

Vidya Bhawan Balika Vidyapeeth Lakhisarai

Arun Kumar Gupta

Class 11th

Sub. Biology

Date:- 17.09.20

Modification of Adventitious Roots

The adventitious roots are modified to perform several additional functions like food storage, mechanical support and other vital functions.

- (a) Fasciculated Roots These arise in clusters from the base of the stem, e.g., Dahlia, Asparagus.
- (b) Nodulose Roots These roots have swellings occur only near the tips, e.g., Arrow root (Maranta), amia haldi (Curcuma amadd).
- (c) Tuberous Roots (Single Root Tubers) These are swollen without any definite shape, e.g., Ipomoea batatas (sweet potato).
- (d) Prop (Pillar) Roots The prop roots grow as the horizontal branches of the stem and grow vertically downward. They become thick pillar-like and provide mechanical support to the giant trees, e.g., Banyan tree (Ficus benghalensis).

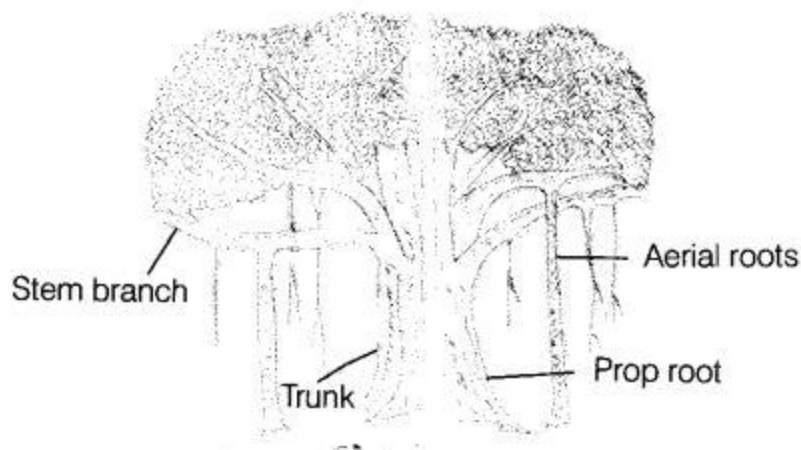


Fig. 5.5 Banyan tree

- (e) Stilt Roots These are small thick supporting roots growing obliquely from the basal nodes of the main stem. These provide mechanical support, e.g., Saccharum officinarum (sugarcane), Zea mays (maize).
- (f) Climbing (Clinging) Roots These roots are found in climbers. They may arise from the nodes, e.g., Ivy, Pothos (money plant).

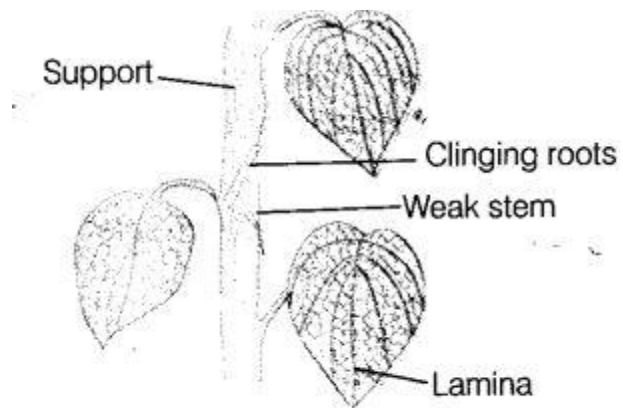


Fig. 5.6 Betel (*Piper betel*)

(g) Assimilatory (Photosynthetic) Roots These roots have chlorophyll and can synthesise food, e.g., Aerial or hanging roots of some orchids.

(h) Parasitic (Sucking) Roots These roots occur in parasitic plant for absorbing nourishment from their host. These roots function as haustoria, e.g., *Cuscuta* (dodder).