

Metadata Details

Title

Geology of Schirmacher Range (Dakshin Gangotri), East Antarctica.

Science Keywords

Category	Land Surface
Topic	Geomorphology
Expedition Year	1983-1984
ISO Topic	Geodesy

Summary

Abstract

An area of 35 sq km in the Schirmacher Range of Queen Maud Land East Antarctica was geo-logically mapped on scale 1:25 000. Six major lithological units (a) banded gneiss (b) alaskite (c) garnet biotite gneiss (d) calc gneiss khondalites and associated migmatites (e) augengneiss and (f) streaky gneiss are delineated. The rocks have suffered an early metamorphism under granulite facies conditions and an early migmatization leading to the development of charnockitic rocks. Over a large part of the area the granulite facies assemblages have suffered complete or partial diathoresis under amphibolite facies conditions. This was contemporaneous with extensive granitisation.

Purpose

The Precambrian basement of the East Antarctic shield is mostly covered with ice and outcrops are restricted along the narrow coastal zone. The Schirmacher Range emerges as a rock oasis between the continental ice sheet and the coastal ice shelf occupying an area of 35 sq km between 77°44'30" - 70°46'30" south latitudes and 11°22'4" - 11°54'00" east longitudes. The major mountain system of Queen Maud Land runs for about a thousand kilometres approximately parallel to the coastline and has been studied by several workers (Roots 1953, Autenboer et al 1964, Craddock 1972, Jukes 1972, Ravich 1972, 1982, Kamenev 1972, Ravich and Kamenev 1975). The Schirmacher Range is situated approximately half way between the main mountain range and the present coast line.

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