

A new report of *Mortierella* from India

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The genus *Mortierella* despite the work which has hitherto been executed in India (Mehrotra, 1960, Mehrotra, Baijal and Mehrotra, 1963, Mehrotra & Baijal, 1963, Mehrotra and Mehrotra, 1964, Mehrotra, Mehrotra and Baijal, 1964) and abroad (Coemans 1863, Harz 1871), van Tieghem & Le Monnier (1873, 1875, 1876), Dewevre (1895), Zycha (1835), Hesseltine (1955), Novotelnova (1950), Brefeld, (1876, 1881) Dauphin, (1908) Dixon Stewart, (1932), Ellis, (1940) Gams and Williams (1963) & Williams *et al.*, (1965) Linnemann (1941) Fischer (1892), Naumou (1939) continues to excite the interest of taxonomists by its variation in forms and those morphological details which go to constitute a new species, a new variety or a new find. The present report is the salient endeavour which brings on the pages of mycological records, a very interesting report in *Mortierella reticulata* van Tieghem & Le Monnier isolated for the first time from the soil of Phaphamau, a locality in the vicinity of Allahabad City.

Mortierella reticulata van Tieghem & Le Monnier

Colonies on oat-meal, Malt-extract and Potatodextrose agar with abundant aerial mycelium, often floccose; sporangiophores arising mostly in groups from aerial mycelium, non-septate when young, branched or unbranched, 100—200 μ in length, average 150 μ , tapering from 8.8—11 μ at the base to 3.3—4.4 μ at the apex, and with finger like processes at the base, cymosely branched, sometimes in whorls; on maturity usually undergoing septation; all sporangia globose, brown, 21—52 μ mostly 37.4, first segment of the sporangial protoplasm always longitudinal, few sporic, 2—8 spored, mostly 4 spored, wall readily deliquescent, leaving a very small collarette, spores immersed in drops of liquid; sporangiospores large, globose to angular, mostly present in tetrads, 16—26.4 μ , mostly 20 μ in diam., reticulate, with irregular net; chlamydo spores terminal or intercalary, on branches of mycelium borne singly, globose to elongate, 11—25 μ , mostly 20 μ in diam. Zygospores not seen.

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Description based on culture M-102, deposited in the culture collection of Botany Department, University of Allahabad and this will also be deposited at NRRL Peoria, Illinois, U.S.A.

Isolated for the first time from India from heavily manured farm soil pH 7.5 of Phaphamau, a locality in the vicinity of Allahabad.

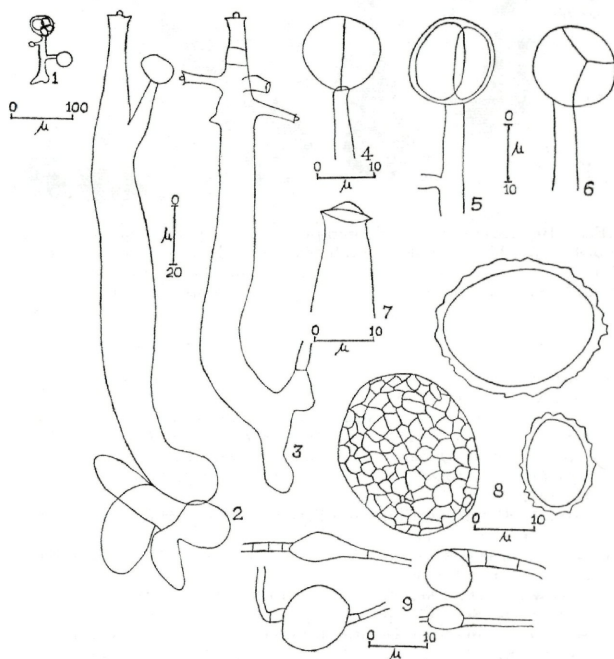
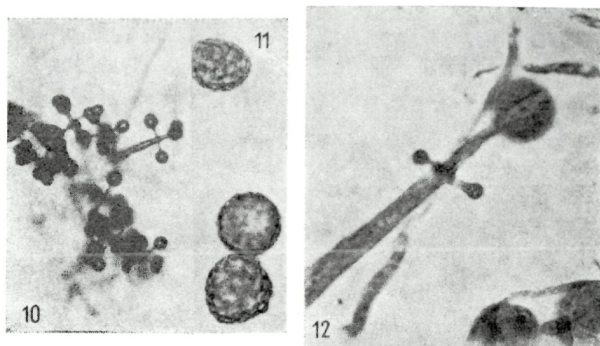


Fig. 1—9. *Mortierella reticulata* van Tieghem & Le Monnier. — 1. A branched sporangiophore. 2—3. Two sporangiophores showing the branching pattern. (note the presence of septa in the sporangiophore in 2). 4—6. Upper portions of three sporangiophores showing various types of sporangia at various stages of development (note that the first segmentation of the sporangial protoplasm is always longitudinal). 7. Tip of a sporangiophore showing the presence of collar. 8. Sporangiospores. 9. Terminal & intercalary chlamydozoospores.

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Figs. 10—12. 10. Photomicrograph showing sporangiophores as seen in Petri-dish, $\times 57$; 11. Photomicrograph of an upper portion of a branched sporangiophore showing longitudinal segmentation of the sporangial protoplasm, $\times 727$; 12. Photomicrograph showing sporangiospores, $\times 1000$.

References

- *Bjorling, K., 1936: Über die Gattungen *Mortierella* and *Haplosporangium*. Bot. Notiser, 116—126.
- *Brefeld, O., 1876: *Mortierella rostafinskii*. Sitz. Ges. naturf. Fr. Berlin.
- * — 1881: *Chatocladium*, *Pilobolus*, *Mortierella*. Unters. Cergeb. d. Mykol., 4.
- *Coemans, E., 1863: Quelques Hyphomycetes nouveaux. 1. *Mortierella polycephala* et *Martensella pectinata*, Bull. Soc. Roy. Acad. de Belg., 2 Ser., 15: 836.
- *Dauphin, J., 1908: Contribution a l'etude des *Mortierellee* 's. Ann. Sc. Nat. Bot. Ser. 9, 8: 1—112.
- *Dewevre, A., 1895: A propos d'un genre nouveau de Mucorinees. Bull. Soc. Belg. Microsc. 21: 36.
- Dixon-Stewart, D., 1932: Species of *Mortierella* isolated from soil. Trans. Brit. Mycol. Soc., 17: 208—220.
- Ellis, M., 1940: Some fungi isolated from pinewood soil. Trans. Brit. Mycol. Soc. 24: 87—97.
- Fischer, A., 1892: Phycomycetes: Mucorinae. In Rabenhorst's Krypto. Flora v. Deut. Oest. u. d. Schweiz, 1 (4): 161—310.
- Gams, W., and S. T. Williams, 1963: Heterothallism in *Mortierella parvispora* Linnemann. I. Morphology and development of zygospores and some factors influencing their formation. Nova Hedwigia, 5: 347—357.
- *Harz, O. C., 1871: Bull. Soc. Imper. Nat. Moscou, 44.
- Hesseltine, C. W., 1955: Genera of Mucorales with notes on their synonymy. Mycologia, 47: 344—363.
- Linnemann, G., 1941: Die Mucorineen — Gattung *Mortierella* Coemans. Pflanzenforschung, Heft 23. G. Fischer, Jena.
- Mehrotra, B. S., 1960: Studies in the Mucorales. II. A new species of *Mortierella* from India. Indian Phytopathology, 13: 68—71.
- Usha Baijal, and B. R. Mehrotra, 1963: Two new species of *Mortierella* from India Mycologia 55: 289—296.

- Mehrotra and Usha Baijal, 1963: Species of *Mortierella* from India III Mycopathologia et Mycologia applicata, **20**: 49—54.
- and B. R. Mehrotra, 1964: Species of *Mortierella* from India-IV Zent. Bakt. II Abt. **119**: 178—185.
- and B. R. Mehrotra, Usha Baijal, 1964: Species of *Mortierella* from India — V *Mortierella oligospora* Bjorling and *M. oligospora* var. *indica* B. S. Mehrotra and Baijal var. nov. Sydowia Annal. Mycol. ser. II. Vol. **17**: 186—189.
- — 1964: Species of *Mortierella* from India-IV. Zbl. Bakt., II. Abt. **118**: 178—185.
- Naumou, N. A., 1939: Cles des Mucorinees. Encyclopedie Mycologique, **9**: 1—137 + Appendix. Paul-Lechevalier, Paris.
- *Novotel'nova, 1950: Not. Syst. Crypt. Inst. Bot. Acad. Sci. URSS **6**: 155.
- *van Tieghem, P., 1875: Nouvelles recherches sur les Mucorinees. Ann. Sci. Nat., Bot. Ser. **6**, **1**: 5—175.
- * — 1876: Troisieme memoire sur les Mucorinees. Ann. Sci. Nat., Bot. Ser. **6**, **4**: 312—398.
- * — and G. Le Monnier, 1873: Recherches sur les Mucorinees. Ann. Sci. Nat., Bot., Ser. **5**, **17**: 261—399.
- Turner, M. and G. J. R. Pugh: 1961. Species of *Mortierella* from a salt marsh. Trans. Brit. Mycol. Soc., **44**: 243—252.
- Williams, S. T., T. R. G. Gray, and P. Hitchen. 1965: Heterothallic formation of zygospores in *Mortierella marburgensis*. Trans. Brit. Mycol. Soc., **48**: 129—133.
- Zycha, H., 1935: Mucorineae, in Kryptogamenflora der Mark Brandenburg **6a**: 1—264.

* = Originals not seen.

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