



## IMA Commission on New Minerals, Nomenclature and Classification (CNMNC) – Newsletter 68

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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 X-ray powder 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 *European Journal of Mineralogy* 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.

### 1 New mineral proposals approved in June 2022

#### IMA no. 2021-017a

Ermeloite

$\text{Al}(\text{PO}_4) \cdot \text{H}_2\text{O}$

Erm

Mount Ermelo, Moaña, province of Pontevedra, Galicia, Spain (42° 17' 50" N, 8° 45' 15" W)

Guillermo Zaragoza Vérez\*, Carlos J. Rodríguez Vázquez, Inés Fernández Cereijo, José González del Tánago, Ramón Jiménez Martínez, Bruno Dacuña Mariño, Ramiro Barreiro Pérez, Ezequiel Vázquez Fernández, Montse Gómez Dopazo, and Oscar Lantes-Suárez

\*E-mail: g.zaragoza@usc.es

Kieserite group

Monoclinic:  $C2/c$ ; structure determined

$a = 6.5371(4)$ ,  $b = 7.5670(5)$ ,  $c = 7.1146(5) \text{ \AA}$ ,  
 $\beta = 115.335(2)^\circ$

4.653(67), 4.570(33), 3.275(100), 3.197(44), 2.871(25),  
2.471(40), 2.449(30), 2.052(15)

Type material is deposited in the mineralogical collections of the Museo de Historia Natural (MHN), University of Santiago de Compostela, Parque Vista Alegre s/n, 15782 Santiago de Compostela, Spain, catalogue number CM64083

How to cite: Zaragoza Vérez, G., Rodríguez Vázquez, C. J., Fernández Cereijo, I., González del Tánago, J., Jiménez Martínez, R., Dacuña Mariño, B., Barreiro Pérez, R., Vázquez Fernández, E., Gómez Dopazo, M., and Lantes-Suárez, O.: Ermeloite, IMA 2021-017a, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-013

Ziroite

ZrO<sub>2</sub>

Zro

As inclusions in corundum xenocrysts, Mount Carmel, Haifa district, Israel (32°44' N, 35°03' E)

Chi Ma\*, William L. Griffin, Luca Bindi, Fernando Cámara, and Vered Toledo

\*E-mail: [chima@caltech.edu](mailto:chima@caltech.edu)

A dimorph of baddeleyite

Tetragonal:  $P4_2/nmc$

$a = 3.60(1)$ ,  $c = 5.18(1)$  Å

2.590(32), 1.800(100), 1.478(30), 1.295(12), 1.273(30), 1.142(14), 1.051(22), 0.908(12)

Type material is deposited in the mineralogical collections of the Università di Milano, Via Mangiagalli 34, 20133 Milano, Italy, registration number MCMGPG-H2021-003

How to cite: Ma, C., Griffin, W. L., Bindi, L., Cámara, F., and Toledo, V.: Ziroite, IMA 2022-013, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-014

Sassite

Ti<sub>2</sub><sup>3+</sup>Ti<sup>4+</sup>O<sub>5</sub>

Ssi

As inclusions in corundum xenocrysts, Mount Carmel, Haifa district, Israel (32°44' N, 35°03' E)

Chi Ma\*, William L. Griffin, Luca Bindi, Fernando Cámara, and Vered Toledo

\*E-mail: [chima@caltech.edu](mailto:chima@caltech.edu)

Pseudobrookite group

Orthorhombic:  $Cmcm$

$a = 3.80(1)$ ,  $b = 9.85(1)$ ,  $c = 9.99(1)$  Å

4.925(40), 3.545(100), 2.759(74), 2.209(24), 1.980(26), 1.900(44), 1.651(25), 1.565(27)

Type material is deposited in the mineralogical collections of the Università di Milano, Via Mangiagalli 34, 20133 Milano, Italy, registration number MCMGPG-H2021-004

How to cite: Ma, C., Griffin, W. L., Bindi, L., Cámara, F., and Toledo, V.: Sassite, IMA 2022-014, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-015

Raydemarkite

MoO<sub>3</sub> · H<sub>2</sub>O

Rdy

Summit group of claims, near Cookes Peak, Cookes Range, Luna Co., New Mexico, USA (32°33'47" N, 107°43'48" W)

Hexiong Yang\*, Michael M. Scott, Ronald B. Gibbs, Robert A. Jenkins, Francis X. Sousa, and James A. McGlasson

\*E-mail: [hyang@arizona.edu](mailto:hyang@arizona.edu)

Known synthetic analogue

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

$a = 7.3750(2)$ ,  $b = 3.7092(1)$ ,  $c = 6.6833(2)$  Å,

$\alpha = 108.108(1)$ ,  $\beta = 112.779(2)$ ,  $\gamma = 91.742(1)^\circ$

6.693(18), 5.759(100), 3.334(40), 3.277(36), 3.181(16), 3.058(18), 2.829(16), 1.852(13)

Type material is deposited in the mineralogical collections of the University of Arizona Alfie Norville Gem and Mineral Museum, catalogue no. 22717 (holotype), and the RRUFF Project, deposition no. R210023 (cotype)

How to cite: Yang, H., Scott, M. M., Gibbs, R. B., Jenkins, R. A., Sousa, F. X., and McGlasson, J. A.: Raydemarkite, IMA 2022-015, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-016

Cherokeeite

[Pb<sub>2</sub>Zn(OH)<sub>4</sub>](SO<sub>4</sub>) · H<sub>2</sub>O

Chrk

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](mailto:akampf@nhm.org)

New structure type

Monoclinic:  $P2_1/n$ ; structure determined

$a = 17.1697(7)$ ,  $b = 6.4717(2)$ ,  $c = 17.5304(12)$  Å,  $\beta = 115.440(8)^\circ$

5.29(100), 4.42(29), 3.197(71), 3.012(34), 2.969(29), 2.741(29), 2.595(34), 2.348(40)

Cotype material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue numbers 76216, 76217 and 76218

How to cite: Kampf, A. R., Smith, J. B., Hughes, J. M., Ma, C., and Emproto, C.: Cherokeeite, IMA 2022-

016, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

**IMA no. 2022-017**

Pilipenkoite

$\text{KCu}(\text{AsO}_4) \cdot \text{H}_2\text{O}$

Plp

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 a.s.l.)

Igor V. Pekov\*, Sergey N. Britvin, Maria G. Krzhizhanovskaya, Atali A. Agakhanov, Natalia N. Koshlyakova, Dmitry I. Belakovskiy, Marina F. Vigasina, Vasilij O. Yapaskurt, Anna G. Turchkova, and Maria A. Nazarova

\*E-mail: igorpekov@mail.ru

New structure type

Monoclinic:  $P2_1/c$ ; structure determined

$a = 10.720(1)$ ,  $b = 6.9733(6)$ ,  $c = 6.8383(7) \text{ \AA}$ ,  
 $\beta = 93.535(6)^\circ$   
 10.67(100), 4.876(18), 3.006(12), 2.955(12), 2.945(12),  
 2.924(19), 2.819(10), 2.797(16)

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 5834/1

How to cite: Pekov, I. V., Britvin, S. N., Krzhizhanovskaya, M. G., Agakhanov, A. A., Koshlyakova, N. N., Belakovskiy, D. I., Vigasina, M. F., Yapaskurt, V. O., Turchkova, A. G., and Nazarova, M. A.: Pilipenkoite, IMA 2022-017, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

**IMA no. 2022-018**

Tomsquarryite

$\text{NaMgAl}_3(\text{PO}_4)_2(\text{OH})_6 \cdot 8\text{H}_2\text{O}$

Tqy

Tom's phosphate quarry, Kapunda, South Australia, Australia (34°21'33" S, 138°59'17" E – type locality); Penrice marble quarry, Angaston, South Australia, Australia (34°28'54" S, 139°02'48" E – cotype locality)

Peter Elliott, Ian E. Grey\*, W. Gus Mumme, Colin M. MacRae, and Anthony R. Kampf

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

Chemically and structurally related to elliotite

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

$a = 10.720(1)$ ,  $b = 6.9733(6)$ ,  $c = 6.8383(7) \text{ \AA}$ ,  
 $\beta = 93.535(6)^\circ$   
 10.24(100), 5.944(34), 5.643(32), 4.755(23), 3.499(34),  
 3.015(26), 2.888(33), 1.749(24)

Type material is deposited in the mineralogical collections of the Museum of South Australia, North Terrace, Adelaide, SA 5000, Australia, catalogue numbers G35033 (Tom's holotype), G35034 (Tom's cotype) and G35031 (Penrice cotype)  
 How to cite: Elliott, P., Grey, I. E., Mumme, W. G., MacRae, C. M., and Kampf, A. R.: Tomsquarryite, IMA 2022-018, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

**IMA no. 2022-019**

Heimite

$\text{PbCu}_2(\text{AsO}_4)(\text{OH})_3 \cdot 2\text{H}_2\text{O}$

Him

Grosses Chaltal deposit, Mürtchenalp district, Glarus, Switzerland (47°04'09.9" N, 9°11'26.5" E)

Thomas Malcherek\*, Boriana Mihailova, Jochen Schlüter, Philippe Roth, and Nicolas Meisser

\*E-mail: thomas.malcherek@uni-hamburg.de

New structure type

Monoclinic:  $P2_1/n$ ; structure determined

$a = 5.9132(5)$ ,  $b = 7.8478(6)$ ,  $c = 16.816(1) \text{ \AA}$ ,  
 $\beta = 90.007(6)^\circ$   
 8.421(72), 5.583(61), 4.073(55), 3.709(55), 3.266(51),  
 3.206(81), 3.143(100), 2.630(87)

Type material is deposited in the collections of the Mineralogical Museum, Leibniz-Institut zur Analyse des Biodiversitätswandels, Grindelallee 48, 20146 Hamburg, Germany, registration number Ro3701

How to cite: Malcherek, T., Mihailova, B., Schlüter, J., Roth, P., and Meisser, N.: Heimite, IMA 2022-019, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

**IMA no. 2022-020**

Ferro-ferri-holmquistite

$\text{Li}_2(\text{Fe}_3^{2+}\text{Fe}_2^{3+})(\text{Si}_8\text{O}_{22})(\text{OH})_2$

Ffhlm

Iwagi Islet, Ehime Prefecture, Japan (34°15'47" N, 133°09'39" E)

Mariko Nagashima\*, Teruyoshi Imaoka, Takashi Kano, Jun-ichi Kimura, Qing Chang, and Takashi Matsumoto

\*E-mail: nagashim@yamaguchi-u.ac.jp

Amphibole supergroup

Orthorhombic:  $Pnma$ ; structure determined

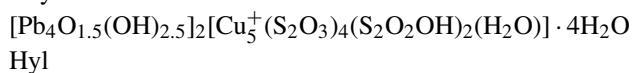
$a = 18.5437(2)$ ,  $b = 17.9222(1)$ ,  $c = 5.3123(1) \text{ \AA}$   
 8.256(100), 4.487(15), 3.346(11), 3.227(6), 3.043(88),  
 2.745(15), 2.592(3), 2.496(3)

Type material is deposited in the mineralogical collections of the National Museum of Nature and Science, Amakubo 4-1-1, Tsukuba, Ibaraki 305-0005, Japan, specimen number NSM-M49617

How to cite: Nagashima, M., Imaoka, T., Kano, T., Kimura, J., Chang, Q., and Matsumoto, T.: Ferro-ferri-holmquistite, IMA 2022-020, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-021

Hayelasdiite



Hyl

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

Chemically and structurally related to steverustite

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

$a = 7.5209(1)$ ,  $b = 14.9345(3)$ ,  $c = 17.989(1)$  Å,  
 $\alpha = 106.727(8)$ ,  $\beta = 90.966(6)$ ,  $\gamma = 90.031(6)^\circ$

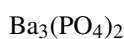
14.38(84), 6.88(72), 3.797(54), 3.331(100), 3.243(55),  
 3.006(73), 2.941(72), 2.868(58)

Type material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue number 76219

How to cite: Kampf, A. R., Smith, J. B., Hughes, J. M., Ma, C., and Emproto, C.: Hayelasdiite, IMA 2022-021, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-022

Mazorite



Mzo

Hatrurim Basin, Hatrurim Complex, Israel (31°11'09" N, 35°16'27" E)

Rafał Juroszek\*, Irina O. Galuskina, Biljana Krüger, Hannes Krüger, Yevgeny Vapnik, and Evgeny Galuskin

\*E-mail: rafal.juroszek@us.edu.pl

The Ba analogue of tuite, and the P analogue of gurimite

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

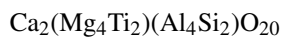
$a = 5.6617(3)$ ,  $c = 21.170(2)$  Å  
 3.597(16), 3.204(100), 2.831(82), 2.224(14), 2.122(36),  
 1.943(21), 1.698(24), 1.394(13)

Type material is deposited in the mineralogical collections of the Natural History Museum Bern, Bernastrasse 15, CH-3005, Bern, Switzerland, inventory number NMBE 44297

How to cite: Juroszek, R., Galuskina, I. O., Krüger, B., Krüger, H., Vapnik, Y., and Galuskin, E.: Mazorite, IMA 2022-022, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-024

Louisfuchsite



Lfu

NWA 4964 CK meteorite, found in 2007 from Northwest Africa

Chi Ma\*, and Alexander N. Krot

\*E-mail: chima@caltech.edu

Sapphirine supergroup

Triclinic:  $P\bar{1}$

$a = 10.37(1)$ ,  $b = 10.76(1)$ ,  $c = 8.90(1)$  Å,  $\alpha = 106.0(1)$ ,  
 $\beta = 96.0(1)$ ,  $\gamma = 124.7(1)^\circ$

3.443(36), 3.133(43), 2.940(47), 2.685(65), 2.545(100),  
 2.424(31), 2.105(83), 2.090(88)

Type material is deposited in the meteorite collections at Hawaii Institute of Geophysics and Planetology, University of Hawaii, 1680 East-West Road, Honolulu, Hawaii 96822, USA, registration number NWA 4964A

How to cite: Ma, C., and Krot, A. N.: Louisfuchsite, IMA 2022-024, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-025

Zincochenite



Zche

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

The Zn analogue of chenite

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

$a = 5.883(4)$ ,  $b = 7.938(5)$ ,  $c = 7.948(5)$  Å,  $\alpha = 110.511(12)$ ,  
 $\beta = 98.497(10)$ ,  $\gamma = 100.152(8)^\circ$

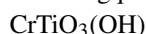
5.64(53), 4.29(56), 3.602(100), 3.423(80), 2.848(45),  
 2.801(41), 2.744(44), 2.600(40)

Cotype material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue numbers 76220, 76221 and 76222

How to cite: Kampf, A. R., Smith, J. B., Hughes, J. M., Ma, C., and Emproto, C.: Zincochenite, IMA 2022-025, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2021-006b

Tianhongqiite



Thq

Luobusa Cr-Fe deposit, Qusum County, Tibet, China  
(29°10'58.0" N, 92°17'47.6" E)

Xiangping Gu\*, Rujun Chen, Hexiong Yang, Shuangmeng Zhai, Xiande Xie, and Kai Li

\*E-mail: guxp2004@163.com

The Cr analogue of tivanite

Monoclinic:  $P2_1/n$ ; structure determined

$a = 7.688(1)$ ,  $b = 4.5267(7)$ ,  $c = 7.443(1)$  Å,  $\beta = 97.62(1)^\circ$

3.846(100), 2.774(94), 2.616(70), 2.495(41), 2.184(37), 1.674(77), 1.654(34), 1.620(20)

Type material is deposited in the mineralogical collections of the Geological Museum of China, No. 16 Yangrou Hutong, Xisi, Beijing 100031, People's Republic of China, catalogue number M16116

How to cite: Gu, X., Chen, R., Yang, H., Zhai, S., Xie, X., and Li, K.: Tianhongqiite, IMA 2021-006b, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

## 2 New mineral proposals approved in July 2022

### IMA no. 2022-026

Selsurtite

$(\text{H}_3\text{O})_{12}\text{Na}_3(\text{Ca}_3\text{Mn}_3)(\text{Na}_2\text{Fe})\text{Zr}_3\text{Si}[\text{Si}_{24}\text{O}_{69}(\text{OH})_3](\text{OH})\text{Cl} \cdot \text{H}_2\text{O}$

Ssu

Flora mountain, northern spur of the Selsurt mountain, Lovozero district, Murmansk Oblast, Russia (67°54'42" N, 34°48'04" E)

Nikita V. Chukanov\*, Sergey M. Aksenov, Olga N. Kazheva, Igor V. Pekov, Dmitry A. Varlamov, Marina F. Vigasina, Dmitry I. Belakovskiy, Svetlana A. Vozchikova, and Sergey N. Britvin

\*E-mail: nikchukanov@yandex.ru

Eudialyte group

Trigonal:  $R3$ ; structure determined

$a = 14.1475(7)$ ,  $c = 30.361(1)$  Å  
11.38(56), 7.08(59), 5.69(36), 4.318(72), 3.793(36), 3.544(72), 2.970(100), 2.844(100)

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 5843/1

How to cite: Chukanov, N. V., Aksenov, S. M., Kazheva, O. N., Pekov, I. V., Varlamov, D. A., Vigasina, M. F., Belakovskiy, D. I., Vozchikova, S. A., and Britvin, S. N.: Selsurtite, IMA 2022-026, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

### IMA no. 2022-027

Mizraite-(Ce)

$\text{Ce}(\text{Al}_{11}\text{Mg})\text{O}_{19}$

Miz-Ce

As inclusions in corundum xenocrysts, Mount Carmel, Haifa district, Israel (32°44' N, 35°03' E)

Chi Ma\*, William L. Griffin, Luca Bindi, Fernando Cámara, and Vered Toledo

\*E-mail: chima@caltech.edu

Magnetoplumbite group

Hexagonal:  $P6_3/mmc$

$a = 5.61(1)$ ,  $c = 22.29(1)$  Å

11.14(61), 2.805(56), 2.663(72), 2.505(100), 2.133(52), 1.591(35), 1.556(41), 1.402(52)

Type material is deposited in the mineralogical collections of the Università di Milano, Via Mangiagalli 34, 20133 Milano, Italy, registration number MCMGPG-H2022-005

How to cite: Ma, C., Griffin, W. L., Bindi, L., Cámara, F., and Toledo, V.: Mizraite-(Ce), IMA 2022-027, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

### IMA no. 2022-028

Boojumite

$\text{Pb}_8\text{O}_4(\text{OH})_2(\text{S}_2\text{O}_3)_3$

Bjm

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

Orthorhombic:  $Pnma$ ; structure determined

$a = 14.0103(8)$ ,  $b = 20.553(1)$ ,  $c = 7.2668(5)$  Å  
6.52(41), 3.559(38), 3.411(15), 3.160(32), 2.911(100), 2.694(14), 1.799(24), 1.613(14)

Type material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue numbers 76225 (holotype) and 76226 (cotype)

How to cite: Kampf, A. R., Smith, J. B., Hughes, J. M., Ma, C., and Emproto, C.: Boojumite, IMA 2022-028, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

### IMA no. 2022-030

Finescreekite

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

Fnck

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

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Chemically and structurally related to cubothioplumbite and hexathioplumbite

Orthorhombic:  $P2_12_12_1$ ; structure determined

$a = 8.2330(9)$ ,  $b = 10.713(1)$ ,  $c = 14.826(3)$  Å  
6.00(78), 3.846(48), 3.701(62), 3.436(85), 3.007(100), 2.644(82), 2.045(43), 1.780(43)

Type material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue number 76227

How to cite: Kampf, A. R., Smith, J. B., Hughes, J. M., Ma, C., and Emproto, C.: Finescreekite, IMA 2022-030, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-032

Kennygayite

$[Pb_4O_2(OH)_2](SO_4)$

Kgy

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

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The sulfate analogue of sidpietersite

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

$a = 6.3785(5)$ ,  $b = 7.4519(6)$ ,  $c = 10.3112(8)$  Å,  
 $\alpha = 75.234(5)$ ,  $\beta = 79.388(6)$ ,  $\gamma = 88.175(6)^\circ$   
9.90(86), 5.78(43), 3.291(100), 3.149(98), 3.114(65), 2.892(68), 2.721(64), 1.685(40)

Cotype material is deposited in the mineralogical collections of the Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA 90007, USA, catalogue numbers 76229, 76230 and 76231

How to cite: Kampf, A. R., Smith, J. B., Hughes, J. M., Ma, C., and Emproto, C.: Kennygayite, IMA 2022-032, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-033

Evanichite

$Pb_6Cr^{3+}(Cr^{6+}O_4)_2(SO_4)(OH)_7FCl$

Eva

Mammoth-Saint Anthony mine, Tiger, Pinal Co., Arizona, USA (32°42'23" N, 110°40'59" W)

Hexiong Yang\*, Ronald B. Gibbs, Francis X. Sousa, and Robert T. Downs

\*E-mail: hyang@arizona.edu

New structure type

Trigonal:  $P3$ ; structure determined

$a = 7.7588(5)$ ,  $c = 9.6161(6)$  Å  
4.805(30), 3.599(100), 3.023(45), 2.473(42), 2.245(28), 2.045(17), 2.033(18), 1.903(12)

Type material is deposited in the mineralogical collections of the University of Arizona Alfie Norville Gem and Mineral Museum, 115 N Church Ave Ste 121, Tucson, AZ 85701, USA, catalogue no. 22718 (holotype), and the RRUFF Project, deposition no. R220006 (cotype)

How to cite: Yang, H., Gibbs, R. B., Sousa, F. X., and Downs, R. T.: Evanichite, IMA 2022-033, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-034

Iskandarovite

$Sb_6O_7(SO_4)_2$

Iska

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

Mirak A. Mirakov, Leonid A. Pautov, Oleg I. Siidra\*, Vladimir Y. Karpenko, Pavel Y. Plechov, and Artem S. Borisov

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Known synthetic analogue

Orthorhombic:  $Ccc2$ ; structure determined

$a = 12.0402(3)$ ,  $b = 18.9599(5)$ ,  $c = 5.8638(2)$  Å  
10.1(40), 5.08(50), 3.26(25), 3.146(100), 2.933(73), 2.372(33), 1.601(32), 1.532(30)

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 5845/1

How to cite: Mirakov, M. A., Pautov, L. A., Siidra, O. I., Karpenko, V. Y., Plechov, P. Y., and Borisov, A. S.: Iskandarovite, IMA 2022-034, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

#### IMA no. 2022-036

Toledoite

$TiFeSi$

Tld

As inclusions in corundum xenocrysts, Mount Carmel, Haifa district, Israel (32°44' N, 35°03' E)

Chi Ma\*, William L. Griffin, Luca Bindi, and Fernando Cámara

\*E-mail: chima@caltech.edu

Known synthetic analogue

Orthorhombic: *Ima2*

$a = 7.00(1)$ ,  $b = 10.83(1)$ ,  $c = 6.29(1)$  Å

2.339(44), 2.333(100), 2.147(89), 2.141(38), 2.058(36), 2.052(33), 2.048(34), 1.750(36)

Type material is deposited in the mineralogical collections of the Università di Milano, Via Mangiagalli 34, 20133 Milano, Italy, registration number MCMGPG-H2021-006

How to cite: Ma, C., Griffin, W. L., Bindi, L., and Cámara, F.: Toledoite, IMA 2022-036, in: CNMNC Newsletter 68, Eur. J. Mineral., 34, <https://doi.org/10.5194/ejm-34-385-2022>, 2022.

### 3 Nomenclature/classification proposals approved in June 2022

#### 3.1 IMA 22-D: borishanskiite discredited

New analyses of the holotype sample of borishanskiite (IMA no. 1974-010) show that this mineral is identical to polarite (IMA no. 1969-032). Consequently, since polarite has historical priority, borishanskiite is discredited.

#### 3.2 Columbite supergroup

The columbite supergroup has been established. It includes 39 oxide minerals based on the general stoichiometry  $M : O = 1 : 2$  and structurally characterized by zig-zag chains of edge-sharing octahedra. The supergroup is divided into the following: ixiolite group, wolframite group, samarskite group, columbite group, and wodginite group. A number of actions were taken on some of the minerals belonging to the supergroup; the most relevant among them are as follows:

- Polycrase-(Y) has been discredited, as it is identical to euxenite-(Y), and the latter mineral has historical priority.
- The old “ixiolite” has been redefined and results now in two distinct mineral species: ixiolite-(Mn<sup>2+</sup>), with end-member formula  $(\text{Ta}_{2/3}\text{Mn}_{1/3}^{2+})\text{O}_2$ , and ixiolite-(Fe<sup>2+</sup>), with end-member formula  $(\text{Ta}_{2/3}\text{Fe}_{1/3}^{2+})\text{O}_2$ . The type locality for both is Skogsböle, Kimito Island, Finland.

#### 3.3 Revised formula for shkatulkalite, $\text{Na}_2\text{Nb}_2\text{Na}_3\text{Ti}(\text{Si}_2\text{O}_7)_2\text{O}_2(\text{FO})(\text{H}_2\text{O})_4(\text{H}_2\text{O})_3$

In the IMA List of Minerals the chemical formula of shkatulkalite is given as  $\text{Na}_{10}\text{MnTi}_3\text{Nb}_3(\text{Si}_2\text{O}_7)_6(\text{OH})_2\text{F} \cdot 12\text{H}_2\text{O}$ . However, a crystal structure study carried out on holotype material (*Can. Mineral.*, 60, 493–512, 2022) clearly shows that Mn is not the dominant constituent at any crystallographic site. Accordingly, the end-member formula should be written as  $\text{Na}_2\text{Nb}_2\text{Na}_3\text{Ti}(\text{Si}_2\text{O}_7)_2\text{O}_2(\text{FO})(\text{H}_2\text{O})_4(\text{H}_2\text{O})_3$ . This formula matches the general formula of the minerals of the lamprophyllite group of the seidozerite supergroup, to which shkatulkalite belongs. This is an executive decision taken by the officers of the IMA-CNMNC.