

Uvite

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Crystal Data: Hexagonal. *Point Group:* $3m$. Crystals prismatic to equant, may be tabular on [0001], pyramidal, in radiating groups, to 15 cm. Cross sections are typically triangular with curved, convex sides.

Physical Properties: *Fracture:* Uneven to conchoidal. *Tenacity:* Brittle. Hardness = 7.5 D(meas.) = 2.97–3.14 D(calc.) = [3.08] Pyroelectric and piezoelectric; may fluoresce a weak mustard-yellow under SW UV.

Optical Properties: Semitransparent. *Color:* Brown, light to dark green, red, black; may be zoned parallel to prism faces. *Streak:* White, light green, light brown. *Luster:* Vitreous to resinous.

Optical Class: Uniaxial (-). *Pleochroism:* O = pale yellow; E = colorless. ω = 1.637–1.668 ϵ = 1.619–1.639

Cell Data: *Space Group:* $R\bar{3}m$. a = 15.96–15.99 c = 7.18–7.22 Z = 3

X-ray Powder Pattern: Hnúšťa, Slovakia. (ICDD 29-342).

2.965 (100), 2.577 (90), 2.043 (80), 4.23 (70), 3.99 (70), 3.49 (60), 1.921 (60)

Chemistry:

	(1)		(1)
SiO ₂	35.96	Li ₂ O	0.00
TiO ₂	0.62	Na ₂ O	0.13
B ₂ O ₃	11.49	K ₂ O	0.00
Al ₂ O ₃	26.80	F	1.49
FeO	0.41	H ₂ O ⁺	2.70
MgO	15.20	H ₂ O ⁻	0.04
CaO	5.50	$-\text{O} = \text{F}_2$	0.63
		Total	99.71

(1) Uva Province, Sri Lanka; corresponds to $(\text{Ca}_{0.96}\text{Na}_{0.04})_{\Sigma=1.00}(\text{Mg}_{2.69}\text{Al}_{0.14}\text{Ti}_{0.08}\text{Fe}_{0.06}^{2+})_{\Sigma=2.97}\text{Al}_5\text{Mg}(\text{B}_{1.08}\text{O}_3)_3\text{Si}_{5.86}\text{O}_{18}[(\text{OH})_{2.93}\text{F}_{0.77}\text{O}_{0.30}]_{\Sigma=4.00}$.

Mineral Group: Tourmaline group.

Occurrence: Typically in calcium-rich rocks subjected to contact metamorphism and metasomatic processes which added boron.

Association: Calcite, dolomite, tremolite, apatite, scapolite.

Distribution: In Uva Province, Sri Lanka. From the Sagaing district, Myanmar (Burma). In the USA, from Franklin and Hamburg, Sussex Co., New Jersey; in New York, at Gouverneur, Pierrepont, Dekalb and elsewhere in St. Lawrence Co., and at Horicon, Warren Co.; and from East Hampton, Middlesex Co., Connecticut. From Brumado, Bahia, Brazil. At Hnúšťa, Slovakia.

Name: For the occurrence in Uva Province, Sri Lanka.

Type Material: Canadian Geological Survey, Ottawa, 13320; Royal Ontario Museum, Toronto, Canada; The Natural History Museum, London, England, 1976.426; Harvard University, Cambridge, Massachusetts, 116455; National Museum of Natural History, Washington, D.C., USA, C3283, C3287, C5212.

References: (1) Kunitz, W. (1929) Beiträge zur Kenntnis der magmatischen Assoziationen. I. Die Mischungsreihen in der Turmalin-Gruppe und die genetischen Beziehungen zwischen Turmalinen und Glimmern [hypothetical end member]. Chem. Erde, 4, 208–251, esp. 221 (in German). (2) Dunn, P.J., D. Appleman, J.A. Nelen, and J. Norberg (1977) Uvite, a new (old) common member of the tourmaline group and its implications for collectors. Mineral. Record, 8, 100–108. (3) Deer, W.A., R.A. Howie, and J. Zussman (1986) Rock-forming minerals, (2nd edition), v. 1B, disilicates and ring silicates, 559–602.

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