

NIGERITE FROM THE ROSENDAL PEGMATITE AND APLITES, KEMIÖ ISLAND, SOUTHWESTERN FINLAND

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BURKE, E. A. J., LOF, P. and HAZEBROEK, H. P. 1977: Nigerite from the Rosendal pegmatite and aplites, Kemiö island, southwestern Finland. *Bull. Geol. Soc. Finland* 49 (2): 151—157.

Nigerite occurs as small hexagonal platy crystals in the Rosendal pegmatite and in associated aplitic veins on Kemiö island, southwestern Finland. This is the first reported occurrence of nigerite in the Baltic Shield. Associated minerals are quartz, hercynite or gahnite spinel, plagioclase, muscovite, sillimanite, garnet, columbite-tantalite, chrysoberyl, tourmaline, apatite, corundum, Zn-bearing staurolite, and cassiterite. Nigerite has been formed under conditions of oversaturation of Al by desilicification of the pegmatite system. Microprobe analyses of the Rosendal nigerite were calculated by a general formula: $R_{2-2x}^{2+}Sn_xR_4^{3+}O_8$, with $R^{2+} = Zn, Fe^{2+}, Mg, Mn,$ and Ca , $R^{3+} = Al, Fe^{3+}, Nb, Si,$ and Ti , and $x =$ around 0.5. The Fe/Zn ratio of the different nigerite crystals is controlled by the initial composition of the associated spinel.

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Introduction

In the course of an investigation of a number of granitic pegmatites on the island of Kemiö, southwestern Finland, the rare tin mineral nigerite has been observed in the Rosendal pegmatite and in associated aplitic veins. This is the first reported occurrence of nigerite in Finland and in the Baltic Shield. The investigation forms a part of a current petrological project carried out in the Kemiö area since 1974 by staff members and students of the Free University of Amsterdam under the direction of Dr. László Westra. Klooster-

man (1974) has given a review of the literature on the previously reported occurrences in Nigeria, Eastern Siberia, Portugal, Spain, and Brazil. The mineral has also been reported from China (Mineral. Abstr., 74-1926).

Geological Setting

The island of Kemiö is a part of the Svecokareliides in the Baltic Shield; it has been mapped by Seitsaari (1955) and Edelman (1973). The geology of the Svecokareliides in southwestern Finland has been described

