

Mycotaxonomic Study of Two *Aplosporella* Species from Wardha District, (MS) India

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Abstract

During a mycological collection of the coelomycetous fungi from Wardha district (MS), India two new species of the form-genus *Aplospoella* Speg. were collected. These are growing saprophytically on dry stems of *Azadirachta indica* L. and on dead stems of *Leucaena leucocephala* (Lamk) de wit. The fungi were studied in details with respect to its taxonomy and identity. It is proved to be distinct after comparative studies with other known species of *Aplosporella* including the type species, in morphological characters and dimensions especially in the size of pycnostroma and conidia. Hence, they are described under a new taxon.

Keywords: Mycotaxonomy, Multilocularstroma, Brown oval conidia.

Introduction

Mycotaxonomy has been much interesting and debatable subject. It helps to understand the biodiversity and conservation. It is very difficult to identify and establish new taxa without comparison of the species of single genera along with host specificity¹. Present mycotaxonomical studies reveals distinctness of the taxa understudy.

Materials and Method

The collected specimens were wrapped in butter paper and bagged in envelope. By taking hand sections, semi permanent microscopic slides were prepared by using cotton blue as stain, fine structure of the material were studied with relevant keys and literature²⁻⁷. The specimens were deposited in Ajrekar Mycological Herbarium, Agharkar Research Institute (ARI) Pune.

Results and Discussion

Aplosporella indica sp. nov (Figure-1a, b): (Etymology: In reference to host *Azadirachta indica* L): Pycnostroma numerous, scattered throughout the stem which burst out of the bark, measure 380 - 432 x 432 - 720 μ m; locules 3-5 separated

by thin walled cells, measure 64 - 204 x 64 - 150 μ m; conidiophore simple, non-septate, 4 - 6 μ m long; conidia dark brown, ovoid to oblong, one celled measure 16 - 24 x 10 - 14 μ m; sterile threads present.

Pycnostroma pluradispersa, toumcoulem. prostrusum ex cortice, papillatum magnit 380 - 432 x - 432 - 720 μ m; locularia 3 - 5 quarum ab aliis cellulis, magnit 64 - 204 x 64 - 150. μ m; conidiophora simplicia non-septata magnit 4 - 6 μ m longa; conidia fusca - brunnea, ovoidea vel oblonga, unicellularia, magnit 16 - 24 x 10 - 14 μ m; hyphis strili numerosus.

Matrix: On dead stem of *Azadirachta indica* L (Fam:-Meliaceae) legit N.S.D 12/09/2003 at Pulgaon, (Dist. Wardha), AMH No. 9031 (Holotype).

Aplosporella leucocephal sp. nov (Figure-2 a, b): (Etymology: In reference to host *Leucaena leucocephala* (lamk.) de wit). Pycnostroma black, erumpent, measure 275.4-382.0 x 480-740 μ m.multiloculate, 6 - 8 locules per stroma, non - ostiolate, measure 76.0 - 229.5 x 76.0 - 306 μ m; conidiophores simple, hyaline, unbranched, 4 - 10 μ m long; conidia oval, brown, one celled, measure 7.6 - 22.8 x 7.6-11 μ m; Sterile threads present.

Table -1
Comparison of *Aplosporella* Species

Species	Pycnostroma	Conidia	References
<i>A. azadirachtae</i>	520 - 595 x 325 - 423 μ m	11 - 23 x 7 - 25 μ m	Tilakand Rao ¹⁰
<i>A. cymbopogonae</i>	144 - 240 x 176 - 352 μ m	18.26 x 11 - 14 μ m	Kaste ⁸
<i>A. indica</i> sp.nov.	380 - 432 x 432 - 720 μ m	16 - 24 x 10 - 14 μ m	Understudy

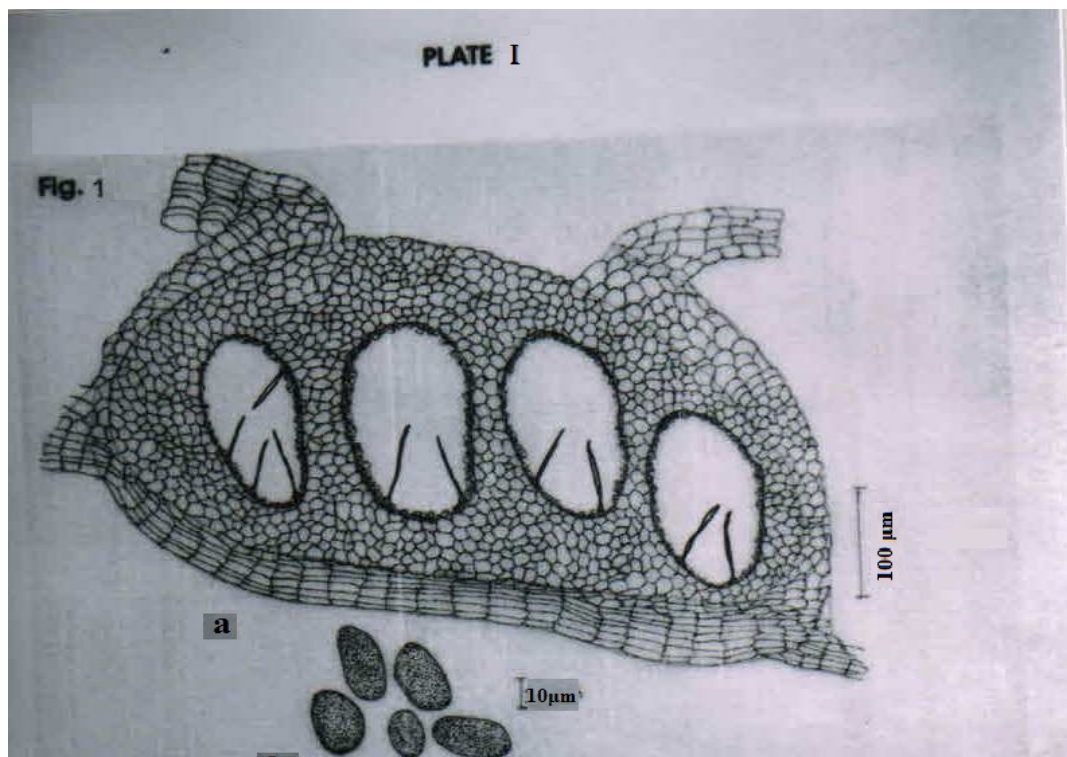


Illustration: Mycotaxonomic Study of Two *Aplosporella* Species from Wardha District, (MS) India

Figure-1

Aplosporella indica sp. nov, a = Pycnostroma; b = Conidia

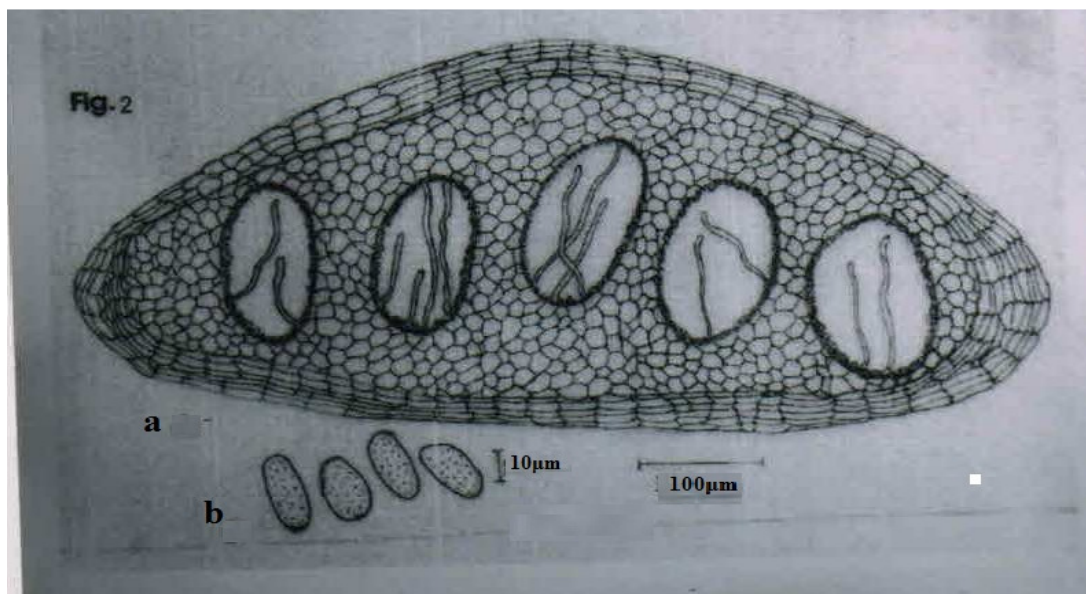


Illustration: Mycotaxonomic Study of Two *Aplosporella* Species from Wardha District, (MS) India

Figure-2

Aplosporella leucocephalasp. nov, a = Pycnostroma; b = Conidia

Pycnostromaatra, erumpentia, magnit 275.4 - 382.0 x 480 - 740 μm ; multilocularia, 6 - 8 loculis per stroma, magnit 76.0 - 220 x 76.0 - 306 μm ; conidiophorasimplicia, hyaline. non-ramosa. 4 - 10 μm longa: conidia, ovoidia, brunnea, unicellulariamagnit 7.6

- 22.8x7.6-11.4 μm ; Filaments teriliaconidiophorisintermixa.

Matrix: On dead stem of *Leucaena leucocephala* (lamk.) de wit (Fam: Mimosaceae) legit N.S.D 10/10/2003 at Pulgaon (Dist. Wardha). AMH No. 9033 (Holotype).

Table-2
Comparison of *Aplosporella* species

Species	Locule	Stroma	Conidia	References
<i>A. acaciae</i>	-----	80 - 100 x 65 - 100 μm	15 - 19 8 - 11 μm	Tilakand Rao ¹⁰
<i>A. coniferae</i>	120 - 148 x 80 - 160 μm	0.43 - 0.68 x 0.78 - 1.6 μm	16 - 24 x 10 - 14 μm	Kaste ⁹
<i>A. leucocephala</i> sp . nov.	76 - 229.5 x 76 - 306 μm	275.4 - 382.0 480 - 740 μm	7.6 - 22.8 x 7.6 - 11.4 μm	Understudy.

Conclusion

On the basis of comparative Table-1 and, 2 the species understudy were found to be distinct in morphological characters and dimensions from the other knows species of *Aplosporella* hence treated as new species.

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