Bianchite $(Zn, Fe^{2+})(SO_4)\cdot 6H_2O$

Crystal Data: Monoclinic. *Point Group:* $2/m$. Indistinct crystals, typically in crusts. *Twinning:* Common in artificial material.

Physical Properties: Hardness = ∼2.5 D(meas.) = 2.03–2.07 D(calc.) = 2.00 Soluble in H_2O.

Optical Properties: Transparent. *Color:* White to yellowish with oxidation of the iron; colorless in transmitted light. *Luster:* Vitreous.
Optical Class: Biaxial (–). *Orientation:* $Y = b$; $X \wedge c = -26°$. *Dispersion:* $r > v$, weak.
$\alpha = 1.465$ $\beta = 1.494$ $\gamma = 1.495$ 2V(meas.) = 10°–20°

Cell Data: *Space Group:* $C2/c$. $a = 10.096$ $b = 7.201$ $c = 24.492$ $\beta = 98°16'$ Z = 8

X-ray Powder Pattern: Boleslaw, Poland. (ICDD 12-16).
4.42 (100), 4.03 (90), 2.965 (80), 2.911 (80), 5.47 (70), 3.61 (60), 5.85 (50)

Chemistry:

	(1)	(2)
SO_3	30.13	29.70
FeO	8.84	
ZnO	20.01	30.20
H_2O	39.92	40.10
insol.	1.02	
Total	99.92	100.00

(1) Raibl mine, Italy. (2) $ZnSO_4 \cdot 6H_2O$.

Mineral Group: Hexahydrite group.

Occurrence: A post-mine mineral, typically in efflorescences on mine walls, an alteration product of oxidizing sulfides.

Association: Goslarite, melanterite, hydrozincite, gypsum (Raibl mine, Italy).

Distribution: From the Cave del Predil, Raibl mine, south of Tarvisio, Friuli-Venezia Giulia, Italy. At Bleiberg, Carinthia, Austria. From Boleslaw, near Olkusz, Poland. At Wittichen, Black Forest, Germany. In the Borieva mine, Madan region, Bulgaria. From Glomsrudkollen, near Vikersund, Norway. At the Paddy's River mine, Australian Capital Territory. In the USA, from Bisbee, Cochise Co., Arizona; in the Silver Plume district, Clear Creek Co., Colorado; at Sterling Hill, Sussex Co., New Jersey; in the Ueberroth zinc mine, Friedensville, Lehigh Co., Pennsylvania.

Name: To honor Angelo Bianchi (1892–1970), Italian mineralogist, University of Padova, Padova, Italy.

Type Material: University of Padova, Padova, Italy, 1039/1774; The Natural History Museum, London, England, 1933,90; National Museum of Natural History, Washington, D.C., USA, R6735.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 495–496.