Fabriesite $Na_3Al_3Si_3O_{12}\cdot 2H_2O$

Crystal Data: Orthorhombic. *Point Group*: n.d. Pseudomorphous after jadeite, as skeletal crystals, to 20 mm, and rarely as pseudo prismatic crystals.

Physical Properties: *Cleavage*: n.d. *Fracture*: n.d. *Tenacity*: Brittle. Hardness = ~5-5.5 D(meas.) = n.d. D(calc.) = 2.386

Optical Properties: Transparent. *Color*: White to yellow, colorless in thin section. *Streak*: White. *Luster*: Vitreous to greasy. *Optical Class*: Biaxial (–). α = 1.503 β = 1.506 γ = 1.508 2V(calc.) = 78° [synthetic nepheline hydrate I]

Cell Data: *Space Group*: $Pna2_1$. a = 16.426 b = 15.014 c = 5.223 Z = 4 [synthetic orthorhombic $Na_3Al_3Si_3O_{12}\cdot 2H_2O$]

X-ray Powder Pattern: Calculated pattern. [identifiable only by a combination of scanning electron microscopy, electron microprobe analyses and electron backscatter diffraction] 3.41 (100), 4.41 (77), 2.97 (70), 2.61 (40), 8.21 (36), 7.51 (32), 2.45 (29)

Chemistry:

	(1)
Na_2O	19.67
MgO	0.06
SiO_2	38.93
Al_2O_3	33.00
K_2O	0.08
CaO	0.36
FeO	0.06
MnO	0.01
BaO	0.07
H_2O	[7.76]
Total	100.00

(1) Tawmaw-Hpakant Jade Tract, Myanmar; average of 10 electron microprobe analyses, H_2O by difference; corresponding to $(Na_{2.94}Ca_{0.03}K_{0.01}Mg_{0.01})_{\Sigma=2.99}Al_{3.00}Si_{3.00}O_{12}\cdot 2H_{1.99}O$.

Occurrence: In serpentinized peridotite and related to the hydration of trinepheline during the late stage of metamorphism along veins in a jadeite deposit.

Association: Nepheline, trinepheline, more rarely with albite, banalsite, stronalsite.

Distribution: From the Tawmaw-Hpakant Jade Tract, Hpakant Township, Mohnyin District, Kachin State, Myanmar.

Name: Honors Jacques Fabriés (1932-2000), professor of Mineralogy, National Natural History Museum, Paris, France, where he served as chair of Mineralogy from 1969 until 1998, and was the Museum director (1990-1994).

Type Material: National Museum of Natural History, Paris, France (MNHN 212.001).

References: (1) Ferraris, C., G.C. Parodi, S. Pont, B. Rondeau, and J-P. Lorand (2014) Trinepheline and fabriesite: two new mineral species from the jadeite deposit of Tawmaw (Myanmar). European Journal of Mineralogy, 26(2), 257-265. (2) (2014) Amer. Mineral., 99, 1808-1809 (abs. ref. 1).