

## Some New Microscopic Fungi II.

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The microscopic fungi enumerated below, submitted as new, were with one exception, all collected by me. I endeavoured to give a surer basis for the descriptions by recollecting the fungi in question and to study a richer material of various developmental stages. I desisted from this process only if the type material seemed to be sufficient in itself. I succeeded to collect the majority of the new taxa several times, as is to be seen from the enumeration of data after the description proper. All materials mentioned here are to be found in the Collection of the Botanical Department of the Hungarian Natural History Museum (Herbarium Mus. Nat. Hung., Budapest, Hungaria.)

### *Letendreaa danubialis* TÓTH n. sp. (Fig. 1)

*Perithecia libera, in rupturis corticis vel in ligno decorticato singillatim, vel plus-minus caespitose sedentia, nigra, vel nigrobrunnea, grosse verrucosa, siccitate palaeoformiter collapsa, parum fragilia, cca. 150–250 × 120 μ, aqua accedente cito tumefacta, mollia, plus-minus depresso globosa, 150–250 × 130–180 μ; pariete in sectione cca. 16–32 μ crasso, quasi tripartito: pars externa verrucosa, brunnea, non sat tenuiter secta atro-opaca, e verrucis externis stratisve 1(–2) cellularum brunnearum non semper distinctarum composita, pars mediana e (3–) 4–5 stratis cellularum brunnearum, incrassatarum, plus-minus circularium, 8–10–12 μ diam., ad ostiolum et ad basin versus, deinde in stratis intimis gradatim plus-minus compressarum composita, pars intima e 4–5(–6) stratis cellularum non incrassatarum, e pallide brunneo gradatim hyalinarum compressarumve composita; ostiolo parvulo, papilliformi, imprimis e setulis brunneis, aseptatis, dense dispositis, cca. 3 μ crassis constructo. Asci cylindracei, breviter pedicellati, 6–8-spori, 45–50 × 5–6 (–9) μ (p. sp.), tenuiter tunicati, immaturi distincti, sed in statu maturo per sporas uniseriatim dispositas tantum significati. Inter ascos paraphyses multae, mox mucosae. Sporae curte cylindraceae, apicibus latissime rotundatae, medio 1-septatae, ad septum bene constrictae, secus septum obscure brunneae, ad apices versus gradatim pallidiores, leves, oculis saepe 1–1 macroguttulatae, strato mucoso tenuiter obvolatae, in ascis 8-sporis, 6–7,3 × 5–5,5 (–6) μ, in ascis 6-sporis 7–7,7 (–8,5) × 6–6,3 μ, uniseriatas.*

*In ramulis crassioribus Fumanae procumbentis (DUN.) GR. & GODR.*

3418. *In insula „Szentendrei sziget” fluminis Danuvii, prope opp. Szentendre, Hungaria, 10. X. 1957, leg. S. TÓTH (typus, in Herbario Mus. Nat. Hung., Budapest, Hungaria). — 3556. ibidem, 25. VIII. 1960, leg. S. TÓTH.*

*Perithecia* single or in more or less compact groups (yet not on a common stroma), in cracks of bark of twigs or on barkless branches, black or blackish brown, of strongly verrucose walls, when dried-out flattened, plate-like rigid, fragile, about 150–250 × 120 μ, rapidly tumifying due to water, then elastic

or soft, more or less depressed globosely,  $150-250 \times 130-180 \mu$ . Walls in slides separable into three portions: external part brown, completely intransparent in slides not thin enough, exterior of perithecium composed of warts and one or sometimes two layers of brown, incrassate, not always distinct cells; medium part composed of (3-)4-5 layers of brown, incrassate, circular,  $8-10-12 \mu$  diameter cells gradually more compressed and of thinning walls towards ostiolum and base of perithecium, as well as those bordering on inner-

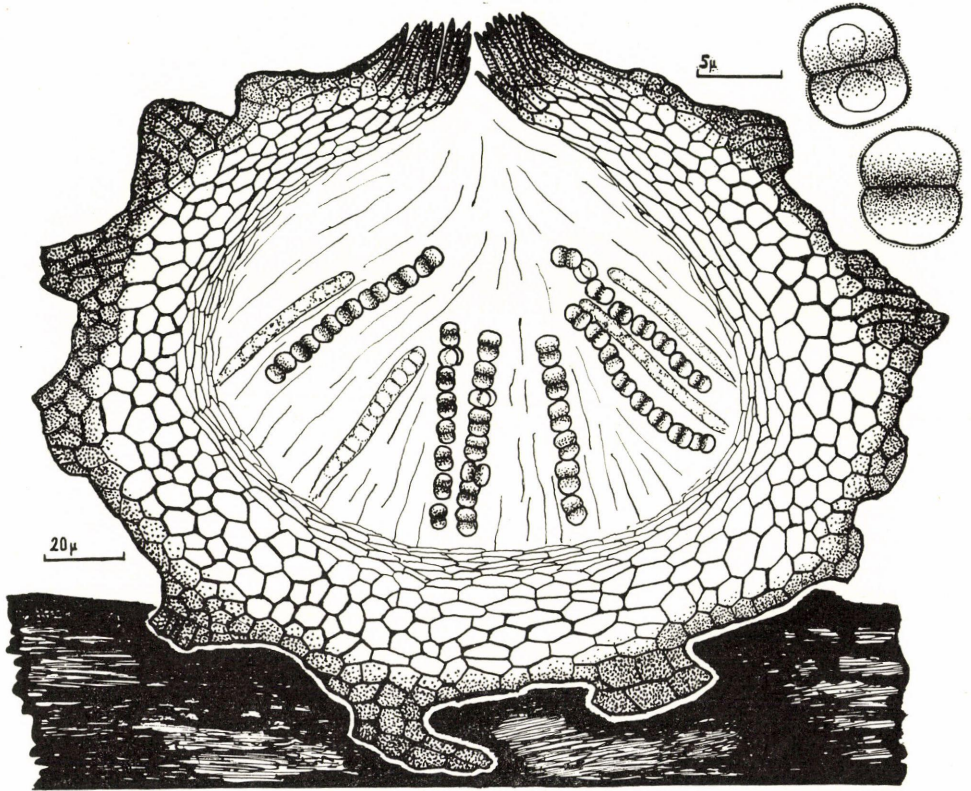


Fig. 1. *Letendraea danubialis* TÓTH n. sp. Strong magnification of two ascospores and slide of perithecium.

most part; interior portion consisting of 4-5(-6) layers of not incrassate cells, discolouring and gradually more compressed toward interior. Ostiolum of perithecium papilliform, constructed of insignificant, chiefly compact, brown, aseptate bristles of about  $3 \mu$  wide. Asci cylindrical, shortly pedicellate, of 6-8-spores,  $45-50 \times 5-6$  (-9)  $\mu$  in sporiferous portion, walls thin, distinct only in immature state, when mature indicated only by uniseriate spores. Among asci, many paraphyses, rapidly growing mucous. Spores squat, cylindrical, strongly rounded on both ends, uniseptate in middle, there forcibly constricted, spores emitted from 8-spored asci,  $6-7,3 \times 5-5,5$  (-6)  $\mu$ , those of spored ones  $7-7,7$  (-8,5)  $\times 6-6,3 \mu$ . Spores ornamented with band, brown along septum but gradually more pallid away from septum, extending to about apical curvature of spore-wall, attended by frequently appearing larger guttula

in sporal loculi. Spores uniseriate in ascus, walls smooth, covered by thin but well observable colourless mucus.

Found on dry, thicker twigs of *Fumana procumbens* (DUN.) GR. & GODR.

SACCARDO created the genus *Letendraea* (Michelia, II. p. 73, 1880) for fungi — otherwise allied with the genus *Nectria* — characterized by soft, whitish, superficial perithecia without stroma, and of brown, bicellular ascospores. The features emphasized by me of the original diagnosis are the same which were regarded as essential both by SACCARDO and later authors, with the exception of the whitish colour of the perithecium and the allocation of the perithecia on the surface of the substrate. The first character was regarded as unimportant already by SACCARDO himself, since, in the second volume of his *Sylloge Fungorum* (1883), the type species is followed by *Letendraea turbinata* (FUCK.) SACC., though „A L. eurotioides videtur differe peritheciis fuscis . . .” (Syll. II. p. 539). Several diagnoses omit to mention the superficial allocation, while others even describe perithecia immersed in the subiculum (Syll. XXII. p. 484—485).

Interpreting the genus *Letendraea* as outlined above, I relegated the fungus collected by me — without a stroma of a soft substance, with perithecia of a nectrioid type in the slides, and bicellular brown ascospores — into the genus *Letendraea*.

#### *Paranthostomella evae* TÓTH n. sp. (Fig. 2)

*Perithecia minuta, sparsa, nigra carbonacea, depressoglobosa, epidermide tecta, clypeo destituta, glabra, cca. 150—160 μ diametro; in medio altitudinis pariete cca. 20—25 μ crasso, e 2—3 (—4) stratis cellularum brunnearum, incrassatarum composito, ad basin et ad ostiolum versus tenuiore, e stratis 2 cellularum minorum constituto; ostiolo brevi, subcylindraco, epidermidem perforante; ascis in disco fertili convexo e cellulis parvulis, plus-minus hyalinis ad basin perithecii constituto dispositis, subclavatis, vel clavato-cylindracois, crasse tunicatis, apice rotundatis crassioribusve, breviter pedicellatis, aparaphysatis, octosporis (raro 2—4 sporis), 50—75 × 10—14 (—18) μ; sporis aseptatis, distichis, vel inordinate conglobatis, fusoides, inaequilateralibus, e latere compressis, subtus nonnuncquam brevissime hyaline appendiculatis, brunneis, in ascis 8-sporis 18—20—22 (—24) μ longis, 5,4—6 (—7) μ latis, 3,6—4,5 μ crassis, in ascis 2—4-sporis 25—27 × 7,2 μ.*

*In caulibus emortuis Anthyllidis onobrychioidis* CAV.

3419. „Elisée Reverchon — *Plantes d'Espagne 1902. Province de Grenade No. 1278. Anthyllis onobrychioides* CAV. *Sierra del Cuarto, lieux arides, sur le calcaire, 1500 mètres. Rare. Juin*” (typus). — 3420. „*Plantes d'Espagne, Province de Valencia Anthyllis onobrychioides* CAV. *Valldigna près Carcagente, vers le Hermita 10. Juin. 1880. leg. G. RUY*” — 712 „*Anthyllis Bamburei* Boiss. *Jaën, in fissuris rupium Sierrae de Segura solo calcareo 1400—2000 m. s. m. Jul. 1890. leg. PORTA & RIGO (iter II. Hispanicum 1890)*”. *Matrix recte: Anthyllis onobrychioides* CAV. *secundum revisionem É. KOVÁCS.* — 713. „*Sierra de las Cabras 2I. Maji. leg.?*”

*Typus et collectiones supra dicatae in Herbario Mus. Nat. Hung., Budapest, Hungaria asservatae.*

*Species nominata in honorem EVAE KOVÁCS, assistentis Instituti Botanicae Systematicae Universitatis a Lorando Eötvös nominatae, Budapest, in Hungaria, collectricis fungilli nostri ex speciminibus matricis in Herbario Mus. Nat. Hung., Budapest asservatis.*

Perithecia small, black, fragile, somewhat depresso-globose, clypeus absent, scattered, glabrous, about  $150-160\ \mu$  in diameter, walls at half their height some  $20-25\ \mu$  thick, composed of 2-3 (-4) layers of brown cells with incrassate walls, but base of perithecium (and thinning out toward ostiolum) consisting of only two layers of cells. Perithecium penetrating epidermis with short, almost cylindrical ostiolum. Asci subclavate or clavately cylindrical, of incrassate walls, thickened and rounded apices, short pedicels, eight- or rarely two- to four-spored,  $50-75 \times 10-14$  (-18)  $\mu$  originating from broad, pillow-shaped discus at base of perithecium, discus composed of minute, more or less hyaline cells. Spores in ascus arranged in two rows or irregularly grouped

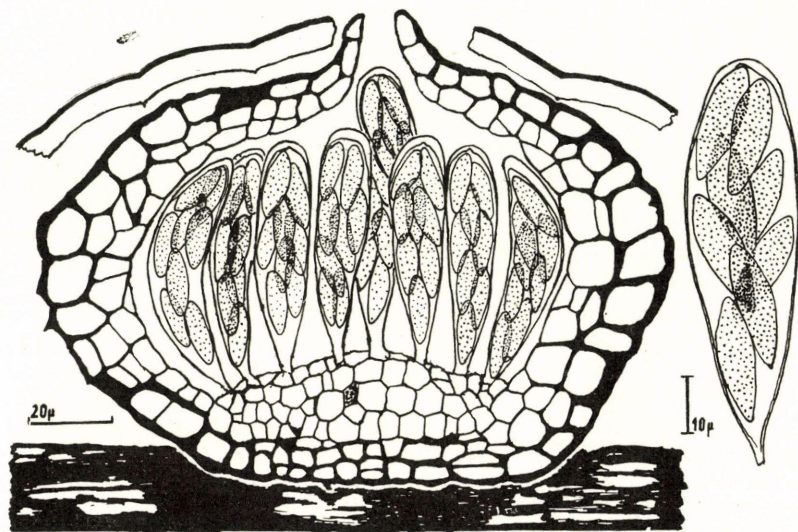


Fig. 2. *Paranthostomella evae* TóTH n. sp. Slide of perithecium and one ascus.

together, brown, fusiform, unequilateral, laterally slightly compressed, sometimes with very short, hyaline appendage at base, monocellular, in 8-spored asci  $18-20-22$  (-24)  $\mu$  long,  $5,4-6$  (-7)  $\mu$  wide,  $3,6-4,5\ \mu$  thick, in 2-4-spored ones  $25-27 \times 7,2\ \mu$  large.

The material collected from the dry stalks of *Anthyllis onobrychioides* Cav. contains perithecia only rarely in a suitable state. However, since it was found several times on the same substrate, it seemed necessary that I describe this fungus — rather distinct due to its perithecial structure, spore measurements and the flattened spores, and occurring probably only on a restricted group of host plants — as a new species. The assumably small group of hosts may consist of the systematically allied plants of a similar stature and ecology, but it might well be that its single host is *Anthyllis onobrychioides*. I failed to find this fungus on the herbarium specimens of other *Anthyllis* species, though other common fungi, still awaiting a detailed examination, were certainly found.

It was Mrs. EVE KOVÁCS—ENDRÓDY who called my attention to the possibilities, new for me, of collecting fungi on herbarium specimens in 1951. It was also she who undertook to gather the microscopic fungi scattered on the her-

barium individuals of the genus *Anthyllis*. Only her painstaking and conscientious work made possible the description of the new fungus, which is hereby dedicated to her.

***Coniothyrium sooi* TÓTH n. sp. (Fig. 3, 4)**

„*Perithecia*” *atra, plus-minus globosa, 400–550* F *diam., sine ostiolo distincto, e cortice erumpentia, singularia, vel plus-minus aggregata, pariete crassitudine vario: 35–70–125*  $\mu$ , *in superficie: e stratis paucis, plerumque 1–2 (–3), externis, cellularum 6–8*  $\mu$  *diam., incrassatarum, brunnearum, in sectione a reliquiis substrati saepe haud discernibilem, in medio: e stratis numerosis (8–22) cellularum plus-minus hyalinarum, non incrassatarum, circularium, vel parum compressarum, 3–4–7*  $\mu$  *diam., in internis: ex 1–2 stratis cellularum brunnearum, parum incrassatarum, totam cavitatem „perithecii” induentibus, strato interno hymenium sporiferum efformanti: cellulis strati sporiferi parum apiculatis, apice sporas brunneolas, plus-minus ellipticas, aseptatas, cca. 3–4*  $\times$  *1,5–1,6*  $\mu$  *gerentibus.*

*In ramulis emortuis crassioribus decumbentibus Ephedrae distachyae L. 3421. In insula „Szentendrei sziget” fluminis Danuvii, prope urbem Buda-*

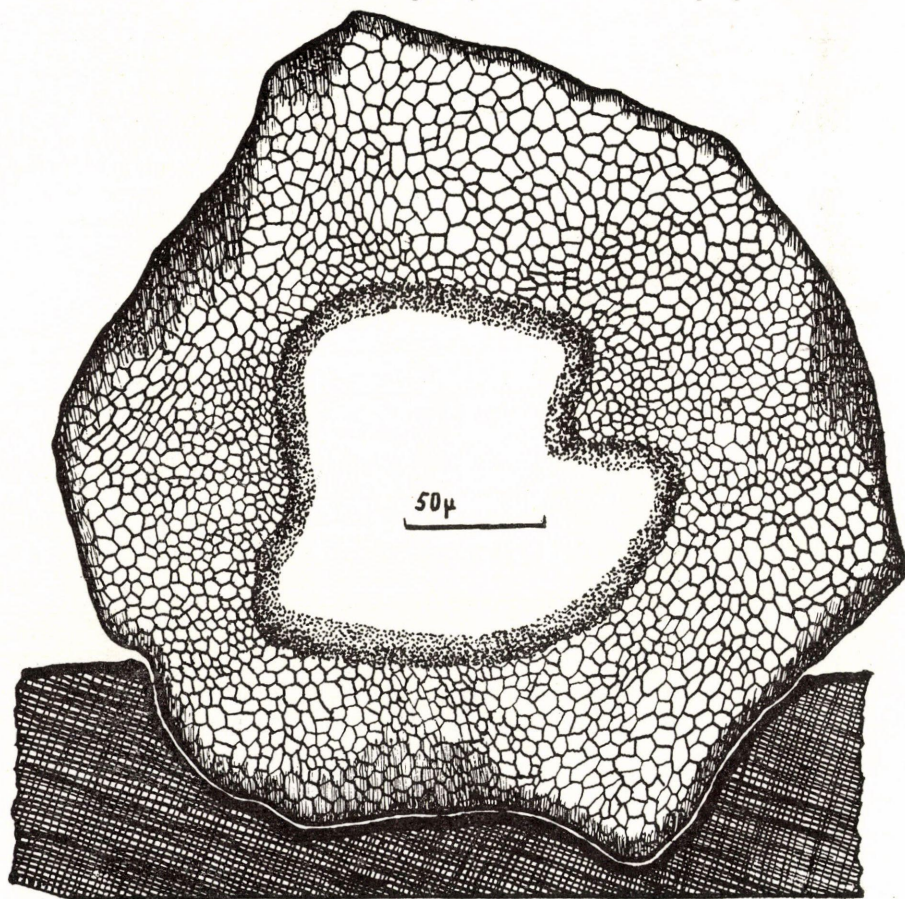


Fig. 3. *Coniothyrium sooi* TÓTH n. sp. Slide of a fruitbody.

pest, Hungaria 15. V. 1959. leg. S. TÓTH (*typus*) — 3422. *ibidem*, 3. IV. 1959, leg. S. TÓTH — 3423. In insula „Csepel sziget” fluminis Danubii, prope urbem Budapest, Hungaria, 18. IX. 1959. leg. S. TÓTH. *Typus et collectiones ceterae in Herbario Mus. Nat. Hung., Budapest, Hungaria asservatae.*

*Species dedicata in honorem Professoris R. Soó, directoris Instituti Botanicae Systematicae atque Horti Botanici Universitatis de Lorando Eötvös nominatae, Budapest, Hungaria.*

Perithecium-like fruitbodies dark brown to black, more or less globular, 400–500  $\mu$  in diameter, no recognizable ostiolum, erupting singly or in smaller or larger groups from below bark of substrate. Walls 35–125  $\mu$  thick, with three distinct parts, — due also to their colouration, — in slides. External region, often sprinkled with bits of substrate, consist of 1–2 (–3) layers of brown,

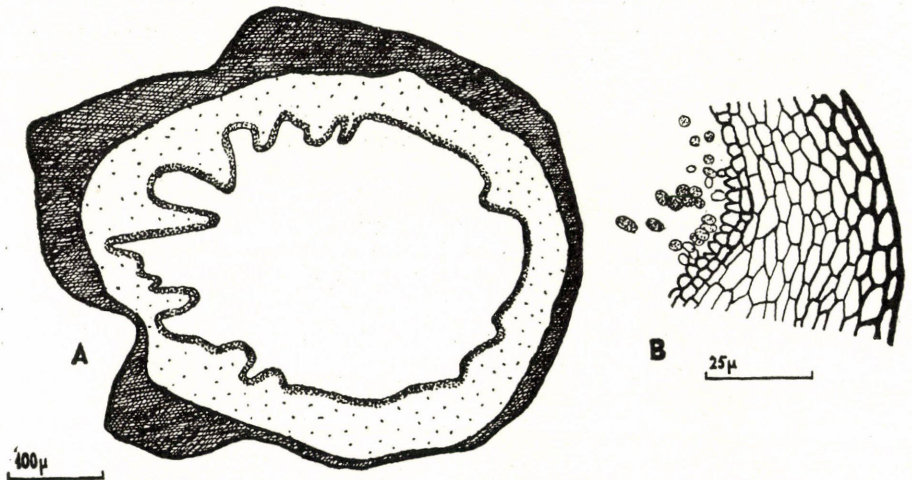


Fig. 4. *Coniothyrium sooi* TÓTH n. sp. A: Much schematized drawing of slide of fruitbody — B: detail from wall of fruitbody.

incrassate, circular or more or less compressed cells of 6–8  $\mu$  in diameter. There follow 8–22 layers of hyaline, not incrassate, circular or somewhat compressed cells of 3–4–7  $\mu$  in diameter. Innermost region consist of 1–2 layers of brown, only slightly incrassate cells (sporiferous layer proper), padding cavity of fruitbody. Inner cells of this region more or less conical, bringing forth one apically, originally hyaline, then brownish-yellow, largely elliptical, monocellular spore 3–4  $\times$  1,5–1,6  $\mu$  in mature state.

The flaking layer of compressed spores covers rather thickly the sporiferous layer, referring to the fact that there originate continuously several spores on the apex of a conical cell of the fruiting layer. The inner surface of the wall of the fruitbody is mostly rugose, accordingly the cells of the middle region of the wall of the fruitbody are spot-like, smaller or larger. All these facts indicate that the wall of the fruitbody is capable of a still considerable expansion, concurrent, of course, with the enlargement of the cavity of the fruitbody. This latter opens by the breaking up at a suitable point of the wall. This is usually indicated by the local swelling of the wall of the fruitbody.

I collected the new species some few times on the thicker, dry, decumbent twigs of *Ephedra distachya* L.

I regard the peculiar structure of the wall of the fruitbody a very characteristic feature of the fungus.

**Monodictys globulosa** TÓTH n. sp. (Fig. 5)

*Conidiophora brunnea, pro ratione crassa, simplicia, erecta, recta, vel vix curvata, 3–6 septis transversaliter septata, rigidiuscula, singularia, vel ad summum 2–3 simul, immediate in superficie substrati, vel in stromate tenuissimo minutissimoque (magnitudine diametrum conidiorum non superante), ex hyphis brunneis contextis formato disposita 34–36 (–48)  $\times$  6–7  $\mu$ . Conidia plus-minus globosa, brunnea, plerumque septis 2 (raro 3–4) transversalibus, deinde septis similiter 2 (raro 3–4) longitudinalibus, in loculis singulis 1–1 guttula magna, subtus pedicello brevi praedita, levia, 19–19,5  $\times$  23–24  $\mu$ , vel 19,5–21  $\mu$  diam.*

*In caule emortuo Clematidis vitalbae L.*

3424. Prope „Dédesvár” montium „Bükk hegység”, Hungaria 16. VIII. 1960. leg. S. TÓTH (typus — in Herbario Mus. Nat. Hung., Budapest, Hungaria).

Conidiophores brown, relatively thick, unramifying, straight or only slightly curved, somewhat rigid, erect, 3–6-septate, single or at most 2–3 from one point on surface of substrate or from a strome-like structure, hardly developed and never longer than width of conidium, 34–36 (–48)  $\mu$  long, 6–7  $\mu$  thick. Conidia more or less spherical, brown, smooth-walled, longitudinally and transversely septate, number of longitudinal and transverse walls: 2, rarely 3–4, with one large gutta in loculi, conidia 19–19,5  $\times$  23–24  $\mu$ , that is — if almost completely globular — diameter mostly 19,5–21  $\mu$ .

I collected it on the dry branches of *Clematis vitalba* L.

I consider the fungus described above as belonging to the genus *Monodictys* HUGHES 1958 (Can. J. Botany, 36, p. 785). Though it rather differs from the type species, especially with regard to its conidiophores, it fulfills the diagnosis rather nicely.

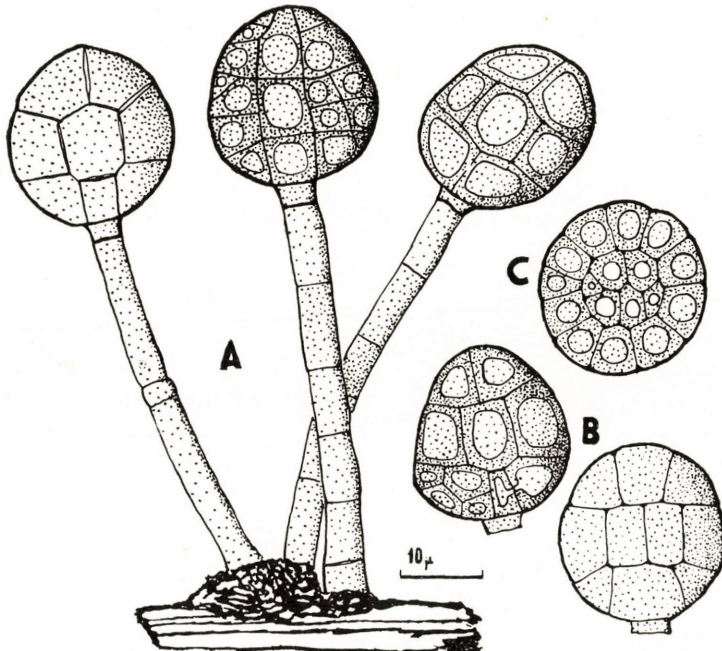


Fig. 5. *Monodictys globulosa* TÓTH n. sp. A: Conidiophores with conidium — B: two fallen conidia — C: conidium in apical view, in optical slide.

