

A study of the neotocite group

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AN examination has been carried out of ten specimens assigned to the group. These include metatype specimens of neotocite (Gestrikland, Sweden) and penwithite (Wheal Owles, Penwith, Cornwall) and topo-type specimens of stratopeite (Pajsberg, Sweden), klipsteinite (Herborn, Dillenberg, Germany), and opsimose (specimen labelled klipsteinite, but from Klapperud, Dalecarlia, Sweden). The investigation arose out of the recent find of neotocite at the Geevor mine, Cornwall, close to the site of the type locality for penwithite.

In the investigation klipsteinite has been confirmed as a mixture (Fisher, 1880), the dominant mineral in the mixture giving an X-ray pattern close to birnessite. Chemical analyses, refractive indices, and specific gravity determinations are given for the remainder in the miniprint section, p. M27 (Table I). They show that the group can be represented fairly closely by the formula $(\text{Mn, Fe})\text{SiO}_3 \cdot \text{H}_2\text{O}$, but with significant carbonate present in each sample. CO_2 has not generally been reported before in these minerals and the water content is lower than previous analyses, as a result of the precautions taken in drying the material before analysis (over magnesium perchlorate at room temperature).

The specimens examined are all dark brown or black in appearance (often darkening on exposure to light) with a vitreous lustre and conchoidal fracture. The group should be regarded as poorly crystalline since all the specimens gave similar X-ray powder patterns with three very broad and diffuse lines around 3.5, 2.6, and 1.6 Å respectively (see Whelan and Goldich, 1961). After heating to 1000 °C all form braunite, with the exception of stratopeite, which gave an X-ray powder pattern closer to pyroxmangite. Hausmannite or spinel

were also found associated with braunite in several specimens.

The full text includes the results of differential thermal analysis and infra-red spectra from the samples.

Of the names used in the group, opsimose (Beudant, 1832) was the first recorded, but in this and the subsequent work of Bahr (1850), it was associated with material much richer in manganese. Wittingite and neotocite (Nordenskiöld, 1849) were named separately on account of the higher iron content of neotocite. Stratopeite (Igelström, 1851) is a magnesium-bearing variety, while penwithite (Collins, 1878, 1879) was thought to have a different manganese valency state from wittingite.

In view of its current widespread usage and the fact that neotocite was originally named for an iron-bearing manganese silicate it is proposed that neotocite be defined as the group of poorly crystalline manganese silicates with formulae close to $(\text{Mn, Fe})\text{SiO}_3 \cdot \text{H}_2\text{O}$ and $\text{Mn} > \text{Fe}$. With $\text{Fe} > \text{Mn}$ the series grades into hisingerite. Limited substitution of MgO , Al_2O_3 , and CO_2 should be acceptable. Finally it has been proposed that the other names be discarded. The Commission on New Minerals and Mineral Names, IMA, has approved these proposals, but came to no firm conclusion as to whether the group name should be spelt 'neotocite' or as in the original description 'neotokite'. Accordingly either are permissible.

The full paper appears in the Miniprint section, pp. M26-30.

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Pargasite from the Eastern Ghats, Andhra Pradesh, India

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HORNBLENDES are not common in the charnockites of Kondpalli, but occur as an important constituent in the pyroxene granulites and pyroxenites of Seshadripuram hill. Analyses and optical data for two pargasites are given. (Miniprint section, p. M31.)

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Allanite from the Kondapalli charnockites, Krishna District, Andhra Pradesh, India

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THE coarse-grained charnockites of Donabanda hill, Kondapalli, contain metamict allanite. An analysis is given, also optical data for the heated allanite, and the conditions of formation of the rocks are shortly discussed. (Miniprint section, p. M31.)

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