

Studies in the Indian Phyllachoraceae.

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With two text figures.

The tarspot fungi although widespread in India, have not received any attention from the Indian Mycologists, probably because of their relatively uneconomic importance. Besides detailed ontogenic

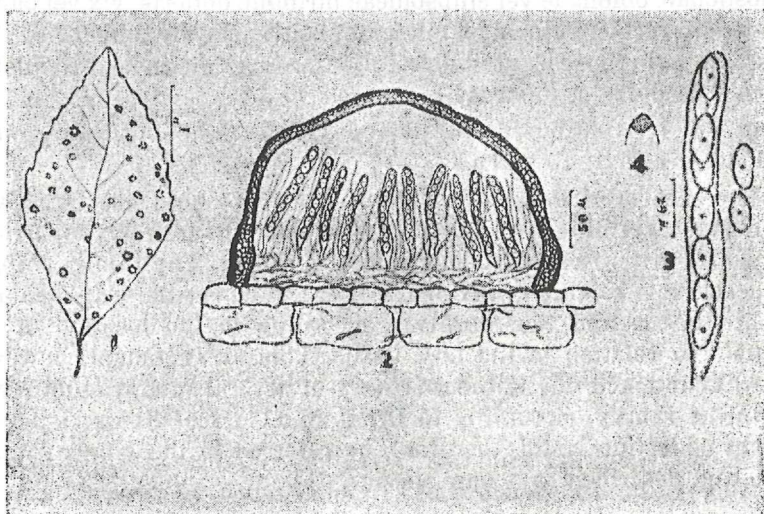


Fig. 1. *Phyllachora ectophytica*. — 1. Habit. 2. Section through stroma and Perithecium. 3. Ascus and Spores. — 4. Ascus Plug.

studies, which occupy such fundamental importance in the taxonomy of the Ascomycetes, are very meagre in this group. A comprehensive investigation was, therefore, undertaken by the writer in the family *Phyllachoraceae* with special reference to its occurrence in the Bombay State. During these studies the writer encountered two members of this family of unusual interest one of which was a species of *Phyllachora* with entirely superficial stromata and the other a species of *Scolecodothis*, which was a new record for India. Both of these species have been collected on hitherto unreported hosts and are presented on this and morphological grounds as new species with Latin diagnosis.

1. *Phyllachora ectophytica* Tilak sp. nov.

Maculae epiphyllae, irregulariter et laxe dispersae, plerumque solitariae, ambitu orbiculares vel ellipticae, saepe obtuse angulosae et tunc plus minusve irregulares; stromata in margine macularum tantum evoluta, circulariter disposita, superficialia, irregulariter hemisphaerica, basi lata, plana epidermidi adnata, 170—255 \approx 250—370 μ , omnino clausa, in maturitate probabiliter irregulariter dehiscencia; strato basali ca. 20 μ crasso, plectenchymatico, hyalino vel subhyalino; strato tegente subcarbonaceo, pseudoparenchymatico, ca. 12—15 μ crasso, e cellulis rotundato-angulosis, obscure olivaceis, vix vel leniter compressis composito; asci numerosi, cylindracei, antice obtusi, operculo praediti, postice paulatim vel abruptiuscule attenuati, breviter stipitati, 8-spori, 136—170 \approx 10—14 μ ; sporae monostichae, oblongae vel ellipsoideae utrinque obtusae, vix vel parum attenuatae, rectae, raro inaequilatae, continuae, hyalinae, 14—17 \approx 6—8.5 μ ; paraphyses subnumerosae, fibrosae, distincte articulatae, postea viescentes et mucosae.

In foliis viventibus *Mesae indicae* Wall.; Mahableshtar, India, I—II. 1958, leg. S. T. Tilak.

The species of *Phyllachora* described above does not agree with the normal definition of the genus in having entirely superficial stromata and an absence of clypeus and ostiole. The family *Phyllachoraceae* was originally divided into three tribes; the *Phyllachorae*, the *Trabutiae* and the *Scirhieae* according to the location of the stromata in relation to the host tissue. This arrangement, however, is now abandoned due to the discovery of several intergrading forms within the family. According to Dr. E. Müller of Switzerland, the present collection could, therefore, be referred to the genus *Phyllachora* and described as a new species.

2. *Scolecodothis Kamatii* Tilak sp. nov.

Maculae epiphyllae, irregulariter et laxe dispersae, ambitu irregulares, raro fere orbiculares vel ellipticae, sed semper plus minusve angulosae et irregulares, leniter pustulatim elevatae, 2—7 mm diam.; stromate in mesophyllo evoluta, laxe pseudoparenchymatico, brunneo vel nigro, superne in clypeum atro-brunneum transeunte; perithecia in mesophyllo evoluta, ovoidea vel subglobosa, ostiolo papilliformi pertuso punctiformiter erumpentia, 187—225 \approx 119—170 μ ; pariete membranaceo, ca. 15 μ crasso, pseudoparenchymatico, e cellulis irregulariter rotundato-angulosis, vix vel parum compressis, pellucide olivaceis composito, 187—225—119—170 μ ; asci subnumerosi, cylindraceo-clavati vel subfusoidi, utrinque plus minusve attenuati, breviter stipitati, 8-spori, 80—88 \approx 12—15 μ ; sporae plus minusve tristichae, anguste elongato-fusoidae, utrinque paulatim plus

minusve attenuatae, obtusae, rectae, raro inaequilaterae, continuae, hyalinae, 51—57 \Rightarrow 3—5.5 μ ; paraphyses paucae, filiformes, mox mucosae.

The genus *Scolecodothis* originally established by Theissen and Sydow (1914) is typically phyllachoraceous due to the formation of typical tarspots, embedded stroma with clypeus and its follicular nature. So far this genus is represented by only three species

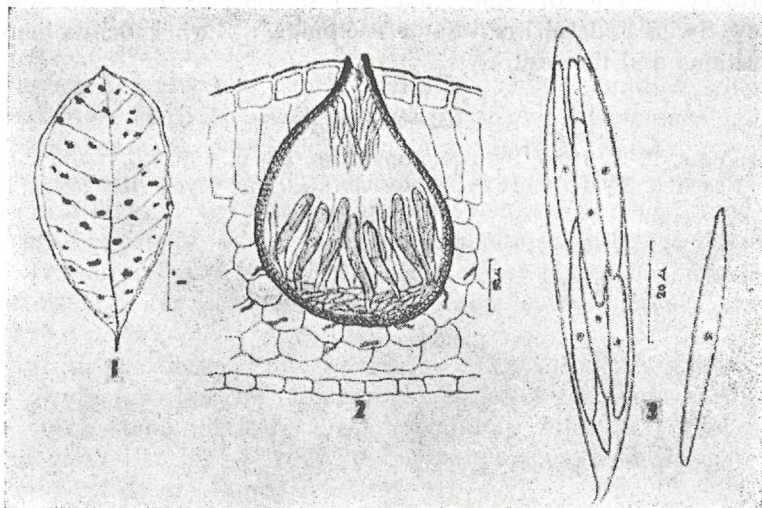


Fig. II. *Scolecodothis Kamatii*. — 1. Habit. 2. Section through stroma and Perithecium. — 3. Ascus and Spores.

mainly collected from Java and Brazil and curiously enough remained unrecorded in the Indian flora probably due to its confusion with the *Phyllachora* tarspots. The present collection thus not only constitutes a new record for India but is a new species of *Scolecodothis* on the basis of distinct morphological characters and occurrence on a new host, as is evident from the following comparative table.

Comparison between species of *Scolecodothis*.

| Species | Stroma | Perithecium | Ascus | Ascospores |
|-------------------------|----------|----------------------------------------|---------------------------|------------------------------------|
| 1. <i>S. castaneae</i> | 5—20 mm. | 400—100 μ | 50—58 \Rightarrow 12 | 40—44 \Rightarrow 2.5—3 |
| 2. <i>S. circularis</i> | — | 360—450 \Rightarrow 300—320 μ | 105 \Rightarrow 18—22 | 56—66 \Rightarrow 4—5 |
| 3. Indian sp. | 2—7 mm. | 187—255 \Rightarrow 119—170 μ | 80—88 \Rightarrow 12—15 | 51—57 \Rightarrow 3—5.5 μ |

The species is described after Prof. M. N. K a m a t in recognition of his valuable services to and deep interest in Indian Plant Pathology & Mycology.

The type specimens have been deposited in the Herbaria of the Indian Agricultural Research Institute, New Delhi, India and the Commonwealth Mycological Institute, Kew, England.

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Literature.

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Theissen & Sydow. 1914. *Scolecodothis*. Ann. Myco. **12**: 277.

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