

Crystal Data: Hexagonal. *Point Group:* 3m. Crystals prismatic, to 5 cm.

Physical Properties: *Cleavage:* [Poor/indistinct on {0001}.] *Fracture:* Conchoidal.
Tenacity: Brittle. *Hardness* = ~7 *D*(calc.) = 3.209 (Sri Lanka), 3.243 (Czech Republic)

Optical Properties: Transparent. *Color:* Black. *Streak:* Gray. *Luster:* Vitreous.
Optical Class: Uniaxial (-). $\omega = 1.670(5)$ $\epsilon = 1.655(5)$ *Pleochroism:* O = very dark brown, E = light brown.

Cell Data: *Space Group:* R3m. $a = 16.0018(7)$ $c = 7.2149(3)$ $Z = 3$

X-ray Powder Pattern: Sri Lanka.

2.587 (100), 2.970 (99), 3.490 (72), 2.049 (69), 1.926 (43), 4.236 (42), 1.512 (42)

Chemistry:	(1)	(2)		(1)	(2)
SiO ₂	34.03	33.46	MnO	0.05	0.20
TiO ₂	2.53	0.64	ZnO	0.10	0.04
B ₂ O ₃	[10.11]	[9.89]	CaO	3.74	2.62
Al ₂ O ₃	26.48	27.00	Na ₂ O	0.89	1.32
V ₂ O ₃	0.12	b.d.l.	K ₂ O	0.09	0.06
FeO _{total}	11.77	16.82	F	0.44	0.10
Fe ₂ O ₃	[1.97]	[10.05]	H ₂ O	[2.67]	[2.27]
FeO	[10.00]	[7.77]	-O = F ₂	0.19	0.04
MgO	6.73	3.59	Total	99.76	98.96

(1) Sri Lanka; average of 10 electron microprobe analyses supplemented by Mössbauer and FTIR spectrometry, H₂O, B₂O₃, Fe₂O₃ and FeO calculated; corresponds to ^X(Ca_{0.69}Na_{0.30}K_{0.02})_{Σ=1.01} ^Y(Fe²⁺_{1.44}Mg_{0.72}Al_{0.48}Ti⁴⁺_{0.33}V³⁺_{0.02}Mn_{0.01}Zn_{0.01})_{Σ=3.00} ^Z(Al_{4.74}Mg_{1.01}Fe³⁺_{0.25})_{Σ=6.00} [^T(Si_{5.85}Al_{0.15})_{Σ=6.00}O₁₈](BO₃)₃ ^V(OH)₃ ^W[O_{0.69}F_{0.24}(OH)_{0.07}]_{Σ=1.00}. (2) Czech Republic; average electron microprobe analysis supplemented by Mössbauer and FTIR spectrometry, H₂O, B₂O₃ and Fe₂O₃:FeO calculated; corresponds to ^X(Ca_{0.49}Na_{0.45}□_{0.05}K_{0.01})_{Σ=1.00} ^Y(Fe²⁺_{1.14}Fe³⁺_{0.95}Mg_{0.42}Al_{0.37}Ti⁴⁺_{0.08}Mn_{0.03}Zn_{0.01})_{Σ=3.00} ^Z(Al_{5.11}Mg_{0.52}Fe³⁺_{0.38})_{Σ=6.00} [^T(Si_{5.88}Al_{0.12})_{Σ=6.00}O₁₈](BO₃)₃ ^V[(OH)_{2.66}O_{0.34}]_{Σ=3.00} ^W(O_{0.94}F_{0.06})_{Σ=1.00}.

Polymorphism & Series: Solid-solution with feruvite.

Mineral Group: Tourmaline supergroup, calcic group, oxy-subgroup.

Occurrence: As graphic intergrowths, in the central parts of a contaminated anatectic pegmatite dike (Czech Republic). In gem-bearing alluvial gravels ("illam") (Sri Lanka).

Association: Ca-rich schorl, plagioclase (An₃₀₋₄₂), K-feldspar, quartz (Czech Republic).

Distribution: Ratnapura, Sri Lanka and Mirošov, near Strážek, western Moravia, Czech Republic.

Name: Honors Sergio Lucchesi (1958-2010), professor of mineralogy, Sapienza University, Rome, Italy, for his contributions to the study of tourmaline and spinel crystal chemistry.

Type Material: Museum of Mineralogy, Earth Sciences Department, Sapienza University, Rome, Italy (33198/1) and the Moravian Museum, Department of Mineralogy and Petrography, Brno, Czech Republic (A11137 and A11138).

References: (1) Bosi, F., H. Skogby, M.E. Ciriotti, P. Gadas, M. Novák, J. Cempírek, D. Všíanský, and J. Filip (2017) Lucchesiite, CaFe²⁺₃Al₆(Si₆O₁₈)(BO₃)₃(OH)₃O, a new mineral species of the tourmaline supergroup. *Mineral. Mag.*, 81(1), 1-14. (2) Gadas, P., M. Novák, J. Cempírek, J. Filip, M. Vašinová Galiová, L.A. Groat, and D. Všíanský (2014) Mineral assemblages, compositional variation, and crystal structure of feruvitic tourmaline from a contaminated anatectic pegmatite at Mirošov near Strážek, Moldanubian Zone, Czech Republic. *Can. Mineral.*, 52, 285-301. (3) (2017) *Amer. Mineral.*, 102, 919-920 (abs. refs. 1 & 2).