Parascorodite $Fe^{3+}AsO_4 \cdot 2H_2O$

Crystal Data: Hexagonal. *Point Group:* $6/m\ 2/m\ 2/m$, $\overline{6}m2$, $6mm$, $\overline{3}\ 2/m$, or $3m$. Tabular to prismatic hexagonal crystals, to 1 μm, may be fan-shaped, in crudely hemispherical aggregates. *Twinning:* Observed.

Physical Properties: *Fracture:* Earthy to conchoidal in compact masses. Hardness = Soft. D(meas.) = 3.213(3) D(calc.) = 3.212

Optical Properties: Semitransparent. *Color:* Yellowish white, greenish gray; very pale yellow to brown in transmitted light. *Streak:* Yellowish-white.
Optical Class: Uniaxial, very low birefringence. $n = > 1.72$ ω = n.d. ϵ = n.d.

Cell Data: *Space Group:* $P6_3/mcm$, $P\overline{6}c2$, $P6_3cm$, $P\overline{3}c1$, or $P3c1$. $a = 8.9327(5)$ $c = 9.9391(8)$ $Z = 6$

X-ray Powder Pattern: Kaňk, Czech Republic.
4.076 (100), 2.806 (68), 3.053 (67), 4.973 (61), 2.661 (59), 2.520 (54), 4.184 (44)

Chemistry:

	(1)	(2)
SO_3	1.53	
P_2O_5	0.84	
As_2O_5	44.45	49.79
Al_2O_3	0.17	
Fe_2O_3	34.55	34.60
H_2O^+	16.81	
H_2O^-	1.60	
H_2O		15.61
Total	99.95	100.00

(1) Kaňk, Czech Republic; average of two analyses, corresponding to $(Fe_{0.98}Al_{0.01})_{\Sigma=0.99}[(AsO_4)_{0.88}(SO_4)_{0.04}(PO_4)_{0.03}]_{\Sigma=0.95} \cdot 2.05H_2O$. (2) $FeAsO_4 \cdot 2H_2O$.

Polymorphism & Series: Dimorphous with scorodite.

Occurrence: A rare secondary mineral in mine dumps, presumed to be a pre-mining weathering product of arsenopyrite (Kaňk, Czech Republic).

Association: Scorodite, pitticite, bukovskýite, kaňkite, zýkaite, gypsum, jarosite, iron hydroxides (Kaňk, Czech Republic); scorodite, kaňkite, arsenic, pyrite, proustite (Svornost mine, Czech Republic).

Distribution: From the Kuntery mine, Kaňk, Kutná Hora district, and in the Svornost mine, Jáchymov (Joachimsthal), Czech Republic.

Name: From the Greek *para*, for *near*, and the dimorphic relation to *scorodite*.

Type Material: National Museum, Prague, Czech Republic, P1p 25/98.

References: (1) Ondruš, P., R. Skála, C. Viti, F. Veselovskỳ, F. Novák, and J. Jansa (1999) Parascorodite, $FeAsO_4 \cdot 2H_2O$ – a new mineral from Kaňk near Kutná Hora, Czech Republic. Amer. Mineral., 84, 1439–1444.