

maline; total Fe as Fe_2O_3 3.50 %, MgO 2.08 %, TiO_2 0.20 %, CaO 0.42 %, Na_2O 1.96 %, K_2O 2.24 %, Li_2O 0.10 %) bands of the same bed. The analyses indicate that tourmalinization was accompanied by an increase in iron and magnesium and by a decrease in alkalis.

In summary, the Cuvier tourmalines are iron-magnesium tourmalines, chemically variable, showing a tendency for B and Na to increase and Fe to decrease in later crystals and, with the possible exception of Ti, lacking any correlation between major element constituents and pleochroic colour. The compositions of the tourmalines appear to be initially dependent on that of the host rock but they may also be affected by metasomatizing solutions during tourmalinization.

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A magnesioriebeckite from the Samalpatti area, Tamilnadu, India

DURING geological investigations in the Samalpatti area, Dharmapuri district, Tamilnadu, South India, a fibrous variety of blue amphibole was collected from the aplitic rocks exposed one mile north of Samalpatti; it occasionally ranges from dark green to black in colour. In pegmatites and syenitic rocks the mineral occurs both as disseminated and radiating crystals up to 6 inches in length and as veins in the host rocks. The veins normally range from a few inches to a foot in length, but in places may reach a length of 50 ft and width of 8 ft.

In thin section the mineral is blue in colour, with strong absorption in the fast vibration direction. The optical characters are: α blue, β green, γ 1.678, light yellowish-green, $2V_\gamma$ 85°, $\gamma-\alpha$ 0.0129, $\alpha: [001]$ 8°. Sp. gr. 3.28.

A pure sample of the mineral was chemically analysed by R. Ramasamy following the methods of A. W. Groves; the alkali determinations were made with an Eel flame photometer: SiO_2 52.12 %, TiO_2 0.30, Al_2O_3 2.20, Fe_2O_3 14.77, FeO 10.83, MnO 0.62, MgO 10.03, CaO 2.91, K_2O 0.50, Na_2O 4.73, H_2O 1.17, sum 100.18. On

a basis of 24 (O, OH) this corresponds to Si 7.74, Al^{iv} 0.26, Al^{vi} 0.12, Ti 0.03, Fe³⁺ 1.65, Fe²⁺ 1.34, Mg 2.22, Mn 0.08, Na 1.36, K 0.10, Ca 0.46, OH 1.16; ΣY 5.44, ΣX 1.92. This composition is very near that of a magnesioriebeckite from Glen Lui, Aberdeenshire, described by McLachlan (1951), but the latter differs in having $2V_{\alpha}$ 50° and $\alpha:[001]$ 14°. The optical data, together with the ratios $100\text{Fe}^{3+}/(\text{Fe}^{3+} + \text{Al} + \text{Ti}) = 90.8$ and $100\text{Fe}^{2+}/(\text{Fe}^{2+} + \text{Mg} + \text{Mn}) = 36.7$, show that the mineral is a magnesioriebeckite.

The consistent presence of this mineral in almost all the rock types, including aplites, pegmatites, zirconiferous syenites, garnetiferous syenites, and carbonatites, of this region deserves an explanation. It may be surmised that the crystallization of the amphibole was retarded because the enrichment of Na and K in the magma would have increased its solubility, giving preference to the formation of alkali feldspars and feldspathoids; however, owing to the relative impoverishment of the magma in alumina feldspathoids were not formed (unpublished partial chemical analyses by R. Ramasamy of the host rocks show alkali:alumina ratios in wt. % ranging from 0.75 in a zircon syenite and a thorite syenite to 1.17 in a syenite pegmatite). This facilitated the accumulation of the amphibole in the residual liquid, and it was subsequently injected into all the earlier rocks as both crystals and veins.

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Ferroan sahlite from the Eastern Ghats, Andhra Pradesh, India

THE first discovery of metasomatic ferroan sahlite in the Eastern Ghats has been made at the contact of calc granulites with intrusive granite near Maruturu, 2 km north of Anakapalle (Long. 83° 1' 6" E; Lat. 17° 44' 18" N.) and Garividi (Long. 83° 32' 28" E.; Lat. 18° 16' 38" N.). Calc granulites are part of the khondalite suite

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