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Petrography of Adayur syenites, Pakkanadu, Salem District, Tamil Nadu, India.

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Abstract: Petrographic characteristics of syenites occurring at Adayur, 43 km towards west of Salem, are presented. The syenite intrusion forms a part of Pakkanadu-Mulakkadu carbonatite complex and the Adayur syenites are situated to the southwest of Pakkanadu village. The syenites are invariably massive, porphyritic, medium to coarse-grained, leucocratic-mesocratic in appearance. These rocks are dominated by K-feldspar. The rocks are frequently coarse-grained and occasionally pegmatitic (3-4 cm diameter). Plagioclase and quartz are minor in amount. Subordinate amounts of mafic minerals present in these rocks include long prismatic pyroxene, amphibole and brownish blades of biotite which show a tendency to occur in clusters indicating the high fluidity of the parental melt. The Adayur syenite consists essentially of K-Feldspar (65-85%) in association with varying proportions of subordinate clinopyroxene (5.5%), amphibole (6.5%) and mica (2-5 %), quartz (0.5-1.0 %), magnetite (1- 3%) and apatite (0.5%) are the accessory phases. The occurrence of syenites stands as a manifestation of worldwide Precambrian alkaline magmatism which resulted in the emplacement of several syenitic intrusions associated with ultramafic- alkaline-carbonatite complexes in this part of southern Indian shield.

Keywords*: petrography, Pakkanadu-Mulakkadu carbonatite complex, syenite, Adayur, Tamil Nadu*.

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