D - 42 **STUDY OF ZIRCON AND MONAZITE IN SOME CHARNOCKITES OF SRI LANKA**

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Zircon with a high melting point and characteristic resistance to chemical and mechanical alteration has more genetic significance than any other accessory mineral. Poldervaart (1950) observed prismatic crystals of zircon with elongation frequency maximum above two (2) to be of intrusive nature. The mineral monazite though immune to chemical alterations is mechanically weak. In this work an attempt is made to use morphological characteristics of both zircon and monazite grains to study the origin of charnockite.

A striking feature seen in the highland group of rocks in Sri Lanka is the intimate association of charnockites with surrounding metasediments. This association can be described in terms of lithology, mineralogy and structure. However the modes of occurrence of charnockites in the south west group are remarkably different from those of the highlands.

In the present work, it has been established that elongation and roundness frequency curves for both zircon and monazite strongly suggest a metasedimentary origin for the Highland charnockites. However, some charnockites of S. W. Group indicate as igneous origin. The following field observations on charnockites also confirm this reasoning. (1) Strike direction oblique to general lineament of S. W. Group ; (2) Presence of varying grain sizes within a short distance and the gradational change of charnockite to charnockitic pegmatite ; (3) Presence of charnockitic tongue like structure protruded into the basic layers within the charnockitic rock and cross cutting structures of charnockites.