Hydroxyferroroméite $(Fe^{2+}_{1.5}\square_{0.5})Sb^{5+}_2O_6(OH)$

Crystal Data: Cubic. *Point group*: 4/*m* $\bar{3}$ 2/*m*. Powdery in masses to 50 μm.

Physical Properties: *Cleavage*: n.d. *Tenacity*: Brittle. *Fracture*: Conchoidal.
Hardness = ~ 3 (powder) D(meas.) = n.d. D(calc.) = n.d.

Optical Properties: [Translucent]. *Color*: Yellow to yellow-brown. *Streak*: Yellow.
Luster: Earthy to vitreous.
Optical Class: n.d. *n*(calc.) = 1.898

Cell Data: *Space Group: Fd*$\bar{3}$ *m*. *a* = 10.25(3) Z = 8

X-ray Powder Pattern: Correc d'en Llinassos, near Oms, Pyrénées-Orientales Department, France. 2.963 (100), 5.920 (65), 3.089 (63), 1.815 (63), 2.557 (48), 1.548 (43), 1.733 (25)

Chemistry:

	(1)
Sb_2O_5	67.10
As_2O_5	0.15
SiO_2	1.17
Al_2O_3	0.28
CaO	0.18
SrO	0.58
FeO	16.95
CuO	8.69
ZnO	0.54
H_2O	[1.72]
Total	97.36

(1) Correc d'en Llinassos, near Oms, Pyrénées-Orientales Department, France; average of 9 electron microprobe analyses supplemented by Raman and X-ray photoelectron spectroscopy (for valences of Fe, Cu and Sb), H_2O calculated from stoichiometry; corresponds to $(Fe^{2+}_{1.07}Cu^{2+}_{0.50}Zn_{0.03}Sr_{0.03}Ca_{0.01}\square_{0.36})_{\Sigma=2.00}(Sb^{5+}_{1.88}Si_{0.09}Al_{0.02}As_{0.01})_{\Sigma=2.00}O_6[(OH)_{0.86}O_{0.14}]_{\Sigma=2.00}$.

Mineral Group: Pyrochlore supergroup (general formula - $A_2B_2X_6Y$); roméite group (B = $Sb5^+$).

Occurrence: As powdery boxwork replacements after tetrahedrite in a siderite-quartz matrix (France).

Association: Hematite, goethite, chalcopyrite, tetrahedrite, native antimony (France); chlorargyrite, dyscrasite (Australia).

Distribution: From Correc d'en Llinassos, near Oms, Pyrénées-Orientales Department, France; also at the Consols Mine (ABH Consols Mine; Australian Broken Hill Consols Mine), Broken Hill, New South Wales, Australia.

Name: For a member of the *roméite* group with prefixes to indicate dominant OH^- (*hydroxy*) in the *Y* site and dominant Fe^{2+} (*ferro*) in the *A* site.

Type Material: Museum Victoria, Melbourne, Victoria, Australia (M53584) and the Natural History Museum, London, England (BM2016,2).

References: (1) Mills, S.J., A.G. Christy, M.S. Rumsey, J. Spratt, E. Bittarello, G. Favreau, M.E. Ciriotti, and C. Berbain (2017) Hydroxyferroroméite, a new secondary weathering mineral from Oms, France. Eur. J. Mineral., 29(2), 307-314. (2) (2018) Amer. Mineral., 103, 2046-2047 (abs. ref. 1). (3) Atencio, D., M.B. Andrade, A.G. Christy, R. Gieré, and P.M. Kartashov (2010) The pyrochlore supergroup of minerals: nomenclature. Can. Mineral., 48, 673-698.