Genus Massarina from India

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The fungus genus *Massarina* was errected by Saccardo (1883) with *M. eburnea* (Tul) Sacc. as type species. This genus remained unreported from the Indian flora for a long time. Mundkur and Ahmad (1946) described *M. graminicola* as a new species from Punjab. Bose and Muller (1967) commented that this species is not belonging to the genus *Massarina* as the ascospores of this species are having vertical septa. Chona, Munjul and Kapoor (1957) described *M. psidii* on *Psidium guava* L. as a new species from Delhi. Thus this report forms the first report of the genus from India. Tilak (1960) described *M. jasminicola* on dried stems of *Jasminum malabaricum* Wall. from Poona. Bose and Müller (1965) described *M. parasitica* as a parasite on living leaves of *Michelus duthiei* King., from Central himalaya. Tilak and Srinivasulu (1968) recorded *M. polymorpha* (Rehm) Sacc. on *Lasiosiphon eriocephalus* Dcne.

The authors during their critical study and revision of the forest fungi of Maharashtra State came across the dried stems of *Colebrookea oppositifolia* Sm. and *Eugenia jambuline Lam.* infected with some black fungi. On critical study they turned out to the belong to genus *Massarina,* but differed in morphological features from the hitherto described species; therefore they are described as new to science on the basis of comparative morphology and host specificity.

The genus *Massarina* is characterised by having perithecia innate or erumpent, black, ostiolate, with many asci. Asci cylindrical, bitunicate, paraphysate, hyaline, 8-spored. Ascospores hyaline, transversely multiseptate with a mucous sheath.

At present this genus is represented by nine species from the Indian flora. A comparitive study of all the species and a tentative key for the identification of the Indian species of *Massarina* is provided in the present paper.

All the species are arranged in alphabetical order.

1. **Massarina colebrookeae** sp. nov.,

Perithecia erumpent, single, black, ostiolate, 300—355 × 275—300 μ., Asci many, clavate to cylindric, bitunicate, paraphysate, hyaline stipitate and 8-spored, 65—80 × 11—15 μ. Paraphyses filiform, hyaline and non-septate. Ascospores hyaline, two celled, oblong to fusoid, with an oil globule in each cell, biseriate with a mucous sheath of .75 μ., thick ness and measuring 26—33 × 7—9 μ.

Perithecia erumpentia, singularia, nigra, ostiolata, 300—355 × 275—300 μ; asci numerosi, clavato-cylindracei, antice late rotundati, postice paulatim in stipitem brevem attenuati, tenuiter tunicati 65—80 × 11—15 μ, 8-spori; sporae distichae oblongo-fusoideae, utrinque attenuatae, rectae, hyalinae, medio septatae, vix vel lenissime constrictae, in quoque loculo guttula oleosa majuscula praeditae, muco angustissimo obvolutae, 26—33 × 7—9 μ; paraphyses simplices, filiformes.

Collected on the dried stems of **Colebrookea oppositifolia** Sm., at Mahabaleshwar, in the month of October, 1967. Leg. Srinivasulu and deposited in the herbarium of Maulana Azad College under MAH. 1200 (Srinivasulu type).

2. **Massarina eugeniae** sp. nov.

Perithecia superficial, black, globoid, single, ostiolate, saprophytic, 360—440 × 350—400 μ. Asci many, clavate, hyaline, bitunicate, paraphysate, 8-spored, 60—55 × 15—25 μ. Paraphyses filiform, hyaline, nonseptate. Ascospores hyaline, irregularly arranged, transversely multiseptate, septa thick and spores with a mucous sheath of .75 to 1 μ. thick ness., 34—48 × 6.5—8.5 μ.

Perithecia superficialia, globosa, nigra, singularia, ostiolata, 360—440 × 350—400 μ; asci numerosi, clavati, antice late rotundati, postice paulatim attenuati, subsessiles, 8-spori, 60—55 × 15—25 μ; sporae pluriseriatae, cylindraceae, utrinque obtusae, vix vel leniter attenuatae, rectae vel leniter arcuatae, hyalinae, transverse multiseptatae, non constrictae, 34—48 × 6,5—8,6 μ, muco angustissimo obvolutae; paraphyses filiformes, subnumerosae.

Collected on the dried stems of *Eugenia jambulina* Lam., at Mahabaleshwar, in the month of October, 1967. Leg. Srinivasulu and deposited in the herbarium of Maulana Azad College under MAH 1201 (Srinivasulu type).

3. *Massarina jasminicola* Viswanthan & Tilak.
Mycopath. et. Mycol. appl. 13 : 237—241. 1960.
Collected on the dried stems of *Jasminum malabaricum* Wall.

4. *Massarina himalayensis* Muller & Bose.
Sydowia, 12; 160—184. 1958.
Collected on the dried stems of *Rosa webbiana* Wall.

5. *Massarina lonicerae* Bose and Müller.
   Ind. Phytopath. 20 : 124—137. 1967.
   Collected on *Lonicera quinqueloculari*s Hardw.
6. *Massarina parasitica* Bose and Muller.
   Ind. Phytopath. 18 : 341—353. 1965.
   Collected on living leaves of *Michelus duthiei* King.
7. *Massarina psidii* Chona, Munjul, and Kapoor.
   Ind. Phytopath. 10 : 148—156. 1957.
   Collected on stems of *Psidium guyava* L.,
8. *Massarina viswanathi* Roy, Dwevedi and Sulka.
   Proc. Nat. Acad. Sci. India. Ann. Number — p 67., 1958.
   Collected on dried stems.
9. *Massarina polymorpha* (Rehm) Sacc.
   M. V. M. Patrika, 3 : 26—30, 1967.
   Collected on stems of *Lasiosiphon eriocephalous* Dcne.

Key to the Indian species of *Massarina*.

A. Perithecia in stromatic groups — *M. polymorpha.*
B. Perithecia single.
   i) Parasite on leaves — *M. parasitica,*
   ii) Saprophyte on woody parts.
      x. Ascospores 2-celled.
         a. Perithecia less than 200 μ in size — *M. jasminicola.*
         b. Perithecia measuring more than 250 μ — *M. colebrookeae.*
      y. Ascospores 4-celled — *M. psidii.*
      z. Ascospores more than 4-celled.
         a. Perithecia measuring less than 350 μ.
            i. Ascospores less than 20 μ long. — *M. himalayensis.*
            ii. Ascospores 30—50 μ long. — *M. lonicerae.*
         b. Perithecia measuring more than 360 μ — *M. eugeniae.*

Munk (1956) raised this genus to the rank of a family and placed it under *Massarinaceae*. Bose (1961) however does not agree with Munk. After the present study the authors also feel that there is no necessity to separate the genus as a separate family and agree with the view of Bose (1961).

Acknowledgements

Authors are thankful to Dr. S. T. Tilak for encouragement and guidance, and to Dr. F. Petrak for providing the latin diagnosis to the new species.

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