Massif-type anorthosite near Ayialur, Dindigul, Anna District, Tamil Nadu, South India

A new anorthosite mass is found as differentiated massif pluton near Ayialur, Dindigul Anna District, Tamil Nadu (longitude between 78°6′ and 78°9′ and latitude between 10°32′ and 10°35′). The massif-type anorthosite mass shows fine-grained border gabbroic facies to coarse-grained anorthosite core through medium-grained gabbroic anorthosite and anorthositic gabbros. The anorthosite mass exhibits foliated fabric in marginal zones with even-grained, granular fabric in core. Ilmeno–magnetite–pryoxenite rocks occur as thin layers in association with anorthosites.

The area is composed of metasediments including metaquartzite, quartz schists, biotite gneiss, amphibolites and calc gneisses. The trends of metasediments reveal two generations of folds with E–W axial trend plunging to the west and NNE–SSW trend plunging to the north.

The anorthosite massif-type body found emplaced as a dome-like mass occupies the antiformal cross-folded structure in the midst of quartzites. It is encircled and caped by metaquartzites and quartz schists. The quartzites trend in ENE–WSW through NE–SW to NW–SE directions, indicating two periods of folding generated in the area.

Petrography

Anorthosites and related rocks are coarse- to fine-grained leucocratic to melanocratic rocks. Anorthosite is chiefly composed of labradorite with subordinate hornblende. Gabbroic anorthosite and fine-grained gabbro contain diopsidic pyroxene. Common accessories are opaques (magnetite + ilmenite) and zircon. There is a general variation in the relative proportion of mafics and felsics from anothosites to gabbros.

Table 1. Estimated modal composition of the anorthosites and related rocks

	Anorthosite	Gabbroic anorthosite	Anorthositic gabbro	Fine grained gabbro
Plagioclase (labradorite)	95 00	78 00	65.00	55.00
Hornblende	3.50	16.50	25.00	30.00
Diopside (relict and discrete phases)	—	3.20	6.50	10 50
Ores (magnetite, ilmenite)	1 50	2.30	3 50	4.50
	100 00	100 00	100 00	100.00

The estimated modal compositions of the anorthosites and related rocks are shown in Table 1. The data show a close agreement with Buddington's classification of anorthositic rocks of Adirondack[1] and Kadavur anorthosites[2].

1. Buddington, A F, in *Origin of Anorthosite and Related Rocks* (ed. Isachen, Y. W.), NY State Mus. Sci. Serv. Mem, New York, 1968, vol. 18, pp. 215–231.
2. Subramaniam, A. P., *Geol. Mag*, 1956, **93**, 287–301.

ACKNOWLEDGEMENTS. We express our sincere thanks to Dr R. Mani, Professor and Head, Department of Geology, Annamalai University, for providing facility to do laboratory studies. The second author thanks the UGC for providing the financial assistance.

M. ARUMUGAM
R. SENTHIL KUMAR

Department of Geology
Annamalai University
Annamalainagar 608 002, India

A technique for axenic culture of *Puccinia romagnoliana* – A potential bioherbicide for purple nutsedge

Purple nutsedge (*Cyperus rotundus* L.) is the most troublesome weed in all agricultural production areas of the world having a large vegetative growth capacity through underground tubers. None of the control measures available against this weed are efficient as well as economical. A rust caused by *Puccinia romagnoliana* Maire and Sacc. has been reported for its possible use as biocontrol agent of the nutsedge[1]. Observations with this rust showed significant reduction in tuber number and tuber weight by 34 and 83%, respectively[2]. However, rust being an obligate pathogen, success of developing it into biological control agent depends on many factors, the foremost being the ability to produce abundant inoculum for storage and application in the field. Keeping this in view, an attempt was made to develop axenic culture of *P. romagnoliana*. Different culture media were tested and for the first time a technique has been developed to culture this rust on artificial growth medium.

The leaves of *C. rotundus* were inoculated with rust uredospore suspension,