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Dematiaceous Hyphomycetes inhabiting forest debris in Hungary III.

By
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Abstract: Twenty-three species of lignicolous and other saprophytic Hyphomycetes belonging to 20 genera are reported from Hungary. Some of the recorded 23 species are common, 14 are new to Hungary.

Some dematiaceous Hyphomycetes have recently been reported from Hungary (RÉVAY 1985, 1986). The present contribution reports 23 species, 22 of which were not recorded in the previous accounts, together with additional information on one species reported previously.

The material of the species listed below was collected by the author and J. GÖNCZÖL. The examined material is deposited in the Mycological Herbarium of the Hungarian Natural History Museum, Budapest (BP).

SPECIES ACCOUNT

Acrodictys globulosa (Tóth) M. B. Ellis - Mycol. Pap. 103: 34, 1965. (Pl. V, Fig. 2)

Conidiophores erect, straight or flexuous, dark brown at the base, paler towards the apex, 40-80 x 5-7 µm. Conidia subglobose, pale or medium brown, smooth-walled, with two transverse and several longitudinal and oblique septa, 15-26 x 16-20 µm, basal cell cylindrical, protruding. - Collected on dead twigs of Fagus sylvatica, near Ómassa in the Bükk Mts, 27 March, 1986.

Anavirga dendromorpha Descals et Sutton - Trans. Br. mycol. Soc. 67: 269, 1976. (Pl. III, Fig. 1)

Detached conidia of Anavirga dendromorpha have been well known for some years from submerged leaf samples collected from the Szén-patak stream in the Börzsöny Mts. So far only free conidia were found on submerged leaves but profuse sporulation of the fungus was found on a decorticated twig of Fagus sylvatica in a sample collected in February, 1986. Some colonies of the fungus consisting of dark, dense masses of growing conidia were seen on the natural substrate mixed with sporulating Anguillospora crassa Ingold. Conidiophores erect, brown, 40-50 µm long and 6-7 µm wide, consisting of 2-3 cells, growing densely in the colony. Conidia reddish or dark-brown, densely septate, highly variably branched, abundantly filled with lipid globules, the longest branch of the conidia commonly exceeds 500 µm, cells of 25-30 x 12-14 µm. The degree of branching varies from the most simple onesided branch to complex, plural dichotomous forms. The width of conidia is somewhat wider than described by DESCALS and SUTTON (1976) (the conidia 300-400 x 9-10 µm in the holotype). This is the first record of the species from Hungary.

Arthrinium morthieri Fuckel - Symb. mycol. 357, 1870. (Pl. V, Fig. 3)

Colonies compact, pulvinate, dark blackish-brown. Conidiophore mother cells subspherical 5-6 x 4.2-5 µm. Conidiophores simple, straight or flexuous, cylindrical, hyaline with thick dark-brown transverse septa, smooth-walled, 50-90 x 3.5-4.5 µm. Conidia flattened, irregular or oblong in face view, triangular in side view, pale-brown, smooth-walled, 12.8-16 x 6.4-8.5 µm in face view, 6-8 µm thick. Sterile cells usually spherical, almost hyaline or very pale-brown 8-9.6 µm in diameter. Arthrinium Kunze ex Fries is a genus containing many species occurring on various Carex species. Of these species only A. caricicola, A. puccinioides and A. sporophleum are known to occur in Hungary. The data of the fungus collection (BP) indicate that Arthrinium sporophleum seems to be the most common species of Arthrinium in Hungary. The present collection constitutes the first record of Arthrinium morthieri from Hungary. This species is known only from Sweden and Switzerland (ELLIS 1965). - Collected on dead leaves of Carex sp., near Szelcepuszta in the Aggtelek National Park, 21 May, 1987.

Arthrobotryum stilboideum Ces. - Hedwigia, 1: Tab. 4, Fig. 1, 1854.

Synnemata erect, straight, cylindrical, black, up to 1000 µm high, 20-35 µm thick, head up to 120 µm in diameter. Conidiophore threads 2-3.2 µm thick, branching towards the apex. Conidia ellipsoidal or cylindrical, rounded at the apex, truncate at the base, pale-brown, (2-)3-septate, 12-14 x 3-4 µm. This species was not previously reported from Hungary. - Collected on dead wood of Fagus sylvatica, in the valley Sebesviz-völgy in the Bükk Mts, 3 December, 1985.

Bactridium flavum Kunze - Mykol. Hefte 1:5, 1817. (Pl. II, Fig. 5)

Sporodochia globose or hemispherical, golden-yellow, up to 700 µm in diameter. Conidiophores crowded, hyaline, cylindrical, septate, 80-140 x 8-10 µm. Conidia clavate or nearly ellipsoidal, rounded at the distal end, truncate at the base, 2-4-septate, thick walled, subhyaline or yellowish, 140-180 x 29-36 µm. Bactridium flavum was reported from Hungary on three occasions by VASS (1972, 1977) and ZELLER and TÓTH (1960). - Collected on dead wood, near Ómassa in the Bükk Mts, 10 October, 1984.

Bactrodesmiastrum obscurum Hol.-Jech. - Folia geobot. phytotax. 19:103, 1984. (Pl. IV, Fig. 1)

Conidiophores arising on basal hyphae, at first singly, later aggregated in groups, unbranched, cylindrical to conical, truncate at the apex, pale-brown then dark-brown, 8-14 x 4-8 µm, 1.5-2 µm wide at the apex. Conidia formed singly on the top of conidiophores, clavate, pyriform, 3-septate, young conidia subhyaline, mature conidia dark-brown with two distal cells darker and two proximal cells paler, 27-31 x 12-14 µm. The monotypic new genus Bactrodesmiastrum containing B. obscurum was described by HOLUBOVÁ-JECHOVÁ (1984) from dead rotten wood of Fagus sylvatica collected in Czechoslovakia. The present collection is the first record of B. obscurum from Hungary and is apparently only the second collection since the description of species. - Collected on dead wood of Fagus sylvatica, in the valley Sebesvizvölgy in the Bükk Mts, 24 June, 1987.

Bactrodesmium atrum M.B. Ellis - Mycol. Pap. 72:9, 1959. (Pl. II, Fig. 1)

Sporodochia scattered, punctiform, black shining. Conidiophores fasciculate, unbranched, flexuous, subhyaline, 20-30 x 2-4 µm. Conidia obovoid, almost black except near the base where the cells are subhyaline or pale-brown, all septa can only be seen on young conidia as in mature conidia all except the basal cells are obscured by the black pigment in the wall, 4-7-septate, 45-70 x 24-30 µm. This is not a common species, it is represented in the BP only in two collections, including the present one from Hungary. - Collected on dead wood of Fagus sylvatica, near Rejtek in the Bükk Mts, 26 March, 1986.

Brachydesmiella biseptata Arnaud ex Hughes - Can. J. Bot. 39: 1095, 1961. (Pl. II, Fig. 3)

Colonies black, shining. Conidiophores simple, erect, flexuous, pale-brown, up to 50 µm long, 3-4 µm wide at the base and 6-8.5 µm towards the apex. Conidia solitary, limoniform, 2-septate, the central cell very large, brown or almost black, the end cells small, subhyaline, 36-43 x 16-22 µm. It is the first record of B. biseptata from Hungary. - Collected on dead twig of Fagus sylvatica, in the valley Sebesvizvölgy in the Bükk Mts, 3 December, 1985.

Brachysporium brevius Hol.-Jech. - Folia geobot. phytotax. 7:222, 1972. (Pl. I, Figs 1-2)
Conidiophores erect, simple, single, dark-brown, smooth, 60-150 µm long, 3.5-4 µm thick at the base, 3-3.5 µm thick in the middle part, paler towards the apex, proliferating, with small sporogenous denticles. Conidia ellipsoid or cylindrical, 3-septate, brown, 20-24 x 9-12.5 µm. HOLUBOVÁ-JECHOVÁ (1972) described this species from Czechoslovakia based on a single collection on rotten wood of Fagus sylvatica. The present collection differs slightly from the holotype in its longer conidiophores (55-135 µm in the holotype) and in somewhat longer conidia (17.5-22.5 µm in the holotype). In most of my material there are long upper conidiogenous parts in zig-zag arrangement with very distinct rests of sporogenous pedicels. These differences are interpreted as being the result of better conditions for sporulation. The present collection appears to represent the first record of B. brevius since its description. - Collected on dead bark of Fagus sylvatica, near Rejtek in the Bükk Mts, 26 August, 1986.

Cheiromycella microscopica (Karst.) Hughes - Can. J. Bot. 36: 747, 1958. (Pl. II, Fig. 4)
Sporodochia punctiform, brown. Conidiophores short, branching, pale-brown. Conidia aggregated in slimy masses, simple or branching, cheroid, golden brown, 8-20 x 3-6.5 µm, branches 1-5-septate. This species is represented in the BP in two collections, including the present one from Hungary. - Collected on dead wood of Picea abies, at Szelcepuszta in the Aggtelek National Park, 15 July, 1987.

Corynesporopsis uniseptata P. M. Kirk - Trans. Br. mycol. Soc. 77:463, 1981. (Pl. I, Figs 3-4)
Conidiophores usually fasciculate, erect, straight, brown, 100-190 µm high, 3-4.5 µm wide. Conidia acrogenous, shortly catenate, ellipsoid, sometimes the apical end obtuse, 1-septate, constricted at the septum, brown, with darker thick septum, 11.5-16 x 5-7.5 µm KIRK (1981) described this species from Cornwall, U.K. based on a single collection on dead leaves of Laurus nobilis. The present collection differs slightly from the holotype in its somewhat longer conidiophores. To the best of my knowledge this collection represents the second record of this species. - Collected on dead bark of Fagus sylvatica, near Bárna in the Mátra Mts, 14 May, 1987.

Dendryphion comosum Wallroth - Fl. crypt. Germ. 2:300, 1833.
Conidiophores branching at the apex, 100-400 x 5-7.5 µm. Conidia cylindrical, usually 2-4-septate, constricted at the septa, pale-brown, minutely verruculose, 10-35 x 5-8 µm. Dendryphion comosum was reported from Hungary on three occasions by MOESZ (1942), VASS and TÓTH (1963) and VASS (1981). - Collected on dead wood, near Ómassa in the Bükk Mts, 27 March, 1986.

Endophragmiella lignicola S. J. Hughes - N. Z. Jl. Bot. 17: 151, 1979. (Pl. II, Fig. 2)
Conidiophores single or in groups, erect, simple, straight or flexuous, subcylindrical up to 80 µm long 3-4 µm wide, at the base 6 µm wide. Conidia solitary, ovoid to obclavate, 2-septate, the central cell is the largest, dark-brown, the basal cell truncate and subhyaline, the apical cell obtuse at its end, hyaline, 14-19 x 4.8-6 µm. This species is widespread in the British Isles (KIRK 1986) and is known from Argentina (GAMUNDI et al., 1979). Endophragmiella lignicola had hitherto been unknown in Hungary. - Collected on cupules of Quercus cerris from a tree-hollow, near Bak in Zala County, 9 September, 1986.; on dead cupules of Quercus sp. near the stream Szén-patak in the Börzsöny Mts, 10 March, 1987.

Endophragmiella oblonga (Matsushima) Hughes - N. Z. Jl. Bot. 17:152, 1979. (Pl. III, Fig. 4)
Colonies effuse, dark-brown. Conidiophores arising singly or in groups, erect, unbranched, straight or slightly flexuous, brown, 180-280 x 4-5 µm, 6-8 µm thick at the base. Conidia solitary, ellipsoidal, (1-)2-septate, pale-brown, the central cell slightly darker, 21-32 x 9.5-12 µm, with a hyaline frill 1-2 µm long. Beside the original collection from Japan (MATSUSHIMA 1975), Endophragmiella oblonga has only been reported from Czechoslovakia (HOLUBOVÁ-JECHOVÁ 1986). This is the first record of E. oblonga from Hungary. - Collected on submerged twigs of Fagus sylvatica, from the stream Szén-patak in the Börzsöny Mts, 14 January, 1986; 3 June, 1987.

Endophragmiella similis Hol.-Jech. - Folia geobot. phytotax. 21: 189, 1986. (Pl. IV, Fig. 2)
Colonies effuse, dark-brown. Conidiophores crowded, simple or sometimes shortly

branching, erect, straight, or curved, pale-brown, 50-115 x 3-4.5 µm, 6-8 µm wide at the base. Conidia solitary, terminal, subcylindrical, ellipsoidal or pyriform, brown, the basal cell pale-brown, the central and apical cells predominantly uniformly coloured or the central cell darker then the others, 1-2-septate, thick-walled, 2-septate conidia 14-20 x 7-10 µm, 1-septate conidia 12-14 x 6.5-9 µm, with a subhyaline frill 0.8-1.8 x 1.5-2 µm. This is the first record of Endophragmiella similis from Hungary. - Collected on dead twigs of Fagus sylvatica near Szelcepuszta in the Aggtelek National Park, 15 July, 1987.

Pleurothecium recurvatum (Morgan) Höhnel - Ber. Deutsch. Bot. Ges. 37: 154, 1919. (Pl. IV, Fig. 3)

The occurrence of Pleurothecium recurvatum has recently been reported from Hungary (RÉVAY 1985). Conidia were reported to be hyaline, 3-septate, ellipsoidal, 16-20 x 4-6 µm. There are some differences in the conidium size and colour between the former and the present collections. In a detailed study GOOS (1969) gave the following description of conidia: hyaline, (15-) 18-23 (-30) x (4-) 5-7 (-9) µm. The conidia in my collection are 27-32 x 7-8 µm, 3-septate, initially hyaline, but some of them becoming pale-brown in medial cells. HUGHES (1953) figured a British collection of Pleurothecium recurvatum, with polyblastic, denticulate, sympodial conidiogenous cells under the name Cacumisporium tenebrosum Preuss. Some conidia with pale coloured median cells can be seen on his illustration. My collection agrees well in conidium shape, septation, colour and conidiophore morphology with his findings. - Collected on submerged wood, from the stream Morgó-patak in the Börzsöny Mts, 14 August, 1987.

Polythrincium trifolii Kunze - Mykol. Hefte, 1: 13-15, 1817.

Conidiophores up to 110 x 6-9 µm. Conidia cuneiform or pyriform, pale-brown, 1-septate, 16-24 x 12-24 µm. This is a common species reported several times from Hungary by BUBÁK (1907), HOLLÓS (1913, 1933), MOESZ (1916, 1930, 1942) and VASS (1982, 1983). - Collected on leaves of Trifolium repens near Szelcepuszta in the Aggtelek National Park, 15 July, 1987.

Pseudospiropes obclavatus M. B. Ellis - More demat. Hyphom. p. 219, 1976. (Pl. V, Fig. 1)

Conidiophores erect, straight or flexuous, brown, 20-65 µm long, 3.4-5 µm thick. Conidia obclavate, truncate at the base, 5-10-septate, mid-brown, 15-37 x 3.5-4 µm. P. obclavatus was reported from Hungary by HOLUBOVÁ-JECHOVÁ (1979) from dead branches of Carpinus betulus and Fagus sylvatica. - Collected on dead debris from a tree-hollow, near Bak in Zala County, 9 September, 1986.

Spadicoides atra (Corda) Hughes - Can. J. Bot. 36: 805, 1958. (Pl. III, Fig. 3)

Conidiophores 60-350 µm long, 2.5-3.5 µm wide, 5-7 µm wide at the base. Conidia ellipsoidal, nonseptate, brown, 4-7 x 2.8-4 µm. This is a common species on decaying wood and bark. - Collected on dead wood of Fagus sylvatica, near Szelcepuszta in the Aggtelek National Park, 15 July, 1987.

Sporidesmium brachypus (Ell. et Ev.) Hughes - Can. J. Bot. 36: 807, 1958. (Pl. V, Fig. 4)

Conidiophores 50-100 µm long, 5-7 µm wide, dark-brown, conico-truncate at the apex. Conidia straight or slightly curved, fusiform, olivaceous brown, 5-8-pseudoseptate, 40-60 x 9-12 µm, appendage hyaline, 40-55 µm long. This is the first record of Sporidesmium brachypus from Hungary. - Collected on dead wood, near Aggtelek in the Aggtelek National Park, 21 May, 1987.

Taeniolella rudis (Sacc.) Hughes - Can. J. Bot. 36: 817, 1958. (Pl. III, Fig. 2)

Conidiophores erect, obclavate or ellipsoidal, unbranched, dark-brown, 30-40 x 10-13 µm, truncate at the apex. Conidia produced in a acropetal chain, 4-9-septate, ellipsoidal or fusiform, truncate at the end, dark-brown, 36-50 x 10-13 µm. The present collection represents the first record of Taeniolella rudis from Hungary. - Collected on submerged dead wood from the stream Morgó-patak in the Börzsöny Mts, 25 January, 1986.

Taeniolina scripta (P. Karst.) P. M. Kirk - Trans. Br. mycol. Soc. 76: 84, 1981.

Colonies pulvinate, effuse, dark-brown or almost black. Conidiophores pale-brown, very short, 3-4.5 µm thick. Conidia in simple or branching chains, smooth, medium or dark-brown, 2-16-septate, 11-70 µm long, 5-7 µm thick. This collection constitutes the first record of T. scripta from Hungary. - Collected on dead wood of Fagus sylvatica, near Rejtek in the Bükk Mts, 24 June, 1987.

Virgariella globigera (Sacc. et Ellis) Hughes - Can. J. Bot. 31: 654, 1953. (Pl. IV, Fig. 4). Conidiophores mononematous, single, simple, erect, straight or flexuous, septate, brown, paler towards the apex, 80-180 x 3.2-5 µm. Conidiogenous cells integrated, terminal, polyblastic, sympodial. Conidia non-septate, globose or subglobose, dark-brown, smooth, 8-9.6 x 5-6.4 µm. No species of Virgariella had previously been reported from Hungary. - Collected on submerged wood from the stream of Morgó-patak in the Börzsöny Mts, 18 June, 1987.

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EXPLANATION OF PLATES

Plate I.

Figs. 1-2. Brachysporium brevius Hol.-Jech. - conidiophores with conidia, X 260, X 1000
Figs. 3-4. Corynesporopsis uniseptata P. M. Kirk - conidiophores with chains of conidia, X 1000, X 500

Plate II.

Fig. 1. Bactrodesmium atrum M. B. Ellis - conidia, X 400
Fig. 2. Endophragmiella lignicola Hughes - conidia, X 1000
Fig. 3. Brachydesmiella biseptata Arnaud ex Hughes - conidiophore with a conidium, X 900
Fig. 4. Cheiromycella microscopica (Karst.) Hughes - conidia, X 1200
Fig. 5. Bactridium flavum Kunze - conidia, X 230

Plate III.

Fig. 1. Anavirga dendromorpha Descals et Sutton - conidia, X 300
Fig. 2. Taeniolella rudis (Sacc.) Hughes - chains of conidia, X 700
Fig. 3. Spadicoides atra (Corda) Hughes - conidiophores with conidia, X 1000
Fig. 4. Endophragmiella oblonga (Matsushima) Hughes - conidiophores with conidia, X 400

Plate IV.

Fig. 1. Bactrodesmiastrum obscurum Hol- Jech. - conidiophore with conidia, X 1000
Fig. 2. Endophragmiella similis Hol.-Jech. - conidiophore with conidia, X 1200
Fig. 3. Pleurothecium recurvatum (Morgan) Höhnel - conidiophore with conidia, X 1000
Fig. 4. Virgariella globigera (Sacc. et Ellis) Hughes - conidiophore with conidia, X 1000

Plate V.

Fig. 1. Pseudospiropes obclavatus M. B. Ellis - conidiophore with conidia, X 1200
Fig. 2. Acrodyctis globulosa (Tóth) M. B. Ellis - conidia, X 900
Fig. 3. Arthrinium morthieri Fuckel - conidiophore with conidia, X 1250
Fig. 4. Sporidesmium brachypus (Ell. et Ev.) Hughes - conidiophores with conidia, X 300

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PLATE I.

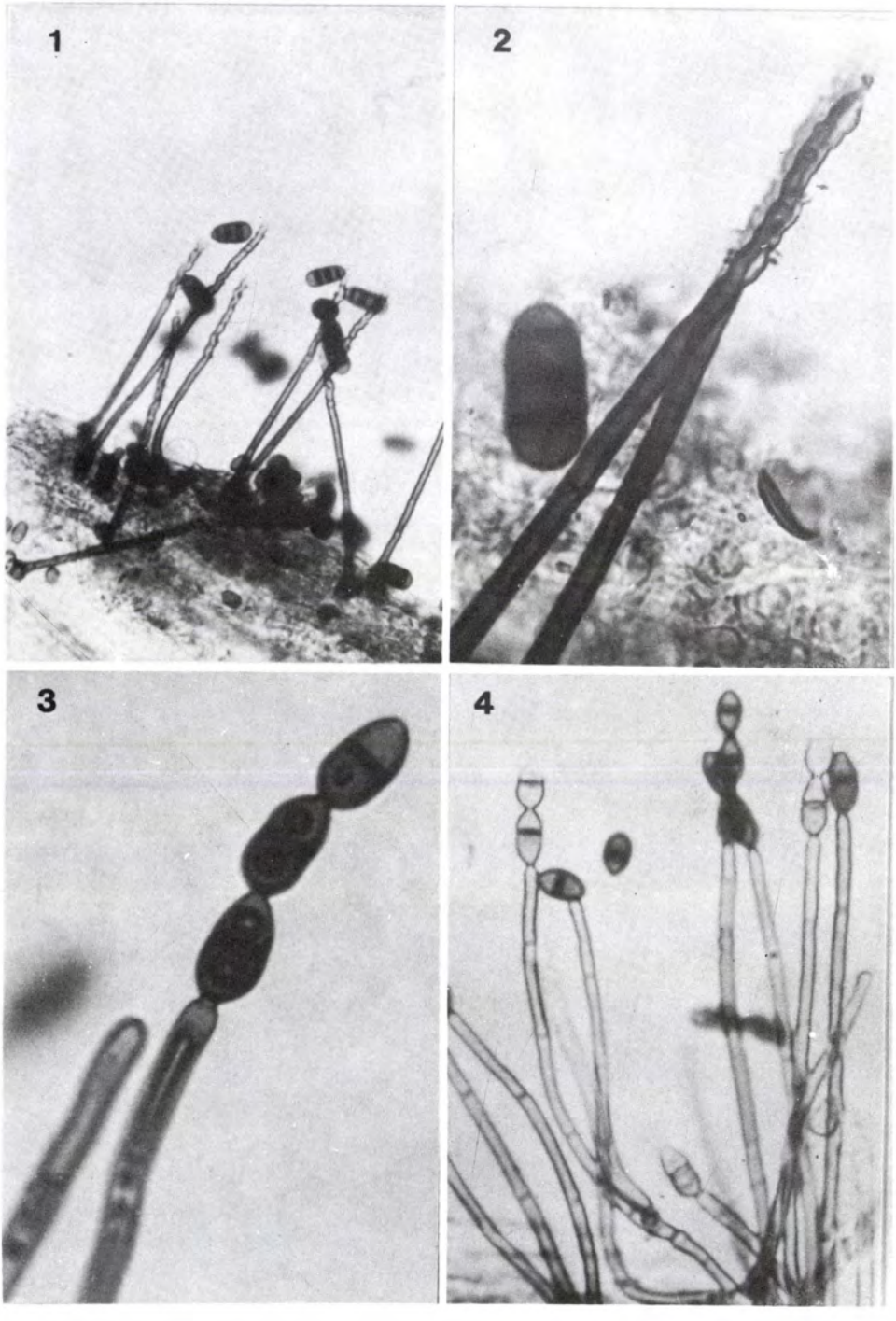
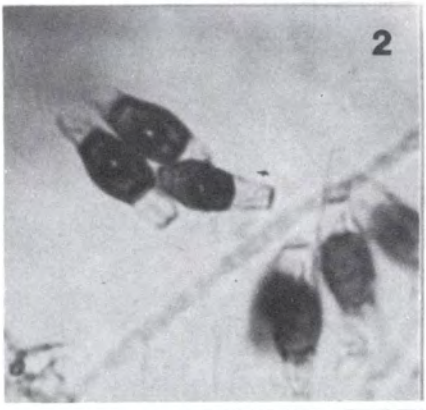


PLATE II.





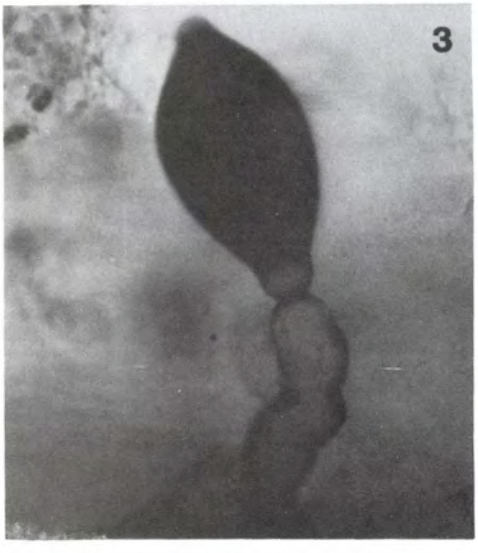






PLATE III.

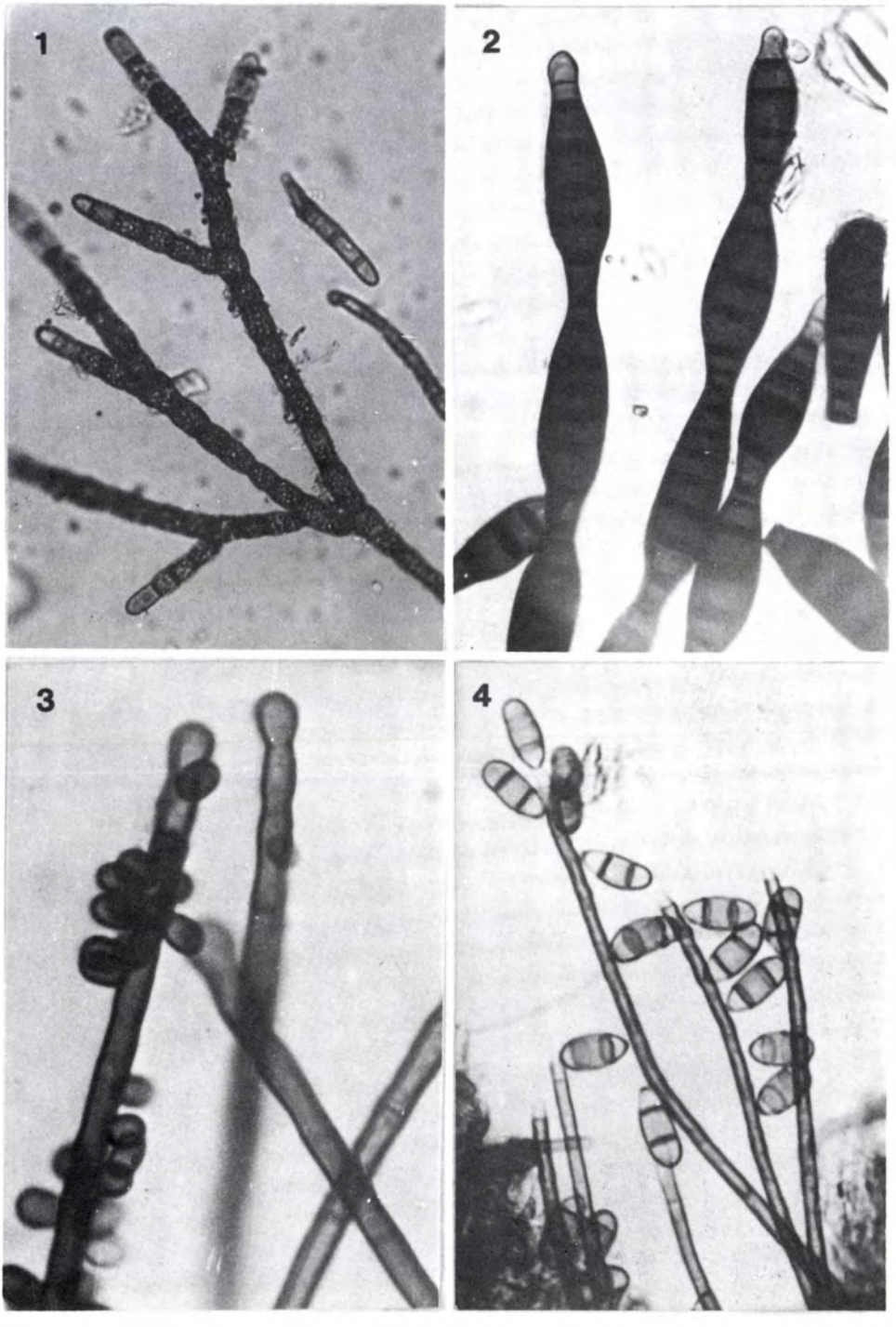


PLATE IV.

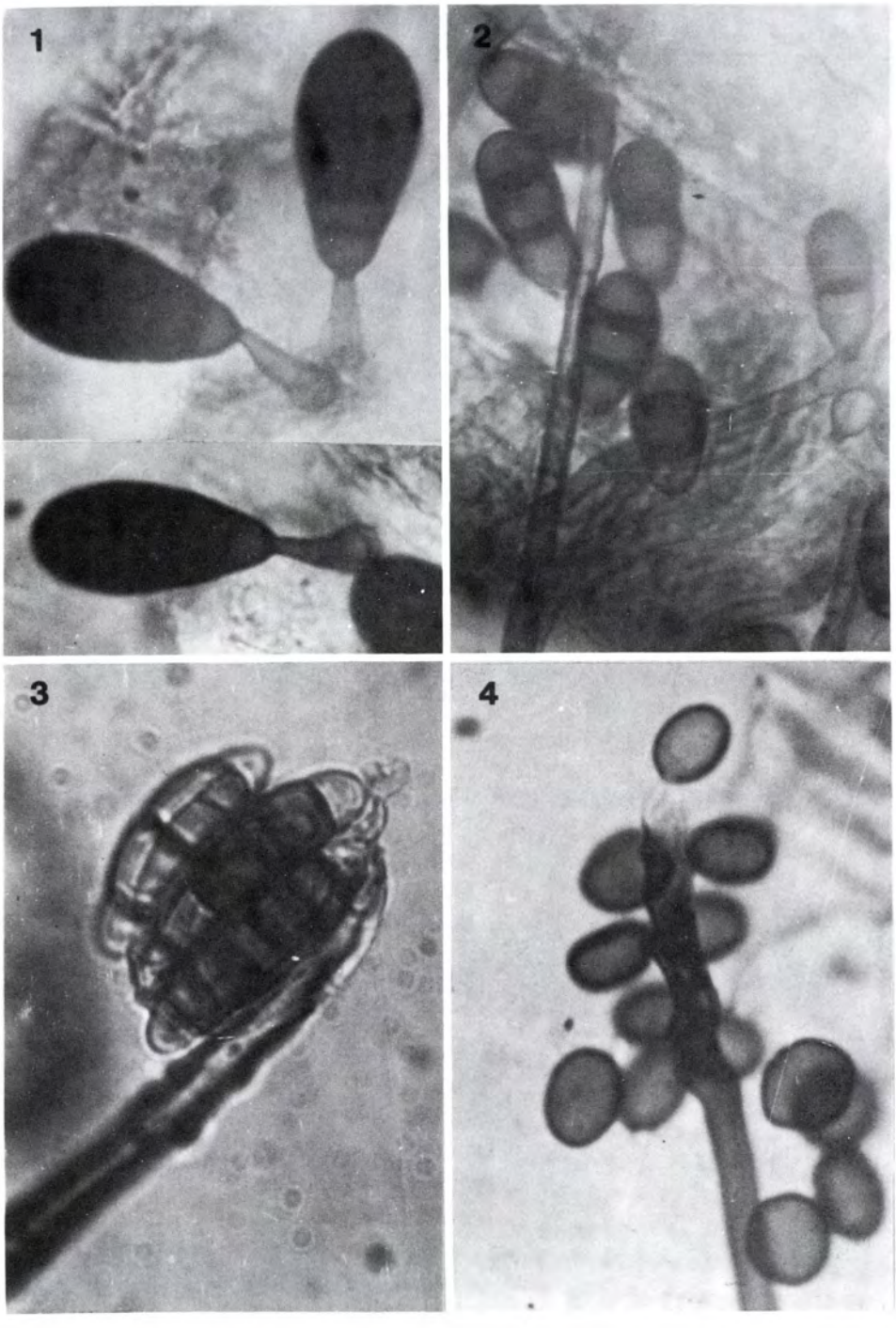


PLATE V.

