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Notes on some Ascomyceteous Fungi from India — III

By S. B. Kale and Sou. V. S. Kale

(Botany Department J. E. S. College, Parli-vaijanath Dist. BHIR, M. S.)

With three figures

During the recent investigations of ascomycetous fungi from this region the authors came across the dead and dried stems of *Pennisetum typhoideum* Rich., *Phoenix sylvestris* Rixb. and *Celastrus paniculata* Wild. heavily infected with some fungi. On critical and careful investigations these were found to be the species of *Bombardia* Fr., *Kretzschmaria* Fr. and *Amphisphaerella* respectively. These species have been described as new to science on the basis of comparative morphology and host relationship.

1. **Bombardia penniseti** sp. nov.

Perithecia singly or in small groups, black to grey, upright, bomb-shaped, erumpent to superficial, ostiolate; ostiole periphysate, papillate; perithecia measuring from 450—525 × 300—450 μ, hyphal outgrowth present; hyphae brown coloured, septate. Asci cylindrical to narrowly club-shaped, thin-walled, unitunicate, stipitate, 8-spored, measuring from 132—144 × 13—15 μ, paraphysate; paraphyses filiform. Ascospores showing the various structures in the development; initially rod-like, curved, hyaline, later becoming elongated, differentiated into broad head and narrow tail with the protoplasmic septations, septation also seen in the head region. At this stage ascospores seem to be multi-septate hyaline. But later on these septations disappear and the broad head becomes brown to dark brown and the tail remains hyaline or light coloured. Head papillate at one end. Septum present inbetween the head and tail. Ascospores measuring from 64—72 × 6—8 μ at maturity.

Perithecia singularia vel in greges minutos disposita, nigrescentia vel canescentia, innata in ostiolum periphysatum, crassiuscule conoideum erumpentem abruptiuscule attenuata, 450—525 × 300—450 μ ad basin et ad latera hyphis brunneis, septatis, ramulosis laxe obtecta; asci cylindracei vel cylindraceo-clavati, tenuiter tunicati, antice rotundati, postice in stipitem brevem paulatim attenuati, 8-spori, 132—144 × 13—15 μ; sporae incomplete distichae tarde evolutae, primum cylindraceae vel cylindraceo-subclavatae, plerumque leniter S- curvulae, utrinque late rotundatae, hyalinae, postea antice ovoideae vel ellipsoideae,

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triseptatae, postice in appendicem pluriseptatam, plus minusve arcuatam, abruptiuscule, transeuntes, tandem late ellipsoideae, vel ovoideae, brunneae vel obscure brunneae postice appendice hyalina vel subhyalina, plus minusve arcuata, continua nec septata, caudatae, 64—72 × 6—8 μ; paraphyses subnumerosae, filiformes.

Collected on dead dried stem of *Pennisetum thyphoideum* Rich. at Award in the month of December 1967. Leg. S. B. Kale and deposited in the herbarium of I. A. R. I. New-Delhi under No. 29375.

The genus *Bombardia* was originally erected by Fries (1849) with *B. fasciculata* Fr. as the type species. The genus *Bombardia* Fr. is traditionally described as the coprophilous but this present collection suggests its sprophytic nature on the wood or dead stem.

The genus *Bombardia* Fr. was remained unrepresented in the Indian flora until Cain (1934) reported *B. coprophila* (Fr.) Kirscht. on dung of Zebra from Punjab. Later on Verma (1940) reported *B. hyalina* Verma on dry twig of *Thumbergia grandflora* Roxb. from Punjab. This is the third species from India.

2. **Kretzschmaria phoenicis** sp. nov.

Stoma black, hard, carbonaceous, brittle, erect, stipitate, capitate, with a narrow stalk and larger round head-like structure, with few laterally placed perithecia, unbranched, 3—5 mm in height, 2—2.5 mm broad. Perithecia few in number, in groups, black, flask-shaped, completely embedded in the stroma, laterally placed, ostiolate, opening at the outer surface of the stroma; perithecia measuring from 525—750 × 500—700 μ. Asci cylindrical, stipitate, 8-spored, thick-walled at the tip, measuring from 104—112 × 8—10 μ, paraphysate; paraphyses filiform, forming the hymenium. Ostiole periphysate. Ascospores 1-celled, brown to black or dark, elliptical to egg-shaped, uniseriate, 11—14 × 5—6 μ, with hyaline thin mucous sheath and central oil globule or furrow.

Stromata nigra, carbonacea, recta, crassiuscule et breviter stipitata, capitata, 3—5 mm alta, 2—2.5 mm lata; perithecia pauca, imprimis lateralia, stromati omnino innata, ellipsoidea vel ovoidea, ostiolo papilliformi in stromatis superficie punctiformiter erumpentia sed non prominula, 550—750 × 500—700 μ; asci numerosi, cylindracei, antice rotundati, postice in stipitem longiusculum abruptiuscule attenuati, tenuiter tunicati, 8-spori, 104—112 × 8—10 μ; sporae oblique monostichae, ellipsoideae vel ovoideae, brunneae vel nigrescentes, guttula oleosa centrali praeditae, muco tenuissimo hyalino obvolutae, 11—14 × 5—6 μ; paraphyses numerosae, filiformes.

Collected on dead and dried decaying leaf base of *Phoenix sylvestris* Roxb. at Mulaj in the month of January 1968, Leg. S. B. Kale and deposited in the herbarium of I. A. R. I. New Delhi under No. 29377.

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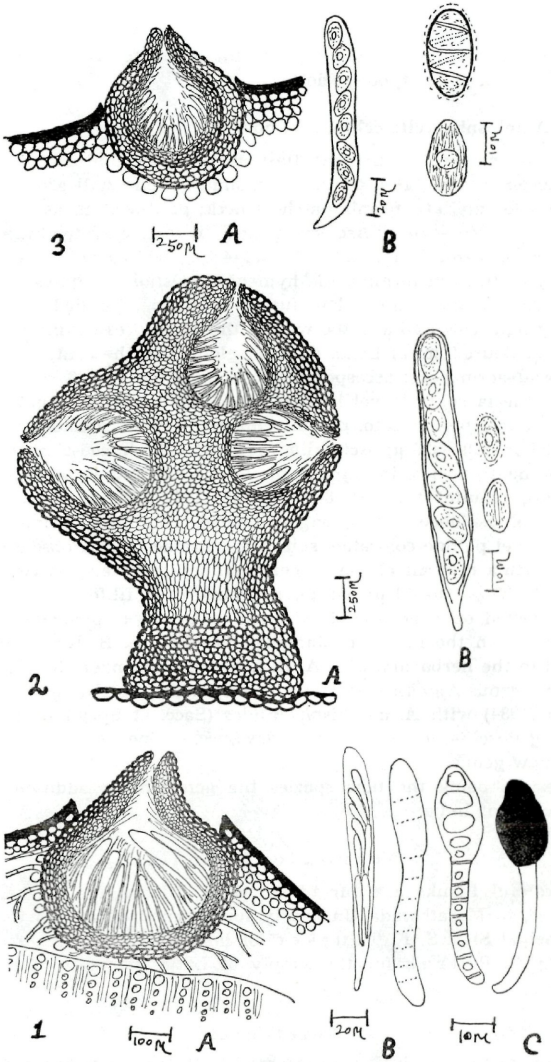

Fig. 1. *Bombardia penniseti* sp. nov. A. Vertical section of perithecium. — B. Various early developemental stages of ascus and ascospores. — C. Various late stages in the ascospores and mature ascospore.

Fig. 2. *Kretzschmaria phoenicis* sp. nov. A. Vertical section of stroma with perithecia. — B. Ascus and ascospores.

Fig. 3. *Amphisphaerella celastri* sp. nov. A. Vertical section of perithecium and stroma. — B. Ascus and ascospores.

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The genus *Kretzschmaria* was originally erected by Fries (1849) with *K. clavus* as the type species.

3. **Amphisphaerella celastri** sp. nov.

Perithecia innate-erumpent, flask-shaped, surrounded by the black cabonaceous stroma, 16 μ thick, black, singly or in small groups, ostiolate; ostiole papillate, forming a short neck; perithecia measuring from 180—225 × 260—230 μ. Asci cylindrical to long clavate thickwalled, unitunicate, 8-spori, stipitate, 133—144 × 00—00 μ, paraphysate; paraphyses filiform forming the hymenium. Ostiole periphysate. Ascospores dark brown, ellipsoid to fusoid or oblong, 1-celled, uniseriate, initially light coloured and the wall of the ascospores having a hyaline or light coloured spiral band, with oil globule in the centre and with equatorial germ pore; ascospores measuring from 21—25 × 10—11 μ.

Perithecia solitaria vel in greges minutos disposita, innata erumpentia, ostiolo periphysato, papilliformi vel breviter conoideo praedita, 180—225 × 260—320 μ; asci cylindracei vel cylindraceo-clavati, antice late rotundati, postice in stipitem brevem, crassiusculum abruptiuscule attenuati, tenuiter tunicati, 8-spori, 133—144 μ longi; sporae monostichae, ellipsoideae vel oblongo-ovoideae, continuae, primum subhyalinae vel pallide coloratae, spiraliter vittatae, postea obscure brunneae, guttula centrali oleosa et germinationis poro aequatoriali praeditae, 21—25 × 10—11 μ; paraphyses numerosae, filiformes.

Collected on dead and dried stem of *Celastrus paniculata* Willd. at Ramling in the month of January 1968 Leg. S. B. Kale and deposited in the herbarium of I. A. R. I. New Delhi under No. 29374.

The genus *Amphisphaerella* was originally erected by Kirschstein (1934) with *A. amphisphaeroides* (Sacc. et Speg.) Kirschst. by selecting *Roselliania amphisphaeroides* Sacc. et Speg. (1877) as the type of his new genus.

Besides being the new species the genus is an addition to the generic list of India.

Acknowledgements

Grateful thanks are dur to Dr. S. T. Tilak for his help and guidance, to Marathwada University for Research Grant, to U. G. C., to principal Shri. S. K. Teurker for laboratory and other facilities, and Dr. F. Petrak for the supply of Latin diagnosis of the new species.

References

Ainsworth, G. C. & G. R. Bisby, 1961: Dictionary of Fungi. C. M. I. Kew Surrey.

Butler, E. J. & G. R. Bisby, 1960: The Fungi of India. Ind. Counc. of Agri. Res. Inst. New Delhi.

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Clements, F. E. & C. L. Shear, 1957: The Genera of Fungi. Hafner publi. co. New York.
Dennis, R. W. G., 1960: British cup-fugi and their allies. Ray Society. 1968: British ascomycetes.
Kale, S. B. & Sou. V. S. Kale, 1969: Ibdem. Ind. Phytopath.
Tilak, S. T., Kale, S. B. & Sou. V. S. Kale, 1969: Notes on some ascomyceteous fungi of India — I, Sydowia (in press).
Kale, S. B. & Sou. V. S. Kale, 1969: Ibdem. Ind. Phytopath.

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Digitale Literatur/Digital Literature

Zeitschrift/Journal: Sydowia

Jahr/Year: 1970/1971

Band/Volume: 24

Autor(en)/Author(s): Kale S. B., Kale Sou. V. S.

Artikel/Article: Notes on some Ascomyceteous Fungi from India - III. 331-335