Gelosaite $BiMo^{6+}_{(2-5x)}Mo^{5+}_{6x}O_7(OH)\cdot H_2O$ ($0 < x < 0.4$)

Crystal Data: Monoclinic. *Point Group*: 2/*m*. Prismatic crystals are elongated along [010] and tabular on {100} to 1 mm. *Twinning*: Common by an undetermined twin law.

Physical Properties: *Cleavage*: None. *Fracture*: Conchoidal. *Tenacity*: Brittle. Hardness = ~3 D(meas.) = n.d. D(calc.) = 5.114

Optical Properties: Transparent. *Color*: Colorless, yellow, yellowish green, pale blue.
Streak: White. *Luster*: Adamantine.
Optical Class: Anisotropic. *n*(calc.) = 2.04 *Pleochroism*: Blue to pale blue (blue varieties).

Cell Data: *Space Group*: $P2_1/n$. $a = 5.8505(4)$ $b = 9.0421(6)$ $c = 13.917(1)$ $\beta = 100.42(1)°$ Z = 4

X-ray Powder Pattern: Su Senargiu, Sardinia, Italy.
4.83 (100), 2.755 (60), 3.015 (50), 2.080 (50), 1.509 (30), 3.30 (25), 3.41 (21)

Chemistry:

	(1)	(2)
PbO	0.01	
Bi_2O_3	42.87	42.52
Mo_2O_5	14.97	
MoO_3	37.85	52.54
WO_3	0.02	
H_2O	[4.85]	4.93
Total	100.57	100.00

(1) Su Senargiu, Sardinia, Italy; electron microprobe analysis, Mo partitioned between Mo_2O_5 and MoO_3 based on the structure analysis, H_2O was calculated from stoichiometry; corresponds to $BiMo^{6+}_{1.48}Mo^{5+}_{0.62}O_7(OH)\cdot H_2O$. (2) $BiMo_2O_7(OH)\cdot H_2O$.

Occurrence: A secondary mineral formed in the oxidation zone of bismuth-molybdenum deposits.

Association: Sardignaite, ferrimolybdite, koechlinite, wulfenite, muscovite (Sardinia); bismutite, quartz (Australia).

Distribution: From Su Senargiu, Sarroch (CA), Sardinia, Italy [TL] and the Old 25 and Wolfram pipes, Kingsgate Bi-Mo deposits, 28 km east of Glen Innes, New England district, northeastern New South Wales, Australia.

Name: Honors Mario *Gelosa* (1947-2006) from Porto Torres, Sardinia, who first found the mineral.

Type Material: Natural History Museum, University of Pisa, Tuscany, Italy (18910).

References: (1) Orlandi, P., F. Demartin, M. Pasero, P. Leverett, P.A. Williams, and D.E. Hibbs (2011) Gelosaite, $BiMo^{6+}_{(2-5x)}Mo^{5+}_{6x}O_7(OH)\cdot H_2O$ ($0 \le x \le 0.4$), a new mineral from Su Senargiu (CA), Sardinia, Italy, and a second occurrence from Kingsgate, New England, Australia. Amer. Mineral., 96, 268-273.