

Phenological study of *Malvastrum coromandelianum* (L.) Gracke

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ABSTRACT

The term Phenology is first used by Belgian Botanist Charles Morren in 1894. Phenology is series of periodic plant life cycle events and is affected by seasonal and inter-annual variation in weather. False mallow, Broom weed, Clock plant, Prickly Malvastrum, and kharenti in hindi is all are common name of *Malvastrum coromandelianum* (L.) Gracke belongs to family Malvaceae. It is a weed plant and herbaceous in habit. Its flower opens in noon when the light intensity and temperature is on peak. The present study provide information about phenological stages of these plant has been gathered during a year.

Key words: Clock plant, phenology, blooms, light intensity

INTRODUCTION

Phenological phases and their phonologicals events were recorded in respect of germination, vegetative growth, flowering, fruiting, seed maturation and death. each phytophase affected by abiotic characters such as rainfall, temperature, day length.

Area of distribution: Indore district (22'45 N latitude and 75'5 E longitude) is located in the western region of M.P.on the southern edge of Malwa plateau at a height of 618 meters above mean sea level on the banks of river.

climatic conditions: climate of indore district is monsoonic and it is favourable for the growth of herbaceous plants.It is mostly uniform all year round. The year is divided in to three seasons namely rainy, winter and summer. The soil of the experimental area is black in colour, commonly known as black cotton soil.

Plant characters: False mallow, Broom weed, Clock plant, Prickly *Malvastrum* ,is common name of *Malvastrum coromandelianum* (L.) Gracke. Vernacular name of *Malvastrum coromandelianum* (L.) Gracke in language hindi – Kharenti and in Bhili – Bairara. It is belongs to family Malvaceae and herbaceous in habit. It is terrestrial plant. It is widely distributed throughout the world in all climatic condition tropical and sub-tropical and also extending in to temperate region. The plant is usually smaller,velvet hairy with characterstic of 4-rayed hairs. Stem herbaceous aerial and erect, cylindrical, branched solid hairy and green. Leaves are simple, petiolate, ovate, acute, unicostate,reticulate. Light yellow flowers occur singly in leaf axils. Flowers

are pentamerous, hypogynous and cyclic and occasionally paired and terminal. Sepals are 5 in number and gamosepalous, Petals are 5 in number, polypetalous, twisted, yellow. Stamens are indefinite and monodelphous, Ovary superior style and stigma as many as carpels.

MATERIAL METHODS

Phenology is commonly described as the art of observing life-cycle phases of plant in their sequential occurrence throughout the year.

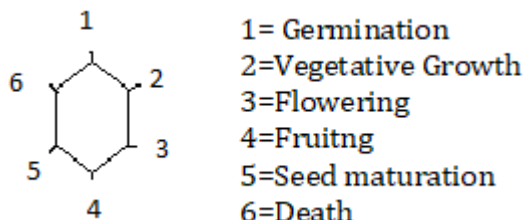
Observation

There are critical phase which confines population and ecological life cycle of plant species. The viability, dormancy and conditions essential for germination, set the major limits to the evidence of the species population in different seasons and habitats. It is tempting to assume that the very existence of specificity of variety of germination regulating system and their recurrent complexity that they are eco-physiological adaptation, which increase the potential for the survival of the species, and which have been formed in the normal outline of evolution (Sen, 1976).



Malvastrum coromandelianum (L.) Gracke.

all phases of *Malvastrum coromandelianum* showing in following phenogram . phytophases are-



phenology of *Malvastrum coromandelianum* (L.) Gracke

Mid June	July	August
September	October	Nov.- Dec.
jan.-feb.	march	april

RESULTS & DISCUSSION

Round the year observation of *malvastrum coromandelianum* for shows that rainy season were most favourable season for germination. seeds of *malvastrum coromandelianum* shows germination in mid-June. emergence of radicle sign the end of germination and it was the beginning of establishment of seedling. In last week of august plant show vegetative growth and the leaves broad and long than compared to other mature plant. and in late vegetative stage stems are beginning to elongate before flowering. Its flower opens in noon when the light intensity and temperature is on peak. during early rainy season relative humidity were high and temperature decreases. so, *Malvastrum coromandelianum* has shown maximum shoot length, number of leaves and seed production. seed only germinate through rain water and and in fluctuation in temperature germination continuous seen from mid June to September. September October and November all months were suitable for flowering and fruiting and seed maturation but late winter and whole summer season were condition is dry and high difference in day and night temperature which create unfavorable condition for *Malvastrum coromandelianum*.

CONCLUSION

The present study revealed that the abiotic factors can affect the plant growth from germination to seed maturation. The growing season starts with the first germination rains in the fall and ends when soil moisture is depleted at beginning of the dry season.

Conflicts of interest: The authors stated that no conflicts of interest.

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