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A RE-CONSIDERATION OF THE TERMS ACANTHOPHYSES, ACANTHOPHYSOIDS AND ACANTHOHYPHIDIA

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Within the basidiocarps are met with various kinds of sterile structures some of which are often considered as characters of great taxonomic value. Acanthophyses, acanthophysoids and acanthohyphidia are some such sterile structures which are frequently found in the descriptions of the fruit bodies of certain thelephoraceous fungi ; but their definitions vary from author to author.

In general, acanthophyses are regarded as sterile hyphal ends having a number of short spine-like processes on their surface. Burt (1920) designated them as "bottle-brush paraphyses". Sterile hyphal ends having few slender spines tapering from the base to the long acuminate apex, as found in some members of Stereaceae, have been described as 'aculeate tipped basidioles' by Rattan (1977), while Boidin (1960) designated them as 'pseudoacanthophyses'. Boidin *et al.* (1979) used another term 'acanthohyphydia' for the sterile structures occurring in *Stereum peculiare* Parmasto, Boidin & Dhingra and *S. reflexum* Reid, which have been considered by them as true acanthophyses but "more differentiated, with many apparently massive, cylindrical, finger-like elements". Gilbertson (1974) defined acanthohyphidia as "Sterile elements in the hymenium of some species of *Aleurodiscus* ; slender and characterized by peglike projections that give a "bottle-brush" appearance. But in describing the hymenial sterile structures in *Aleurodiscus lividocoeruleus* (Karst.) Lemke and *A. canadensis* Skolka, he referred them as 'aculeate acanthophyses'. Thind and Rattan (1973a,b) described the sterile hymenial clavate structures beset with numerous aculeate protuberances, upto 3 to 4 μ long, and occurring in *A. taxicola* Thind & Rattan and *A. oakesii* (Berk. & Curt.) Hoehn & Litsch, as acanthophyses.

So, from an overview of these descriptions, it becomes evident that the sterile structures constituting hyphal ends with small spine-like or massive finger-like projections, have been defined differently by different workers. But scientific terms ought to be clearly defined and particularly those which are regarded as characters of taxonomic value. The best solution seems to consist of considering all sterile hyphal ends beset with spine-like projections upto 1 μ long as true acanthophyses as characteristic of the genus *Xylobolus* of Stereaceae. True acanthophyses are also

noticed in polyporaceous fungi such as *Irpex flavus* Jung., and *Irpex vellereus* Berk, and Br. The walls of the acanthophyses may be thin or thickwalled and they are usually naked structures, but sometimes may be covered with crystals, as observed in *X. subpileatus* (Berk. and Curt.) Boidin (Rattan, 1977). We also noted encrusted acanthophyses in *Irpex vellereus*. Hyphal elements having long finger-like aculeate projections at their terminal ends better should be termed 'acanthohyphydia'. Aculeate projections arising from basidia or basidioles as occur in some thelephores may be described as aculeate basidia or basidioles respectively.

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REFERENCES

Boidin, L. (1960). Le genre *Stereum* Pers. S. L. au Congo belge. *Bull. Jard. bot. Brux.* **30**, 51-74.

Boidin, J., Parmasto, E, Dhingra, G. S. and Lanquetin, P. (1979). Stereums with acanthophyses, their position and affinities. *Persoonia*, **10**, 311-324.

Burt, E. A. (1920). The Thelephoraceae of North America. XII-*Stereum*. *Ann. Missouri bot. Gdn.* 7, 81-248.

Gilbertson, R. L. (1974). Fungi that decay Ponderosa pine. *Univ. Arizona. Press. Tucson, Arizona.* 197 p.

Rattan, S. S. (1977). The Resupinate Aphyllophorales of the North Western Himalayas. *Cramer.* 427 pp.

Thind, K. S. and Rattan, S. S. (1973a). The Thelephoraceae of India-VI. *Indian Phylopath.* **26**, 485-494.

—— and —— (1973b). The Thelephoraceae of India-X. *Mycologia* **65**, 1250-1258.

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