

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As crystals, elongated along [001], showing {100}, {010}, and tiny {001}, to 0.5 mm. *Twinning:* On {2 $\bar{1}$ 2}, cruciform, common.

Physical Properties: Hardness = n.d. D(meas.) = 3.28–3.29 D(calc.) = 3.29 Magnetic.

Optical Properties: Semitransparent. *Color:* Black; yellowish brown, orangish brown, or greenish brown when transparent. *Luster:* Brilliant.

Optical Class: Biaxial. *Pleochroism:* Observable.

R₁–R₂: (400) —, (420) 19.5–17.3, (440) 18.4–15.8, (460) 17.7–15.1, (480) 17.3–14.7, (500) 16.3–14.3, (520) 16.3–13.8, (540) 15.8–13.4, (560) 15.6–13.2, (580) 15.5–13.2, (600) 15.6–13.0, (620) 15.0–12.6, (640) 14.9–12.6, (660) —, (680) —, (700) —

Cell Data: *Space Group:* $P\bar{1}$. $a = 5.466(1)$ $b = 5.675(2)$ $c = 6.610(1)$ $\alpha = 101.02(1)^\circ$
 $\beta = 95.10(1)^\circ$ $\gamma = 107.32(1)^\circ$ $Z = 1$

X-ray Powder Pattern: Mounana mine, Gabon.

4.47 (FFF), 3.21 (FFF), 5.15 (FF), 3.19 (FF), 6.41 (F), 3.07 (F), 2.68 (mF)

Chemistry:

	(1)	(2)
V ₂ O ₅	31.40	48.17
V ₂ O ₄	16.95	
Fe ₂ O ₃	41.05	38.61
H ₂ O	10.	9.54
Total	99.40	100.00

(1) Mounana mine, Gabon; by microchemical analysis, H₂O by TGA. (2) FeVO₄•H₂O.

Occurrence: At the base of the oxidized zone of a uranium deposit (Mounana mine, Gabon); in a hydrothermal gold deposit (Gold Quarry mine, Nevada, USA).

Association: Fervanite, goethite (Mounana mine, Gabon); kazakhstanite, fervanite, tyuyamunite (Gold Quarry mine, Nevada, USA).

Distribution: From the Mounana uranium mine, Franceville, Gabon. In the USA, at the Monument No. 2 mine, Monument Valley, Apache Co., Arizona; in the Gold Quarry mine, near Carlin, Maggie Creek district, Eureka Co., Nevada.

Name: To honor Henri-Jean Schubnel (1935–), mineralogist and gemologist, Bureau de Recherches Géologiques et Minières, Paris, France.

Type Material: National School of Mines, Paris, France; The Natural History Museum, London, England, 1970,149; National Museum of Natural History, Washington, D.C., USA, 137457.

References: (1) Cesbron, F. (1970) La schubnélite, nouveau vanadate de fer hydraté. Bull. Soc. fr. Minéral., 93, 470–475 (in French with English abs.). (2) (1972) Amer. Mineral., 57, 1556–1557 (abs. ref. 1). (3) Evans, H.T., Jr. and L.W. Finger (1990) Crystal chemistry of the natural vanadium bronzes. Amer. Mineral., 75, 508–521, esp. 518–519. (4) Jensen, M.C., J.C. Rota, and E.E. Foord (1995) The Gold Quarry mine, Carlin-Trend, Eureka, Nevada. Mineral. Record, 26, 449–469, esp. 463. (5) Schindler, M. and F.C. Hawthorne (1999) Schubnelite. [Fe³⁺(V⁵⁺O₄)(H₂O)], a novel heteropolyhedral framework mineral. Amer. Mineral., 665–668.