A COMPARATIVE WOOD ANATOMICAL STUDY ON HEALTHY AND INFECTED WOOD SAMPLES OF *Gyrinops walla* Gaetner ('WALLA PATTA')

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Agarwood oil obtained from a number of genera of the family thymelaeaceae is an expensive product in the global market. *Gyrinops walla* produces a fragrant resinous substance similar to agarwood produced by Aquilaria spp. and Gonystylus spp. in mature and damaged stems and branches when they become infected with a particular type of mould. The present study focused on anatomical characteristics in healthy and infected wood of *Gyrinops walla.* Anatomical features of transverse, tangential and radial sections of healthy and infected wood samples were stained with safranin and observed under a light microscope. The characteristics of wood colour, growth rings, vessel elements, ray parenchyma, axial parenchyma, intercellular spaces, tyloses and mineral inclusions and the distribution of phloem in wood sections were observed and described. Both healthy and infected wood shared similar anatomical characters. Anatomical observations revealed that brownish substances in ray parenchyma included phloem and xylem vessels signifying the functional importance of agarwood depositions in infected wood. The findings suggest that the xylem associated living cells of 'included phloem' of the wood play a crucial role in the formation of agarwood. Chemical studies on the cell contents of included phloem and xylem are required to confirm the presence of agarwood type constituents in G*yrinops walla* wood.

Keywords: Agarwood, *Gyrinops walla* Gaetner, Included phloem, 'Walla patta', Wood Anatomy

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