

Ascomycetes of Coorg (India) II.

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In the course of his Mycological survey carried out in the forests of Coorg (Mysore State) India, the writer collected several ascomycetous fungi, a detailed study of which proved some of them to be new species on the basis of critical and comparative studies and host relationship. This paper published from this Laboratory is the second in the series and presents an account of four new species.

Type material has been deposited at Herb. Orientalis, New Delhi and C. M. I., Kew, England besides M. A. C. S. Herb.

1. *Herpotrichia indica* Anahosur sp. nov. (Fig. 1).

Ascostromata, black, membranous, setose, uniloculate, cupulate, erumpent, aggregated 420—600 μ broad. Wall black, made up of thick-walled pseudoparenchymatic cells, 26—40 μ thick. Setae myceloid,

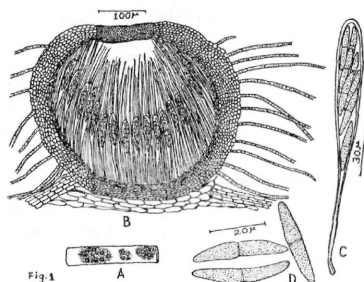


Fig. 1. *Herpotrichia indica* — A. Habit, B. Section through the ascostroma, C. Asci, D. Ascospores.

numerous, dark-brown, septate, pointed at the tips, 4—6 μ broad and 200—400 μ long. Asci clavate, pedicellate, bitunicate, rounded at the apex, arranged in wall-layers, octosporous, 150—170 \times 16—18 μ . Ascospores spindle-shaped, sub-hyaline, equally 2-celled, slightly constricted at the septum, thick-walled, biseriate to slightly irregular, 36—38 \times 4—6 μ .

Perithecia gregarica, atra 420—600 μ diam., in maturitate poro late rotundato aperta; pariete 26—40 μ crasso, pseudoparenchymatico,

e cellulis crassiuscule tunicatis, nigrescentibus composito; asci cylindraceo-clavati, antice late rotundati, postice in stipitem longum paulatim attenuati, 8-spori, crassiuscule tunicati, $150-170 \times 16-18 \mu$; sporae incomplete distichae, fusioideae, rectae, inaequilatae vel arcuato-curvulae, subhyalinae, medio septatae, ad septum leniter constrictae, $36-38 \times 4-6 \mu$; paraphyses numerosae, filiformes, ascos superantes.

Saprophytic on the twigs of *Duranta plumeri* Facq. (Verbenaceae) collected during October 1967, M. A. C. S. Herb. No. 542 (Type).

A critical and comparative study carried out between the writer's collection and the related species of *Herpotrichia* Fekl. revealed that the writer's collection had some resemblance to *H. diffusa* and *H. schiedermeyreana* according to the key given by Bose (1961) but differed from the former in having significantly bigger ascocarps, asci and ascospores and from the latter in having erumpent stroma, bigger asci and strictly 2-celled subhyaline ascospores as against 1-3 septate light brown ascospores of the latter besides being collected on a new host.

2. *Lecanidion coorgicii* Anahosur sp. nov. (Fig. 2).

Discothecia black, discoid to cupulate, with wide opening, erumpent, uniloculate, aggregated, sessile, $900-1190 \times 180-200 \mu$. Asci clavate, bitunicate, pedicellate, in basal-layers, flat at the apex, octosporous, $62-71.4 \times 12-16 \mu$. Ascospores ellipsoid, uniformly 8-celled, hyaline, irregularly biseriate, rounded at the tips, $29.4-32.4 \times 3-5 \mu$. Interthelial threads hyaline, slender, septate, branched at the apex, forming thick epistroma at the top together with the remnants of the stromatic cells.

Apothecia aggregata, innato-erumpentia, nigrescentia, discoidea vel cupulata, in maturitate late aperta, $900-1190 \times 180-200 \mu$; asci clavati, antice late rotundati, postice in stipitem brevem attenuati, 8-spori, crassiuscule tunicati, $62-71.4 \times 12-16 \mu$; sporae plus minusve tristichae, fusioideo-cylindratae, utrinque obtusae, leniter sed plerumque distincte attenuatae, rectae vel curvulae, 7-septatae, ad septa vix vel leniter constrictae, $29.4-32.4 \times 3-5 \mu$; paraphyses septatae, antice ramulosae, epithecium crassiusculum formantes.

Saprophytic on the twigs of *Grevillea robusta* A. Cunn. (Proteaceae) collected during October 1967, M. A. C. S. Herb. No. 543 (Type).

A critical and comparative study carried out between the type i. e. *Lecanidion atratum* (Hedw.) Endl. and the Coorg collection revealed that the latter was significantly distinct from the former in having erumpent and bigger ascocarps, smaller asci and ascospores which were uniformly 8-celled unlike the type and hence is accommodated in a new taxon.

Recently Ramachandra Rao (1967, 1969) and Tilak & Srinivasulu (1969) have described several apothecial fungi under the name *Patellaria* Fr. overlooking Butler (1939, 1940) who has invalidated

the genus *Patellaria* Fr. as it is the latter homonym of *Patellaria* Erhart (Code of International Botanical Nomenclature, 1956, Article No. 64) and has pleaded for the usage of the name *Lecanidion* Endl. established by Endlicher (1830), a view point which has since been supported by Luttrell (1955), Muller and Arx (1962).

As regards the taxonomic position of the genus, it is seen from literature that this genus was originally placed under Pezizales of Discomycetes. The recent investigations carried out by the writer (Ph. D.

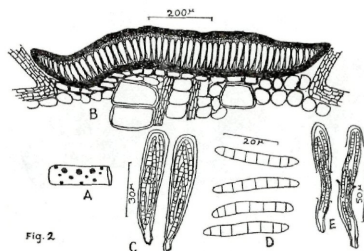


Fig. 2. *Lecanidion Coorgicii*. — A. Habit, B. Section of Discothecium, C. Asci, D. Ascospores, E. Ascus dehiscence.

Thesis, unpublished) on the developmental pattern of the ascocarp in a species of this genus have revealed that the ascocarp with bitunicate asci was in the nature of a 'Discothecium' as defined by Korf (1962) on the basis of which this fungus should find a place under *Patellariaceae* (O. Hysteriales).

3. *Rosenscheldiella indica* sp. nov. Anahosur (Fig. 3).

Ascostromata black, hypophyllous, superstomatal, scattered to aggregated, circular to irregular, multiloculate, 0.5—0.8 mm. Locules globose to sub-globose, non-ostiolate, upto eight in each stroma, surrounded by thick layers of pseudoparenchymatic dark-brown cells, 110—150 μ diam. Asci clavate, with truncate base, bitunicate, paraphysate, in fascicles, pedicellate, octosporous, 40—50 \times 12—14 μ . Ascospores oblong, unequally 2-celled, biseriate, with prominent oil globules, hyaline, 17—19 \times 4—6 μ . Interthecial threads lacking.

Stromata hypophylla, dispersa vel aggregata, nigrescentia, supra stomatia evoluta, orbicularia vel irregularia, multilocularia 0.5—0.8 mm diam.; loculi globosi vel subglobosi usque ad 8 in quoque stromate, non ostiolati, 110—150 μ diam.; pariete pseudoparenchymatico, obscure brunneo; asci clavati, antice late rotundati, postice plus minusve saccatodilatati, breviter stipitati, crassiuscule tunicati, 8-spori, paraphysati, 40—50 \times 12—15 μ ; sporae di- vel incomplete tristichae, oblongae vel

oblongo-clavatae, hyalinae, utrinque rotundatae, antice vix vel parum, postice distincte attenuatae, plerumque parum supra medium septatae, vix vel leniter constrictae, in quoque loculo guttulis oleosis 1—2 praeditae, $17-19 \times 4-6 \mu$.

Parasitic on the leaves of *Mesua ferea* Linn. (Guttiferae) collected during October 1967, M. A. C. S. Herb. No. 541 (Type).

The distinguishing character of this species is the superstromatal nature of the ascostromata which is a rare but significant character in

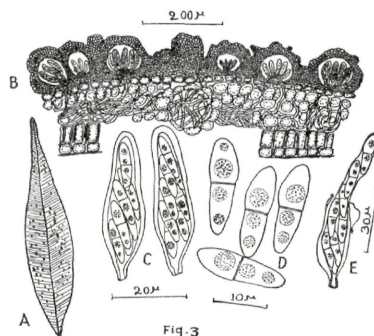


Fig. 3. *Rosenscheldiella indica*. — A. Habit, B. Section through the ascostroma, C. Asci, D. Ascospores, E. Ascus dehiscence.

addition to the unequally 2-celled ascospores as compared with the type species i. e. *R. styracis*.

This constitutes the third species of this genus reported from India, the first two being reported by Ananthanarayanan (1962) and Muthappa (1967).

4. *Trybliidiella indica* sp. nov. Anahosur (Fig. 4).

Discothecia black, carbonaceous, scattered, erumpent, uniloculate, discoid to elongated, 1.8—3 mm. long, with a moderate sized opening. Locule stromatic, cupulate, lips curved, joining the upper stromatic layer formed by the union of the tips of the interthecial threads with the upper disintegrated stromal cells, upto 1 mm. broad and 0.8 mm. high. Asci bitunicate, pedicellate, cylindrical, more or less in wall layers, $200-220 \times 18-20 \mu$. Ascospores dark brown, elliptical, uniformly 3-septate, end cells slightly tapering, constricted at septa, uniseriate, $30-32 \times 12-14 \mu$. Interthecial threads slender, hyaline, septate, unbranched at the apex and persistent.

Apothecia dispersa, erumpentia, nigrescentia, 1.8—3 mm longa,

utrinque attenuata et acuminata, rima longitudinali aperta; loculo stromatico, cupulato, antice incurvo, usque ad 1 mm lato et 0.8 mm crasso; asci cylindracei, antice late rotundati, postice in stipitem brevem attenuati, crassiuscule tunicati, 8-spore, $200-220 \times 18-20 \mu$; sporae monostichae, ellipsoideae vel oblongo-ovoideae, utrinque late rotundatae, vix vel leniter attenuatae, rectae vel inaequilatae, obscure brunneae, 3-septatae, ad septa leniter constrictae, $30-32 \times 12-14 \mu$; paraphyses filiformes septatae, antice clavato-dilatatae.

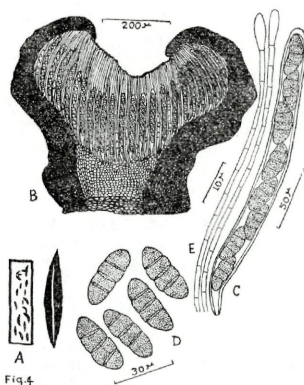


Fig. 4. *Tryblidiella indica*. — A. Habit, B. Section of Discothecium, C. Asci, D. Ascospores, E. Apical portion of Interthelial threads.

On the dead twigs of *Scutia indica* Brongn. (Rhamnaceae) collected by the writer during October 1966, M. A. C. S. Herb. No. 540 (Type).

Vorhees (1939) recognises only two species of *Tryblidiella* viz. *T. rufula* and *T. fusca* based on: 1. Striations on the lips of the ascocarp, 2. Thickness of the ascocarp lip, 3. Colour of the hymenium and 4. Colour of the ascocarp.

Muthappa (1967 a) has studied 10 collections of *Tryblidiella rufula* obtained from 10 different hosts including *Scutia indica* which is one of the hosts on which the writer has also collected this fungus. A critical comparison was, therefore, undertaken between *T. rufula* and the writer's collection which revealed significant differences in respect of morphological characters as well as dimensions to warrant its accommodation in a new taxon.

The writer's collection also differed from *T. fusca* Rehm. in having bigger asci and ascospores, the discoid to elongated ascocarps, non-striated lips, with narrow opening as against the richly striated lips,

smaller asci and ascospores, discoid ascocarps with wide opening of the latter.

Recently Tilak (1963) and Tilak and Ramachandrarao (1966) have described several species of this fungus under the name *Hysterium* Tode which needs thorough revision. Regarding the taxonomic position of this fungus, the writer's studies on the developmental pattern of the ascocarp centrum revealed that the ascocarp was in the nature of a '*Discothecium*' as originally defined by Korf (1962) with '*Glonium*' type of development and needs to be placed under *Patellariaceae* (Order Hysteriales).

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Literature cited.

1. Ananthanarayanan, S. 1962. *Rosenscheldiella eugeniae* Petch, a new record to India. Curr. Sci. 31: 517—518.
2. Bose, S. K. 1961. Studies on *Massaria* and related genera. Phytopath. Z. 41: 151—213.
3. Butler, E. T. 1939. Ascus dehiscence in *Lecanidion atratum* and its significance. Mycologia 31: 612—623.
4. — 1940. Studies in the Patellariaceae. Ibid. 32: 791—823.
5. Korf, R. P. 1962. A synopsis of Hemiphacidiaceae, a family of Helotiales (Discomycetes) causing needle blight of conifers. Ibid. 54: 12—32.
6. Luttrell, E. S. 1955. The Ascostromatic Ascomycetes. Ibid. 47: 511—532.
7. Muller, E. & J. A. von Arx. 1962. Die Gattungen der didymosporen Pyrenomyceten.
8. Muthappa, B. N. 1967. Fungi of Coorg III. Sydowia (in Press).
9. — 1967a. *Trybliella rufula* on diverse substrata and its taxonomic position. Nova Hedwigia 14: 395—401.
10. Ramchandrarao, Rao, 1967. Two new species of Patellaria from India. Mycopath. et Mycol. Appl. 31: 29—32.
11. — 1969. A new species of *Patellaria* from India. Sci. & Cult. 35: 207—208.
12. Tilak, S. T. 1963. Ascomycetes on *Celastrus paniculata*. Ibid. 21: 60—63.
13. Ramachandra & Rao. 1966. The genus *Hysterium* in India. Ibid. 30: 155—160.
14. — & B. V. Srinivasulu. 1969. Contributions to our knowledge of Ascomycetes of India. Proc. Ind. 56th Sci. Cong. p. 281.
15. Vorhees, R. K. 1939. The validity and morphology of two *Trybliella* species. Mycologia 31: 113—123.

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