



IMA Commission on New Minerals, Nomenclature and Classification (CNMNC)

Newsletter 57

Ritsuro Miyawaki (Chairman, CNMNC)¹, Frédéric Hatert (Vice-Chairman, CNMNC)², Marco Pasero (Vice-Chairman, CNMNC)^{3*} and Stuart J. Mills (Secretary, CNMNC)⁴

¹ Department of Geology and Paleontology, National Museum of Nature and Science, 4-1-1 Amakubo, Tsukuba 305-0005, Japan – miyawaki@kahaku.go.jp;

²Laboratoire de Minéralogie, Université de Liège, B-4000 Liège, Belgium – fhatert@uliege.be; ³ Dipartimento di Scienze della Terra, Università di Pisa, Via Santa Maria 53, I-56126 Pisa, Italy – marco.pasero@unipi.it; and ⁴ Geosciences, Museums Victoria, PO Box 666, Melbourne, Victoria 3001, Australia – smills@museum.vic.gov.au

The information given here is provided by the IMA Commission on New Minerals, Nomenclature and Classification for comparative purposes and as a service to mineralogists working on new species.

Each mineral is described in the following format:

Mineral name, if the authors agree on its release prior to the full description appearing in press

Chemical formula

Type locality

Full authorship of proposal

E-mail address of corresponding author

Relationship to other minerals

Crystal system, Space group; Structure determined, yes or no

Unit-cell parameters

Strongest lines in the powder X-ray diffraction pattern

Type specimen repository and specimen number

Citation details for the mineral prior to publication of full description

Citation details concern the fact that this information will be published in the *Mineralogical Magazine* on a routine basis, as well as being added month by month to the Commission's web site.

It is still a requirement for the authors to publish a full description of the new mineral.

NO OTHER INFORMATION WILL BE RELEASED BY THE COMMISSION

NEW MINERAL PROPOSALS APPROVED IN AUGUST 2020

IMA No. 2020-014

Katsarosite

$\text{Zn}(\text{C}_2\text{O}_4) \cdot 2\text{H}_2\text{O}$

Esperanza Mine, Lavrion District Mines, Attikí Prefecture, Greece (37°43'31"N, 24°01'56"E)

Branko Rieck*, Gerald Giester, Christian Lengauer and Lutz Nasdala

*E-mail: rieckb49@univie.ac.at

The Zn analogue of humboldtine

Monoclinic: $C2/c$; structure determined

$a = 11.768(3)$, $b = 5.388(1)$, $c = 9.804(2)$ Å, $\beta = 127.045(8)^\circ$

4.768(94), 4.703(37), 4.674(100), 3.927(33), 3.569(27), 2.953(51),

2.657(22), 2.556(14)

Type material is deposited in the collections of the Institut für Mineralogie und Kristallographie der Universität Wien, Althanstrasse 14, 1090 Wien, Austria, catalogue number HS13.977 (holotype), and the Mineralogical Museum of Lavrio, Andrea Kordella Ave., 19500 Lavrio, Greece, catalogue number T3201 (cotype)

How to cite: Rieck, B., Giester, G., Lengauer, C. and Nasdala, L. (2020) Katsarosite, IMA 2020-014. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-022

Bahariyaite

KMnO_4

In the western edge of the Bahariya Oasis, Western Desert, Egypt (28°02'31"N, 28°36'59"E)

Hassan M. Helmy*, Harald J. Euler, Frank Tomaschek, Chris Ballhaus and Hans Henning Friedrich

*E-mail: hmelmy@mu.edu.eg

*Author for correspondence: Marco Pasero, Email: marco.pasero@unipi.it

Cite this article: Miyawaki R., Hatert F., Pasero M. and Mills S.J. (2020) Newsletter 57. *Mineralogical Magazine* 1–4. <https://doi.org/10.1180/mgm.2020.73>

Known synthetic analogue

Orthorhombic: *Pnma*; structure determined

$a = 9.1186(6)$, $b = 5.7224(6)$, $c = 7.4332(5)$ Å
4.533(24), 3.714(35), 3.565(100), 3.215(77), 2.947(41), 2.860(27),
2.179(26), 2.176(18)

Type material is deposited in the collections of the Mineralogical Museum of the University of Bonn, Poppelsdorfer Schloss, Meckenheimer Allee 169, 53115 Bonn, Germany, catalogue number 40651

How to cite: Helmy, H.M., Euler, H.J., Tomaschek, F., Ballhaus, C. and Friedrich, H.H. (2020) Bahariyaite, IMA 2020-022. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-033

Hasanovite

$\text{KNa}(\text{MoO}_2)(\text{SO}_4)_2$

Near to Ravat kishlak (village), Fan-Jagnob lignite basin, Kuhi-Malik area, Tajikistan (39°11'02"N, 68°35'11"E)

Mirak A. Mirakov, Leonid A. Pautov, Oleg I. Siidra*, Saimudasir Makhmadsharif, Vladimir Y. Karpenko and Pavel Y. Plechov

*E-mail: o.siidra@spbu.ru

New structure type

Monoclinic: *P2₁/c*; structure determined

$a = 9.6225(2)$, $b = 11.4049(3)$, $c = 8.1421(2)$ Å, $\beta = 99.179(1)^\circ$
6.57(48), 4.34(75), 3.64(100), 3.44(58), 3.34(74), 3.20(63),
2.879(73), 2.729(50)

Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5568/1

How to cite: Mirakov, M.A., Pautov, L.A., Siidra, O.I., Makhmadsharif, S., Karpenko, V.Y. and Plechov, P.Y. (2020) Hasanovite, IMA 2020-033. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-034

Hrabákite

$\text{Ni}_9\text{PbSbS}_8$

At the mine dump of the shaft No. 9 - Jerusalem, Příbram ore district, central Bohemia, Czech Republic (49°40'12.806"N, 14°01'48.102"E)

Jiří Sejkora*, Pavel Škácha, Jakub Plášil, Zdeněk Dolníček and Jana Ulmanová

*E-mail: jiri_sejkora@nm.cz

Hauchecornite group

Tetragonal: *P4/mmm*; structure determined

$a = 7.3085(4)$, $c = 5.3969(3)$ Å
3.654(57), 3.268(68), 2.796(100), 2.392(87), 2.311(78), 1.866(74),
1.808(71), 1.723(52)

Cotype material is deposited in the collections of the Department of Mineralogy and Petrology, National Museum in Prague, Cirkusová 1740, 19300 Praha 9, Czech Republic, catalogue number P1P 30/2020, and the Mining Museum Příbram, Hynka Kličky Place 293, 26101 Příbram VI – Březové Hory, Czech Republic, catalogue number 1/2020

How to cite: Sejkora, J., Škácha, P., Plášil, J., Dolníček, Z. and Ulmanová, J. (2020) Hrabákite, IMA 2020-034. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-035

Manganobadalovite

$\text{NaNaMn}(\text{MgFe}^{3+})(\text{AsO}_4)_3$

Arsenatnaya fumarole, Second scoria cone of the Northern Breakthrough of the Great Tolbachik Fissure Eruption, Tolbachik volcano, Kamchatka peninsula, Far-Eastern Region, Russia (55°41'N, 160°14'E, 1200 m asl)

Natalia N. Koshlyakova*, Igor V. Pekov, Dmitry I. Belakovskiy, Marina F. Vigasina, Natalia V. Zubkova, Atali A. Agakhanov, Sergey N. Britvin, Evgeny G. Sidorov and Dmitry Y. Pushcharovskiy

*E-mail: nkoshlyakova@gmail.com

Alluaudite supergroup

Monoclinic: *C2/c*; structure determined

$a = 12.1848(5)$, $b = 12.8924(4)$, $c = 6.6970(3)$ Å, $\beta = 113.113(5)^\circ$
6.43(30), 3.589(32), 3.215(38), 3.079(23), 2.941(32), 2.788(100),
2.649(22), 2.626(25)

Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5487/1

How to cite: Koshlyakova, N.N., Pekov, I.V., Belakovskiy, D.I., Vigasina, M.F., Zubkova, N.V., Agakhanov, A.A., Britvin, S.N., Sidorov, E.G. and Pushcharovskiy, D.Y. (2020) Manganobadalovite, IMA 2020-035. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-037

Bojarite

$\text{Cu}_3(\text{N}_3\text{C}_2\text{H}_2)_3(\text{OH})\text{Cl}_2 \cdot 6\text{H}_2\text{O}$

In a guano deposit, northern slope of Pabellón de Pica Mountain, 1.5 km S of Chanabaya village, Iquique Province, Tarapacá Region, Chile (22°55'S, 70°08'W)

Nikita V. Chukanov*, Gerhard Möhn, Natalia V. Zubkova, Dmitry A. Ksenofontov, Igor V. Pekov, Atali A. Agakhanov, Sergey N. Britvin and Joy Desor

*E-mail: nikhchukanov@yandex.ru

New structure type

Cubic: *Fd $\bar{3}$ c*; structure determined

$a = 24.8047(5)$ Å
8.83(31), 7.19(100), 6.23(35), 5.077(28), 4.194(28), 4.143(40),
3.584(23), 2.865(28)

Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5574/1

How to cite: Chukanov, N.V., Möhn, G., Zubkova, N.V., Ksenofontov, D.A., Pekov, I.V., Agakhanov, A.A., Britvin, S.N. and Desor, J. (2020) Bojarite, IMA 2020-037. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-039

Panskyite

$\text{Pd}_9\text{Ag}_2\text{Pb}_2\text{S}_4$

Southern Kievev Fedorovo-Pana layered intrusion, Kola Peninsula, Russia (67°29'05"N, 35°35'02"E)

Anna Vymazalová*, Viktor V. Subbotin, František Laufek, Yevgeny E. Savchenko, Chris J. Stanley, Dmitriy A. Gabov and Jakub Plášil

*E-mail: anna.vymazalova@geology.cz

The Pb analogue of thalhammerite

Tetragonal: $I4/mmm$

$a = 7.98$, $c = 9.14$ Å

2.826(50), 2.404(100), 2.320(72), 2.288(44), 2.212(24), 1.998(67), 1.505(28), 1.218(25)

Type material is deposited in the mineralogical collections of the Department of Earth Sciences, Natural History Museum, London SW7 5BD, U.K., catalogue number BM2020,2

How to cite: Vymazalová, A., Subbotin, V.V., Laufek, F., Savchenko, Y.E., Stanley, C.J., Gabov, D.A. and Plášil, J. (2020) Panskyite, IMA 2020-039. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-042

Thunderbayite

$TlAg_3Au_3Sb_7S_6$

Hemlo gold deposit, ca. 35 km E of Marathon, Ontario, Canada (48°41'41"N, 85°54'13"W)

Luca Bindi* and Andrew C. Roberts

*E-mail: luca.bindi@unifi.it

Chemically related to criddleite

Triclinic: $P1$; structure determined

$a = 8.088(3)$, $b = 7.854(3)$, $c = 20.078(8)$ Å, $\alpha = 92.52(3)$, $\beta = 93.71(3)$, $\gamma = 90.15(4)^\circ$

5.63(30), 4.04(100), 3.92(80), 3.60(30), 3.53(30), 2.815(50), 2.727(40), 2.566(45)

Type material is deposited in the mineralogical collections of the Museo di Storia Naturale, Università di Firenze, Via La Pira 4, I-50121 Firenze, Italy, catalogue number 46582/G

How to cite: Bindi, L. and Roberts, A.C. (2020) Thunderbayite, IMA 2020-042. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

NEW MINERAL PROPOSALS APPROVED IN SEPTEMBER 2020

IMA No. 2020-045

Kufahrite

PtPb

Ledyanoy Creek placer, Galmoenan Massif, Koryak Highlands, Kamchatka, Russia (61°00'N, 166°05'E)

Evgeniy G. Sidorov, Anton V. Kutryev*, Elena S. Zhitova, Atali A. Agakhanov, Elena I. Sandimirova, Anna Vymazalova and Valery M. Chubarov

*E-mail: anton.v.kutryev@gmail.com

Known synthetic analogue

Hexagonal: $P6_3/mmc$

$a = 4.2492(6)$, $c = 5.486(6)$ Å

3.052(80), 2.197(00), 2.125(28), 1.747(18), 1.528(35), 1.350(14), 1.240(18), 0.958(22)

Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5576/1

How to cite: Sidorov, E.G., Kutryev, A.V., Zhitova, E.S., Agakhanov, A.A., Sandimirova, E.I., Vymazalova, A. and Chubarov, V.M. (2020) Kufahrite, IMA 2020-045. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-046

Airdite

$Sr(V^{4+}O)_2(PO_4)_2 \cdot 4H_2O$

In the dumps of the Spring Creek copper mine, 10 km S of Wilmington, South Australia, Australia (32°43'52"S, 138°07'37"E)

Peter Elliott* and Anthony R. Kampf

*E-mail: peter.elliott@adelaide.edu.au

Known synthetic analogue

Monoclinic: Cc ; structure determined

$a = 9.006(2)$, $b = 8.991(2)$, $c = 12.796(3)$ Å, $\beta = 100.25(3)^\circ$
6.362(75), 4.294(24), 3.183(100), 3.011(78), 2.833(20), 2.786(30), 2.017(54), 1.588(33)

Type material is deposited in the mineralogical collections of the South Australian Museum, North Terrace, Adelaide, South Australia 5000, Australia, registration number G34890

How to cite: Elliott, P. and Kampf, A.R. (2020) Airdite, IMA 2020-046. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-047

Auerbakhite

$MnTl_2As_2S_5$

Vorontsovskoe gold deposit, ca. 13 km S of the city of Krasnoturinsk, Sverdlovskaya Oblast, Northern Urals, Russia (59°65'29"N, 60°21'33"E)

Anatoly V. Kasatkin*, Jakub Plášil, Emil Makovicky, Nikita V. Chukanov, Radek Škoda, Atali A. Agakhanov and Sergey Y. Stepanov

*E-mail: anatoly.kasatkin@gmail.com

Known synthetic analogue

Orthorhombic: $Cmce$; structure determined

$a = 15.328(1)$, $b = 7.662(7)$, $c = 16.633(1)$ Å
6.337(22), 5.636(14), 3.831(34), 3.480(33), 3.374(100), 2.993(62), 2.576(19), 2.532(18)

Type material is deposited in the collections of the Fersman Mineralogical Museum, Russian Academy of Sciences, Leninskiy Prospekt 18-2, Moscow 119071, Russia, registration number 5579/1

How to cite: Kasatkin, A.V., Plášil, J., Makovicky, E., Chukanov, N.V., Škoda, R., Agakhanov, A.A. and Stepanov, S.Y. (2020) Auerbakhite, IMA 2020-047. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-049

Argentopearceite

$Ag_{16}As_2S_{11}$

In the dumps of the Lehnschaffer mine, Mikulov-Hrob ore district, 9 km NW of Teplice, Krušné hory (Erzgebirge), Czech Republic (50°41'26.960"N, 13°43'16.547"E)

Jiří Sejkora*, Jakub Plášil, Emil Makovicky, Pavel Škácha, Zdeněk Dolníček and Roman Gramblička

*E-mail: jiri.sejkora@nm.cz

Polybasite group

Trigonal: $P321$; structure determined

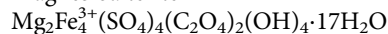
$a = 14.8583(5)$, $c = 12.3038(5)$ Å
12.348(17), 3.120(62), 3.085(100), 2.858(38), 2.537(36), 2.391(24), 2.376(19), 1.861(19)

Type material is deposited in the collections of the Department of Mineralogy and Petrology, National Museum in Prague, Cirkusová 1740, 19300 Praha 9, Czech Republic, catalogue number P1P 35/2020

How to cite: Sejkora, J., Plášil, J., Makovický, E., Škácha, P., Dolníček, Z. and Gramblička, R. (2020) Argentopearceite, IMA 2020-049. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2020-050

Magnesioalterite



Cliff Dwellers Lodge, Vermilion Cliffs, Coconino Co., Arizona, USA (36°43'01"N, 111°47'36"W)

Hexiong Yang*, Ronald B. Gibbs, Stanley H. Evans, Robert T. Downs and Zak Jibrin

*E-mail: hyang@arizona.edu

The Mg analogue of alterite

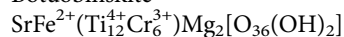
Monoclinic: C2/c; structure determined

$a = 16.766(1)$, $b = 9.4074(7)$, $c = 25.351(3)$ Å, $\beta = 108.258(5)^\circ$
5.854(100), 4.593(36), 4.377(46), 4.204(38), 4.142(35), 3.914(34),
3.717(67), 2.668(47)

Type material is deposited in the collections of the University of Arizona Mineral Museum, 1601 E University Blvd, Tucson, AZ 85719, USA, catalogue number 22042 (holotype), and the RRUFF Project, deposition number R180015 (cotype)
How to cite: Yang, H., Gibbs, R.B., Evans, S.H., Downs, R.T. and Jibrin, Z. (2020) Magnesioalterite, IMA 2020-050. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2018-143a

Botuobinskite



As inclusions in pyrope from the Internatsionalnaya kimberlite pipe, Mirny kimberlite field, Siberian craton, Sakha Republic, Russia (62°27'42"N, 113°42'57"E)

Dmitriy I. Rezvukhin*, Sergey V. Rashchenko, Igor S. Sharygin, Vladimir G. Malkovets, Taisia A. Alifirova, Leonid A. Pautov, Elena N. Nigmatulina and Yuri V. Seryotkin

*E-mail: m.rezvukhin@igm.nsc.ru

Crichtonite group

Trigonal: $R\bar{3}$; structure determined

$a = 10.3644(8)$, $c = 20.659(1)$ Å
3.388(100), 3.040(65), 2.868(71), 2.836(75), 2.132(89), 1.792(70),
1.590(87), 1.437(91)

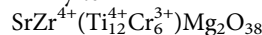
Type material is deposited in the mineralogical collections of the Central Siberian Geological Museum, Sobolev Institute of Geology and Mineralogy, Siberian Branch of the Russian Academy of Sciences, Koptyuga Avenue 3, Novosibirsk 630090, Russia, catalogue number VII-99/1

How to cite: Rezvukhin, D.I., Rashchenko, S.V., Sharygin, I.S., Malkovets, V.G., Alifirova, T.A., Pautov, L.A., Nigmatulina,

E.N. and Seryotkin, Y.V. (2020) Botuobinskite, IMA 2018-143a. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

IMA No. 2018-144a

Mirnyite



As inclusions in pyrope from the Internatsionalnaya kimberlite pipe, Mirny kimberlite field, Siberian craton, Sakha Republic, Russia (62°27'42"N, 113°42'57"E)

Dmitriy I. Rezvukhin*, Sergey V. Rashchenko, Igor S. Sharygin, Vladimir G. Malkovets, Taisia A. Alifirova, Leonid A. Pautov, Elena N. Nigmatulina and Yuri V. Seryotkin

*E-mail: m.rezvukhin@igm.nsc.ru

Crichtonite group

Trigonal: $R\bar{3}$; structure determined

$a = 10.3734(8)$, $c = 20.691(1)$ Å
3.392(100), 3.043(73), 2.872(71), 2.839(76), 2.135(79), 1.794(70),
1.592(85), 1.439(88)

Type material is deposited in the mineralogical collections of the Central Siberian Geological Museum, Sobolev Institute of Geology and Mineralogy, Siberian Branch of the Russian Academy of Sciences, Koptyuga Avenue 3, Novosibirsk 630090, Russia, catalogue number VII-100/1

How to cite: Rezvukhin, D.I., Rashchenko, S.V., Sharygin, I.S., Malkovets, V.G., Alifirova, T.A., Pautov, L.A., Nigmatulina, E.N. and Seryotkin, Y.V. (2020) Mirnyite, IMA 2018-144a. CNMNC Newsletter No. 57; *Mineralogical Magazine*, **84**, <https://doi.org/10.1180/mgm.2020.73>

NOMENCLATURE/CLASSIFICATION PROPOSALS APPROVED IN SEPTEMBER 2020

IMA 20-D: Wöhlerite group

Proposal 20-D is accepted and the wöhlerite group is established. It currently includes 9 mineral species: cuspidine, baghdadite, burpalite, lävenite, normandite, niocalite, janhaugite, wöhlerite, and hiortdahlite. The chemical formula of the latter mineral has been revised to $\text{Na}_2\text{Ca}_4(\text{Ca}_{0.5}\text{Zr}_{0.5})\text{Zr}(\text{Si}_2\text{O}_7)_2\text{OF}_3$. Marianoite has been discredited as it is identical to wöhlerite.

Cerite supergroup

The cerite supergroup has been established and includes the cerite group (5 members) and merrillite group (8 members). Cerite-(La) has been renamed ferricerite-(La) since Fe is dominant in the M site. It has the formula $(\text{La,Ce,Ca})_9\text{Fe}^{3+}(\text{SiO}_4)_3(\text{SiO}_3\text{OH})_4(\text{OH})_3$.