

SHORT COMMUNICATIONS

Triplite from Rhodesia

THE material was received from Mr. R. McL. Tyndale-Biscoe, at the time Keeper of the Geological Department of the National Museum, Bulawayo. The locality is unfortunately not known more precisely than 'from the Wankie district'. The mineral occurs in cleavage-masses varying in colour from yellow-brown or reddish-brown on fresh surfaces to black where apparently superficially altered, associated with clusters of black, striated prismatic tourmaline. Some cleavage fragments show an isogyre indicating a rather small positive optic axial angle and the mineral had been tentatively referred to fillowite, but the specific gravity was much higher than recorded values for that mineral. X-ray powder photographs for both fresh and altered material proved identity as triplite.

The mineral was analysed by the methods of Riley (1958) and Riley and Williams (1959, p. 814) by B. E. Leake and A. Kemp with the following results: SiO₂ 0.04, Al₂O₃ 1.50, TiO₂ 0.28, Fe₂O₃ 1.56, FeO 25.55, MgO 7.53, CaO 0.89, Na₂O 0.03, K₂O 0.05, MnO 24.82, P₂O₅ 31.94, H₂O + 0.49, H₂O - 0.00, F 7.56, total 102.24 less 3.19 oxygen for F, giving 99.05%. The F was determined by W. H. Herdsman. The sp. gr. is 3.77 ± 0.02 , α 1.664, β 1.666, γ 1.682 ± 0.002 , and $2V_{\gamma}$ $40 \pm 2^{\circ}$.

The results fall within the range of previously analysed triplites (Heinrich, 1951, p. 259) except that no modern analyses report the presence of alumina and the above analysis has an appreciable amount, which was carefully verified (the very low figure for SiO₂ demonstrates the absence of contaminating tourmaline). Both the CaO and the MnO are rather low for triplite but lower values have been reported by Otto (1936), quoted by Heinrich (1951, p. 259), and Povarennykh (1950, p. 226). Using Heinrich's (1951, p. 262) triangular diagrams relating FeO + Fe₂O₃, CaO + MgO, and MnO to α and γ , the estimated α 1.664 and γ 1.679 closely agree with the determined values. The $2V$ is rather low for triplite but a value as low as $2V_{\gamma}$ 25° is recorded (Heinrich, 1951, p. 263) in a triplite with $MgO + CaO = 15.91\%$.

*Dept. of Geology,
The University,
Bristol, 8*

B. E. LEAKE
F. C. PHILLIPS

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*Note on kornerupine from Ellammankovilpatti,
Madras, India*

WHILE studying the cordierite-bearing assemblages from around Kiranur (10° 47' N., 78° 17' E.) in the Tiruchirappalli district, Madras State, the author noticed kornerupine in them. New data on the mineral are presented in this note. The only other known occurrence of the mineral in India (for which chemical data are not available) has been reported by Murthy (1954, p. 1065).

Kornerupine occurs in a cordierite assemblage exposed in an abandoned pit about 0.8 Km. south-west of Ellammankovilpatti (10° 53' N., 78° 16' E.). In hand specimens the mineral often occurs as stout, green coloured prisms in a matrix of pale blue cordierite and displaying radial arrangement. The density of the mineral, as determined with a Berman Balance, is 3.31 ± 0.03 g/cm³. Pale grey coloured aggregates of sillimanite, flakes of deep brown phlogopite, and rare prisms of anthophyllite are associated with the mineral.

In thin sections of the host rock, aggregates of the mineral (see fig. 1) show characteristic prismatic cleavage and display feeble absorption in shades of green. The cordierite matrix around some grains shows radial fractures suggesting the later formation of kornerupine. Mantles of clinocllore are also observed along the cordierite:kornerupine contacts. Intergrowth of the mineral with brown tourmaline is also observed in some thin sections (see fig. 2). Rutilated phlogopite ($\beta = \gamma = 1.601 \pm 0.002$; negative), sillimanite ($2V_\gamma = 31^\circ \pm 1^\circ$), opaque ores mantled by chlorite (?) and rare corundum are also observed. The cordierite in this rock appears to have a restricted range in composition as indicated by its optics: $\alpha = 1.539$ to 1.542 ± 0.002 , $\beta = 1.543$ to 1.545 ± 0.002 , $\gamma = 1.545$ to 1.546 ± 0.002 , $2V_\alpha = 58^\circ$ to 64° . Rare grains of plagioclase (An₅) with $2V_\alpha$ 79° are also found in the cordierite matrix. Sapphirine has not been observed in assemblages with kornerupine, and