals at the state museum (**NC Museum of Natural Sciences, 11 West Jones Street, Raleigh**). We'll see the minerals on display, followed by a visit to the storage cabinets on the lower floor (not open to the public!) to see other minerals not on display. We'll meet at the courtyard entrance of the museum, ***promptly at 10AM***, and will be led by the curator(s) of the collection (Chris Tacker and Allison Dombrowski).. There is no charge for this trip. It should be a roughly 2 hour tour, after which members may stay for the remainder of the day to see the other museum exhibits.

Aug 1 - Emerald Village (Spruce Pine) Guided Black Light Tour 9:15 PM

Come early and visit the NC Mining Museum and/or take the Mine Tour (all daytime mine activities & tours close at 6 PM).

- Guided Black Light Tour - \$22
- NC Mining Museum - self guided underground mine tour \$15 (ages 13+)
- Discovery Mill Building - 12 levels of exhibits \$8

TBA – Trip to the Enigma Mine in the fall

TBA – Information on the annual Kentucky trip

WHAT'S HAPPENING IN OUR AREA

WHAT	WHEN	WHERE
G&LW Franklin Gem & Mineral Show -	July 23 – 26 Th – Sat: 10AM - 6PM Sun :10AM - 3PM	Watauga Festival Center 6295 Sylva Rd Show Franklin , NC 28734
Franklin Chamber Gem & Mineral Show -	July 24 – 26 Fri/Sat: 10AM - 6PM Sun: 10AM - 4PM	Robert C Carpenter Community Bldg 1288 Georgia Rd Franklin , NC
Grassy Creek Mineral and Gem Show -	July 26 – Aug. 2 Daily: 10AM - 6PM	Parkway Fire and Rescue Event Grounds 136 Majestic View Spruce Pine , NC 2877
NC Mineral & Gem Festival	July 30 – Aug. 2 Thurs-Sat: 10AM – 6PM Sun 12:30AM - 5PM	Cross Street Center 31 Cross St Spruce Pine, NC

Tar Heel Rockhound
Official Publication of
Catawba Valley Gem and
Mineral Club, Inc.
Volume 56 Number 7

Club Meetings
2nd Tuesday of Month, 7:00PM
St Luke's United Methodist Church
52 16th Avenue NW, Hickory NC 28601
In the Family Life Center

Tar Heel Rockhound
Tracie Jeffries Editor
PO BOX 2521
Hickory NC 28603-2521
<http://www.cvgmc.com/>

