

STUDY NO.: 05

NAME OF THE STUDY: STUDY ON EXTERNAL MORPHOLOGY OF CUCURBITACEAE FAMILY (A BOTTLE GOURD PLANT)

Bengali name: Lau, Calabash, Kadu
English name: Bottle gourd, Long melon
Scientific name: *Lagenaria siceraria*
Family: Cucurbitaceae

Habit: Annual, monoecious, cultivated herb.

Root: Tap root system with branch.

Stem: Weak stem, soft, pilose (soft hairy), pentangular, prostrate herb bearing tendrils, tendril climber, tendrils extra axillary, tendril bifid (two forked) and green in color.

Leaf: Simple, exstipulate, alternate, petiolate, long and hairy, cauline and ramal, leaf margin irregularly dentate, palmately reticulate venation with soft hairy surface.

Inflorescence: Solitary flower, axillary (cyme)

Flower: Pedicellate, bracteate, incomplete, monoecious, unisexual, pentamerous, regular, actinomorphic, epigynous yellow in color.

Male Flower (Staminate flower):

Calyx: Sepals-5, gamosepalous (united), calyx tube campanulate with 5 narrow spreading lobed.

Corolla: Petals-5, gamopetalous (united), campanulate, white in color.

Androecium: Stamens-5, united in the arrangement of (2)+(2)+1, synandrous.

Gynoecium: Absent.

Female flower (Pistillate flower):

Calyx: Sepals-5, gamosepalous (united).

Corolla: Petals-5, gamopetalous (united), white in color.

Androecium: Absent.

Gynoecium: Carpel-3, syncarpous, style short, stigma tri-lobed, yellow in color, ovary hairy, inferior, unilocular (one celled), parietal placentation.

Fruit: Pepo.

Floral formula: ↗

Male flower: $+ \overline{O}K_{(5)}C_{(5)}A_{(2)+(2)+1}G_0$

Female flower: $+ \overline{\text{♀}}K_{(5)}C_{(5)}A_0\overline{G}_{(3)}$

Family identifying characters:	1. Sweet gourd or Pumpkin	: <i>Cucurbita moschata</i>
✓ Extra-axillary tendril	2. Kaddu or Pumpkin or giant gourd	: <i>Cucurbita maxima</i>
✓ Petals separate	3. Bittergourd (karela)	: <i>Momordica charantia</i>
✓ Stamens epigynous	4. Wax or White gourd	: <i>Benincasa hispida</i>
✓ Ovary syncarpous,	5. Cucumber	: <i>Cucumis sativus</i>
✓ Fruit pepo		

Book references:

1. Botany for Degree Students, A. C. Datta.
2. College Botany, H. C. Gangulee.
3. Modern Practical Botany (Vol-II), B. P. Pandey

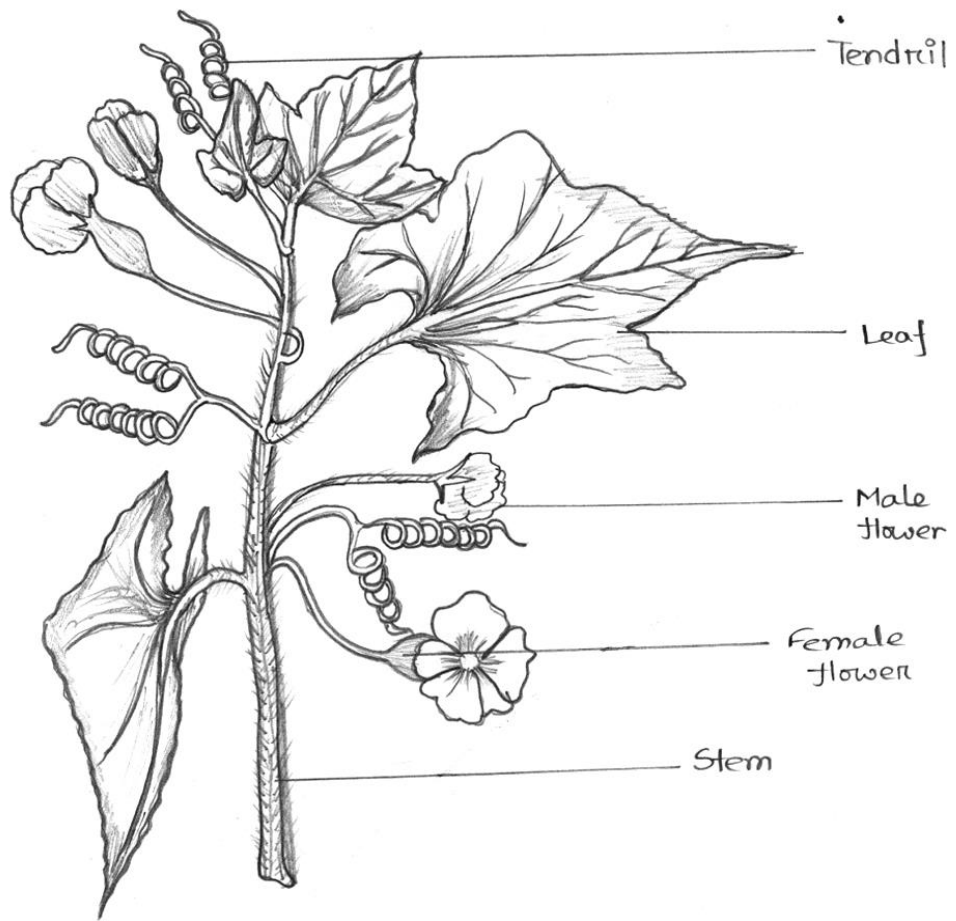


Figure : Part of a bottle gourd plant

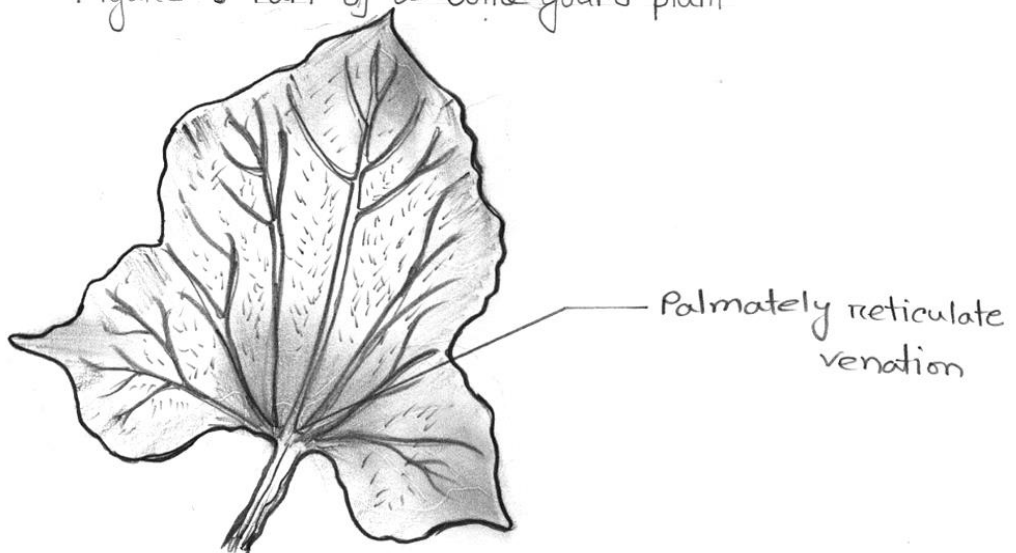


Fig. Leaf of a bottle gourd showing palmately reticulate venation

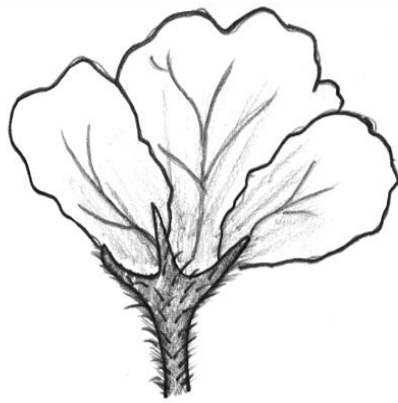


Fig: A male flower of bottle gourd

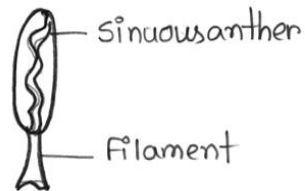


Fig: One stamen

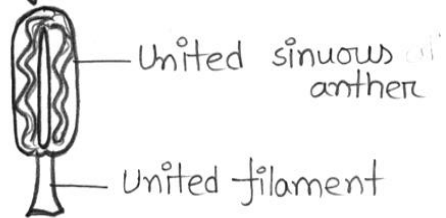


Fig: Two stamens united together (Synandrous stamen).



Fig: A female flower of bottle gourd

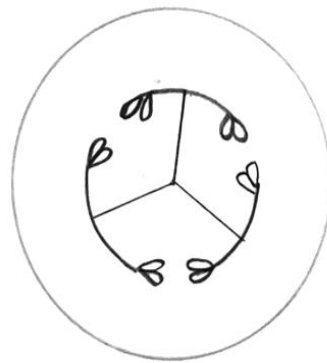


Fig: Cross section of ovary showing parietal placentation.

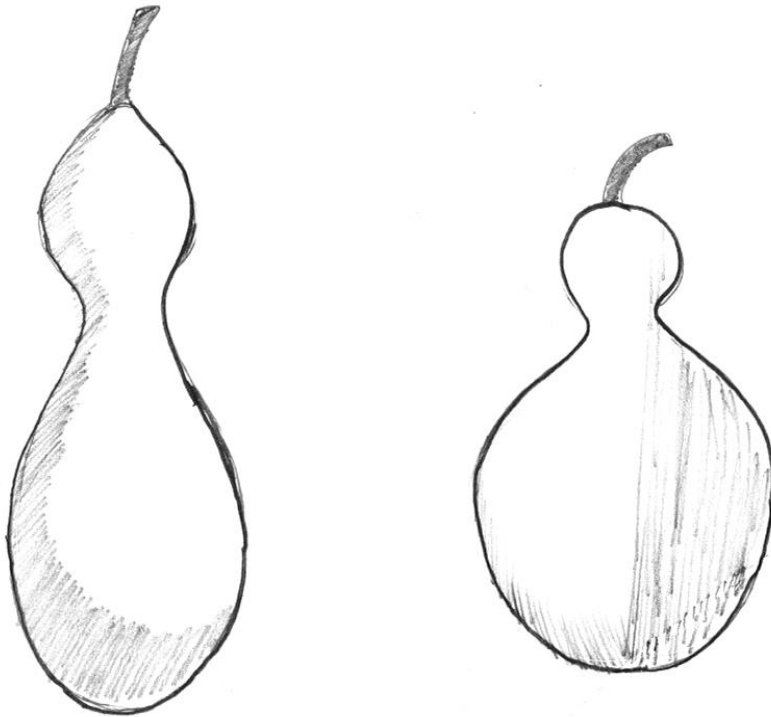


Fig : fruit (repro)

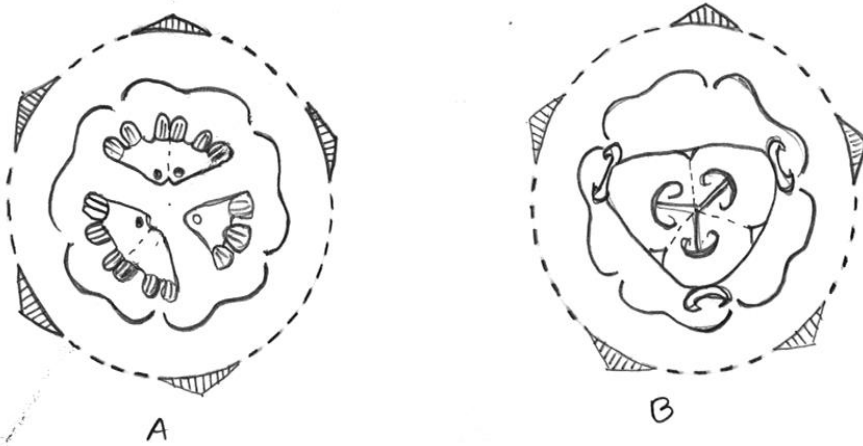


Fig: Aestivation of bottle gourd flower.

A. staminate flower

B. Pistillate flower