

## Poster Presentation

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### *Crystallochemical aspects of two microlite-group new mineral species*

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Fluorcalciomicrolite,  $\text{Ca}_{1.5}\text{Ta}_2\text{O}_6\text{F}$ , and hydroxycalciomicrolite,  $\text{Ca}_{1.5}\text{Ta}_2\text{O}_6(\text{OH})$ , are new microlite-group [1] minerals found in the Volta Grande pegmatite, Nazareno, Minas Gerais, Brazil. Both occur as octahedral and rhombododecahedral crystals. The crystals are colourless, yellow and translucent, with vitreous to resinous luster. The densities calculated for fluorcalciomicrolite [2] and hydroxycalciomicrolite are 6.160 and 6.176 g/cm<sup>3</sup>, respectively. The empirical formulae obtained from electron microprobe analysis are  $(\text{Ca}_{1.07}\text{Na}_{0.81}\square_{0.12})\Sigma_2$   $(\text{Ta}_{1.84}\text{Nb}_{0.14}\text{Sn}_{0.02})\Sigma_2[\text{O}_{5.93}(\text{OH})_{0.07}]\Sigma_{6.00}[\text{F}_{0.79}(\text{OH})_{0.21}]$  for fluorcalciomicrolite and  $(\text{Ca}_{1.48}\text{Na}_{0.06}\text{Mn}_{0.01})\Sigma_{1.55}(\text{Ta}_{1.88}\text{Nb}_{0.11}\text{Sn}_{0.01})\Sigma_2\text{O}_6[(\text{OH})_{0.76}\text{F}_{0.20}\text{O}_{0.04}]$  for hydroxycalciomicrolite. Fluorcalciomicrolite is cubic, space group Fd-3m,  $a = 10.4191(6)$  Å,  $V = 1131.07(11)$  Å<sup>3</sup>, and  $Z = 8$ . Hydroxycalciomicrolite is also cubic; however, the presence of P-lattice is confirmed by the large number of weak reflections observed by X-ray diffraction. As a result, the space group is P4<sub>3</sub>2 and unit-cell parameters are  $a = 10.4211(8)$  Å, and  $V = 1131.72(15)$  Å<sup>3</sup>.

[1] D. Atencio, M. B. Andrade, A. G. Christy, R. Gieré, P. M. Kartashov, *Canadian Mineralogist*, 2010, 48, 673-698, [2] M. B. ANDRADE, D. Atencio, A. I. C. Persiano, J. Ellena, *Mineralogical Magazine*, 2013, 77, 2989-2996

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