

**Darrellhenryite****Na(LiAl<sub>2</sub>)Al<sub>6</sub>(BO<sub>3</sub>)<sub>3</sub>Si<sub>6</sub>O<sub>18</sub>(OH)<sub>3</sub>O**

**Crystal Data:** Hexagonal. *Point Group:* 3m. As columnar crystals to 3 cm, sometimes in parallel aggregates.

**Physical Properties:** *Cleavage:* None. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = ~ 7 D(meas.) = 3.03(3) D(calc.) = 3.038

**Optical Properties:** Translucent to transparent. *Color:* Pink, colorless in transmitted light. *Streak:* Pinkish white. *Luster:* Vitreous. *Optical Class:* Uniaxial (-).  $\omega = 1.636(2)$   $\varepsilon = 1.619(2)$  *Pleochroism:* Distinct, colorless to pale pink.

**Cell Data:** *Space Group:* R3m.  $a = 15.809(2)$   $c = 7.089(1)$   $Z = 3$

**X-ray Powder Pattern:** Nová Ves near Český Krumlov, southern Bohemia, Czech Republic. 2.925 (100), 2.555 (90), 3.431 (73), 3.952 (54), 1.901 (50), 1.643 (49), 2.326 (42)

<b>Chemistry:</b>	(1)	(2)
SiO <sub>2</sub>	38.38	38.12
Al <sub>2</sub> O <sub>3</sub>	43.49	43.12
B <sub>2</sub> O <sub>3</sub>	11.01	11.04
MnO	0.02	
CaO	0.05	
Li <sub>2</sub> O	1.63	1.58
Na <sub>2</sub> O	1.92	3.28
H <sub>2</sub> O	2.86	2.86
F	0.71	
- O = F	0.30	
Total	99.77	100.00

(1) Nová Ves, near Český Krumlov, southern Bohemia, Czech Republic; average of 13 electron microprobe analyses supplemented by LA-ICP-MS (Li<sub>2</sub>O), TGA, near-infrared spectroscopy, H<sub>2</sub>O and B<sub>2</sub>O<sub>3</sub> by wet chemical analysis; corresponds to  ${}^X(\text{Na}_{0.58}\text{Ca}_{0.01}\square_{0.41})_{\Sigma=1.00}{}^Y(\text{Li}_{1.05}\text{Al}_{1.95})_{\Sigma=3.00}{}^Z\text{Al}_6(\text{BO}_3)_3{}^T(\text{Si}_6\text{O}_{18}){}^V(\text{OH})_3{}^W(\text{O}_{0.66}\text{F}_{0.34})_{\Sigma=1.00}$ . (2) Na(LiAl<sub>2</sub>)Al<sub>6</sub>(BO<sub>3</sub>)<sub>3</sub>Si<sub>6</sub>O<sub>18</sub>(OH)<sub>3</sub>O.

**Polymorphism & Series:** Related to elbaite through the substitution  ${}^Y\text{Al}^W_{0.5}\text{O}_1{}^Y\text{Li}^W_{-0.5}(\text{OH})_{1-}$ .

**Mineral Group:** Tourmaline supergroup, alkali-subgroup 4.

**Occurrence:** In the central part of a zoned complex, Li-bearing, petalite-type pegmatite dike.

**Association:** Lepidolite, Li-bearing tourmalines, amblygonite, albite, K-feldspar, quartz, petalite, polythionite, pollucite.

**Distribution:** From Nová Ves, near Český Krumlov, southern Bohemia, Czech Republic.

**Name:** Honors Darrell J. Henry (b. 1951), Professor of Geology, Louisiana State University, Baton Rouge, USA, and an expert on the mineralogy, petrology, crystal chemistry, and nomenclature of tourmaline-supergroup minerals.

**Type Material:** Department of Mineralogy and Petrography, Moravian Museum, Brno, Czech Republic (B10661) and the National Museum of Natural History, Washington D.C., USA (NMNH 175992 and 175993).

**References:** (1) Novák, M., A. Ertl, P. Povondra, M.V. Galiová, G.R. Rossman, H. Pristacz, M. Prem, G. Giester, P. Gadas, and R. Škoda1 (2013) Darrellhenryite, Na(LiAl<sub>2</sub>)Al<sub>6</sub>(BO<sub>3</sub>)<sub>3</sub>Si<sub>6</sub>O<sub>18</sub>(OH)<sub>3</sub>O, a new mineral from the tourmaline supergroup. *Amer. Mineral.*, 98, 1886-1892.