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NEW MINERAL NAMES*

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Benyacarite*

F. Demartin, T. Pilati, H.D. Gay, C.M. Gramaccioli (1993) The crystal structure of a mineral related to paulkerrite. Zeits. Kristallogr., 208, 57–71.

F. Demartin, H.D. Gay, C.M. Gramaccioli, T. Pilati (1997) Benyacarite, a new titanium-bearing phosphate mineral species from Cerro Blanco, Argentina. Can. Mineral., 35, 707–712.

Chemical data in the 1993 paper were abstracted in *Am. Mineral.*, 79, p. 763, 1994. On the basis of $Z = 4$, the empirical formula is $[(H_2O)_{0.78}K_{0.16}Na_{0.03}]_2$ $Ti(Mn^{2+}V_{0.75}Fe^{2+}_{0.21}Mg_{0.04})_2(Fe^{3+}_{0.68}Ti^{4+}_{0.28}Al_{0.07})_2(PO_4)_4(O_{0.6}F_{0.4})_2{\cdot}14H_2O$, The mineral occurs as euhedral tabular to almost equidimensional crystals, up to 0.3 mm across, showing {010}, {111}, {001}, and less common {100}. Greenish yellow color, vitreous luster, transparent to translucent, white streak, brittle, H = 2½–3, uneven fracture, perfect {010} cleavage, nonfluorescent, $D_{calc} = 2.37$ g/cm³ for $Z = 4$. Pale yellow in transmitted light, nonpleochroic, biaxial positive, $\alpha = 1.612(3)$, $\beta = 1.621(3)$, $\gamma = 1.649(3)$, $2V_{meas} = 60(3)°$, orientation $X = b$, $Y = c$, $Z = a$. Single-crystal X-ray structure study ($R = 0.034$) indicated orthorhombic symmetry, space group $Pbca$, $a = 10.55(1)$, $b = 20.49(4)$, $c = 12.52(1)$ Å as refined from a 114 mm Gandolfi powder pattern (Cu$K\alpha$ radiation) with strongest lines of 10.29(90,020), 7.51(80,111), 6.26(100,002), 3.76(50,222), and 3.13(100,004).

The mineral occurs in a phosphate-bearing granitic pegmatite at Cerro Blanco, near Tanti, Córdoba, Argentina. The new name is for Maria Angelica R. de Benyacar (b. 1928). Type material is in the Mineralogical Museum of the Department of Earth Sciences, University of Milano, Italy. Beyacarite is isomorphous with paulkerrite and mantienneite. **J.L.J.**

Brianroulstonite*

J.D. Grice, R.A. Gault, J. Van Velthuizen (1997) Brianroulstonite: A new borate mineral with a sheet structure. Can. Mineral., 35, 751–758.

Four electron microprobe analyses gave CaO 32.85 (29.24–34.50), K_2O 0.05 (0.05–0.06), Cl 13.79 (13.28–14.31), B_2O_3 33.92, H_2O 40.44, O ≡ Cl 3.11, sum 117.99 wt%, with H_2O and B_2O_3 calculated by stoichiometry from the results of a crystal structure determination. The empirical formula on the basis of 23 anions is $(Ca_{3.00}K_{0.01})_{\Sigma 3.01}B_5O_6(OH)_7Cl_{1.99}{\cdot}8H_2O$. The mineral occurs as micaceous grains, 0.5 × 0.25 × 0.1 mm, that form cleavable masses up to 2 × 1 × 1 mm. Colorless to white, transparent to translucent, vitreous luster, white streak, flexible, micaceous, perfect {010} cleavage, H = 5, twinned on (010), nonfluorescent, $D_{meas} = 1.97(3)$, $D_{calc} =$ 1.93 g/cm³ for $Z = 2$. The IR spectrum shows the presence of H_2O groups and complex borate groups. Optically biaxial negative, $\alpha = 1.506(2)$, $\beta = 1.527(2)$, $\gamma = 1.532(2)$, $2V_{meas} = 56(1)$, $2V_{calc} = 51.4°$, orientation $Z = b$, $X \wedge c = 30°$ in the obtuse angle β. Single-crystal X-ray structure study ($R = 0.039$) indicated monoclinic symmetry, pseudohexagonal, space group Pa, $a = 17.42(4)$, $b = 8.077(5)$, $c = 8.665(6)$ Å. The powder pattern (114 mm Debye–Scherrer, Cu$K\alpha$ radiation) has strongest lines at 8.10(100,010), 4.04(40,020), 2.535(20,230,031), and 2.276 (20,231).

The mineral is associated with other borates in Mississippian halite-sylvite evaporites intersected by drilling at the Potash Corporation of Saskatchewan mine at Penobsquis, Kings County, New Brunswick. The new name is for Brian Roulston (b. 1948), geologist and evaporites specialist. Type material is in the Canadian Museum of Nature, Ottawa, Canada. **J.L.J.**

Hechtsbergite*

W. Krause, H.-J. Bernhardt, G. Blass, H. Effenberger, H.-W. Graf (1997) Hechtsbergite, $Bi_2O(OH)(VO_4)$, a new mineral from the Black Forest, Germany. Neues Jahrb. Mineral. Mon., 271–287.

Electron microprobe analysis gave Bi_2O_3 83.02, V_2O_5 15.18, As_2O_5 0.52, $[H_2O]_{calc}$ 1.59, sum 100.31 wt%, corresponding to $Bi_{2.03}O_{1.08}(VO_4)_{0.95}(AsO_4)_{0.03}$. Occurs as euhedral brown crystals and aggregates to 0.2 mm, showing mainly {111}, with subordinate {112}, {113}, $\{\bar{1}01\}$, $\{\bar{1}02\}$, and $\{\bar{3}02\}$. Transparent to translucent, adamantine luster, yellow streak, conchoidal fracture, H = 4½, nonfluorescent, soluble in dilute HCl, $D_{calc} = 6.87$ g/cm³ for $Z = 4$. Optically biaxial positive, $\alpha = 2.26(2)$, $\beta_{calc} = 2.27$, $\gamma = 2.30(2)$, $2V = 50(5)°$, $X \| b$, $Z \wedge c = 35°$ in the obtuse angle β. Single-crystal X-ray study indicated monoclinic symmetry, space group $P2_1/c$, $a = 6.791(1)$, $b = 7.535(1)$, $c = 10.881(1)$ Å, $\beta = 107.00(1)°$. Strongest lines of the powder pattern (diffractometer, Co$K\alpha_1$ radiation)

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* Before publication, minerals marked with an asterisk were approved by the Commission on New Minerals and Mineral Names, International Mineralogical Association.

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are 4.279(41,012), 3.267(100,120,$20\bar{2}$,$12\bar{1}$,112), 3.150 (63,013), 2.734(35,211), and 2.036(29,$13\bar{3}$,$23\bar{1}$,213,033).

The mineral is associated with chrysocolla, bismutite, beyerite, namibite, mixite, and eulytite in minute cavities in gneiss that is mined as road-building material at the Hechtsberg quarry at Hausach, Black Forest, Germany. The mineral is the V analog of atelestite. Type material is in the Institute für Mineralogie, Ruhr-Universität Bochum, Germany. **J.L.J.**

Hiärneite*

D. Holtstam (1997) Hiärneite, a new Zr-Sb oxide mineral isostructural with calzirtite, from Långban, Sweden. Eur. J. Mineral., 9, 843–848.

One of eight listed electron microprobe analyses gave Na_2O 0.59, MgO 0.09, CaO 9.15, MnO 4.01, Mn_2O_3 3.71 (Mn^{2+}/Mn^{3+} partitioned on the basis on nine cations and 16 O), TiO_2 4.66, ZrO_2 53.94, Sb_2O_5 22.87, Fe_2O_3 0.81, HfO_2 0.5, sum 100.33 wt%, corresponding to $(Na_{0.18}Mg_{0.02}Ca_{1.57}Mn^{2+}_{0.54})_{\Sigma 2.31}(Zr_{4.20}Mn^{3+}_{0.45})_{\Sigma 4.65}(Sb^{5+}_{1.36}Ti^{4+}_{0.56}Fe^{3+}_{0.10})_{\Sigma 2.02}O_{16}$, simplified as $(Ca,Mn,Na)_2(Zr,Mn^{3+})_5(Sb,Ti,Fe)_2O_{16}$. The mineral occurs as subhedral, short prismatic grains up to 200 μm in longest dimension and in aggregates up to 500 μm across. Bright red color, translucent, no cleavage, $H = 7$, nonfluorescent, insoluble in cold mineral acids, $D_{calc} = 5.44$ g/cm³ for $Z = 8$; typically occurs as poikiloblastic grains containing abundant mica inclusions. Optically uniaxial positive, weakly dichroic in orange and yellow-orange in transmitted light; colorless to gray in reflected light, weakly anisotropic, yellow internal reflection, $\omega_{calc} = 2.12(2)$, $\epsilon'_{calc} = 2.16(2)$. Single-crystal X-ray study indicated tetragonal symmetry, space group $I4_1/acd$, $a = 15.264(1)$, $c = 10.089(2)$ Å, isostructural with calzirtite; strongest lines of a 57 mm Gandolfi powder pattern are 3.45(40,411), 2.92(100,332), 2.539(60,600), 1.792(90,660,604), and 1.534(80,932).

The mineral is associated with phlogopite, calcite, fluorapatite, svabite, jacobsite, magnetoplumbite, bindheimite, and pyrophanite in the skarn assemblage at Långban. The new name, which is pronounced *year-ne-ite,* is for U. Hiärne (1641–1724), a pioneer in Swedish geology. Type material is in the Swedish Museum of Natural History, Stockholm. **J.L.J.**

Horváthite-(Y)*

J.D. Grice, G.Y. Chao (1997) Horváthite-(Y), rare-earth fluorocarbonate, a new mineral species from Mont Saint-Hilaire, Quebec. Can. Mineral., 35, 743–749.

Electron microprobe analysis gave Na_2O 12.62, CaO 1.86, Y_2O_3 45.07, Gd_2O_3 0.45, Dy_2O_3 2.49, Er_2O_3 3.02, Yb_2O_3 1.64, Ho_2O_3 0.81, Tb_2O_3 0.12, F 17.22, CO_2 (calc.) 19.83, O ≡ F 7.23, sum 97.90 wt%, corresponding to $(Na_{0.90}Ca_{0.07})_{\Sigma 0.97}(Y_{0.89}Gd_{0.01}Dy_{0.03}Er_{0.04}Yb_{0.02}Ho_{0.01})_{\Sigma 1.00}(CO_3)F_{2.01}$, ideally $NaY(CO_3)F_2$. The mineral occurs as tabular crystals up to 1 × 1 × 0.25 mm, stacked in fan-shaped groups, and showing {100}, {001}, {010}, and minor {110}, {011}, and {101}. Pale beige to colorless, vitreous luster, translucent to transparent, brittle, $H = 4$, white streak, uneven fracture, good {100} and {010} cleavages, nonfluorescent, $D_{meas} = >3.3$, $D_{calc} = 3.61$ g/cm³ for $Z = 4$. Optically biaxial negative, $\alpha = 1.457(1)$, $\beta = 1.543(1)$, $\gamma = 1.622(1)$, $2V_{meas} = 82(1)$, $2V_{calc} = 83°$, orientation $Y = a$, $X = b$, $Z = c$, weakly pleochroic, $Y = Z =$ pale brown, $X =$ colorless. Single-crystal X-ray structure study ($R = 0.016$) indicated orthorhombic symmetry, space group $Pmcn$; $a = 6.964(3)$, $b = 9.173(6)$, $c = 6.302(2)$ Å as refined from the powder pattern (114 mm Gandolfi, Cu$K\alpha$ radiation). Strongest lines are 5.19(90,011), 3.477(100,200), 2.800(50,130), 2.087(50,132,222), 2.057(50,141,013), 1.966(50,321), 1.849(50,330), and 1.763(50,213,051).

The mineral occurs in a late-stage pegmatitic dyke in nepheline syenite at the Poudrette quarry, Mont Saint-Hilaire, Rouville County, Quebec. The new name is for Elsa (b. 1947) and Lázló Horváth (b. 1937), both of whom have been extensively involved in Mont Saint-Hilaire mineralogy. Type material is in the Canadian Museum of Nature, Ottawa, Canada. **J.L.J.**

Iltisite*

H. Sarp, J. Sanz-Gysler, P. Perroud (1997) Iltisite, HgSAg(Cl,Br), a new mineral from the Cap Garonne mine, Var (France), a polymorph of capgaronnite. Archs Sci. Genève, 50, 1–5 (in French, English abs.).

Electron microprobe analysis gave Hg 52.40, Ag 25.90, Cl 8.47, Br 4.88, S 8.41, sum 100.06 wt%, corresponding to $Hg_{0.98}S_{0.99}Ag_{0.90}(Cl_{0.90}Br_{0.23})_{\Sigma 1.13}$, ideally HgSAg(Cl,Br). The mineral occurs as red to brown-red, isolated, hexagonal crystals, flattened on {001} and about 0.02 mm in diameter, showing {001} and {101}. Translucent, red streak, adamantine luster, brittle, perfect {001} cleavage, irregular fracture, H not determinable, insoluble in HCl, nonfluorescent, $D_{calc} = 6.59(1)$ g/cm³ for $Z = 12$. From reflectance measurements, $\omega = \sim 2.3$, $\epsilon = \sim 2.1$, probably uniaxial negative, marked pleochroism $O =$ red, $E =$ brownish red. Single-crystal X-ray study indicated hexagonal symmetry, space group $P6_2$, $P6_4$, $P6_222$, or $P6_422$, $a = 8.234(4)$, $c = 19.38(1)$ Å as refined from a 114 mm Gandolfi pattern (Cu$K\alpha$ radiation) with strongest lines of 4.124(30,110), 3.357(60,202), 3.237(30,006), 3.127(50,114,203), 2.879(100,204), and 2.009(50,222,208).

The mineral, which is a polymorph of capgaronnite, occurs in small cavities in quartz at the Cap Garonne Pb-Cu mine, Var, France. Associated minerals are olivenite, perroudite, brochantite, capgaronnite, parnauite, and tennantite. The new name is for mineral collector M. Antoine Iltis. Type material is in the Department of Mineralogy of the Muséum d'histoire naturelle de Genève, Switzerland. **J.L.J.**

(Rh,Ir)NiAs

G. Garuti, F. Zaccarini (1997) In situ alteration of platinum-group minerals at low temperature: Evidence from serpentinized and weathered chromitite of the Vourinos complex, Greece. Can. Mineral., 35, 611–626.

Electron microprobe analysis of a grain, ~1–2 × 10 mm, gave Fe 1.01, Co 0.05, Ni 19.93, Os 0.03, Ir 10.53, Ru 0.08, Rh 25.36, Pt 7.33, Pd 3.30, S 0.08, As 27.89, sum 95.59 wt% after adjustment of Fe and Cr for the presence of chromite. The adjusted analysis corresponds to $(Rh_{2.24}Ir_{0.50}Pt_{0.34}Pd_{0.28}Ru_{0.01})_{\Sigma 3.37}(Ni_{3.08}Fe_{0.16}Co_{0.01})_{\Sigma 3.25}As_{3.37}$, simplified as (Rh,Ir)NiAs, which is the Rh analog of majakite, PdNiAs. Analysis of another grain, roughly 1.5 × 4 mm, gave a composition corresponding to $(Fe_{0.48}Cu_{0.35}Ni_{0.16})_{\Sigma 0.99}(Ir_{1.31}Rh_{0.41}Os_{2.25}Pt_{0.05})_{\Sigma 2.01}S_4$, which is the Fe analog of cuproiridsite.

Discussion. The existence of the Fe analog of cuprorhodsite, $(Fe,Cu)(Rh,Ir)_2S_4$, has also been reported (IMA No. 96–047). Data for RhNiAs from other localities have been abstracted in (*Am. Mineral.*, 69, P. 1195, 1984 and *Am. Mineral.*, 76, P. 1437 and 1438, 1991). **J.L.J.**

$CuPbS_2$

Shihui Yang, Yueying Lin, Yi Wang (1996) An unnamed sulfide mineral–$CuPbS_2$. Acta Mineral. Sinica, 16(3), 304–306 (in Chinese, English abs.).

Six electron microprobe analyses gave an average and range of Cu 19.22 (15.29–22.90), Pb 61.04 (57.26–65.93), Ag 2.14 (0.61–3.55), Fe 0.20 (0.07–0.40), S 17.82 (16.59–17.89), sum 100.42 (99.86–100.77) wt%, corresponding to $(Cu_{1.10}Ag_{0.08})_{\Sigma 1.18}Pb_{1.04}S_2$. Occurs as aggregates of irregular grains to 0.2 mm, black color, metallic luster, VHN_{50} = 142.4–156.2, D_{calc} = 5.805 g/cm³ for $Z = 16$. In reflected light, gray-white with a brown tint, anisotropic; reflectance percentages for R'_α and R'_γ in air (SiC standard) are 36.33, 36.17 (440 nm), 36.09, 35.89 (480), 34.33, 33.72 (520), 32.93, 32.12 (560), 32.15, 31.28 (600), 32.11, 31.20 (640), and 31.68, 30.78 (680). Indexing of the Debye–Scherrer X-ray powder pattern indicated orthorhombic symmetry, possible space group *P*222, a = 24.00, b = 9.677, c = 7.861 Å. Strongest lines of the pattern (57 mm camera, Cu radiation) are 3.9295(71,021), 2.9997(40,311), 2.7997(100,202), 1.9200(45,521), 1.9000(40,051), and 1.7600(59,531). The mineral coexists with pyrite, sphalerite, galena, chalcopyrite, native gold, and other sulfides in the Jiacun Ag polymetallic ore deposit, Sichuan Province, China. **J.L.J.**

Trigonal $(Mg,Fe)SiO_3$, perovskite-type $(Mg,Fe)SiO_3$

N. Tomioka, K. Fujino (1997) Natural $(Mg,Fe)SiO_3$-ilmenite and -perovskite in the Tenham meteorite. Science, 277, 1084–1086.

The Tenham olivine- and hypersthene-rich chondrite has a network of shock-induced veinlets, <1 mm wide, along which olivine has been transformed to ringwoodite and wadsleyite. Within the veinlets is a mineral for which energy dispersion analysis by analytical transmission electron microscopy gave Na_2O 0.67, MgO 28.39, Al_2O_3 0.07, SiO_2 56.35, CaO 0.38, TiO_2 0.17, Cr_2O_3 0.16, MnO 0.28, FeO 13.54, sum 100 wt%, corresponding to $(Mg_{1.51}Fe_{0.40}Na_{0.05}Ca_{0.02}Mn_{0.01})_{\Sigma 1.99}Si_{2.01}O_6$. Electron diffraction patterns gave a = 4.78(5), c = 13.6(1) Å, corresponding to high-pressure, synthetic $(Mg,Fe)SiO_3$ with the ilmenite structure (space group $R\bar{3}$). The mineral occurs as granular grains <0.4 μm long, and as columnar grains <1.4 μm long. The latter have a mosaic texture resembling brickwork, and the grains have a topotaxial relationship with adjacent clinoenstatite.

Also present with the ilmenite-structure $(Mg,Fe)SiO_3$ is a mineral for which energy dispersion analysis gave Na_2O 0.81, MgO 28.58, Al_2O_3 0.16, SiO_2 55.14, CaO 0.12, TiO_2 0.42, Cr_2O_3 0.18, MnO 0.19, FeO 14.41, sum 100 wt%, corresponding to $(Mg_{1.53}Fe_{0.43}Na_{0.06}Ca_{0.01}Mn_{0.01}Cr_{0.01})_{\Sigma 2.05}(Si_{1.98}Al_{0.01}Ti_{0.01})_{\Sigma 2.00}O_6$, simplified as $(Mg,Fe)SiO_3$. Electron diffraction patterns indicated that the mineral has a = 4.74(5), b = not determinable, c = 7.0(1) Å; the parameters are consistent with data for synthetic $(Mg,Fe)SiO_3$ that has an orthorhombic, perovskite-type (space group *Pbnm*) structure. **J.L.J.**

K-Cr-loparite

M.G. Kopylova, R.S. Rickard, A. Kleyenstueber, W.R. Taylor, J.J. Gurney, L.R.M. Daniels (1997) First occurrence of strontian K-Cr loparite and Cr-chevkinite in diamonds. Russian Geol. Geophys., 38, 405–420 (English translation from Geol. Geofiz.).

The mineral occurs as light brown, elongate grains that are irregular in outline and 50 × 50 μm, and which occur as inclusions in diamond from the River Ranch kimberlite, Zimbabwe. One of two similar electron microprobe analyses gave TiO_2 29.78, Al_2O_3 0.61, Cr_2O_3 7.81, Fe_{total} as FeO 0.39, CaO 1.81, Na_2O 0.16, K_2O 4.46, SrO 19.95, Nb_2O_5 3.51, La_2O_3 17.46, Ce_2O_3 12.69, ThO_2 1.44, sum 100.07 wt%, corresponding to $(Sr_{0.373}La_{0.207}K_{0.183}Ce_{0.150}Ca_{0.062}Th_{0.011}Na_{0.010})_{\Sigma 0.996}(Ti_{0.721}Cr_{0.199}Nb_{0.051}Al_{0.023}Fe_{0.011})_{\Sigma 1.005}O_3$. Optically isotropic, n = >1.78. Single-crystal X-ray diffractometry indicated cubic symmetry, a = 3.9712(66) Å. The six lines listed for a Gandolfi X-ray pattern are 3.00(10), 2.78(100), 2.46(50), 2.27(10), 2.15(10), and 1.96(10). The name K-Cr-loparite alludes to the composition in a nomenclature system in which $REECrO_3$, $K_{0.5}REE_{0.5}TiO_3$, and tausonite ($SrTiO_3$) are end-members.

Discussion. The nomenclature system is unapproved and is not under consideration by the CNMMN. In the existing system, the mineral is a K-Cr-bearing tausonite. **J.L.J.**

Ca-dominant willhendersonite

G. Vezzalini, S. Quartieri, E. Galli (1997) Occurrence and crystal structure of a Ca-pure willhendersonite. Zeolites, 19, 75–79.

Electron microprobe analysis gave CaO 15.62, K_2O 0.26, Al_2O_3 29.82, SiO_2 35.45, H_2O 18.85 by difference from 100 wt%, corresponding to $(Ca_{1.43}K_{0.03})_{\Sigma 1.46}Al_{3.00}Si_{3.03}O_{12}\cdot 5.37H_2O$. Analyses of other grains gave mainly intermediate compositions, but K content extends to that of the holotype formula, $CaKAl_3Si_3O_{12}\cdot 5H_2O$. Single-crystal X-ray structure study ($R = 0.102$) of the analyzed Ca-dominant grain gave triclinic symmetry, space group $P\bar{1}$, $a = 9.180(3)$, $b = 9.197(3)$, $c = 9.440(3)$ Å, $\alpha = 91.72(2)$, $\beta = 91.42(2)$, $\gamma = 90.05(2)°$, which is similar to the unit cell for holotype willhendersonite.

Discussion. The ideal formula of willhendersonite has Ca:K = 1:1; this ratio is closely approached in some analyses, but the published data show that formula Ca consistently exceeds K. **J.L.J.**

Cr-chevkinite

M.G. Kopylova, R.S. Rickard, A. Kleyenstueber, W.R. Taylor, J.J. Gurney, L.R.M. Daniels (1997) First occurrence of strontian K-Cr loparite and Cr-chevkinite in diamonds. Russian Geol. Geophys., 38, 405–420 (English translation from Geol. Geofiz.).

Electron microprobe analysis gave SiO_2 18.73, TiO_2 8.93, Al_2O_3 1.27, Cr_2O_3 11.54, Fe_{total} as FeO 1.04, MgO 1.43, CaO 0.58, SrO 2.38, Nb_2O_5 2.64, La_2O_3 11.76, Ce_2O_3 28.33, ThO_2 1.32, Nd_2O_3 6.64, Pr_2O_3 2.23, sum 100.66 [98.82] wt%, corresponding to $(Ce_{2.22}La_{0.96}Nd_{0.51}Pr_{0.18}Th_{0.06}Sr_{0.29})_{\Sigma 4.22}(Mg_{0.46}Fe_{0.22}Ca_{0.13})_{\Sigma 0.81}Cr_{1.95}(Ti_{1.44}Al_{0.32}Nb_{0.26})_{\Sigma 2.02}Si_{4.02}O_{22}$. The mineral has a khaki color, poor cleavage, and occurs as inclusions up to 50 × 80 mm in diamond from the River Ranch kimberlite, Zimbabwe. In reflected light the mineral is yellowish gray and isotropic. **J.L.J.**

New Data

Elyite

R. Miyawaki, S. Matsubara, E. Hashimoto (1997) Elyite from the Mizuhiki mine, Fukushima Prefecture, Japan. Bull. National Sci. Mus., Tokyo, Ser. C., 23, 27–33.

Single-crystal X-ray study of elyite from the Mizuhiki mine gave the space group $P2_1/c$, $a = 14.244(1)$, $b = 11.536(1)$, $c = 14.656(1)$ Å, $\beta = 100.45(1)°$. The space group is new, and both b and c are approximately double those originally determined (*Am. Mineral.*, 57, 364–367, 1972). **J.L.J.**

Gersdorffite-krutovite

E.M. Spiridonov, T.N. Chvileva (1995) The boundary between gersdorffite NiAsS and krutovite $NiAs_2$. Doklady Akad. Nauk, 341(6), 785–787 (English translation in Trans. Russ. Acad. Sci., Earth Sci. Sect., 344(7), 119–123).

Electron microprobe analyses, X-ray powder patterns, and reflectance spectra for samples mainly from the Manybay U-Mo deposit, Aksu orefield, northern Kazakhstan, have shown that solid solution between gersdorffite and krutovite is complete. It is suggested that the boundary between gersdorffite and krutovite be at $NiAs_{1.5}S_{0.5}$. **J.L.J.**

Leisingite

S.M. Margison, J.D. Grice, L.A. Groat (1997) The crystal structure of leisingite, $(Cu^{2+},Mg,Zn)_2(Mg,Fe)Te^{6+}O_6\cdot 6H_2O$. Can. Mineral., 35, 759–763.

Single-crystal X-ray structure study ($R = 0.042$) of leisingite gave the new space group $P\bar{3}1m$. **J.L.J.**

Lewisite

J. Brugger, R. Gieré, S. Graeser, N. Meisser (1997) The crystal chemistry of roméite. Contrib. Mineral. Petrology, 127, 136–146.

Roméite from several localities was analyzed by electron microprobe, and compositions conform to the general formula $(Ca,Fe,Mn,Na)_2(Sb^{5+}Ti^{4+})_2(O,OH,F)_7$. Two electron microprobe analyses of "lewisite" from Tripuhy, Brazil (type locality) confirmed previous indications that the mineral is titanian roméite. Crystals of "lewisite" are octahedral, and single-crystal X-ray study indicated cubic symmetry, space group $Fd3m$, $a = 10.29(2)$ Å. In transmitted light, however, the mineral is anisotropic, a property which is suggested to result from transformation of a minor part to a hexagonal phase, possibly structurally analogous to parabariomicrolite. The X-ray powder pattern of "lewisite" can be satisfactorily indexed on a hexagonal cell with $a = 7.323(3)$, $c = 17.61(1)$ Å. **J.L.J.**

"Matveevite"

F. Demartin, H.D. Gay, C.M. Gramaccioli, T. Pilati (1997) Benyacarite, a new titanium-bearing phosphate mineral species from Cerro Blanco, Argentina. Can. Mineral., 35, 707–712.

The composition of the unapproved mineral "matveevite" (*Am. Mineral.*, 78, p. 451, 1993) can be recast into a formula of the paulkerrite-mantienneite-benyacarite type, which suggests that "matveevite" is identical to benyacarite. Orthorhombic cell dimensions of all of the minerals are similar, but "matveevite" is reported in the literature to have the space group *Pmcn,* whereas for the others the space group is *Pbca.* **J.L.J.**

Szenicsite

C.A. Francis, L.C. Pitman, D.E. Lange (1997) Szenicsite, a new copper molybdate from Inca de Oro, Atacama, Chile. Mineral. Record, 28, 387–394.

The sole locality, previously given as Tierra Amarilla, Chile (*Am. Mineral.*, 79, p. 1210, 1994), is the Jardinera No. 1 mine near Inca de Oro, 80 km north of Copiapo. Previously given refractive indices should be discarded in favor of $n = >1.8$, and pleochroism is X = yellow-green, Y and Z = green. Crystal forms are {100}, {110}, {211}, and {010}. Single-crystal and powder X-ray data have been revised to orthorhombic, space group $Pnnm$ or $Pnn2$, $a = 8.499(3)$, $b = 12.526(5)$, $c = 6.067(2)$ Å, with strongest lines (114 mm Debye–Scherrer, Cu$K\alpha$ radiation) at 5.471(s,011), 3.754(s,130), 3.043(s,221), 2.591(vs,122), and 1.519(s,004). Type material is in the Harvard Mineralogical Museum. **J.L.J.**