CHAPTER II

P R E V I O U S W O R K

Practically, no work has been done on Ankola-Gokarn area in the past. In the old Mysore State, the districts of Kolar, Hassan and Shimoga etc. received considerable attention at the hands of the officers of the Mysore Geological Department, but little investigations were done in South Kanara and southern parts of North Kanara.

LEITH (1883)

In the District Gazetteer brief references to the neighbouring area have been made. Leith (1883) has

described "the south, south-west, west and north-west of Kanara as composed of hypogene schists - (gneiss and micaceous schists) - with a general dip east-ward, an inclination of about 30° and a line of strike varying 40° - 50° from 0° to 300° or 320°. Along the coast laterite was the commonest surface rock and it was widely spread along the crest of Sahyadris, while in more inland parts it capped the hills in detached patches". This description comprises rocks of the area about 100 km NE, E, and SE of Ankola, but there is no record about the rocks of Ankola region as such.

HOLLAND (1906)

Holland (1906) grouped the Dharwars with the fundamental crystalline rocks as Archaeans, drawing attention to the great 'break' which separates the gneisses and schists of Dharwars from much younger, unaltered Cuddapahs and unfossiliferous rocks of the Peninsula.

PASCOE (1950)

Pascoe (1950) has given a brief account of the geology of the North Kanara District as a whole. Under the heading "Castlerock belt of North Kanara, Goa and Konkan", he has given information about Goa and Ratnagiri areas and practically none about Ankola and surrounding

region. About the peninsular gneisses of Konkan, Kolhapur and North Kanara he has stated that gneisses, mostly fine grained and granites characterise the lower levels of North Kanara. Except such minor references, that too for the entire North Kanara District, one does not get any detailed account of the area under consideration.

RAMA RAO (1968)

In order to provide a suitable background to the present study, the author has summarised very briefly, the information available on the crystalline rocks of Mysore State in general. The following account has been taken from Rama Rao's (1968) recent review of the various investigation conducted in the past. Rama Rao states that in 1876, Bruce Foote separated the crystalline schists from the "Basement complex" near Dharwar and gave the name 'Dharwar system' and he considered them as younger formation of highly altered complex series of sedimentary and volcanic rocks laid down unconformably on the eroded and upturned edges of the associated granite gneisses. Bruce Foote, using the term 'Archaean' for the first time in India in 1894, applied it only to granite gneiss, the term was later extended by Holland in 1906, to include the Dharwar

system also. But as a result of detailed mapping and study of these two major formations, from 1898 to 1915, opinion had become unanimous by 1916 that (1) the Dharwar system is intruded by the granitic gneiss and is not overlying it as a younger formation, and (2) that it consists mainly of highly altered effusive and intrusive igneous rocks mixed up with sedimentary-looking types such as conglomerates, quartzites, shales and limestones which have all been formed by various physical and chemical processes of alteration and not from deposition as true sediments. During 1916 Smeeth reclassified the Dharwar system into lower hornblendic division, and the upper chloritic division and considered the dark hornblendic schists and granulites forming the chief components of the lower division as the oldest member of the Dharwar system.

On the basis of the large scale mapping and intensive survey from 1915 to 1935 conducted by him, Rama Rao found that the Dharwar schists were intruded by the associated granitic rocks. He then agreed with Smeeth that the Dharwar system is the oldest rock formation in Mysore. Further he states that the current bedding, ripple marks etc. being present, the Dharwar system is sedimentary in origin, a

mixture of highly altered sedimentary and volcanic rocks in variable proportions.

Rama Rao has classified the Dharwar system into upper, middle and lower, extending for a period of 1000 million years. There is a progressive metamorphism from north to south. He is of the opinion that the granitic types in the complex, wherever closely associated with the dark hornblendic schists and other members of the Dharwar, do show a definite evidence of intrusion into the latter, but he has found no positive proof in the field anywhere that the xenoliths of hornblende schists and other types in the granites are of an older formation than the Dharwar.