

Supplementary Materials

Table S1. Selenim's minerals: Chemical formula, type locality (TL) and number of localities (NL).

Mineral	Chemical Formula	Formation (TL)	NL	Reference
Achávalite	FeSe	Hydrothermal (1)	2	[1]
Aguilarite	Ag ₄ SeS	Hydrothermal (48)	65	[2]
Ahlfeldite	NiSeO ₃ ·2H ₂ O	Weathering (2)	2	[3]
Alfredopetrovite	Al ₂ (SeO ₃) ₃ ·6H ₂ O	Weathering (3)	1	[4]
Allochalcoselite	CuCu ₅ PbO ₂ (SeO ₃) ₂ Cl ₅	Volcanic (5)	1	[5]
Antimonselite	Sb ₂ Se ₃	Hydrothermal (59)	6	[6]
Athabascaite	Cu ₅ Se ₄	Hydrothermal (37)	14	[7]
Bambollaite	CuSe ₂	Hydrothermal (30)	3	[8]
Bellidoite	Cu ₂ Se	Hydrothermal (27)	6	[9]
Berzelianite	Cu ₂ Se	Hydrothermal (52)	61	[10]
Bohdanowiczite	AgBiSe ₂	Hydrothermal (33)	31	[11]
Bornhardtite	CoCo ₂ Se ₄	Hydrothermal (57)	3	[12]
Brodtkorbite	Cu ₂ HgSe ₂	Hydrothermal (58)	1	[13]
Bukovite	Cu ₄ Tl ₂ Se ₄	Hydrothermal (16)	10	[14]
Burnsite	KCdCu ₇ (SeO ₃) ₂ O ₂ Cl ₉	Volcanic (5)	1	[15]
Bytízite	Cu ₃ SbSe ₃	Hydrothermal (51)	2	[16]
Cadmoselite	CdSe	Hydrothermal (56)	3	[17]
Carlosruizite	K ₆ Na ₄ Na ₆ Mg ₁₀ (SeO ₄) ₁₂ (IO ₃) ₁₂ ·12H ₂ O	Weathering (11)	2	[18]
Cerrromojonite	CuPbBiSe ₃	Hydrothermal (3)	1	[19]
Chalcomenite	CuSeO ₃ ·2H ₂ O	Weathering (1)	35	[20]
Chaméanite	(Cu ₃ Fe) ₂₄ AsSe ₄	Hydrothermal (20)	3	[21]
Chloromenite	Cu ₉ (SeO ₃) ₄ O ₂ Cl ₆	Volcanic (5)	1	[22]
Chrisstanleyite	Ag ₂ Pd ₃ Se ₄	Hydrothermal (28)	5	[23]
Clausthalite	PbSe	Hydrothermal (54)	239	[24]
Cobaltomenite	CoSeO ₃ ·2H ₂ O	Weathering (1)	12	[25]
Crookesite	Cu ₇ TlSe ₄	Hydrothermal (52)	12	[26]
Demesmaekerite	Pb ₂ Cu ₅ (UO ₂) ₂ (SeO ₃) ₆ (OH) ₆ ·2H ₂ O	Weathering (7)	2	[27]
Derriksite	Cu ₄ (UO ₂)(SeO ₃) ₂ (OH) ₆ ·H ₂ O	Weathering (7)	1	[28]
Downeyite	SeO ₂	Weathering (26)	2	[29]
Drysdallite	MoSe ₂	Hydrothermal (31)	2	[30]
Dzharkenite	FeSe ₂	Hydrothermal (55)	4	[31]
Eldragónite	Cu ₆ BiSe ₄ (Se ₂)	Hydrothermal (3)	1	[32]
Eskebornite	CuFeSe ₂	Hydrothermal (24)	22	[33]
Eucairite	CuAgSe	Hydrothermal (52)	51	[34]
Favreauite	PbBiCu ₆ O ₄ (SeO ₃) ₄ (OH)·H ₂ O	Weathering (3)	1	[35]
Ferroselite	FeSe ₂	Hydrothermal (56)	49	[36]
Fischesserite	Ag ₃ AuSe ₂	Hydrothermal (46)	19	[37]
Francisite	Cu ₃ Bi(SeO ₃) ₂ O ₂ Cl	Weathering (4)	2	[38]
Freboldite	CoSe	Hydrothermal (57)	4	[20]
Geffroyite	Cu ₉ Se ₈	Hydrothermal (20)	6	[39]
Georgbokiite	Cu ₅ (SeO ₃) ₂ O ₂ Cl ₂	Volcanic (5)	2	[40]
Giraudite	Cu ₆ Cu ₄ Zn ₂ (AsSe ₃) ₄ S	Hydrothermal (20)	5	[20]
Grundmannite	CuBiSe ₂	Hydrothermal (3)	2	[41]
Guanajuatite	Bi ₂ Se ₃	Hydrothermal (49)	30	[42]
Guilleminite	Ba(UO ₂) ₃ (SeO ₃) ₂ (OH) ₄ ·3H ₂ O	Weathering (7)	3	[43]
Hakite	Cu ₆ Cu ₄ Hg ₂ (SbSe ₃) ₄ Se	Hydrothermal (46)	12	[44]

Hansblockite	CuBiSe_2	Hydrothermal (3)	1	[45]
Haynesite	$(\text{UO}_2)_3(\text{SeO}_3)_2(\text{OH})_2 \cdot 5\text{H}_2\text{O}$	Weathering (9)	1	[46]
Ilinskite	$\text{NaCu}_5(\text{SeO}_3)_2\text{O}_2\text{Cl}_3$	Volcanic (5)	2	[47]
Jacutingaite	Pt_2HgSe_3	Hydrothermal (29)	2	[48]
Jagüéite	$\text{Cu}_2\text{Pd}_3\text{Se}_4$	Hydrothermal (23)	2	[49]
Jolliffeite	NiAsSe	Hydrothermal (19)	3	[50]
Kalungaite	PdAsSe	Hydrothermal (17)	1	[51]
Kawazulite	$\text{Bi}_2\text{Te}_2\text{Se}$	Hydrothermal (25)	25	[52]
Kitkaite	NiTeSe	Hydrothermal (32)	1	[12]
Klockmannite	CuSe	Hydrothermal (35)	57	[53]
Krut'aite	CuSe_2	Hydrothermal (43)	7	[54]
Kullerudite	NiSe_2	Hydrothermal (32)	3	[55]
Kurilite	$\text{Ag}_8\text{Te}_3\text{Se}$	Hydrothermal (45)	2	[56]
Laitakarite	Bi_4Se_3	Hydrothermal (41)	21	[57]
Laphamite	As_2Se_3	Hydrothermal (18)	1	[58]
Larisaite	$\text{Na}(\text{H}_3\text{O})(\text{UO}_2)_3(\text{SeO}_3)_2\text{O}_2 \cdot 4\text{H}_2\text{O}$	Weathering (9)	1	[59]
Litochlebite	$\text{Ag}_2\text{PbBi}_4\text{Se}_8$	Hydrothermal (34)	1	[60]
Llantenesite	$\text{Cu}_6\text{Al}(\text{SeO}_4)(\text{OH})_{12}\text{Cl} \cdot 3\text{H}_2\text{O}$	Weathering (60)	1	[61]
Luberoite	Pt_5Se_4	Hydrothermal (36)	2	[62]
Luxembourgite	$\text{AgCuPbBi}_4\text{Se}_8$	Hydrothermal (61)	1	[63]
Mäkinenite	NiSe	Hydrothermal (32)	2	[55]
Mandarinoite	$\text{Fe}_2(\text{SeO}_3)_3 \cdot 6\text{H}_2\text{O}$	Weathering (2)	13	[64]
Marthozite	$\text{Cu}(\text{UO}_2)_3(\text{SeO}_3)_2\text{O}_2 \cdot 8\text{H}_2\text{O}$	Weathering (7)	2	[65]
Mgriite	Cu_3AsSe_3	Hydrothermal (50)	1	[66]
Miessiite	$\text{Pd}_{11}\text{Te}_2\text{Se}_2$	Hydrothermal (38)	1	[67]
Milotaite	PdSbSe	Hydrothermal (46)	1	[68]
Molybdomenite	PbSeO_3	Weathering (1)	13	[25]
Munakataite	$\text{Pb}_2\text{Cu}_2(\text{SeO}_3)(\text{SO}_4)(\text{OH})_4$	Weathering (12)	16	[69]
Naumannite	Ag_2Se	Hydrothermal (24)	156	[70]
Nestolaite	$\text{CaSeO}_3 \cdot \text{H}_2\text{O}$	Weathering (13)	2	[71]
Nevskite	BiSe	Hydrothermal (39)	5	[72]
Nickeltyrrellite	CuNi_2Se_4	Hydrothermal (3)	1	[73]
Nicksobolevite	$\text{Cu}_7(\text{SeO}_3)_2\text{O}_2\text{Cl}_6$	Volcanic (5)	1	[74]
Olsacherite	$\text{Pb}_2(\text{SeO}_4)(\text{SO}_4)$	Weathering (2)	8	[75]
Oosterboschite	Pd_7Se_5	Hydrothermal (7)	4	[76]
Orlandiite	$\text{Pb}_3(\text{SeO}_3)\text{Cl}_4 \cdot \text{H}_2\text{O}$	Weathering (6)	1	[77]
Padmaite	PdBiSe	Hydrothermal (53)	3	[78]
Palladseite	$\text{Pd}_{17}\text{Se}_{15}$	Hydrothermal (29)	5	[79]
Parageorgbokiite	$\text{Cu}_5(\text{SeO}_3)_2\text{O}_2\text{Cl}_2$	Volcanic (5)	1	[80]
Paraguanajuatite	Bi_2Se_3	Hydrothermal (49)	7	[81]
Pauladamsite	$\text{Cu}_4(\text{SeO}_3)(\text{SO}_4)(\text{OH})_4 \cdot 2\text{H}_2\text{O}$	Weathering (14)	1	[82]
Penroseite	NiSe_2	Hydrothermal (2)	14	[83]
Permingeatite	Cu_3SbSe_4	Hydrothermal (46)	5	[84]
Petříčekite	CuSe_2	Hydrothermal (46)	1	[85]
Petrovicite	$\text{Cu}_3\text{HgPbBiSe}_5$	Hydrothermal (43)	6	[86]
Piretite	$\text{Ca}(\text{UO}_2)_3(\text{SeO}_3)_2(\text{OH})_4 \cdot 4\text{H}_2\text{O}$	Weathering (8)	1	[87]
Plumboselite	$\text{Pb}_3(\text{SeO}_3)\text{O}_2$	Weathering (15)	1	[88]
Poubaite	PbBi_2Se_4	Hydrothermal (40)	4	[89]
Prewittite	$\text{K}_2\text{Pb}_3\text{Zn}_2\text{Cu}_{12}(\text{SeO}_3)_4\text{O}_4\text{Cl}_{20}$	Volcanic (5)	1	[90]
Příbramite	CuSbSe_2	Hydrothermal (51)	3	[91]
Quijarroite	$\text{Cu}_6\text{HgPb}_2\text{Bi}_4\text{Se}_{12}$	Hydrothermal (3)	1	[92]
Ramaccioniite	$\text{Cu}_4[\text{SeO}_4](\text{OH})_6$	Weathering (60)	1	[93]
Sabatierite	Cu_6TlSe_4	Hydrothermal (16)	4	[94]

Sarrabusite	$Pb_5Cu(SeO_3)_4Cl_4$	Weathering (6)	1	[95]
Schlemaite	Cu_6PbSe_4	Hydrothermal (50)	1	[96]
Schmiederite	$Pb_2Cu_2(SeO_3)(SeO_4)(OH)_4$	Weathering (10)	14	[97]
Sederholmite	NiSe	Hydrothermal (32)	1	[55]
Selenium	Se	Weathering (?)	134	[98]
Selenojalpaite	Ag_3CuSe_2	Hydrothermal (52)	1	[99]
Selenopolybasite	$CuAg_6Ag_9Sb_2S_9Se_2$	Hydrothermal (21)	3	[100]
Selenostephanite	$Ag_5(SbSe_3)Se$	Hydrothermal (47)	2	[101]
Skippenite	Bi_2Se_2Te	Hydrothermal (42)	6	[102]
Sofiite	$Zn_2(SeO_3)Cl_2$	Volcanic (5)	2	[103]
Stilleite	ZnSe	Hydrothermal (8)	7	[104]
Sudovikovite	$PtSe_2$	Hydrothermal (53)	3	[105]
Telluronevskite	Bi_3TeSe_2	Hydrothermal (44)	1	[106]
Tiemannite	HgSe	Hydrothermal (54)	75	[107]
Tischendorfite	$Pd_8Hg_3Se_9$	Hydrothermal (24)	1	[108]
Trogtalite	$CoSe_2$	Hydrothermal (57)	9	[12]
Trüstedtite	$NiNi_2Se_4$	Hydrothermal (32)	4	[55]
Tyrrellite	$CuCo_2Se_4$	Hydrothermal (22)	13	[109]
Umangite	Cu_3Se_2	Hydrothermal (35)	68	[110]
Verbeekite	$PdSe_2$	Hydrothermal (7)	2	[111]
Vihorlatite	$Bi_{24}Se_{17}Te_4$	Hydrothermal (44)	1	[112]
Watkinsonite	$Cu_2PbBi_4Se_8$	Hydrothermal (42)	5	[102]
Wilkmanite	Ni_3Se_4	Hydrothermal (32)	1	[55]
Zincomenite	$ZnSeO_3$	Volcanic (5)	1	[113]

Note: (1) – Cerro de Cacheuta Mine, Mendoza, Argentina; (2) – Virgen de Surumi mine, Potosí Department, Bolivia; (3) – El Dragón mine, Potosí Department, Bolivia; (4) – Iron Monarch open cut, South Australia; (5) – Tolbachik volcano, Kamchatka, Russia; (6) – Baccu Locci Mine, Sardinia, Italy; (7) – Musonoi Mine, Katanga, Democratic Republic of Congo; (8) – Shinkolobwe Mine, Katanga, Democratic Republic of Congo; (9) – Repete Mine, Utah, USA; (10) – El Cóndor Mine, Vinchina Department, Argentina; (11) – Zapiga, Tarapacá Region, Chile; (12) – Kato mine, Kyushu Region, Japan; (13) – Little Eva Mine, Utah, USA; (14) – Santa Rosa Mine, California, USA; (15) – Tsumeb Mine, Otjikoto Region, Namibia; (16) – Bukov Mine, Moravia, Czech Republic; (17) – Buraco Do Ouro Mine, Goiás, Brazil; (18) – Burnside, Pennsylvania, USA; (19) – Fish Hook Bay property, Black Bay Uranium Mines, Beaverlodge Lake area, Saskatchewan, Canada; (20) – Chaméane Uranium Deposit, Auvergne-Rhône-Alpes, France; (21) – De Lamar Mine, Idaho, USA; (22) – Eagle Claims, Saskatchewan, Canada; (23) – El Chire Prospect, La Rioja, Argentina; (24) – Eskaborn Adit, Saxony-Anhalt, Germany; (25) – Kawazu mine, Honshu Island, Japan; (26) – Forestville, Pennsylvania, USA; (27) – Habří Mine, Moravia, Czech Republic; (28) – Hope's Nose, Devon, England, UK; (29) – Itabira, Minas Gerais, Brazil; (30) – Moctezuma Mine, Sonora, Mexico; (31) – Kampijimpanga, North-Western Province, Zambia; (32) – Kitka River Valley, Kuusamo, Finland; (33) – Kletno, Lower Silesia, Poland; (34) – Zálesí, Javorník, Olomouc Region, Moravia, Czech Republic; (35) – Las Asperesas mine, La Rioja, Argentina; (36) – Lubero Region, Kivu, Democratic Republic Of Congo; (37) – Martin Lake mine, Saskatchewan, Canada; (38) – Miessijoki River, Lapland Region, Finland; (39) – Nevskoe W-Sn Deposit, Magadanskaya Oblast', Russia; (40) – Oldřichov, Bohemia, Czech Republic; (41) – Orijärvi, Salo, Finland; (42) – Otish Mountains U deposit, Québec, Canada; (43) – Petrovice, Moravia, Czech Republic; (44) – Poruba Pod Vihorlatom, Košice Region, Slovakia; (45) – Prasolovskoe Au Deposit, Kunashir Island, Russia; (46) – Předbořice, Bohemia, Czech Republic; (47) – Rudnaya Sopka Ag-Au Deposit, Chukotskii Autonomous Okrug, Russia; (48) – San Carlos Mine, Guanajuato, Mexico; (49) – Santa Catarina Mine, Guanajuato, Mexico; (50) – Schlema-Hartenstein District, Saxony, Germany; (51) – Háje, Příbram, Central Bohemia Region, Bohemia, Czech Republic; (52) – Skrikerum Mine, Östergötland, Sweden; (53) –

Srednyaya Padma mine, Karelia Republic, Russia; (54) – St Lorenz Mine, Lower Saxony, Germany; (55) – Suluchekinskoye Se-U deposit, Almaty Province, Kazakhstan; (56) – Ust' Uyok deposit, Tuva Republic, Russia; (57) – Trogtal Quarries, Lower Saxony, Germany; (58) – Tumiñico Mine, La Rioja, Argentina; (59) – U deposit No. 504, Guizhou Province, China; (60) – Mina San Pedro, Los Llantenes mining district, Vinchina Department, La Rioja Province, Argentina; (61) – Bivels, North of the Grand-Duchy of Luxembourg.

Table S2. Classification of mineral systems of selenium minerals.

N	System	Mineral	Chemical formula	
Native elements				
1	Se	Selenium	Se	
Oxides				
2	OSe	Downeyite	SeO ₂	
Selenides				
2	SeAs	Laphamite	As ₂ Se ₃	
	SeSb	Antimonselite	Sb ₂ Se ₃	
	SeBi		Nevskite	BiSe
			Guanajuatite	Bi ₂ Se ₃
			Paraguanajuatite	Bi ₂ Se ₃
			Laitakarite	Bi ₄ Se ₃
	SePb	Clausthalite	PbSe	
	SeMo	Drysdallite	MoSe ₂	
	SeFe		Achávalite	FeSe
			Dzharkenite	FeSe ₂
			Ferroselite	FeSe ₂
	SeCo		Bornhardtite	CoCo ₂ Se ₄
			Freboldite	CoSe
			Trogtalite	CoSe ₂
	SeNi		Sederholmite	NiSe
			Mäkinenite	NiSe
			Penroseite	NiSe ₂
			Kullerudite	NiSe ₂
			Trüstedtite	NiNi ₂ Se ₄
			Wilkmanite	Ni ₃ Se ₄
	SePd		Verbeekite	PdSe ₂
			Oosterboschite	Pd ₇ Se ₅
		Palladseite	Pd ₁₇ Se ₁₅	
SePt		Sudovikovite	PtSe ₂	
		Luberoite	Pt ₅ Se ₄	
SeCu		Klockmannite	CuSe	
		Krut'aite	CuSe ₂	
		Petříčekite	CuSe ₂	
		Bambollaite	CuSe ₂	
		Bellidoite	Cu ₂ Se	
		Berzelianite	Cu ₂ Se	
		Umangite	Cu ₃ Se ₂	
		Athabascaite	Cu ₅ Se ₄	
		Geffroyite	Cu ₉ Se ₈	
SeAg	Naumannite	Ag ₂ Se		
SeZn	Stilleite	ZnSe		

	SeCd	Cadmoselite	CdSe
	SeHg	Tiemannite	HgSe
	SSeAg	Aguilarite	Ag ₄ SeS
		Kawazulite	Bi ₂ Te ₂ Se
	SeTeBi	Skippenite	Bi ₂ Se ₂ Te
		Telluronevskite	Bi ₃ TeSe ₂
		Vihorlatite	Bi ₂₄ Se ₁₇ Te ₄
	SeTeNi	Kitkaite	NiTeSe
	SeTePd	Miessiite	Pd ₁₁ Te ₂ Se ₂
	SeTeAg	Kurilite	Ag ₈ Te ₃ Se
	SeAsNi	Jolliffeite	NiAsSe
	SeAsPd	Kalungaite	PdAsSe
	SeAsCu	Mgriite	Cu ₃ AsSe ₃
	SeSbPd	Milotaite	PdSbSe
		Bytízite	Cu ₃ SbSe ₃
	SeSbCu	Permingeatite	Cu ₃ SbSe ₄
		Příbramite	CuSbSe ₂
	SeSbAg	Selenostephanite	Ag ₅ (SbSe ₃)Se
	SeBiPb	Poubaite	PbBi ₂ Se ₄
	SeBiPd	Padmaite	PdBiSe
3		Grundmannite	CuBiSe ₂
	SeBiCu	Hansblockite	CuBiSe ₂
		Eldragónite	Cu ₆ BiSe ₄ (Se ₂)
	SeBiAg	Bohdanowiczite	AgBiSe ₂
	SePbCu	Schlemaite	Cu ₆ PbSe ₄
		Bukovite	Cu ₄ Tl ₂ Se ₄
	SeTlCu	Sabatierite	Cu ₆ TlSe ₄
		Crookesite	Cu ₇ TlSe ₄
	SeFeCu	Eskebornite	CuFeSe ₂
	SeCoCu	Tyrrellite	CuCo ₂ Se ₄
	SeNiCu	Nickeltyrrellite	CuNi ₂ Se ₄
	SePdCu	Jagüéite	Cu ₂ Pd ₃ Se ₄
	SePdAg	Chrisstanleyite	Ag ₂ Pd ₃ Se ₄
	SePdHg	Tischendorfite	Hg ₃ Pd ₈ Se ₉
	SePtHg	Jacutingaite	Pt ₂ HgSe ₃
	SeCuAg	Eucairite	CuAgSe
		Selenojalpaite	Ag ₃ CuSe ₂
	SeCuHg	Brodtkorbite	Cu ₂ HgSe ₂
	SeAgAu	Fischesserite	AgAuSe ₂
4	SeAsFeCu	Chaméanite	(Cu ₃ Fe) _{Σ4} AsSe ₄
	SeSbCuHg	Hakite	Cu ₆ Cu ₄ Hg ₂ (SbSe ₃) ₄ Se
	SeBiPbCu	Cerromojonite	CuPbBiSe ₃
	SeBiPbCu	Watkinsonite	Cu ₂ PbBi ₄ Se ₈
	SeBiPbAg	Litochlebite	Ag ₂ PbBi ₄ Se ₈
	SSeAsZnCu	Giraudite	Cu ₆ Cu ₄ Zn ₂ (AsSe ₃) ₄ S
	SSeSbCuAg	Selenopolybasite	CuAg ₆ Ag ₉ Sb ₂ S ₉ Se ₂
5	SeBiPbCuHg	Petrovicite	Cu ₃ HgPbBiSe ₅
		Quijarroite	Cu ₆ HgPb ₂ Bi ₄ Se ₁₂
	SeBiPbCuAg	Luxembourgite	AgCuPbBi ₄ Se ₈

Selenites

I. Selenites without H₂O

	OSePb	Molybdomenite	PbSeO ₃
		Plumboselite	Pb ₃ (SeO ₃)O ₂
	OSeZn	Zincomenite	ZnSeO ₃
3		Georgbokiite	Cu ₅ (SeO ₃) ₂ O ₂ Cl ₂
	OCiSeCu	Parageorgbokiite	Cu ₅ (SeO ₃) ₂ O ₂ Cl ₂
		Nicksobolevite	Cu ₇ (SeO ₃) ₂ O ₂ Cl ₆
		Chloromenite	Cu ₉ (SeO ₃) ₄ O ₂ Cl ₆
	OCiSeZn	Sofiite	Zn ₂ (SeO ₃)Cl ₂
	OCiSeBiCu	Francisite	Cu ₃ Bi(SeO ₃) ₂ O ₂ Cl
5		Sarrabusite	Pb ₅ Cu(SeO ₃) ₄ Cl ₄
	OCiSePbCu	Allochalcocelite	CuCu ₅ PbO ₂ (SeO ₃) ₂ Cl ₅
	OCiSeCuNa	Ilinskite	NaCu ₅ (SeO ₃) ₂ O ₂ Cl ₃
6	OCiSeCdCuK	Burnsite	KCdCu ₇ (SeO ₃) ₂ O ₂ Cl ₉
7	OCiSePbZnCuK	Prewittite	K ₂ Pb ₃ Zn ₂ Cu ₁₂ (SeO ₃) ₄ O ₄ Cl ₂₀

II. Selenites containing H₂O

	OHSeAl	Alfredopetrovite	Al ₂ (SeO ₃) ₃ ·6H ₂ O
	OHSeCo	Cobaltomenite	CoSeO ₃ ·2H ₂ O
	OHSeFe	Mandarinoite	Fe ₂ (SeO ₃) ₃ ·6H ₂ O
4		Ahlfeldite	NiSeO ₃ ·2H ₂ O
	OHSeCu	Chalcomenite	CuSeO ₃ ·2H ₂ O
	OHSeU	Haynesite	(UO ₂) ₃ (SeO ₃) ₂ (OH) ₂ ·5H ₂ O
	OHSeCa	Nestolaite	CaSeO ₃ ·H ₂ O
	OHCiSePb	Orlandiite	Pb ₃ (SeO ₃)Cl ₄ ·H ₂ O
	OHSSeCu	Pauladamsite	Cu ₄ (SeO ₃)(SO ₄)(OH) ₄ ·2H ₂ O
5		Derriksite	Cu ₄ (UO ₂)(SeO ₃) ₂ (OH) ₆ ·H ₂ O
	OHSeCuU	Marthozite	Cu(UO ₂) ₃ (SeO ₃) ₂ O ₂ ·8H ₂ O
	OHSeUCa	Piretite	Ca(UO ₂) ₃ (SeO ₃) ₂ (OH) ₄ ·4H ₂ O
	OHSeUBa	Guilleminite	Ba(UO ₂) ₃ (SeO ₃) ₂ (OH) ₄ ·3H ₂ O
	OHSeUNa	Larisaite	Na(H ₃ O)(UO ₂) ₃ (SeO ₃) ₂ O ₂ ·4H ₂ O
6		Munakataite	Pb ₂ Cu ₂ (SeO ₃)(SO ₄)(OH) ₄
	OHSeBiPbCu	Favreaute	PbBiCu ₆ O ₄ (SeO ₃) ₄ (OH)·H ₂ O
	OHSePbCuU	Demesmaekerite	Pb ₂ Cu ₅ (UO ₂) ₂ (SeO ₃) ₆ (OH) ₆ ·2H ₂ O

Selenates

I. Selenates without H₂O

4	OSSePb	Olsacherite	Pb ₂ (SeO ₄)(SO ₄)
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II. Selenates containing H₂O

4	OHSeCu	Ramaccioniite	Cu ₄ (SeO ₄)(OH) ₆
5	OHSePbCu	Schmiederite	Pb ₂ Cu ₂ (SeO ₃)(SeO ₄)(OH) ₄
6	OHCiSeAlCu	Llantenesite	Cu ₆ Al(SeO ₄)(OH) ₁₂ Cl·3H ₂ O
7	OHISeMgNaK	Carlosruizite	K ₆ Na ₄ Na ₆ Mg ₁₀ (SeO ₄) ₁₂ (IO ₃) ₁₂ ·12H ₂ O

References

- Olsacher, J. Achavalita, seleniuro de hierro. Nueva especie mineral. *Boletín de la Facultad de Ciencias Exactas, Físicas y Naturales. Universidad Nacional de Córdoba, Argentina* **1939**, 2, 73–78.
- Genth, F.A. Aguilarite, a new species. *Amer. J. Sci. Third Series*. **1891**, 41, 401–402.
- Herzenberg, R.; Ahlfeld, F. Blockit, ein neues selenit aus Bolivien. *Zentralblatt Mineral. Geol. Paläontol.* **1935**, 6, 277–279 (in German).
- Kampf, A.R.; Mills, S.J.; Nash, B.P.; Thorne, B.; Favreau, G. Alfredopetrovite: A new selenite mineral from the El Dragón mine. *Eur. J. Mineral.* **2016**, 28, 479–484.

5. Vergasova, L.P.; Krivovichev, S.V.; Britvin, S.N.; Filatov, S.K.; Burns, P.K.; Ananyev, V.V. Allochalcocosite, $\text{Cu}^+\text{Cu}^{2+}_5\text{PbO}_2(\text{SeO}_3)_2\text{Cl}_5$ —A new mineral from volcanic exhalations (Kamchatka, Russia). *Zap. Ross. Mineral. Obshch.* **2005**, *134*, 70–74 (in Russian).
6. Chen, L.; Zhang, Q.; Li, D.; Wang, G. Antimonselite, a new mineral. *Acta Mineral. Sin.* **1993**, *13*, 7–11 (in Chinese).
7. Harris, D.C.; Cabri, L.J.; Kaiman, S. Athabascaite: A new copper selenide mineral from Martin Lake, Saskatchewan. *Can. Mineral.* **1970**, *10*, 207–215.
8. Harris, D.C.; Nuffield, E.W. Bambollaite, a new copper telluro-selenide. *Can. Mineral.*, **1972**, *11*, 738–742
9. de Montreuil, L.A. Bellidoite: A new copper selenide. *Econ. Geol.* **1975**, *70*, 384–387.
10. Beudant, F.S. Berzeline, cuivre sélénié. *Traité Élémentaire de Minéralogie. 2nd Edition, Paris* **1832**, 534–534.
11. Banas, M.; Ottemann, J. Bohdanowiczyt - nowy naturalny selenek srebra i bizmutu z Kletna w Sudetach. *Przegląd Geologiczny* **1967**, *15*, 240–240. [In Polish]
12. Ramdohr, P.; Schmitt, M. Vier neue natürliche Kobaltselenide vom Steinbruch Trogtal bei Laufenthal im Harz. *Neues Jahrb. Mineral. Monatsh.* **1955**, 133–142 (in German).
13. Paar, W.H.; Topa, D.; Roberts, A.C.; Criddle, A.J.; Amann, G.; Sureda, R.J. The new mineral species brodtkorbite, Cu_2HgSe_2 , and the associated selenide assemblage from Tuminico, Sierra de Cacho, La Rioja, Argentina. *Can. Mineral.* **2002**, *40*, 225–237.
14. Johan, Z.; Kvaček, M. Bukovite, $\text{Cu}_{3+x}\text{Tl}_2\text{FeSe}_{4-x}$, new Miner. *Bull. Soc. Franç. Minéral. Cristallogr.* **1971**, *94*, 529–533. [In French]
15. Krivovichev, S.V.; Vergasova, L.P.; Starova, G.L.; Filatov, S.K.; Britvin, S.N.; Roberts, A.C.; Steele, I.M. Burnsite, $\text{KCdCu}_7\text{O}_2(\text{SeO}_3)_2\text{Cl}_9$, a new mineral species from the Tolbachik Volcano, Kamchatka Peninsula, Russia. *Can. Mineral.* **2002**, *40*, 1171–1175.
16. Škácha, P.; Sejkora, J.; Plášil, J. Bytízite, a new Cu-Sb selenide from Příbram, Czech Republic. *Mineral. Mag.* **2018**, *82*, 199–209.
17. Bur'yanova, E.Z.; Kovalev, G.A.; Komkov, A.I. The new mineral cadmoselite. *Zap. Vsesoyuzn. Mineral. Obshch.* **1957**, *86*, 626–628 (in Russian).
18. Konnert, J.A.; Evans, H.T.; McGee, J.J.; Ericksen, G.E. Mineralogical studies of the nitrate deposits of Chile: VII. two new saline minerals with the composition $\text{K}_6(\text{Na,K})_4\text{Na}_6\text{Mg}_{10}(\text{XO}_4)_{12}(\text{IO}_3)_{12}\cdot 12\text{H}_2\text{O}$: fuenzalidaite ($\text{X} = \text{S}$) and carlosruizite ($\text{X} = \text{Se}$). *Amer. Mineral.* **1994**, *79*, 1003–1008.
19. Förster, H.-J.; Bindi, L.; Grundmann, G.; Stanley, C.J. Cerromojonite, CuPbBiSe_3 , from El Dragón (Bolivia): A New Member of the Bourmonite Group. *Minerals* **2018**, *8*, 420.
20. Des Cloizeaux, A.; Damour, A.A. Note sur la chalcoménite, nouvelle espèce minérale (sélénite de cuivre). *Bull. Soc. Franç. Minéral.* **1881**, *4*, 51–55.
21. Johan, Z.; Picot, P.; Ruhlmann, F. Evolution paragenétique de la minéralisation uranifère de Chaméane (Puy-de-Dôme), France: chaméanite, geffroyite et giraudite, trois séléniures nouveaux de Cu, Fe, Ag et As. *Tscherm. Min. Petr. Mitt.* **1982**, *29*, 151–167 (in French).
22. Vergasova, L.; Krivovichev, S.; Semenova, T.; Filatov, S.; Ananiev, V. Chloromenite, $\text{Cu}_9\text{O}_2(\text{SeO}_3)_4\text{Cl}_6$, a new mineral from the Tolbachik volcano, Kamchatka, Russia. *Eur. J. Mineral.* **1999**, *11*, 119–123.
23. Paar, W.H.; Roberts, A.C.; Criddle, A.J.; Topa, D. A new mineral, chrisstanleyite, $\text{Ag}_2\text{Pd}_3\text{Se}_4$, from Hope's Nose, Torquay, Devon, England. *Mineral. Mag.* **1998**, *62*, 257–26.
24. Beudant, F.S. Claushalie, plomb sélénié. In *Traité Élémentaire de Minéralogie*, 2nd Ed.; Verdrière: Paris, France, 1832; pp. 531–534.
25. Bertrand, E. Sur la molybdoménite (sélénite de plomb), la cobaltoménite (sélénite de cobalt) et l'acide sélénieux de Cacheuta (La Plata). *Bull. Soc. Minéral. Franç.* **1882**, *5*, 90–92.
26. Nordenskiöld, A.E. Sur les minéraux sélénifères et thallifères de Skrikerum. *Bull. Mensuel Soc. Chim Paris* **1867**, *7*, 409–414.
27. Cesbron, F.; Bachet, B.; Oosterbosch, R. La demesmaekerite, sélénite hydraté d'uranium, cuivre et plomb. *Bull. Soc. Franç. Minéral. Cristallogr.* **1965**, *88*, 422–425. [In French]
28. Cesbron, F.; Pierrot, R.; Verbeek, T. La derriksite, $\text{Cu}_4(\text{UO}_2)(\text{SeO}_3)_2(\text{OH})_6\cdot\text{H}_2\text{O}$, une nouvelle espèce minérale. *Bull. Soc. Franç. Minéral. Cristallogr.* **1971**, *94*, 534–537. [In French]
29. Finkelman, R.B.; Mrose, M.E. Downeyite, the first verified natural occurrence of SeO_2 . *Amer. Mineral.* **1977**, *62*, 316–320.
30. Cech, F.; Rieder, M.; Vrana, S. Drysdallite, MoSe_2 , a new mineral. *Neues Jahrb. Mineral. Monatsh.* **1973**, 433–442.

31. Yashunsky, Y.V.; Ryabeva, E.G.; Abramov, M.V.; Rasulova, S.D. Dzharkenite FeSe_2 —The new mineral. *Zap. Vseros. Mineral. Obshch.* **1995**, *124*, 85–90 (in Russian).
32. Paar, W.H.; Cooper, M.A.; Moëlo, Y.; Stanley, C.J.; Putz, H.; Topa, D.; Roberts, A.C.; Stirling, J.; Raith, J.G.; Rowe, R. Eldragónite, $\text{Cu}_6\text{BiSe}_4(\text{Se})_2$, a new mineral species from the El Dragón mine, Potosí, Bolivia, and its crystal structure. *Can. Mineral.* **2012**, *50*, 281–294.
33. Ramdohr, P. Neue erzminerale. *Fortschrit. Mineral.* **1949**, *28*, 69–70 (In German).
34. Berzelius, J. III. Undersökning af några föreningar, som bero af svagare frändskaper 12. Undersökning om förekommandet af selenium i mineralriket. *Afhandlingar i Fysik, Kemi och Mineralogi* **1818**, *6*, 134–144. [In Swedish]
35. Mills, S.J.; Kampf, A.R.; Christy, A.G.; Housley, R.M.; Thorne, B.; Chen, Y.-S.; Steele, I.M. Favreaute, a new selenite mineral from the El Dragón mine, Bolivia. *Eur. J. Mineral.* **2014**, *26*, 771–781.
36. Buryanova, E.Z.; Komkov, A.I. A new mineral—Feroselite. *Dokl. Akad. Nauk SSSR.* **1955**, *105*, 812–813 (in Russian).
37. Johan, Z.; Picot, P.; Pierrot, R.; Kvaček, M. Fischesserite, Ag_3AuSe_2 , the first selenide isotype of petzite. *Bull. Soc. Franç. Minéral. Cristallogr.* **1976**, *94*, 381–384.
38. Pring, A.; Gatehouse, B.M.; Birch, W.D. Francisite, $\text{Cu}_3\text{Bi}(\text{SeO}_3)_2\text{O}_2\text{Cl}$, new mineral from Iron Monarch, South Australia: description and crystal structure. *Amer. Mineral.* **1990**, *75*, 1421–1425.
39. Strunz, H. NiAs-typus und verwandte: Freiboldit. In *Mineralogische Tabellen*. 3rd ed.; Geest and Portig: Leipzig, Germany, 1957; pp. 98–98
40. Vergasova, L.P.; Semenova, T.F.; Filatov, S.K.; Krivovichev, S.V.; Shuvalov, R.R.; Anan'ev, V.V. Georgbokiite $\text{Cu}_3\text{O}_2(\text{SeO}_3)_2\text{Cl}_2$ —A new mineral from volcanic exhalations. *Dokl. Akad. Nauk SSSR* **1999**, *364*, 527–531 (in Russian).
41. Förster, H.-J.; Bindi, L.; Stanley, C.J. Grundmannite, CuBiSe_2 , the Se-analogue of emplectite: A new mineral from the El Dragón mine, Potosí, Bolivia. *Eur. J. Mineral.* **2016**, *28*, 467–477.
42. Castillo, D.A. Descubrimiento de una nueva especie mineral de bismuto. *La Naturaleza.* **1873**, *2*, 274–276.
43. Pierrot, R.; Toussaint, J.; Verbeek, T. La guilleminite, une nouvelle espèce minérale. *Bull. Soc. Franç. Minéral. Cristallogr.* **1965**, *88*, 132–135 (in French).
44. Johan, Z.; Kvaček, M. Hakite, new mineral of the tetrahedrite group. *Bull. Soc. Franç. Minéral. Cristallogr.* **1971**, *94*, 45–48.
45. Förster, H.-J.; Bindi, L.; Stanley, C.J.; Grundmann, G. Hansblockite, $(\text{Cu,Hg})(\text{Bi,Pb})\text{Se}_2$, the monoclinic polymorph of grundmannite, a new mineral from the Se mineralization at El Dragón (Bolivia). *Mineral. Mag.* **2017**, *81*, 629–640.
46. Deliens, M.; Piret, P. La haynesite, sélénite hydraté d'uranyle, nouvelle espèce minérale de la Mine Repete, Comté de San Juan, Utah. *Can. Mineral.* **1991**, *29*, 561–564
47. Vergasova, L.P.; Semenova, T.F.; Shuvalov, R.R.; Filatov, S.K.; Anan'yev, V.V. Ilinskite $\text{NaCu}_5\text{O}_2(\text{SeO}_3)_2\text{Cl}_3$ - a new mineral of volcanic exhalations. *Dokl. Akad. Nauk.* **1997**, *353*(5), 641–644 (in Russian).
48. Vymazalová, A.; Laufek, F.; Drábek, M.; Cabral, A.R.; Haloda, J.; Sidorinová, T.; Lehmann, B.; Galbiatti, H.F.; Drahoukoupil, J. Jacutingaite, PtHgSe_3 , a new platinum-group mineral species from the Cauê iron-ore deposit, Itabira District, Minas Gerais, Brazil. *Can. Mineral.* **2012**, *50*, 431–440.
49. Paar, W.H.; Topa, D.; Makovicky, E.; Sureda, R.J.; de Brodtkorb, M.K.; Nickel, E.H.; Putz, H. Jaguéite, $\text{Cu}_2\text{Pd}_3\text{Se}_4$, a new mineral species from El Chire, La Rioja, Argentina. *Can. Mineral.* **2004**, *42*, 1745–1755.
50. Cabri, L.J.; Laflamme, J.H.G.; Roberts, A.C.; Criddle, A.J.; Hulbert, L.J. Jolliffeite and unnamed CoAsSe : Two new arsenoselenides from the north shore of Lake Athabasca, Saskatchewan. *Can. Mineral.* **1991**, *29*, 411–418.
51. Botelho, N.F.; Moutra, M.A.; Peterson, R. C.; Stanley, C.J.; Silva, D.V.G. Kalungaite, PdAsSe , a new platinum-group mineral from the Buraco do Ouro gold mine, Cavalcante, Goiás State, Brazil. *Mineral. Mag.* **2006**, *70*, 123–130.
52. Kato, A. Kawazulite $\text{Bi}_2\text{Te}_2\text{S}$. *Introduction to Japanese Minerals, Geological Survey of Japan.* **1970**, *39*, 87–88
53. Häkli, T.A.; Vuorelainen, Y.; Sahama, G.Th. Kitkaite (NiTeSe), a new mineral from Kuusamo, northeast Finland. *Amer. Mineral.* **1965**, *50*, 581–586.
54. Johan, Z.; Picot, P.; Kvaček, M. La krut'aite, CuSe_2 , un nouveau minéral du groupe de la pyrite. *Bull. Soc. Fr. Minéral. Cristallogr.* **1972**, *95*, 475–481. [In French]
55. Vuorelainen, Y.; Huhma, A.; Häkli, A. Sederholmite, wilkmanite, kullerudite, mäkinenite, and trüstedtite, five new nickel selenide minerals. *Comptes Rendus de la Société Géologique de Finlande.* **1964**, *36*, 113–125.

56. Kovalenker, V.A.; Plotinskaya, O.Y.; Stanley, C.J.; Roberts, A.C.; McDonald, A.M.; Cooper, M.A. Kurilite - $\text{Ag}_8\text{Te}_3\text{Se}$ - a new mineral from the Prasolovskoe deposit, Kuril islands, Russian Federation. *Mineral. Mag.* **2010**, *74*, 463–468.
57. Vorma, A. Laitakariitti Uusi Bi-Se-mineraali Orijärveltä. *Geologi.* **1959**, *11*, 11–11. [In Finish]
58. Dunn, P.J.; Peacor, D.R.; Criddle, A.J.; Finkelman, R.B. Laphamite, an arsenic selenide analogue of orpiment, from burning anthracite deposits in Pennsylvania. *Mineral. Mag.* **1986**, *50*, 279–282.
59. Chukanov, N.V.; Pushcharovsky, D.Yu.; Pasero, M.; Merlino, S.; Barinova, A.V.; Möckel, S.; Pekov, I.V.; Zadov, A.E.; Dubinchuk, V.T. Larisaite, $\text{Na}(\text{H}_3\text{O})(\text{UO}_2)_3(\text{SeO}_3)_2\text{O}_2 \cdot 4\text{H}_2\text{O}$, a new uranyl selenite mineral from Repete mine, San Juan County, Utah, U.S.A. *Eur. J. Mineral.* **2004**, *16*, 367–374.
60. Sejkora, J.; Makovicky, E.; Topa, D.; Putz, H.; Zagler, G.; Plašil, J. Litochlebite, $\text{Ag}_2\text{PbBi}_4\text{Se}_8$, a new selenide mineral species from Zálesí, Czech Republic, description and crystal structure. *Can. Mineral.* **2011**, *49*, 639–650.
61. Lengauer, C.L.; Ende, M.; Topa, D.; Lira, R. and Paar, W.H. Llantenesite, IMA 2018-111. CNMNC Newsletter No. 47. *Eur. J. Mineral.* **2019**, *31*, 201–201.
62. Jebwab, J., Cervelle, B., Gouet, G., Hubaut, X., Piret, P. The new platinum selenide luberoite Pt_5Se_4 from the Lubero region (Kivu Province, Zaire). *Eur. J. Mineral.* **1992**, *4*, 683–692.
63. Philippo, S.; Hatert, F.; Bruni, Y.; Vignola, P. Luxembourgite, IMA 2018-154. CNMNC Newsletter No. 49. *Mineral. Mag.* **2019**, *83*, 323–328.
64. Dunn, P.J.; Peacor, D.R.; Sturman, B.D. Mandarinite, a new ferric-iron selenite from Bolivia. *Can. Mineral.* **1978**, *16*, 605–609.
65. Cesbron, F.; Oosterbosch, R.; Pierrot, R. Une nouvelle espèce minérale: la marthozite. Uranyl-sélénite de cuivre hydraté. *Bull. Soc. Franç. Minéral. Cristallogr.* **1969**, *92*, 278–283. [In French]
66. Dymkov, Y.M.; Loseva, T.I.; Zav'yalov, E.N.; Ryzhov, B.I.; Bochek, L.I. Mgriite, $(\text{Cu},\text{Fe})_3\text{AsSe}_3$, a new Miner. *Zap. Vsesoyuzn. Mineral. Obshch.* **1982**, *111*, 215–219 (in Russian).
67. Kojonen, K.K.; Tarkian, M.; Roberts, A.C.; Törnroos, R.; Heidrich, S. Miessiite, $\text{Pd}_{11}\text{Te}_2\text{Se}_2$, a new mineral species from Miessijoki, Finnish Lapland, Finland. *Can. Mineral.* **2007**, *45*, 1221–1227.
68. Paar, W.H.; Topa, D.; Makovicky, E.; Culetto, F.J. Milotaite, PdSbSe , a new palladium mineral species from Předbořice, Czech Republic. *Can. Mineral.* **2005**, *43*, 689–694.
69. Matsubara, S.; Mouri, T.; Miyawaki, R.; Yokoyama, K.; Nakahara, M. Munakataite, a new mineral from the Kato mine, Fukuoka, Japan. *J. Mineral. Petrol. Sci.* **2008**, *103*, 327–332.
70. Haidinger, W. Zweite Klasse: Geogenide. XIV. Ordnung. Glanze. III. Silberglanz. Naumannit. *Handbuch der Bestimmenden Mineralogie.* Bei Braumüller and Seidel: Wien, Austria **1845**; ss. 563-570.
71. Kasatkin, A.V.; Plášil, J.; Marty, J.; Agakhanov, A.A.; Belakovskiy, D.I.; Lykova, I.S. Nestolaite, $\text{CaSeO}_3 \cdot \text{H}_2\text{O}$, a new mineral from the Little Eva mine, Grand County, Utah, USA. *Mineral. Mag.* **2014**, *78*, 497–505.
72. Nechelyustov, G.N.; Christyakova, N.I.; Zav'yalov, E.N. Nevskite, $\text{Bi}(\text{Se}, \text{S})$, a new bismuth selenide. *Zap. Vsesoyuzn. Mineral. Obshch.* **1984**, *113*(3), 351-355 (in Russian).
73. Förster, H.-J.; Ma, C.; Grundmann, G.; Bindi, L.; Stanley, C.J. Nickeltyrrellite, IMA 2018-110. CNMNC Newsletter No. 47; *Mineral. Mag.* **2019**, *83*, 143–143.
74. Vergasova, L.P.; Semenova, T.F.; Krivovichev, S.V.; Filatov, S.K.; Zolotarev, A.A.; Ananiev, V.V. Nicksobolevite, $\text{Cu}_7(\text{SeO}_3)_2\text{O}_2\text{Cl}_6$, a new complex copper oxoselenite chloride from Tolbachik fumaroles, Kamchatka peninsula, Russia. *Eur. J. Mineral.* **2014**, *26*, 439–449.
75. Hurlbut, C.S.; Aristarain, L.F. Olsacherite, $\text{Pb}_2(\text{SO}_4)(\text{SeO}_4)$, a new mineral from Bolivia. *Amer. Mineral.* **1969**, *54*, 1519–1527.
76. Johan, Z.; Picot, P.; Pierrot, R. L'oosterboschite $(\text{Pd}, \text{Cu})_7\text{Se}_5$, une nouvelle espèce minérale et la trogtalite cupro-palladifère de Musonoï (Katanga). *Bull. Soc. Franç. Minéral. Cristallogr.* **1970**, *93*, 476–481 (in French).
77. Campostrini, I.; Gramaccioli, C.M.; Demartin, F. Orlandiite, $\text{Pb}_3\text{Cl}_4(\text{SeO}_3) \cdot \text{H}_2\text{O}$, a new mineral species, and an associated lead-copper selenite chloride from the Baccu Locci mine, Sardinia, Italy. *Can. Mineral.* **1999**, *37*, 1493–1498.
78. Polekhovskij, Y.S.; Voloshin, A.V.; Tarasova, I.P.; Nikitin, S.A.; Pakhomovskij, Y.A.; Men'shikov, Y.P.; Kretzer, Y.L.; Kolytsheva, T.I. Padmaite PdBiSe —A new selenide of palladium and bismuth from metasomatites of the southern Karelia. *Zap. Vsesoyuzn. Mineral. Obshch.* **1991**, *120*, 85–88 (in Russian).
79. Davis, R.J.; Clark, A.M.; Criddle, A.J. Palladseite, a new mineral from Itabira, Minas Gerais, Brazil. *Mineral. Mag.* **1977**, *41*, 123–123.

80. Vergasova, L.P.; Krivovichev, S.V.; Filatov, S.K.; Britvin, S.N.; Burns, P.K.; Ananyev, V.V. Parageorgbokiite, β - $\text{Cu}_5\text{O}_2(\text{SeO}_3)_2\text{Cl}_2$ —A new mineral from volcanic Exhalation (Kamchatka Peninsula, Russia). *Zap. Ros. Mineral. Obshch.* **2006**, *135*, 24–28 (in Russian).
81. Ramdohr, P. Las especies mineralógicas guanajuatita y paraganajuatita. *Comite Directivo Investido recursos Minerales de Mexico Boletín* **1948**, *20*, 1-15.
82. Kampf, A.R.; Mills, S.J.; Nash, B.P. Pauladamsite, $\text{Cu}_4(\text{SeO}_3)(\text{SO}_4)(\text{OH})_4 \cdot 2\text{H}_2\text{O}$, a new mineral from the Santa Rosa mine, Darwin district, California, USA. *Mineral. Mag.* **2016**, *80*, 949–958.
83. Gordon, S.G. Proceedings of societies: Penroseite and trudellite, two new minerals. *Amer. Mineral.* **1926**, *11*, 39–43.
84. Johan, Z.; Picot, P.; Pierrot, R.; Kvaček, M. Permingeatite Cu_3SbSe_4 , new mineral of the luzonite group. *Bull. Soc. Franç. Minéral. Cristallogr.* **1971**, *94*, 162–165 (in French).
85. Bindi, L.; Förster, H.J.; Grundmann, G.; Keutsch, F.N.; Stanley, C.J. Petříčekite, CuSe_2 , a new member of the marcasite group from the Předbořice Deposit, Central Bohemia Region, Czech Republic. *Minerals* **2016**, *6*, 33.
86. Johan, Z.; Kvaček, M.; Picot, P. Petrovicite, $\text{Cu}_3\text{HgPbBiSe}_5$, new Mineral. *Bull. Soc. Franç. Minéral. Cristallogr.* **1976**, *99*, 310–313.
87. Vochten, R.; Blaton, N.; Peeters, O.; Deliens, M. Piretite, $\text{Ca}(\text{UO}_2)_3(\text{SeO}_3)_2(\text{OH})_4 \cdot 4\text{H}_2\text{O}$, a new calcium uranyl selenite from Shinkolobwe, Shaba, Zaire. *Can. Mineral.* **1996**, *34*, 1317–1322.
88. Kampf, A.R.; Mills, S.J.; Pinch, W.W. Plumboselite, $\text{Pb}_3\text{O}_2(\text{SeO}_3)$, a new oxidation-zone mineral from Tsumeb, Namibia. *Mineral. Petrol.* **2011**, *101*, 75–80.
89. Čech, F.; Vavřín, I. Poubaitite, $\text{PbBi}_2(\text{Se}, \text{Te}, \text{S})_4$, a new Mineral. *Neues Jahrb. Mineral. Monatsh.* **1978**, 9–19.
90. Shuvalov, R.R.; Vergasova, L.P.; Semenova, T.F.; Filatov, S.K.; Krivovichev, S.V.; Siidra, O.I.; Rudashevsky, N.S. Prewittite, $\text{KPb}_{1.5}\text{Cu}_6\text{Zn}(\text{SeO}_3)_2\text{O}_2\text{Cl}_{10}$, a new mineral from Tolbachik fumaroles, Kamchatka peninsula, Russia: Description and crystal structure. *Amer. Mineral.* **2013**, *98*, 463–469.
91. Škácha, P.; Sejkora, J.; Plášil, J. Příbramite, CuSbSe_2 , the Se-analogue of chalcostibite, a new mineral from Příbram, Czech Republic. *Eur. J. Mineral.* **2017**, *29*, 653–661.
92. Förster, H.-J.; Bindi, L.; Grundmann, G.; Stanley, C. Quijarroite, $\text{Cu}_6\text{HgPb}_2\text{Bi}_4\text{Se}_{12}$, a New Selenide from the El Dragón Mine, Bolivia. *Minerals* **2016**, *6*, 123.
93. Lengauer, C.L.; Ende, M.; Topa, D.; Lira, R.; Paar, W.H. Ramaccioniite, IMA 2018-082. CNMNC Newsletter No. 46; *Mineral. Mag.* **2018**, *82*, 1371–1371.
94. Johan, Z.; Kvaček, M.; Picot, P. Sabatierite, new selenide of copper and thallium. *Bull. Minéral.* **1978**, *101*, 557–560.
95. Gemmi, M.; Campostrini, I.; Demartin, F.; Gorelik, T.E.; Gamaccioli, C.M. Structure of the new mineral sarrabusite, $\text{Pb}_5\text{CuCl}_4(\text{SeO}_3)_4$, solved by manual electron-diffraction tomography. *Acta Crystallographica.* **2012**, *B68*, 15-23.
96. Förster, H.J.; Cooper, M.A.; Roberts, A.C.; Stanley, C.J.; Criddle, A.J.; Hawthorne, F.C.; Laflamme, J.H.G.; Tischendorf, G. Schlemaitite, $(\text{Cu}, \square)_6(\text{Pb}, \text{Bi})\text{Se}_4$, a new mineral species from Niederschlema-Alberoda, Erzgebirge, Germany: Description and crystal structure. *Can. Mineral.* **2003**, *41*, 1433–1444.
97. Hey, M.H. Selenites, selenates, tellurites, and tellurates. Schmiederite. in *Appendix to the second edition of an index of mineral species and varieties arranged chemically*. Printed by order of the Trustees of the British Museum **1963**, 84–84.
98. Palache, C. Contributions to crystallography: Claudetite; minasragrite; samsonite; native selenium; indium. *Amer. Mineral.* **1934**, *19*, 194-205.
99. Bindi, L.; Pratesi, G. Selenojalpaite, Ag_3CuSe_2 , a new mineral species from the Skrikerum Cu-Ag-Ti selenide deposit, Småland, southeastern Sweden. *Can. Mineral.* **2005**, *43*, 1373–1377.
100. Bindi, L.; Evain, M.; Menchetti, S. Selenopolybasite, $[(\text{Ag}, \text{Cu})_6(\text{Sb}, \text{As})_2(\text{S}, \text{Se})_7][\text{Ag}_9\text{Cu}(\text{S}, \text{Se})_2\text{Se}_2]$, a new member of the pearceite-polybasite group from the De Lamar mine, Owyhee County, Idaho, USA. *Can. Mineral.* **2007**, *45*, 1525–1528.
101. Botova, M.M.; Sandomirskaya, S.M.; Tschuvikina, N.G. Selenostephanite $\text{Ag}_5\text{Sb}(\text{Se}, \text{S})_4$ —a new mineral. *Zap. Vsesoyuzn. Mineral. Obshch.* **1985**, *114*, 627–630 (in Russian).
102. Johan, Z.; Picot, P.; Ruhlmann, F. The ore mineralogy of the Otish Mountains uranium deposit, Quebec: Skippenite, $\text{Bi}_2\text{Se}_2\text{Te}$, and watkinsonite, $\text{Cu}_2\text{PbBi}_4(\text{Se}, \text{S})_8$, two new mineral species. *Can. Mineral.* **1987**, *25*, 625–638.

103. Vergasova, L.P.; Filatov, S.K.; Semenova, T.F.; Filosofova, T.M. Sofiite $Zn_2(SeO_3)Cl_2$ - a new mineral from volcanic sublimates. *Zap. Vsesoyuzn. Mineral. Obshch.* **1989**, *118*, 65–69 (in Russian).
104. Ramdohr, P. Stilleit, ein neues Mineral, natürliches Zinkselenid, von Shinkolobwe. *Z. Deutsch. Geol. Gesellschaft.* **1956**, *1*, 481–483 (in German).
105. Polekhovskiy, Y.S.; Tarasova, I.P.; Nesterov, A.P.; Pakhomovskiy, Y.A.; Bakhchisaraitsev, A.Y. Sudovikovite $PtSe_2$ - a new platinum selenide from Karelia metasomite. *Dokl. Akad. Nauk* **1997**, *354*, 82–85 (in Russian).
106. Ridkossil, T.; Skala, R.; Johan, Z.; Srein, V. Telluronevskite, Bi_3TeSe_2 , a new mineral. *Eur. J. Mineral.* **2001**, *13*, 177–185.
107. Naumann, C.F. XI. Classe. Galenoide oder Glanze. B. Selenische Glanze. 531. Selenmercur oder Tiemannit. in *Elemente der Mineralogie*. Wilhelm Engelmann: Leipzig, Germany, 1855; pp. 425–425.
108. Stanley, C.J.; Criddle, A.J.; Förster, H.J.; Roberts, A.C. Tischendorfite, $Pd_3Hg_3Se_9$, a new mineral species from Tilkerode, Harz Mountains, Germany. *Can. Mineral.* **2002**, *40*, 739–745.
109. Robinson, S.C.; Brooker, E.J. Notes and news: a cobalt-nickel-copper selenide from the Goldfields District, Saskatchewan. *Amer. Mineral.* **1952**, *37*, 542–544.
110. Klockmann, F. Mineralogische mittheilungen aus den sammlungen der Bergakademie zu Clausthal. *Z. Krystallogr. Mineral.* **1891**, *19*, 265–275.
111. Roberts, A.C.; Paar, W.H.; Cooper, M.A.; Topa, D.; Criddle, A.J.; Jedwab, J. Verbeekite, monoclinic $PdSe_2$, a new mineral from the Musonoi Cu-Co-Mn-U mine, near Kolwezi, Shaba Province, Democratic Republic of Congo. *Mineral. Mag.* **2002**, *66*, 173–179.
112. Skála, R.; Ondrus, P.; Veselovký, F.; Táborský, Z.; Duda, R. Vihorlatite, $Be_{24}Se_{17}Te_4$, a new mineral of the tetradymite group from Vihorlat Mts., Slovakia. *Eur. J. Mineral.* **2007**, *19*, 255–265
113. Pekov, I.V.; Zubkova, N.V.; Yapaskurt, V.O.; Britvin, S.N.; Chukanov, N.V.; Lykova, I.S.; Sidorov, E.G.; Pushcharovsky, D.Y. Zincomenite, $ZnSeO_3$, a new mineral from the Tolbachik volcano, Kamchatka, Russia. *Eur. J. Mineral.* **2016**, *28*, 997–1004.