

**Crystal Data:** Monoclinic, pseudo-orthorhombic (?). *Point Group:* n.d. As nodules, to 1 mm, composed of rounded tabular plates, flattened on [010], which may aggregate to form botryoidal crusts.

**Physical Properties:** *Cleavage:* Two, irregular, || [001] and [100]. *Hardness* =  $\sim 3$   
*D*(meas.) = 3.4 *D*(calc.) = 3.39 Radioactive.

**Optical Properties:** Semitransparent. *Color:* Golden yellow.  
*Optical Class:* Biaxial (-). *Pleochroism:* Strong; pale greenish yellow to pale yellow.  
*Orientation:* Oblique extinction.  $\alpha = 1.643(2)$   $\beta = 1.664(2)$   $\gamma = 1.670(2)$   $2V(\text{meas.}) = \text{n.d.}$   
 $2V(\text{calc.}) = 56^\circ$

**Cell Data:** *Space Group:* n.d.  $a = 11.10$   $b = 17.7$   $c = 18.0$   $\beta = \sim 90^\circ$   $Z = 14$

**X-ray Powder Pattern:** Kobokobo pegmatite, Congo.  
 9.00 (100b), 3.133 (80), 4.70 (50), 2.978 (40b), 1.850(40), 4.45 (30), 3.53 (20)

| Chemistry:                     | (1)  | (2)    |
|--------------------------------|------|--------|
| UO <sub>3</sub>                | 54.5 | 55.42  |
| P <sub>2</sub> O <sub>5</sub>  | 13.2 | 13.75  |
| Al <sub>2</sub> O <sub>3</sub> | 9.9  | 9.88   |
| H <sub>2</sub> O               | 20.3 | 20.95  |
| Total                          | 97.9 | 100.00 |

(1) Kobokobo pegmatite, Congo; by electron microprobe, H<sub>2</sub>O by TGA; corresponds to  $\text{HAl}_{1.02}(\text{UO}_2)_{1.00}(\text{PO}_4)_{0.98}(\text{OH})_3 \cdot 4\text{H}_2\text{O}$ . (2)  $\text{HAl}(\text{UO}_2)\text{PO}_4(\text{OH})_3 \cdot 4\text{H}_2\text{O}$ .

**Occurrence:** A rare secondary mineral in the oxidized uraniferous zone of a complex granite pegmatite.

**Association:** Meta-autunite, phosphuranylite, phuralumite, upalite, moreauite, threadgoldite.

**Distribution:** From the Kobokobo pegmatite, Lusungu River district, Kivu Province, Congo (Zaire).

**Name:** For resemblance of the mineral's color to that of the buttercup, *ranunculus* in Latin.

**Type Material:** Royal Museum of Central Africa, Tervuren, Belgium, RMG6201; National Museum of Natural History, Washington, D.C., USA, 145686.

**References:** (1) Deliens, M. and P. Piret (1979) Ranunculite,  $\text{AlH}(\text{UO}_2)(\text{PO}_4)(\text{OH})_3 \cdot 4\text{H}_2\text{O}$ , a new mineral. *Mineral. Mag.*, 43, 321-323. (2) (1980) *Amer. Mineral.*, 65, 407 (abs. ref. 1).