

## **V. SUMMARY AND CONCLUSIONS**

*favourable conditions  
for their study*

The topic of the present dissertation entitled **TAXONOMICAL STUDIES OF MELIOLACEOUS FUNGI AND THEIR HYPERPARASITES**

has been selected due to their richness of these fungi in this part of the region due to favourable climatic conditions throughout the year. A continuous systematic survey and plan to explore the different localities of the South Western parts of the Maharashtra State and also a part of the Karnataka State throughout the year provided a good amount of collections of this family Meliolaceae alongwith their hyperparasites. These collections were studied in detail taxonomically and the outcome of the efforts presented as follows. This is a continuation of the work of mycological school of this department by different workers, who also worked out the different groups of Ascomycetous fungi including Meliolaceous. Thus, author has good opportunity to see and study many previous collections including types with their mycoparasites.

Important features of the present work are summarised in brief as follows :

- 1) In the present investigation twenty-four species and eight varieties of the family Meliolaceae have been worked out taxonomically. ✓
- 2) All these taxa (thirty two) belong to six genera of the

family Meliolaceae. These are viz. Amazonia Theissen, Appendiculella Hoehnel; Armatella Theissen & Sydow; Asteridiella Mc Alpine, Irenopsis Stev., Meliola Fries.

3) <sup>put a</sup> ~~(x)~~ The <sup>← number →</sup> taxa studied in the present investigation, twenty belongs to major genus Meliola Fries and remaining twelve belong to remaining five genera of the family studied.

4) Out of these thirty-two taxa studied, six species and one variety have been proposed as a new purely on their morphological characteristic, these are as one species of Asteridiella McAlpine, three species of Irenopsis Stev. and two species and one variety of Meliola Fries.

5) Five species have been recorded as new addition<sup>3</sup>/<sub>2</sub> to mycoflora of India. One species of Appendiculella Hohnel, two species of Asteridiella McAlpine; and two species of Meliola Fries.

6) The collections were collected and studied from four different states viz. Maharashtra, Karnataka, Kerala and Tamil-Nadu. Five species and four varieties have been studied and reported for the first time from Maharashtra State; two species from Karnataka State ; one species from Kerala and one species from both States viz. Karnataka and Kerala State and one species from both states viz. Maharashtra an Karnataka State.

7) Four taxa (three species and one variety) have been recorded on additional new host viz. Armatella balakrishananii

Hosagoudar, Asteridiella ohiana (Stev.) Hansf. var. major Kar & Maity, Meliola aethops Sacc. and M. petrakii Stev. & Rolden.

8) In the present investigation it is observed that many new taxa were proposed by different authors from India. Some taxa were found to be doubtful and therefore, their type materials were also studied during this investigation as follows :

a) Dr.C.R.Patil (1990) has proposed a new species of the genus Armatella Theissen & Sydow. viz. A. gymnosporae sp. nov. on Gymnosporia rothiana Laws. The genus Armatella Theissen & Sydow <sup>is</sup> known by 9 species and one variety from all over the world and is host specific i.e. only to the members of Lauraceae. Therefore, Patil has described a new taxa of the host of the family Celastraceae. HCIO No. 40024 from Delhi was studied and found that there was no any trace of the occurrence of the genus Armatella Theissen & Sydow he reported but leaves were parasitised by a member of family Asterinaceae i.e. to a conidial state viz. Asterostomella. Therefore, this species <sup>is</sup> considered to be doubtful.   
 - Patil's sp. 7

b) Dr.Thite and Miss S.D.Patil (1983) have proposed a new species of Meliola Fries viz. M. piperae sp. nov. on Piper nigrum L. from Amboli. There are many species and varieties of Meliola Fries reported from different parts of the world of different species of Piper. Therefore type material of this species HCIO No.33672 was also studied and the claim they have made to raise

a new taxa based on a especially on length of MS, nature of ch; ✓  
 and size of the ascospores which were measured as (120-155 X  
 35-75  $\mu$ m) but this collection found to be quite normal and belong  
 to a common variety viz. M. stenospora Wint. var. major Hansford  
 thus it has been made synonym.

c) Very recently Budathoki, Usha et al. (1994) have reported  
 a new species viz. Meliola santalacearum sp. nov. on Osyris  
arborea Wall. ex DC. from Nepal. The author stated that there  
 is no report of Meliola on Osyris arborea Wall ex DC. a quite  
 ironeous remark and ignorens. A. Meliola osyricola Hansford has  
 been reported and described by Hansford (1961) as well as Dr. Thite  
 and Patil has collected and studied the same species from  
 Maharashtra and it also occurs in different states of India. The  
 material was did not available for the study but from the description  
 it is closely matching with original description of Hansford (1961)  
 with some variations which might be ecological due to high altitude  
 and low temperature. And thus author is an opinion that there is  
 no need to raise a new taxa. Hansford (1961), Anderson & Goos  
 (1972) have has provided guidelines while raising a new taxa it is  
 essential to compare the collection to the known taxa occurring  
 on all members of the family.

d) Dr. Thite, A.N. and Miss S.D. Patil (1983) have proposed  
 one species of Meliola Fries viz. M. ochrocarpi sp. nov. on leaves  
 of Occhrocarpus longifolius Bth. & H.K.F. a member of the family  
 Clusiaceae. Hansford (1961) has already described a species of  
Meliola Fries. viz. M. mammeicola Hansf. on Mammea sp.

Ochrocarpus longifolius Benth. & H.K.f. ~~Exx~~ Ander. is now a synonym of Mammea suriga (Buch.-Ham.X Roxb.) Kosterm. Therefore it appears that present collection does not differ from this species of Hansford with minor morphological variations.

9) During the present investigation the author has an opportunity to study <sup>of a</sup> collection of Armatella Theissen & Sydow on Cinnamomum zeylanicum L. from South India. The ascospores found quite interesting in morphology as well as in their mode of germination which is quite a typical as to compare the mode of germination of the ascospores of the species of Armatella known. Moreover at maturity more than one transverse septa were also found. For the time being this material has been assigned to A. balakrishnanii Hosagoudar but it requires further study and it may be a quite new taxa.

10) A part of dissertation <sup>is</sup> also the study hyperparasites of members of the Meliolaceous taxa which is almost neglected as far as Indian studies on the family Meliolaceae studied. Meliolaceous fungi provided a very good substratum for other fungi as hyperparasites and grows so luxuriently as 'MOSAIC' due to favourable climatic conditions, thus attempts were made to study these fungi along with Meliolaceous taxa.

11) About twenty taxa were isolated and studied from the various collection of Meliolaceous fungi studied. These belong to

three major groups viz. Ascomycetes (eight bitunicates),  
Hyphomycetes and coelomycetes.

12) Five genera of the Ascomycetes were studied one from Pyrenomycetes and 4 from Loculoascomycetes. These are viz. Ceratocystis Wright & Griffin Dimerina Theissen; Dimerium Sacc. & Sydow, Phaeodimeriella Spegzzini and Phragmeriella Hansford. From Hyphomycetous four genera were studied viz. Acremonium Link; Atractilina Dearness & Barthalonew, Isthmospor Stevens, Spiropes Ciferri from Coelomycetes, Cicinnobella P.Henn. and Ectosticta spegzzini.

13) ~~Ascomycetous~~ and ~~Hyphomycetous~~ are found <sup>to be</sup> dominant. Out of five ascomycetes studied (eight species) the genus Dimerina Theissen and Phragmeriella Hansf. have been recorded for <sup>the</sup> first time in India, thus <sup>from</sup> new generic records. Moreover all the species of the genus Phragmeriella Hansf. are new species. Species of the genus Spiropes is very common and seven species have been studied mostly occurring on species of Meliola in which three have been recorded for first time in India.

From Coelomycetous two well known genera Cicinnobella P.Henn and Ectosticta spegazzini which have been considered as the conidial states of Dimerina Theissen and Dimerium Sacc. & Sydow. (Muller V.Arx. 1975) which are very common associated in their imperfect and perfect forms on the same collection or

*Sentences?*

different collection, but their affinity were not studied in the present investigation only two species one of each genus have been studied.

*Paragraph.*

In the present investigation fifty taxa have been worked out and provided a quite good number of species from the area under investigation and subsequently added a quite good number of taxa to the mycoflora of India.

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