

O. von Knorring: Pegmatitic Tin Occurrences in Africa.

Report: Dr. Oleg von Knorring presented the above talk to about 40 members on the 31st October 1985 at the Geology Department, University of Malaya. Dr. von Knorring is presently in Malaysia working for the Malaysian Mining Corporation. He retired from Leeds University in 1981 after serving for 33 years. This is his third visit to Malaysia, he was with the Geological Survey from 1955-56 and external examiner for Universiti Kebangsaan Malaysia (1977-80).

Two former Ph.D. students of Dr. von Knorring, Dr. Jaafar Ahmad and Dr. Wan Fuad, were at hand to introduce and propose a vote of thanks on behalf of the Society respectively.

Abstract

*In connection with the pegmatite research programme at Leeds, most of the economically important pegmatite regions in Africa have been investigated since 1951.*

*Although the major pegmatites of Africa have long been known, large-scale exploitation of the deposits only began during the Second World War. These pegmatites constitute major world resources of many rare-metal elements e.g. lithium, caesium, beryllium, scandium, rare-earths, niobium and tantalum, in addition, to tin and industrial minerals, such as mica, and many precious and semi-precious gemstones.*

*The major mineralized pegmatites of Africa are found south of the equator within the younger orogens e.g. Kibaran-, Mozambique- and Damaran belts, and within the older cratons, e.g. Tanzanian, Zimbabwean and Kaap-Vaal cratons. Another important mineralized area is the Orange River pegmatite belt of Kibaran age.*

*Pegmatitic tin occurrences are prominent within the Kibaran orogenic zone extending from southwest Uganda and neighbouring Tanzania through Rivanda, Kivu, Maniema and Shaba provinces of eastern Zaire to the Kamativi tin-field in Zimbabwe. Furthermore, extensive tin-bearing pegmatites are found within the Damaran sequence in Namibia.*

*In the pegmatites of the Mozambique belt, however, tin is rare and even in the important mineralized pegmatite regions of Mozambique and Madagascar, cassiterite is virtually absent and tin may be accommodated in some tantalum minerals.*

*Within the older cratonic areas, pegmatitic tin is widespread in Zimbabwe, e.g. Bikita Tin-field. From a geochemical point of view tin seems to be primarily associated with lithium-bearing pegmatites, commonly spodumene pegmatites together with a variety of niobium-tantalum minerals.*

*As regards their genesis the major tin pegmatites are associated with synkinematic granites and especially with those formed in connection with the emplacement of later post-orogenic granite intrusions.*

*Commonly these pegmatites are found within the aureole of mica schists or amphibolites surrounding granite-gneiss domes.*

*Some distant away from the mineralized pegmatites hydrothermal muscovite-quartz veins may occur, carrying cassiterite and sometimes wolframite, occasionally in large concentrations.*

G.H. Teh & K.L. Low

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