

Mineralogical Magazine

PRINCIPAL EDITORS

R. H. MITCHELL P. A. WILLIAMS

Volume 77

(Nos. 502–509, 2013)

THE MINERALOGICAL SOCIETY

12 BAYLIS MEWS, AMYAND PARK ROAD,
TWICKENHAM TW1 3HQ, UK

2013

CONTENTS

[No. 502, FEBRUARY 2013]

CNMNC Newsletter 15

P. A. WILLIAMS, F. HATERT, M. PASERO and S. J. MILLS: New minerals and nomenclature modifications approved in 2012 and 2013	1
<i>Letter</i>	
A. G. CHRISTY and D. ATENCIO: Clarification of status of species in the pyrochlore supergroup	13
L. BINDI and N. E. PINGITORE: On the symmetry and crystal structure of aguilarite, Ag_4SeS	21
T. ARMBRUSTER, B. LAZIC, L. Z. REZNITSKY and E. V. SKLYAROV: Kyzylkumite, $\text{Ti}_2\text{V}^{3+}\text{O}_5(\text{OH})$: new structure type, modularity and revised formula	33
I. E. GREY, K. STEINKE and C. M. MACRAE: Kleberite, $\text{Fe}^{3+}\text{Ti}_6\text{O}_{11}(\text{OH})_5$, a new ilmenite alteration product, from Königshain, northeast Germany	45
I. E. GREY, W. G. MUMME and C. M. MACRAE: Lead-bearing phyllotungstate from the Clara mine, Germany with an ordered pyrochlore–hexagonal tungsten bronze intergrowth structure	57
A. R. KAMPF, A. C. ROBERTS, K. E. VENANCE, C. CARBONE, D. BELMONTE, G. E. DUNNING and R. E. WALSTROM: Cerchiaraite-(Fe) and cerchiaraite-(Al), two new barium cyclosilicate chlorides from Italy and California, USA	69
A. R. KAMPF, J. J. PLUTH, Y.-S. CHEN, A. C. ROBERTS and R. M. HOUSLEY: Bobmeyerite, a new mineral from Tiger, Arizona, USA, structurally related to cerchiaraite and ashburtonite	81
I. KUSACHI, S. KOBAYASHI, Y. TAKECHI, Y. NAKAMUTA, T. NAGASE, K. YOKOYAMA, K. MOMMA, R. MIYAWAKI, M. SHIGEOKA and S. MATSUBARA: Shimazakiite-4M and shimazakiite-4O, $\text{Ca}_2\text{B}_2\text{O}_5$, two polytypes of a new mineral from Fuka, Okayama Prefecture, Japan	93
I. V. PEKOV, N. V. ZUBKOVA, M. E. ZELENSKI, V. O. YAPASKURT, YU. S. POLEKHOVSKY, O. A. FADEEVA and D. YU. PUSHCHAROVSKY: Yaroshevskite, $\text{Cu}_9\text{O}_2(\text{VO}_4)_4\text{Cl}_2$, a new mineral from the Tolbachik volcano, Kamchatka, Russia	107
B. M. SAUMUR and K. HATTORI: Zoned Cr-spinel and ferritchromite alteration in forearc mantle serpentinites of the Rio San Juan Complex, Dominican Republic	117
J. PLÁŠIL, K. FEJFAROVÁ, J. HLOUŠEK, R. ŠKODA, M. NOVÁK, J. SEJKORA, J. ČEJKA, M. DUŠEK, F. VESELOVSKÝ, P. ONDRUŠ, J. MAJZLAN and Z. MRÁZEK: Štěpite, $\text{U}(\text{AsO}_3\text{OH})_2 \cdot 4\text{H}_2\text{O}$, from Jáchymov, Czech Republic: the first natural arsenate of tetravalent uranium	137
<i>Book Review</i>	153

[No. 503, MARCH 2013]

Goldschmidt Abstracts 2012 addendum (available online only)

[No. 504, APRIL 2013]

A. N. ZAITSEV, T. WENZEL, T. VENNEMANN and G. MARKL: Tinderet volcano, Kenya: an altered natrocarbonatite locality?	213
T. MOXON, C. M. PETRONE and S. J. B. REED: Characterization and genesis of horizontal banding in Brazilian agate: an X-ray diffraction, thermogravimetric and electron microprobe study	227
I. E. GREY, N. V. Y. SCARLETT and H. E. A. BRAND: Crystal chemistry and formation mechanism of non-stoichiometric monoclinic K-jarosites	249
L. BINDI, F. ZACCARINI, G. GARUTI and N. ANGELI: The solid solution between platinum and palladium in nature	269

CONTENTS

S. V. KRIVOVICHEV: Structural complexity of minerals: information storage and processing in the mineral world	275
S. ANASHKIN, A. BOVKUN, L. BINDI, V. GARANIN and Y. LITVIN: Kudryavtsevite, $\text{Na}_3\text{MgFe}^{3+}\text{Ti}_4\text{O}_{12}$, a new kimberlitic mineral	327
M. OHNISHI, N. SHIMOBAYASHI, D. NISHIO-HAMANE, K. SHINODA, K. MOMMA and T. IKEDA: Minohlite, a new copper-zinc sulfate mineral from Minoh, Osaka, Japan	335
F. BOSI: Bond-valence constraints around the O1 site of tourmaline	343
M. A. COOPER, T. A. HUSDAL, N. A. BALL, Y. A. ABDO and F. C. HAWTHORNE: Schläuterite-(Y), ideally $(\text{Y}, \text{REE})_2\text{Al}(\text{Si}_2\text{O}_7)(\text{OH})_2\text{F}$, a new mineral species from the Stetind pegmatite, Tysfjord, Nordland, Norway: description and crystal structure	353
A. V. KASATKIN, F. NESTOLA, J. PLÁŠIL, J. MARTY, D. I. BELAKOVSKIY, A. A. AGAKHANOV, S. J. MILLS, D. PEDRON, A. LANZA, M. FAVARO, S. BIANCHIN, I. S. LYKOVA, V. GOLIÁŠ and W. D. BIRCH: Manganoblödite, $\text{Na}_2\text{Mn}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$, and cobaltoblödite, $\text{Na}_2\text{Co}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$: two new members of the blödite group from the Blue Lizard mine, San Juan County, Utah, USA	367
P. ELLIOTT, J. BRUGGER, T. CARADOC-DAVIES and A. PRING: Hyalbrownite, $\text{Na}_3\text{MgP}_3\text{O}_{10} \cdot 12\text{H}_2\text{O}$, a new triphosphate mineral from the Dome Rock Mine, South Australia: description and crystal structure	385
<i>Obituaries</i>	399

[No. 505, JUNE 2013]

K. BREITER, N. GARDENOVÁ, T. VACULOVÍČ and V. KANICKÝ: Topaz as an important host for Ge in granites and greisens	403
L. BINDI, P. VOUDOURIS and P. G. SPRY: Structural role of tellurium in the minerals of the pearceite–polybasite group	419
J. PLÁŠIL, A. V. KASATKIN, R. ŠKODA, M. NOVÁK, A. KALLISTOVÁ, M. DUŠEK, R. SKÁLA, K. FEJFAROVÁ, J. ČEJKA, N. MEISSER, H. GOETHALS, V. MACHOVÍČ and L. LAPČÁK: Leydetite, $\text{Fe}(\text{UO}_2)(\text{SO}_4)_2(\text{H}_2\text{O})_{11}$, a new uranyl sulfate mineral from Mas d'Alary, Lodèvre, France	429
F. DEMARTIN, C. CASTELLANO and I. CAMPOSTRINI: Aluminopyracmonite, $(\text{NH}_4)_3\text{Al}(\text{SO}_4)_3$, a new ammonium aluminium sulfate from La Fossa crater, Vulcano, Aeolian Islands, Italy	443
A. R. KAMPF, S. J. MILLS, B. P. NASH, R. M. HOUSLEY, G. R. ROSSMAN and M. DINI: Camaronesite, $[\text{Fe}^{3+}(\text{H}_2\text{O})_2(\text{PO}_3\text{OH})]_2(\text{SO}_4) \cdot 1 - 2\text{H}_2\text{O}$, a new phosphate-sulfate from the Camarones Valley, Chile, structurally related to taranakite	453
D. ATENCIO, M. E. CIRIOTTI and M. B. ANDRADE: Fluorcalcioroméite, $(\text{Ca}, \text{Na})_2\text{Sb}_2^{5+}(\text{O}, \text{OH})_6\text{F}$, a new roméite-group mineral from Starlera mine, Ferrera, Grischun, Switzerland: description and crystal structure	467
L. BINDI, C. CARBONE, D. BELMONTE, R. CABELLA and R. BRACCO: Weissite from Gambatesa mine, Val Graveglia, Liguria, Italy: occurrence, composition and determination of the crystal structure	475
F. RADICA, F. CAPITELLI, F. BELLATRECCIA, G. DELLA VENTURA, A. CAVALLO, M. PICCININI and F. C. HAWTHORNE: Spectroscopy and X-ray structure refinement of sekaminaite from Dolní Bory (Czech Republic)	485
G. DELLA VENTURA, G. VENTRUTI, F. BELLATRECCIA, F. SCORDARI and M. CESTELLI GUIDI: FTIR transmission spectroscopy of sideronatrite, a sodium-iron hydrous sulfate	499
P. ELLIOTT, U. KOLITSCH, A. C. WILLIS and E. LIBOWITZKY: Description and crystal structure of domerockite, $\text{Cu}_4(\text{AsO}_4)(\text{AsO}_3\text{OH})(\text{OH})_3 \cdot \text{H}_2\text{O}$, a new mineral from the Dome Rock Mine, South Australia	509
B. G. J. UPTON, R. MACDONALD, N. ODLING, O. T. RÄMÖ and B. BAGIŃSKI: Kùngnât, revisited. A review of five decades of research into an alkaline complex in South Greenland, with new trace-element and Nd isotopic data	523
<i>Obituaries</i>	399

CONTENTS

[No. 506, JULY 2013]

Goldschmidt Abstracts 2013 (available online only)

[No. 507, AUGUST 2013]

CNMNC Newsletter 16

P. A. WILLIAMS, F. HATERT, M. PASERO and S. J. MILLS: New minerals and nomenclature modifications approved in 2013	2695
P. ONDRUŠ, R. SKÁLA, J. PLÁŠIL, J. SEJKORA, F. VESELOVSKÝ, J. ČEJKA, A. KALLISTOVÁ, J. HLOUŠEK, K. FEJFAROVÁ, R. ŠKODA, M. DUŠEK, A. GABAŠOVÁ, V. MACHOVIČ AND L. LAPČÁK: Švenekite, $\text{Ca}[\text{AsO}_2(\text{OH})_2]_2$, a new mineral from Jáchymov, Czech Republic	2711
S. SCHULTHEISS, I. SETHMANN, M. SCHLOSSER and H.-J. KLEEBE: Pseudomorphic transformation of Ca/Mg carbonates into phosphates with focus on dolomite conversion	2725
M. NAGASHIMA, D. NISHIO-HAMANE, N. TOMITA, T. MINAKAWA and S. INABA: Vanadoallanite-(La): a new epidote-supergroup mineral from Ise, Mie Prefecture, Japan	2739
E. SOKOLOVA and F. C. HAWTHORNE: From structure topology to chemical composition. XIV. Titanium silicates: refinement of the crystal structure and revision of the chemical formula of mosandrite, $(\text{Ca}_2\text{REE})[(\text{H}_2\text{O})_2\text{Ca}_{0.5}\square_{0.5}]^{\text{Ti}}(\text{Si}_2\text{O}_7)_2(\text{OH})_2(\text{H}_2\text{O})_2$, a Group-I mineral from the Saga mine, Morje, Porsgrunn, Norway	2753
A. N. ZAITSEV, E. YU. AVDONTSEVA, S. N. BRITVIN, A. DEMÉNY, Z. HOMONNAY, T. E. JEFFRIES, J. KELLER, V. G. KRIVOVICHEV, G. MARKL, N. V. PLATONOVA, O. I. SIIDRA, J. SPRATT and T. VENNEMANN: Oxo-magnesio-hastingsite, $\text{NaCa}_2(\text{Mg}_2\text{Fe}_3^{3+})(\text{Al}_2\text{Si}_6)\text{O}_{22}\text{O}_2$, a new anhydrous amphibole from the Deeti volcanic cone, Gregory rift, northern Tanzania	2773
J. C. FERNÁNDEZ-CALIANI, J. D. DE LA ROSA, A. M. SÁNCHEZ DE LA CAMPA, Y. GONZÁLEZ-CASTANEDO and S. CASTILLO: Mineralogy of atmospheric dust impacting the Rio Tinto mining area, Spain, during episodes of high metal deposition	2793
A. R. KAMPF, S. J. MILLS, R. M. HOUSLEY, G. R. ROSSMAN, B. P. NASH, M. DINI and R. A. JENKINS: Joteite, $\text{Ca}_2\text{CuAl}[\text{AsO}_4][\text{AsO}_3(\text{OH})_2](\text{OH})_2 \cdot 5\text{H}_2\text{O}$, a new arsenate with a sheet structure and unconnected acid arsenate groups	2811
A. PIECZKA, R. J. EVANS, E. S. GREW, L. A. GROAT, C. MA and G. R. ROSSMAN: The dumortierite supergroup. I. A new nomenclature for the dumortierite and holtite groups	2825
A. PIECZKA, R. J. EVANS, E. S. GREW, L. A. GROAT, C. MA and G. R. ROSSMAN: The dumortierite supergroup. II. Three new minerals from the Szklary pegmatite, SW Poland: Nioboholtite, $(\text{Nb}_{0.6}\square_{0.4})\text{Al}_6\text{BSi}_3\text{O}_{18}$, titanoholtite, $(\text{Ti}_{0.75}\square_{0.25})\text{Al}_6\text{BSi}_3\text{O}_{18}$, and szklaryite, $\square\text{Al}_6\text{BAs}_3^{3+}\text{O}_{15}$	2841
I. O. GALUSKINA, E. V. GALUSKIN, K. PRUSIK, V. M. GAZEEV, N. N. PERTSEV and P. DZIERŻANOWSKI: Irinarasssite $\text{Ca}_3\text{Sn}_2\text{SiAl}_2\text{O}_{12}$ – new garnet from the Upper Chegem Caldera, Northern Caucasus, Kabardino-Balkaria, Russia	2857
R. A. D. PATTRICK, J. M. CHARNOCK, T. GERAKI, J. F. W. MOSELLEMANS, C. I. PEARCE, S. PIMBLOTT and G. T. R. DROOP: Alpha particle damage in biotite characterized by microfocus X-ray diffraction and Fe <i>K</i> -edge X-ray absorption spectroscopy	2867
<i>Obituary</i>	2883

[No. 508, OCTOBER 2013]

P. BALLIRANO and G. CAMETTI: Crystal chemical and structural investigation of levyne-Na	2887
F. C. HAWTHORNE and M. A. COOPER: The crystal structure of chalcoalumite: mechanisms of Jahn-Teller-driven distortions in ${}^{[6]}\text{Cu}^{2+}$ -containing oxysalts	2901
B. E. OWENS, H. E. BELKIN and J. M. ZEROLIS: Margarite, corundum, gahnite and zincohögbomite in a Blackwall, Raleigh Terrane, Eastern Piedmont Province, USA	2913
U. HÄLENIUS and F. BOSSI: Oxyplumboroméite, $\text{Pb}_2\text{Sb}_2\text{O}_7$, a new mineral species of the pyrochlore supergroup from Harstigen mine, Värmland, Sweden	2931

CONTENTS

- V. D'IPPOLITO, G. B. ANDREOZZI, F. BOSI, U. HÄLENIUS, L. MANTOVANI, D. BERSANI and R. A. FREGOLA: Crystallographic and spectroscopic characterization of a natural Zn-rich spinel approaching the endmember gahnite ($ZnAl_2O_4$) composition 2941
- F. CÁMARA, E. SOKOLOVA, F. C. HAWTHORNE, R. ROWE, J. D. GRICE and K. T. TAIT: Veblenite, $K_2\Box_2Na(Fe^{2+}_5Fe^{3+}_4Mn^{2+}_7\Box)Nb_3Ti(Si_2O_7)_2(Si_8O_{22})_2O_6(OH)_{10}(H_2O)_3$, a new mineral from Seal Lake, Newfoundland and Labrador: mineral description, crystal structure, and a new veblenite (Si_8O_{22}) ribbon 2955
- J. PLÁŠIL, A. R. KAMPF, A. V. KASATKIN, J. MARTY, R. ŠKODA, S. SILVA and J. ČEJKA: Meisserite, $Na_5(UO_2)(SO_4)_3(SO_3OH)(H_2O)$, a new uranyl sulfate mineral from the Blue Lizard mine, San Juan County, Utah, USA 2975
- M. B. ANDRADE, D. ATENCIO, A. I. C. PERSIANO and J. ELLENA: Fluorcalciomicrolite, $(Ca,Na,\Box)_2Ta_2O_6F$, a new microlite-group mineral from Volta Grande pegmatite, Nazareno, Minas Gerais, Brazil 2989

CNMNC Newsletter 17

- P. A. WILLIAMS, F. HATERT, M. PASERO and S. J. MILLS: New minerals and nomenclature modifications approved in 2013 2997
- F. NESTOLA, S. J. MILLS, B. PERIOTTO and L. SCANDOLO: The alunite supergroup under high pressure: the case of natrojarosite, $NaFe_3(SO_4)_2(OH)_6$ 3007
- A. GUASTONI, F. NESTOLA, P. GENTILE, F. ZORZI, M. ALVARO, A. LANZA, L. PERUZZO, M. SCHIAZZA and N. M. CASATI: Deveroite-(Ce): a new REE-oxalate from Mount Cervandone, Devero Valley, Western-Central Alps, Italy 3019
- C. BIAGIONI, P. ORLANDI, F. NESTOLA and S. BIANCHIN: Oxycalcioroméite, $Ca_2Sb_2O_6O$, from Buca della Vena mine, Apuan Alps, Tuscany, Italy: a new member of the pyrochlore supergroup 3027
- D. TOPA, E. MAKOVICKY, H. TAJEDIN, H. PUTZ and G. ZAGLER: Barikaite, $Pb_{10}Ag_3(Sb_8As_{11})\Sigma_{19}S_{40}$, a new member of the sartorite homologous series 3039
- A. R. KAMPF, M. J. SCIBERRAS, P. A. WILLIAMS, M. DINI and A. A. MOLINA DONOSO: Leverettite from the Torrecillas mine, Iquique Provence, Chile: the Co-analogue of herbertsmithite 3047

[No. 509, DECEMBER 2013]

- J. PLÁŠIL, J. HLOUŠEK, R. ŠKODA, M. NOVÁK, J. SEJKORA, J. ČEJKA, F. VESELOVSKÝ and J. MAJZLAN: Vysokýite, $U^{4+}[AsO_2(OH)_2]_4\cdot 4H_2O$, a new mineral from Jáchymov, Czech Republic 3055
- G. C. CAPITANI, T. CATELANI, P. GENTILE, A. LUCOTTI and M. ZEMA: Cannonite $[Bi_2O(SO_4)(OH)_2]$ from Alfenza (Credo, Italy): crystal structure and morphology 3067
- A. R. KAMPF, B. P. NASH, M. DINI and A. A. MOLINA DONOSO: Magnesiokoritnigite, $Mg(AsO_3OH)\cdot H_2O$, from the Torrecillas mine, Iquique Province, Chile: the Mg-analogue of koritnigite 3081
- E. MAKOVICKY and D. TOPA: The crystal structure of barikaite 3093
- L. BINDI, F. NESTOLA, L. DE BATTISTI and A. GUASTONI: Dervillite, Ag_2AsS_2 , from Lengenbach quarry, Binn valley, Switzerland: occurrence and crystal structure 3105
- A. R. KAMPF, M. J. SCIBERRAS, P. LEVERETT, P. A. WILLIAMS, T. MALCHEREK, J. SCHLÜTER, M. D. WELCH, M. DINI and A. A. MOLINA DONOSO: Paratacamite-(Mg), $Cu_3(Mg,Cu)Cl_2(OH)_6$, a new substituted basic copper chloride mineral from Camerones, Chile 3113
- I. E. GREY, W. G. MUMME, C. M. MACRAE, T. CARADOC-DAVIES, J. R. PRICE, M. S. RUMSEY and S. J. MILLS: Chiral edge-shared octahedral chains in liskeardite, $[(Al,Fe)_{32}(AsO_4)_{18}(OH)_{42}(H_2O)_{22}]\cdot 52H_2O$, a zeolitic mineral with a pharmacoalumite-related structure 3125
- A. CHAKRABARTY, R. H. MITCHELL, M. REN, A. K. SEN and K. L. PRUSETH: Rinkite, cerianite-(Ce) and hingganite-(Ce) in syenite gneisses from the Sushina Hill Complex, India: occurrence, compositional data and petrogenetic significance 3137
- M. S. RUMSEY, M. D. WELCH, A. R. KAMPF and J. SPRATT: Diegogattaite, $Na_2CaCu_2Si_8O_{20}\cdot H_2O$: a new nanoporous copper sheet silicate from Wessels Mine, Kalahari Manganese Fields, Republic of South Africa 3155

CONTENTS

F. C. MANUELLA: Can nanodiamonds grow in serpentinite-hosted hydrothermal systems? A theoretical modelling study	3163
GURMEET KAUR and R. H. MITCHELL: Mineralogy of the P2-West ‘Kimberlite’, Wajrakarur kimberlite field, Andhra Pradesh, India: kimberlite or lamproite?	3175
A. R. CABRAL, M. TUPINAMBÁ and B. LEHMANN: Spessartine in compact-hematite rock, southern Serra do Espinhaço, Minas Gerais, Brazil, and genesis of compact hematite	3197
M. A. COOPER, Y. A. ABDU, F. C. HAWTHORNE and A. R. KAMPF: The crystal structure of comancheite, $Hg_{55}^{2+}N_{24}^{3-}(OH,NH_2)_4(Cl,Br)_{34}$, and crystal-chemical and spectroscopic discrimination of N^{3-} and O^{2-} anions in Hg^{2+} compounds	3217
O. I. SIIDRA, D. YU. ZENKO, A. N. SUKNOTOVA and S. V. KRIVOVICHEV: Crystal structure of a novel synthetic compound, $Pb_2O(OH)I$, and structure refinement of ‘iodolaurionite’, $Pb(OH)I$: hydroxo- and oxocentred units in Pb minerals and synthetic compounds	3239
<i>CNMNC Newsletter 18</i>	
P. A. WILLIAMS, F. HATERT, M. PASERO and S. J. MILLS: New minerals and nomenclature modifications approved in 2013	3249
Referees	3259