Coralloite \( \text{Mn}^{2+}\text{Mn}^{3+2}\text{(AsO}_4\text{)}_2\text{(OH)}_2\cdot4\text{H}_2\text{O} \)

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


\[ D(\text{meas.}) \text{ = n.d.} \quad D(\text{calc.}) = 3.26 \]

**Optical Properties:**  *Translucent.*  *Color:* Cinnabar-red.  *Streak:* n.d.  *Luster:* Vitreous.  *Optical Class:* Biaxial.  \( n \approx 1.74 \)

**Cell Data:**  *Space Group:* \( P1 \).

\[ 
\begin{array}{cccc}
 a & 5.5828(7) \\
b & 9.7660(7) \\
c & 5.5455(13) \\
\alpha & 94.467(2)^\circ \\
\beta & 111.348(3)^\circ \\
\gamma & 93.850(2)^\circ \\
Z & 1 \\
\end{array} 
\]

**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:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{Mn}_2\text{O}_3 )</td>
<td>28.61</td>
<td>28.77</td>
</tr>
<tr>
<td>( \text{MnO} )</td>
<td>12.84</td>
<td>12.93</td>
</tr>
<tr>
<td>( \text{As}_2\text{O}_5 )</td>
<td>42.12</td>
<td>41.89</td>
</tr>
<tr>
<td>( \text{H}_2\text{O} )</td>
<td>[16.42]</td>
<td>16.41</td>
</tr>
<tr>
<td>Total</td>
<td>99.99</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Monte Nero Mine, Rocchetta Vara, La Spezia, Liguria, Italy; average of 3 electron microprobe analyses, \( \text{H}_2\text{O} \) from stoichiometry, \( \text{Mn}^{2+}/\text{Mn}^{3+} \) calculated for charge balance; corresponds to \( \text{Mn}^{2+}_{0.99}\text{Mn}^{3+}_{1.99}\text{As}^{5+}_{2.00}\text{O}_6\text{(OH)}_2\text{(H}_2\text{O})_4 \).  (2) \( \text{Mn}^{2+}\text{Mn}^{3+2}\text{(AsO}_4\text{)}_2\text{(OH)}_2\cdot4\text{H}_2\text{O} \).

**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 reppliaite) 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, \( \text{Mn}^{2+}\text{Mn}^{3+2}\text{(AsO}_4\text{)}_2\text{(OH)}_2\cdot4\text{H}_2\text{O} \), a new mixed valence Mn hydrate arsenate: Crystal structure and relationships with bermanite and whitmoreite mineral groups. Amer. Mineral., 97, 727-734.