



The Mineralogical Society of Victoria  
Incorporated  
A0001471E

**Newsletter No. 204**

**April 2010**



Cacoenite, Gravel Hill, Vic  
1mm field of view

Print Post Approved PP332785/0015

The Mineralogical Society of Victoria Inc.  
P.O. Box 12162  
A'Beckett Street  
Melbourne Vic. 8006

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Vice President:	TBA	Special Projects:	Dermot Henry
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<b>Contact Numbers:</b> Excursions	Micro-mineral Group	Mineral Appreciation Group
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**Membership Details:**

Joining Fee	\$5.00		
City Adult Member	\$25.00	Country Adult member	\$20.00
City Family membership (2 adults & children under 18)	\$35.00	Country Family Membership (2 adults & children under 18)	\$30.00
Student Member (full time)	\$15.00	Newsletter only	\$15.00

(N.B. - Country membership - more than 50 km from Melbourne G.P.O.)

Applications for membership can be obtained by writing to:-

The Secretary, Ms. Lia Bronstijn,  
P.O. Box 12162,  
A'Beckett Street,  
Melbourne, Vic, 8006.

General meetings are held on the 2nd Monday of each month (except January) commencing at 8.00 pm at the Royal Society of Victoria, 8 Latrobe St. Melbourne.

Visitors are most welcome.

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Newsletter of the Mineralogical Society of Victoria  
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**FORWARD DIARY**

**PLEASE NOTE:-** General Meetings of the Society are now held on the second Monday of each month, 8:00pm at the Royal Society Building.

- Apr 12      General Meeting: Tucson mineral show video. Topic: Tucson.
- Apr 18      Mineral Appreciation Group – At Nunawading Lapidary Club Rooms, Silver Grove, Nunawading. Topic: Minerals containing lead and/or zinc.
- Apr 24      Field trip to Flinders. See excursions report on Page 4
- Apr 25      Micro Group Meeting – At Judy Rowe’s home.  
Topic: Minerals containing Bismuth and/or Tungsten.
- May 10      General Meeting: Ryan Eagle. Topic: Pegmatite minerals.
- May 16      Mineral Appreciation Group – At Nunawading Lapidary Club Rooms, Silver Grove, Nunawading. Topic: Metamorphic Minerals – “High” Temperature (>500 DegC).
- May 30      Micro Group Meeting – At John & Margaret Bosworth’s home. Topic: Type Localities.
- Jun 14      No General Meeting Due to Societies Seminar and Queen’s Birthday Long Weekend
- Jun 20      Mineral Appreciation Group – At Nunawading Lapidary Club Rooms, Silver Grove, Nunawading. Topic: Red minerals.
- Jun 27      Micro Group Meeting – At George & Muriel Lysiuk’s home. Topic: Minerals from U.K.

**MINERAL RELATED EVENTS**

Jun 12 – 14      33rd Joint Mineralogical Societies of Australasia Seminar, The Royal Society Rooms, Adelaide. Hosted by The Mineralogical Society of South Australia.

**NEXT ISSUE**

**PLEASE NOTE:-** Material for the June Newsletter to be with Michael Hirst by **May 31<sup>st</sup>**.

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## FROM THE COMMITTEE

**H**opefully everyone has made their way through the rather wild weather experienced by Victoria in recent weeks, with severe hailstorms around Melbourne impacting upon both Society meetings and the Gemkhana in Ballarat.



A reminder that the Annual Societies Seminar is being held in Adelaide this year over the usual Queen's Birthday long weekend July 12-14. Details of the theme and registration details are enclosed in this Newsletter and we encourage as many Victorian members as possible to make the short trip over to Adelaide.

As mentioned in recent Newsletters and at General Meetings we shall be starting a Short Talk Roster this year. The Roster is included below so please have a look to see if/when you are being drafted! We are open to negotiations if members genuinely cannot attend a particular meeting.

Alex Blount  
President

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Special thanks to Jon Mommers ([www.earthstones.com.au](http://www.earthstones.com.au)) for providing the printing services and allowing us to present the Newsletter in colour.

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## SHORT TALKS

Following the roster for member's Short Talks at the monthly General Meetings. Remember that the talks only need to run for around 5 minutes or so (10 minutes maximum please) and can cover any topic of a 'mineralogical' nature. And if anyone would like assistance with putting together a 'Powerpoint' computer slideshow, please let a Committee member know.

DATE	SPEAKER
Mon 12 April	Fred Kapteina
Mon 10 May	Bill Birch
Mon 14 June	None – No Meeting due to Seminar
Mon 12 July	None – Society AGM
Mon 9 August	Joe Francese
Mon 13 September	Ed Richards
Mon 11 October	Pat Marley
Mon 8 November	Peter Hall
Mon 13 December	Jo Price

## EXCURSIONS

### Reports

#### **Lake Boga**

A trip to Lake Boga was arranged at very short notice for Saturday 27<sup>th</sup> February, as a casual enquiry a few days earlier found that the top layer had just been blasted. A ring around was made to many of the usual members who attend trips, with 6 members attending on the day. Unfortunately the large pile of broken rock was all massive granite with no evidence of any vughs or other minerals. Apologies to anyone who may have wished to attend.



#### **March 27<sup>th</sup> The Anakies**

The trip to the Aerolite Quarries on 27<sup>th</sup> March will be over when this newsletter is received. A report will be provided in the June Newsletter.

## Forward Diary

### **April 24<sup>th</sup> Flinders**

A field excursion has been arranged for Saturday 24<sup>th</sup> April to Flinders. The meeting time is 10.00 am sharp at the Carpark above Cairns Bay. Melway Ref 260 J10 (See map on page 5). Members who haven't been to Flinders are advised that it is a long walk down to the beach and along to the collecting area. (very much longer coming up with specimens in a pack!!)

### **May**

A suitable collecting site is yet to be found at the time of this newsletter. Information will be given at the April and/or May meetings. Please contact John Haupt (number below) if you are unable to attend the meetings but may wish to attend.

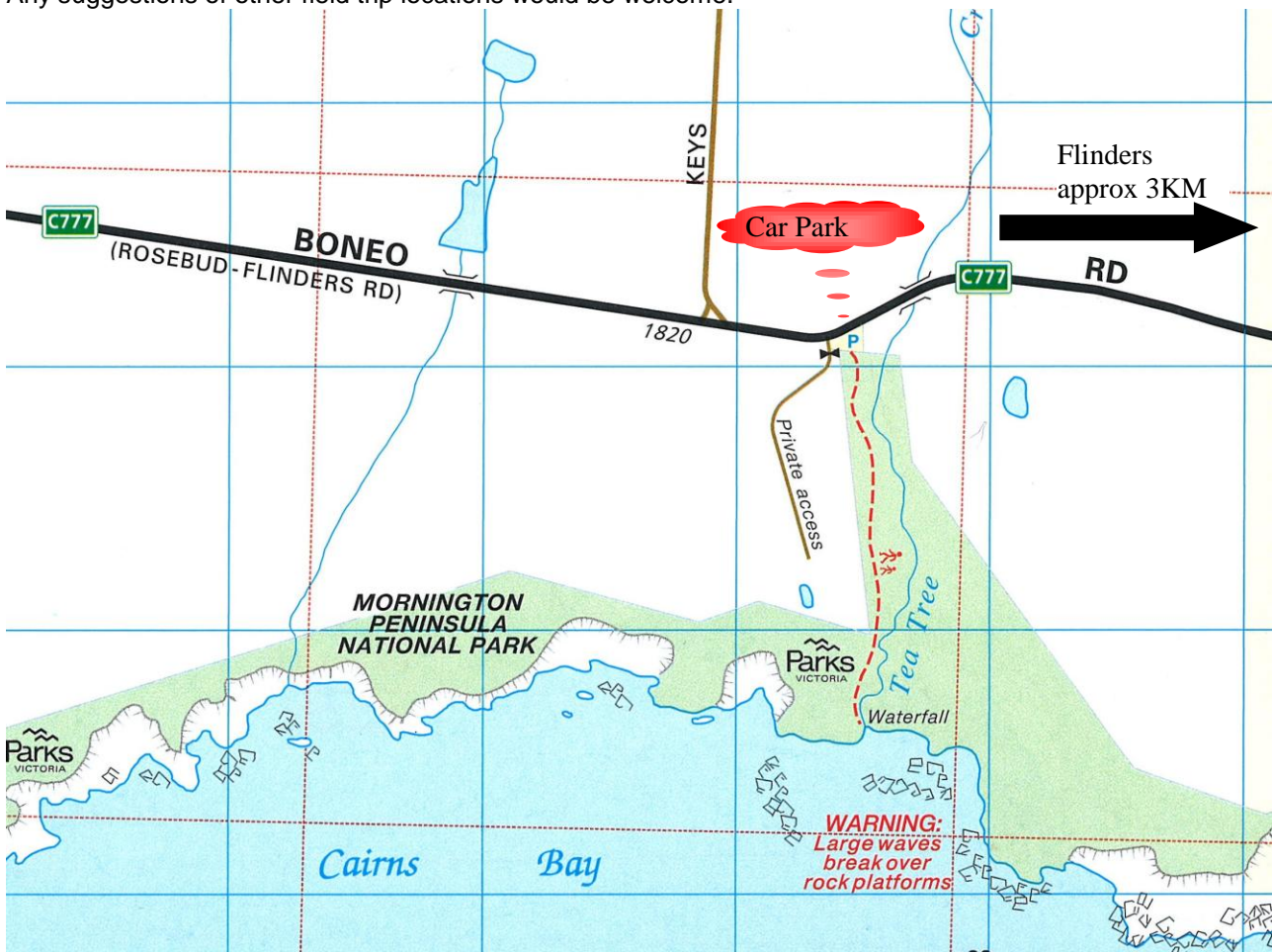
### **June**

No excursion will be held this month as some members will be travelling to Adelaide to attend the Annual Societies Seminar.

### **November Kingsgate?**

A trip to Kingsgate, near Glen Innes in Northern NSW is being considered for the Melbourne Cup weekend, but will be dependent on getting sufficient numbers to run it. Professor Peter Williams has indicated that he may be able to join in. It will normally take 2 days to get to Glen Innes and the same to return, so we would also try and visit some other localities whilst we are in the district. Access to Kingsgate would have to be on the Saturday (30<sup>th</sup> October). If you are interested in coming, please contact John Haupt on 9876 3059 or by e-mail to [john.haupt@bigpond.com](mailto:john.haupt@bigpond.com) before the end of April.

Any suggestions of other field trip locations would be welcome.



## **MUSEUM FUND**

As hopefully members will know by now, the Society is selling a selection of mineral specimens donated by Ian Strachan. The proceeds from the sale are being held in the Societies museum fund, which is made available to the assist Museum Victoria in the purchase of specimens for their collection.

A selection of the material for sale will be presented at each General Meeting, and localities that will be appearing in the next few months will include: Australia, United Kingdom, India and possibly Namibia..

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## **PUBLICITY**

### **Micro Group Report**

The February meeting topic was the Minerals of the Northern Flinders Ranges. Most of us had collected there and we “re-visited” various sites during the day as we studied the minerals. Some large specimens of quartz pseudomorphing barite from Mt Gee were tabled.



From Sir Dominic Mine there were malachite pseudomorphs after azurite, and less common examples of unchanged azurite. We saw an attractive gold micro from Angepena; good crystals of phosgenite from Avondale and from the O'Donoghue Castle Mine; volborthite from Paull's Consolidated; conichalcite and cornwallite from the Daly Mine area; tarbuttite, and chalcophanite with scholzite from Reaphook Hill; clinobisvanite from Lively's Gold mine; aurichalcite, hydrozincite and rosasite from Billy Springs; and austinite, adamite and hedyphane from the Beltana (Puttapa) Mine. One hedyphane specimen had an unusual termination in place of the usual low angle pyramid, the centre being flat more like the centre of a button.

There was generally good discussion while the trays of minerals went around the table.

Next Meeting:

25<sup>th</sup>. April at Judy Rowe's home, Topic: Minerals containing Bismuth and/or Tungsten.

30<sup>th</sup>. May at John & Margaret Bosworth's home. Topic: Type Localities.

27<sup>th</sup>. June at George & Muriel Lysiuk's home. Topic: Minerals from U.K.

The Group welcomes new members. Our meetings are informal and tea, coffee and cake are provided. It's only necessary to bring your lunch, microscope and any minerals you may have for the day's topic.

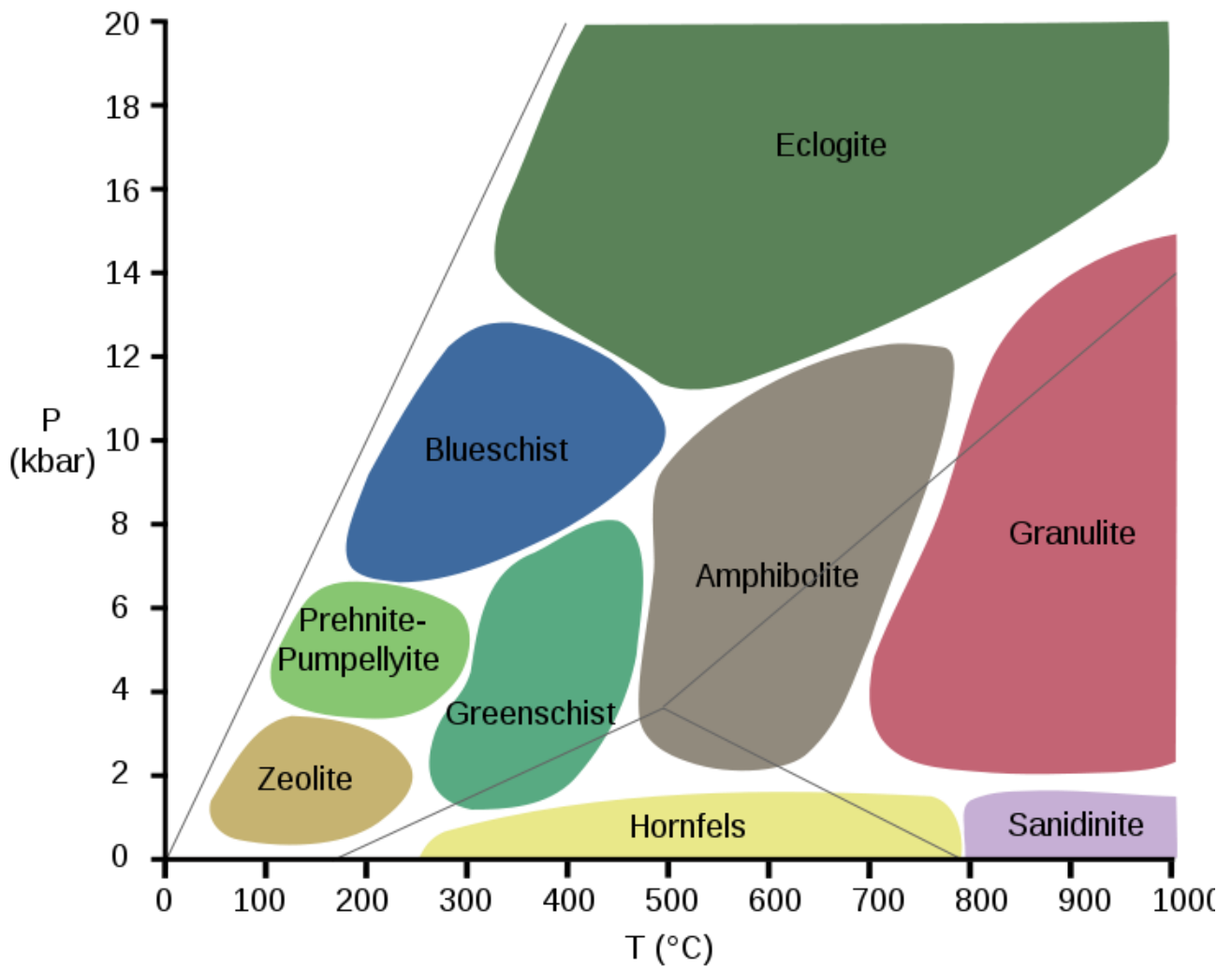
No minerals? No problem – come anyway as many minerals will be tabled for all to see, but if you haven't attended one of these meetings before, do let the host of the day know you are coming so that there will be enough seats for everyone.

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### **Mineral Appreciation Group Report**

The topic for the February meeting was “low temperature” metamorphic minerals, meaning those formed with temperatures less than 500 degrees Celsius. Whilst 500 degrees would certainly not be considered ‘cold’, it was selected as a useful dividing line between several groups of minerals that could be defined as low temperature and high temperature.

Discussion was held regarding different types of metamorphism, what causes it and how rocks and minerals are classified. We noted that metamorphic rocks are broken down into types based upon the intensity of the heat and pressure that they are subjected to, and that this causes characteristic mineral species to form at each stage. These groups of minerals, define the metamorphic ‘facies’. The diagram below shows these different metamorphic groups and how they are related to different temperatures and pressures.



For the meeting, our topic of “<500 degrees” meant we were concerned mostly with the zeolites, prehnite-pumpellyite facies, greenschist facies and the blueschist facies. Each of these groups contains a number of characteristic mineral species and a range of others that may or may not be present.

We saw various zeolites from localities in Australia and India, epidotes from Australia (Harts Range), Switzerland and Alaska, kyanite from Harts Range and from Kenya, actinolites, axinites and temolites. Chlorite, hazelwoodite, andalusite from Italy and various ‘low temperature’ garnets such as grossular and almandine.

Another approach to the topic included focusing upon the rock, identifying a low-temperature metamorphic matrix and then looking for mineral species present. Examples included minerals in marble matrix, such as pargasite from Vietnam, talc, various beryls in marbles, serpentinite, and stichtite and chromite in serpentinites.



Image: Pargasite in marble matrix from Luc Yen, Yenbai Province, Vietnam

The meetings are an open show and discussion format and all society members are welcome to attend. Meetings typically aim for people to arrive around 10:00am for a 10:30am start, allowing time for people to unpack specimens. If you wish to attend, have any questions or have suggestions for topics you would like to see covered then please catch up with Alex Blount.

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## RESOURCES, NEW PUBLICATIONS & REFERENCES OF INTEREST

If any Society members become aware of new publications relevant to mineralogy or existing items that they feel would be of benefit to members, please feel free to let a committee member know. Where appropriate, the Society can look to obtain copies for inclusion within the library.

New journals, publications and newsletters received include:

The Mineralogical Record  
Jan-Feb 2010

- Alpine pink fluorite. Thomas P. Moore
- The Kagem emerald mine, Kafubu area, Zambia. Steven C. Behling & Wendell E. Wilson.
- The Dugupi-Maanshan antimony deposit, Weishan County, Yunnan Province, China. Chris Schroeder



Rocks & Minerals – Jan-Feb 2010

- U.S. Gemstones: An Overview. John S. White
- Colored Gemstones from Canada. Bradley S. Wilson

**Rocks &  
Minerals**



## Extra Lapis

The latest edition in the English translation series of ExtraLapis has been released and the subject is smithsonite. As usual the quality of the articles and photography are exceptional. Including a chapter on “Smithsonite: Broken Hill, New South Wales” by Dr Bill Birch, the Society will be obtaining a copy to add to our existing collection of these publications.

The library shelves are now in approximate order. There are lots of fascinating books on mineralogy and related topics, just waiting for members to borrow and enjoy them – so, happy hunting and good reading!



## SOCIETY MICRO-MINERAL COLLECTIONS

Broken Hill Collection – Alex Blount

Iron Monarch Collection – Alex Blount

Victorian Collection – Alex Blount

Western Australia – Alex Blount **NEW!**

The collections currently contain over 600 micro-mineral specimens from their respective regions. We are always looking for new donations of specimens (preferably mounted but not essential), especially from new or recent finds, but updates or multiples of existing species are also appreciated.

The collections are available to all members to borrow on a monthly basis and they provide an excellent way to compare your own material from field-trips with ‘already identified’ reference specimens. If anyone wishes to borrow the collections or peruse a copy of the catalogue, please catch up with the curators listed above.

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## WANTED

Mineralogical Record Back Issues Vol 2 No 2 & Vol 2 No 5 for the **MinSoc Library**.

Please contact any committee member if you can assist with these.

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## FIELD NATURALISTS CLUB OF VICTORIA GEOLOGY SPECIAL INTEREST GROUP

Meetings take place at 8pm at the FNCV Clubrooms at 1 Gardenia Street, Blackburn, 3130 (Melway 47 K10) Further information on the talks and excursions is available from Rob Hamson, 9557 5215 AH, [robhamson1949@hotmail.com](mailto:robhamson1949@hotmail.com), Clem Earp 9885 1548 AH or Noel Schleiger 9435 8408 AH.



Details of field trips appear in the issue of the *Field Nat News* published the month before the date of the excursion. As a voluntary organisation funded entirely by our members’ subscriptions, we welcome visitors but there is a charge of \$2 per non-member for each meeting and \$5 per excursion attended to help cover our costs. Members of affiliated clubs pay \$2.50 for excursions.

Membership: Joint/Family \$85, Single \$65, Concession \$50, Student \$25. Further details from FNCV Office 9877 9860.

## GEOLOGY CALENDAR

Contact Ruth Robertson 03 9386 5521 [rutherob@hotmail.com](mailto:rutherob@hotmail.com)

## April

Tues 13h- Excursion (half day) *The Synchrotron- Faster than a speeding bullet.*  
The Australian Synchrotron, 800 Blackburn Rd Clayton. Max no participants 20.

Sat 17th- Excursion. *Mt Piper- A significant flora and fauna habitat; thanks to its geology.*  
Leader: Ian Julian, SW Goulburn landcare facilitator.

Wed 28th- Evening meeting  
*Something Old, Something New- The earliest and most recent invertebrate fossil discoveries in Victoria.*  
Speaker: Clem Earp, member FNCV.

### May

Wed 26th- Evening meeting *Evolution and Anatomy of Early Devonian lungfish-Osteichthyes Dipnoi.*  
Speaker: Alice Clement, Museum Victoria and Research School of Earth Sciences, ANU.

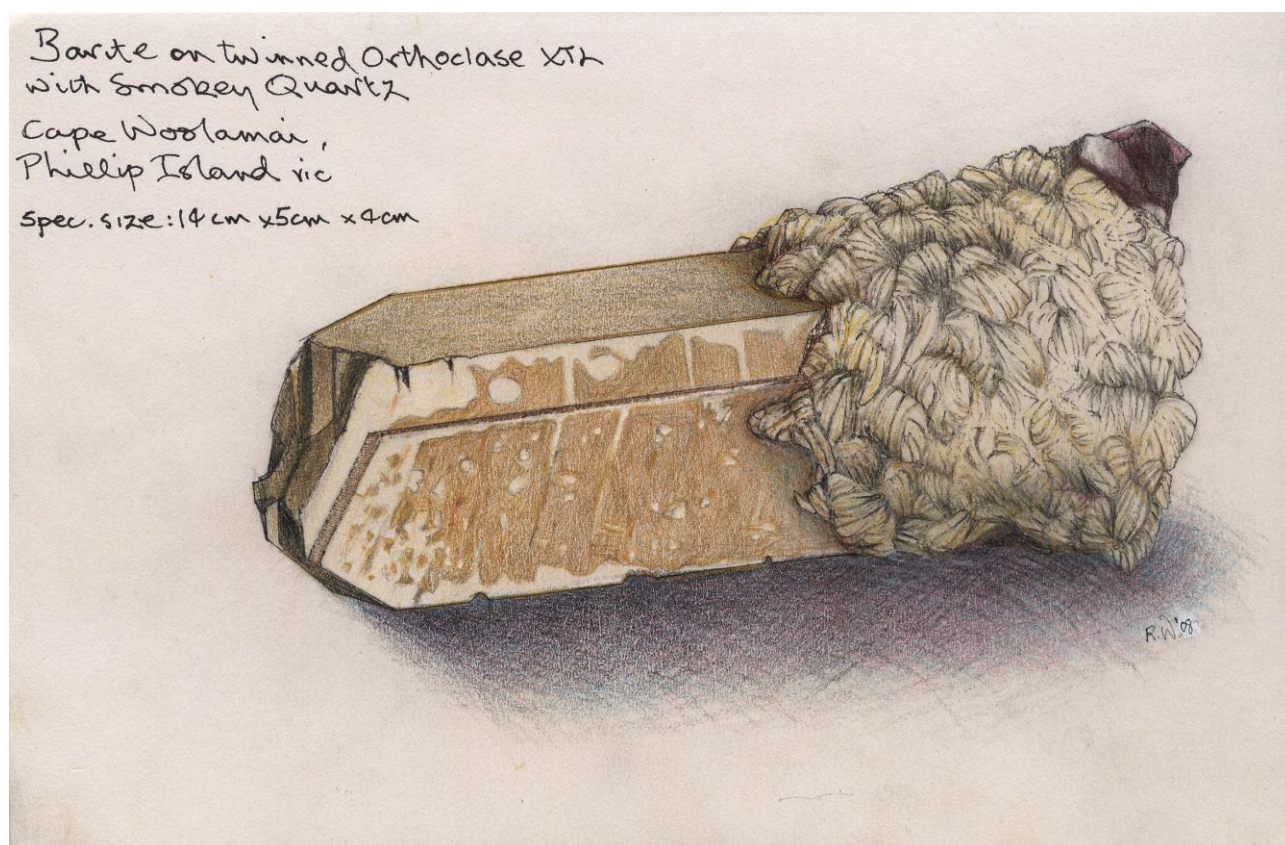
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## THE MINSOC TRADING POST

Society members can submit brief descriptions of specimens, equipment or other mineral related items that they wish to sell, swap or give away.

At General Meetings there are often some minerals for sale after the meeting.

This is open to all – feel free to bring your minerals along.



Pencil and watercolour sketch  
By Richard Wright ©

Many thanks to Richard Wright for offering his sketchbook to the Editor to copy, and providing permission to use his sketches in the Mineralogical Society of Victoria Newsletter.

# Professor Hugo Strunz and his system of classifying minerals

by Val Hannah

## Strunz – the person

Karl Hugo Strunz was born in Weiden, Oberpfalz, Bavaria, Germany on 24<sup>th</sup> of February 1910

He attended several schools in Regensburg, Bavaria. While there, he joined the Natural Science Society. In 1929, aged 19, he started studying natural science, specialising in mineralogy.

In 1933, at the age 23, he completed a PhD at the Ludwig Maximilians University in Munich, and two years later became a doctor of science and technology at the Technical University in Munich. Meanwhile he had completed two grades of exams to become a lecturer in science, but he did not take up a post in education.

He won a research scholarship to the Victoria University in Manchester, England with W L Bragg, and then he worked as an assistant to Paul Niggli at the Swiss Federal Institute of Technology in Zurich, Switzerland. In 1937, aged 27, he became assistant to Paul Ramdohr at the Mineralogical Museum in Berlin. In 1939 he was appointed professor of mineralogy and petrography at the Friedrich-Wilhelm University in Berlin (which was renamed Humboldt University in 1946).



After WW 2, Strunz returned to his native Bavaria in southern Germany with a contract to teach mineralogy at the Philosophical-Theological University in Regensburg, where he set up a Mineralogical-Geological Institute. This was later extended to the National Research Institute of Applied Mineralogy.

In 1951, aged 41, he joined the Technical University Berlin as professor of mineralogy and petrography, which he said was the best professorship in Germany at the time. In the difficult post war period he built up a fully-functioning and constantly-expanding institute in the space of a few years and he produced 140 publications in the 27 years that he worked there.

Whilst curator of the Mineralogical Museum, Strunz rearranged the collection according to a classification system based on crystal-chemical principles. His “Mineralogical Tables”, which was first published in 1941 and has been reissued many times and translated into many languages, is now regarded as a standard work. As a consequence, The International Centre for Mineral Data Collection is located at Strunz’s Institute.

He made numerous journeys to nearly all the world’s continents and discovered a large number of new minerals. He devoted special attention to the particular mineralogical and geological of his native Oberpfalz region in Bavaria. From this area comes a manganese-iron-phosphate, first described in 1957, which was named strunzite in his honour. Ferrostrunzite also bears his name.

Strunz has been awarded with many honours. He was a member of numerous academies and was on the board of many national and international societies.

From 1958 to 1970, he headed the Mineral Data Commission of the International Mineralogical Association (IMA) and was a founding member. Hugo Strunz and Paul Ramdohr were instrumental in the improvements and expansions of the 16<sup>th</sup> Edition of “Klock Mann’s Textbook of Mineralogy” and this has influenced the education of several generations of students.

Strunz was also interested in the historical aspects of mineralogy and published many articles, including one on the 200 years of the mining academy of the Technical University Berlin.

Upon retirement he returned to Bavaria. In 1985, the West German Government admitted him to the Order of Merit of the Federal Republic (first class).

Hugo Strunz died in April 2006, aged 96.

### **Strunz – his system of Classification**

Prof. Hugo Strunz introduced a chemical-structural classification of the entire domain of minerals (Mineralogische Tabellen, 1941), followed by A.S.Povarennykh with a modified classification (1966 in Russian, 1972 in English).

The chemical-structural classification of H. Strunz has gone through a number of editions, and is currently in progress of being refined in the light of recent crystal-structure determinations (Nickel-Strunz Version 10) by the late Ernest H. Nickel and others.

In the current system, minerals are divided into 10 major compositional classes:

- 01-Elements
- 02-Sulphides
- 03-Halogenides
- 04-Oxides and Hydroxides,
- 05-Carbonates and Nitrates
- 06-Borates
- 07-Sulphates
- 08-Phosphates
- 09-Silicates
- 10-Organic compounds

These are subdivided into divisions, families and groups on the basis of chemical composition and crystal structure.

**Internet references:** [www.2.tu-berlin.de/presse/125jahre/festschrift/strunz\\_e.htm](http://www.2.tu-berlin.de/presse/125jahre/festschrift/strunz_e.htm)  
“The Shoulders on which we stand”

<http://www.webmineral.com/strunz.shtml>

**Minerals arranged by the Nickel-Strunz (Ver10)  
Classification System**

**01 ELEMENTS**

- 01.A – Metals and Intermetallic Alloys
- 01.B – Metallic Carbides, Silicides, Nitrides and Phosphides
- 01.C – Metalloids and Nonmetals
- 01.D – Nonmetallic Carbides and Nitrides

**02 SULPHIDES**

- 02.A – Simple Sulphides, Selenides, etc
- 02.C – Metal Sulphides, M:S=1:1 (and similar)
- 02.D – Metal Sulphides, M:S=3:4 and 2:3
- 02.E – Sulphides, M:S=1:2
- 02.F – Sulphides of Arsenic, Alkalies; Sulphides with Halide, Oxide, Hydroxide, H<sub>2</sub>O
- 02.H – Sulphosalts of SnS Archetype
- 02.J – Sulphosalts of PbS Archetype
- 02.K – Sulpharsenates, Sulphantimonates
- 02.L – Unclassified Sulphosalts

**03 HALOGENIDES**

- 03.A – Simple Halides, without H<sub>2</sub>O
- 03.B – Simple Halides, with H<sub>2</sub>O
- 03.C – Complex Halides
- 03.D – Oxyhalides, Hydroxyhalides and Related Double Halides

**04 OXIDES AND HYDROXIDES**

- 04.A – Metal: Oxygen = 2:1 and 1:1
- 04.B – Metal: Oxygen = 3:4 and similar
- 04.C – Metal: Oxygen = 2:3, 3:5, and similar
- 04.D – Metal: Oxygen = 1:2 and similar
- 04.E – Metal: Oxygen =<1:2
- 04.F – Hydroxides (without V or U)
- 04.G – Uranyl Hydroxides
- 04.H – V<sup>[5+,6+]</sup> Vanadates
- 04.J – Arsenites, Antimonites, Bismuthites, Sulphites
- 04.K – Iodates

**05 CARBONATES AND NITRATES**

- 05.A – Carbonates without additional anions, without H<sub>2</sub>O
- 05.B – Carbonates with additional anions, without H<sub>2</sub>O
- 05.C – Carbonates without additional anions, with H<sub>2</sub>O
- 05.D – Carbonates with additional anions, with H<sub>2</sub>O
- 05.E – Uranyl Carbonates
- 05.N – Nitrates

**06 BORATES**

- 06.A – Monoborates
- 06.B – Diborates
- 06.C – Triborates
- 06.D – Tetraborate
- 06.E – Pentaborates
- 06.F – Hexaborates
- 06.G – Heptaborates and other Megaborates
- 06.H – Unclassified Borates

## **07 SULPHATES**

- 07.A – Sulphates (selenates, etc.) without additional anions, without H<sub>2</sub>O
- 07B – Sulphates (selenates, etc.) with additional anions, without H<sub>2</sub>O
- 07.C – Sulphates (selenates, etc.) without additional anions, with H<sub>2</sub>O
- 07.D – Sulphates (selenates, etc.) with additional anions, with H<sub>2</sub>O
- 07.E – Uranyl Sulphates
- 07.F – Chromates
- 07.G – Molybdates, Wolframates and Niobates
- 07.H – Uranium and Uranyl Molybdates and Wolframates
- 07.J – Thiosulphates

## **08 PHOSPHATES**

- 08.A – Phosphates, etc. without additional anions, without H<sub>2</sub>O
- 08.B – Phosphates, etc. with additional anions, without H<sub>2</sub>O
- 08.C – Phosphates without additional anions, with H<sub>2</sub>O
- 08.D – Phosphates, etc.
- 08.E – Uranyl Phosphates and Arsenates
- 08.F – Polyphosphates, Polyarsenates, [4]-Polyvanadates

## **09 SILICATES**

- 09.A – Nesosilicates (Isolated tetrahedron) structures
- 09.B – Sorosilicates (dimer) structures
- 09.C – Cyclosilicates
- 09.D – Inosilicates\* Structural terminology according to Liebau (1985)
- 09.E – Phyllosilicates
- 09.F – Tektosilicates without Zeolitic H<sub>2</sub>O
- 09.G – Tektosilicates with Zeolitic H<sub>2</sub>O
- 09.H – Unclassified Silicates
- 09.J – Germanates

## **10 ORGANIC COMPOUNDS**

- 10.A – Salts of Organic Acids
- 10.B – Hydrocarbons
- 10.C – Miscellaneous Organic Minerals

Example

### **NATROLITE**

- Strunz Class:** **09.GA.05 09 – SILICATES (Germanates)**  
**09.G – Tektosilicates with Zeolitic H<sub>2</sub>O**  
**09.GA – Zeolites with T5010 Units – The Fibrous Zeolites**
- 09.Ga.05 Gonnardite
  - 09.GA.05 Mesolite
  - 09.GA.05 Natrolite**
  - 09.GA.05 Paranatrolite
  - 09.GA.05 Scolecite
  - 09.GA.05 Tetranatrolite