

AN OLD AND STILL NEW PROBLEM: HOW MANY MINERALS? AND THE MINERAL SUBSPECIES

UDUBASA, G.

The number of minerals is continuously increasing especially as a result of improving analytical procedures. Most of the minerals discovered in the last years have micro-size and sometimes not all the (major) properties could accurately be determined. Other times there are some proposed minerals showing only small differences compared to the known minerals; some of them have cation differences only in minor structural sites and the XRD patterns are practically the same. Are such phases new species? The general classification of minerals has now a good chemical-structural basis and the mineral classes exhibit quite clear properties. However, the further classification, i.e. within the classes is less constant and series, groups etc are equally used. Starting from classes, smaller and smaller entities could be derived, taking into account different criteria. One variant can be as follows: - mineral class;- subclass;- series;- group;- species;- polymorphs and polytypessubspecies, which can be defined a mineral with minor variations in chemical composition and similar structural patterns;- variety. Examples are given for each entry and arguments will be presented for each subdivision, showing that this model can be applied for each mineral class. In such a way a hyerarchical classification can be proposed, which is closer to nature, where perfectly equal entities never exist. However, CNMMN-IMA rules for accepting new species and subspecies should further be necessary.