

CHAPTER - I

INTRODUCTION

I I N T R O D U C T I O N

The Upper Carboniferous period experienced several changes all over the earth. These Changes brought a redistribution of land masses and sea. It resulted into Southern continent covering a series of land masses. This Southern continent is called as Gondwana land. Similarly a Northern continent is also existed. Gondwana land shows similarity in flora, fauna and geology.

Feistmantel (1876 b) used the term Gondwanasystem while Fox (1931) used the term Gondwana land. It is named after the Gond tribe which ruled the major part of the Central India.

The Gondwana period resumed at the Upper Carboniferous period and lasted upto Lower Cretaceous covering 120 million years. The Gondwana land includes India, South Africa, South America, Australia, Madagascar island, and Antarctica. There is a dispute over the classification of Gondwana system. It is divided into two divisions by Medlicott and Blandford, (1879-1887), Oldham (1893), Cotter (1917), and Fox (1931). While it is divided into three divisions by Feistmantel (1882). Vredenberg (1910) and Wadia. The two-fold system shows that it is divided into Lower Gondwana and Upper Gondwana (Table 1). The three-fold system shows that it is divided into lower Gondwana, Middle Gondwana and Upper Gondwana (Table-II).

Studies on Gondwana flora are being made extensively during the last 30 years. Before that it was studied by Indian geologists. The following workers have contributed more information on Gondwana flora of India. They are Feistmantel (1876-1889), Zeiller (1902), Arber (1905), Seward and Sahni (1920), Sahni (1931 a), Surange (1966-1974), Bose (1952-1974).

Distinct floras were developed in Gondwana period. They are -

- (1) Glossopteris flora - in the lower Gondwana period
- (2) Dicroidium flora - in the Middle Gondwana period
- (3) Ptilophyllum flora in the Upper Gondwana period.

The Gondwana localities in India are found in river valleys in the Peninsular India, Extrapeninsular Gondwana deposits are mostly of marine origin.

The present work deals with upper Gondwana flora of East-coast. It is found that the Upper Gondwana localities in India occur in Rajmahal Hills, Umia in Cutch, Jabalpur, Chikiala, Atghar and Vemavaram, Golapalle, Raghavpuram, Godavari districts, Sriperamatur, Shivganga, Uttatur and Trichanapalli (Map I).

Several workers have reported various fossil plants from these areas. The present work however, given an account of the fossil plants collected at well known locality -

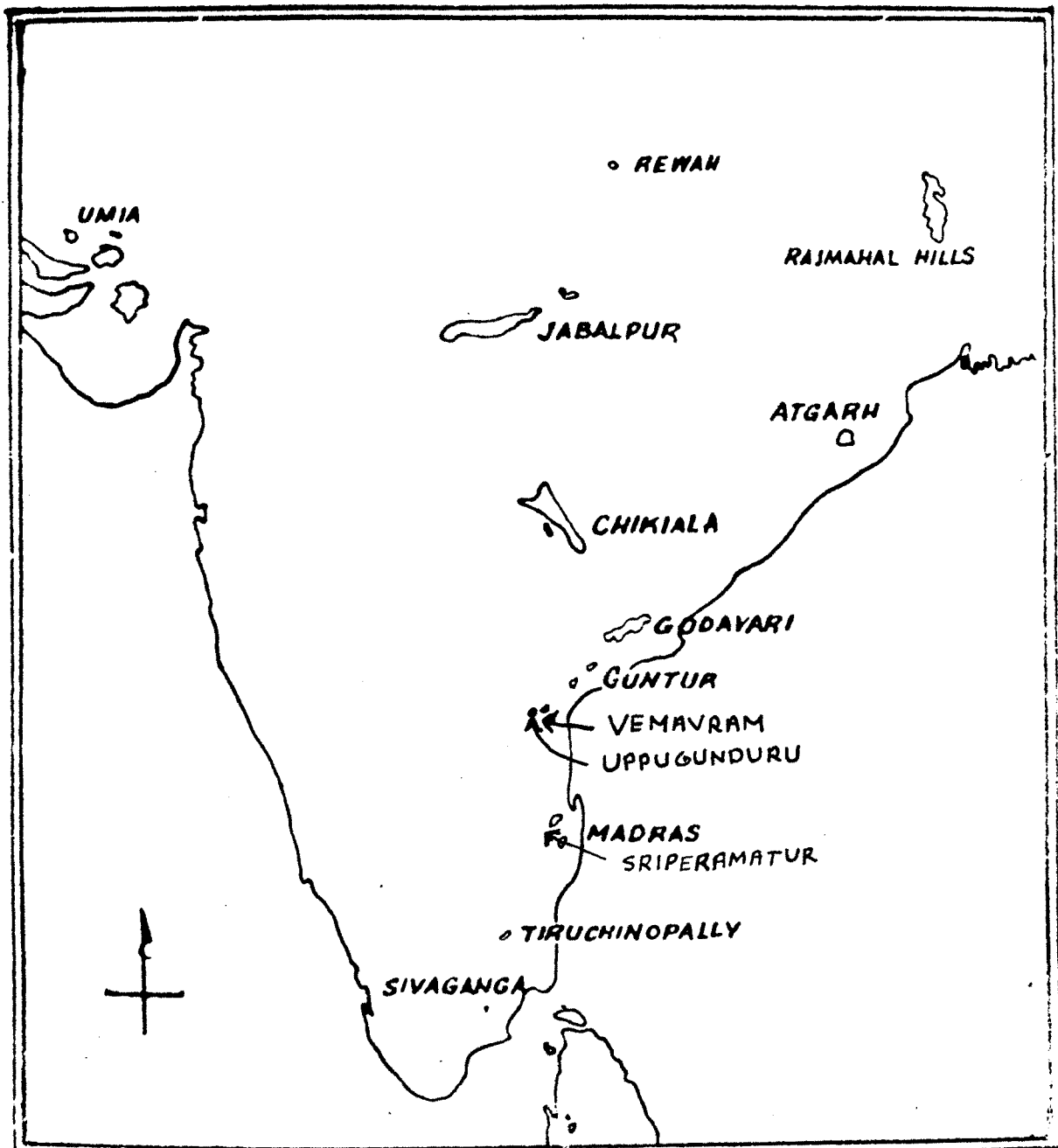
Vemavaram, and a newly found locality Uppugunduru present in Prakasam district of Andhra Pradesh. Plants are also collected from Sriparamatur, present near Madras in Tamil Nadu.

Details of previous work made on the Upper Gondwana plants of India are given in the next Chapter II - Previous Work.

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MAP I

DISTRIBUTION OF UPPER GONDWANA LOCALITIES IN INDIA



T a b l e - I

Two-fold classification of Gondwana System-After Krishnan(1956)

	(		Umia Stage		-Lr. Cretaceous
	(	Jabalpur Series	Jabalpur Stage		
	(		Changaon Stage		
Upper	(
	(	Parsora Series	Kota Stage		
	(		Rajmahal Stage		-Jurassic
Gondwana	(		Parsora Stage		
	(	Mahadeva Series	Maleri stage		
	(		Pachmarthi Stage		
	(	Break			-Triassic

	(	Panchet series	Hirapur Stage		
	(		Maitur Stage		
	(		(Mangli beds)		
	(	Raniganj Series	Kamthi Stage		
	(		Raniganj Stage		Damuda
	(	Barran Measures	Mahadeva Stage		
	(		Ironstone Stage		
Lower	(		Kulti Stage		
	(	Barakar Series	Barakar Stage		
	(		Karharbari Stage		Permian
	(		Umaria marine beds		
Gondwana	(	Talchir Series	Rikha plant stage		
	(		Talchir needle shales		Upper
	(		Glacial Boulder beds		Carboniferous

T a b l e - I I

Three fold classification of Gondwana system
After Lele (1964)

	(Umia)	
	()	
Upper	(Jabalpur)	Jurassic to Lower
	()	
Gondwana	(Kota)	cretaceous
	()	
	(Rajmahal)	
	(Mahadeva)	
	()	
Middle	(Persora)	Triassic ?
	()	
Gondwana	(Maleri)	Rhaetic
	()	
	(Panchet)	
	(Raniganj)	
	()	
	(Barren Measures)	
Lower	()	Permo-Carboniferous
	(Barakar)	
Gondwana	()	and Permian
	(Karharbari)	
	()	
	(Talchir and)	
	(Glacials)	