



Colorado Mineral Society

Mineral Minutes



Volume 78, Issue 2

February 2014

February Speaker Presentation

"Photographing Minerals"

by Richard J. Cook

The Colorado Mineral Society (CMS) is pleased to announce the February 7, 2014 meeting presentation will be "Photographing Minerals" by Richard J. Cook.

Abstract:

In recent years the field of macro photography (photographing small things) has undergone a revolution with the introduction of a technique called "focus stacking." Previously, photography of small object was plagued by depth-of-field problems -- only a small portion of the object could be in sharp focus when shooting at moderate to high magnification. In this talk, Dr. Cook will describe how focus stacking can produce an image of even very small objects, such as micromount minerals, that is in sharp focus everywhere. He will also demonstrate focus-stacking photography using a digital camera, and a laptop computer. Focus stacking is now the method of choice for almost all mineral photography.

President's Message

by Bruce G. Sales

Greetings to everyone, the National Western Stock Show has come and gone and left its weather behind. I hope that everyone has stayed warm and dry. I want to thank all of the members who helped set up and tear down the hall at the January 3rd meeting, so that we could seat everyone.

At the February 7th CMS meeting, Paul and Cindy Hatfield were scheduled to continue displaying minerals from their collection; however, we have to postpone the Hatfield's display until the March 7th meeting. Leslie Osgood has agreed to swap months with Paul and Cindy and she is bringing her collection of carved mineral animals. **Everyone who has carved mineral animals is encouraged to bring them and fill the second display case.**

At the April 4th CMS meeting, we will have "something from Paul's case and something from Bruce's case (maybe from his Jeep)", most of which is from Colorado. At the May 2nd meeting, there will not be a display as this meeting is the field trip meeting and there will not be room for a display case.

The CMS meeting on February 7th will follow a schedule similar to the October 4, 2013 meeting; we will have our guest speaker before the break and the general meeting after the break. Dr. Richard Cook is driving to Lakewood from Colorado Springs to present a talk on photographing minerals. In order to allow him to return to his home before midnight, **we will start the meeting at 7:30pm sharp.**

I would like to thank Star Edwards for volunteering to become the Hospitality Chairperson. In addition, Terry Beh and Howie Houk have volunteered to help Gary Rowe with field trip coordination. Our new display committee consisting of Harold Taylor, Leslie Sebol, and Dan Wray have met. We still need a Grab Bags Chair to replace Dale Block who wants to step down after many years of service and train a new volunteer to take over. We also want to put together a committee of grab bag "stuffers". This society runs on the strength of our volunteers!

INSIDE THIS ISSUE

- 1 President's Message
- 3 Club News
- 4 Junior Rockhound Program
- 5 CMS Auction News
- 6 2013 CSM Geology Museum Musings
- 7 RMFMS and AFMS News
- 8 Crystallography 101 - Tetragonal System
- 11 Meeting Notes

COLORADO MINERAL SOCIETY OFFICERS 2014

President: Bruce G. Sales
First VP-Programs: Gary Rowe
Second VP-Education: Debbie Kalscheur
Secretary: Sandra Gonzales
Treasurer: Eva Siemonsma

Appointed Board Members - Committee Chairpersons

Annual Auction: Richard Nelson Family
Door Prizes-Guests: Jessica Blackburn and Donna Roberts
Backup Door Prizes-Guests: **OPEN**
Library: Kevin Atwater
Exhibits Committee: Harold Taylor, Leslie Sebol, Dan Wray
Membership: Cara Reynolds
Field Trip Leader: Gary Rowe
Nominations: Daryl Lamb
Grab Bags: **OPEN**
Editor: Amber Brenzikofer
Historian: Amber Brenzikofer
Youth Activities: Lewis Reynolds
Hospitality: Star Edwards
Donations: Debbie Kalscheur
Web Master: Julio Edwards
coloradomineralsociety@comcast.net



Representatives (Board Members)

Denver Council Rep: Daryl Lamb
Denver Show Rep: Bill Jones

COLORADO MINERAL SOCIETY (CMS) was founded in 1936 by a group of distinguished individuals within the mineralogical field. The organization was incorporated as a non-profit, educational organization in 1948. The Society is affiliated with the Colorado Federation of Gem and Mineral Societies, Rocky Mountain Federation of Mineralogical Societies, and the American Federation of Mineralogical Societies, a founding member of each group.

PURPOSE: To promote the study of minerals and other geologic materials, to encourage mineral collecting as a hobby and to conduct public meetings, lectures, and field trips, and to engage in all activities which relate to said purposes of the organization.

MEETINGS: General membership meetings start at 7:30 PM on the first Friday of each month, October through May, at St. Paul's Episcopal Church, at 10th and Garrison in Lakewood, CO. Displays are set up by members about one-half hour before meetings. Specimens may be available for sale and trade. **VISITORS** and **GUESTS** are welcome.

BOARD MEETINGS: The board members meet once a month to complete the executive business and affairs of the Society. Meetings will start at 7:00 PM usually the third Tuesday of each month. Additional meeting times, if necessary, may be called by the President or any three members of the board and will be announced at the general or board meetings.

MEMBERSHIP: Open to all persons who agree to abide by Society rules and rules of the Federations. Annual fees: \$16.00 for a Family or Newsletter Membership, \$14.00 for a Single Membership, \$12.00 for a Senior Membership (single or family over 65), and \$12.00 for junior members under the age of 18 who are not included in a family. Name badges are available for a one-time fee of \$5.00.

ANNUAL EVENTS: Yearly activities include a silent auction of minerals, fossils, gems, jewelry, equipment and other items related to our interests; participation in the Colorado Contin-tail, the largest mineral swap show in Colorado; participation as a member of the Greater Denver Area Gem and Mineral Council in sponsoring the largest gem and mineral show in Colorado; and the Founder's Day dinner.

FIELD TRIPS: The Society sponsors several field trips from Spring through Fall for the purpose of collecting minerals, crystals, and fossils. These trips are one-day, two-day, and occasionally several-day adventures. A field trip guide is published each year in May.

NEWSLETTER GUIDELINES: CMS has a proud history of promoting the education and pure enjoyment of the mineralogical world. At the very heart of its existence are the many volunteers and contributors who spend their time and efforts in direct support of the club's mission. The CMS official newsletter **MINERAL MINUTES** is published monthly during the active meeting season (October through May) and a summer edition, and is the primary way the club's activities and mission are communicated to its members and prospective members. On that basis, the Board of Directors would like to offer the following content guidelines for CMS newsletter contributions:

- Formal announcements concerning club business and/or membership
- Information around mineral-related education opportunities or fundraising activities
- Stories or history that concentrate on the edifying aspects of mineral collection and education
- Sharing of personal mineral-related experience from field trips or other related adventures serving an educational purpose
- Announcements of volunteer/leadership opportunities for the club or club representation
- Worthy news events or discoveries related to mineralogy or geology that align to club's core interests
- Appropriate announcements regarding mineral shows, one-time mineral related events, mineral auctions, sale of private collections and/or equipment, etc.
- Information around relevant donations and/or gifts made available to the club or club members

Please note that the editor may correct spelling, syntax, or content to conserve space and is also entitled to bring contributions in compliance with newsletter guidelines

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Deadline for publication is the 24th of the month prior to publication. Correspondence to Mineral Minutes should be sent to Editor, P.O. Box 280755, Lakewood, Colorado 80228-0755 or by email to:

editor.coloradomineralsociety@gmail.com

CLUB NEWS

In Memoriam

Richard B. Tripp

Long time Colorado Mineral Society member and exhibitor at the Denver Gem and Mineral Show passed away this last December after a long struggle with cancer. Dick was a consummate mineralogist and spent most of his professional career with the U.S. Geological Survey. He continued working after his retirement as a contract employee working on mineral identification in panned concentrates, especially from Alaska. He was known for his spectacular displays at the Denver Gem and Mineral Show and won many first place awards over the years. He participated in our society events running the amateur mineral quiz at the Christmas party and he always participated in the “silent auction” by bringing specimens of high quality for us to bid on. He was a good and generous friend and will be missed.

Submitted by Sherman Marsh

March Speaker Presentation Mount Antero - Minerals, History, and Geology

by Mark Jacobson

The speaker for the March 7th CMS meeting will be Mark Jacobson, who will discuss the history of mineral collecting on Mount Antero from 1882 to the present. He is author of *Antero Aquamarines* (1993), *Guidebook to the Pegmatites of Western Australia* (2007), and numerous other books and articles on mineralogy.

In addition, Gloria Staebler has indicated she will bring 25 copies of the *Antero Aquamarines* book to the March 7th CMS meeting that can be purchased by members for \$50 (cash, check, or credit card) and signed by Mark.

CMS members are encouraged to bring their special Mount Antero finds for display in the second CMS display case during the meeting.

New CMS Members

First Listing

- Ronald Crandall
- Phil Kummer and Jane Haddock
- Gideon and Cindy Briethaupt
- Jeannie and Gerald Handley
- Ken and Mary Needham
- Leslie and Gene Pinson Family
- Laura Wray and Bob Lamarre

Second Listing

- Miriam Clark and Dave O’Boyle
- Tim Jackson
- Pete and Stacey Leach Family
- Bergen Leach
- Susan Lupinski
- Heath and Satsuko Schmidt Family
- Michael Heckman Family

Per CMS Bylaws, comments concerning new, first listing members should be formally submitted to the President.

Jeff Self and Donna Ware on “Colorado Matters”

CMS members Jeff Self and Donna Ware were featured in an interview on the “Colorado Matters” program on Colorado Public Radio, which aired on January 2, 2014. The recorded interview with Ryan Warner can be listened to online via the CPR website at the link below along with a story and photos about them.

<http://www.cpr.org/news/story/getting-dirt-colorado%E2%80%99s-precious-stones>

Jeff and Donna did a great job telling about what it’s like prospecting and mining for minerals and gems in Colorado.



Colorado Mineral Society's Junior Rockhounds Program

By Lewis Reynolds, Coordinator

February Topic: Fluorescent Minerals

Overview: We collect some minerals because their crystals are very beautiful. Other minerals look rather plain and ordinary until you examine them in a "new light:" they glow in brilliant purples, greens, yellows, oranges, or reds when illuminated with ultraviolet light! Tonight we will discuss fluorescence, why some minerals fluoresce, how to use an ultraviolet lamp safely, and places to collect fluorescent minerals.

Parents are invited to attend the Junior Rockhounds Program with their children. We need at least one other parent, guardian, or member to help supervise each meeting, so a sign-up sheet will be used to help organize the remaining meetings on the 2013-2014 CMS calendar. Although the youth do not need any supplies for this meeting, a pencil or pen and a notebook may be helpful for taking notes.

This topic motivates the *Fluorescent Minerals* badge in the AFMS Future Rockhounds of America program. More information about these *optional* activities outside of our meetings can be found below. Lewis will be available after the Junior Rockhounds meeting to explain the badge requirements and to answer any questions you may have about this program. (Also review our goals in the Junior Rockhounds Program in the CMS Newsletter for August 2013 which can be found at <http://www.coloradomineralsociety.org/newsletters/August2013.pdf> on pages 7-8.)

AFMS Future Rockhounds of America Badge Requirements (Optional):

http://www.amfed.org/fra/AFMS_FRA_Badge_Manual_Revised_2012.pdf

The *Fluorescent Minerals* badge is discussed on pages 197-204 of the manual.

Parents or guardians: please print the sign-off sheet on page 198 and check-off, sign, and date each accomplishment as it is completed. Submit the completed form to Lewis Reynolds to process the badge award.

Looking ahead to March Mr. Sherman Marsh, one of the Colorado Mineral Society's veteran rockhounds, will talk to our junior rockhounds about his passions for mineral collecting. We are indeed looking forward to "Reaching across Generations" as we learn more about him and enjoy our common hobby!

January 3rd Raffle News

The total retail value of January's raffle items were \$85 and brought in \$117 for the science fair endeavors, CMS education, and the purchase of library reading material. Your continued support of the raffle is amazing, thank you very much. The most popular item of the raffle was the wollastonite from Canada (\$35) donated by **GEOdyssey** and won by *Bruce Sales (really?-really.)*. And again *Bruce Sales* became the lucky owner of green man-made crystal (\$24), donated by **GEOdyssey**. Two specimens were equally prized for \$21 each: *Terry Beh* won a Fluorite, donated by **GEOdyssey**; *Jane Dianich*, won a moss agate sterling silver ring, donated by **Cheryl Ermon**; *Jesse Deollos*, claimed the apache tears in peralite specimen (\$9), donated by **GEOdyssey**. Last but not least, the calcite specimen (\$7), donated by **GEOdyssey** was won by the lucky *Bruce Sales (that's three tonight.)*

Thank you to GEOdyssey and Cheryl Ermon the donating these great raffle items, it is fun to see the happy smiles when their number is called to be a winner!!!

Thanks goes to Merlin Schreffler for helping with the raffle.

Congratulations to all our lucky winners.

Submitted by Eva Siemonsma, CMS Raffle Manager

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CMS AUCTION NEWS

“May 3, 2014”

Please put this date on your calendar

WHY??

CMS will have its annual silent auction of mineral hobby items on May 3th at the Holy Shepherd Lutheran Church located at 920 Kipling, 3 blocks north of 6th Avenue in Lakewood, from 11:00 A.M. to 3:00 P.M. Admission is free. The auction features reasonably priced minerals, fossils, faceted stones, lapidary equipment, books, and jewelry to the general public. A unique aspect of this auction is the ability for visitors to view and bid on fluorescent minerals in a special ultraviolet powered Fluorescent Room! There are door prizes every half hour, and a special verbal auction at 1:00 P.M. of museum quality specimens donated by special dealers. There is abundant parking, refreshments, and easy handicap access without any stairs. As always, the club will have a few auction tables reserved for only children to bid on.

MORE TO COME NEXT MONTH.....

Submitted by Rich Nelson

WE NEED YOU TO BE THE AUCTIONEER FOR THE VERBAL AUCTION Part of the CMS AUCTION on MAY 3, 2014

Do you like the bright lights?

Do you like talking in front of a group of friends?

(Better yet) the group does not talk back, they just raise their hands.

What could be more fun?

Please help us make money for the club this coming year. Do you have any questions?

Please call Rich Nelson



Looking ahead to coming months:

Feb. 1-15, Arizona Mineral & Fossil Show (Hotel Tucson City Center, formerly Inn Suites)

Feb. 13-16, Tucson Gem and Mineral Show (Tucson Convention Center)

Feb. 21-23, Denver Gem and Mineral Guild Show (Jefferson County Fair Grounds)

Mar. 28-30, Fort Collins Gem and Mineral Show (Larimer County Fair Grounds, Loveland)

Apr. 10, Flatirons Mineral Club Annual Silent Auction (West Boulder Senior Center)

Apr 18-20, Colorado Mineral & Fossil Show (Ramada Plaza-Denver Central)

May 3, Colorado Mineral Society Silent Auction, Holy Shepherd Lutheran Church, 920 Kipling St., Lakewood CO

May 10, FM Colorado Chapter, Silent Auction, Clements Community Center, 1580 Yarrow St., Lakewood CO

June 6-8, Pikes Peak Gem and Mineral Show (Western Museum of Mining & Industry)

Aug. 7-10, Contin-Tail Rock Show, Buena Vista Rodeo Grounds

Aug. 15-17, Lake George Gem and Mineral Show, Lake George, CO

Sep. 7-14, Colorado Mineral & Fossil Show, Ramada Plaza Hotel (formerly Holiday Inn), Denver

Sep. 12-14, Denver Gem and Mineral Show, Denver Mart (formerly the Denver Merchandise Mart)

2013 Colorado School of Mines (CSM) Geology Museum Musings

by Bruce Geller, Museum Director



Life in our Geology Museum continues in the fast lane. My sixth year at the helm of the Museum has seen more guests and gifts. I'm proud to announce that as of this writing, we were ranked by Tripadvisor.com as the #1 tourist attraction in Golden, in terms of visitor satisfaction, out of 26 Golden attractions, and were again awarded their Certificate of Excellence. This resulted from the help of our Advisory Council, Student Aides, staff, Friends of the CSM Geology Museum (FCSMGM), donors, volunteers, specimen loaners, visitors, visiting researchers, CSM faculty, administrators, and students who support us in so many ways.

The Advisory Council has met monthly and has discussed many topics, one of which is publishing a book about our Museum. On-going projects involve cataloguing new specimens, improving our database, and researching new advances in LED lighting. Our Advisory Council has played a key role in planning the logistics of several major construction projects. First, we moved our two safes from the CSM Library into our main Museum gallery in August. Second, we have held serious discussions about remodeling our Gift Shop. Third, we are now engaged in discussions with contractors to rehang our elegant Irwin Hoffman mining murals this spring. The Advisory Council has budgeted for a complete conversion of our large format (free standing halogen) displays to LED illumination. We also discussed how to welcome special needs visitors, developed criteria for what sorts of donations we will accept, and how to respond to guests who wish to trade specimens.

I held weekly meetings with our Collections Managers and volunteers. These folks ran our Book/Garage Sales and have been busy keeping our Gift Shop well stocked. Our 2013 Gift Shop sales were down 21% but our donations box was up 9%. Our volunteer ranks have mushroomed. Our facebook fans are up 74% over last year. Check out our facebook page at: <http://www.facebook.com/pages/Colorado-School-of-Mines-Geology-Museum/168875179736>, and you can follow the link to hundreds of lovely photos of our specimens.

I have met monthly with our Student Aides, who have led a vast majority of our tours last year (including our largest ever – 180 students in two hours in July), rented our teaching and fossil kits, helped with our Book/Garage Sales, and rung up all of our Gift Shop sales. One of our Student Aides compiled our attendance data from 2013, which indicate that we entertained over 23,000 guests, which is up 4% over 2012. Guests came from 114 Colorado towns, 46 foreign countries, and six continents. Interestingly, over 79% of our guests were first-time visitors.

Three Student Aides graduated in May, and another two in December. For the spring term, we have hired a record 15 Aides, among which are: one Ph.D. candidate, one M.S. candidate, 10 geology students, 3 mining engineers, 1 biochemical engineer, and 6 women.

Our Friends of the CSM Geology Museum (FCSMGM) is growing in leaps and bounds. They have ratified their By-laws and conducted field trips to Collector's Edge Minerals Inc., Cripple Creek, Dallas, and the Harding Pegmatite in New Mexico. As always, FCSMGM members receive 20% discounts in our Gift Shop. Application forms can be found at: http://issuu.com/csmgeologymuseum/docs/friends_app.

Here is the year in review. We successfully held our combined Book Sale/Garage sale last February, and a smaller one last July. We hosted a two day XRF workshop and a three day petrified wood workshop in our conference room in July. We received grants from the Golden Civic Foundation and the Greater Denver Area Gem and Mineral Council. We displayed our specimens at the Tucson, Denver Guild, WIPS, Fort Collins, Colorado Springs, New Mexico Mineral Symposium, Hamburg (Germany), and the Flatirons mineral shows.

We have been involved with two major infrastructure events. The first was a damaging power outage on 5/21 that required us to replace 50 lights/ballasts in our various display cases and ceilings, and our ventilation system blew a fan that made for a very squeaky summer, but luckily no other major electronics failed. The second was the repair of the center portion of our ceiling in our main gallery, due to cumulative rain/snow damage that was exacerbated during our heavy September deluge. That required us to close our upper floor exhibits in November for one week. It also caused our Denver Show exhibit to be stranded at our Collections Manager's house in Boulder County. On a positive note, his house was not damaged, but his commuter route and travel times were sure screwed up.

Continued on Page 7

2013 CSM Geology Museum Musings (continued)

In September, we debuted nine new and four upgraded exhibits at our Annual Open House. In December, show organizers from Mineralien Hamburg paid for us to ship roughly three dozen specimens to their show, whose theme was American minerals. They flew me and representatives from New Mexico Tech, Harvard, and the Smithsonian to speak about our Museums. It was great being featured by the Germans and our display was truly splendid!

As for upcoming events, we will hold another famous (infamous?) combined Book/Garage Sale on 4/18+19 from 9-4 P.M. and on 4/20 from 1-4 P.M. in the Conference Room across the hall from our Museum entrance. This is a big change from past years because we are experimenting with dates that correspond with the Denver Spring Mineral Show at the Ramada Plaza (aka the old Holiday Inn), instead of what we have done the past few Februarys. Prices will drop every half day on most items. We are also planning an Ouray-Silverton San Juan Mountains Mineral Symposium for September 6 and 7 with one day of talks and one day of field trips in the Ouray or Silverton areas, similar to what we did in Creede in 2010. Stay tuned for more details as we work them out. Our Annual Open House is scheduled for September 10, 2014 from 6 to 9 P.M. and we hope that rain doesn't drench us like last year!

In conclusion, I encourage your club to schedule a private visit at the CSM Museum. Simply pick three nights or weekends that your club would like to visit the Museum and have a club representative contact me at 303-273-3823. I'll try my best to accommodate your club at one of those times. You're also welcome to visit on your own during our normal hours: Monday – Saturday 9 A.M. to 4 P.M., Sundays 1 P.M. – 4 P.M., except for certain legal and school holidays. Our address is 1310 Maple Street, Golden, CO. Admission to our Museum is free (donations are greatly appreciated), but parking fees are required in our lots and on campus streets Mondays through Fridays before 5 P.M. Further information is available on our website (http://www.mines.edu/Geology_Museum).

Rocky Mountain Federation News

The Rocky Mountain Federation of Mineralogical Societies (RMFMS) is made up of 78 clubs representing 13 Western states. The Rocky Mountain Federation News is published monthly and is located at www.rmfmts.org.



The February 2014 issue has an extensive and well-written article from Joe Dorris describing his Smokey Hawk claim at Crystal Peak, including some great pictures.

A.F.M.S Newsletter

The American Federation of Mineralogical Societies (AFMS) serves seven regional federations, including RMFMS. The A.F.M.S Newsletter is published monthly and is located at <http://www.amfed.org/news/default.htm>



The February 2014 issue contains informative articles and news items including conservation and legislation issues and a chance to participate in a 3-day field trip to Terry, Montana to hunt for cretaceous sea fossils and dinosaur fossils at the end of July.

JEWELRY GEM & MINERAL

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February 21, 22, 23- 2014

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**Crystals and
Fossils**

Unique Jewelry

**Gem and Mineral
Dealers**



GEM, MINERAL AND FOSSIL EXHIBITS

GEM CUTTING DEMONSTRATIONS

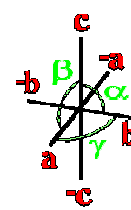
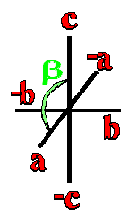
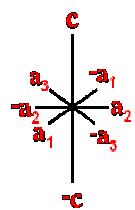
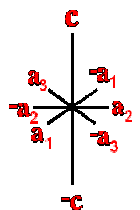
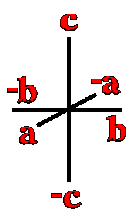
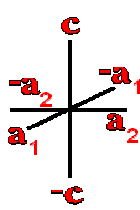
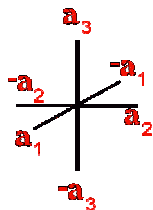
GRAB BAG SALES- Proceeds applied to scholarship at
Colorado School of Mines

Crystallography 101

by Bruce G. Sales

All minerals fall within one of the crystal systems depicted below. This month we will examine some of the properties of the Tetragonal System.

[Amorphous](#) [Isometric](#) [Tetragonal](#) [Orthorhombic](#) [Hexagonal](#) [Trigonal](#) [Monoclinic](#) [Triclinic](#)



(1)

THE TETRAGONAL SYSTEM

The crystals of all of the classes of the Tetragonal System are referenced by three axes that are at right angles to each other. The two horizontal axes, a , are equal in length and interchangeable. The vertical axis, c , is of different length, characteristic for each Tetragonal mineral. Figure 197 represents the crystallographic axes for the Tetragonal mineral Zircon where the c axis has less length than the a axes. Figure 198 represents the crystallographic axes of the mineral Rutile. Where the c axis has greater length than the a axes.

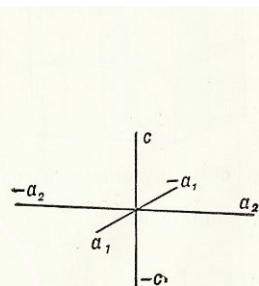


Fig. 197.

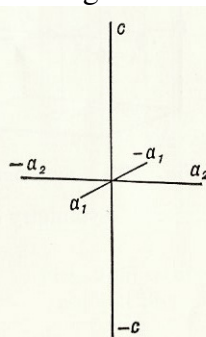


Fig. 198.

Tetragonal Crystal Axes.

(1)

Crystals of the Tetragonal System possess various elements of symmetry, dependent on the mineral's class. The minerals of the Ditetragonal-Dipyramidal Class have a center of rotation, one 4-fold axis of rotation, four 2-fold axes of rotation, and five planes of symmetry. The vertical crystallographic axis is an axis of 4-fold symmetry. There are four horizontal axes of 2-fold symmetry, two of which are coincident with the crystallographic axes, whereas the other two bisect the angles between them. Figure 199 shows the axes of symmetry and figure 200 shows the position of the corresponding planes of symmetry.

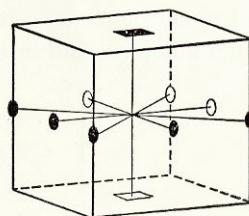


Fig. 199. Symmetry Axes.

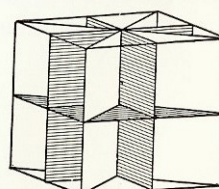


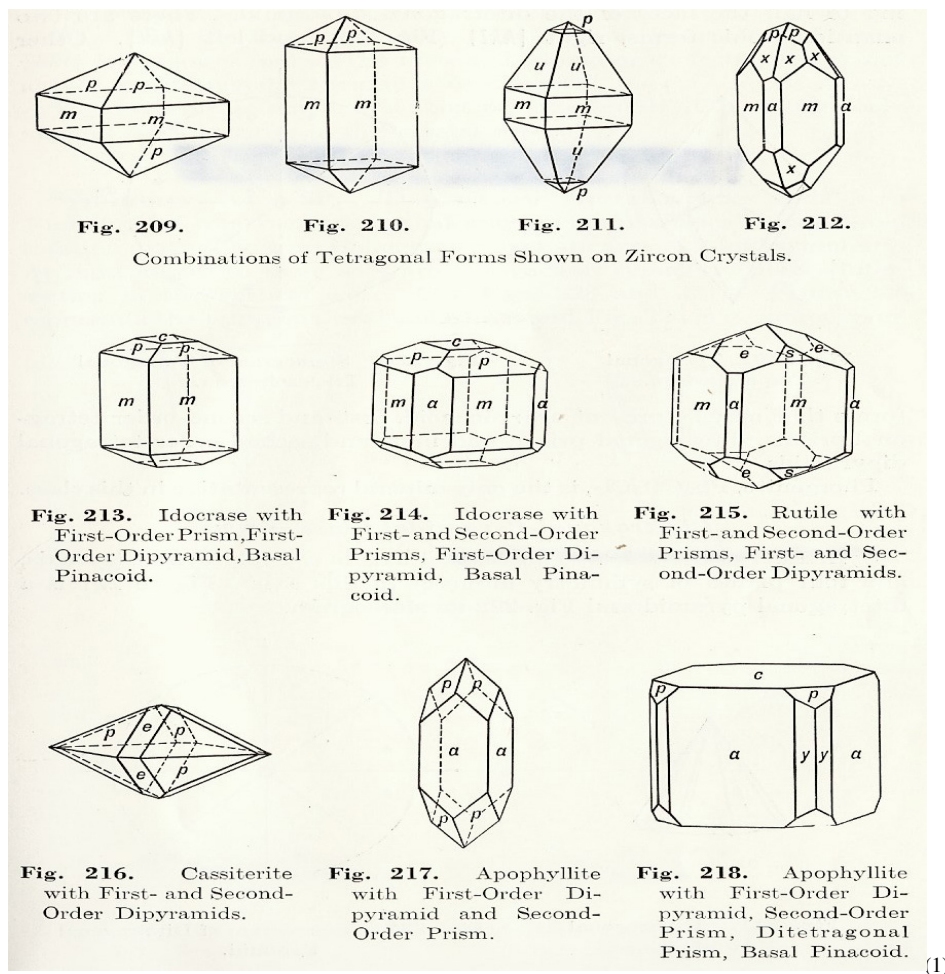
Fig. 200. Symmetry Planes.

Symmetry of Ditetragonal-Dipyramidal Class.

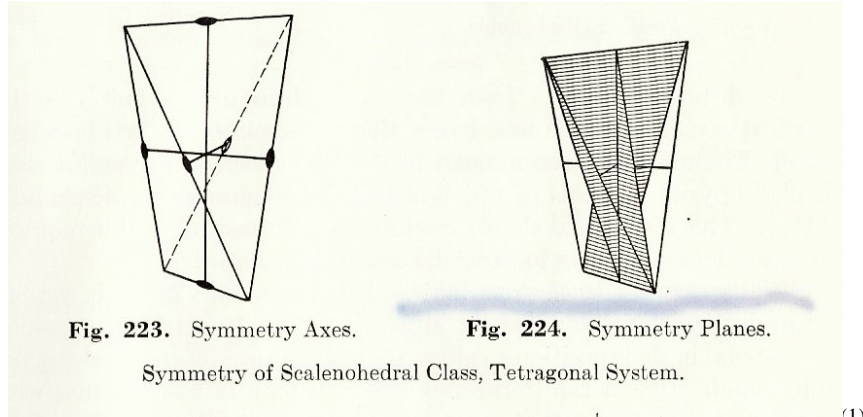
(1)

Crystallography 101 (continued)

Several common minerals crystallize in the ditetragonal-dipyramidal class. The major representatives are Rutile, Cassiterite, Apophyllite, Zircon, and Idocrase. Zircon and Apophyllite are the only of these minerals that can be found in Colorado. Characteristic combinations of ditetragonal-dipyramidal forms as found on crystals of different minerals are represented in Figures 209-218.

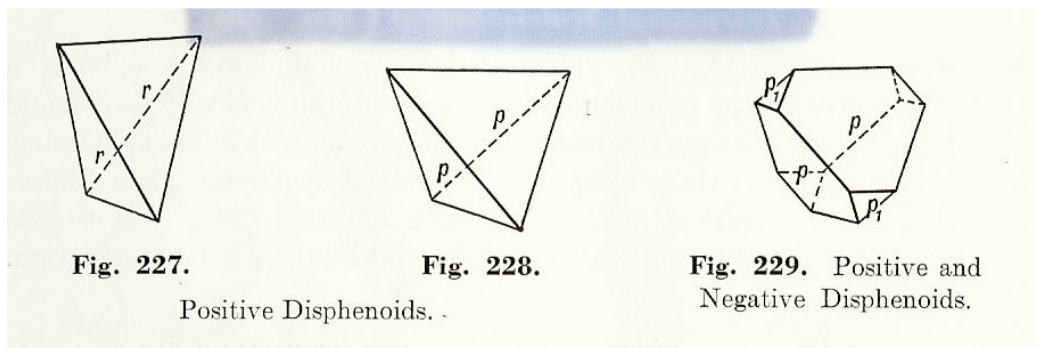


The minerals of the Tetragonal-Scalenohedral Class have three 2-fold axes of rotation, and two planes of symmetry. The vertical crystallographic axis is a 4-fold axis of rotary inversion that appears morphologically as a 2-fold rotation axis. The crystallographic axes are axes of 2-fold symmetry. At right angles to these axes are two vertical symmetry planes intersecting in the vertical axis (Figures 223 and 224).



Crystallography 101 (continued)

Figures 227 and 228 show two types of positive disphenoids, Figure 229 shows the combination of positive and negative disphenoids. Chalcopyrite and Stannite are the only common minerals that crystalize in this class. (2)



(1) Illustrations borrowed from: Dana's Manual of Mineralogy, Seventeenth Edition, Revised by Cornelius S. Hurlbut, Jr., January, 1965

(2) Paraphrased and condensed from: Dana's Manual of Mineralogy, Seventeenth Edition, Revised by Cornelius S. Hurlbut, Jr., January, 1965

Online Resources:

<http://webmineral.com>

<http://www.mindat.org>

<http://www.minsocam.org>

CMS Membership Reminders

A friendly reminder that your annual membership dues are due for 2014. Your current membership ended December 31, 2013. You can pay your dues in two ways:

1. Pay with cash or check at the general meetings the first Friday of each month. Look for the Membership Chairperson to obtain a receipt and membership card.
2. Send a check made out to "Colorado Mineral Society" or "CMS" to P.O. Box 280755, Lakewood, Colorado 80228-0755. Please do not send cash through the mail. Pick up your membership card at the next general meeting. Cards not picked up will be mailed to you.



CMS Membership Fees:

Family: \$16 per year
 Single: \$14 per year
 Senior 65+ (single or family): \$12 per year
 Junior (<12 years old): \$12 per year

Also, due to RMFMS insurance and liability purposes, we need to know the month and year of your children's birthdays, so please provide this information when you renew your membership. The children's information will not be published.

Remember you can receive color electronic and/or black and white hardcopies of Mineral Minutes. However, CMS is trying to be "green" and cut back on paper copies, so please indicate if it is OK to send you an electronic copy only of the newsletter. Also, make sure to give us your updated email address and street address so you can continue to get the newsletter and other important CMS updates.

CMS General Meeting Notes for January 3, 2014

Meeting called to order at 7:30 pm

1. Bruce Sales welcomed the visitors and members.
2. Kids were called to the children's program and a call for additional parents was made and need filled.
3. Bruce called for Open Announcements
 - Cara Reynolds read the list of new CSM members
 - Star Edwards has agreed to become the new hospitality chairperson
 - Amber Brenzikofer made a requested for newsletter articles
4. Bruce presented a brief Crystallography 101 lesson that was included in the January newsletter
5. Adult Door Prizes were drawn. The winners were:

Bill Harrison	Jerry Davidson
Bill Carlton	Marcus Lieberman
Dave O'Boyle	Martha Chaney
6. Dr. Peter Modreski made a presentation on Tourmaline
7. Raffle winners were then drawn (Eva recorded the winners).

Meeting concluded.

Submitted by Sandra Gonzales

CMS Board Meeting Notes for January 21, 2014

Attendees: Bruce Sales, Debbie Kalscheur, Gary Rowe, Eva Siemonsma, Sandra Gonzales, Leslie Osgood, Amber Brenzikofer, Bill Jones, and Sherman Marsh

Meeting call to order by Bruce Sales, President

Old Business:

1. Bruce Sales has briefly met with the new display committee, and another meeting is scheduled for January 29th to discuss all the events for 2014.
 - Wheatridge Recreation Center display will be set up this fall
2. Bruce provided appreciation certificates to be signed by Board Members and will be awarded at the next meeting
3. Bruce will recognize life members at the next CMS meeting.
4. Re-wording of the By-Laws will be discussed at the next board meeting
5. Hospitality position has been generously taken over by Star, thank you Star!
6. Auditing of the CMS financials were done by Sherman Marsh:
 - Sherman reports that there were no discrepancies
 - Raffles financials looked good
 - Operating on 2 fiscal years that overlap can sometimes be confusing, but seems to work
 - 3 minor mistakes were made, but were corrected by Treasurer
7. We are in need of a new grab bag volunteer- Dale Block has been the Grab Bag Chairman for many years and wants to step down and train a new volunteer to take over. If you are interested in volunteering for this position, contact Bruce Sales.

New Business:

1. Gary Rowe reported that there are several club members who have volunteered to assist with field trip this year. He will be setting up a meeting.
2. Bill Jones reported that Marc Jacobson will be our guest speaker in March and the topic will be on "Antero". The Antero book will be available to purchase at the CMS meeting for \$50.00.
3. Bill also reported that there will not be a Fossil Expo this next year at the Denver Show.
4. Leslie Osgood will be displaying her carved animal collection, and welcomes everyone to bring in their carved animals to share with the group.
5. CMS received a mineral donation from John Shepic to be used for CMS raffles and door prizes.

Meeting adjourned.

Next CMS Board meeting is February 18, 2014.

Submitted by Sandra Gonzales



Colorado Mineral Society
PO Box 280755
Lakewood, CO 80228

FIRST CLASS MAIL



Upcoming Meetings

Regular CMS Meeting - February

Date: February 7, 2014 Time: 7:30pm

Place: St. Paul's Church, Lakewood

Regular CMS Meeting - March

Date: March 7, 2014 Time: 7:30pm

Place: St. Paul's Church, Lakewood

**If the Metro Denver area declares the
roads on accident alert during a
snowfall on meeting night, consider the
CMS general meeting canceled.**