

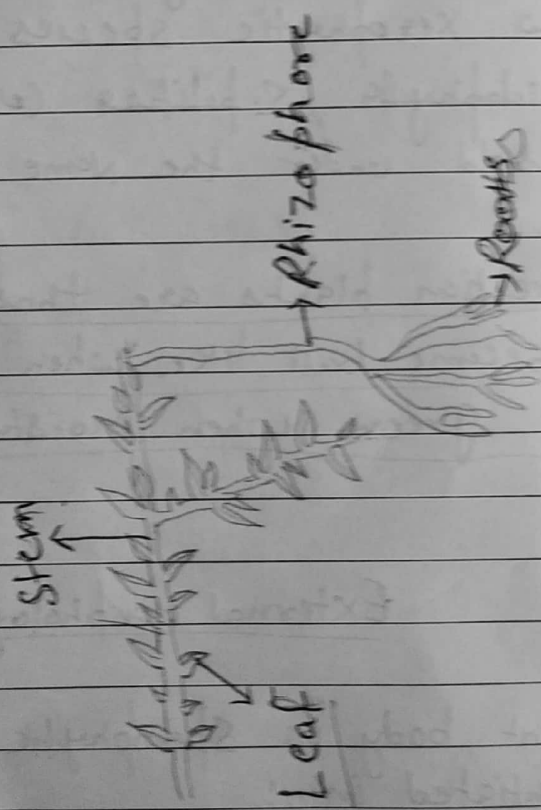
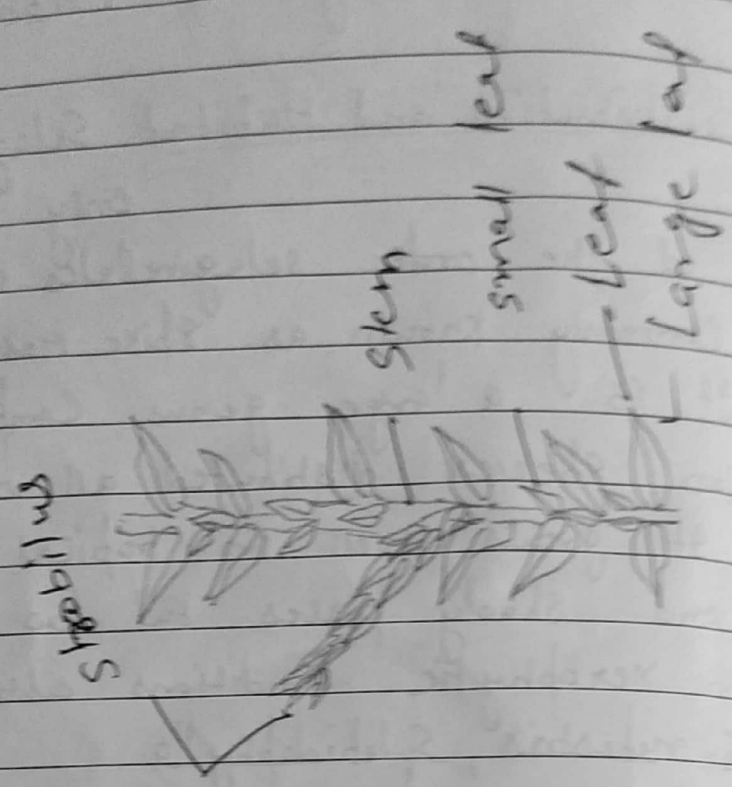
Selaginella (Morphology)

- 1. Distribution and Habitat Selaginella is the only living genus of the order selaginellales and it is commonly known as spike moss or club moss. It is a large genus comprising about 700 species distributed all over the world. It grows well in tropical rain forests and shady places but few species grow in xerophytic conditions also e.g. S. rupestris, S. lepidophylla. A few xerophytic species of Selaginella, S. lepidophylla, S. pilifera (terrestrial habit) and sold under the name of Resurrection plants.
- Resurrection plants are those which curl and become ball like when dry and again become green when moisture is available.

External Morphology

The plant body is sporophytic and can be differentiated into:

- I. Root
- (II) Stem
- (III) Leaves
- (IV) Rhizophore
- (V) Ligule



A portion of strobolytic

- Stem: It is usually profusely branched delicate and evergreen. Branching is of Monopodial (single main axis).
- The Growing apex of stem consists of Meristematic tissue or a single Apical cell.
- In sub-Genus homophyllum (Same leaves) the stem is erect and somewhat cylindrical and in sub-Genus Heterophyllum (Different types of leaves) it is prostrate with stout erect branches and somewhat dorsiventral.
- Leaves: Leaves are usually small lanceolate with a pointed apex.
- Each leaf is provided with single unbranched midrib.
- In heterophyllum leaves are dimorphic (different morphology) i.e. two size - small and large and arranged in pairs.
- Small leaves are arranged on dorsal side of stem and bigger ones arranged on ventral side of stem.
- Bigger leaves alternate with bigger ones and smaller with smaller ones.
- Leaves near apical portion of branch bear sporangia (Micro and Mega) and

Called smaller leaves Sporophylls. (leaves bear spores) Sporophylls arranged into a condense structure known as Strobilus.

• Ligule: In all the species each leaf bears on its upper surface or ventral surface close to its base, a small membranous structure or outgrowth ligule is present.

• It is usually inserted by a foot the glossopodium in a definite socket, the ligular pit. It is best seen on very young leaves.

• In mature leaves it is shrivelled and inconspicuous, and soon withers away and disappears.

• The function of ligule is not well known. It has been suggested that it may be a water secreting or water absorbing organ which keeps the stem apex and young leaves moist and prevents undue drying.

• Rhizophores: It is a colourless, leafless cylindrical prop. like structure called rhizophore is given off at each ramification (Branching out)

Rhizophore grow downward into the ground and give rise to a small tuft of adventitious roots at their tips.

Roots: The Primary root is short lived. All other roots born by adult plants arise adventitiously.

- In some species they may arise from bifurcation of stem e.g. *S. densa* or directly from stem.

Roots are provided with root caps and root hairs just as in roots of other plants.