Arseniopleite $NaCaMn^{2+}(Mn^{2+},Mg)_2(AsO_4)_3$

Crystal Data: Monoclinic, pseudohexagonal. *Point Group:* $2/m$. Rarely as elongated or lenticular crude crystals; more commonly granular, massive.

Physical Properties: *Cleavage:* On pseudo-$\{10\bar{1}1\}$. *Fracture:* Conchoidal. Hardness = 3–4 D(meas.) = 4.17–4.22 D(calc.) = 4.17

Optical Properties: Opaque to translucent. *Color:* Brownish red to cherry-red, yellow, dark green, gray; orange, light apricot-orange, or brownish orange in transmitted light. *Streak:* Yellowish brown. *Luster:* Dull.
Optical Class: Uniaxial (+), or nearly so. $\omega = 1.794(3)$ $\epsilon = 1.803(3)$ 2V(meas.) = Small, anomalous.

Cell Data: *Space Group:* $P2_1/c$. $a = 11.31$ $b = 13.06$ $c = 6.86$ $\beta = [99°]$ $Z = 4$

X-ray Powder Pattern: Sjö mine, Sweden.
2.825 (10), 2.676 (6), 2.993 (4.5), 1.693 (4.5), 6.52 (4), 3.27 (4), 2.793 (4)

Chemistry:

	(1)	(2)		(1)	(2)
P_2O_5		0.2	CaO	8.11	6.1
As_2O_5	44.98	51.8	BaO		0.2
Sb_2O_5	trace		Na_2O		5.53
Fe_2O_3	3.68	3.5	Cl	trace	
MnO	28.25	26.3	H_2O^+		0.05
PbO	4.48	3.3	H_2O^-		0.01
MgO	3.10	2.5	H_2O	5.67	
			Total	98.27	99.49

(1) Sjö mine, Sweden. (2) Do.; by electron microprobe, total Fe as Fe_2O_3, As as As_2O_5, by microchemical test, total Mn as MnO, Na by flame photometry, H_2O by the Penfield method; corresponds to $Na_{1.07}(Ca_{0.71}Pb_{0.10}Mn^{2+}_{0.09}Na_{0.09}Ba_{0.01})_{\Sigma=1.00}Mn^{2+}(Mn^{2+}_{1.31}Mg_{0.40}Fe^{3+}_{0.28})_{\Sigma=1.98}[(AsO_4)_{2.93}(PO_4)_{0.02}]_{\Sigma=2.95}$.

Mineral Group: Alluaudite group.

Occurrence: As fracture fillings and thin veins in banded dolostone (Sjö mine, Sweden); in a metamorphosed Fe–Mn orebody (Långban, Sweden).

Association: Rhodonite, tephroite, hedyphane, dolomite, calcite (Sjö mine, Sweden); calcite, berzeliite, kutnohorite, sarkinite, gonyerite, katoptrite (Långban, Sweden).

Distribution: From the Sjö mine, Örebro, and at Långban, Värmland, Sweden.

Name: From *arsenic* and the Greek for *more*, as it added to the number of related minerals previously described.

Type Material: n.d.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 844. (2) Moore, P.B. (1968) Contributions to Swedish mineralogy. I. Studies on the basic arsenates of manganese: retzian, hemafibrite, synadelphite, arsenoclasite, arseniopleite, and akrochordite. Arkiv. Mineral. Geol., 4(5), 425–444. (3) Dunn, P.J. and D.R. Peacor (1987) New data on the relation between caryinite and arseniopleite. Mineral. Mag., 51, 281–284. (4) Ercit, T.S. (1993) Caryinite revisited. Mineral. Mag., 57, 721–727.