

Crystal Data: Hexagonal. *Point Group:* n.d. In botryoidal crusts and cokelike masses.

Physical Properties: *Tenacity:* Friable. Hardness = 4.5 D(meas.) = 5.29 D(calc.) = n.d.

Optical Properties: [Opaque.] *Color:* Steel-gray. *Luster:* Dull to submetallic.

Optical Class: Isotropic, grading outwardly to anisotropic spherules.

R: n.d.

Cell Data: *Space Group:* *R*. $a = 2.8106(1)$ $c = 20.386(1)$ $Z = \text{n.d.}$

X-ray Powder Pattern: Sidi Amor Ben Salem, Tunisia.

2.194 (100), 2.087 (80), 1.760 (50), 1.563 (50), 3.40 (40), 1.406 (30), 3.21 (10)

Chemistry:	(1)	(2)	(3)
Al	0.79		
Fe	0.49		
Pb	36.29	39.6	41.27
MnO	42.65	43.0	42.39
Na ₂ O	0.18		
O	13.26		12.75
H ₂ O	3.30		3.59
rem.	0.36		
insol.	0.75		
Total	98.07		100.00

(1) Sidi Amor Ben Salem, Tunisia; remnant is “other metals”. (2) Do.; by electron microprobe, original analysis Mn = 33.3%, here converted to MnO. (3) $\text{PbMn}_3\text{O}_6(\text{OH})_2$.

Occurrence: In cavities in galena.

Association: Galena, coronadite.

Distribution: From Sidi Amor Ben Salem, Tunisia. In the USA, from Bisbee, Cochise Co., Arizona. Found in the Mori mine, Yamagata Prefecture, Japan. From the Clara Mine, near Oberwolfach, Black Forest, Germany.

Name: To honor Giuseppe Raimondo Pio Cesàro (1849–1939), Professor of Mineralogy and Crystallography at the University of Liège, Liège, Belgium.

Type Material: University of Liège, Liège, Belgium, 1975.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 744. (2) Burkart-Baumann, I., J. Ottemann, and P. Nicolini (1967) Mineralogische Untersuchungen an Jordanit, Semseyit und Cesarolith von drei tunesischen Blei-Zink-Lagerstätten. Chem. Erde, 26, 256–270 (in German with English abs.). (3) Post, J.E. (1994) X-ray and neutron diffraction study of coronadite and cesarolite. IMA, 16th General Meeting, 334 (abs.). (4) Berry, L.G. and R.M. Thompson (1962) X-ray powder data for the ore minerals. Geol. Soc. Amer. Mem. 85, 206.