

## Notes on some Indian Fungi I.

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With Plate V.

Collections of fungi made by the writers in several localities in India were critically studied, an account of which is presented here. Many of the fungi included in the present study are hyperparasites on the sooty molds and these form an interesting group.

1. *Calloriopsis gelatinosa* (Ell. & Mart.) Syd. in Ann. Mycol. Berl. **15**: 254, 1917. Hab. parasitic on the colonies of *Meliola tenella* Pat. on *Murraya erotica*, Nandi Hills, Mysore, leg. M. J. Thirumalachar, 12—12—1949.

The fungus forms dirty-white calcareous crust on the colonies of *Meliola tenella*, with the apothecia distributed in the centre.

2. *Dimerium piceum* (Berk. & Curt.) Theiss. in Ann. Mycol. Berl. **10**: 5, 1912. Parasitic on the colonies of *Meliola tenella* Pat., Nandi Hills, Mysore, leg. M. J. Thirumalachar, 12—12—1949.
3. *Phaeodimeriella asterinarum* (Speg.) Theiss. in Beih. bot. Zbl. Abt. 2, **19**: p. 47, 1919. Parasitic on the colonies of *Asterina Olacicola* Hansf. on *Olax Wightiana*, Nandi Hills, Mysore, leg. M. J. Thirumalachar, 15—9—1944.
4. *Englerula Macaranga* P. Henn. in Engler's bot. Jb. 1905, p. 49. Hab. on the leaves of *Macaranga* sp., Kemmangandi, Mysore, leg. M. J. Thirumalachar, 8—10—1944. There has been no previous record of this fungus in India, though it is of common occurrence in the Mysore forests. The globose-diffluent nature of the wall of the perithecium is characteristic of the genus.
5. *Eriomyopsis Bosquieae* Hansf. in Bothalia, **4**: 464, 1942.

Hab. parasitic on the colonies of *Meliola Memecyli* Syd. on *Memecylon edule*, Bannerghatta, Bangalore, leg. M. J. Thirumalachar, 15—3—1946. The fungus develops pale-yellow, diffuse colonies on *Meliola Memecyli* with 4-celled conidia.

6. *Eriomyopsis Meliolae* Hansf. in Bothalia **4**: 464. 1942. Hab. parasitic on the colonies of *Meliola tenella*, Pat., Nandi Hills, Mysore, leg. M. J. Thirumalachar, 12—12—1949. The fungus is similar to the previous one, but produces 4-septate conidia which are flagellate at the apex.

7. *Spegazzinia Meliolae* Zimm. in Zbl. Bakt. Abt. 2, **8**: 221, 1902.  
Hab. parasitic on the colonies of *Meliola Salaciae* Hansf. on *Salacia* sp. Balehonnur, Mysore, leg. M. J. Thirumalachar, 28—3—1945. The fungus forms dark olivaceous colonies, developing 4-celled cruciate conidia.
8. *Arthrobotryum melanoplaca* Berh. & Curt., Cuban Fungi No. 624, in Journ. Linn. Soc. London, **10**: 360, 1869. Hab. parasitic on the colonies of *Meliola Salaciae* Hansf., Balehonnur, Mysore, leg. M. J. Thirumalachar, 28—3—1945.
9. *Isaria Meliolae* Hansf. in Proc. Linn. Soc. London, CLV, p. 63, 1943.  
Hab. parasitic on the colonies of *Meliola Cansjeræe* Hansf. & Thirumalachar, Nandi Hills, Mysore, leg. M. J. Thirumalachar, 12—12—1949. The synnemata of the fungus are whitish, erect, possessing stalk and clavate conidial head.
10. *Helminthosporium capense* Thüm. in Flora, Lix, 570, 1876.  
Hab. parasitic on the colonies of *Meliola Salaciae* Hansf., Balehonnur, Mysore, leg. M. J. Thirumalachar, 28—3—1945. This is a common parasite on several *Meliola* species in Mysore, sometimes occurring in such abundance as to completely mask and prevent normal development of *Meliola* colonies.
11. *Helminthosporium dorycarpum* Mont. in Crypt. Cuba, p. 302, 1854.  
Hab. parasitic on the colonies of *Meliola tenella* Pat., Nandi Hills, Mysore, leg. M. J. Thirumalachar, 12—12—1949.
12. *Gyroceras Celtidis* (Biv.-Bernh.) Mont. et Ces.  
Hab. on the leaves of *Celtis* sp., Nandi Hills, Mysore, leg. M. J. Thirumalachar, 10—2—1946. The fungus develops delicate mycelium which penetrates the leaf tissues. The moniliform beads of conidia are produced on short conidiophores. Mature conidia are dark olivaceousbrown, and fragment away into separate bits at maturity. An account of *Gyroceras Celtidis* is given by Chorin (Palestine Journ. Bot. **3**: 1—2, 1940) as occurring on *Celtis orientalis* in Palestine. He also mentions of its occurrence on *Celtis chinensis* in Japan and *Sponias sinensis* in Portugal.
13. *Corynespora cassicola* (Berk. & Curt.) Wei. in Mycol. paper No. 34, C.M.I., Kew, England, pp. 10, 1950. Hab. on the leaves of *Croton sparsiflorus*, Patna, Bihar, leg. R. C. Lacy & M. J. Thirumalachar, 10—9—1950.  
The fungus is abundant on the leaves of *Croton sparsiflorus* developing target spots of varying sizes. In old fructifications the conidiophores and conidia are produced abundantly, and these

closely resembled in shape and measurements those given by Wei. Stages in the development of conidia were made from fresh material. As pointed out by Wei, there is always one conidium on the conidiophore at a time, the new conidia being formed by the proliferation through the terminal scar of the previous conidium. The conidia are therefore endogenous in origin (Plate V, Fig. 5). Wei records *Corynespora Cassiicola* on several hosts including *Hevea brasiliensis* which belongs to the same family as *Croton sparsiflorus* (*Euphorbiaceae*). A single collection of this fungus was made by the writers on *Hydrocotyle asiatica* in Patna, Bihar, and it is possible that the fungus may have other host genera also in India.

14. **Ramularia Grewiae** Lacy & Thirumalachar sp. nov.

Forming mildew-like patches on the lower leaf surface, diffuse, greyish-white, infection patches upto 10 mm in diameter. Hyphae emerging from the stomata, partly spreading on the sides; stroma obscure. Conidiophores branched, 140—192  $\mu$  long, 4.5—5  $\mu$  broad, septate, hyaline. Conidia clavate-fusoid, hyaline, 2—3-septate, acute at the apex and attenuated at the base, measuring 48—80  $\Rightarrow$  8.5—10.5  $\mu$ . Hab. on the leaves of *Grewia asiatica* L., leg. R. C. Lacy, Patna, Bihar, 28—8—1950 (Type). Type deposited in Herb. Crypt. Ind. Orient., New Delhi, Herb., C.M.I., Kew, England. (Pl. V, Fig. 1.)

Maculae hypophyllae, erysiphoidae, diffusae, griseo-albidae, usque 10 mm diam. Conidiophora e stromatibus pallide olivaceis, in stomatibus evolutis orta 140—192  $\mu$  longa, 4.5—5  $\mu$  lata, ramosa, septata, hyalina; conidia clavato-fusoidea, hyalina, 2—3-septata, antice acuta, basi attenuata, 48—80  $\Rightarrow$  8.5—10.5  $\mu$ .

On the leaves of *Grewia asiatica* collected near Patna, abundant infection was observed. The infected leaf patches developed the mildewy growth of the fungus, and showed conspicuous crinkling due to the arrested leaf growth.

15. **Ramularia Tinosporae** Lacy & Thirumalachar sp. nov.

Infection spots 2 to 5 mm in diameter, polygonal, yellow on the upper surface and greyish-white on the lower side. Stroma grouped beneath the stomata, 30—50  $\mu$  in diam.; conidiophores fasciculate, developing from the stroma, hyaline, 72—88  $\mu$  long, 3.4—5  $\mu$  broad, septate; conidia clavate-fusoid, hyaline, acute at both ends, 1—2-septate, measuring 20—44  $\Rightarrow$  5—6.5  $\mu$ .

Hab. on the leaves of *Tinospora cordifolia* Miers, Patna, Bihar, leg R. C. Lacy, 29—8—1950, (Type). (Pl. V, Fig. 2.)

Maculae 2—5 mm diam., angulosae vel irregulares, in epiphylllo pallidae, in hypophyllo griseo-albidae. Conidiophora e stroma-

tibus in stomatibus evolutis orta, hyalina, 72—88  $\mu$  longa, 3.4—5  $\mu$  lata, septata; conidia clavato-fusoidea, hyalina, utrinque acuta, 1—2-septata. 30—44  $\Rightarrow$  5—6.5  $\mu$ . *Tinospora cordifolia* is a woody climber used in indigenous medicine. The fungus abundantly occurs on the leaves wherever the plants occur in Bihar. *Colletotrichum Tinosporae* Syd. and *Cercospora Tinosporae* Syd. (*Mycosphaerella Tinosporae* (Syd.) Ajrekar & Oza) have previously been recorded on the same host in India.

16. **Cercosporella Acalyphae** Lacy & Thirumalachar sp. nov.

Producing mildewy white circular patches on the leaves, 5 to 10 mm in diameter, often coalescent with one another. Fruiting bodies amphigenous; conidiophores emerging out of the stoma, partly spreading on the sides, fasciculate, septate, hyaline, branched sparsely, geniculate, up to 25.5—51  $\mu$  long, 3.4  $\mu$  broad; conidia obclavate-cylindric, acute at both ends, 1—7-septate, hyaline, measuring 30.6—51  $\Rightarrow$  2.6  $\mu$ .

Hab. on the leaves of *Acalypha indica* L., Patna, Bihar, leg. R. C. Lacy, 28—8—1950 (Type). (Pl. V, Fig. 3.)

Maculae orbiculares, erysiphoidae, 5—10 mm diam., saepe confluentes. Caespituli amphigeni; conidiophora e stomatibus emergentia, geniculata, 25.5—51  $\mu$  longa, 3.4  $\mu$  lata; conidia obclavato-fusoidea, hyalina, utrinque, acuta, 1—7-septata, 30.6—51  $\Rightarrow$  2.6  $\mu$ .

17. **Cercospora Scopariae** Lacy & Thirumalachar sp. nov.

Infection patches pale-yellow, diffuse, up to 10 mm in diameter, coalescent with one another. Fruiting bodies amphigenous; conidiophores fasciculate, emerging through the stoma, yellowish-brown, flexuous, geniculate, 6.8—12  $\mu$  long, 1.7—2.6  $\mu$  broad, septate. Conidia filiform, hyaline, acute at both ends, 3—14-septate, measuring 17—91  $\Rightarrow$  1.7—2.6  $\mu$ . Hab. On the leaves of *Scoparia dulcis* L., Patna, Bihar, leg. R. C. Lacy 20—8—1950 (Type). (Pl. V, Fig. 4.)

Maculae pallide luteae, diffusae, usque 10 mm diam, confluentes. Caespituli amphigeni. Conidiophora fasciculata, e stomatibus emergentia, flavo-brunnea, flexuosa, geniculata, 6.8—12  $\mu$  longa, 1.7—2.6  $\mu$  lata, septata. Conidia filiformia, hyalina, utrinque acuta, 3—14-septata, 17—91  $\Rightarrow$  1.7—2.6  $\mu$ .

*Scoparia dulcis* is a common dry land weed and the infected leaves appear pale-yellow and get defoliated.

18. **Macrophoma Convolvulacearum** Lacy & Thirumalachar sp. nov.

Infection spots on leaves, circular, yellowish-brown with a greyish-white centre, up to 10 mm in diameter. Pycnidia globose, black, ostiolate, 120—180  $\mu$  broad, 108—148  $\mu$  high; pycnosporos ovate-ellipsoid, hyaline, smooth, 9.4—12  $\Rightarrow$  7.6—8.5  $\mu$ .

Hab. on the leaves of *Convolvulus* sp., Kemmangandi, Mysore, leg. M. J. Thirumalachar, 8—10—1945 (Type). (Pl. V, Fig. 6.)

Maculae orbiculares, luteo-brunneae, in centro griseo-albescentes, usque 10 mm in diam. Pycnidia globosa, ostiolata, nigra, 120—180  $\mu$  lata, 108—148  $\mu$  alta; pycnosporae ovato-ellipsoideae, hyalinae, laeves, 9.4—12  $\mu$   $\approx$  7.6—8.5  $\mu$ .

### Plate V.

Fig. 1. *Ramularia Grewiae*, showing the conidiophores and conidia  $\times$  550.

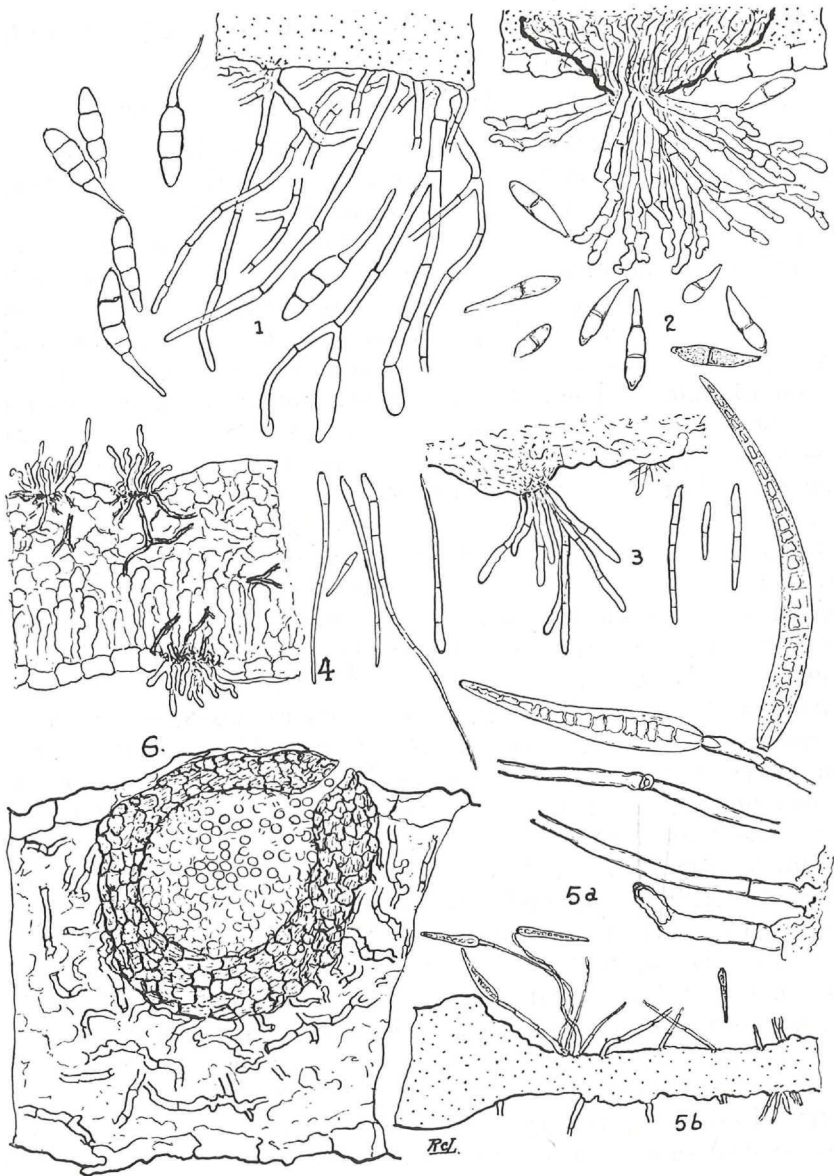
Fig. 2. *Ramularia Tinosporae* showing the conidiophores and conidia  $\times$  550.

Fig. 3. *Cercospora Acalyphae*  $\times$  550.

Fig. 4. *Cercospora Scopariae*, showing the fruiting bodies and conidia  $\times$  550.

Fig. 5. *Corynespora Cassicola* (a) conidial formation  $\times$  550, (b) fruiting bodies on host.  $\times$  150.

Fig. 6. *Macrophoma Convolvulacearum*, showing pycnidia and pycnosporae  $\times$  550.



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Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 1951

Band/Volume: [5](#)

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Artikel/Article: [Notes on some Indian Fungi I 124-128](#)