

MORPHOLOGICAL NATURE OF RHIZOPHORE
OF SELAGINELLA

(Short Answer Question)

TDC Part-I (Hons.)
(2019-22)

PAPER-I
Group-B

At each ramification of the stem in Selaginella, a root-like organ called rhizophore develops and grows downwards and produces roots on reaching the soil. It is without nodes and internodes and exhibits features intermediate between the root and stem. The morphological nature of this organ has been in dispute. Three views have been put forward in this regard.

(a) Root Nature:

(i) Webster and Steeves (1957) and several other workers, on the basis of morphological, histological and ontogenetic evidences, have put forth the view that the rhizophore of Selaginella is a root.

(ii) Rhizophores resemble roots in being positively geotropic and leafless and in having anatomical features of roots.

(iii) Species with polystelic stems show monostelic rhizophore.

(iv) Rhizophore differs from the roots in being devoid of root-caps and root hairs and in being exogenous in origin.

(b) Stem Nature:

(i) Rhizophores resemble stems in being exogenous in origin, lack of root caps and root hairs, position definite in relation to stem, i.e., at basal dichotomy.

(ii) When decapitated, rhizophores sometimes develop leafy shoots.

(c) Organ sui generis:

(i) Goebel (1905), Bower (1906, 1935) and some other workers conceived that rhizophores are organs which are neither stems nor roots. Thus they must be called 'organ sui generis'.