

## A MASS DISCREDITATION OF GQN MINERALS

ERNST A.J. BURKE<sup>§</sup>

*Department of Petrology, Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam,  
De Boelelaan 1085, 1081 HV Amsterdam, Netherlands*

### INTRODUCTION

The Commission on New Minerals and Mineral Names (CNMMN) of the International Mineralogical Association (IMA) approved in 2002 a list containing the 4,000 or so minerals and mineral names on which the CNMMN has officially taken a decision since 1959 concerning their approval (A), discreditation (D), and redefinition (R); this list was updated in February 2004. This so-called ARD list is part of the website ([www.geo.vu.nl/~ima-cnmmn](http://www.geo.vu.nl/~ima-cnmmn)) of the Commission, since July 2006 renamed Commission on New Minerals, Nomenclature and Classification (CNMNC) after a merger with the IMA Commission on Classification of Minerals (CCM). The ARD list was drafted on the basis of the MINERAL database of Ernest Nickel and Monte Nichols, currently owned and distributed by Materials Data, Inc. of Livermore, California, USA.

The most important remaining categories of mineral names in the MINERAL database are grandfathered minerals (G: names considered to represent valid species, described before 1959), questionable minerals (Q: names considered not to represent valid species, described before 1959) and non-approved names (N: names published after 1959 without CNMMN approval). Other categories in the MINERAL database include polytypes, group names and traditional names given to phases of intermediate composition.

The so-called GQN list (about 1,600–1,700 entries) was distributed in 2005 to the CNMMN members and to interested outsiders for comments. The many hundreds of remarks with suggestions for corrections and improvements were brought together by the CNMNC chairman in a document of 130 pages, which was then handed over to Ernest Nickel for comments.

In the course of this work, the CNMNC chairman and Ernest Nickel finally reached agreement on a list of mineral names which should be considered for discreditation before drafting the definitive GQN list. There are several reasons for the discreditation of these

names: publications showing these species to be another species or a mixture (indicated by the literature references), general consensus in mineralogical reference works (indicated by their description in, *e.g.*, Clark's 3<sup>rd</sup> edition of Hey's Mineral Index), and personal research by several contributors on specific minerals. The list was submitted to the CNMMN–CNMNC members for comments and voting. The final list of minerals (or names) to be discredited was approved (proposal 06–C) in November 2006 (see below).

The aim of this complex procedure is that the ARD and the GQN lists (along with the names of polytypes, *etc.*) will then constitute an updated MINERAL database, a kind of “official” IMA list of minerals, their names and their status.

### MASS DISCREDITATION

The procedure followed to arrive at the present discreditation of about 130 minerals or mineral names deviates from the official CNMNC rules for discreditation of a mineral (Dunn 1990). According to these rules, it is imperative that the type material, if it still exists, be utilized in the discreditation of a mineral species. This rule was considered not to be workable in the current one-of operation to clean up the MINERAL database; it would indeed take years to get the desired results, if possible at all.

Mass discreditation is not a new phenomenon within the CNMMN–CNMNC. It has been put in practice in the past, in the many reports on schemes of nomenclature within mineral groups, *e.g.*, for pyroxenes, micas, amphiboles, zeolites. Many hundreds of names have thus been discredited without examining the type material. It is possible, of course, that by acting in this way a mineral or a mineral name is unjustly discredited, although such cases have been extremely rare. It is otherwise always possible, however, to redefine a mineral wrongly attributed the D status in the IMA list.

<sup>§</sup> Chairman, Commission on New Minerals, Nomenclature and Classification, International Mineralogical Association. *E-mail address:* [ernst.burke@falw.vu.nl](mailto:ernst.burke@falw.vu.nl)

**Minerals (or Mineral Names) Discredited (IMA 06–C, November 2006)**

- Achtarandite or Achtaragdite = pseudomorph, probably after mayenite, consisting of hydrogarnet – hydroandradite – hibschite, serpentine and other minerals: *Neues Jahrb. Mineral., Monatsh.* (1995), 306-320. *Neues Jahrb. Mineral., Monatsh.* (1998), 49-62.
- Almeraitite = mixture of **carnallite** and **halite**: *Mineral. Mag.* **20** (1925), 445.
- Alushtite = **tosudite**: *Am. Mineral.* **77** (1992), 1119.
- Arkelite = **tazheranite**: *Mineral. Mag.* **33** (1964), 1127; name originally used for synthetic material.
- Arseniodialyte = **hausmannite**: *Geol. Fören. Stockholm Förh.* **94** (1972), 424.
- Arsenosulvanite = **colusite**: *Am. Mineral.* **79** (1994), 750.
- Azovskite = **delvauxite** (?); according to I.V. Pekov, pers. commun. (2005), massive non-crystalline hydrous Fe-phosphate (usually **santabarbaraitite**) mixed with goethite.
- Basaluminite = **felsőbányaite**: Papp (2004), 24.
- Batavite = Fe-poor variety of **vermiculite**: *J. Am. Ceram. Soc.* **35** (1952), 55-78; Strunz (1957, 1970).
- Bayankhanite = probably a mixture of several Cu–Hg–S phases: *Am. Mineral.* **71** (1986), 1543.
- Beckelite-(Ce) = **britholite-(Ce)**: *Am. Mineral.* **75** (1990), 437.
- Beegerite = mixture of **schirmerite** and **matildite**: *Can. Mineral.* **11** (1973), 952.
- Bellite = a mixture of **quartz**, **mimetite** and **crocoite**, or simply Cr-bearing **mimetite**: *Mineral. Mag.* **57** (1993), 538.
- Belmontite = mixture or **mimetite**: *Am. Mineral.* **53** (1968), 1437. Based on the information supplied by Dr. Vera Hammer of the Natural History Museum, Vienna, the original specimen of “belmontite” of Küstel was studied by XRD (Dr. Gerhard Niedermayr) and SEM–EDS (Dr. Franz Brandstätter). According to their unpublished results, the X-ray study gave bindheimite, chlorargyrite, tetrahedrite, quartz, goethite, maybe baumhauerite and hydromolysite as constituents of the specimen.
- Boldyrevite = impure **ralstonite** or **gearsutite**: I.V. Pekov, pers. commun. (2005).
- Bonchevite = mixture of **pekoite** and **galenobismutite**: *Mineral. Mag.* **49** (1985), 135-137; draft sulfosalt report.
- Brongniartite or Brongniardite = Ag-bearing **diaphorite**: *Zap. Vses. Mineral. Obshchest.* **118**(5) (1989), 47; draft sulfosalt report.
- Bursaite = intergrowth of two phases: *Neues Jahrb. Mineral., Abh.* **158** (1988), 293; draft sulfosalt report.
- Ca-huréalite = Ca-bearing **huréalite** (?): *Mineral. Mag.* **32** (1961), 948.
- Calciogadolinite = Ca-bearing **gadolinite-(Y)**: Clark (1993), 103.
- Calciovolborthite = **tangéite** or **vésigniéite**: *Neues Jahrb. Mineral., Monatsh.* (1994), 205-208.
- Cheralite-(Ce) = Ca-rich **monazite-(Ce)**, based on chemical data in *Neues Jahrb. Mineral., Monatsh.* (1995), 344-350.
- Chinglusuite = a compositional variety of **neotocite**: I.V. Pekov, pers. commun. (2005).
- Clinochrysotile, orthochrysotile, parachrysotile = polytypes or crystallographic variants of **chrysotile**: *Can. Mineral.* **13** (1975), 227-243.
- Cobaltmalanite = Co-bearing **malanite**: *Am. Mineral.* **67** (1982), 1081.
- Coeruleolactite = mixture of **planerite** + **variscite** + **wavellite**: *Mineral. Mag.* **62** (1998), 93-111.
- Coniféite = **cobalt pentlandite**: *Romanian J. Mineral.* **79** (1999), 3-30.
- Cuproadamite = Cu-bearing **adamite**: Clark (1993), 165. It is not olivenite, as erroneously stated in Strunz & Nickel (2001).
- Cuprofaustite = Cu-bearing **faustite**: *Mineral. Mag.* **62** (1998), 93-111.
- Cuproscheelite = mixture of **scheelite** + copper tungstate: *Am. Mineral.* **55** (1970), 1345.
- Dienierite = **nickel-skutterudite**: *Mineral. Mag.* **65** (2001), 685-687.
- Duftite-beta = compositional intermediate in the **duftite–conichalcite** series, which has a modulated structure based on the intergrowth of the two structures in domains of approximately 50 Å: *Mineral. Mag.* **62** (1998), 121-130.
- Dunhamite = **plumbotellurite** (?): *Mineral. Mag.* **43** (1979), 457.
- Eguéite = a hydrous Ca–Fe phosphate, possibly altered **metavivianite**: Clark (1993), 193.
- Endellite = **halloysite-10Å**: AIPEA recommendation, 1975.
- Fluosiderite = F-rich **chondrodite**: *Eur. J. Mineral.* **14** (2002), 151-155.
- Foshallasite or Foshallassite = **zeophyllite**: I.V. Pekov, pers. commun. (2005).
- Gelnicite or Gelnicaite = identical with an approved sulfosalt (2006–015: marrucciite); names used by Háber without CNMMN approval.
- Giannettite = **hainite**: *Can. Mineral.* **37** (1999), 92.
- Glaserite = **aphthitalite**: Clark (1993), 261.

- Groutellite = pseudomorph of **ramsdellite** after groutite: *Am. Mineral.* **89** (2004), 969-975.
- Grovesite = **pennantite**: *Am. Mineral.* **59** (1974), 1153-1156.
- Guanglinite = **isomerticite** (?): *Am. Mineral.* **59** (1974), 1330-1331, and **65** (1980), 408.
- Horsfordite = metallurgical (?) mixture of three phases: *Can. Mineral.* **44** (2006), 409-413.
- Hoshiite = Ni-bearing **magnesite**: Clark (1993), 300.
- Hydrophilite = **antarcticite** or **sinjarite**: *Mineral. Mag.* **43** (1980), 682.
- Hydroxylcarbonate-(La) = **hydroxyl-bastnäsité-(La)**: *Am. Mineral.* **87** (2002), 766.
- Hydroxylcarbonate-(Nd) = **hydroxyl-bastnäsité-(Nd)**: *Am. Mineral.* **87** (2002), 766.
- Ilbaité = **allophane**: *Am. Mineral.* **75** (1990), 1210.
- Ilmenorutile = Nb-bearing **rutile**: *Neues Jahrb. Mineral., Abh.* **101** (1964), 142.
- Iridrhodruthenium = Ir-Rh-rich **ruthenium**: *Am. Mineral.* **76** (1991), 1434.
- Irite = mixture of several PGE minerals: *Mineral. Mag.* **68** (2004), 369-394.
- Isochalcopyrite = **isocubanite**: *Am. Mineral.* **75** (1990), 432.
- Istisuite = **ferrohornblende** (?); a Ca-Na aluminosilicate: Strunz & Nickel (2001).
- Jeromite = amorphous As-S-Se phase of variable composition: Palache *et al.* (1944), 144.
- Kamacite = Ni-rich **iron**: Clark (1993), 350.
- Katang(a)ite = **planchéite**: *Ann. Soc. Géol. Belg.* **91** (1968), 401.
- Kerstenite (of Dana) = **molybdomenite**: *Eur. J. Mineral.* **6** (1994), 337 and *Plinius* **28** (2002), 235-236; also **olsacherite**.
- Kitaibelite = Pb-containing **pavonite**: *Geol. Assoc. Can. – Mineral. Assoc. Can., Program Abstr.* **17** (1992), 116; draft sulfosalt report.
- Kittlite = Se-bearing **metacinnabar**: *Am. Mineral.* **57** (1972), 1313.
- Kliachite or Cliachite = colloidal Al hydroxide: *Am. Mineral.* **75** (1990), 431-432.
- Kochelite = mixture of **fergusonite-(Y)** and **zircon**: *Neues Jahrb. Mineral., Monatsh.* (2004), 193-207.
- Koivinite-(Y) = **florencite-(Y)** (?): Clark (1993), 368.
- Kurilite = **hessite** or **petzite** (?): *Am. Mineral.* **77** (1992), 208.
- Lampadite = Cu-bearing **asbolane**: Clark (1993), 384.
- Lessingite-(Ce) = **britholite-(Ce)**: *Mineral. Mag.* **31** (1957), 455; *Z. Kristallogr.* **191** (1990), 249.
- Leucoxene = mixture of Fe and Ti minerals: *Mineral. Mag.* **58** (1994), 597.
- Lewisite = Ti-bearing **roméite**: *Am. Mineral.* **83** (1998), 403 and **84** (1999), 1198; draft pyrochlore report.
- Lyndochite = **euxenite-(Y)**: *Can. Mineral.* **40** (2002), 1211-1213.
- Manganoparawollastonite = Mn-bearing **wollastonite**: *Am. Mineral.* **79** (1994), 388.
- Mátraite = densely twinned columnar **sphalerite**: *Acta Mineral.-Petrogr. (Szeged)* **41** (Suppl.) (2000), 124.
- Matveevite = Mg-Al-bearing **benyacarite**: *Can. Mineral.* **35** (1997), 711.
- Maufite = interstratified **clinocllore-lizardite**: *Can. Mineral.* **36** (1998), 926.
- Metaberyllite = variety of **beryllite** with lower H<sub>2</sub>O content: *Mineral. Mag.* **39** (1974), 920.
- Meta-natrium-uranospinite = **sodium-uranospinite**: *Mineral. Mag.* **35** (1966), 1145.
- Mn-palygorskite = **yofortierite**: *Greenland Geol. Surv., Bull.* **190** (2001), 123-125.
- Mn-sepiolite = **yofortierite**: I.V. Pekov, pers. commun. (2005).
- Muchuanite = mixture of **molybdenite** and **jordisite**: *Am. Mineral.* **67** (1982), 856; *Mineral. Mag.* **48** (1984), 578.
- Natrofairchildite = **nyerereite** (?): *Am. Mineral.* **60** (1975), 487.
- Nickellinnaeite = **polydymite**: Clark (1993), 494.
- Nitrammite = **gwihabaite** (note: nitrammite has historical precedence, but its natural occurrence is doubtful: Clark (1993), 498).
- Oxybiotite = oxidized biotite (?): *Mineral. Mag.* **38** (1972), 996; name not mentioned in mica report.
- Oxykaersutite = **kaersutite**: *Mineral. Mag.* **32** (1961), 974; name not mentioned in amphibole reports.
- Paragearsutite = probably identical with **gearsutite**: Clark (1993), 525.
- Parajamesonite = mixture of **jamesonite** + other sulfosalts: Papp (2004), 76; draft sulfosalt report.
- Parakutnohorite = intermediate composition between **calcite** and **rhodochrosite**: *Am. Mineral.* **51** (1966), 1815.
- Percylite = mixture of **boleite** + **pseudoboleite**: *Mineral. Rec.* **5** (1974), 284 and **29** (1998), 42.
- Phosphate-walpurkite = **walpurkite**, not the same as phosphowalpurkite: *Can. Mineral.* **42** (2004), 963-972.
- Picroilmenite = Mg-rich **ilmenite**: Clark (1993), 545.
- Pimelite (of Karsten) = probably **willemséite** or **kerolite** (note: pimelite has historical precedence).
- Planoferrite = **hydronium jarosite**: *Mineral. Mag.* **31** (1957), 409.
- Priazovite = mixture of **samarskite-(Y)** and U,Ti-rich mineral of the pyrochlore group (**betafite** or Ti-rich variety of **uranpyrochlore**): *Am. Mineral.* **62** (1977), 407.
- Protoantigorite = **antigorite** (?): *Am. Mineral.* **80** (1995), 1329.

- Pseudoboehmite = colloidal **böhmite**: *Mineral. Mag.* **33** (1964), 1148.  
 Ranquillite = **haiweeite**: *Am. Mineral.* **66** (1981), 611.  
 $\alpha$ -Rathite = **rathite**: *Z. Kristallogr.* **217** (2002), 581-590.  
 Rathite-I = **rathite** or **dufrénoysite**: *Z. Kristallogr.* **217** (2002), 581-590.  
 Rathite-1a = **dufrénoysite**: *Z. Kristallogr.* **217** (2002), 581-590.  
 Rathite-II = **liveingite**: *Z. Kristallogr.* **217** (2002), 581-590.  
 Rathite-III = erroneously determined structure: *Z. Kristallogr.* **217** (2002), 581-590.  
 Rathite-IV (of Nowacki *et al.* 1964) = **sartorite**: *Z. Kristallogr.* **217** (2002), 581-590; the current Rathite-IV (status = Q) is the renamed **Rathite-V** (of Nowacki *et al.* 1964), a phase with 140 Å periodicity in the sartorite group.  
 Rathite-V = renamed to **Rathite-IV**: *Z. Kristallogr.* **217** (2002), 581-590.  
 Retzian-(Y) = **retzian-(Nd)**: *Am. Mineral.* **67** (1982), 841-845.  
 Rozhkovite = Pd-bearing **auricupride**: *Am. Mineral.* **62** (1977), 595.  
 Saimaite = **strontiochevkinite**: *Am. Mineral.* **85** (2000), 1844.  
 Sakharovaite = Bi-bearing **jamesonite**: draft sulfosalt report.  
 Scandium microlite = Sc-bearing **microlite**: *Am. Mineral.* **76** (1991), 668.  
 Severginite = **manganaxinite**: *Am. Mineral.* **53** (1968), 1407 and **64** (1979), 1334.  
 Stannoenargite = Sn-bearing **enargite**: *Am. Mineral.* **51** (1966), 1825.  
 Strüverite (of Zambonini) = Ta-bearing **rutile**: *Neues Jahrb. Mineral. Abh.* **101** (1964), 142.  
 Sturtite = **hisingerite** or **neotocite**: *Am. Mineral.* **69** (1984), 215.  
 Tagilite = **pseudomalachite**: *Z. Geol. Wiss.* **12** (1984), 705.  
 Titanclinohumite = Ti-bearing **clinohumite**: *Am. Mineral.* **58** (1973), 43.  
 Tsilaisite = Mn-bearing **elbaite**: *Am. Mineral.* **70** (1985) 877 and **71** (1986), 1214-1216.  
 Uhlignite (of Hauser) = **perovskite** or **zirkelite** (?): Clark (1993), 721.  
 Volfsonite = **stannite**: *Am. Mineral.* **73** (1988), 441.  
 Volkovite = **strontioginorite**: Clark (1993), 740.  
 Winebergite = ill-defined hydrous basic sulfate of aluminum: Clark (1993), 754.  
 Yttroceberyite-(Y) = **hingganite-(Y)**: *Am. Mineral.* **73** (1988), 441-442 and 935.  
 Yttrofluorite = Y-enriched variety of **fluorite**: *Norsk Geol. Tidsskr.* **48** (1968), 245.  
 Zinalsite = **fraipontite** (?): *Am. Mineral.* **44** (1959), 208.  
 Zincblödite = name used for artificial compound [*Period. Mineral.* **54** (1985), 12]; natural material with this composition and structure has been approved as **changoite**.  
 Zinc-fauserite = probably Zn-Mg-bearing **mallardite**: Papp (2004), 137.  
 Zinclavendulan = Zn-bearing **lavendulan**: Clark (1993), 775.

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