Koritnigite $Zn(AsO_3OH)\cdot H_2O$

Crystal Data: Triclinic, pseudomonoclinic. *Point Group:* $\overline{1}$. As imperfect platy crystals, to 5 mm, in aggregates.

Physical Properties: *Cleavage:* {010}, perfect; cleavage traces ∥ [001] and ∥ [100], visible on {010}. *Tenacity:* Flexible. Hardness = 2 D(meas.) = 3.54 D(calc.) = 3.56

Optical Properties: Transparent. *Color:* Colorless, white, rose. *Luster:* Pearly on {010}. *Optical Class:* Biaxial (+). *Orientation:* $X = b$; $Y \wedge a \simeq 28°$; $Z \wedge c \simeq 22°$. $\alpha = 1.632(5)$ $\beta = 1.652(3)$ $\gamma = 1.693(3)$ 2V(meas.) = 70(5)°

Cell Data: *Space Group:* $P\overline{1}$. $a = 7.948(2)$ $b = 15.829(5)$ $c = 6.668(2)$ $\alpha = 90.86(2)°$ $\beta = 96.56(2)°$ $\gamma = 90.05(2)°$ Z = 8

X-ray Powder Pattern: Tsumeb, Namibia; very close to cobaltkoritnigite.
7.90 (10), 3.16 (9), 3.83 (7), 2.461 (6), 2.186 (5), 3.95 (4), 2.926 (4)

Chemistry:

	(1)	(2)	(3)
As_2O_5	51.75	54.67	51.46
$FeO + Fe_2O_3$	trace	0.05	
CoO		4.54	
NiO		2.44	
ZnO	35.97	25.83	36.44
MgO	trace		
H_2O	[12.3]	[12.47]	12.10
Total	[100.0]	[100.00]	100.00

(1) Tsumeb, Namibia; by electron microprobe, $(AsO_3OH)^{2-}$ confirmed by IR, H_2O by difference. (2) Jáchymov, Czech Republic; H_2O by difference. (3) $Zn(AsO_3OH)\cdot H_2O$.

Occurrence: A secondary mineral of the lower oxidation zone in a dolostone-hosted polymetallic hydrothermal ore deposit (Tsumeb, Namibia).

Association: Tennantite, cuprian adamite, stranskiite, lavendulan, köttigite, tsumcorite, prosperite, o'danielite (Tsumeb, Namibia); erythrite, arsenolite, sphalerite (Jáchymov, Czech Republic).

Distribution: Found at Tsumeb, Namibia. From Jáchymov (Joachimsthal), Czech Republic. At Richelsdorf, Hesse, Germany.

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Type Material: University of Stuttgart, Stuttgart, NM02; University of Göttingen, Göttingen, Germany; Harvard University, Cambridge, Massachusetts, 125338; National Museum of Natural History, Washington, D.C., USA, 143369.

References: (1) Keller, P., H. Hess, P. Süsse, G. Schnorrer, and P.J. Dunn (1979) Koritnigit, $Zn[H_2O|HOAsO_3]$, ein neues Mineral aus Tsumeb, Südwestafrika. Tschermaks Mineral. Petrog. Mitt., 26, 51–58 (in German with English abs.). (2) (1980) Amer. Mineral., 65, 206 (abs. ref. 1). (3) Schmetzer, K., W. Horn, and W. Bartelke (1980) Kobalt- und Nickel-haltiger Koritnigit aus Jáchymov (Joachimsthal), ČSSR – ein zweiter Fundpunkt. Neues Jahrb. Mineral., Monatsh., 237–240 (in German with English abs.). (4) Keller, P., H. Hess, and H. Riffel (1980) Die Kristallstruktur von Koritnigit, $Zn[H_2O|HOAsO_3]$. Neues Jahrb. Mineral., Abh., 138, 316–332 (in German with English abs.).