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RESEARCH ARTICLE

CHEMOTAXONOMIC STUDIES OF TWO SPECIES OF *APLOSPORELLA*– SPEG. *(HAPLOSPORELLA* SPEG.)- II

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ABSTRACT

The present paper deals with chemotaxomic studies of two species of *Aplosporella* –Speg. (= *Haplosporella* Speg). The species understudy were phenotypically and biochemically different from each other. They were collected on different hosts *A. maytiniella* sp. nov. On *Maytenus emarginata* (Wild.) and *A.syzygiella* sp.nov on *Syzygium cumuni* (lina) Skals. Comparative study with species early reported species it treated as new species. *A maytiniella* sp.nov and *A. syzygiella* sp.nov.

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INTRODUCTION

Study of chemotaxonomy is disputable phenomenon to understand the diversity of species. It is difficult task to identify new taxa on the basis of phenotypic character therefore many authors suggested host specificity is one of the important character for speciation. The present study reveals that not only the phenotypic characters are used during speciation but chemical study play a key role in speciation (Patwardhan 1972, Kherda *et al.* 2004, Kumer *et al.* 2011, Harborne 1984)

MATERIALS AND METHODS

Phenotypic characters were studied by taking hand free sections and mounting it in loctophenol, microscopic observation reveals some different characters Ainsworth *et al.* 1973. Jamaluddin *et al.* 2004, Sarbhoy *et al.* 1996). To study the chemical characters the mentioned species were culture on Potato Dextrose Agar (Fig. 5).

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For Chemical Studies fully grown cultures were hydrolyzed, residue was collected in 10% isopropyl alcohol. The chemical studies were done with two dimential paper chromatography the solvent systems used were n-bulanol : acetic acid : water (4:1:1 W/V) and phenol : water (3:1 W/V). The indicator used was ninhydrine. On development the RF values were compared with the standard run simultaneously. The specimen was deposited in Ajrekar Mycological Herbarium (AMH) Agharkar Research Institute Pune. *A. maytinella* sp. nov. AMH No. 9032 (Holotype) *A. syzygiella* sp. nov. AMH. No. 9027 (Holotype).

RESULT AND DISCUSSION

On the evidence of the comparative tables of phenotypic and chemical studies the size of stroma and conidia shows variations the stroma and conidia of *A. maytiniella* sp. nov(Fig. 1,2) were smaller than the reported species, but *A. syzygiella* sp. nov. (Fig. 3,4)has smaller stroma and conidia than *A. thailandica* and *A. prunicola*. The study of amino acid spectra reveals Phenylalanine, Aspartic acid, Serine, Glutamic acid are present in *A. syzygiella* sp. nov. The amino acid Ornithine and Glycine were absent in *A. maytiniella* sp. nov. The table -1 and table -2 (Fig.6) indicates the distinctness of species than the earlier species, hence treated as new species.

Table 1. Comparative Table of phenotypic character

Species	Stroma	Conidia	Reference
A.beumontiana Ahamad	0. 6 mm	13-20x10 -11.5 µm	Pande (1995)
A. prunicola Damm&Crous	400-800x 200-350 µm	19-22x10-12 µm	Samm&Croces (2007)
A.lycopcrsie Kaste	64-164 x 44 – 108 µm	19-24x12-20 µm	Kaste(2014)
A.javeedii Xin-Lei -Fanet al	0.58mm	22.8x10.6 µm	*Xin-Lei -Fan et al et al*(2015)
A. thailandica Ekanayaka et al	800-1000 x 600 – 800 µm	14-22 x 8-14 µm	Ekanayaka etal (2016)
A. maytiniella	153.0-306x 300- 700 µm	3.8 – 7.6 µm long	Understudy
A. sylysielle	300 – 430 µ 450- 780 µm	11.4 – 19.0 x 15.2 – 17 µm	Understudy

Table 2. Comparative Table of Amino acid spectra

Amino acid	*A.maytiniella*sp.nov.	*A. syzygiella*sp.nov.
Arginine		
Hydroxyproline		
Tyrosine		
Leuline	+	+
Threonine	+	+
Alanine	+	+
Aspartic acid	+	+
Phenylalanine	-	+
Serine	-	+
Glutamic acid	-	+
Valine	+	+
Ornithine	-	+
Glycine	-	+
Norleucine	-	-
Cystine	+	
Methionine	+	
Tryptophan	+	
Dihydroxy phenylalanine	+	

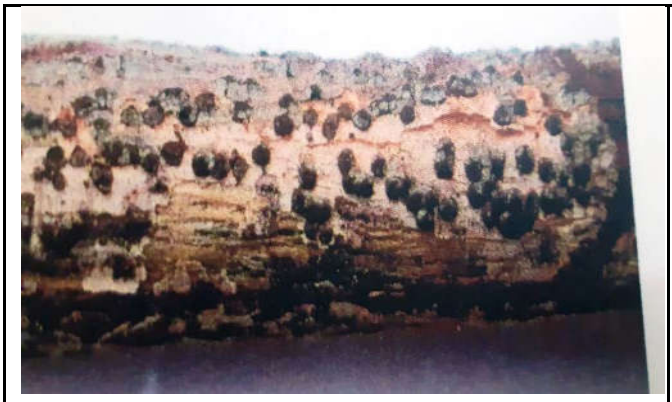

Fig. 1. A. Habat *A. maytineclla*

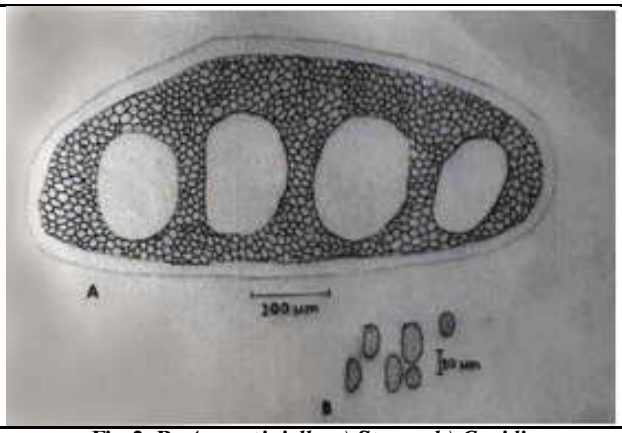

Fig.2. B. *A. maytiniella a) Stroma b) Conidia*

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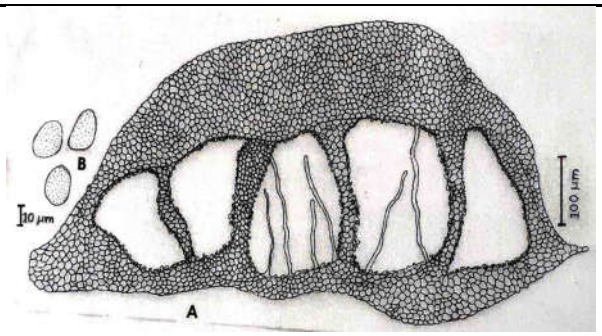

Fig. 4.B.*A. syzygiella a) Stroma b) Conidia*

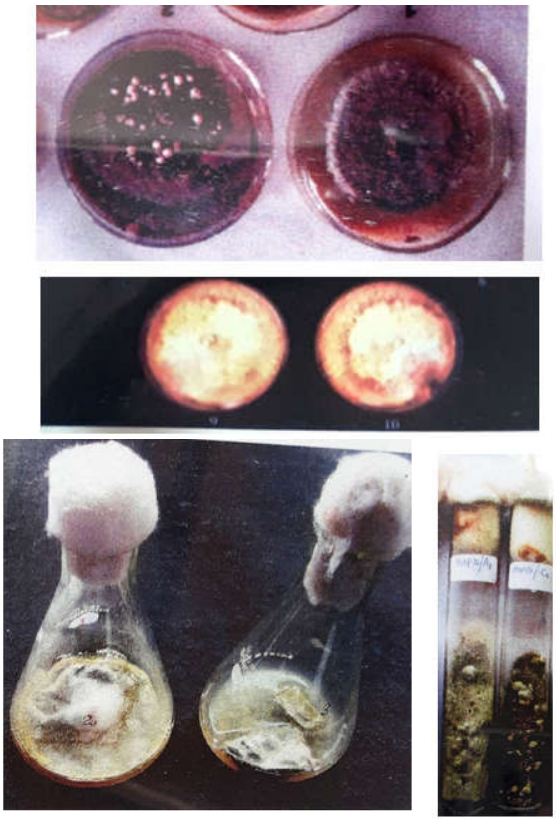

Fig. 5. Culture of *A.maytiniella & A. syzygidla*

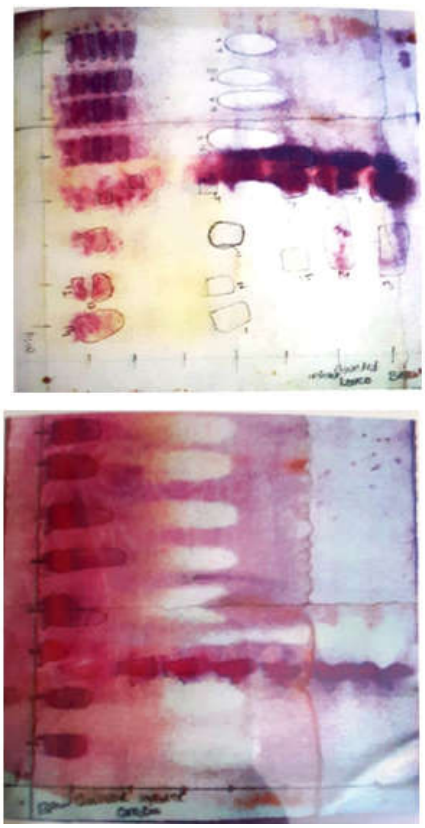

Fig. 6.Chromatagraphy of Amino acid

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Glutamic acid are present in *A.syzygiella*sp.nov. The amino acid Ornithine and Glycine were absent in *A.maytiniella* sp. nov. The table -1 and table -2 indicates the distinctness of species than the earlier species, hence treated as new species.

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