

Crystal Data: Monoclinic. *Point Group:* 2/m. As grains to 3 mm, embedded in scorzalite.

Physical Properties: *Cleavage:* Perfect on {010}; good on $\{1\bar{1}01\}$. *Fracture:* n.d.
Tenacity: Brittle. Hardness = 4 D(meas.) = n.d. D(calc.) = 3.62

Optical Properties: Transparent. *Color:* Dark green to bronze. *Streak:* Greenish to brownish.
Luster: Resinous.

Optical Class: Biaxial (-). $\alpha = 1.730(5)$ $\beta = 1.758(7)$ $\gamma = 1.775(5)$ $2V(\text{meas.}) = 82(1)^\circ$
 $2V(\text{calc.}) = 75^\circ$ *Dispersion:* Strong, $r < v$. *Pleochroism:* X = dark green, Y = dark green to brownish, Z = dark brown. *Orientation:* n.d.

Cell Data: *Space Group:* $P2_1/n$. $a = 11.838(1)$ $b = 12.347(1)$ $c = 6.2973(6)$ $\beta = 114.353(6)^\circ$
Z = 4

X-ray Powder Pattern: Rubindi-Kabilizi pegmatite, Rwanda.

2.677 (100), 2.693 (75), 3.448 (65), 6.167 (50), 4.054 (45), 5.382 (40), 3.011 (40)

Chemistry:	(1)	(2)
P ₂ O ₅	46.00	47.67
Al ₂ O ₃	9.12	11.42
Fe ₂ O ₃	21.01	17.88
FeO	11.10	16.09
MgO	0.19	
MnO	7.96	
CaO	0.44	
Na ₂ O	2.85	6.94
<u>K₂O</u>	<u>0.01</u>	<u> </u>
Total	98.68	100.00

(1) Rubindi-Kabilizi pegmatite, Rwanda; average of 9 electron microprobe analyses supplemented by spectroscopy, Fe²⁺/Fe³⁺ calculated; corresponds to $\square_{1.00}(\text{Na}_{0.42}\text{Mn}^{2+}_{0.28}\text{Ca}_{0.04}\square_{0.26})_{\Sigma=1.00}(\text{Fe}^{2+}_{0.71}\text{Mn}^{2+}_{0.24}\text{Fe}^{3+}_{0.05})_{\Sigma=1.00}\text{Fe}^{3+}_{1.00}(\text{Al}_{0.82}\text{Fe}^{3+}_{0.16}\text{Mg}_{0.02})_{\Sigma=1.00}[(\text{P}_{0.99}\square_{0.01})\text{O}_4]_3$.
(2) $\square\text{NaFe}^{2+}\text{Fe}^{3+}\text{Al}(\text{PO}_4)_3$.

Occurrence: In cassiterite and columbite-tantalite-bearing granitic pegmatite.

Association: Scorzalite, trolleite, montebrasite, bertossaite, brazilianite, augelite, triplite, anacroixite, quartz, mica, feldspar.

Distribution: From the Rubindi-Kabilizi pegmatite, 3 km WNW of Muhororo village, south of the Rubindi river, 50 km west of Kigali, Rwanda.

Name: As the Fe²⁺ analog of *rosemaryite*.

Type Material: Laboratory of Mineralogy, University of Liège, Belgium (# 20326).

References: (1) Hatert, F., P. Lefèvre, A.-M. Fransolet, M.-R. Spirlet, L. Rebbouh, F. Fontan, and P. Keller (2005) Ferrorsemaryite, NaFe²⁺Fe³⁺Al(PO₄)₃, a new phosphate mineral from the Rubindi pegmatite, Rwanda. *Eur. J. Mineral.*, 17, 749-759. (2) (2006) *Amer. Mineral.*, 91, 1203-1204 (abs. ref. 1).