

FLORAL BIOLOGY OF CASTOR



BOTANICAL DESCRIPTION

- ◎ **Common name:- Castor**
- ◎ **Botanical name :- Ricinus communis**
- ◎ **Family :- Euphorbiaceae**
- ◎ **Pollination:- Cross pollination**
- ◎ **Chromosome number:- 20**
- ◎ **Origin :- Africa**

INTRODUCTION

- ◎ **It is most important oil seed crop. The seed contains 50-55%.**
- ◎ **The oil contains number of fatty acids similar to those of cooking oils, such as oleic acid, linoleic acid, palmitic acid.**
- ◎ **However among the vegetable oils it has more ricinoleic acid nearly 80%.**
- ◎ **It has most viscosity of any vegetable oil.**



SYSTEMATIC CLASSIFICATION

- ◉ Class: Dicotyledonous
- ◉ Sub-class: Monochlamydeae
- ◉ Series: Unisexuales
- ◉ Family: Euphorbiaceae

◉ Area and production

Area - 10.96 lakh hectares (2012-13)

Production - 11.43 lakh tonnes

Productivity - 1043 kg/ha

BOTANICAL DESCRIPTION

Habit

Perennial shrub.

Root

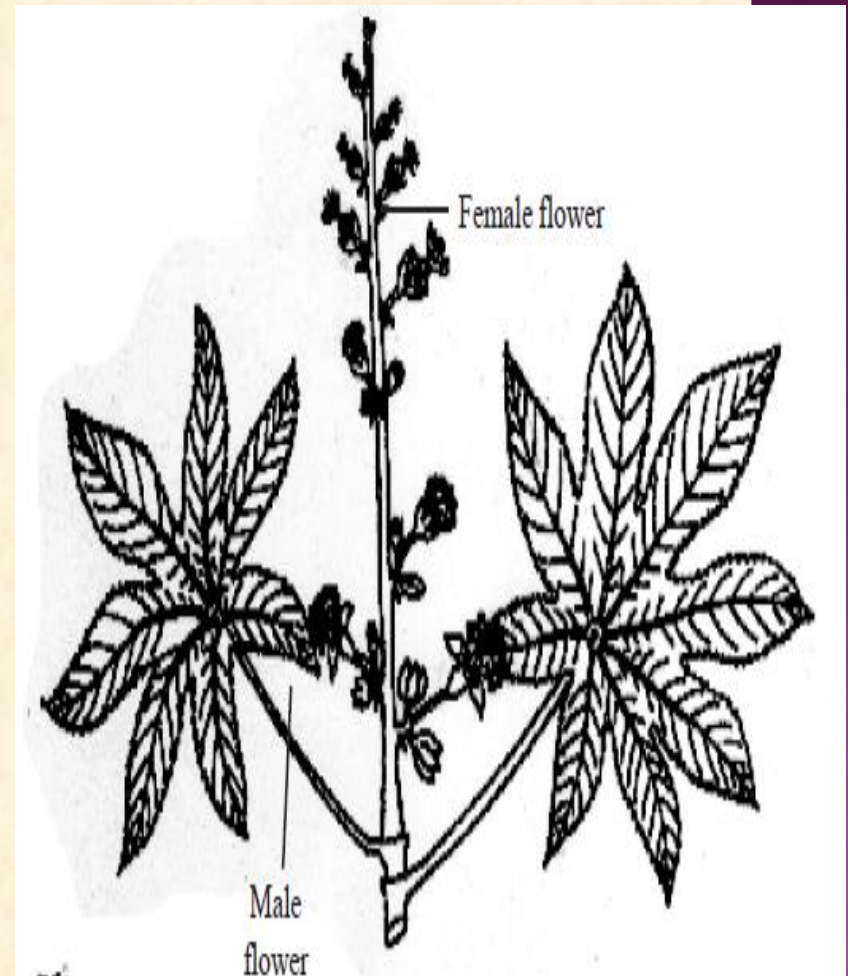
Branched tap root system.

Stem

Aerial, erect, herbaceous but woody below, branched and hollow. Young branches are covered with hair like outgrowth. Latex is present.

Leaf

Petiolate, alternate,
Deeply palmately lobed with 7 or more lobes. Venation is palmately reticulate divergent.



Inflorescence

Compound raceme or panicle and terminal. Male flowers are seen below and female flowers near the apex.

Male Flower

Bracteate, ebracteolate, pedicellate, actinomorphic and incomplete.

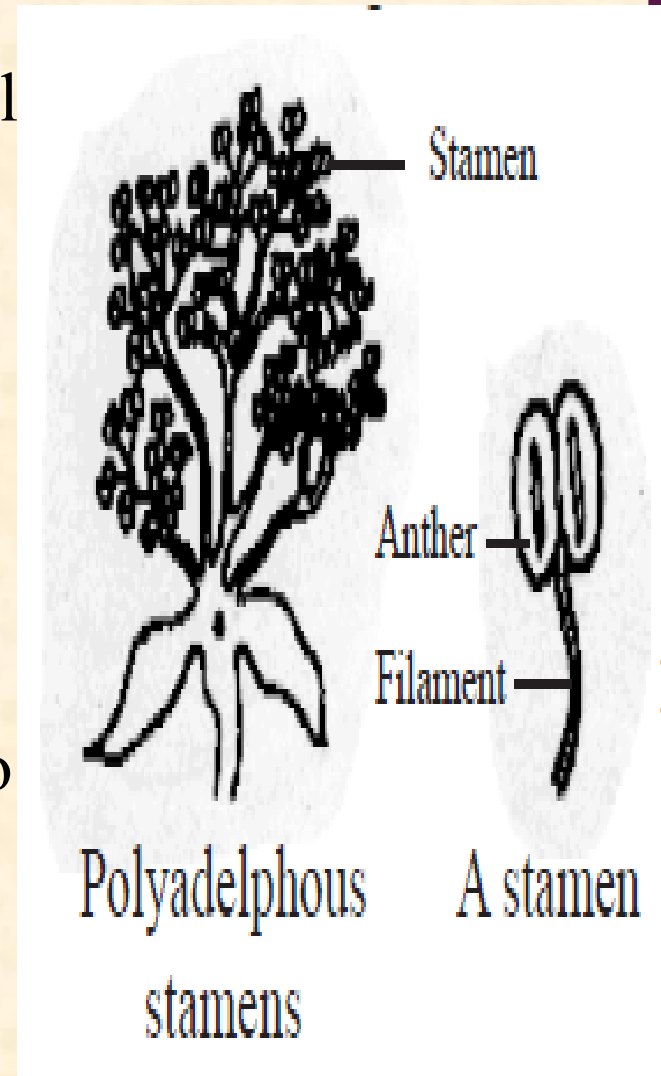


◉ Perianth

- ◉ Tepal 5, arranged in single whorl gamophyllous, valvate aestivation and odd tepal is posterior in position.

◉ Androecium

- ◉ Stamens many, polyadelphous, filaments branched and united to form five branches. Anthers are dithecous, globose, basified, introrse and dehiscent by longitudinal slits.

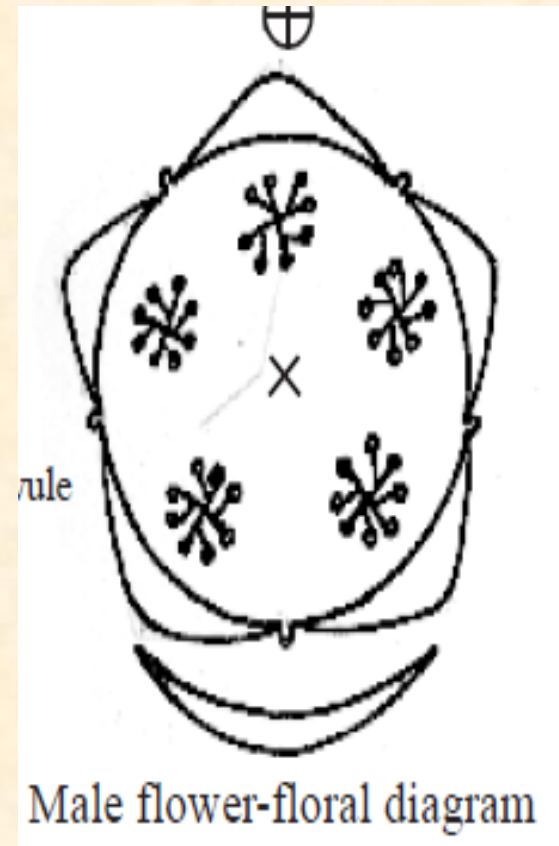


◎ Gynoecium

- ◎ Absent but pistillode is present.

◎ Floral Formula

- ◎ Br., Ebrl., P(5), A μ , G0.

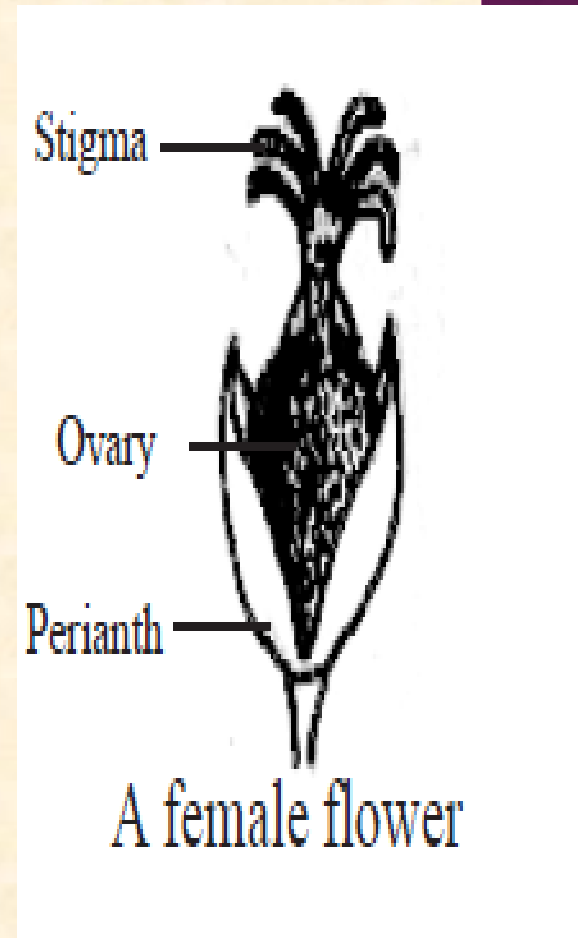


♀ Female Flower

- ♀ Bracteate, ebracteolate, pedicellate, actinomorphic, incomplete and hypogenous.

♀ Perianth

- ♀ Teals 3 arranged in single whorl and gamophyllous showing valvate aestivation.

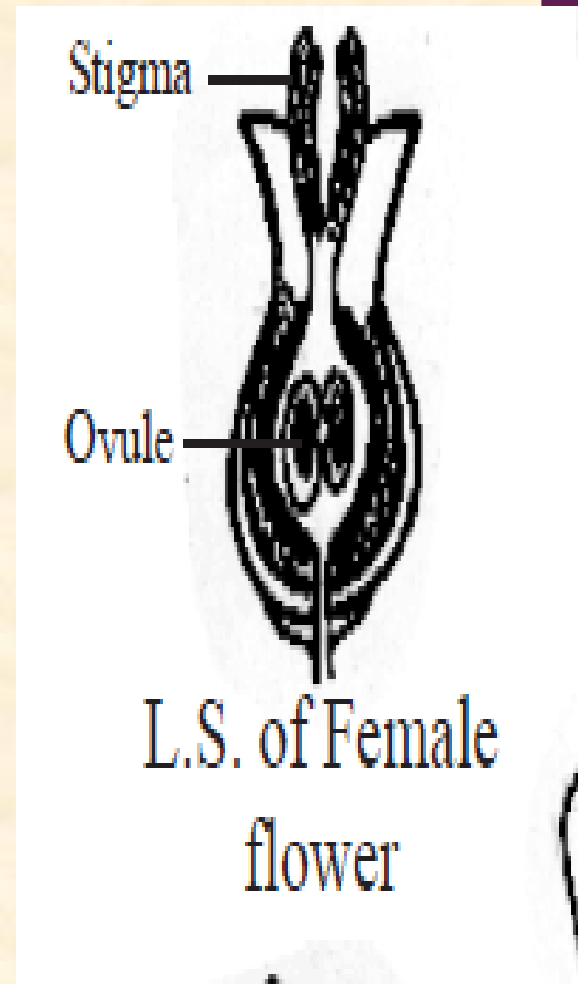


⦿ **Androecium**

- ⦿ Absent but staminode is present.

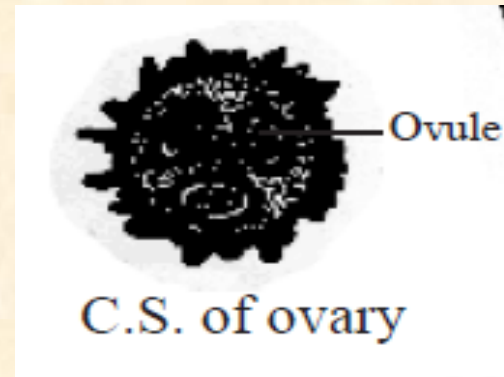
⦿ **Gynoecium**

- ⦿ Ovary superior, tricarpellary and syncarpous. Ovary trilocular with one ovule in each locule on axile placentation. Styles 3, deep red and long. Bifid with feathery stigma.



◎ Fruit

- ◎ Fruit is called regma. It is covered by spinous outgrowths.
- ◎ The fruit splits into three one seeded cocci.

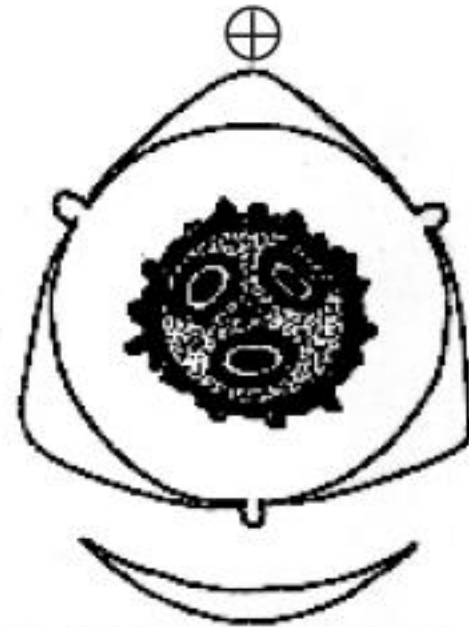


◎ **Seed**

◎ **Endosperms**

◎ **Floral Formula**

◎ Br., Ebrl., P (3), A 0, G (3)



Female flower-floral diagram

ECONOMIC IMPORTANCE

- ❑ Castor oil is used as lubricant, vegetable oil and purgative.
- ❑ Castor oil is an effective motor lubricant and has been used in internal combustion engines, including airplanes, some racing cars and some model airplanes.
- ❑ Castor oil is used as food additives, flavouring and etc.
- ❑ Castor oil plant with some degree of natural protection from insect pests such as aphids.
- ❑ Castor oil was traditionally used on the skin to prevent dryness.

THANK you