Coralloite $Mn^{2+}Mn^{3+}_2(AsO_4)_2(OH)_2 \cdot 4H_2O$

Crystal Data: Triclinic. *Point Group*: 1. As bladed crystals elongated along [100] and flattened on (001), to 1 mm; in fanlike aggregates.

Physical Properties: *Cleavage:* n.d. *Fracture*: n.d. *Tenacity*: n.d. Hardness = n.d. D(meas.) = n.d. D(calc.) = 3.26

Optical Properties: Translucent. *Color*: Cinnabar-red. *Streak*: n.d. *Luster*: Vitreous. *Optical Class*: Biaxial. $n \approx 1.74$ *Pleochroism*: Yellow along [100], orange-red ⊥ [100].

Cell Data: *Space Group*: *P*1. $a = 5.5828(7)$ $b = 9.7660(7)$ $c = 5.5455(13)$ $\alpha = 94.467(2)°$ $\beta = 111.348(3)°$ $\gamma = 93.850(2)°$ Z = 1

X-ray Powder Pattern: Monte Nero Mine, Rocchetta Vara, La Spezia, Liguria, Italy. 9.710 (100), 5.136 (80), 5.166 (77), 3.342 (65), 3.324 (34), 2.631 (23), 2.873 (22)

Chemistry:	(1)	(2)
Mn_2O_3	28.61	28.77
MnO	12.84	12.93
As_2O_5	42.12	41.89
H_2O	[16.42]	16.41
Total	99.99	100.00

(1) Monte Nero Mine, Rocchetta Vara, La Spezia, Liguria, Italy; average of 3 electron microprobe analyses, H_2O from stoichiometry, Mn^{2+}/Mn^{3+} calculated for charge balance; corresponds to $Mn^{2+}_{0.99}Mn^{3+}_{1.99}As^{5+}_{2.01}O_8(OH)_2(H_2O)_4$. (2) $Mn^{2+}Mn^{3+}_2(AsO_4)_2(OH)_2 \cdot 4H_2O$.

Occurrence: A secondary mineral in strataform manganese deposits.

Association: Calcite, inesite, quartz, brandtite, sarkinite, tilasite.

Distribution: From the Monte Nero Mine, Rocchetta Vara, La Spezia, Liguria, Italy; from Falotta and Alpe Tanatz, Switzerland.

Name: Honors Giorgio Corallo (b. 1937), a mineral collector, who found several new minerals (cassagnaite, gravegliaite, and reppiaite) in this region and is a "teacher" and "tutor" of several Ligurian mineral collectors.

Type Material: Mineral Museum, Department of Earth Sciences, University of Pavia, Italy (2010-001).

References: (1) Callegari, A.M., M. Boiocchi, M.E. Ciriotti, and C. Balestra (2012) Coralloite, $Mn^{2+}Mn^{3+}_2(AsO_4)_2(OH)_2 \cdot 4H_2O$, a new mixed valence Mn hydrate arsenate: Crystal structure and relationships with bermanite and whitmoreite mineral groups. Amer. Mineral., 97, 727-734.