

Bulletin of the Mineralogical Society of Southern California

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The 808th Meeting of The Mineralogical Society of Southern California

"Recent Rare Mineral Finds in Southern California and Nevada"

by Dr. Bob Housley

Friday, June 10, 2005, at 7:30 p.m.

**Geology Department, E-Building, Room 220
Pasadena City College
1570 E. Colorado Blvd., Pasadena**

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Dr. Bob Housley to Speak on Local Rare Minerals for June Meeting

Long-time MSSC member Bob Housley will present "Recent Rare Mineral Finds in Southern California and Nevada" at the June 10th meeting. He gives the following as an introduction to his talk:

For the last several years I and a group of field collecting friends including Walter Margerum, Tish Hunter, Jim Soboleski, Garth Bricker, Joe Marty, and Dick Thomssen have been exploring little known mines in the Southern California and Nevada deserts and have been fortunate enough to find a number of rare minerals in them. The mines I will talk about are the Aga, Blue Bell, and Bagdad Chase in San Bernardino County, the Noonday and War Eagle in Inyo County, and the Boss, Quo Vadis, and Winter in Clark County, NV. Rare minerals we have found include quetzalcoatlite, kuksite, dugganite, khinite, parakhinite, plumbotellurite, fairbankite, burckhardtite, moctezumite, hemihedrite, iranite, nissonite, schulenbergite, and dzhalindite. We have also found fine crystals of less rare perite, murdochite, fornacite, willemite, and serpierite.

I first will give a brief description of each mine and mention how we happened to start collecting in it. Then I will describe and show pictures of some of the more photogenic of the common minerals found there followed by pictures of the newly discovered rare minerals.

Dr. Housley also explains how he got into looking for these rare minerals:

For as long as I can remember I have immensely enjoyed nature, been fascinated by minerals and especially crystals, and have felt compelled to explore. Mineral collecting allows me to combine these interests and at the same time to get healthy outdoor exercise. While I enjoy the beauty of minerals as much as anyone I get even more pleasure out of finding, collecting, and identifying them.

My interest in nature naturally led me to plan a career in science where I eventually picked physics as a major. After receiving a Ph.D. from the University of Washington in Seattle, I spent a year at Groningen in the Netherlands and then joined what has now become Rockwell Scientific Laboratory and have been associated with it ever since.

A high point of my professional life came during the 1970s and early 1980s when I was one of the few industrial scientists allowed to study lunar samples. During that work I necessarily gained extensive experience in handling and characterizing very small samples, since a typical specimen size was about one gram total. I also became proficient at identifying minerals using the SEM/EDX techniques I still use.

Surprisingly even with my lunar sample experience my interest in micro minerals developed slowly. I think it started when Ken Keester asked me if I had

any of a rare zeolite that been reported from the Kanan Road Quarry, and I had to admit that although I had collected there many times I had never seen a zeolite. Later he told me that Fred DeVito had found ten species at Camarillo Springs where I had only found quartz, calcite, and mordenite. Finally when I read that about four fifths of the known mineral species never occur as samples big enough to appreciate without a microscope I was hooked.

The idea of picking small nearby locations as study areas and setting goals of finding and identifying all the interesting



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species in them also evolved slowly. I knew Fred DeVito was doing that for the Santa Monica Mountains and had a big list of minerals he had found there. I also was very impressed with the San Bernardino County Museum publications on the Mohawk and Blue Bell Mines. Later I learned about and identified with the Friends of Mineralogy efforts to document important mineral occurrences.

Display Cases for Sale - \$100.00 each

These are the same sturdy, birch wood veneer cases we use at the MSSC show and used by many competitors for Federation competition.

Made by Pony Case Co. The cases are used but in good condition. New they sell for about \$300.

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Inside dimensions: 46" long, 22" high, and 20" deep.

Contact: Bill Besse (wbesse@altrionet.com, 626.359.4488) or Walt Margerum (wmargerum@earthlink.net, 310.324.1976).

Minutes of the May Meeting

The 807th meeting of the Mineralogical Society of Southern California was held on Friday, May 13th in the Geology department at Pasadena City College. President Bill Besse brought the meeting to order at 7:35 pm. Before the meeting started, the members worked feverishly with good will to assemble the advertising postcards for the 2005 MSSC show (Figure 1).

The evening's speaker was then introduced, former President and long-time member, Rock Currier. Rock shared an illustrated walkthrough of his trip to Ethiopia. There was a brief introduction as to the geological and political background. Pictures of the trip included that of waterfalls, gorgeous skylines, and pegmatitic material that included beautiful blue-green amazonite. After the talk numerous amazonite specimens were left out for the guests and members to examine close up. Following the talk there was a brief show and tell by the members, sharing their own specimens with the group. The meeting came to a close at 8:25pm.

Respectfully submitted by Ilia C. Lyles, Secretary



Figure 1 Members working together for the MSSC show. In the foreground Treasurer, Walter Margerum quickly affixes name labels to postcards with razor sharp accuracy (ICL, 2005).

Cerro Gordo Field Trip

by Walt Margerum

If you are going to the June 26 dig here are the instructions. The meeting place will be **Lee's Frontier Chevron** just south of **Lone Pine** on highway 395. Please be there before **8:00 AM**, as that will be the departure time to Cerro Gordo. You will be

required to sign the standard liability waiver agreement and agree to the usual terms. The assembled group (thundering herd?) will caravan to the sight. There are no services at the mine so bring everything you will need especially food and water. The graded unpaved road from Keeler up to Cerro Gordo is steep, but passable by a normal car in *good condition*. This is a fee dig, and it will cost \$5.00 per person.

Cerro Gordo is at 8,000 ft., and at this time of year it can be hot or cold, cloudy or clear, so please dress appropriately. The dump is steep so all children (whether 6 or 60) need to be under strict supervision. This is the adult's (whether 6 or 60) responsibility. My article in the June, 2002, Bulletin provides a history of the mine and the minerals found there. It is available on our web site (www.mineralsocal.org).

The dump is large and composed mostly of fine material. The good stuff is scattered randomly and requires minor excavation to get it, so you will need a pick and shovel as well as the usual gear. Although some diggers have their favorite locations, in my opinion no one place is better than any other. It is just a matter of picking a spot and getting down and dirty. Like birds of a feather the minerals come in flocks, which is not unexpected since any one place on the dump represents the material from a particular location in the mine.

You can reasonably expect to find galena, cerussite, hemimorphite, hydrozincite, azurite, malachite, calcite, and if you are lucky smithsonite, linarite, caledonite, aurichalcite and many others. Most is massive, but on occasion you will find nice crystals, especially if you are into micro's. Every time I have been there someone has found a killer specimen. This may be your turn!

This is private property, and all artifacts are the property of the mine owners, so if you find any please turn them in. All the minerals you find are yours to keep.

Happy digging!

Save the date for the MSSC August Picnic!

The picnic will be held on Sunday afternoon, August 21, 2005. Justin Butt will show us pictures of his mineral collecting adventures in Africa. Watch for more details in the next bulletin. A great time is planned!

More Mineralogy in a Nutshell

Crystal Twins

by Janet Gordon

Recognizing mineral twins makes collecting more fun, and it might allow you to recognize that underpriced “sleeper” specimen. Here are some basic facts to help distinguish between twins and crystals that are just hanging out together.

Crystals of the same mineral growing together can be related in three different ways. First and most commonly, two or more crystals may start at different points but grow into chance contact with their crystallographic axes at random angles. Second, an aggregate of crystals of the same mineral may grow with their axes and faces mutually parallel. This is called *parallel* growth, and the aggregate is essentially one crystal because the structure extends continuously through the aggregate. Third, two or more individual crystals can be related by a symmetry operation that is not normally present along that direction in a single crystal. These crystals are called *twins*. The usual symmetry operations are reflection across a mirror plane or rotation about an axis.

Reflection twins have the twin plane (mirror) parallel to a possible lattice plane. For example, calcite often appears as a simple scalenohedron or “dog tooth” (Figure 1a). These crystals become more interesting when they are twinned, with a mirror plane perpendicular to the elongated c-axis of the crystal (Figure 1b). Reflection twins of galena look

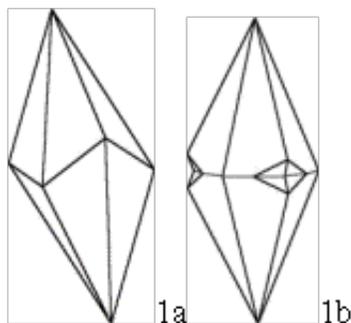


Figure 1. a. Single calcite crystal exhibiting the scalenohedron or “dog tooth” form. b. Twin calcite scalenohedrons related by a mirror plane perpendicular to the elongated or “c” crystallographic axis.

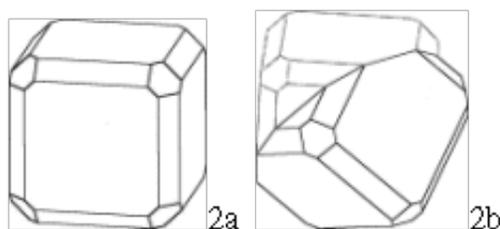


Figure 2. a. Single galena crystal. b. Twinned galena crystals with the mirror plane parallel to the (111) crystal face.

significantly different than the familiar cube when the twin plane mirror is parallel to the (111) face of the crystal as in Figure 2. Quartz crystals related by the Japan twin law are another example of this kind of twin (Figure 3).

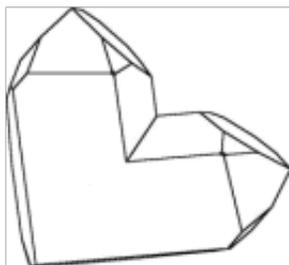


Figure 3. Quartz has many possible modes of twinning, but Japan law twins which consist of two, usually flattened, crystals intersecting each other at an angle slightly less than 90° are the most easily recognized.

Rotation twins are usually related by rotation about a 2-fold axis. Orthoclase crystals so commonly exhibit this type of twinning that they are historically called Carlsbad twins (Figure 4b), whereas the Baveno twin is a reflection twin. Other feldspars typically are twinned as well, and, like quartz, they can exhibit more than one twin law at a time.

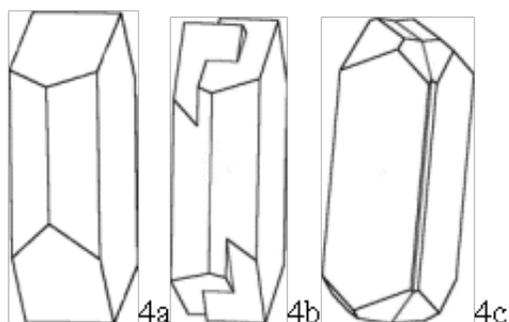


Figure 4. a. Single orthoclase crystal. b. Carlsbad twins formed by 180° rotation about the elongated c-axis. c. Baveno (reflection) twins.

Twins are also described according to how they are inter-grown instead of how they are related symmetrically. The reflection twins previously described can also be called *contact twins* because they are in contact along a well-defined plane so that a cut along this plane would separate the two individuals. This plane is called the *composition plane*.

Penetration twins are so inter-grown that neither individual is on only one side of a plane, and they cannot be cut apart. Fluorite commonly forms penetration twins, and an example of a galena penetration twin is shown in Figure 5a.

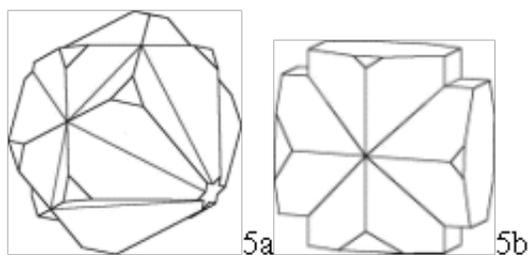


Figure 5. a. Two interpenetrating galena crystals.

b. Staurolite penetration twins.

Repetitive twinning occurs when the twin-producing symmetry operation occurs repeatedly so that numerous individuals are produced. Several mutually parallel twin planes produce *polysynthetic twins*. The striations on plagioclase are a manifestation of polysynthetic twinning on a fine scale (Figure 6a). Alternatively,

when composition planes are at an angle to each other, *cyclic twins* are produced. Many minerals form as cyclic twins, the well-known aragonite crystals from Spain are a good example, as are the much sought after chrysoberyl twins (Figure 6b).

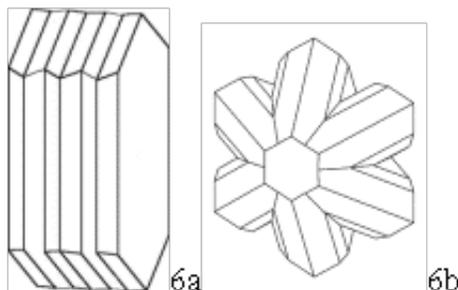
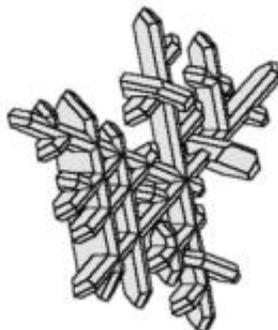


Figure 6. a. Polysynthetic albite (plagioclase) twins.

b. Cyclic chrysoberyl twins.

Glide twins are an additional form of twinning that is especially important in metamorphic rocks, but they are generally of lesser interest to mineral collectors than the other varieties. However, it is in an interesting experiment to produce a glide twin by cutting into a calcite rhomb at an angle with a razor blade and abruptly shifting it to make the blade incline in the other direction. With a little skill the planes of atoms in the calcite will slip, somewhat like playing cards in a deck that has slid so that it is not vertical, and produce a glide twin.

The crystal drawings in this article were prepared by the author using Kristall2000.



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Remembering Larry Bruce

It is with regret that we report that Larry Bruce passed away on April 26, 2005. Larry was an active field collector and Society member who recently served on its board. We send our condolences to his wife, Vicki, and to all his friends and family.

A POEM FOR LARRY

BY ANNE SEMINARIS DAVILA

AKA "Q"

IT WAS MID-WEEK
I RECEIVED A CALL SO BLEAK
A MESSAGE OF SADNESS
LEFT ME NOTHING TO SPEAK

FROZEN WITH SHOCK
FROM THIS DISTURBING NEWS
LEFT FRIENDS AND LOVED ONES
SINGING THE BLUES

A DAY IN MAY
NO ONE WHOULD CHOSE
A GOOD FRIEND WE LOOSE
TEARS WILL BE FALLING
HEARTS FILL WITH ACHE
THE ANGELS ARE SINGING
"PASS THROUGH OUR GATE"
IT IS YOUR DAY THE HEAVENS AWAIT
FOR THIS IS A JOURNEY
WE ALL MUST TAKE

FOREVER ASLEEP
TO REST WITH THE BEST
SPIRIT OF LARRY
BE WITH US ALL
COME WINTER SPRING
SUMMER AND FALL

MEMORIES WE KEEP
CLOSE IN OUR HEART
MY FRIEND FROM THE START
OH WHY MUST YOU PART
IN MY LIFE AND MANY
YOU WERE A BIG PART

WHILE KEEPING THE PACE
I'LL CUT TO THE CHASE

I'LL MISS YOU FOREVER
THAT SPECIAL HAIRY FACE

GOODBY MY GOOD FRIEND
WITH THAT "Q" SAY'S "THE END

May 18, 2005

Wanted: Your Contribution to the Bulletin!

Do you want a quality bulletin with interesting mineral information? Yes? Well, then, this is what you can do! Contribute, contribute, contribute. What if you are too busy to write an article? That's no excuse. There are lots of shorter items to contribute. Examples include: photos of newly acquired mineral specimens or specimens that have an interesting history; reports and photos of personal field trips; tips on cleaning minerals (or how not to clean them); mineral book reports; news of other mineral shows and societies; reports about museum collections and acquisitions; a special event for the calendar list; biographical sketches about famous and/or local collectors; a short history of your favorite mine; your experience getting minerals through airports; minerals in the news; review of your favorite mineral web page; get a student to submit an article; The possibilities are endless, and it's really simple just to send your contribution to the editor by e-mail.

2005 Calendar of Events

June 4-5 Glendora, Glendora Gems, Goddard Middle School, 859 E. Sierra Madre,
Hours : Sat. 10-5, Sun. 10-4, Bonnie Birdwell (626) 963-4638 or
YBidwell2@aol.com,

June 4-5, La Habra, North Orange County Gem & Mineral Society, Jubilee of Gems
Show, La Habra Community Center, 101 W. La Habra Blvd., Hours: 10-5 both
days, Don Warthen (626) 330-8974 or warthen@earthlink.net.

June 10-12, Roseville, CFMS & Roseville Gem & Mineral Blast, Roseville (Placer
County) Fairgrounds, 800 All American City Blvd., (916) 630-1000, show web
site: www.rockrollers.com/show.html.

June 19-20, Cayucos, San Luis Obispo Gem & Mineral Club, Cayucos Veteran's
Hall (at the end of the pier in Cayucos), Hours: Sun. 9-6, Mon. 9-5, Bub Hurless
(805) 772-7160, email: sandiehurless@yahoo.com.

June 26-27, Culver City, Culver City Rock and Mineral Club, Theme is Turquoise, Culver City Veterans Memorial Complex, 4117 Overland Ave., Culver City, Hours: Sat. 10-6, Sun. 10-5, Bradford Smith brad@greenheart.com.

June 29-July 3, Madras, Oregon, Gem and Mineral Show, All Rockhounds Pow Wow Club of Amerinca, Inc., Jefferson County Fair Grounds, mistybluemorn@aol.com.

August 5-7, Nipomo, Orcutt Mineral Society, St. Joseph's Church, 298 S. Thompson Ave., Hours: 9-5 daily. Lucky Virgin (805) 929-4525, lvirgin@impulse.net.

August, 6-7, San Francisco, San Francisco Gem and Mineral Society, San Francisco Co. Fair Building, 9th Ave and Lincoln Way, Hours: Sat. 10-6, Sun. 10-5. Ellen nott (415)564-4230, ellen_nott@yahoo.com.

August 21, MSSC Annual Picnic, Sunday afternoon. Save the date. Details to be announced soon.

Oct. 15-16, Long Beach, The Southern California Gem and Mineral Show, Long Beach Convention Center, presented by the Mineralogical Society of Southern California. Hours: Sat. & Sun 10-5, www.MineralSoCal.org.



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