

NEW MINERAL NAMES

Mahadevite

S. RAMASESHAN, Mahadevite—a new species of mica. *Proc. Indian Acad. Sci.*, **22A**, 177–181 (1945).

PHYSICAL PROPERTIES: Luster vitreous. Thick sheets are bronze-colored and nearly opaque, thin flakes are transparent, greenish-yellow. Cleavage highly perfect, producing thin elastic laminae. Pleochroism higher than that of muscovite, much less than that of biotite.

Optically negative, acute bisectrix practically normal to the plane of cleavage. $2E=13^{\circ}48'$. Interference figures show that the plane of the optic axes is at right angles to the plane of symmetry, whose position was determined from percussion figures.

CHEMICAL PROPERTIES: Analyses gave: SiO_2 38.98, 38.24; Al_2O_3 29.94, 29.20 (including $\text{TiO}_2+\text{Mn}_2\text{O}_4$, not separately determined), total iron as Fe_2O_3 4.12, 3.86; MgO 13.2, 14.4, CaO 0.49, 0.50, alkalis (not stated whether as Na_2O or K_2O) 9.6, 9.2, H_2O 3.8, 3.8, F not detd.; total 100.13, 99.20%

This is intermediate between muscovite and phlogopite in composition.

OCCURRENCE: Occurs in a pegmatite in mica schist on a hill called Racha, Konda, eastern Warangal district (Hyderabad ?), India.

NAME: For C. Mahadevan, who found the mineral.

MICHAEL FLEISCHER.

Zirfesite

E. E. KOSTYLEVA, Zirfesite—a new zirconium mineral of the zone of hypergenesis. *Compt. rend. acad. sci. U.R.S.S.*, **48**, 502–504 (1945).

PHYSICAL PROPERTIES: Pale yellow, light in weight, powdery, smeary, sticking to the tongue, with a faint smell resembling that of clays. Careful examination by eye or under the microscope shows flakes and lamellae with pearly luster. Optically isotropic, $n=1.620$.

CHEMICAL PROPERTIES: Analysis by L. B. Tumilovich gave: SiO_2 21.27, TiO_2 0.96, ZrO_2 30.47, Fe_2O_3 14.27, Al_2O_3 1.63, rare earths 2.12, $(\text{Ta}, \text{Cb})_2\text{O}_5$ 2.40, FeO none, MnO 0.24, CaO 0.14, MgO 0.57, Na_2O traces, K_2O 0.21, H_2O 16.17, $\text{H}_2\text{O}+$ 9.66; sum 100.11%. This corresponds to $(\text{ZrO}_2, \text{Fe}_2\text{O}_3) \cdot \text{SiO}_2 \cdot n\text{H}_2\text{O}$. The mineral is readily soluble in dilute HCl and the solution gelatinizes if heated. Treatment with 5% Na_2CO_3 on the water bath extracts a significant amount of SiO_2 . Tartaric acid dissolves an appreciable quantity of Fe and Zr . The mineral loses 20.96% H_2O at 135° , 23.56% at 200° , all H_2O at 300° .

THERMAL ANALYSIS: The mineral gives an endothermal reaction at 135° and a subsequent small exothermal rise. It shows a sharp exothermal break at 700° . It thus resembles allophane in behavior. At this temperature, melting takes place and a new, brick-red phase is formed, insoluble in HCl , with $n=1.720$.

OCCURRENCE: An alteration product of eudialyte at Mannepachk, Khibina Tundras, Kola Peninsula.

NAME: From the principal elements, Zr, Fe, Si.

M.F.