

# AQUARIUM PLANTS

## CHAPTER 1 : AQUARIUM PLANTS

### 6.1.1 Importance

- Aquarium plants give natural look to aquarium.
- They provide food for fishes. Herbivorous fishes directly eat the plants. Other fishes eat the organisms attached on the leaves.
- They provide shelter, shade and hiding place for smaller fishes.
- They serve as spawning site for certain fishes.
- Plants and fishes have symbiotic relationship. The fish waste is used as an excellent fertilizer for plants. Plants in turn remove nitrate and CO<sub>2</sub> from water.
- Plants are best filters and thus help to maintain water quality.
- Some of the plants are believed to reduce pH of water which is suitable for breeding of certain fishes like tetra, angel etc.

### 6.1.2 Types of plants

#### 1. Floating plants:

Plants have their foliage (leaves) above the surface of water with roots hanging free. Ex. *Eicchornia*, *Pistia*, *Spirodela*, Lemna, Azolla, *Wolffia*, *Salvinia*, *Riccia sp.*

#### 2. Emergent plants:

Plants having their leaves and flowers above the water surface but rooted in the bottom. Ex. *Nymphaea*, *Nelumbo*, *Nymphoides*.

#### 3. Submerged plants:

Leaves are submerged in the water, may or may not be rooted. Ex. *Hydrilla*, *Ceratophyllum*, *Mysiophyllum*, *Ottelia*, *Bacopa*, *Ludwigia*, *Sagittaria*, *Aponogeton*, Cabomba, *Limnophila*, *Ceratopteris*.

*Rooted plants* : *Hydrilla*, *Najas*, *Ottelia*, *Vallisneria*, *Potamogeton*, *Lagarosiphon*, *Chara*, *Nitella*.

*Devoid of roots* : *Ceratophyllum*, *Utricularia*.

#### 4. Marginal plants:

They are growing in the shallow areas of the water body (near shore). Ex. *Typha*, *Cyperus*, *Ipomea*, *Eleocharis*, *Cryptocoryne*, *Echinodorus*.

### 6.1.3 Important aquarium plants

#### 1. Lemna minor :

Commonly called as duck weed. Minute (tiny) free floating aquatic weed. The roots are minute. It is a good source of feed for vegetarian fish and ducks. It is capable of purifying waste water. It spreads spontaneously at an amazing speed. It will cover the entire surface of the tank if unchecked.

#### 2. *Hydrilla sp.* :

Submerged weed. It grows under water. But some of their leaves are coming out of water. Usually they are anchored to the hydrosoil. However, it may get completely detached from hydrosoil and continue to grow as free floating near the water surface. The stalks are upto 3 m long. It bears whorls of 2-9 straight dark green leaves at short intervals. The leaves are 2 cm long, and 0.3 cm wide. It is easy to grow either it's rooted or free floating form provided it is given good light.

#### 3. *Najas minor* :

Submerged aquatic plant. Plants are 20-30 cm long. Stems are thin. Narrow leaves of 1-2 cm in length. The leaves are green in colour. Sickle-shaped, 6-10 pairs of teeth. It lives in shallow, stagnant waters. The *Najas* is easy to grow. It requires good light and clear water. It can thrive and grow as free floating.

#### 4. *Marsilia quadrifolia* :

Common Name : Four leaved water clover, clover fern

Family : Marsiliaceae Shoreline weeds.

Found in shallow waters. It has thin rhizoids anchored at the bottom. It has long filamentous stems each ends with a cluster of four oval shaped leaves.

**5. *Vallisneria sp.* :**

Family : Hydrocharitaceae

Common Name : Tape-grass, eel grass, ribbon grass.

Submerged aquatic plant. It anchors to the hydrosol. It is a most common aquarium plant. They need bright light, but grow slowly in dim light. Ribbon like green leaved tall plant. The leaves are 30-80 cm long and 0.4 – 0.8 cm broad.

**6. *Ipomoea aquatic* :**

Common Name : Water spinach

It is a common aquatic plant in India. This is used for human consumption. Found in shallow waters. It grows in shore, when water is filled in that area it detaches and become free floating. Hollow stems with white spongy floats and rooting at nodes. Leaves are elliptic or ovate-oblong. Flowers are white or pink.

**7. *Ceratophyllum (Horn wort)* :**

Family : Ceratophyllaceae

Submerged, rootless, free swimming plants. Consist of long stems bearing side branches. Leaves are short, thin spikes, sharp and harsh to touch. Darkish green colour leaves. Stems bear whorls of at most 10 leaves growing at a slightly upward angle. Each leaf with 2-4 leaflets, forked and spiky reminiscent of a pair of horns.

**8. *Nymphaea sp. (water lily)* :**

Family : Nymphaeaceae

It has roundish or oval shaped leaves floating at the water surface. Bears long stems. Attached to bottom mud rhizoid roots. Flowers are very large. White or coloured. They have a delicate scent and float at the surface (N.nouchali). N. stellata is another lily. The leaves are submerged with serrated edges. Smaller than N.nouchali. It bears small light blue flowers, purple or pink.

**9. *Eichhornia crassipes (water hyacinth)* :**

Floating plant has a rosette of large round leaves and swollen stalks that give the plants its buoyancy. It has hanging roots. Most abundantly growing water plant. The plant can multiple at a phenomenal rate of 15% surface area per day.

**10. *Cabomba sp.* :**

Family : Nymphaeaceae

Submerged plant. Plant has stems upto 150-200 cm long. Fan shaped leaves grow opposite each other at regular intervals. Leaves are beautiful, light green. It grows easily. Good light is required. It is easy to propagate by top cuttings.

**11. *Echinodorus sp.* :**

Family : Alismataceae

Submerged plant. Commonly called Amazon sword plant. The leaves are arranged in a rosette growing out of rhizome. The leaves vary in shape. They are elongated lance-shaped, oval shaped (or) heart shaped. The leaves are 20-40 cm long and 2-4 cm wide. Light green colour.

**12. *Salvinia* :**

Family : Salviniaceae

Stalk lies horizontally just below the surface and bears whorls of three leaves. Two of which float on the surface. They are oval shaped. The third leaf hangs down freely in the water (which is transformed into feathery branch similar to little roots hanging below the water). The surface of the leaf is rough with short stiff bristles.

#### 6.1.4 Other important aquatic plants and their common names

- *Aponogeton fenestralis* - Lace plant
- *Pistia sp.* - Water lettuce
- *Ceratopteris thalictroides* - Indian fern (or) water sprite
- *Cryptocoryne willisini* - Hidden club
- *Limnophila sessiliflora* - Ambulia
- *Myriophyllum* - Milfoil

- *Sagittaria sagitaefolia* - Arrow weed
- *Eleocharis acicularis* - Hair grass or needle grass