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Some interesting Micro-Fungi from floodaffected Substrata in Poona, India.-II.

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With 7 Textfig.

This is a second contribution towards our knowledge of the micro-fungi collected by the writer from the floodaffected substrata at Poona during July 1961 and presents an account of eight more fungi belonging to the *Zygomycetes* and *Hyphomycetes*, two of which viz., the genera *Trichocladium* and *Monotospora* are new records to India and *Syncephalis* a new addition to the fungi of Bombay — Maharashtra.

The materials and methods employed in this study have been already described by the writer in a previous paper *).

1. *Circinella muscae* (Sorok.) Berl. & de Toni (Fig. 1).

Syn. *C. spinosa* van Tieghem & L. Monnier. — Saccardo, P. A.

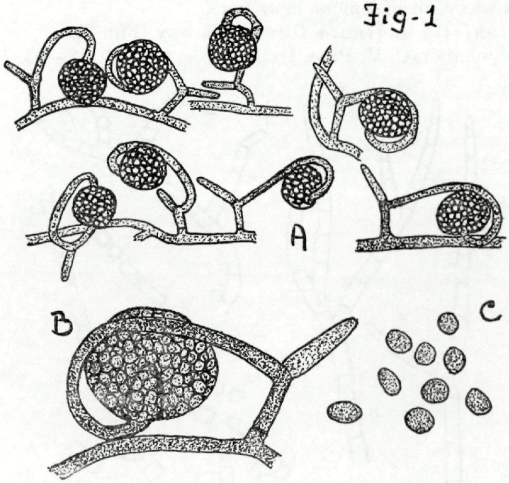

Fig. 1. *Circinella muscae* (Sorok) Berls & de Toni. — A. Mycelia with sporangiophores & sporangia ×100. — B. Sporangiophore with sporangium & spine ×264. — C. Sporangiospores or conidia ×440.

*) Sydowia, Ann. Mycol. XVI 1962, p. 77—84.

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Syll. Fung. 7: 216, 1888. — Hesseltine, C. W. et al. Mycol. 47: 193—213, 1955.

Colony grey to dull brown, spreading, 0,5—1,5 mm. Sporangiophores circinate, with a sterile basal spine, bearing a single sporangium, 2—3 septate, 125—198 × 8,5—10,5 μ. Sporangia globose to dorsiventrally flattened, collumellate, persistant cell wall, brown, 43—73 μ diam. Spores ovoid to globose, smooth, light brown, 4,3—6,5 × 4,3—5,5 μ.

On seed of *Sorghum vulgare* L. collected by S. Anantha Narayanan, 18th July 1961, Poona, India.

Rao (1962) has recently reported this fungus from Poona, India, inciting a storage rot of Jack fruit (*Artocarpus integrifolia* L.).

2. *Geotrichum candidum* Link (Fig. 2).

Saccardo, Syll. Fung. 4: 39, 1886. — Carmichael, J. W. Mycol. 49: 820—830, 1957.

Colony white, slimy, shining, raised, scattered, mycelium hyaline, closely septate, much branched, breaking up at septa into oidia. Oidia hyaline, barrel-shaped, in basipetal chains, 6,5—13,0 × 4,3—5,3 μ.

On grains of *Oryza sativa* L. collected by S. Anantha Narayanan, 18th July 1961, Poona, India.

Rao, (1962) has recently reported the fungus from Poona, inciting a waxy rot of lemons in storage.

3. *Memnoniella echinata* (Riv.) Galloway (Fig. 3).

Subramanian, C. V. Proc. Indian. Aca. Sci. **36**; 43—53, 1952.

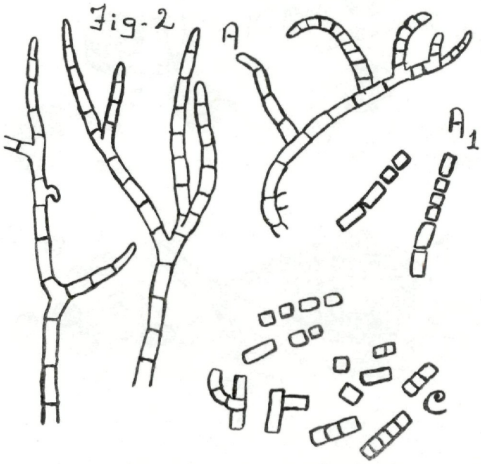

Fig. 2. *Geotrichum candidum* Link. — A. Mycelia ×440. — A 1. Fragmenting mycelia ×440. — C. Oidia ×440.

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Colony deep black, floccose, spreading, submerged. Conidiophores hyaline at base, brown at apex, simple, 1—2 septate, bearing a crown of phialides at apex, 52—78 × 3,2—4,3 μ. Phialides subhyaline, simple, 1-celled, pyriform, 5—9 in number, 8,5—13,0 × 3,2—4,3 μ. Conidia in persistant chains, (having 48—50 conidia in a chain) chains not branched, globose, dark brown, verrucose, 4,3—6,4 μ.

On decaying cotton fabric, paper and wood, collected on 21st July 1961, Poona, India.

This is a 2nd record from Bombay-Maharashtra, first being *M. zingibereae* Rao reported by Rao (1962) causing dry rot of ginger (*Zingiber officinale* Rose.) in storage.

4. *Trichocladium opacum* (Crd.) Hughes (Fig. 4).

Hughes, S. J. Trans. Brit. Mycol. Soc. **35**: 153—156, 1952.

Colony black, effuse, submerged, 3—5 mm diam. scattered. Conidiophores arising as lateral short knobs, non-septate or 1—2 septate, sub-hyaline. Conidia ellipsoid to clavate, straight to slightly bent, 2—5 septate, generally 3—5 celled, dark brown, thick-walled, constricted at septa, straight to oblique, formed singly, 13—30 × 5,3—10,8 μ.

On paper and cotton cloth, collected on 21st July 1961, Poona, India.

Hughes (1952) has collected this fungus from decaying wood of *Fagus sylvatica* and *Quercus* sp. and also from soil.

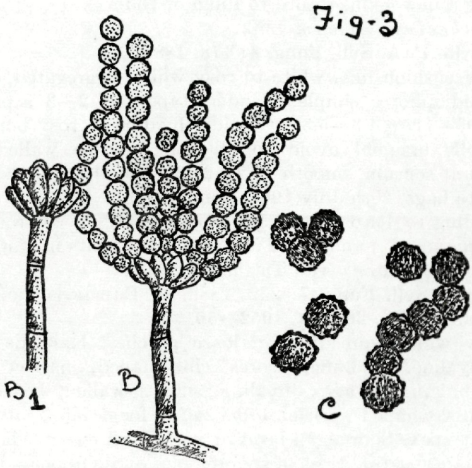

Fig. 3. *Memnoniella echinata* (Riv.) Galloway. — B. Conidiophore with chains of conidia × 440. — B 1. Apex of conidiophore × 440. — C. Conidia × 792.

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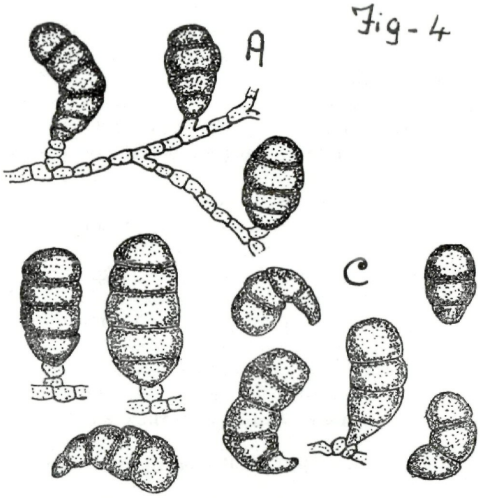

Fig. 4. *Trichocladium opacum* (Crd.) Hughes. — A. Mycelium with conidia ×792. — C. Conidia ×792.

This is a new genus record to fungi of India.

5. *Trichothecium roseum* Link.

Saccardo, P. A. Syll. Fung. **4**: 178, 1886.

Colony cushion like, white to rosy white, aggregated, 1—3 mm. diam. Conidiophores simple, stender, tapering, 2—3 septate, subhyaline, 103—125×4,3—5,3 μ. Conidia hyaline to rosy borne singly, 2-celled cells unequal ovoid to ellipsoid, double walled, slightly constricted at septum, smooth 17,2—21,3×8,6—10,8 μ.

On jute bags, 20th July 1961, Poona, India.

According to Rao (1962), this fungus incites a soft-rot of guava (*Psidium guajava* L.) and fig. (*Ficus carica* L.) fruits in storage.

6. *Syncephalis cornu* van Tiegh. (Fig. 5).

Saccardo, Syll. Fung. **7**: 232, 1888. — Ramakrishnan K. et al. J. Madras Univ. **26**: 374, 1952—56.

Colony white, spreading, in loose patches. Rhizoids branched slender, hyaline. Sporangiophores club-shaped, narrow at base gradually bulging at apex, hyaline, smooth-walled, bearing apical recurved, disk-shaped vesicle, 176—240 μ long, 8,6 μ at base and 20—22 μ at apex. Sporangial head or vesicle, globose to disk-shaped, 17—29 μ diam. bearing tufts of sporangioles on its upper side. sporangioles cylindrical, hyaline, borne in tufts of 20—30 in number over the vesicle. 21,5—30×2,15—4,3 μ. Conidia borne in a line (3—4),

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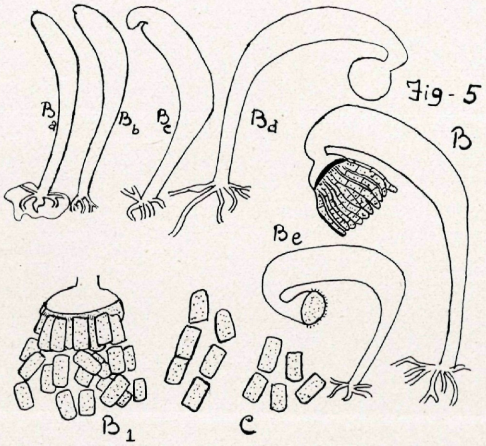

Fig. 5. *Syncephalis cornu* Van Tiegh. — Ba-Be developmental stages of sporangiophore ×180. — B. Sporangiophore ×180. — B 1. Head or vesicle ×950. — C. Sporangiospores or conidia ×950.

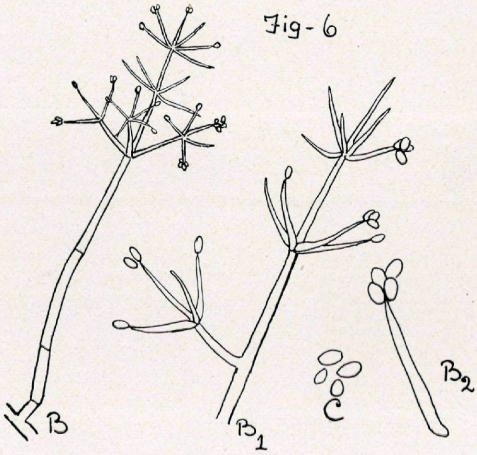

Fig. 6. *Verticillium dahliae* Kleb. — B. Conidiophore ×264. — B 1. Apex of conidiophore ×440. — B 2. Phialide with conidia ×950. — C. Conidia ×950.

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1-celled, hyaline, ellipsoid to cylindrical, readily breaking away, 4,3—6,5 × 2,15—4,3 μ.

On grains of *Oryza sativa* L., 18th July, 1961, Poona, India.

Ramakrishnan et al. (1952—56) have collected this fungus from soil growing as a hyperparasite on *Cunninghamella echinulata* Thaxt. The fungus is a new genus record for Bombay-Maharashtra.

7. *Verticillium dahliae* Kleb. (Fig. 6).

Saccardo. Syll. Fung. **25**: 706, 1931. — Patel, M. K. et al. Ind. Phytopath. **2**: 245—46, 1949.

Colony white, effuse, 1—3 mm. Conidiophores erect, acicular with verticillate branching, hyaline, 2—3 septate, 194—352 × 2,1—5,3 μ. Phialides hyaline, acicular bearing 3—4 conidia in clusters, 20—25 × 2,3—3,5 μ. Conidia hyaline ellipsoid, smooth, thin-walled, in groups of 3 to 4, 3,5—4,3 × 2,15 μ.

On dead bark, 20th July 1961, Poona, India.

According to Patel et al. (1949), this fungus is a virulent pathogen inciting a root rot of *Solanum melongena* L. in Bombay.

8. *Monotospora cuneiformis* (Rich) Sacc. (Fig. 7).

Saccardo, Syll. Fung. **4**: 299—301, 1886.

Colony black, effuse, cushion-like, circular, 3—4 mm. Conidiophores simple, uniformly thick, 2—3 septate, brown, erect, 116—223,5 × 4,3—6,4 μ. Conidia deep brown at periphery light at centre,

Fig-7

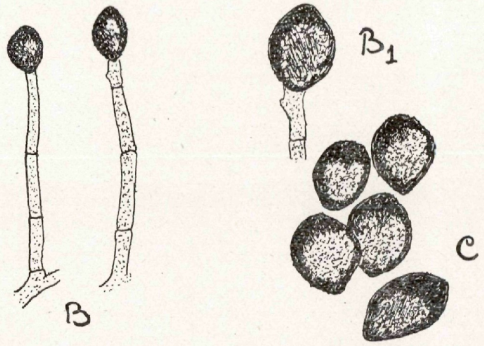

Fig. 7. *Monotospora cuneiformis* (Rich.) Sacc. — B. Conidiophore × 440. — B 1. Apex of conidiophore × 792. — C. Conidia × 792.

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1-celled, smooth, thick-walled, solitary, apical, cunei-formed, 6,5—13,0×4,3—10,5 μ.

On wood and paper, 18th July 1961, Poona, India.

The fungus is a new genus record for India.

Summary.

This paper presents an account of eight fungi belonging to the *Zygomycetes* and *Hyphomycetes*, and collected from floodaffected substrata at Poona, India. Two of which namely the genera *Trichocladium* and *Monotospora* are new records to India and *Syncephalis* a new addition to the fungi of Bombay — Maharashtra.

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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: Sydowia

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