

With two exceptions no data exists in the literature for these minerals. Details with a discussion of the heated product will be published elsewhere.

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Scorodite from Brazil

A SAMPLE of dirty-green massive mineral was collected by one of us (J.A.V.C.) during a study of some pegmatites rich in cassiterite near Itapiuna, State of Ceará in northeastern Brazil. Since the occurrence is singular, a study was made of the mineral.

It is seen as lenticular masses and as concentrations in the heterogeneous pegmatite. Dirty green in colour with a light yellowish streak and a hardness of 4(Mohs), it occurs in intimate association with crystals of cassiterite, quartz, and some flakes of muscovite. Small druses are present in the sample, which are studded with finely crystalline material of the same colour. Some limonitic patches were noted, which are probably the resultant of some pyrite. Under the microscope it is seen to have faint coloration and no pleochroism. It is biaxial with a $2V_{\alpha} 60^{\circ}$. Some spherulitic masses were also observed in the section.

Chemical analysis of the sample disclosed a rather high quantity of As_2O_5 (51 %) and a normal amount of Fe_2O_3 (30 %) suggesting that the mineral is scorodite. Spectrochemical data showed some Bi and Sb.

The X-ray powder data obtained for the mineral gave good correspondence with scorodite $Fe^{III}(AsO_4) \cdot 2H_2O$ (A.S.T.M. Index; Correia Neves, 1960).

Thermal dehydration of the mineral up to 300° C gave a total loss of water in a single shoulder with a weight loss of 15.8 %. The differential thermal analysis curve obtained with a Eberbach set with the heating rate at 20° C/min gave a weak to medium exothermic peak at 120° C and prominent endothermic peak at 260 ± 20° C. No other reaction is recorded at higher temperatures. These observations are comparable with existing data in the literature for scorodite from Seixeira, Portugal, (Correia Neves, 1960) and aluminian scorodites and mansfeldites from Djebel Debar, Algiers (Caillère and Henin, 1954). The association and occurrence suggest that the mineral was formed in the hydratogenic stage of the pegmatite formation, where the hydrothermal solutions were active.

This paper records for the first time the occurrence of scorodite in Brazil.

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The mineralogical similarity of precious and common opal from Australia

PRECIOUS opal ('colour') exhibits an optical brilliance in contrast to its field associate, common opal ('potch'). Their body colour and translucency, however, are usually similar. To investigate the mineralogical properties of these two types, homogeneous samples of each were taken from the main opal fields of Australia. Only typical material was obtained, which in all cases occurred in sedimentary strata. The samples are a grey translucent precious opal and a black sub-translucent common opal from Lightning Ridge, a milky sub-translucent precious opal and a blue sub-translucent common opal from Coober Pedy, and a clear transparent precious opal and a clear transparent common opal from Andamooka. Each sample was examined firstly by X-ray diffraction