Arseniopleite $(Ca, Na)NaMn^{2+}(Mn^{2+}, Mg, Fe^{2+})_2(AsO_4)_3$

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*1}. *Fracture*: Conchoidal. Hardness = 3-4
D(meas.) = 4.17-4.22 D(calc.) = 4.530

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. ω = 1.794(3) ε = 1.803(3) 2V(meas.) = Small, anomalous.

Cell Data: Space Group: *I*2/*a*. a = 6.8113(6) b = 13.0358(11) c = 11.3245(10) β = 100.25(3)° Z = 2

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		0.19	CaO	8.11	5.91
As_2O_5	44.98	53.56	BaO		0.24
Sb_2O_5	trace		Na_2O		5.89
Fe_2O_3	3.68	3.33	Cl	trace	
MnO	28.25	24.35	H_2O	5.67	.
PbO	4.48	2.22	Total	98.27	98.96
MgO	3.10	3.29			

(1) Sjö mine, Sweden. (2) Do.; by electron microprobe; corresponds to $(Ca_{0.68}Na_{0.25}Mn_{0.01})_{\Sigma=0.94}(Na_{0.93}Pb_{0.06}Ba_{0.01})_{\Sigma=1.00}Mn(Mn_{1.22}Mg_{0.53}Fe_{0.27})_{\Sigma=2.00}(As_{3.01}Si_{0.02}P_{0.02})O_{12}$.

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, near Grythyttan, 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. (5) Tait, K.T. and F.C. Hawthorne (2003) Refinement of the crystal structure of arseniopleite: confirmation of its status as a valid species. Can. Mineral., 41, 71-77. (6) (2004) Amer. Mineral., 89(1), 251 (abs. ref. 5).