

The President introduced the first lecture of the evening, which, instead of being the scheduled talk by Jim Sharpe on 'Malachite, Azurite and Pseudomorphs' was given by Peter Williams on '**New Australian Minerals**'. This lecture brought members up to date with developments in Australian mineralogy over the past two years.

Since it had been some time since Pete had provided the Society with an Australian mineral update, he had been asked to do so by the Committee since a few new Australian species have been described in 2007 and 2008, although not all have been published in the literature. The speaker would also refer to a few new species from outside Australia but which have been described by Australian researchers.

Initially he referred to continuing work being done by John Rankin and Jim Sharpe on re-cataloguing, and cataloguing for the first time, parts of the Dixon Mineral Collection belonging to the Power House Museum and currently in store at Castle Hill. Much of this collection has not been catalogued before. Some of the more spectacular Dixon specimens are currently being exhibited at the Broken Hill GeoCentre which this year is celebrating the 130 year anniversary of the commencement of mining at Broken Hill. One item in the collection, an image of which was shown, was of reticulated cerussite fashioned by an early miner or collector with a plaster base to form the shape of a boat. This method of displaying specimens was quite common a century ago. The Dixon collection also contains some magnificent native coppers and very good cerussites but unfortunately nearly all the silver halides have been severely and irretrievably blackened by exposure to light.

One important piece of information that has emerged from the examination of the Dixon Collection is that a smaller part of the original collection is still in the possession of Sydney University and discussions have taken place with the Geology Department to arrange examination and cataloguing of this material as well. The catalogue of the Dixon specimens in the Powerhouse collection will be accessible via the Internet soon although there are no plans by the Museum to place the specimens on display. Persons interested in viewing them would need to apply for permission to get behind the scenes at the Castle Hill storage facility.

Pete moved on to speak about several Australian type species which have been discovered and described over the last two years. In 2007 the first new Australian specimen to be accredited by the International Mineralogical Association's Commission of New Minerals, Nomenclature and Classification (CNMNC), was a uranyl phosphate, $\text{CaNaFe}_2\text{H}(\text{UO}_2)_2(\text{PO}_4)_4(\text{OH})_2(\text{H}_2\text{O})_8$, from the Lake Boga area, familiar to collectors as a source of other rare phosphates such as sampleite. The new mineral was described by Stuart Mills in Melbourne and now in Canada. Stuart is the current Secretary of the CNMNC. The name could not be disclosed because it is IMA policy that it remain confidential until publication. An image of the new phosphate showed minute yellow globules and it was suggested that while it has only just been described it was quite possible that members would have samples of Lake Boga minerals in their collections which might also include minute crystals of the new mineral.

Regrettably, new mineral finds these days are almost always in minute amounts, minerals occurring in larger crystal forms having nearly all been already found. In this connection the speaker referred to a mineral which he had mentioned in a previous new mineral lecture being found after work done by himself and others on specimens from the Grandview Mine, Arizona, associated with blue cyanotrichite but easily distinguished as paler blue acicular needles. It was recommended that anyone who has specimens from the Grandview Mine should examine them for the presence of the associated new mineral. The mineral will be described in detail in an article in the Australian Journal of Mineralogy.

Information in general which the speaker referred to sits on the CNMNC website. The information includes a summary of where the mineral comes from, the name of the main person who worked on it and to contact about it, the formula, composition and simple crystallographic data. The list is updated monthly. Ted Grew headed the 2007-021 submission approved in 2007, describing a mineral structurally related to mullite, $\text{Al}_6\text{Si}_2\text{O}_{13}$, but with a formula $\text{Al}_{4.5}\text{SiBi}_{0.5}\text{O}_{9.5}$. Stuart Mills came back into the picture in 2007 describing another phosphate mineral from Lake Boga, 2007-057, this time a copper iron phosphate, $\text{CuFe}_2(\text{PO}_4)_2(\text{OH})_2 \cdot 4\text{H}_2\text{O}$. It seems that the number of phosphates and arsenates is expanding and aside from silicates may come to dominate submissions to the CNMNC for accreditation. For 2008 Stuart Mills again has had approved 2008-008, a calcium magnesium aluminum hydroxy phosphate, $\text{CaMgAl}_2(\text{PO}_4)_3(\text{OH}) \cdot 4.7\text{H}_2\text{O}$, from Angaston in the Mt Lofty Ranges of South Australia. Mineral 2008-013 was described by Peter Elliot who is working on his PhD at the University of Adelaide. It is a zinc iron hydroxyl phosphate from Broken Hill and occurs as olive-green, bladed, prismatic crystals. Joël Brugger, also in Adelaide, has been very active in describing new minerals and has presented a rather simple compound, uranyl hydroxide, $\text{UO}_2(\text{OH})_2$, which has been approved by the CNMNC. Some 60 proposals for mineral accreditations have been dealt with so far this year which would make 2008 more prolific for new species described than the last few years with the total eventually reaching 70.

There are two other new Australian species which are currently in the voting process at the CNMNC, which has twenty-six voting members who have been nominated by mineralogical societies from all over the world. A two-thirds majority is required to accept the mineral as new and a simple majority to decide whether the name is appropriate and can be accepted. The new minerals are both from Broken Hill and were submitted by Peter Elliot. Pete expected that they would be accepted by the CNMNC, thereby adding yet more species to the long list of minerals for the locality. For new minerals from outside Australia but submitted by Australian workers, Joël Brugger made it back with a telluride from the Bombola Mine, Sonora, Mexico and also with a mineral from Chile belonging to the hilgardite group and containing borate and chloride. Stuart Mills has submitted details of a new mineral from the USA, a lead zinc antimony pyroarsenate belonging to the dugganite group. This mineral occurs as sprays or aggregates of acicular crystals associated in the images shown with a pink to purple yttrium-containing mineral, vyuntsphakite, in vughs in quartz.

In conclusion Pete reported that over the last two years, for its size, Australia is doing very well in contributing to the science of mineralogy and the establishment of new species. This contrasts with the USA and Canada where mineralogical science

is not strong as it once was, although it is flourishing in continental Europe and Russia, and increasingly in China.