

CHAPTER - II

REVIEW OF LITERATURE

HISTORICAL ACCOUNT OF LITERATURE ON THE DECCAN
INTERTRAPPEAN BEDS :

Deccan Intertraps have rich flora represented by almost all groups of plants. The first record of the Deccan Intertrappean plant fossils dates back to the beginning of the 19th century when Coulthard (1829) reported that a number of polished fragments of Monocotyledonous and Dicotyledonous woods from the neighbourhood of Sagar were presented to the museum of Asiatic Society of Bombay by Captain W.T.Nicolls of the Madras Army. In 1883, Dr.Spray found the remains of palm trees at Sagar (Coulthard, 1829). Nicolls published an account of long fossil stem discovered by Spray. In 1837 Malcolmson reported silicified palms and vegetable matter resembling small fragments of grasses and reeds from Jabbulpore and Sagar.

Buist (1851) and Carter (1852) described fossil plants from Worli and Malabar Hills of Bombay which consisted of plant parts like conical bulbous roots , pieces of striated stems, a segment of dicotyledonous tree trunk with bark, a piece of palm wood, many small fragments of a woods like bamboo and grasses, two small leaves looking like Acacia leaflets , fragments of

parallelly veined leaves , an impression closely resembling the stem and the flower or seed of cyperaceous plant something like Scirpus lacustris, seeds like that of Artabotrys odoratissima with ruminated appearance of endosperm and some large seed pods and like bodies. Further intensive work on these Bombay fossils is lacking.

The main contribution to the knowledge of the Intertrappean plants was made by Rev.S.Hislop (Carter,1854) and Hislop and Hunter (1855) who described the flora of the Intertrappean series of the central provinces particularly in the neighbourhood of Nagpur. They have described the occurrence of rich assemblage of fruits, seeds, leaves and stems of both Dicotyledons and Monocotyledons and such a well known ones like Nipadites Bow and Chara malcomsoni.

Further work on the Intertrappean plants was taken up by Sahnii, his co-workers and others. The relevant literature has been periodically reviewed by Rao (1958), Prakash (1960, 1965 a), Lakhanpal (1968), Rao and Menon (1971), and Prakash (1974).

The exhaustive list of plant fossils described so far from the different Deccan Intertrappean exposures along with their probable affinities has been summarized in the enclosed table.(Table - 1)

TABLE - 1

Plant Fossils From Deccan Intertrappean Beds of India

Name of the Fossil	Affinity	Locality	Authors
1	2	3	4
<u>ALGAE</u>			
<u>Spirogyrites</u>	<u>Spirogyra</u>	Mohgaonkalan	Shukla, 1950
<u>Oedogonites</u>	<u>Oedogonium</u>	- " -	Dwivedi, 1959
<u>Westiellopsis mahabalei</u>	<u>Westiellopsis</u>	- " -	Biradar, 1977
<u>Halimeda</u>	<u>Halimeda</u>	Rajahmundry	Rao and Rao, 1940
<u>Dissocladella intertrappeum</u>	<u>Dissocladella</u>	- " -	- " -
<u>Dissocladella</u>	<u>Dissocladella</u>	- " -	Pia et al, 1937
<u>Trequemella lenticularis</u>	<u>Trequemella</u>	- " -	- " -
<u>Acetabularia</u>	<u>Acetabularia</u>	- " -	- " -
<u>Neomeris a</u>		- " -	- " -
<u>Neomeris b</u>		- " -	- " -
<u>Neomeris c</u>		- " -	- " -
<u>Neomeris d</u>		- " -	- " -
<u>Holosporella</u>	<u>Holosporella</u>	- " -	- " -
<u>Holosporella simensis</u>	- " -	- " -	Rao and Rao, 1937
<u>Acicularia</u>	<u>Acicularia</u>	- " -	- " -
<u>Filament of Ulothrix</u>	<u>Ulothrix</u>	Vicarabad	Mahadevan & Sharma, 1948 ; Sahani and Rao (H.S.) 1943.

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1	2	3	4
Filament of Aiga		Sitapuri	Sahni and Rao (H.S.) 1943.
<u>Gyrogonites medicaginula</u>	<u>Chara</u>	Vicarabad	Mahadevan, 1944
<u>Chara macclasoni</u> Sow	- " -	- " -	Carter, 1854 ;Sahni & Rao (H.S.), 1943, Mahadevan & 1943.
<u>Chara sausari</u>	- " -	Sitapuri	Sahni & Rao (S.R.N.), 1943.
<u>C. wrightii</u> Satter	- " -	Rajahmundry	Rao & Rao, 1939
<u>C. helicteris</u> Brongniart	- " -	- " -	- " -
<u>C. medicaginula</u> Brongniart	- " -	- " -	- " -
<u>C. caelata</u> Reid & Groves	- " -	- " -	- " -
<u>C. vasiformis</u> Reid & Groves	- " -	- " -	- " -
<u>C. turbinata</u> Reid & Groves	- " -	- " -	- " -
<u>C. strobilocarpa</u> Reid & Groves	- " -	- " -	- " -
<u>C. subglobosa</u>	- " -	- " -	- " -
<u>C. oehlerti</u> Coiffus	- " -	- " -	- " -
<u>C. rajahmudrica</u>	- " -	- " -	- " -
<u>C. sampathi</u>	- " -	- " -	- " -
<u>C. sahnii</u>	<u>Chara</u>	Rajahmundry	Rao & Rao, 1939
<u>C. indico</u>	- " -	- " -	- " -
<u>Piatychara raoi</u>	<u>P. caudata</u>	Gittikhadan, near Nagpur	Bhatia & Mannikeri, 1976

1	2	3	4
<u>P.Sahnii</u>	<u>C.sahnii</u>	- " -	- " -
<u>Platychara perlata</u> (Peck & Reker)		Near Rangapur	S.B.Bhatia, Riveline, Janine & Rana R.S., 1990
<u>Memeqitibara grambasti</u>		- " -	- " -
<u>Solenopora Dybowski</u>	<u>Solenoporioid</u> alga	Mohagaonkalan	Mehrotra R.C. , 1989
<u>Microchara sp.</u>	<u>Microchara cristata</u>	- " -	Bhatia & Mannikeri, 1976
<u>Huronispora microreticulata</u>	<u>Cyanophycean algae</u>	- " -	Misra & Maithy, 1983.
<u>Microcystiopsis mohagaonkalansis</u>	- " -	- " -	- " -
<u>Palaeohydrococcus raoi</u>	- " -	- " -	- " -
<u>Neophoraidium indicum</u>	- " -	- " -	- " -
<u>Peyssonlia antiqua</u>	<u>Rhodophycean algae</u>	- " -	Bande, Prakash & Bonde, 1981
<u>Distichoplex raoi</u>	- " -	- " -	- " -
A cyanophycean algae	<u>Anabaena</u>	- " -	Trivedi, Rajpai & Trivedi, 1985
<u>FUNGI</u>			
<u>Prisporiacites varians</u>		Sausar	Sahni & Rao (H.S.), 1943
<u>Palaeosordaria lagena</u>		- " -	- " -
<u>Shuklania enigocarponae</u>		Mohagaonkalan	Dwivedi, 1959, 1965
<u>Lagenidialean fungus</u>		- " -	Lakhanpal et al, 1969
<u>Diplodia</u>	<u>Diplodia</u>	- " -	Mahabale, 1968

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1	2	3	5
A member of <u>Saprolegniaceae</u>	<u>Saprolegniaceae</u>	- " -	Kulkarni & Patil, 1971
<u>Tetracosporium eccenum</u>	<u>Tetracosporium</u>	- " -	Biradar and Mahabale, 1972
<u>Helminthosporites mohgaense</u>	<u>Helminthosporium</u>	- " -	Chitale & Sheikh, 1971
<u>Staenospora intertrappea</u>	<u>Staenospora</u>	- " -	Trivedi & Verma, 1971 a
<u>Duterocycetes fungus</u>	<u>Duterocycetes</u>	- " -	Chitale & Patil, 1972
<u>Palaeophoma intertrappea</u>	<u>Solenophoma</u>	- " -	Singhai, 1973 - 74
<u>Mohgaonidium deccanii</u>	<u>Coniothium</u>	- " -	- " -
<u>Diplodia Sahnii</u>	<u>Diplodia</u>	- " -	Singhai, 1973 - 74
<u>Palaeophthora mohgaonensis</u>	<u>Prenosporales</u> (<u>Pythiaceae</u>)	- " -	Singhai, 1975 a
<u>Sorosporium mohgaonse</u>	<u>Sorosporium indicum</u>	- " -	Chitale & Yawale, 1976
<u>Ustilago deccanii</u>	<u>Ustilago indica</u>	- " -	- " -
<u>Mundkurella mohgaense</u>	<u>Mundkurella</u>	- " -	- " -
<u>Duterocycetes fungus</u>	<u>Papulospora</u>	Mahurzari	Shete & Kulkarni, 1977
Fungal spores <u>Inapertisporites</u> <u>trivedii</u>		Kotta, Rajmundry	Abwani 1982
<u>ERYOPHYTA</u>			
<u>Bryophytic sporangium</u>		Mohgaonkalan	Gupta, 1956
<u>Shuklanites deccanii</u>	<u>Anthcerotian</u> <u>sporangium</u>	- " -	Singhai, 1964, 1975 b
<u>Notothyliates niruali</u>	<u>Notothylias</u>	- " -	Chitale & Yawale, 1974

1	2	3	5
<u>Riccia thallus</u>	<u>Riccia</u>	- " -	Sheikh & Kaggate, 1982
<u>Andreaeoides ramanujanii</u>	<u>Andreaea</u> <u>Sporogonium</u>	- " -	Kaggate, 1986
PTERIDOPHYTA			
<u>Sausarosperma ferneri</u>			Sahni, Srivastava & Rao, 1934
<u>Massulites</u>			Sahni & Rao (H.S.), 1943
<u>Azolla intertrappea</u>	<u>Azolla sp.</u>	Sitapura	Sahni & Rao (H.S.), 1934
		Mohgaonkalan	Sahni 1941 ; Rao 1957
		Sausar	Sahni & Rao (H.S.), 1943
<u>Salvinia intertrappea</u>	<u>Salvinia sp.</u>	Mohgaonkalan	Mahabale, 1950, 1950 a.
<u>Rodeites dakshinii</u>		- " -	Sahni, 1943; Sarma, 1947, & Mahabale, 1956.
<u>Marsileascites deccanensis</u>	<u>Marsileaceae</u>	- " -	Verma, 1965
<u>Pteridorhizos mohgaensis</u>	- " -	- " -	- " - Ph.D. Thesis
<u>Pteridophyllum indicum</u>	- " -	- " -	- " -
<u>Kuprianovaites deccanii</u>	Sporocarp	- " -	Nambudiri & Thomas, 1969
<u>Rhizomites dakshinii</u>	Rhizome	- " -	Paradkar, 1971
<u>Marsilea intertrappea</u>	- " -	- " -	Upadhye & Patil, 1979
<u>Prakashites mohgaense</u>	Filicalian sporangium	- " -	Chitale & Yawale, 1978
<u>Pantea mohgaense</u>	Gametophyte with antheridium & Archegonium	- " -	- " -

1	2	3	4
<u>GYMNOSPERMS</u>			
<u>Dadoxylon deccanii</u>	Araucariaceae	Chhindwara Dist.	Shukla, 1938
<u>D. resinosa</u>	- " -	- " -	Shukla, 1944 a
<u>D. Chhindwarensis</u>	- " -	- " -	Billimoria, 1948
<u>D. eocena</u>	- " -	- " -	Chitale, 1949 a
<u>D. shuklai</u>	- " -	- " -	Singhai, 1958
<u>Araucarioxylon mohgaensis</u>	- " -	Mohgaonkalan	Lakhanpal, Prakash & Bande, 1975
<u>Mohgaostrobus sahnii</u>	- " -	- " -	Prakash, 1956, 1961
<u>Cupressinoxylon intertrappeum</u>	<u>Cupressus</u>	- " -	Shukla, 1948
<u>Gymnoovulites</u>	Cycadian ovule	- " -	Shukla, 1948
<u>Podocarpoovulites chitaleyi</u>		Nagpur	Sheikh & Kolhe, 1982
A Podocarpaceous fossil wood	<u>Podocarpus</u>	Malbar Hill, Bombay	Bande & Prakash, 1984
<u>Indostrobus bifidelepis</u>	Abitineae	Unknown	Sahnii, 1931 a
<u>Takliostrobus alatus</u>	- " -	Takli	- " -
<u>Pitostrobus orasitesta</u>	- " -	- " -	- " -
<u>Prototaxoxylon intertrappeum</u> <u>spiroxylon intertrappeum</u>	Taxaceae	Sitapuri	Prakash & Srivastava 1959, 1961
<u>Taxaceoxylon katruense</u>	- " -	Kateru	Mahabale & Rao, 1968.
<u>Taxaceoxylon Krausel & Jain</u>	- " -	Rajahmundry	Mahabale & Satyanarayana, 1977
<u>Meseabryoxylon fusiformae</u>	Podocarpaceae	Pangidi	Mahabale & Rao, 1968
<u>M. Dudukurensis</u>	- " -	Dudukur	- " -
A petrified <u>Ginkgo</u> wood	<u>Ginkgo</u>	Pangidi	Mahabale & Satyanarayana 1978 a

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1	2	3	5
<u>Gymnoovulites deccani</u>	Cycadean ovule	Mahgaonkalan	Paradkar, 1974, 1976
<u>Cycadoovulites mohgaense</u>	- " -	- " -	Singhai, 1975
<u>ANGIOSPERMS</u>			
<u>DICOTYLEDONS : (WOODS) -</u>			
Family : ANNONACEAE			
<u>Polyalthioxylon parapaniense</u>	<u>Polyalthia</u> <u>similarum</u>	Near Parapani	Bande, 1973.
Family : NYMPHAEACEAE			
Fossil axis of Nymphaeaceae	Nymphaeaceae	Mohgaonkalan	Trivedi, Verma & Ambwani, 1970
<u>Nymphaeocaulon intertrappeum</u>	<u>Nymphaea nauchali</u>	- " -	Trivedi & Ambwani, 1971
Family : FLACOURTIACEAE			
<u>Flacourtiites intertrappeum</u>	<u>Flacourtia indica</u>	- " -	Mambudiri, 1966
<u>Humalioxylon mandlaense</u>	<u>Humalia</u>	Parapani	Bande, 1974
<u>Hydnocarpoxylon indicum</u>	<u>Hydnocarpus alpina</u> & <u>H. wightiana</u>	- " -	Bande & Khatri, 1980
<u>Pangioxylon mohgaense</u>	<u>Pangium edule</u>	Mohgaonkalan	Trivedi & Srivastava, 1982 a

1	2	3	5
Family : GUTTIFERAE			
Wood of Guttiferae		Mahurzari	Shaloo, 1963 b
<u>Calophylloxyton dharmendrae</u>	<u>Calophyllum spectabile</u>	Shahpura, Mandla	Bande & Prakash, 1980
<u>Garciniioxyton tertiarum</u>	<u>Garcinia coma</u> & <u>G. lanthchymus</u>	Parapani Mandla	Bande & Khatri, 1980
Family : DIPTEROCARPACEAE			
<u>Shoreoxyton mahurzari</u>	<u>Shorea</u>	Parapani, Mandla	Paradkar, 1972
Family : MALVACEAE			
<u>Hibiscoxyton intertrappeum</u>	<u>Hibiscus</u> sp.	Mahurzari	Trivedi & Ankani, 1972
Family : BOMBACEACEAE			
<u>Dryoxyton intertrappea</u>		- " -	Trivedi, 1976
<u>Dryoxyton mahurzari</u>		- " -	- " -
Family : STERCULIACEAE			
<u>Dombeyoxyton mahabalei</u>	<u>Dombeya</u>	Mohgaonkalan	Biradar, 1975
<u>Sterculioxyton deccanensis</u>	<u>Sterculia</u>	Mandla	Lakhanpal, Prakash & Bande, 1976
<u>Sterculioxyton baradense</u>	<u>Sterculia</u>	Mahurzari	Sheikh & Kolhe, 1980

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<u>Sterculioxylon shahpuraensis</u>	<u>Sterculia foetida</u> <u>S.guttata &</u> <u>S.companulata</u>	Shahpura Mandla	Bande & Prakash 1980, 1982
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Family - TILIACEAE

<u>Grewioxylon mahurzariense</u>	<u>Grewia laevigata</u>	Mahurzari	Prakash & Dayal, 1963, 1964
<u>Grewioxylon sp.cf. mahurzariense</u>	<u>Grewia sp.</u>	Mohgaon, Mandla	Lakhanpal, Prakash & Bande, 1976
<u>G.indicum</u>	<u>G. tiliifolia</u>	Mahurzari	Prakash & Dayal, 1964
<u>G.intertrappeum</u>	<u>Grewia, sp. most probably G. laevigata</u>	- " -	Shallow, 1963 a
<u>Grewia sp.</u>	<u>Grewia laevigata</u>	Mohgaontalan	Lakhanpal, Prakash & Bande, 1976
<u>Dryoxylon tiliaceoides</u>		Mahurzari	Trivedi, 1976

Family : ELAEOCARPACEAE

<u>Elaeocarpxylon antiquum</u>	<u>Elaeocarpus ferugineus</u>	Mahurzari	Prakash & Dayal
<u>Elaeocarpxylon mandlaensis</u>	<u>Elaeocarpus & Echinocarpus</u>	Mohgaon near Parapani	Lakhanpal, Prakash & Bande, 1976.

Family : RUTACEAE

Wood of Rutaceae		Near Nagpur	Chitale & Shallow, 1962
<u>Atlantioxylon indicum</u>	<u>Atlantia Limonia</u>	Mohgaon, Mandla	Lakhanpal, Prakash & Bande, 1976

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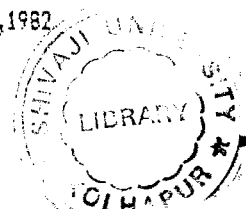
1	2	3	4
<u>Evodinium intertrappeum</u>	<u>Evodia</u>	Nawargaon	Shete & Kulkarni, 1982
<u>Evodinium indicum</u>	<u>E. roxburghiana</u>	- " -	Bande & Prakash, 1984.
Family : SIMARUBACEAE			
<u>Ailanthoxylon indicum</u>	<u>Ailanthus malabaricus</u>	Mahgaonkalan	Prakash, 1958
<u>A. mahurzariense</u> Shallem		Mahurzari	Shallem, 1960, 1961 ; Prakash, Verma & Dayal, 1967
<u>A. ghiesbreghtii</u>	<u>Ailanthus grandis</u>	Kothotia, Rewa	Saxena, 1963 ; Prakash, Verma & Dayal, 1967
<u>Simaroubxylon indicum</u>	<u>Simarouba</u>	Mohgaonkalan	Shallem 1959, Prakash, 1962 b
Family : MELIACEAE			
<u>Heviioxylon tertiarum</u>	<u>Hevea trijuga</u>	Near Shahpur, Mandla	Bande & Prakash, 1980, 1982.
<u>Heviioxylon intertrappeum</u>		Parapani, Mandla	Trivedi & Srivastava, 1988
<u>Ancoroxylon deccanensis</u>	<u>Ancora rohituka</u>	Nawargaon	Bande & Prakash, 1994
Family : ICACINACEAE			
<u>Gomphandroxyton</u>	<u>Gomphandra tetradra</u>	Shahpura, Mandla	Bande & Khatri, 1980

1	2	3	4
Family : CELASTRACEAE			
<u>Lophopetalum oxylon indicum</u>	<u>Lophopetalum littorale</u>	Svithar Mandla	Mehrotra, Prakash & Bhande, 1984
Family : BURSERACEAE			
<u>Boswellia oxylon indicum</u>	<u>Boswellia serrata</u>	Keria	Dayal, 1964, 1966,
Wood of Burseraceae		Mohurzari	Shaloo, 1958
<u>Bursera oxylon preseratum</u> Prakash & Tripathi	<u>Bursera serrata</u>	Shahpura, Mandla	Bhande, Prakash, 1982
<u>Canarium oxylon shahpuraensis</u>	<u>Canarium</u>	Mandla	Trivedi & Srivastava, 1985
Family : RHAMNACEAE			
<u>Rhamnus oxylon intertrappea</u>	<u>Rhamnus</u>	Mahgaonkalan	Chitale and Kate, 1972
<u>Zizyphoxylon mandlaensis</u>	<u>Zizyphus mauritiana</u>	Mandla	Trivedi & Srivastava, 1982
Family : AMPELIDACEAE			
<u>Leea oxylon multiseriata</u>	<u>Leea sp</u>	Mohurzari	Prakash & Dayal, 1963 a
Family : SAPINDACEAE			
<u>Sapindoxylon schleicheroides</u>	<u>Schlichera trijuga</u>	Keria	Dayal, 1965

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1	2	3	4
<u>S.chhindwarensis</u>	<u>Glossolepsis</u> sp. & <u>placoditesus</u> sp.	Mohgaonkalan	Chitale & Shaloo, 1969
<u>Euphorioxylon deccanense</u>	<u>Euphoria</u>	Mandla	Mehrotra, 1986
Family - HIPPOCASTANACEAE			
<u>Aesculoxylon deccanensis</u>	<u>Aesculus</u>	Mohgaonkalan	Trivedi & Srivastava, 1982
Family : ANACARDIACEAE			
<u>Anocardioxylon semicarpoides</u>	<u>Semicarpus</u>	Mahurzari	Prakash & Dayal, 1964 b.
Wood of Anacardiaceae		Katerum	Mahabale & Rao, 1968
<u>Dracantomelumoxylon mangiferumoides</u> Ghose & Roy (syn. <u>D.palaemangiferum</u>)	<u>Dracantomelum mangiferum</u>	Parapani	Bande & Khatri, 1980
<u>Dracantomelumoxylon mangiferumoides</u> Ghose & Roy	<u>Dracantomelum</u>	Shahpura	Bande & Prakash, 1982
Family : LEGUMINOSAE			
<u>Aeschynomoxylon tertiarum</u>	<u>Aeschynomene</u>	Mahurzari	Prakash 1962, 1962 a, Mullerstoll & Madel, 1967
<u>A. malwaensis</u>	- " -	Wardha (M.P.)	Bande, 1978
<u>A. nawargaoensis</u>	- " -	Nawargaoon	Shete & Kulkarni, 1982

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1	2	3	4
Family : SONNERATIACEAE			
Wood of <u>Sonneratia</u>	<u>Sonneratia</u> sp.	Mohgaonkalan	Verma, 1950
Wood of <u>Sonneratia</u> & <u>Duababoa</u>	<u>Sonneratia</u> sp. & <u>Duabanga</u> sp.	- " -	Shaloo, 1953
<u>Sonneratioxylon dudukunense</u>	<u>Sonneratia</u> sp.	Dudukur near Rajahmundry	Krishna Rao & Ramanujam, 1966
<u>Sonneratioxylon intertrappeum</u>	<u>Sonneratia</u> sp.	Mohgaonkalan	Biradar & Mahabale, 1973
<u>Sonneratioxylon caeseolaroides</u>	<u>S.caeseolaria</u>	Nawargaoen	Shete & Kulkarni, 1982
<u>Sonneratioxylon nawargaoensis</u>	<u>Sonneratia</u> sp	- " -	Bande & Prakash, 1984
<u>S.prapetalum</u> Awasthi	<u>Sonneratia</u> sp	Mandia	Mehrotra R.C., 1988
Family : COMBRETACEAE			
<u>Terminalioxylon tomentosum</u>	<u>Terminalia tomentosa</u>	Ghala, Gujrath	Mahabale & Deshpande, 1965
Wood of <u>Terminalia tomentosa</u>		Mohgaonkalan	Prakash & Dayal, 1968
<u>Anogeissosoxylon mohgaense</u>	<u>Anogeissus</u>	- " -	Patil, 1973 - 74
Family : MYRTACEAE			
<u>Dryoxylon mohgaense</u>		- " -	Rode, 1936; Prakash, 1956 a
<u>Syzygioxylon mandlaense</u>	<u>Syzygium cumini</u>	Mandia	Ingle, 1973
<u>S.Mohgaens</u>	- " -	Mohgaonkalan	Patil & Singh, 1974
<u>S.chhinwaraensis</u>	- " -	Chhindwara	Nambudiri & Tidwell, 1977

1	2	3	4
<u>Leptospermoxylon indicum</u>		Mohgaonkalan	Trivedi & Verma, 1973.
<u>Eucalyptus dharmendrae</u>	<u>Eucalyptus</u>	Shahpur, Mandla	Bande, Mhrotra & Prakash, 1986
<u>Tristania confertoides</u>	<u>Tristania</u>	- " -	- " -
<u>Calistemonoxylon</u>	<u>Calistemon & Melaleuca</u>	- " -	- " -
Family : LECYTHIDACEAE			
<u>Barringtonioxylon deccanense</u>	<u>Barringtonia acutangula</u>	Mahurzari	Shaloo, 1960 a
<u>B. eptero carpum</u>	<u>B. pterocarpa</u>	- " -	Prakash & Dayal, 1964 a
<u>B. mandlaensis</u>	<u>B. acutangula & B. pterocarpa</u>	Parapani, Mandla	Bande & Khatri, 1980
Family : SAMYDACEAE			
<u>Homalioxylon mandlaense</u>	<u>Homalium tomentosum</u>	Parapani	Bande, 1974
Family : DATISCEAE			
<u>Tetrameleoxylon prenudiflora</u>	<u>Tetrameles nudiflora</u>	Mohgaonkalan	Lakhanpal & Verma, 1966
Family : MYRSINACEAE			
<u>Ardisioxylon indicum</u>	<u>Ardisia</u>	Nawargaon	Shete & Kulkarni, 1982

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Family : ERENACEAE

<u>Ebenoxylon mohgaense</u>	<u>Diospyros-Maba</u>	Mohgaonkalan	Chitale & Patil, 1972
<u>Ebenoxylon deccanensis</u>	<u>Diospyros glandulosa</u>	M.P.	Trivedi & Srivastav, 1982, a

Family : OLEACEAE

<u>Schreberoxylon mohgaensis</u>	<u>Schrebera</u>	Mohgaonkalan	Trivedi & Srivastava, 1982
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Family : BIGNONIACEAE

<u>Heterophragoxylon indicum</u>	<u>Heterophragma</u>	Nawargaon	Shete & Kulkarni, 1982
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Family : VERBENACEAE

<u>Vitexoxylon indicum</u>	<u>Vitex leucoxylon</u>	Saonapur	Ingle, 1972
<u>Gaolina tertiara</u>	<u>Gaolina arborea</u>	Nawargaon	Bande, 1986

Family : LAURACEAE

<u>Machilusoxylon hindustanensis</u>	<u>Machilus sp.</u>	Saonapur	Bande, 1971
(= <u>M. odoratissima</u>)	<u>M. odoratissima</u>	- " -	Ingle, 1974
<u>Laurinoxylon daccanensis</u>		Shahpur, Mandla	Bande & Prakash, 1980

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Family : ARISTOLOCHIACEAE			
<u>Aristolochioxylon pratashii</u>	<u>Aristolochiaceae</u>	Nawangan	Kulkarni & Patil, 1979
Family : EUPHORBIACEAE			
<u>Brideloxylon krausellii</u> = <u>Euphorbioxylon</u> krausellii Prakash	<u>Bridelia</u> sp.	Kerla	Prakash 1957, Madel, 1962
<u>Mallotoxylon keriennee</u>	<u>Mallotus</u> <u>philippinensis</u>	- * -	Lakhanpal & Dayal 1964
<u>Paraphyllanthoxylon</u> <u>keriennee</u>	<u>Bischofia</u> sp.	- * -	Dayal, 1968
<u>P.sahnii</u> (Prakash) Madel (= <u>Glochidioxylon sahnii</u>) Prakash	<u>Glochidion</u> <u>Antidesma</u>	Mahurzari	Prakash, 1958 Madel, 1962
<u>Euphorbioxylon sagareense</u>	<u>Bridelia</u> sp.	Sagar	Mahabale & Deshpande, 1963
<u>Bischofinium deccanum</u>	<u>Bischofia javanica</u>	Parapani	Bande, 1974
<u>Paraphyllanthoxylon</u> <u>palaecemblica</u>	<u>Phyllanthus</u> <u>emblica</u>	M.P.	Bande, Prakash & Lalita 1986
Family : MORACEAE			
<u>Artocarpoxylon deccanensis</u>	<u>Artocarpus</u> <u>heterophy</u>	Sylthar, Handla	Mehrotra, Prakash & Bande, 1984.
Family : CASUARINACEAE			
Wood of <u>Casuarina</u>		Mohgaonkalan	Shukla, 1941

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DICOTYLEDONOUS ROOTS :			
<u>Dicotylirhizos sahnii</u>		Mohgaonkalan	Rao, 1957
<u>Aerorhizos harrissi</u>		- " -	Chitale, 1962, 63
<u>Sonneratiarhizos raoi</u>	Root of <u>Sonneratia</u>	- " -	Chitale, 1969
Halophytic roots	<u>Acanthus</u> <u>ilicifolius</u>	- " -	Trivedi & Verma and Bajpai, 1982
DICOTYLEDONOUS LEAVES :			
Leaf let of <u>Acacia</u>	<u>Acacia</u>	Bambay	Cater, 1852
<u>Phyllites mohgaensis</u> Rode		Mohgaonkalan	Rode, 1935
Leaf of <u>Lagerstromea</u>	<u>Lagerstromea</u> <u>indica</u>	- " -	Shukla, 1950
Leaves of <u>Mesua ferrea</u> & <u>Garenia indica</u>		Kapurdi	Lakhanpal, 1964
<u>Dicotylophyllum mohgaensis</u>		Mohgaonkalan	Nambudiri, 1966 a
<u>D. intertrappea</u>		- " -	- " -
<u>Deccanophyllum intertrappea</u>		- " -	Sheikh & Kolh, 1980 a
DICOTYLEDONOUS FLOWERS :			
<u>Sahnianthus shuklae</u>	Sonneratiaceae	- " -	Shukla, 1944; Chitale, 1955
<u>Sahnipushpa glandulosa</u>	Myrtaceae	- " -	Prakash, 1955, Chitale, 1964
<u>S. shuklae</u>		- " -	Verma, 1956; Prakash & Jain 1963
<u>Chitaleypushpa mohgaensis</u>		- " -	Paradkar 1971 a
<u>Raoanthus intertrappea</u>		- " -	Chitale & Patel, 1975

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DICOTYLEDONOUS FRUITS :			
<u>Enigmocarpon parijai</u>	Lythraceae	Mahgaonkalan	Sahni 1943, Dwivedi 1956, Biradar & Mahabale 1974
<u>Enigmocarpon sahnii</u>	Sonneratiaceae	- " -	Chitale & Kate, 1977
<u>Indocarpa intertrappea</u>	Guttiferae	- " -	Jain 1964 b
<u>Indocarpa</u>		- " -	Nambudiri, 1969
<u>Harrisocarpon sahnii</u>		- " -	Chitale & Nambudiri, 1968, 1973
<u>Sahnioocarpon harrisi</u>		- " -	Chitale & Patil, 1973
<u>Daberocarpon gerhardii</u>		- " -	Chitale & Sheikh 1973
<u>Deccanocarpon arnoldi</u>		- " -	Paradkar, 1975
<u>Centrospermocarpon chitaleyi</u>	Caryophyllaceae	- " -	Sheikh & Khubalkar, 1982
Fruit of <u>Cassia</u>	<u>Cassia</u>	Bombay	Cater, 1854
Fruit of <u>Hedysareae</u>	<u>Hedysareae</u>	- " -	- " -
Fruit of <u>Fabiodea</u>	<u>Fabiodea</u>	- " -	- " -
Fruit of <u>Xulinosprionites</u>		- " -	- " -
<u>Euphorbiocarpon drypeteoides</u>	<u>Euphorbiaceous fruit</u>	Mandla	Mehrotra, Prakash & Bande 1983
Fossil capsule with winged seeds		Mahgaonkalan	Sheikh & Kapgate, 1984
Fruits & seeds of <u>Tricocites trigonum</u>	<u>Tricoccus</u>	- " -	Bonde, 1985
<u>Oleocarpon nagpurensis</u>	<u>Olea</u>	Nagpur	Sheikh, Kapgate, Mahajan, Juneja, Gupta 1986
<u>Trapa mahgaensis</u>	<u>Trapa</u>	Mahgaonkalan	Paradkar & Patki, 1987
SEEDS :			
Seeds of <u>Artabotrys odoratissima</u>	<u>Artabotrys</u>	Bombay	Carter 1854

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MONOCOTYLEDONOUS :			
Family - MUSACEAE			
<u>Musa cardiosperma</u>	<u>Musa sp.</u>	Mohgaonkaian	Jain, 1964
<u>Musocaulon indicum</u>	<u>Musa or Ensete</u>	- " -	Jain, 1964 a; Rao & Menon 1963 a
<u>Heliconites mohgaensis</u>	<u>Heliconia</u>	- " -	Trivedi & Verma, 1972
Leaf of <u>Musa ornata</u>	<u>Musa sp.</u>	- " -	Prakash, Bande, Ambwani, 1979
Family : ZINGIBERACEAE			
<u>Amomum sulcatum</u>	<u>Elletaria</u>	Unknown	Sahni, Srivastava & Rao, 1934
<u>Amomum affine</u> Sahni	<u>Elletaria</u> <u>Cardamomum</u>	- " -	Sahni, 1938, 1964
Family : CANNACEAE			
<u>Canna intertrappea</u>	<u>Canna</u>	Mohgaontalan	Trivedi & Verma, 1971 d
Family : SMILACACEAE			
<u>Smilax mohgaensis</u>	<u>Smilax aspera</u>	- " -	Nambudiri, 1966, a
Family : PALMAE			
PALM STEMS			
<u>Palaeovon blanfordi</u> Schenk		Near Ihanston the Harbada	Schenk, 1932; Sahni, 1931, 1964
<u>P. liebighianum</u> Schenk		Sitabardi	Schenk, 1932; Sahni, 1931, 1964
<u>P. edwardsi</u> Sahni		Near Jabalpur	Sahni, 1931, 1964
<u>P. sagari</u> Sahni		Sagar	Sahni, 1964, Bonde & Biradar, 1981

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<u>P.kamala</u> Rode	<u>Rovstenea</u>	Mohgaonkalan Reserve forest, near Pupuldoh village, Kondal	Rode, 1933 a, Shukla 1939, Sahni 1964; Kulkarni & Mahabale 1971.
<u>P.hislopi</u> Rode			Rode, 1933 a; Sahni 1964
<u>P.scleroderma</u> Sahni	<u>Astrocaryum</u>	Mohgaonkalan,	Sahni 1943 ; Shukla 1946
<u>P.nawarganensis</u> Shukla		Nawargaon	Shukla 1941
<u>P.(cocos) sundara</u> Sahni	<u>Cocos nucifera</u>	Sagar, Kateru	Sahni 1946; Mahabale & Rao 1968
<u>P.sundara</u> Sahni var. <u>Vidarbhai</u>		Mohgaonkalan	Rao & Menon 1964 a
<u>P.surangei</u>		Keria	Lakhanpal 1956
<u>P.sp.Mahabale</u>	<u>Phoenix rupicola</u> & <u>P. robusta</u>	Mohgaonkalan	Mahabale, 1958 a
<u>P.chhindwarensis</u>		- " -	Prakash, 1958 a
<u>P.dakshinense</u>		- " -	- " -
<u>P.ecenae</u>		Mahurzari	Prakash 1961 a
<u>P.narayani</u>		Mohgaonkalan	Rao & Menon 1962
<u>P.parthasarathyi</u>		- " -	Rao & Menon 1964
<u>P.mahabalei</u>		- " -	Rao & Menon 1967
<u>P.maheshwarii</u>		- " -	Rao & Menon 1963
<u>P.trabeculosum</u> Sahni		Sagar	Sahni 1964
<u>P.fibrosus</u>		Mohgaonkalan	Menon 1965
<u>P.deccanense</u> Sahni		Margasur	Sahni 1964
<u>P.Krishna</u> Sahni		Sitaburdi	Sahni 1931, 1964
<u>P.scotti</u>		Mohgaonkalan	Menon 1964; Dayal & Menon 1965
<u>P.Pyriforme</u> Sahni		- " -	Rao & Menon 1968
<u>P. intertrappeum</u>		Sindh-Vihira	Sahni 1964

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<u>P. karuselli</u>		Mohgaonkalan	Rao & Menon 1966
<u>P. raoi</u>		- " -	Menon, 1968
<u>P. superba</u>		Keria	Trivedi & Verma 1971
<u>P. cordata</u>		Mohgaonkalan	Trivedi & Surange, 1969
<u>P. mohgaensis</u>		- " -	Trivedi & Surange 1970
<u>P. splendidum</u>		Keria	Trivedi & Chandra 1971
<u>P. pantii</u>		Mohgaonkalan Dongargaon	Trivedi & Surange 1971 Ronde & Biradar 1981
<u>P. keriaense</u>		Keria	Trivedi & Verma 1971 b
<u>P. penchense</u>		Mohgaonkalan	Trivedi & Verma 1972 a
<u>P. coromandelensis</u>		Kateru	Mahabale & Rao 1968
<u>P. mandlaensis</u>		Mandla	Lakhanpal, Prakash & Ambwani, 1977
<u>P. mathuri</u>		Mohgaonkalan	Agarwal & Lalitha 1977
<u>P. parapiensis</u>	<u>Coccos</u> like forms	Parapani, Mandla	Lakhanpal, Prakash & Ambwani, 1977
<u>P. mandlaensis</u>	<u>Corypha</u> like forms	Mohgaon, Mandla	- " -
<u>P. livistonoides</u>	<u>Livistona</u>	Nawargaon	Prakash & Ambwani 1980
<u>P. shahpuraensis</u>	<u>Licula</u>	Mandla	Ambwani, 1982
<u>P. bhugaensis</u>	<u>Chrysalidocarpus</u>	- " -	Ambwani & Prakash, 1983
<u>P. dilacunosum</u>		- " -	Ambwani 1983 a
<u>P. arviensis</u>	Cordate dorsal sclerenchyma	Nawargaon	Ambwani 1981
<u>P. lonchalensis</u>	Reniformia type	Kondhali near Nagpur	Mahabale & Kulkarni, 1978

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<u>P.siltherensis</u>		Mandla	Ambwani 1984
<u>P.betulensis</u>		Raobhalkeri Betul	Gavakwad & Patil 1986
<u>P.licuanense</u>	<u>Licusia peltata</u>	- " -	- " -
<u>P.hyphaeneoides</u>	<u>Hyphaene</u>	Nawargaon	Rao & Shete, 1986
PALM PETIOLE :			
<u>Palmocaulon mohgaonense</u>		Mohgaonkalan	Deshpande 1960
<u>P.raoi</u>		- " -	Menon 1964 a
<u>P.mahabalei</u>		- " -	Menon 1965 a
<u>P. costapalmatum</u>		Nawargaon	Kulkarni & Patil 1977
<u>Sabalocaulon intertrappeum</u>		Mandla	Trivedi & Verma 1979-80
<u>Palmocaulon hyphaeneioides</u>	<u>Hyphaene</u>	Nawargaon	Shete & Kulkarni 1980
PALM LEAVES :			
<u>Palmophyllum eocenuum</u>	<u>Phoenix</u>	Mohgaonkalan	Deshpande, 1960
<u>P.dakhninense</u>		- " -	Achutaan, 1968
Leaf lets	<u>Cocos</u>	- " -	Mahabale & Rao 1968
Palm leaf impression	<u>Latania</u>	- " -	Trivedi & Chandra 1971 b
Leaf sheaths of <u>P.sclerodermaum</u>		Nawargaon	Shete & Kulkarni 1983
<u>Sabalophyllum livistonoides</u>	<u>Livistona</u>	- " -	Bonde, 1986 b

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<u>Aesoneuron borassoides</u>	<u>Borassus</u>	Mohgaonkalan	Bonde, 1966 a
PALM INFLORESCENCE AXIS :			
<u>Palmostrobus</u> sp.	Inflorescence axis of palm	- " -	Mahabale 1960
<u>Palmostroboxylon indicum</u>	<u>Phoenixoid</u>	Dongargaon	Biradar & Bonde 1979
<u>P. arengoidum</u>	<u>Arenga</u>	Mandia	Ambwani 1983
<u>Monocotylostrobus bracteatus</u>	Monocot inflorescence	Mohgaonkalan	Lakhanpal, Prakash & Bonde, 1981
PALM FLOWER :			
<u>Deccanthus savitrii</u>	Palm flower	- " -	Chitale & Kate, 1972 a
PALM FRUITS :			
<u>Palaeocarpon mohgaonense</u>		- " -	Prakash 1954
<u>P. insigne</u>	<u>Cocos</u> sp.	- " -	Mahabale 1950
<u>P. sulcatum</u>		- " -	Prakash 1960 a
<u>P. indicum</u>		- " -	- " -
<u>P. splendidum</u>		- " -	Trivedi & Chandra 1971 a
<u>P. compressum</u> (Rode) Sahni		- " -	Sahni & Rode 1937
<u>P. (Iriartites) takliensis</u> Sahni	<u>Iriartia</u>	Takli	Sahni, Srivastava & Rao, 1934
<u>P. bracteatus</u> Sahni			- " -
<u>P. coryphoides</u>	<u>Corypha</u>	Nawargaon	Shete & Kulkarni 1985
<u>P. arecoides</u>	<u>Areca</u>	Mandia	Meherotra 1987

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<u>P.cocoides</u>	<u>Cocos</u>	- * -	- * -
<u>Palmocarpon</u> sp.		- * -	- * -
<u>Nypa hindi</u> (Rode) Sahni	<u>Nypa fruticans</u>	Mohgaonkalan	Sahni & Rode, 1937
<u>Nypadites</u> sp. Rowerbank		Takli	Carter, 1954
<u>Nypa</u> sp.	<u>Nypa</u>	Mohgaonkalan	Chitale 1960 a, Nambudiri 1966
<u>Tricoccytes trigonum</u> Rode	Fruit of <u>Cyclanthodendron</u>	- * -	Sahni & Rode 1937; Trivedi & Verma 1976
Fruit axis of <u>Tricoccytes trigonum</u> Rode	- * -	- * -	Chitale 1956
<u>Hyphaenocarpon indicum</u>	<u>Hyphaene</u>	Mandla	Bande, Prakash & Ambwani 1982
Fruit of <u>Nyssa</u>	Nyssaceae	Ratnagiri	Shinde & Kulkarni 1986
Fruit of <u>Eugeissona</u>	Palmae	- * -	- * -
PALM ROOTS :			
<u>Rhizophaloxylon sundaram</u>	<u>Cocos</u>	Sagar, Kateru	Mahabale 1966, Mahabale & Rao 1968 a
<u>R.indicum</u>	<u>Nypa fruticans</u>	Mohgaonkalan	Sahni, 1938 ; Mahabale & Udawadia 1960
<u>Nypa</u> roots	<u>Nypa</u>	- * -	Verma 1974
<u>Palm</u> roots	<u>Borassus flabellifer</u>	Nawargaon	Ambwani 1981 a
Family : XYRIDACEAE			
Axis of xyridaceae		Mohgaonkalan	Patil 1979

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Family : CYCLANTHACEAE			
<u>Cyclanthodendron Sahni (Rode)</u>	<u>Cyclanthus & Carludovica</u>	- " -	Sahni & Surange, 1944, 1953 Ramanujam 1959
Floral axis of Cyclanthaceae		- " -	Mahabale 1950
The leaf of <u>Cyclanthodendron Sahni</u>		- " -	Sahni & Surange 1950
<u>Cyclanthodendron</u> remains	Inflorescence axis & fruits	- " -	Trivedi & Verma 1972 b, 1976
Roots <u>Cyclanthodendron Sahni</u>		- " -	Sharma & Suthar, 1988
Family : SPARGANIACEAE			
<u>Sparganium</u> sp.	<u>Sparganium</u> sp.	Mohgaonkalan & Sausar	Mahabale 1953
Family : PONTEDERIACEAE			
Root-lets, root & stem of <u>Eichhornia</u>	<u>Eichhornia crassipes</u>	Dhindwara, M.P.	Verma & Upadhyay, 1986
Family : ARACEAE			
<u>Marcarpon hexasperum</u> Sahni Syn. <u>V. elongatum</u>		Mohgaonkalan & Takli	Sahni 1934 a, 1944; Chitale 1954, 1958; Patil 1973, Bande & Awasthi 1986
<u>V. elongatum</u> Sahni Syn. <u>Shuklanthus superbum</u> Verma		Takli & Mohgaonkalan	Sahni, 1944, Verma 1956 a Chitale & Patil, 1971
<u>V. tenue</u> Sahni		Unknown	Sahni 1954
<u>V. chitaleyi</u> Patil		Mohgaonkalan	Patil 1972
<u>V. sahnii</u>		Mohgaonkalan & Mahurzari	Sahni 1944, Chitale, Shaloo & Mehta 1959, Patil 1973, Nambudiri & Tidwell 1978

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<u>Kremocarpon aquatica</u>	Araceous unilocular 3 seeded fruit	Mohgaonkalan	Chitale & Kate 1975
<u>Areca intertrappea</u>	<u>Areca nut</u>	- " -	Senad & Parastar, 1986
Family : CYPERACEAE			
Stem & flower of <u>Scirpus</u>	<u>Scirpus</u>	Worli & Malabar Hills, Bombay	Carter, 1852
<u>Cyperaceoxylon intertrappeum</u> (Stem, roots & leaves)	<u>Cyperaceae</u>	Mohgaonkalan	Chitale & Patel 1970
<u>Scirpusoxylon indicum</u>	<u>Scirpus</u>	Nawargaon	Shete, 1986
Family : GRAMINAE			
Wood of Bamboo		Worli, Malabar Hills, Bombay	Carter, 1852 Shukla, 1942
<u>Graminiciocarbon mohgaense</u>		Mohgaonkalan	Chitale & Sheikh, 1971
<u>Glycerioxylon mohgaense</u>	<u>Glyceria</u>	- " -	Trivedi & Rajpai, 1982
<u>Hygrorhizos deccanii</u>	<u>Hygrorhiza</u>	- " -	Trivedi, Srivastava & Rajpai, 1985
<u>Eulmites eleusineoids</u>	<u>Elucine</u>	Nawargaon	Bonde, 1986
Monocot inflorescence		- " -	Lekhanpal, Prakash & Bande, 1975
MONOCOT LEAVES :			
<u>Aerophyllites intertrappea</u>		Mohgaonkalan	Chitale & Patil, 1971 a
<u>Musophyllum indicum</u>	<u>Musa urnata</u>	- " -	Bande & Ambwani, 1977
MICROFOSSILS :			
Spores & pollen grains			Shukla & Chitale 1948 ; Chitale 1950, 1951, 1957 ; Sahni & Rao (H.S.) 1943