

Crystal Data: Hexagonal. *Point Group:* 3m. As prismatic crystals in fanlike aggregates to 2 cm.

Physical Properties: *Cleavage:* None. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 7
D(meas.) = 3.17(2)-3.19(1) D(calc.) = 3.208-3.198

Optical Properties: Translucent. *Color:* Greenish to brownish black. *Streak:* Pale gray.

Luster: Vitreous.

Optical Class: Uniaxial (-). $\omega = 1.662(2)$ $\varepsilon = 1.637$ -1.641(2) *Pleochroism:* distinct, *O* = green to bluish green; *E* = pale yellow to colorless or *O* = dark grayish green; *E* = pale brown.

Cell Data: *Space Group:* R3m. $a = 15.916(3)$ $c = 7.1071(12)$ $Z = 3$

X-ray Powder Pattern: Zlatá Idka, Slovak Republic.

2.569 (100), 2.9354 (59), 1.9104 (54), 3.977 (53), 3.439 (53), 1.9096 (41), 2.0346 (37)

Chemistry:	(1)	(2)	(3)
SiO ₂	33.85	34.57	35.22
TiO ₂	<0.05	0.72	
Al ₂ O ₃	39.08	33.55	34.87
Fe ₂ O ₃	n.d.	0.61	
FeO	11.59	13.07	14.04
MnO	<0.06	0.10	
MgO	0.04	0.74	
CaO	0.30	0.09	
Na ₂ O	1.67	1.76	3.03
K ₂ O	<0.02	0.03	
F	0.26	0.56	
Cl	0.01	<0.01	
B ₂ O ₃	[10.39]	[10.11]	10.20
H ₂ O	[2.92]	[2.72]	2.64
- O = F ₂	0.11	0.24	
Total	99.29	98.39	100.00

(1) Zlatá Idka, Slovak Republic; average of 5 electron microprobe analyses supplemented by Mössbauer spectrometry, B₂O₃ and H₂O calculated from structure; corresponds to $X(\text{Na}_{0.591}\text{Ca}_{0.103}\square_{0.306})_{\Sigma=1.000}Y(\text{Al}_{1.885}\text{Fe}^{2+}_{1.108}\text{Mn}_{0.005}\text{Ti}_{0.002})_{\Sigma=3.000}Z(\text{Al}_{5.428}\text{Mg}_{0.572})_{\Sigma=6.000}T(\text{Si}_{5.506}\text{Al}_{0.494})_{\Sigma=6.000}\text{O}_{18}^B(\text{BO}_3)_3^V(\text{OH})_3^W[\text{O}_{0.625}(\text{OH})_{0.236}\text{F}_{0.136}\text{Cl}_{0.003}]_{\Sigma=1.000}$. (2) Příbyslavice, Czech Republic; average of 5 electron microprobe analyses and Mössbauer spectroscopy; corresponds to $X(\text{Na}_{0.586}\text{Ca}_{0.017}\text{K}_{0.006}\square_{0.391})_{\Sigma=1.000}Y(\text{Fe}^{2+}_{1.879}\text{Mn}_{0.015}\text{Al}_{1.013}\text{Ti}_{0.093})_{\Sigma=3.000}Z(\text{Al}_{5.732}\text{Mg}_{0.190}\text{Fe}^{3+}_{0.078})_{\Sigma=6.000}T(\text{Si}_{5.944}\text{Al}_{0.056})_{\Sigma=6.000}\text{O}_{18}^B(\text{BO}_3)_3^V(\text{OH})_3^W[\text{O}_{0.579}\text{F}_{0.307}(\text{OH})_{0.115}]_{\Sigma=1.000}$. (3) Na(Fe²⁺₂Al)Al₆Si₆O₁₈(BO₃)₃(OH)₃O.

Polymorphism & Series: Related to oxy-dravite, oxy-chromium-dravite, oxy-vanadium-dravite, and povondraite through the substitution of Fe²⁺ for Mg²⁺, Cr³⁺ for Al³⁺, V³⁺ for Al³⁺, and Fe³⁺ for Al³⁺, respectively.

Mineral Group: Tourmaline supergroup, alkali-subgroup 3.

Occurrence: Hydrothermal fracture fillings in metasomatized rocks (Slovakia); a metasomatized primary magmatic mineral in granite, now foliated orthogneiss (Czech Republic).

Association: Orthoclase perthite, albite, quartz, muscovite, biotite, garnet, apatite, zircon, magnetite, pyrite, ilmenite (Czech Republic).

Distribution: From the Marianna adit, ~ 2.5 km WNW of Zlatá Idka village, Slovak Ore Mountains (Slovenské Rudohorie), near Košice, eastern Slovakia and the Tisá skála outcrop, ~1 km ENE of Příbyslavice, near Kutná Hora, Central Bohemia Region, Czech Republic.

Name: The prefix *oxy* indicating a *schorl* with $O^{2-} \rightarrow OH^{1-} + F^{1-}$ in the W site and related to end-member schorl by ${}^Y R^{2+} + {}^W(OH) \leftrightarrow {}^Y Al + {}^W O$.

Type Material: For Zlatá Idka, Slovak Republic: East-Slovak Museum, Košice, Slovakia (G12760), and the Department of Mineralogy and Petrology, Comenius University, Bratislava, Slovakia (7279). For Příbyslavice, Czech Republic): Department of Mineralogy and Petrography, Moravian Museum, Brno, Czech Republic (B10521).

References: (1) Bačík, P., J. Cempírek, P. Uher, M. Novák, D. Ozdín, J. Filip, R. Škoda, K. Breiter, M. Klementová, R. Ďud'a, and L.A. Groat (2013) Oxy-schorl, $Na(Fe^{2+}_2Al)Al_6Si_6O_{18}(BO_3)_3(OH)_3O$, a new mineral from Zlatá Idka, Slovak Republic and Příbyslavice, Czech Republic. *Amer. Mineral.*, 98, 485-492.