



## NEW MINERALS: HELP OR HINDRANCE?

The Commission on New Minerals and Mineral Names (CNMMN) was established at nearly the same time as the IMA, in 1959, for the purpose of controlling the introduction of new minerals and mineral names and of rationalizing mineral nomenclature. In the 45 years of its existence, the CNMMN has not been idle, judging from the list of 4000 or so minerals and mineral names on which the CNMMN has officially taken a decision on their approval, discreditation, and/or redefinition (available on the CNMMN website: [www.geo.vu.nl/~ima-cnmmn](http://www.geo.vu.nl/~ima-cnmmn)). On this website one can also consult the procedures and guidelines for proposing new minerals and mineral names, and nomenclature reports published by the CNMMN.

On average about 80 new minerals are proposed each year, and about 60 of these are approved. Some persons consider the work on new natural phases as wasted time. Who indeed cares about these tiny and exotic grains? Why should one spend precious lab and personnel resources on the umpteenth arsenate, phosphate, or sulfate in some forsaken oxidation zone of an unimportant, abandoned ore deposit? Of course, a new substance has to be characterized first before it becomes clear whether it is an "exotic butterfly" or an important technical substance. The conclusive answer to these questions and considerations was given by one of my predecessors as CNMMN chairman, Akira Kato, at the start of the Paris 1980 IGC session on new minerals: "Once upon a time, feldspar was a new mineral!"

It so happens that in 2004 the CNMMN received not one, not two, but three proposals for new minerals in the feldspar group. Two of these have been approved: the hexagonal potassium feldspar kokchetavite and the not-yet-published tetragonal polymorph of albite. In both cases, these submicroscopic grains of new minerals have given important information on the genetic history of the rocks in which they were found. In the same year, the CNMMN also received proposals for new minerals in other common rock-forming mineral groups: five amphiboles, three micas, and even a new polymorph of quartz, named seifertite. Taking great pains on the full characterization of new minerals is obviously not always a waste of time, but a real help.

However, not only scientific aspects of these phases are important; appearances also count, especially for the large body of amateur mineralogists and mineral collectors. Some new minerals are a feast for the eyes, as you can see from the accompanying photographs of the Sb–Mo oxide biehliite (99-019) and a not-yet-published Na–Cu carbonate (2004-036). The ultimate in this category is of course the recent discovery in Madagascar of the whitish-pink to raspberry-red pezzottaite, a caesium mineral related to the beryl group. Gem-quality specimens of this new mineral (2003-022) have changed hands for six-figure prices!

The path of the CNMMN is not always strewn with roses. There is regular, heavy criticism on current mineral nomenclature, for example, by John S. White under the title "The Nomenclature Debacle" in the May–June 2004 issue of *Rocks and Minerals*, and by Ralph Kretz in the October 2004 issue of the newsletter of the Mineralogical Association of Canada. I have even been threatened with a global e-mail campaign because the CNMMN does not give unique names for minerals. Just one example: the mineral name 'apatite' does not exist any more—we have nowadays hydroxylapatite, fluorapatite, and chlorapatite, and also

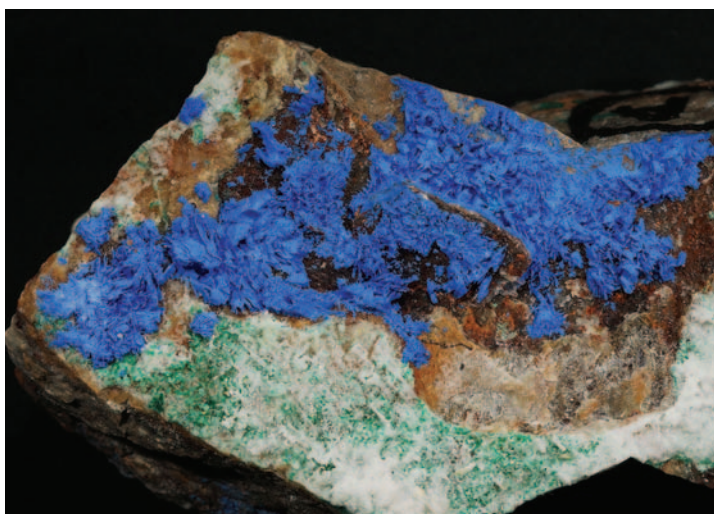
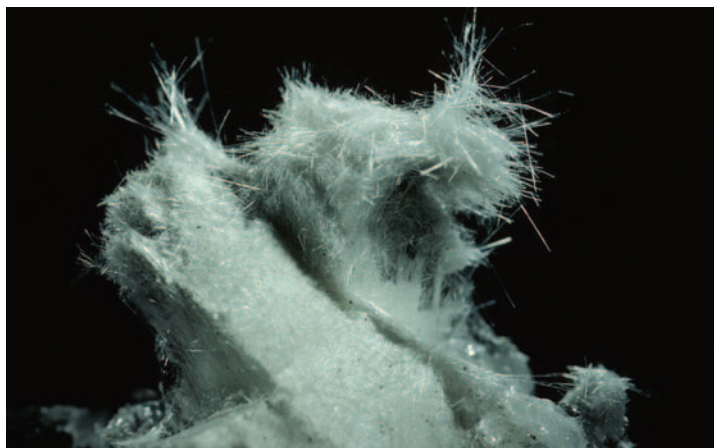
(unjustly) carbonate-fluorapatite and carbonate-hydroxylapatite. How can one give the correct name to an obvious apatite specimen without an analysis of some kind? This problem could have been solved easily by using (optional) suffixes, as has been done successfully in the zeolite and labuntsovite groups.

We all know, of course, that mineralogical nomenclature is far from ideal. There are indeed too many inconsistencies that have arisen before and after the arrival of the CNMMN in 1959. The CNMMN has a so-called 50% rule for nomenclature in (binary) solid solutions, but at the same time there are major mineral groups in which the current nomenclature is not in accordance with this rule (e.g., amphiboles, pyroxenes, pyrochlores,

alunites). The CNMMN is continuously working on nomenclature problems, usually with subcommittees responsible for specific mineral groups or problems. A very peculiar problem, a real hindrance, is caused by the fact that more than 2300 natural phases, possible new minerals but perhaps meanwhile better described elsewhere, have been published without a name. The Subcommittee on Unnamed Minerals (they call themselves SCUM) is taking care of these orphaned objects.

Certainly, for quite some time to come, the CNMMN will not be without things to do!

Ernst A.J. Burke,  
CNMMN Chairman  
[ernst.burke@falw.vu.nl](mailto:ernst.burke@falw.vu.nl)



Two recent new minerals described by a team from the Mineralogical Museum of the University of Hamburg (Jochen Schlüter, senior author). Top: biehliite from Tsumeb, Namibia, width = 15 mm; bottom: 2004-036 from Mina Santa Rosa, Iquique, Chile, width = 28 mm. Photographs by K.-C. Lyncker.