



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

Newsletter 76

Ferdinando Bosi (Chairman, CNMNC)¹, Frédéric Hatert (Vice-Chairman, CNMNC)², Marco Pasero (Vice-Chairman, CNMNC)³ and Stuart J. Mills (Secretary, CNMNC)⁴

¹ Dipartimento di Scienze della Terra, Sapienza Università di Roma, Piazzale Aldo Moro 5, 00185 Roma, Italy – ferdinando.bosi@uniroma1.it; ² Laboratoire de Minéralogie et de Cristallographie, Université de Liège, Bâtiment B18, Sart Tilman, 4000 Liège, Belgium – fhatert@uliege.be; ³ Dipartimento di Scienze della Terra, Università di Pisa, Via Santa Maria 53, 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 (ideal formula)

Mineral symbol

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 website.

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 OCTOBER 2023

IMA No. 2022-125a

Dmitryvarlamovite

$\text{Ti}_2(\text{Fe}^{3+}\text{Nb})\text{O}_8$

Dmv

Verkhne-Shchugorskoe deposit (borehole # 10855, depth 100 m), Middle Timan Mts., Russia (64°24' N, 51°04' E)

Oksana V. Udoratina, Taras L. Panikirovskii, Nikita V. Chukanov*, Mikhail V. Voronin, Vladimir P. Lutoev, Atali A. Agakhanov and Sergey I. Isaenko

*E-mail: nikchukanov@yandex.ru

Wolframite group

Orthorhombic: $P2_12_12$; structure determined

$a = 4.9825(6)$, $b = 4.6268(4)$, $c = 5.5952(6)$ Å
3.58(40), 2.911(100), 2.809(40), 2.497(38), 2.447(29), 1.788(26),
1.736(32), 1.705(29)

Type material is deposited in the collections of the Chernov Geological Museum, Geological Institute, Komi Scientific Center, Uralian Branch of Russian Academy of Sciences, Pervomayskaya Str. 54, Syktyvkar, Russia, catalogue number 317

How to cite: Udoratina, O.V., Panikirovskii, T.L., Chukanov, N.V., Voronin, M.V., Lutoev, V.P., Agakhanov, A.A. and Isaenko, S.I. (2024) Dmitryvarlamovite, IMA 2022-125a. CNMNC Newsletter 76; *Mineralogical Magazine*, 88, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2022-127a

Niobobaotite

$\text{Ba}_4(\text{Ti}_{2.5}\text{Fe}_{1.5}^{2+})\text{Nb}_4\text{Si}_4\text{O}_{28}\text{Cl}$

Nbao

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

Cite this article: Bosi F., Hatert F., Pasero M. and Mills S.J. (2024) Newsletter 76. *Mineralogical Magazine* 88, 105–109. <https://doi.org/10.1180/mgm.2023.89>

Bayan Obo REE deposit, Bayan Obo district, about 150 km north of Baotou, Inner Mongolia, China (41°47'57.1" N, 109°58'19.6" E)

Xiangkun Ge*, Guang Fan, Ting Li, Tao Wang and Liumin Deng

*E-mail: gxk0621@163.com

Chemically and structurally related to baotite

Tetragonal: $I4_1/a$; structure determined

$a = 20.0264(6)$, $c = 5.9592(2)$ Å

5.66(50), 4.08(51), 3.54(50), 3.15(68), 2.90(100), 2.69(74), 2.52(65), 2.25(75)

Type material is deposited in the collections of the Geological Museum of China, Xisi, Yangrou Hutong No. 15, Xicheng District, Beijing, People's Republic of China, catalogue number GMCTM2201

How to cite: Ge, X., Fan, G., Li, T., Wang, T. and Deng, L. (2024) Niobobaotite, IMA 2022-127a. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-039

Ootannite

$\text{Th}_2^{4+}\text{W}_4^{6+}\text{O}_{16}\cdot 5\text{H}_2\text{O}$

Otn

From the dumps of the Bamford Hill Mine, Bamford, Queensland, Australia (16°25' S, 144°49' E)

Peter Elliott* and Anthony R. Kampf

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

New structure type

Monoclinic: $P2_1/c$; structure determined

$a = 8.1980(2)$, $b = 9.7255(2)$, $c = 20.3417(5)$ Å, $\beta = 94.714(2)^\circ$
8.80(100), 3.832(27), 3.511(50), 3.406(34), 3.327(44), 3.130(44), 3.061(21), 2.935(29)

Type material is deposited in the collections of the South Australian Museum, North Terrace, Adelaide, South Australia 5000, Australia, registration number G35355

How to cite: Elliott, P. and Kampf, A.R. (2024) Ootannite, IMA 2023-039. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-061

Dinilawiite

$[\text{Pb}_4\text{O}_2\text{Al}(\text{OH})_5]_2(\text{S}_2\text{O}_3)_2\cdot \text{H}_2(\text{S}_2\text{O}_3)(\text{H}_2\text{O})_5$

Dlw

Redmond mine, Haywood Co., North Carolina, USA (35°40'55" N, 83°00'56" W)

Anthony R. Kampf*, Jason B. Smith, John M. Hughes, Chi Ma and Christopher Emproto

*E-mail: akampf@nhm.org

New structure type

Monoclinic: $I2/a$; structure determined

$a = 17.4100(5)$, $b = 9.2191(2)$, $c = 21.698(1)$ Å, $\beta = 107.276(8)^\circ$
10.53(83), 8.43(98), 6.39(73), 3.145(68), 2.861(50), 2.816(100), 2.566(52), 1.758(57)

Cotype material is deposited in the collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue numbers 76289, 76290, 76291 and 76292

How to cite: Kampf, A.R., Smith, J.B., Hughes, J.M., Ma, C. and Emproto, C. (2024) Dinilawiite, IMA 2023-061. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-062

Clogauite

$\text{PbBi}_4\text{Te}_4\text{S}_3$

Cgt

Clogau Mine, Dolgellau Gold belt, Gwynedd, North Wales, United Kingdom (52°45'42" N, 3°58'05" W)

Nigel J. Cook*, Cristiana L. Ciobanu, Jie Yao, Christopher J. Stanley, Wenyuan Liu, Ashley Slattery and Benjamin Wade

*E-mail: nigel.cook@adelaide.edu.au

Related to aleksite, saddlebackite and hitachiite

Trigonal: $P\bar{3}m1$; structure determined

$a = 4.277(4)$, $c = 23.5(1)$ Å (clogauite-12H); $a = 4.278(4)$, $c = 46.9(3)$ Å (clogauite-24H); $a = 4.278(4)$, $c = 70.4(3)$ Å (clogauite-36H)

3.659(19), 3.132(100), 2.299(23), 2.139(42), 1.982(15), 1.766(19), 1.362(16), 1.319(15) (clogauite-12H); 3.659(14), 3.132(100), 2.298(20), 2.139(44), 1.981(12), 1.766(19), 1.362(16), 1.318(13) (clogauite-24H); 3.660(16), 3.132(100), 2.299(21), 2.139(43), 1.982(13), 1.766(19), 1.362(16), 1.319(14) (clogauite-36H)

Type material is deposited in the collections of the Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom, specimen number E.1309, and the National Museum of Wales, Cathays Park, Cardiff CF10 3NP, United Kingdom, specimen numbers NMW 90.37 G.M1, M2a and b
How to cite: Cook, N.J., Ciobanu, C.L., Yao, J., Stanley, C.J., Liu, W., Slattery, A. and Wade, B. (2024) Clogauite, IMA 2023-062. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-063

Zilbermitsite-(La)

$(\text{CaLa}_5)(\text{Fe}^{3+}\text{Al}_3\text{Fe}^{2+})[\text{Si}_2\text{O}_7][\text{SiO}_4]_5\text{O}(\text{OH})_3$

Zlb-La

Mochalin Log REE deposit, 14 km N of Kyshtym, Chelyabinsk Oblast*, South Urals, Russia (55°48'42" N, 60°33'46" E)

Anatoly V. Kasatkin*, Natalia V. Zubkova, Radek Škoda, Igor V. Pekov, Atali A. Agakhanov, Vladislav V. Gurzhiy, Dmitriy A. Ksenofontov, Dmitry I. Belakovskiy and Aleksey M. Kuznetsov

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

The Fe³⁺-dominant analogue of radekškodaite-(La)

Monoclinic: $P2_1/m$; structure determined

$a = 8.9605(5)$, $b = 5.7295(2)$, $c = 25.103(1)$ Å, $\beta = 116.616(7)^\circ$
22.4(54), 8.01(21), 3.017(45), 2.861(100), 2.733(25), 2.704(26), 2.431(20), 2.178(45)

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 6034/1

How to cite: Kasatkin, A.V., Zubkova, N.V., Škoda, R., Pekov, I.V., Agakhanov, A.A., Gurzhiy, V.V., Ksenofontov, D.A., Belakovskiy, D.I. and Kuznetsov, A.M. (2024) Zilbermitsite-(La), IMA 2023-063. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-064

Yttrotungstite-(Nd)

$\text{NdW}_2\text{O}_7(\text{OH})\cdot \text{H}_2\text{O}$

Ytgs-Nd

Nyakabingo mine, Kigali, Rwanda (1°51'47" S, 29°58'40" E)

Frédéric Hatert*, Simon Philippo, Pietro Vignola and Maël Guennou

*E-mail: fhater@uliege.be

The Nd-equivalent of yttritungstite-(Ce) and yttritungstite-(Y) Monoclinic: $P2_1/m$; structure determined

$a = 5.8534(3)$, $b = 8.6881(3)$, $c = 7.0488(4)$ Å, $\beta = 105.336(5)^\circ$
4.72(100), 3.30(80), 3.12(20), 2.852(40), 2.649(30), 2.036(60), 1.829(20), 1.658(20)

Type material is deposited in the collections of the Musée National d'Histoire Naturelle, 25 Rue Münster, 2160 Luxembourg, Luxembourg, catalogue number WPA504, and the Laboratoire de Minéralogie, Université de Liège, Bâtiment B18, Sart Tilman, B-4000 Liège, Belgium, catalogue number ULG 21981

How to cite: Hatert, F., Philippo, S., Vignola, P. and Guennou, M. (2024) Yttritungstite-(Nd), IMA 2023-064. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-065

Macraeite

$K(H_2O)Mn_2(Fe_2Ti)(PO_4)_4[O(OH)](H_2O)_{10} \cdot 4H_2O$

Macr

Near to the village of Mesquitela, close to Mangualde, Viseu district, Portugal (40°35'13.7" N, 7°45'04.3" W)

Ian E. Grey*, Anthony R. Kampf, Stephanie Boer, Rupert Hochleitner, Christian Rewitzer, William G. Mumme and Nicholas C. Wilson

*E-mail: ian.grey@csiro.au

Paulkerrite group

Monoclinic: $P2_1/c$; structure determined

$a = 10.562(2)$, $b = 20.725(4)$, $c = 12.416(2)$ Å, $\beta = 90.09(3)^\circ$
10.38(94), 7.51(64), 6.25(75), 5.24(50), 3.736(69), 3.150(100), 3.030(46), 2.901(67)

Type material is deposited in the collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue number 76293 (holotype), and the Mineralogical State Collection (SNSB), Theresienstrasse 41, 80333 München, Germany, registration number MSM 38050 (cotype)

How to cite: Grey, I.E., Kampf, A.R., Boer, S., Hochleitner, R., Rewitzer, C., Mumme, W.G. and Wilson, N.C. (2024) Macraeite, IMA 2023-065. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-066

Epiebnerite

$(NH_4)Zn(PO_4)$

Epb

Rowley mine (125-foot level), about 20 km NW of Theba, Maricopa Co., Arizona, USA (33°02'57" N, 113°01'50" W)

Anthony R. Kampf*, Chi Ma and Joe Marty

*E-mail: akampf@nhm.org

A dimorph of ebnerite

Monoclinic: $P2_1$

$a = 8.80(2)$, $b = 5.46(2)$, $c = 8.96(2)$ Å, $\beta = 90.34^\circ$
6.25(60), 4.643(48), 4.406(50), 3.195(100), 2.776(32), 2.723(38), 2.601(33), 2.233(39)

Cotype material is deposited in the collections of the Natural History Museum of Los Angeles County, 900 Exposition

Boulevard, Los Angeles, CA 90007, USA, catalogue numbers 76294, 76295, 76296 and 76297

How to cite: Kampf, A.R., Ma, C. and Marty, J. (2024) Epiebnerite, IMA 2023-066. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

NEW MINERAL PROPOSALS APPROVED IN NOVEMBER 2023

IMA No. 2023-069

Alvesite

$NaKZrSi_6O_{15} \cdot 2H_2O$

Avs

Lombadas, Água de Pau Volcano, Ribeira Grande, São Miguel, Açores, Portugal (37°46'26" N, 25°27'29" W)

Fabrice Dal Bo*, Frédéric Hatert, Muriel Erambert, Martin Depret and Henrik Friis

*E-mail: fdalbo@uliege.be

Chemically and structurally related to elpidite and yusupovite Orthorhombic: $Cmce$; structure determined

$a = 14.0876(4)$, $b = 14.5333(8)$, $c = 14.4183(6)$ Å
7.038(69), 6.486(30), 5.092(44), 4.136(33), 3.230(100), 3.089(77), 2.934(32), 2.917(27)

Type material is deposited in the collections of the Laboratory of Mineralogy, University of Liege, Bât. B18, Sart Tilman, 4000 Liège, Belgium, catalogue no. 22154

How to cite: Dal Bo, F., Hatert, F., Erambert, M., Depret, M. and Friis, H. (2024) Alvesite, IMA 2023-069. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-070

Gajardoite-(NH₄)

$(NH_4)As_4^{3+}O_6Cl_2(Ca_{0.5}\square_{0.5})(H_2O)_5$

Gaj-NH₄

Khovu-Aksy deposit, Chedi-Kholskiy District, Tuva Republic, Eastern Siberia, Russia (51°09'35" N, 93°41'09" E)

Anatoly V. Kasatkin*, Vladislav V. Gurzhiy, Nikita V. Chukanov, Atali A. Agakhanov, Radek Škoda and Dmitry I. Belakovskiy

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

The NH₄-analogue of gajardoite

Hexagonal: $P6/mmm$

$a = 5.263(3)$, $c = 16.078(5)$ Å
16.08(34), 5.36(34), 4.565(41), 4.386(19), 3.466(23), 3.020(42), 2.637(100), 2.360(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 6022/1

How to cite: Kasatkin, A.V., Gurzhiy, V.V., Chukanov, N.V., Agakhanov, A.A., Škoda, R. and Belakovskiy, D.I. (2024) Gajardoite-(NH₄), IMA 2023-070. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-071

Glecklerite

$Na(C_2H_3O_3)$

Gkl

Pusch Ridge, Santa Catalina Mountains, north of Tucson, Pima Co., Arizona, USA (32°21'42" N, 110°57'30" W, 975 m a.s.l.)

Hexiong Yang*, Anthony R. Kampf, Warren Lazar, Ronald B. Gibbs and Robert T. Downs

*E-mail: hyang@arizona.edu

Glycolate subgroup

Orthorhombic: *Pbcm*; structure determined

$a = 5.3016(4)$, $b = 10.5814(9)$, $c = 6.4401(6)$ Å

5.336(70), 4.762(53), 4.103(47), 3.233(80), 2.757(100), 2.444(38), 2.396(47), 2.048(36)

Type material is deposited in the collections of the University of Arizona Alfie Norville Gem & Mineral Museum, 115 N Church Ave Ste 121, Tucson, AZ 85701, USA, catalogue no. 22733 (holotype), and the RRUFF Project, deposition no. R230002 (cotype)

How to cite: Yang, H., Kampf, A.R., Lazar, W., Gibbs, R.B. and Downs, R.T. (2024) Glecklerite, IMA 2023-071. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-073

Sarvodaite

$\text{Al}_2(\text{SO}_4)_3 \cdot 5\text{H}_2\text{O}$

Svd

In the uppers of the Kukhi-Malik tract, Fan-Jagnob coal deposit, about 100 km north of Dushanbe, Tajikistan (39° 12'25" N, 68°33'59" E)

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

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

Known synthetic analogue

Monoclinic: $P2_1/n$; structure determined

$a = 5.4862(4)$, $b = 10.8029(8)$, $c = 20.841(1)$ Å, $\beta = 96.416(7)^\circ$

10.36(45), 7.48(100), 4.64(43), 4.56(39), 3.83(58), 3.74(55), 3.47(50), 3.15(35)

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 6041/1

How to cite: Makhmadsharif, S., Pautov, L.A., Siidra, O.I., Mirakov, M.A., Karpenko, V.Y. and Shodibekov, M.A. (2024) Sarvodaite, IMA 2023-073. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-076

Natromelansonite

$\text{Na}_3\text{Zr}[\text{Si}_7\text{AlO}_{19}] \cdot 4\text{H}_2\text{O}$

Nmso

Poudrette quarry (Demix quarry), Mont Saint-Hilaire, Quebec, Canada (45°33'46" N, 73°08'30" W)

Inna Lykova*, Ralph Rowe, Glenn Poirier, Henrik Friis and Stephanie Barnes

*E-mail: ilykova@nature.ca

The Na analogue of melansonite

Monoclinic: $P2_1/m$; structure determined

$a = 6.5130(1)$, $b = 24.0944(4)$, $c = 6.9755(1)$ Å, $\beta = 90.747(1)^\circ$

12.02(100), 6.97(89), 6.51(39), 4.417(33), 3.416(37), 3.062(42), 3.018(38), 2.864(40)

Type material is deposited in the collections of the Canadian Museum of Nature, 240 McLeod Street, Ottawa, Ontario, Canada, catalogue number CMNMC 90813

How to cite: Lykova, I., Rowe, R., Poirier, G., Friis, H. and Barnes, S. (2024) Natromelansonite, IMA 2023-076. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-078

Vanpeltite

$(\text{Mo}_2\text{O}_5)(\text{S}^{4+}\text{O}_3) \cdot 4\text{H}_2\text{O}$

Vpt

Freedom No. 2 mine, Marysvale mining district, Piute Co., Utah, USA (38°29'43" N, 112°12'55" W)

Xiangping Gu, Hexiong Yang*, Anthony R. Kampf, Brent Thorne, Ronald B. Gibbs, Michael M. Scott and Robert T. Downs

*E-mail: hyang@arizona.edu

New structure type

Monoclinic: $I2/m$; structure determined

$a = 8.6069(10)$, $b = 5.2991(7)$, $c = 23.135(3)$ Å, $\beta = 90.087(5)^\circ$

8.072(100), 5.751(76), 3.555(91), 3.485(60), 3.304(58), 2.646(16), 1.931(18), 1.777(18)

Cotype material is deposited in the collections of the University of Arizona Alfie Norville Gem & Mineral Museum, 115 N Church Ave Ste 121, Tucson, AZ 85701, USA, catalogue no. 22733, and the RRUFF Project, deposition no. R230006

How to cite: Gu, X., Yang, H., Kampf, A.R., Thorne, B., Gibbs, R.G., Scott, M.M. and Downs, R.T. (2024) Vanpeltite, IMA 2023-078. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-079

Hydroxylbenyacarite

$(\text{H}_2\text{O})_2\text{Mn}_2(\text{Ti}_2\text{Fe})(\text{PO}_4)_4[\text{O}(\text{OH})](\text{H}_2\text{O})_{10} \cdot 4\text{H}_2\text{O}$

Hbyc

El Criollo mine, Cerro Blanco Pegmatite District, near Tanti, San Roque District, Punila Department, Cordoba Province, Argentina (31°21'28" S, 64°39'09" W)

Rupert Hochleitner, Christian Rewitzer, Ian E. Grey*, Anthony R. Kampf, Colin M. MacRae, Robert W. Gable and William G. Mumme

*E-mail: ian.grey@csiro.au

Paulkerrite group

Orthorhombic: *Pbca*; structure determined

$a = 10.5500(3)$, $b = 20.7248(5)$, $c = 12.5023(3)$ Å

10.48(48), 7.56(71), 6.28(85), 5.28(50), 3.763(52), 3.157(100), 2.892(38), 2.643(36)

Type material is deposited in the collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue numbers 76298 (holotype), and the Mineralogical State Collection (SNSB), Theresienstrasse 41, 80333 München, Germany, registration number MSM 38036 (cotype)

How to cite: Hochleitner, R., Rewitzer, C., Grey, I.E., Kampf, A.R., MacRae, C.M., Gable, R.W. and Mumme, W.G. (2024) Hydroxylbenyacarite, IMA 2023-079. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-080

Karwowskiite

$\text{Ca}_9\text{Mg}(\text{Fe}_{0.5}^{2+}\square_{0.5})(\text{PO}_4)_7$

Krw

Daba-Siwaqa complex, Transjordan Plateau, Jordan (31°22'01" N, 36°11'10" E)

Evgeny V. Galuskin*, Irina O. Galuskina, Joachim Kusz, Maria Książek, Yevgeny Vapnik and Grzegorz Zieliński

*E-mail: evgeny.galuskin@us.edu.pl

Cerite supergroup

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

$a = 10.3375(2)$, $c = 37.1443(9)$ Å

5.169(31), 3.431(30), 3.179(48), 2.858(100), 2.735(18), 2.584(68), 1.917(22), 1.715(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 6005/1

How to cite: Galuskin, E.V., Galuskina, I.O., Kusz, J., Książek, M., Vapnik, Y. and Zieliński, G. (2024) Karwowskiite, IMA 2023-080. CNMNC Newsletter 76; *Mineralogical Magazine*, **88**, <https://doi.org/10.1180/mgm.2023.89>

IMA No. 2023-082

Amoraite

$\text{Ca}_{12}\text{Al}_6(\text{OH})_{36}(\text{CO}_3)_2(\text{SO}_3) \cdot 15\text{H}_2\text{O}$

Amor

Ca. 2 km southeast of the Hatrurim Junction (road no. 31), Hatrurim Basin, Negev Desert, Israel (31°12'30" N, 35°15'30" E)

Sergey N. Britvin*, Michail N. Murashko, Vladimir N. Bocharov, Natalia S. Vlasenko, Oleg S. Vereshchagin and Yevgeny Vapnik

*E-mail: sbritvin@gmail.com

Hydrotalcite supergroup

Triclinic: $P\bar{1}$; structure determined

$a = 15.2630(2)$, $b = 16.0664(2)$, $c = 23.0448(3)$ Å, $\alpha = 100.259(1)$, $\beta = 100.936(1)$, $\gamma = 94.299(1)^\circ$

7.89(100), 3.933(41), 3.815(39), 2.882(29), 2.526(26), 2.441(25), 2.323(19), 2.130(14)

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 5877/1

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OTHER ISSUES

A change in the formula of innelite

In the IMA List of Minerals the chemical formula of innelite appears as $\text{Ba}_4\text{Ti}_2\text{Na}(\text{NaCa})\text{Ti}(\text{Si}_2\text{O}_7)_2[(\text{SO}_4)(\text{PO}_4)]\text{O}_2[\text{O}(\text{OH})]$. It is marked as “2016 s.p.”, after the approval in 2016 of the proposal on the seidozerite supergroup. In that proposal, as well as in the published paper [*Mineralogical Magazine*, **81**, 1457–1484 (2017)] innelite has Mn^{2+} instead of Ca. It has been ascertained that the wrong formula in the IMA list arises from a mere typing mistake. Accordingly the formula of innelite is modified to $\text{Ba}_4\text{Ti}_2\text{Na}(\text{NaMn}^{2+})\text{Ti}(\text{Si}_2\text{O}_7)_2[(\text{SO}_4)(\text{PO}_4)]\text{O}_2[\text{O}(\text{OH})]$. Thanks to Fernando Cámara for spotting it.

Stannopalladinite: revised formula

Recently, a paper was published [*Mineralogical Magazine*, **87**, 773–782 (2023)] dealing with the re-evaluation of the grandfathered mineral stannopalladinite, described in 1947 [*Doklady Akademii Nauk SSSR*, **58**, 1137–1140 (1947)], whose formula is currently given in the IMA List of Minerals as Pd_3Sn_2 (?). Based on new electron microprobe data the empirical formula of the mineral turned out to be $(\text{Pd}_{2.42}\text{Cu}_{0.56}\text{Pt}_{0.02})_{\Sigma 3.00}(\text{Sn}_{0.92}\text{Pb}_{0.08})_{\Sigma 1.00}$. Most likely the new analytical data were obtained on holotype stannopalladinite, although the studied sample, taken from the collections of the Fersman Mineralogical Museum, was not officially catalogued as such. The poor quality of the available material prevented a SCXRD study to be carried out, and in the lack of structural information it is still uncertain whether Cu is a species-forming element, or whether it is a subordinate element partially substituting for Pd. For that reason the authors of the re-evaluation of stannopalladinite could not apply for an official re-definition of the mineral. However, since the new data seem reliable, and the proposed new formula has a different palladium/tin ratio, it was agreed to modify the chemical formula of stannopalladinite in the IMA List of Minerals (which is by definition a work in progress) from Pd_3Sn_2 (?) to $(\text{Pd,Cu})_3\text{Sn}$. This is an executive decision taken by the CNMNC officers.