

## Study of plants diversity of parks of Damoh city, Madhya Pradesh, India

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### ABSTRACT

In the present investigation, a total of 108 species representing 102 genera belonging to 48 families have been recorded. Among these, 48 families with 77%, 87 genera with 85.3% and 93 species with 86.1% were dicotyledons. The monocotyledons represent 8 families (16.66%), 11 genera with 10.78% and 11 species with 10.18%. The gymnosperms was represented by two families comprises of three species and pteridophytes with one species only. Of the 48 families, the most dominant family was Fabaceae with 23 species, followed by Apocynaceae (8 species), Euphorbiaceae and Moraceae (4 species), and remaining families with 1-3 species.

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KEY WORDS : Damoh, Dicotyledons, Monocotyledons, Plant diversity.

### Introduction

Damoh is a historical city and located in the north-eastern part of the Indian state of Madhya Pradesh with a latitude 23°88'N, longitude 79°45'E and average elevation of 595 metre above sea level. It is located 252 kilometers away from the state capital Bhopal. The Narvar queen Rani Damyanti, who was Raja Nal's wife, is credited with giving the city of Damoh its name. The city of Damoh is located on the Malwa-Bundelkhand plateau, which is the southeast portion of the great Vindhya plateau. The plateau runs parallel to north of the Narmada river.

The Damoh district is bordered by Chhatarpur in the North and northwest, Sagar in West and Jabalpur in the South. The tropic of Cancer crosses through the southern part of the Damoh district. Topographically, Damoh is divided into three major physiographic subdivisions which are, Bundelkhand upland, Vindhyan scraps, and Vindhya ranges. Medium black fine clay soils cover the majority of the district. A small part of skeletal soil is formed due to the weathering process of sandstone close to the foothills in the south most part of the district<sup>4</sup>. The district's yearly temperature is 29.45°C and it receives around 1173.0 millimeters of rainfall and has 102.73 rainy days annually<sup>5</sup>.

### Methods

**Area of study :** The present study was carried out during the year 2023. Plants were surveyed in the Pandit Deen Dayal Park, Circuit House Road and Home Guard Playground, Damoh city, Madhya Pradesh. Location is bounded between latitude 23°49'N and longitude 79°26'E.

The plants were surveyed in both the study areas in very systematic manner. Plants were identified with the help of standard floras, research papers available on biodiversity, communication with experts, gardeners and local people<sup>2,3,6-8</sup>. Identified plant species were arranged alphabetically along with their family, botanical names and local names. Both the study areas nurture both exotic and indigenous species. The families were arranged according to the Bentham and Hooker's system of classification<sup>1</sup>.

### Results and Discussion

In the present survey, a total of 108 species representing 102 genera belonging to 48 families have been recorded. Among these, 48 families with 77%, 87 genera with 85.3% and 93 species with 86.1% were dicotyledons. The monocotyledons represent 8 families (16.66%), 11 genera with 10.78% and 11 species with 10.18%. The genus species ratio was 1:1.06 for

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**TABLE-1: List of identified plant species from Pandit Deen Dayal Park and Home Guard Play Ground, Damoh city with their family, botanical names, and local name.**

Family	Botanical name	Local Name
<b>Dicots</b>		
Acanthaceae	<i>Justicia gendarussa</i>	
Amarathaceae	<i>Alternanthera sessilis</i>	
	<i>Hymenocallis littoralis</i>	Spider lily
	<i>Sternbergia lutea</i>	Yellow autumn crocus
Anacardiaceae	<i>Mangifera indica</i>	Aam
Annonaceae	<i>Monoon longifolium</i> syn <i>Polyalthia longifolia</i>	False Ashok
Apocynaceae	<i>Alstonia scholaris</i>	Saptarni
	<i>Calotropis gigantea</i>	Aak, Madar
	<i>Cascabela thevetia</i>	Yellow Kaner
	<i>Nerium oleander</i>	Red Kaner
	<i>Plumeria alba</i>	
	<i>Plumeria pudica</i>	Nagchampa
	<i>Tabernaemontana divaricata</i>	Pinwheel flower
	<i>Thevetia peruviana</i>	Pili Kaner
Asteraceae	<i>Parthenium hysterophorus</i>	Gajar ghas
Bixaceae	<i>Bixa orellana</i>	Sindoor tree or Achiote or Bijol
Casuarinaceae	<i>Casuarina equisetifolia</i>	She oak
Combretaceae	<i>Combretum indicum</i>	Rangoon creeper
	<i>Conocarpus erectus</i>	Buttonwood
Convolvulaceae	<i>Ipomoea carnea</i>	Pink morning glory, Besharam
Crassulacaceae	<i>Kalanchoe pinnata</i>	Ptattarchata, Bryophyllum
Euphorbiaceae	<i>Acalypha wilkesiana</i>	Coppereaf
	<i>Codiaeum variegatum</i>	Fire croton
	<i>Jatropha gossypifolia</i>	Sibidigua
	<i>Ricinus communis</i>	Arandi

Fabaceae	<i>Acacia auriculiformis</i>	
	<i>Acacia nilotica</i>	Babul
	<i>Albizia lebbek</i>	Siris
	<i>Bauhinia purpurea</i>	Kachnar, Camel foot
	<i>Bauhinia racemosa</i>	
	<i>Butea monosperma</i>	Dhak, Palash, Tesu
	<i>Calliandra haematocephala</i>	Powder Puff
	<i>Cassia abbreviata</i>	
	<i>Clitoria ternatea</i>	Aprajita
	<i>Dalbergia sissoo</i>	Shisham
	<i>Delonix regia</i>	Lal Gulmohar
	<i>Indigofera linnaei</i>	
	<i>Leucaena leucocephala</i>	Subabul
	<i>Millettia pinnata</i>	Karanj, Sukh-Chain
	<i>Peltophorum pterocarpum</i>	Peela Gulmohar
	<i>Pithecellobium dulce</i>	Jangal jalebi
	<i>Pongamia pinnata</i> syn <i>Millettia pinnata</i>	Indian beech, Sukhchain, Karanj
	<i>Prosopis cineraria</i>	Khejri, Shami
	<i>Samanea saman</i>	Monkey-pod
	<i>Saraca asoca</i>	Sita ashok
<i>Senna obtusifolia</i>	Wild senna	
<i>Sesbania grandiflora</i>	Agastya tree	
<i>Tamarindus indica</i>	Imli	
Lamiaceae	<i>Mesosphaerum suaveolens</i>	Vilayati Tulsi
	<i>Ocimum tenuiflorum</i>	Holy basil
	<i>Tectona grandis</i>	Teak
Lythraceae	<i>Lagerstroemia speciosa</i>	Queen's flower
	<i>Lawsonia inermis</i>	Henna, Mehndi
Malvaceae	<i>Bombax ceiba</i>	Semal (Cotton tree)
	<i>Hibiscus</i> sp.	Gurhal, Jasun
	<i>Sida rhombifolia</i>	

Meliaceae	<i>Azadirachta indica</i>	Neem
	<i>Swietenia macrophylla</i>	Mahogany
Moraceae	<i>Ficus benghalensis</i>	Bargad
	<i>Ficus benjamina</i>	Weeping fig
	<i>Ficus religiosa</i>	Pipal
	<i>Streblus asper</i>	Dahia
Moringaceae	<i>Moringa oleifera</i>	Drumstick
Myrtaceae	<i>Eucalyptus obliqua</i>	Eucalyptus
	<i>Psidium guajava</i>	Amrood
	<i>Syzygium cumini</i>	Jamun
Nyctaginaceae	<i>Bougainvillea glabra</i>	Paper flower (Red)
Oleaceae	<i>Nyctanthes arbor-tristis</i>	Parijaat
Oxalidaceae	<i>Oxalis</i> sps	Khatti-booti
Papaveraceae	<i>Argemone mexicana</i>	Pili Katiya
Passifloraceae	<i>Turnera ulmifolia</i>	
Phyllanthaceae	<i>Phyllanthus emblica</i>	Amla
	<i>Phyllanthus niruri</i>	Bhumi Amla
Polygonaceae	<i>Antigonon leptopus</i>	
	<i>Polygonum capitatum</i>	
Putranjivaceae	<i>Putranjiva roxburghii</i>	Putrajeeva
Rhamnaceae	<i>Ziziphus mauritiana</i>	Ber
Rosaceae	<i>Rosa</i> sps	Rose
Rubiaceae	<i>Hamelia patens</i>	
	<i>Ixora coccinea</i>	Ixora
	<i>Neolamarckia cadamba</i>	Kadamb
Rutaceae	<i>Aegle marmelos</i>	Bel, Belpatra
	<i>Bergera koenigii</i> syn <i>Murraya koenigii</i>	Curry tree, Mithi neem
	<i>Citrus limon</i>	Nimbu
	<i>Murraya paniculata</i>	Madhukamini

Simaroubaceae	<i>Ailanthus altissima</i>	
Solanaceae	<i>Datura stramonium</i>	Thorn apple, devil's trumpet
	<i>Physalis angulata</i>	Ballon cherry
	<i>Solanum pyracanthos</i>	Porcupine tomato
Ulmaceae	<i>Holoptelea integrifolia</i>	Chirol
Verbenaceae	<i>Duranta erecta</i>	Gold edge
	<i>Lantana camara</i>	Lantana
Vitaceae	<i>Cissus quadrangularis</i>	Veldt grape, Hadjod

### Monocots

Arecaceae	<i>Caryota rumphiana</i>	Fish Tail Palm
	<i>Livistona chinensis</i>	Fountain Palm
	<i>Roystonea regia</i>	Royal Palm Tree
Asparagaceae	<i>Agave angustifolia</i>	
	<i>Asparagus racemosus</i>	Satavari
Asphodelaceae	<i>Aloe vera</i>	Aloe
Cannaceae	<i>Canna indica</i>	Keli
Commelinaceae	<i>Tradescantia zebrina</i>	
Musaceae	<i>Musa paradisiaca</i>	Kela
Orchidaceae	<i>Calanthe</i>	Christmas orchid
Poaceae	<i>Bambusa multiplex</i>	

### Gymnosperms

Cupressaceae	<i>Juniperus sabina</i>	
	<i>Thuja occidentalis</i>	Vidhya, Morpankhi
Cycadaceae	<i>Cycas revolta</i>	Sago Palm

### Pteridophytes

Nephrolepidaceae	<i>Nephrolepis cordifolia</i>	Sword fern
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dicotyledons and 1:1 for monocotyledons. The gymnosperms represented by two families comprised of three species and pteridophytes with one species only. Of the 48 families, the most dominant family was Fabaceae with 23 species, followed by Apocynaceae (8 species), Euphorbiaceae and Moraceae (4 species), and remaining families with 1-3 species (Table-1).

The present study found that the plants surveyed from these study sites are economically important. A few of them have medicinal properties; some are ornamental and few are edible. In current years, there is a rise in

usage of plants for medicinal purpose. The knowledge and understanding of ethno botany should be made accessible to all the scholars and learners. The records and documentation of plant species is the only way to conserve the basic information of the plant wealth and it will be valuable to the scholars and students for further investigation. Some of presently described plant species are endangered as a result of overexploitation in their native environments. Strict conservation measures must be implemented in order to prevent the extinction of these plant species.

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