ICONOGRAPHIA MYCOLOGICA

VERONA—BENEDEK

LIST OF PLATES IN SUPPLEMENT IX [1])

	Sapro-phyta	Phyto-pathogen	Zoo-pathogen	Indus-trial
A. FUNGI IMPERFECTI				
182 Gen. *Gelatinosporis* PK.	+			
183 Gen. *Phialophorophoma* LINDER	+			
184 Gen. *Camerosporium* SCHULZ	+			
185 Gen. *Marssonina* MAGN.		+		
186 Gen. *Steganosporium* CORDA	+			
187 Gen. *Septogloeum* SACC.		+		
188 Gen. *Tilachlidium* PREUSS.	+		+	
189 Gen. *Synnematium* SPEARE			+	
190 Gen. *Hirsutella* PATOUILLARD			+	
191 Gen. *Centrospora* NEERGARD	+			
192 Gen. *Microstroma* NIESSL.		+		
193 Gen. *Dothichiza* LIB.		+		
194 Gen. *Sarcinella* SACC.	+			
195 Gen. *Wardomyces* BROOKS & HANSFORD	+			
196 Gen. *Cirrenalia* MEYERS & MOORE	+			
197 Gen. *Thielaviopsis* WENT.	+	+		
198 Gen. *Stephanosporium* DAL VESCO	+			
199 Gen. *Phialocephala* KENDRICK	+			

[1]) The sign (+) means exclusively or prevalently; the sign (o) means limited only to some species.

A. FUNGI IMPERFECTI (cont.)

	Sapro-phyta	Phyto-pathogen	Zoo-pathogen	Indus-trial
200 Gen. *Verticicladiella* HUGHES	+			
201 Gen. *Polythrincium* KUNZE & SCHM. ex FR.		+		
202 Gen. *Trichaegum* CORDA	+			
203 Gen. *Oidiodendron* ROBAK	+			

B. PHYCOMYCETES

66 Gen. *Chaetocladium* FRES.	+			
67 Gen. *Cokeromyces* SHANOR	+			
68 Gen. *Chaetostylum* v. THIEGHEM & LE MONNIER	+			
69 Gen. *Helicostylum* CORDA	+			
70 Gen. *Rozella* CORNU		+		
71 Gen. *Entophlyctis* FISCHER		+	+	
Gen. *Phlyctorhiza* HANSON		+	+	
Gen. *Mitochytridium* DANGEARD		+	+	
72 Gen. *Septosperma* WHIFFEN		+	+	
73 Gen. *Rhizosiphon* SCHERFFEL		+		
Gen. *Aphanistis* SOROKIN		+		

C. ASCOMYCETES

116 Gen. *Sphaerangium* SEAVER	+	+		
117 Gen. *Cenangium* FRIES		+		
118 Gen. *Gelasinospora* DOWDING	+			
119 Gen. *Sporormia* DE NOT.	+			
120 Gen. *Delitschia* AWD.	+			

C. ASCOMYCETES (cont.)

	Sapro-phyta	Phyto-pathogen	Zoo-pathogen	Indus-trial
121 Gen. *Hypocopra* FR.	+			
122 Gen. *Pleurage* FRIES (sensu MOREAU)	+			
123 Gen. *Lindra* I. M. WILSON	+			
124 Gen. *Halophiobolus* LINDER	+			
125 Gen. *Bombardia* FR. emend. CL. MOREAU 1954	+			
126 Gen. *Endothia* FRIES		+		
127 Gen. *Platyspora* L. E. WEHMEYER		+		
Gen. *Clathrospora* RAB.		+		
Gen. *Pyrenophora* FCK. emend., non FR.		+		
128 Gen. *Preussia* FUCKEL	+			
129 Gen. *Thielavia* ZOPF	+			
130 Gen. *Diplogelasinospora* CAIN	+			
131 Gen. *Anixiella* SAITO & MINOURA	+			
132 Gen. *Rhipidocarpum* THEISSEN & SYDOW		+		
133 Gen. *Cycloschizum* HENN.		+		
134 Gen. *Parmulina* THEISS. & SYD.	+			
135 Gen. *Neurospora* SHEAR & DODGE	+			

FUNGI IMPERFECTI
PHOMALES
PHOMACEAE

SAPROPHYTA

Gen. Gelatinosporis Pk.

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate A 182

Mycopathologia et Mycologia Applicata XIX

Pycnidia stromatic, arising from a dark hypostroma, opening widely and irregularly and exposing the gelatinous spore-mass. Conidiophores simple or branched; conidia hyaline, 1– or more-celled, bow-like, narrowly spindle-shaped, tapering at extremities.

Note: This Genus is morphologically not very far from Micropera Lev. (I.M. VIII–A 171).

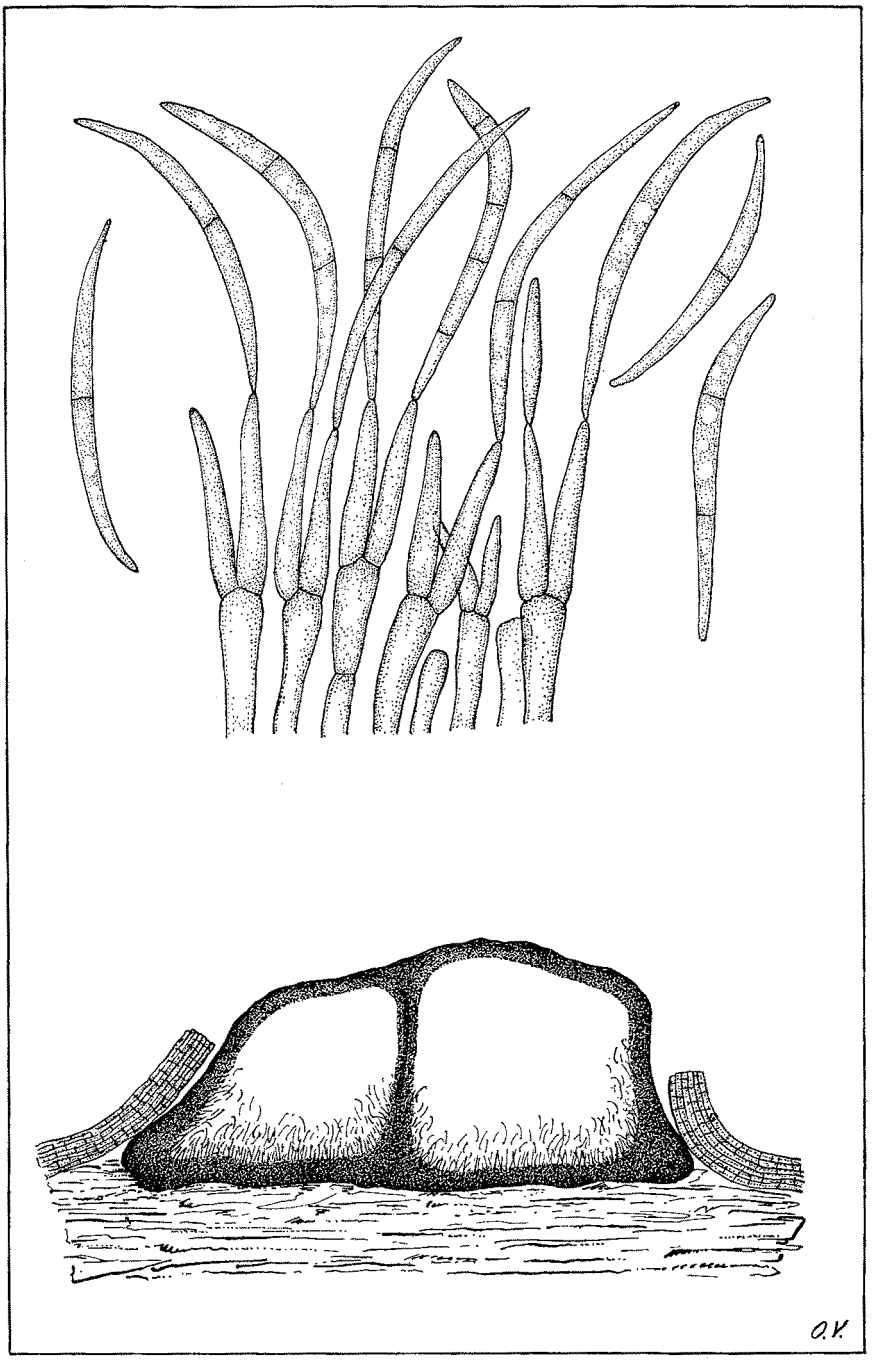

PLATE A 182

FUNGI IMPERFECTI
PHOMALES
PHOMACEAE

SAPROPHYTA

Gen. Phialophorophoma LINDER

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate A 183

Mycopathologia et Mycologia Applicata XIX

Pycnidia innate or partially so; subglobose or ellipsoidal; neck, when present, papilliform; black, subcarbonaceous. Conidiophores simple or branched below; hyaline; producing one-celled conidia endogenously.

(from JOHNSON & SPARROW)

Ref.:
JOHNSON, T. W. jr. & SPARROW, F. K. jr. (1961) – Fungi in Oceans and Estuaries. Weinheim.

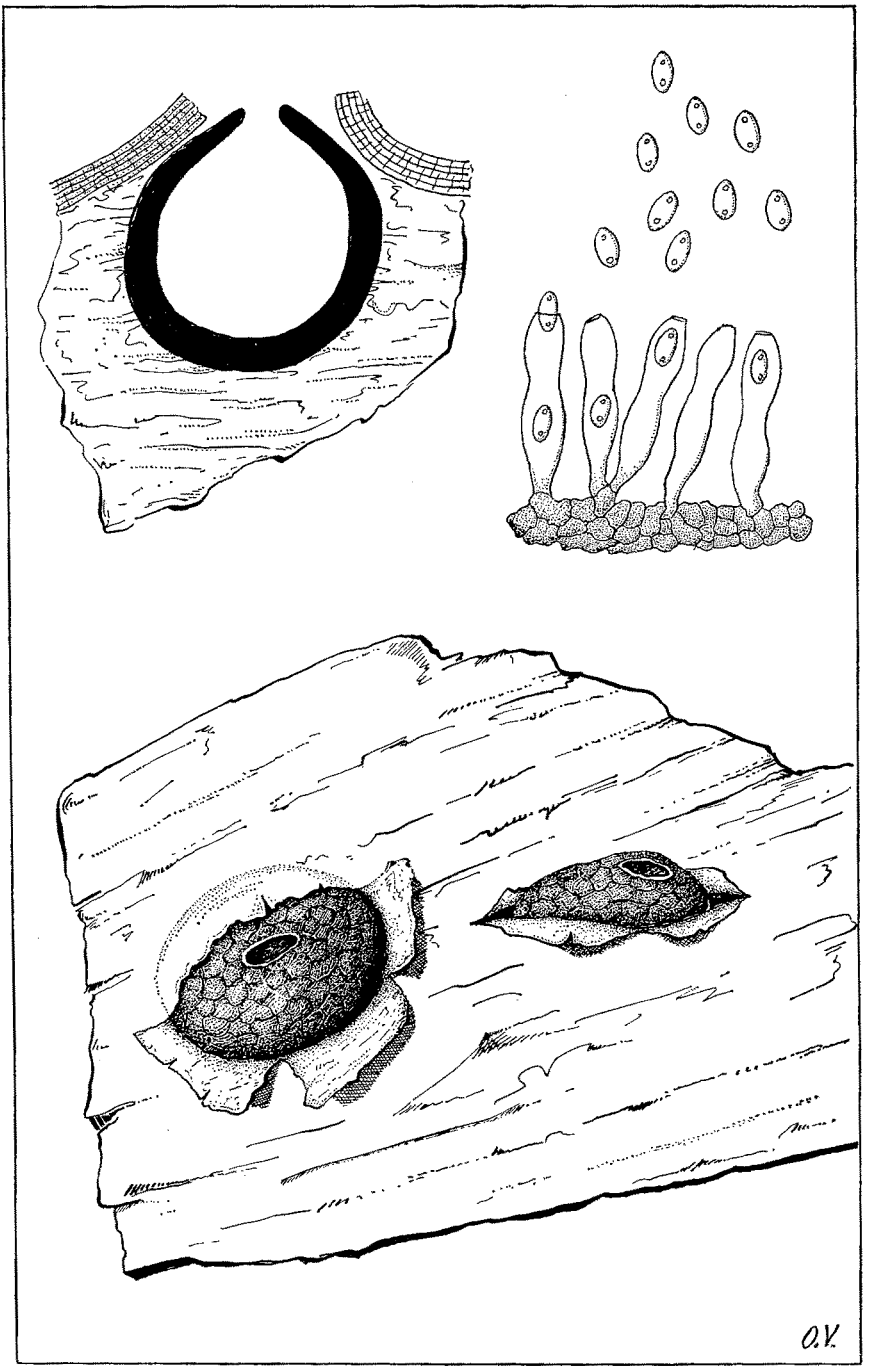

PLATE A 183

FUNGI IMPERFECTI
PHOMALES
PHOMACEAE

SAPROPHYTA

Gen. Camerosporium Schulz

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate A 184

Mycopathologia et Mycologia Applicata XIX

Pycnidia black, erumpent, globose, separate, ostiolate, more or less papillate.

Conidiophores short and simple.

Conidia dark, ovoid to ellipsoid, septate transversely and longitudinally.

Note: The Genus includes species saprophytic on twigs. CLEMENTS & SHEAR report as synonyms of this Genus: Camarosporellum TASSI; Camarosporulum TASSI; Thyrococcum SACC.

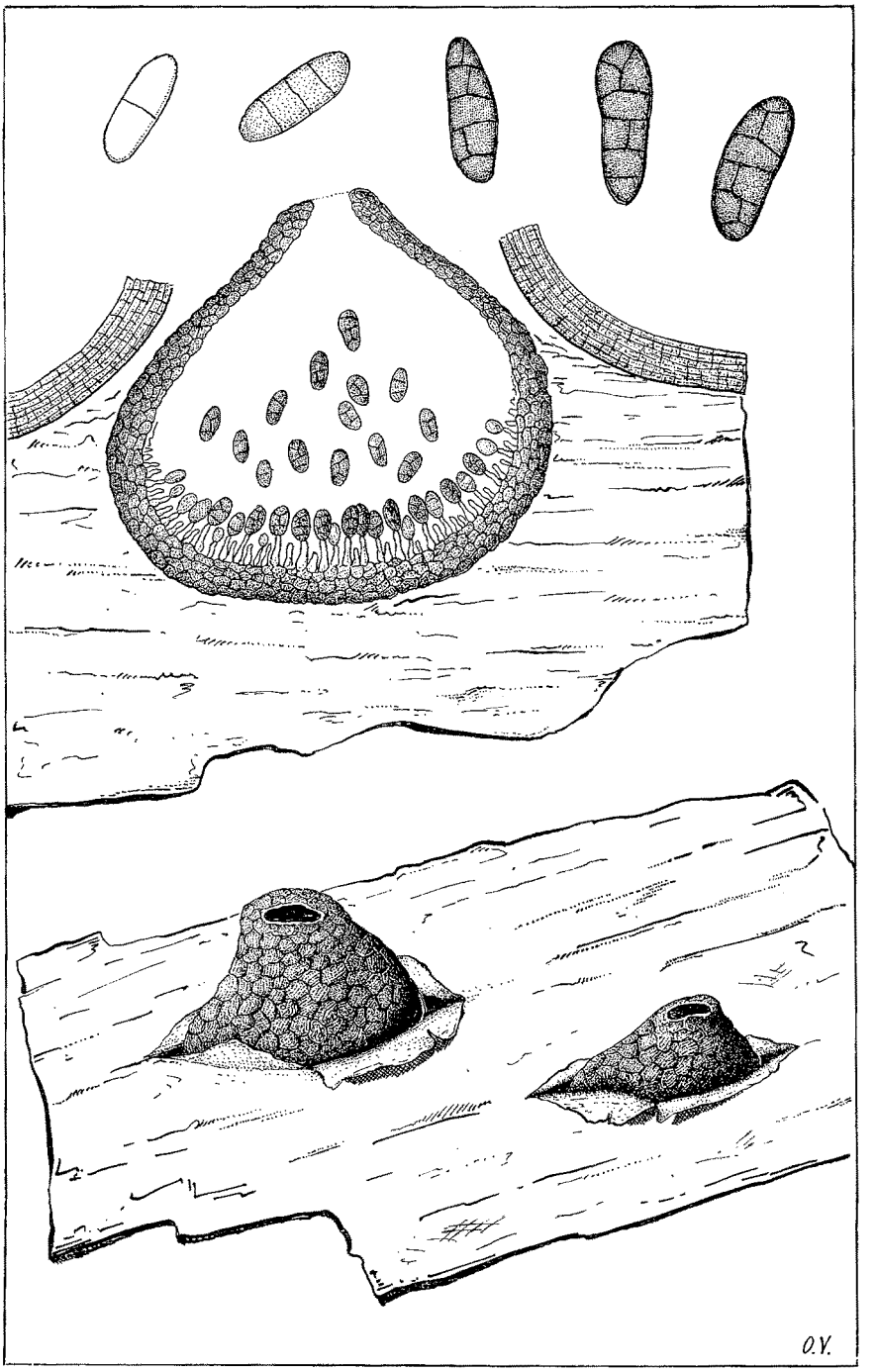

PLATE A 184

FUNGI IMPERFECTI
MELANCONIALES
MELANCONIACEAE

PHYTOPATHOGEN

Gen. Marssonina Magn.

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate A 185

Mycopathologia et Mycologia Applicata XIX

Acervula subepidermal, discoid. Conidiophores short, simple, with conidia hyaline, 2-celled, ovoid to elongate or fusiform.

Note: This Genus is structurally analogous to Gen. Septomyxa and to it referred as synonym by CLEMENTS & SHEAR. It is but opportune to remark that Marssonina is folicole and parasite, while Septomyxa is caulicole and saprophyte.

In the plate:

M. juglandis (LIB.) MAGN.

(drawing after VIENNOT–BOURGIN)

Ref.:

VIENNOT–BOURGIN, G. (1949) – Les Champignons parasites des plantes cultivées. Masson & C. Paris.

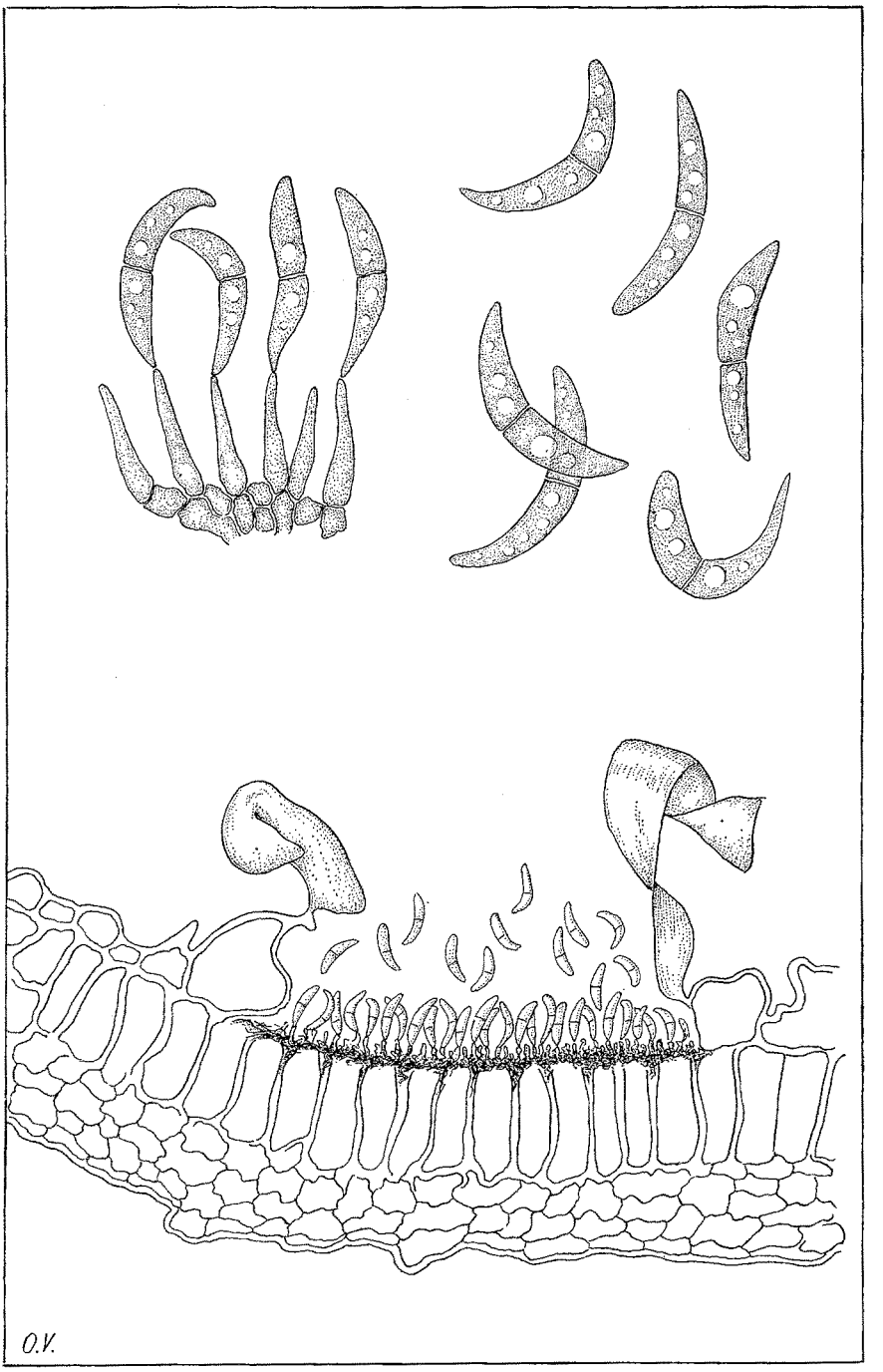

PLATE A 185

FUNGI IMPERFECTI
MELANCONIALES
MELANCONIACEAE

SAPROPHYTA

Gen. Steganosporium CORDA

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate A 186

Mycopathologia et Mycologia Applicata XIX

Acervuli subcortical, dark, cushion shaped; conidiophores simple, bearing conidia dark, ovoid, oblong or pear shaped.

Note: Species saprophytic on wood.

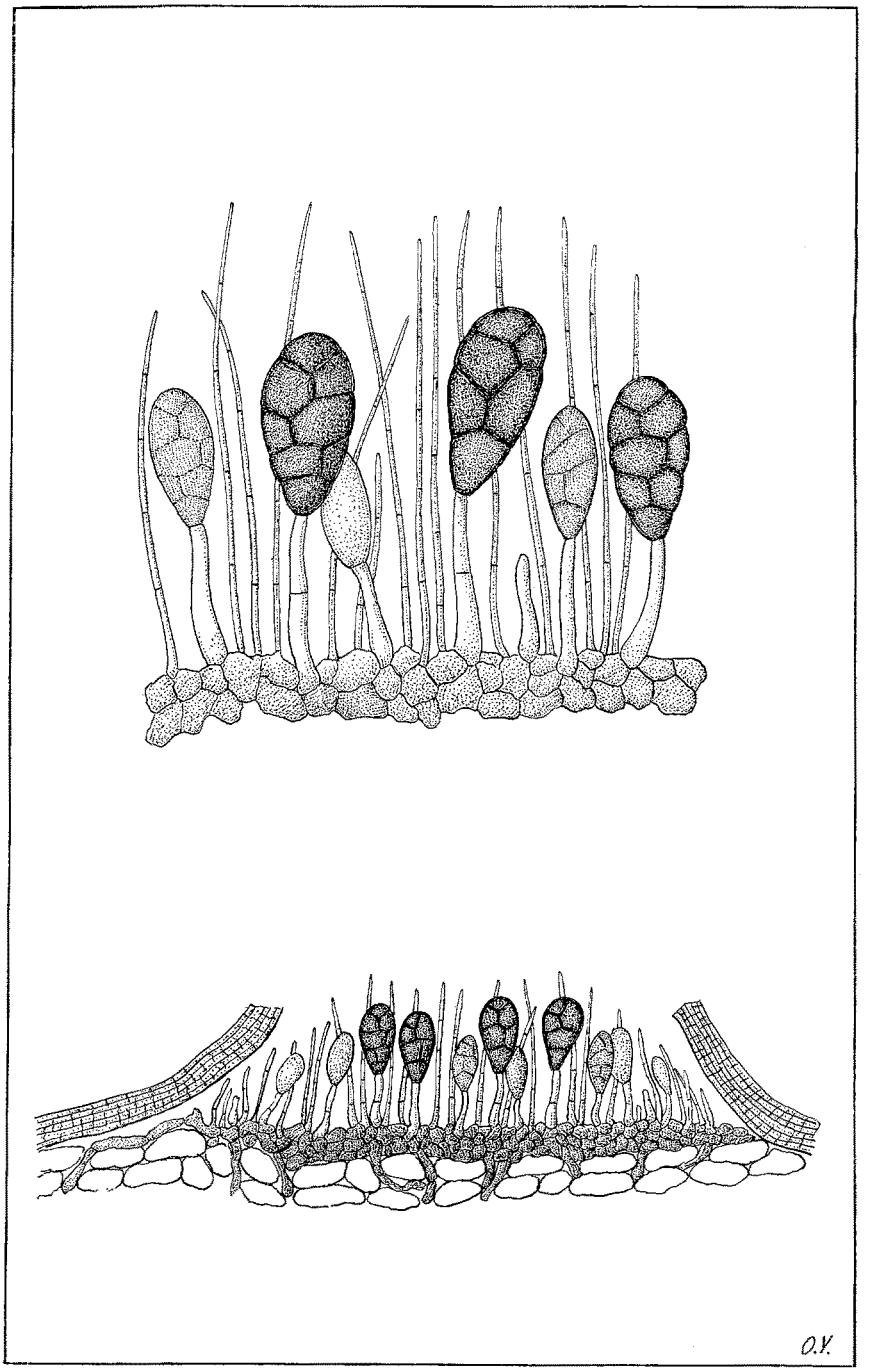

PLATE A 186

FUNGI IMPERFECTI
MELANCONIALES
MELANCONIACEAE

PHYTOPATHOGEN

Gen. Septogloeum Sacc.

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate A 187

Mycopathologia et Mycologia Applicata XIX

Sporiferous masses, white or cream-pigmented, are at first disposed under the epidermis. Further, by the rupture of the epidermis, spores are liberated. Spores are borne by simple conidiophores and are elongated, sometimes slightly curvule, hyaline, 3– or more-septate.

Note: The greatest part of species of Septogloeum are parasitically living on leaves and young branches.
As representative species, are here recalled:

- *S. ulmi* (FR.) DIED., living on Ulmus and considered as the conidial form of *Mycosphaerella ulmi* KLEB.
- *S. fragrariae* (LIB.) HÖHN., living on Strawberry, wild or cultivated. On the leaves of this host the parasite forms spots which, for their shape and size, recall those produced by *Mycosphaerella fragrariae* (TUL.) LIND.

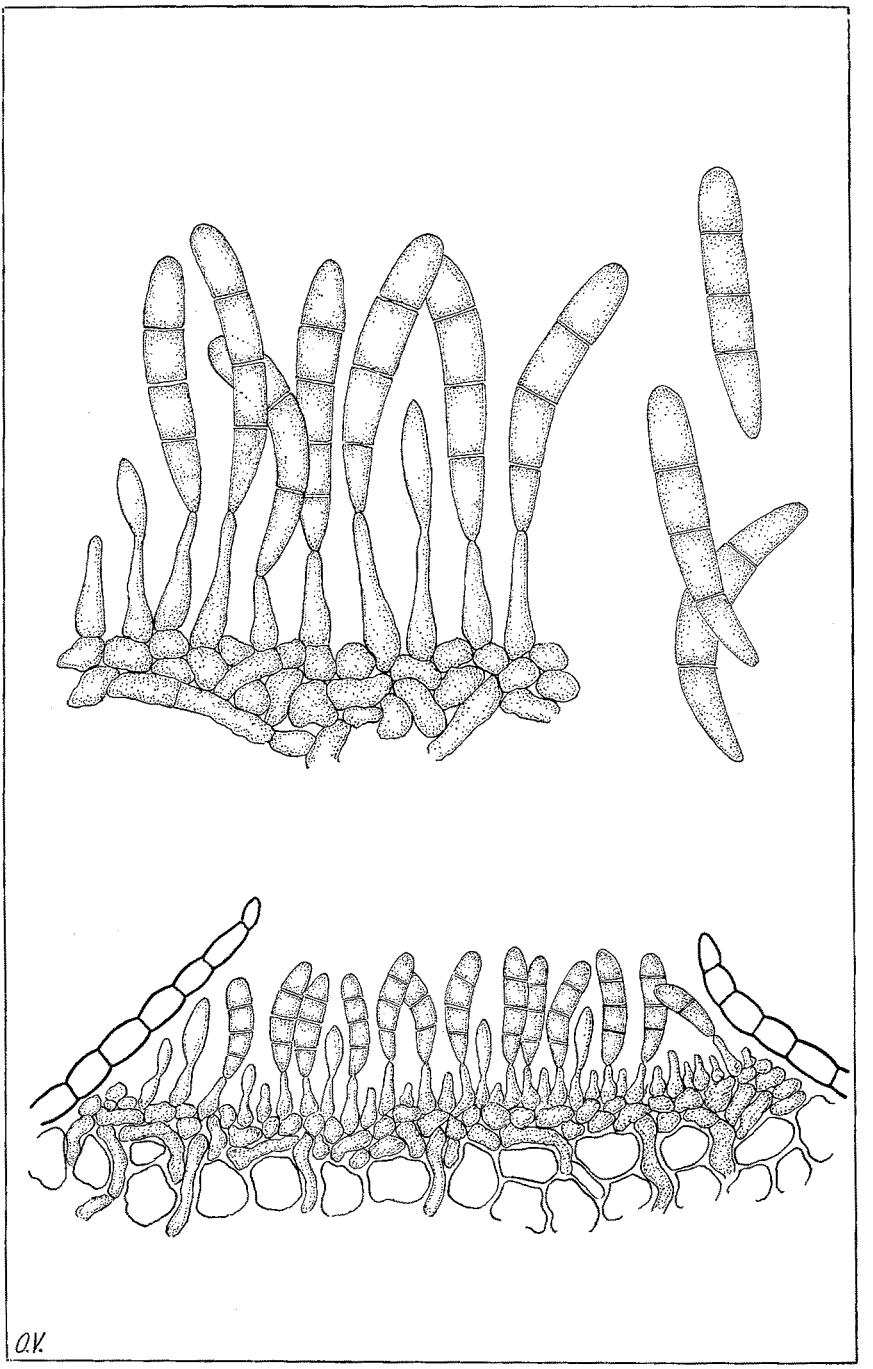

PLATE A 187

FUNGI IMPERFECTI
MONILIALES
STILBACEAE

ZOOPATHOGEN
(ENTOMOGENOUS)
or SAPROPHYTA

Gen. Tilachlidium Preuss.

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate A 188

Mycopathologia et Mycologia Applicata XIX

Synnemata terete, simple to much branched, cylindric, narrowing toward the apices, consisting of bundles of parallel longitudinal usually closely compacted hyphae; phialides scattered, hyaline, subulate, gradually narrowing to acuminate apices, usually terminating hyphae of the synnema, or as lateral cells of the hyphae, single or sometimes in groups of two or three; conidia hyaline, covered with mucus, agglutinating into large sphaerical or irregular clumps.

(from E. B. MAINS)

Note: This Genus includes mainly saprophytic species. Its morphological aspect recalls Genera Hirsutella PAT. (see I.M. IX–A, 190) and Synnematium SPEAR (see I.M. IX–A, 189), but differs from these for several aspects (see Hirsutella).

Ref.:
SPEARE, A. T. (1920) – On certain entomogenous fungi. Mycologia, **12**, 62—76.

MAINS, E. B. (1951) – Entomogenous species of Hirsutella, Tilachlidium and Synnematium. Mycologia, **43**, 691—718.

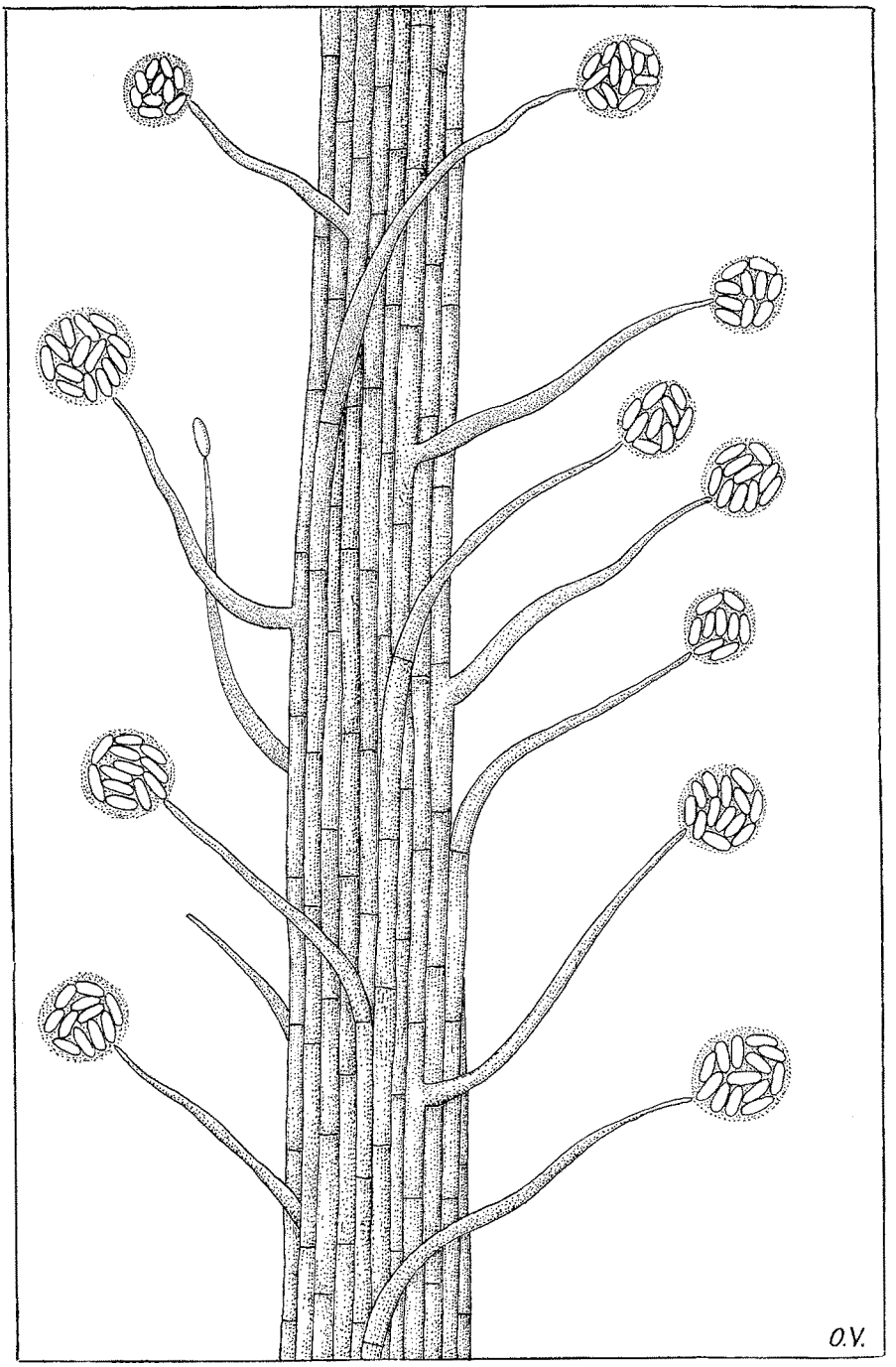

PLATE A 188

FUNGI IMPERFECTI
MONILIALES
STILBACEAE

ZOOPATHOGEN
(ENTOMOGENOUS)

Gen. Synnematium Speare

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate A 189

Mycopathologia et Mycologia Applicata XIX

Synnemata simple or branched, terete, at first white, becoming brownish consisting of parallel longitudinal hyphae; phialides subulate, terminating the hyphae, mostly fasciculate at the apices of the synnemata, some scattered laterally on the upper portions; conidia one-celled, hyaline to pale brown, light brown in mass, covered with a mucus, agglutinating into sphaerical droplets of several spores at the apices of the phialides, sclerotia spherical, at first white, becoming brown, composed of thick-walled cells.

(from E. B. MAINS)

Note: This genus resembles Hirsutella PAT. and Tilachlidium PREUSS, but differs by several aspects (see: Gen. Hirsutella I.M. IX–A, 190).

In the plate:

1 – Synnema producing sclerotia.
2 – Synnema producing conidia.
3 – Phialides and conidia.
4 – A droplet of conidia.
5 – Sclerotium.
6 – Sclerotium producing synnemata.

Ref.:

SPEARE, A. T. (1920) – On certain entomogenous fungi. Mycologia, **12**, 62—76.
MAINS, E. B. (1951) – Entomogenous species of Hirsutella, Tilachlidium and Synnematium. Mycologia, **43**, 691—718.

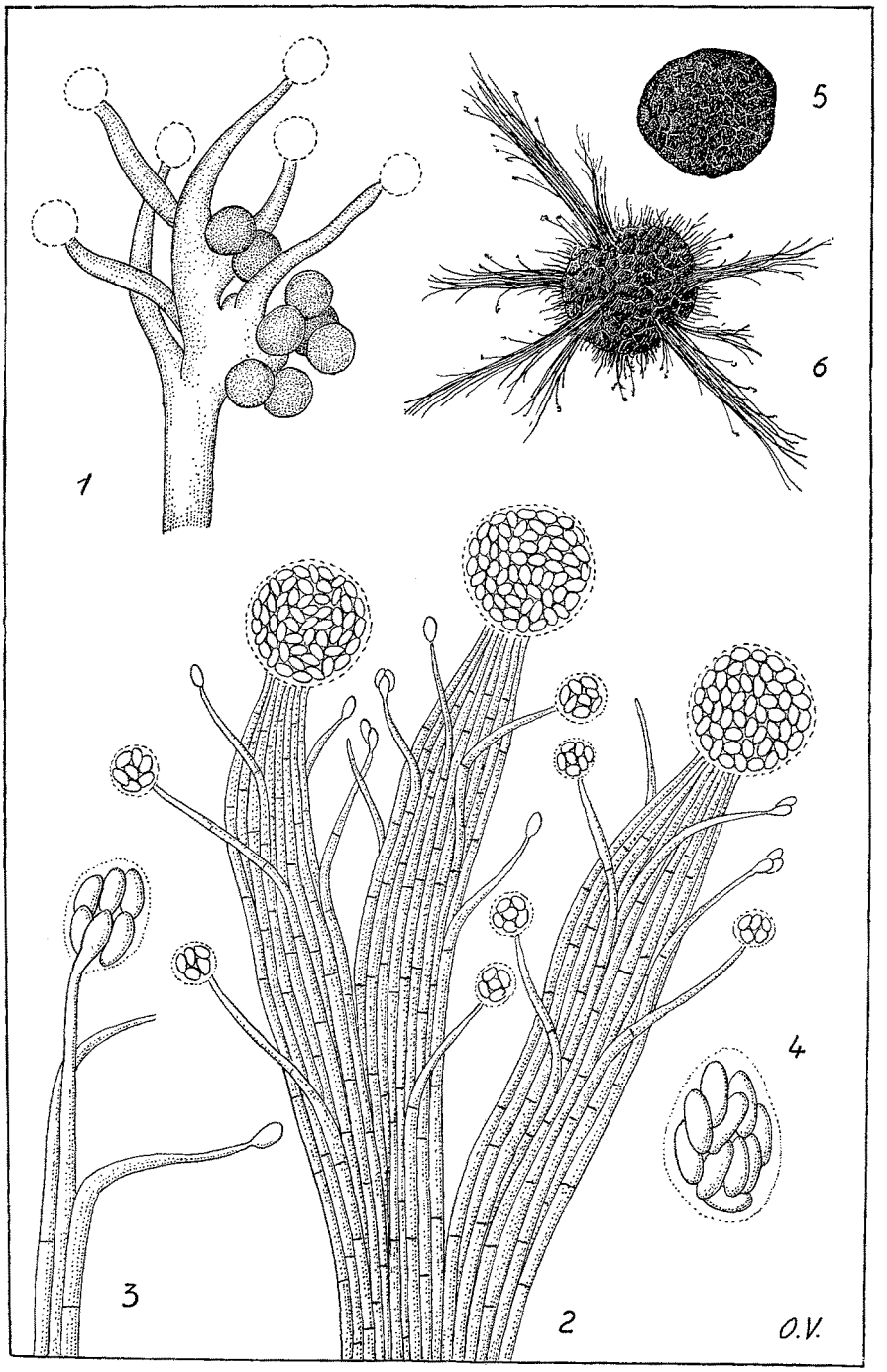

PLATE A 189

FUNGI IMPERFECTI
MONILIALES
STILBACEAE

ZOOPATHOGEN
(ENTOMOGENOUS)

Gen. Hirsutella Patouillard

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate A 190

Mycopathologia et Mycologia Applicata XIX

This genus was described by PATOUILLARD in 1892 and referred by him to the Basidiomycetes. In the same position it is actually considered by CLEMENTS & SHEAR, although dubiously.
SPEARE, in 1920, concluded it was to be considered belonging to Stilbaceae, among Fungi Imperfecti.
This genus is defined by MAINS, as follows:
"Synnemata cylindric to filiform, terete, usually somewhat attenuated upward, simple or branched, consisting of a compact bundle of more or less parallel, longitudinal, septate hyphae; phialides scattered to crowded over most of the synnema, mostly arising as lateral cells or buds or terminating short lateral branches along the outer hyphae of the synnema, a few developing as terminal cells of the hyphae of the synnema, occasionally developing on hyphae from the mycelial covering of the host, hyaline, inflated below, abruptly or gradually narrowing into long slender sterigmata; conidia oblong, subcylindric, fusoid to cymbiform, one-celled, hyaline, covered by a persistent mucus, single or 2-several occurring in droplets."

Note: The structure of the synnema and the origin and localization of conidia put Gen. Hirsutella near Genera Akanthomyces and Hymenostilbe (see I.M. VII–A, 158). In Hirsutella, however, there are phialides with inflated lower portions and long slender sterigmata and conidia usually covered with copious mucus.
This Genus is also someway resembling Gen. Tilachlidium PREUSS (see I.M. IX–A, 188). Here the phialides are subulate and mostly terminating the hyphae of the synnemata, fewer being produced laterally. Moreover, at apex of each phialide there are several conidia formed, remaining irregularly arranged in sphaerical clumps.
Finally the Genus recalls also Gen. Synnematium SPEAR. Here the conidia are becoming brown with age. Phialides are, however, subulate, gradually narrowing to the apex and, above all, they terminate the hyphae of the synnema.

Ref.:

SPEARE, A. T. (1920) – On certain entomogenous fungi. Mycologia, **12**, 62—76.
MAINS, E. B. (1951) – Entomogenous species of Hirsutella, Tilachlidium and Synnematium. Mycologia, **43**, 691—718.

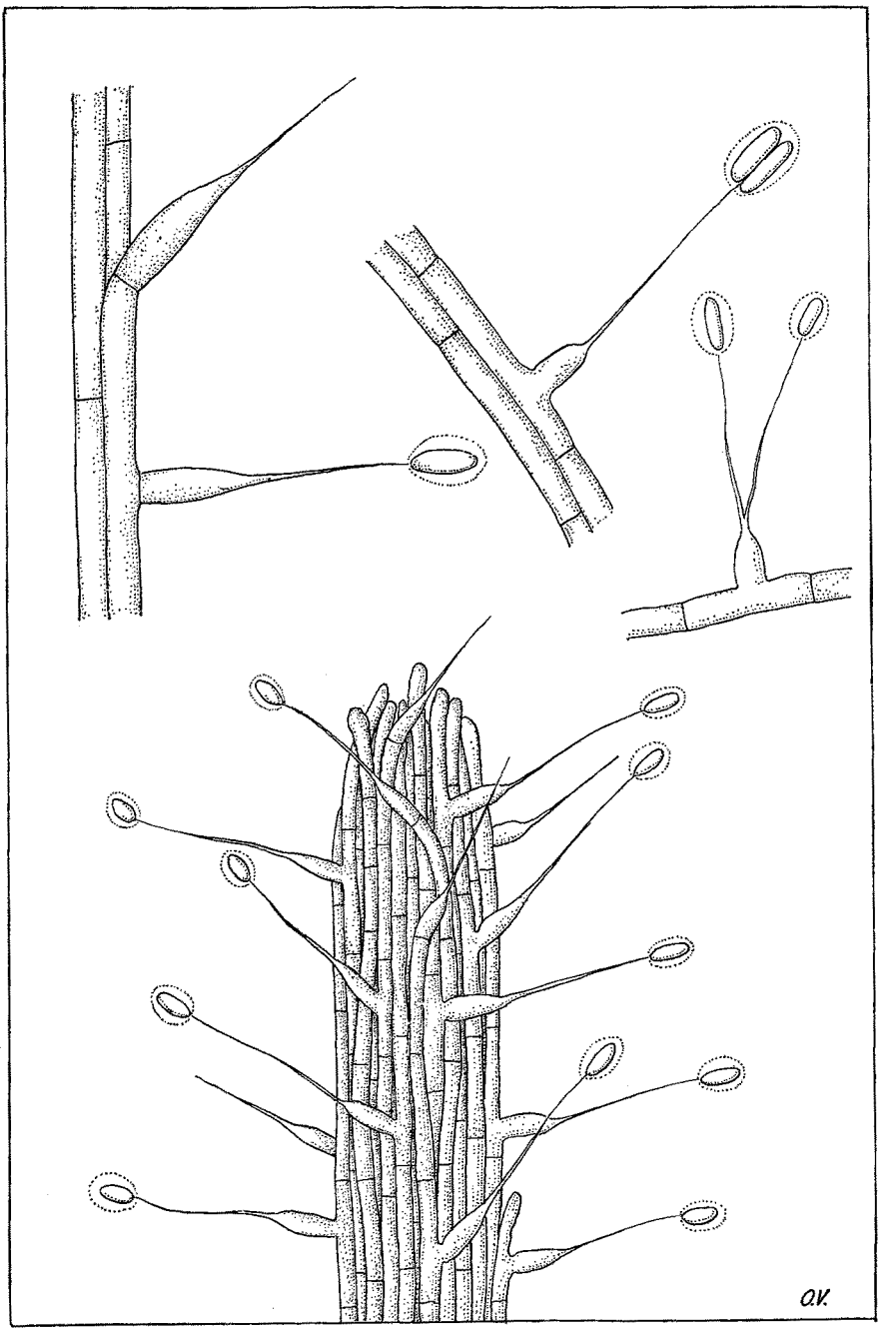

PLATE A 190

FUNGI IMPERFECTI
MONILIALES
MONILIACEAE

SAPROPHYTA

Gen. Centrospora NEERGARD

ICONOGRAPHIA MYCOLOGICA

VERONA — BENEDEK

Plate A 191

Mycopathologia et Mycologia Applicata XIX

Hyphae hyaline, subhyaline or brown, septate.

Conidiophores hyaline, solitary, simple or ramose, flexuose, with more or less, numerous, oblique or transverse, lateral scars.

Conidia (aleuriospores) multiseptate, obclavate, with long, extended apex and pointed, laterally oriented, long basal cell.

Note: The Genus includes one pair of species of submerged aquatic fungi.

In the plate:

conidia and conidiophores of:

1 – *Centrospora acerina* (HARTIG) NEWHALL

= *Centrospora ohlsenii* NEERG.

2 – *Centrospora angulata* PETERSEN

(taken from the Authors)

Ref.:

NEERGARD, P. (1941–42) – Mykologische Notizen (II). Zbl. Bakt., II Abt., **104**, 407—412.

PETERSEN, R. H. (1962) – Aquatic hyphomycetes from North America. I. Aleuriosporae (Part I), and key to the Genera. Mycologia, **54**, 117—151.

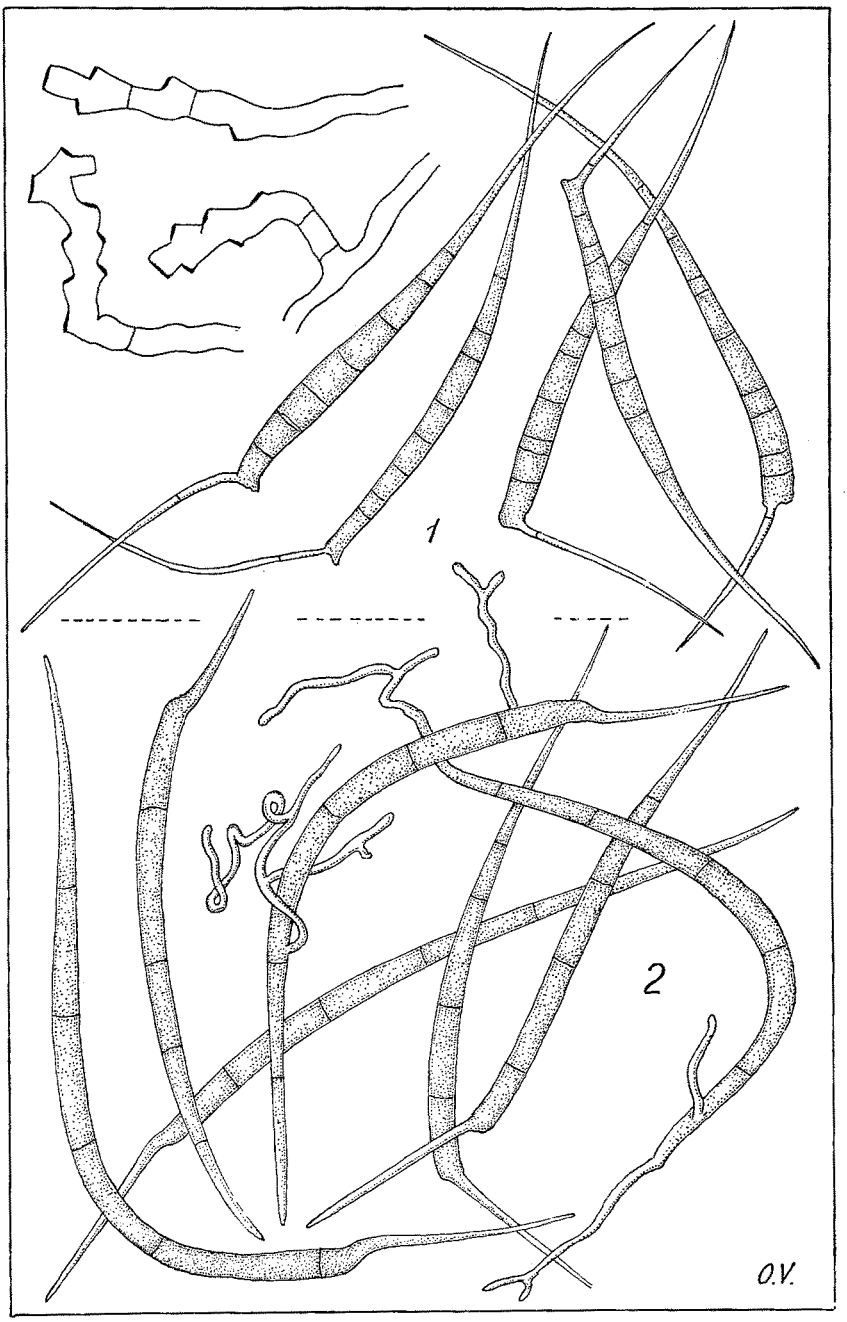

PLATE A 191

FUNGI IMPERFECTI
MONILIALES
MONILIACEAE

PHYTOPATHOGEN

Gen. Microstroma Niessl.

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate A 192

Mycopathologia et Mycologia Applicata XIX

This Genus includes species developing mycelial elements within foliar tissues and producing cylindric threads going out through the stomata. Such threads bear at extremity short sterigmata (up to 6) bringing spores which are ovoid or cylindric, hyaline, 1-celled.

Note: The shape of conidiophores resembles that of basidia, so that some Authors consider this Genus belonging to Basidiomycetes. CLEMENTS & SHEAR put this Genus into Agaricales, Fam. Hypochnaceae, and contemporaneously into Melanconiales, Fam. Melanconiaceae.

Undoubtedly, the taxonomical position of this Genus is rather questionable.

In PATOUILLARD's opinion it is perhaps an imperfect form of Helostroma (Tuberculariaceae); in KLEBAHN's opinion, *Micr. platani* would on the contrary be one of the imperfect forms of *Gnomonia veneta* (SACC. & SPEG.) KLEB.

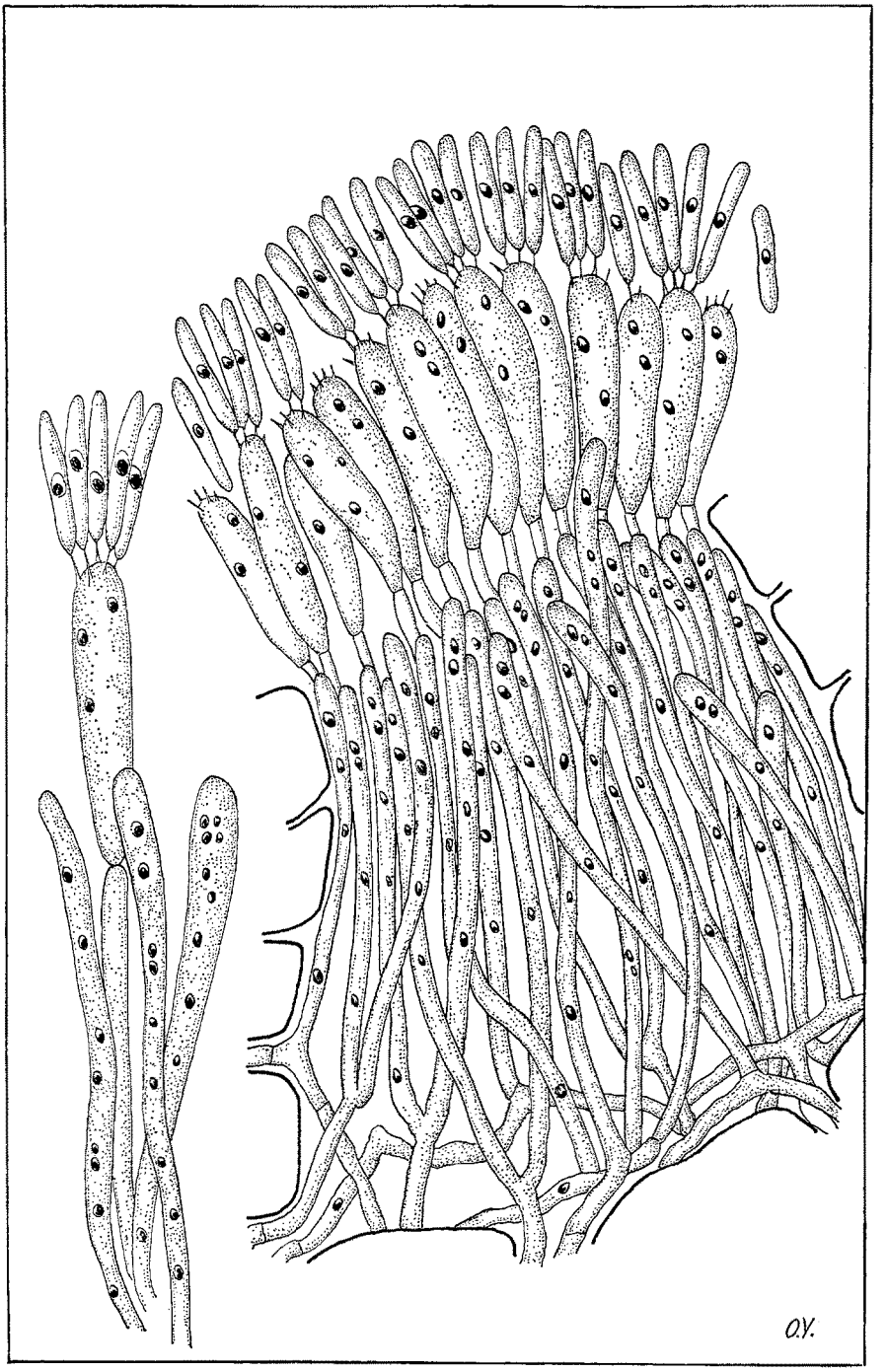

PLATE A 192

FUNGI IMPERFECTI
MONILIALES
PHOMACEAE

PHYTOPATHOGEN

Gen. Dothichiza Lib.

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate A 193

Mycopathologia et Mycologia Applicata XIX

Pycnidia acervuliform, separate, innate and then erumpent. Conidiophores simple, filiform, slightly inflated at base, hyaline. Pycnospores ovoid or cylindroid, monocellular, hyaline.

Note: In CLEMENTS & SHEAR's opinion, Parasclerophoma PETR. and Sclerophoma HOEHN are to be considered as belonging to this Genus, as synonyms.

Some species of Dothichiza have as perfect stage species of Cenangium (I.M. IX, Plate C–117).

Among the economically important species, are to be recalled: *Dothichiza populea* SACC. & BRIARD, on poplar; *D. ferruginosa* Sacc. on several species of Pinus and on *Abies alba.*

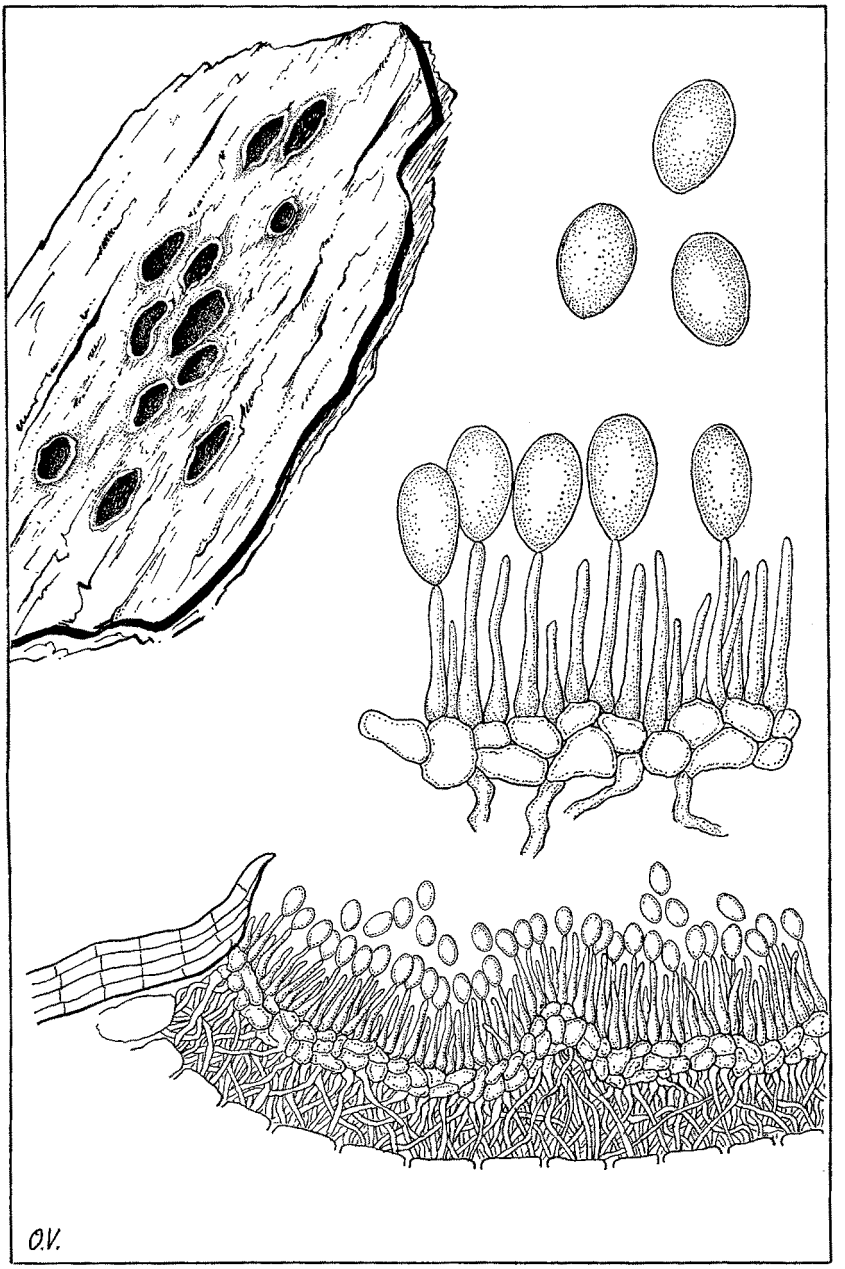

PLATE A 193

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

SAPROPHYTA

Gen. Sarcinella Sacc.

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate A 194

Mycopathologia et Mycologia Applicata XIX

Conidiophores short or indistinct.

Conidia of two kinds: muriform, irregular, dark and falcate, subhyaline, transversely multi-septate.

Note: Probably it represents the imperfect stage of Dimerosporium.

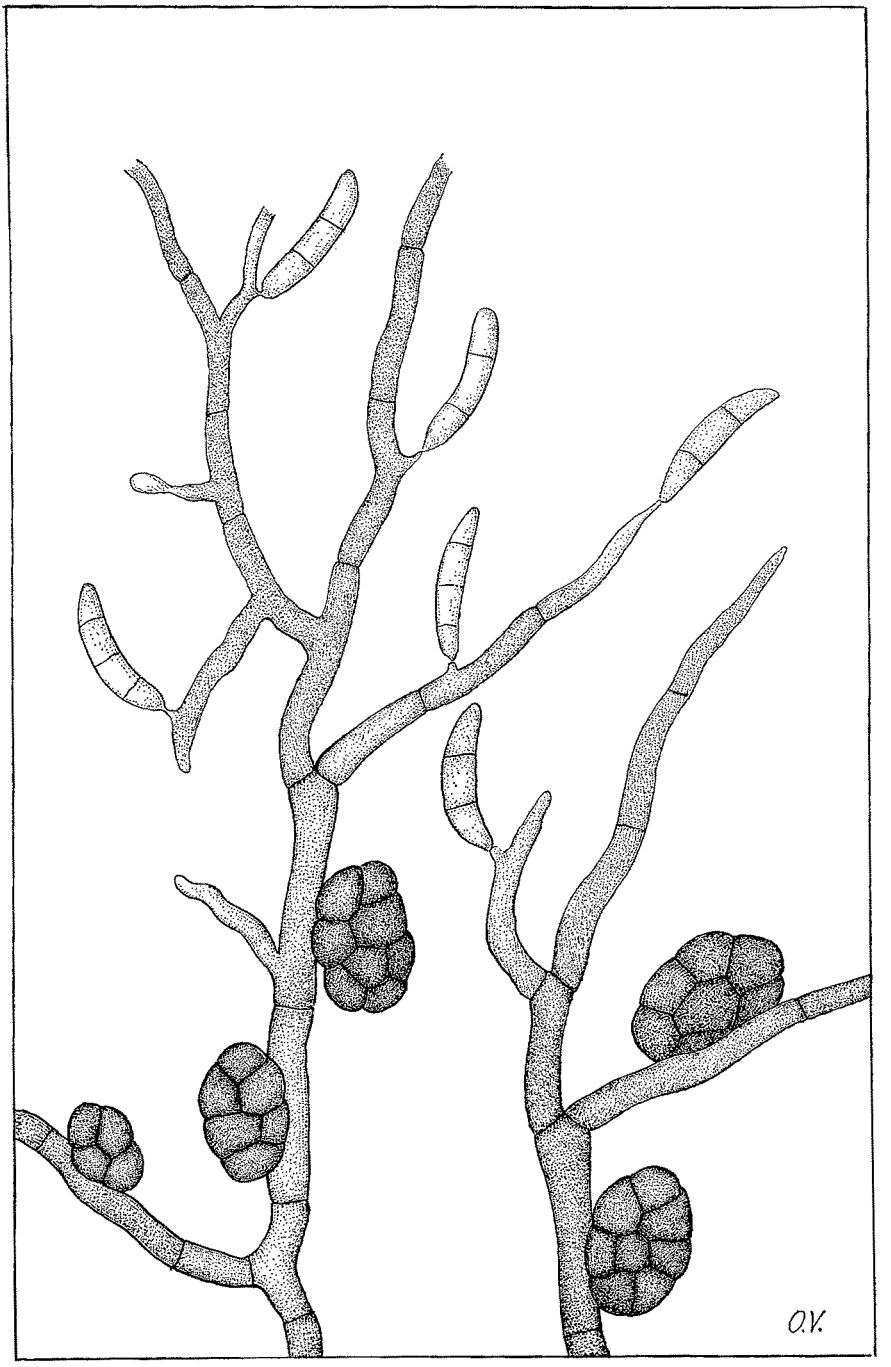

PLATE A 194

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

SAPROPHYTA

Gen. Wardomyces Brooks & Hansford

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate A 195

Mycopathologia et Mycologia Applicata XIX

Hyphae are narrow, hyaline, branched, often aggregated and septate. Conidiophores arise singly on the sides of hyphae and are short, persistently hyaline, branched and septate; primary and secondary branches arise successively from cells of the main stalk or its branches. Sporogenous cells are terminal, inflated, and constricted under the conidia. Conidia are borne successively in small numbers on the sporogenous cells, the first being apical and remaining so, the others arising laterally; they are subsphaerical, ovoid or ellipsoid, brown to blackish; they are thick walled and marked with a single longitudinal germ slit, through which a lateral germ tube develops during germination. They secede after rupture of the wall of the sporogenous cell at the septum and retain a minute hyaline basal marginal frill.

(from HENNEBERT)

Note: Wardomyces presents some characters of resemblance with Asteromyces (I.M. VI–A, 127). A discussion concerning that is presented in the work cited by HENNEBERT.

In the plate:

1 – *Ward. anomala* BROOKS & HANSFORD
2 – *Ward. hughesii* HENNEBERT
3 – *Ward. humicola* HENNEBERT & BARRON
(in *a*, germinating spores)

(imited from HENNEBERT)

Ref.:

BROOKS, H. J. & HANSFORD, C. G. (1923) – Mould growths upon cold-storage meat. Trans. Brit. mycol. Soc., **8**, 113—141.
HENNEBERT, G. L. (1962) – Wardomyces and Asteromyces. Canad. J. Bot., **40**, 1203—1216.

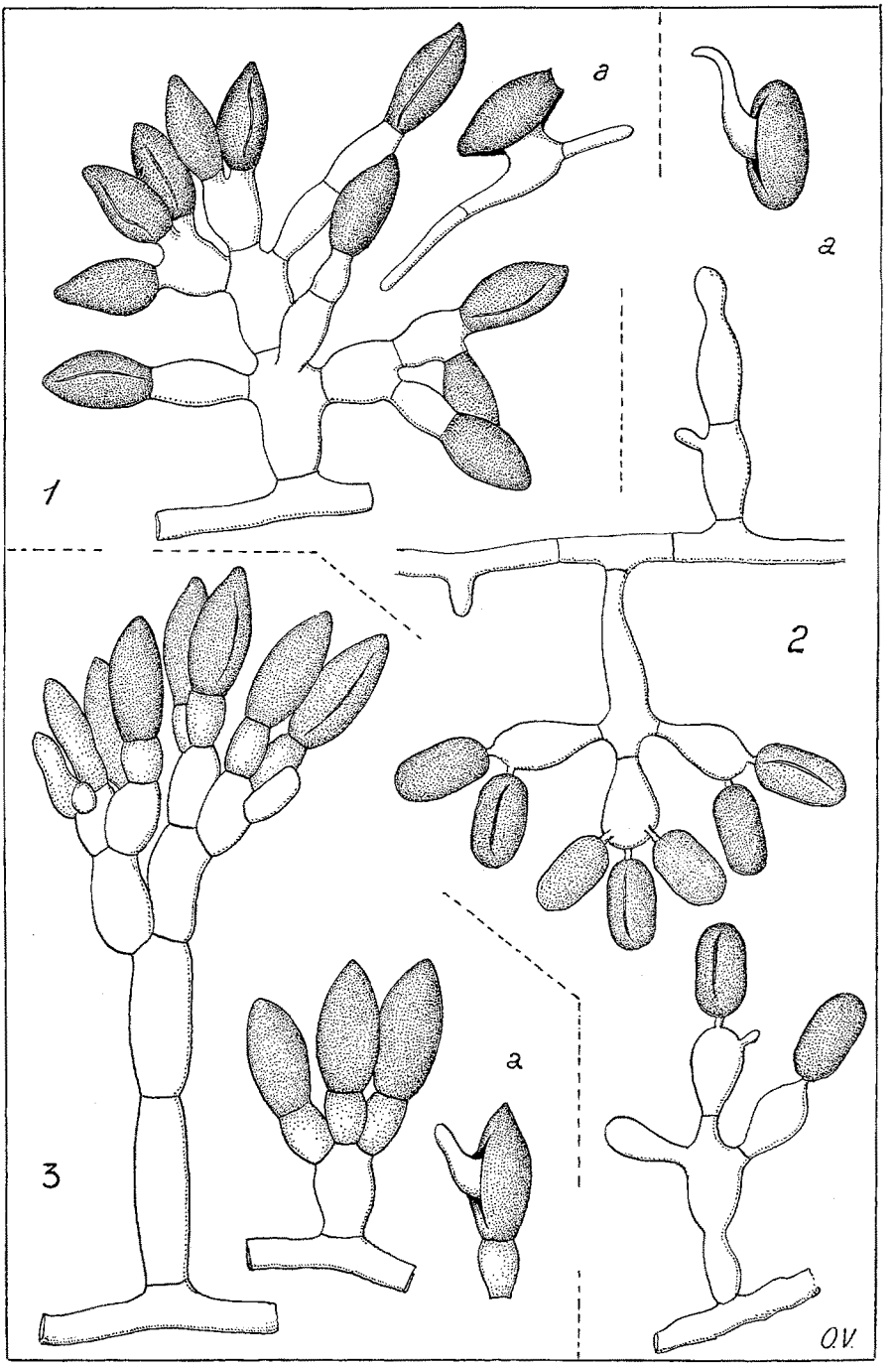

PLATE A 195

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

SAPROPHYTA

Gen. Cirrenalia MEYERS & MOORE

ICONOGRAPHIA MYCOLOGICA

VERONA — BENEDEK

Plate A 196

Mycopathologia et Mycologia Applicata XIX

Mycelium yellow-brown or dark brown or even hyaline.

Conidiophores 0–3 septate, hyaline or pale brown, short, simple, curved or straight.

Conidia brown, darker toward the apex, transversely septate and strongly constricted at septa, increasing in diameter toward the apex so that the terminal cell is the largest one, predominantly curved, x-celled.

Note: MEYERS & MOORE erected this Genus to include *Helicoma macrocephala* KOHLMEYER. This species cannot be considered belonging to that Genus because species of Helicoma (I.M., I–A, 4) show conidia which are regular and flattened, with cells nearly equal in diameter, and with little or no constriction at septa.

Ref.:

JOHNSON, T. W. jr. & SPARROW, F. K. jr. (1961) – Fungi in Oceans and Estuaries. Weinheim.

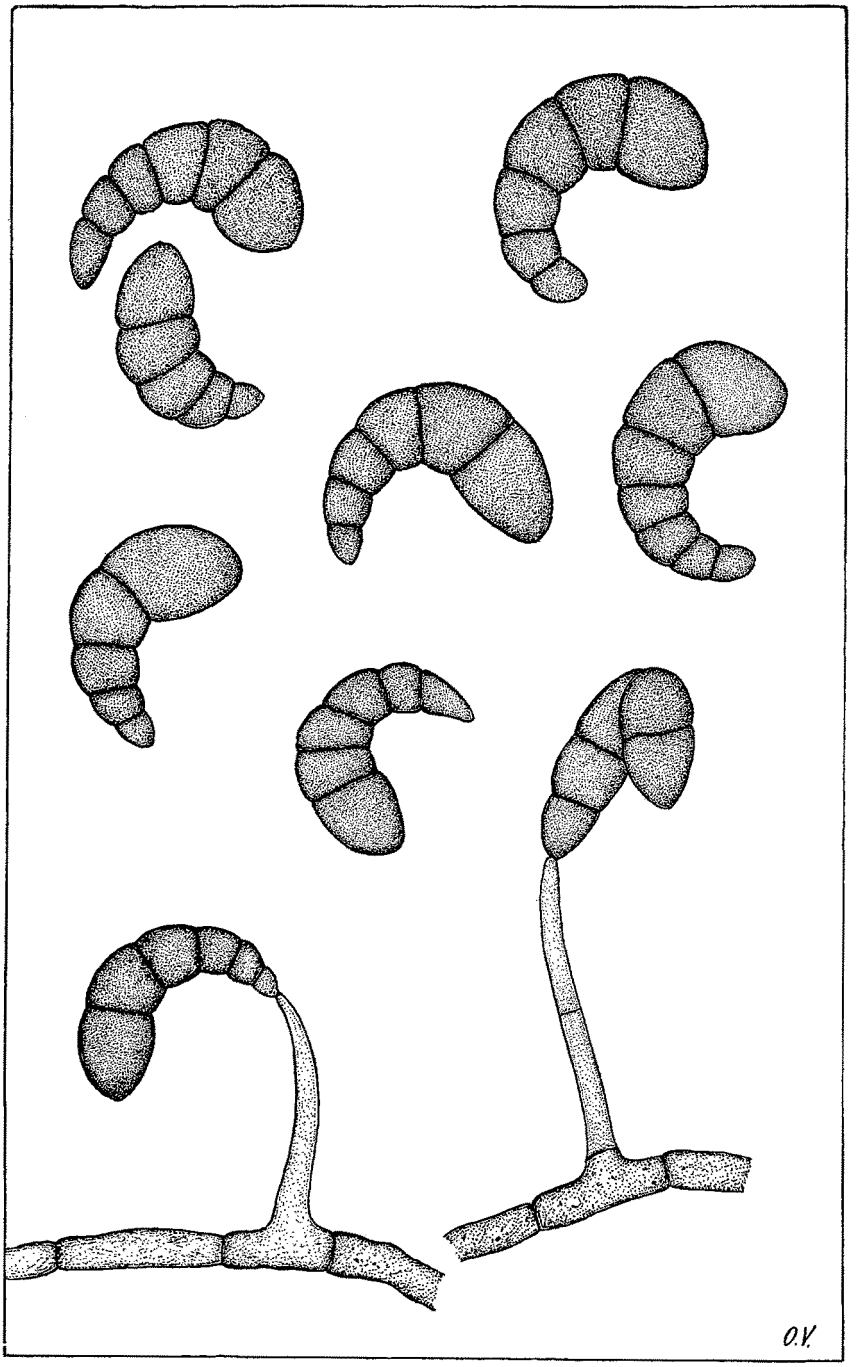

PLATE A 196

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

PHYTOPATHOGEN
or SAPROPHYTA

Gen. Thielaviopsis WENT.

ICONOGRAPHIA MYCOLOGICA

VERONA — BENEDEK

Plate A 197

Mycopathologia et Mycologia Applicata XIX

Mycelium white to gray. Conidiophores subhyaline to dark, on short lateral branches of mycelium, with the terminal cell narrowing toward the apex and endogenously producing conidia; conidia are produced in chains or in masses and are rod-shaped, 1–celled, hyaline. On other branches chlamydospores are produced: they are in chains and are large, dark, thick-walled, eventually breaking singly apart.

Note: Some species are conidial forms of Gen. Ceratocystis (I.M. III, C–29).

In the plate:

1 – *Th. basicola* (BERK. et BR.) FERRARIS
a) conidiophores producing endoconidia
b) hypha producing endoconidia and chlamydospores.

2 – *Th. ethacethicus* WENT
(redrawn from G. ARNAUD)

3 – *Thielaviopsis* sp. attached to the cycle of *Ceratocystis major* (v. BEYMA) C. MOREAU
(redrawn from C. MOREAU)

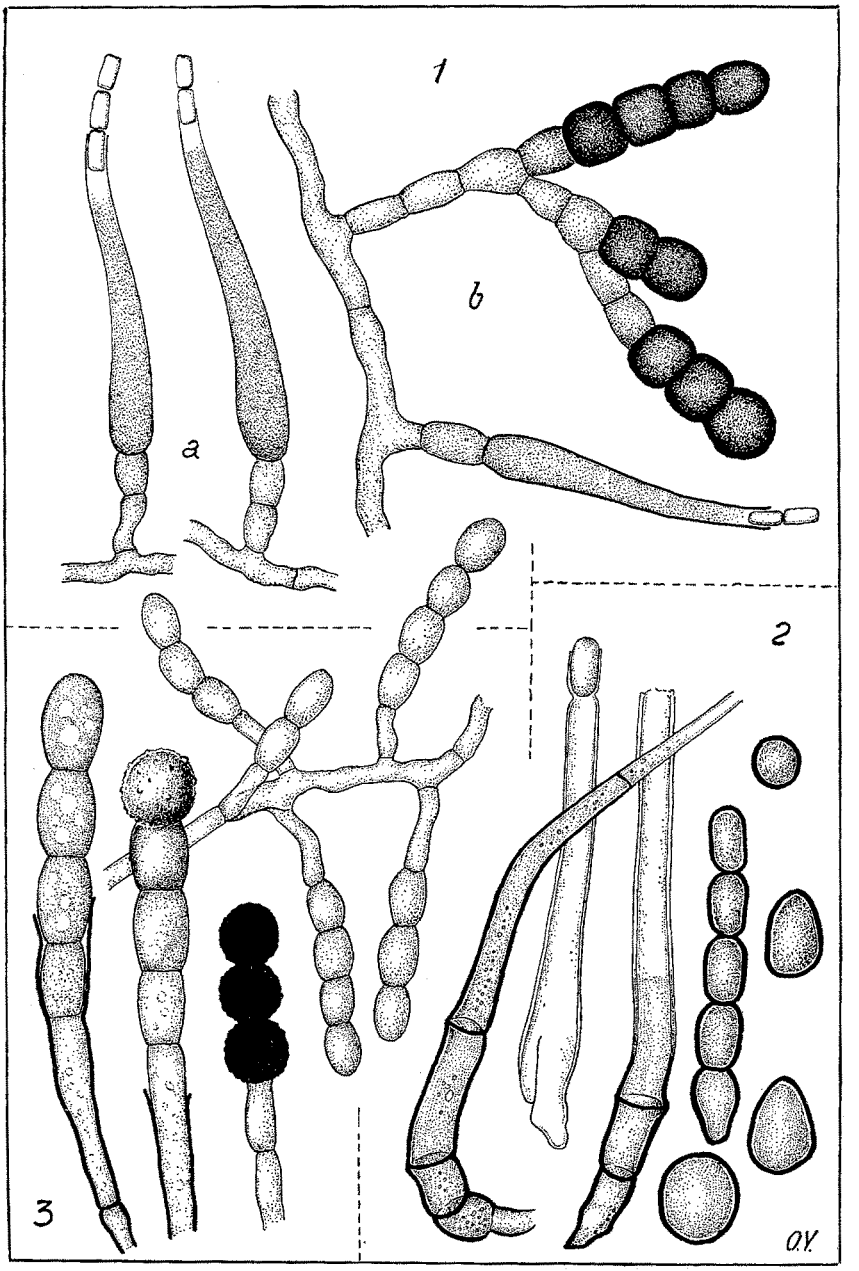

PLATE A 197

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

SAPROPHYTA

Gen. Stephanosporium Dal Vesco

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate A 198

Mycopathologia et Mycologia Applicata XIX

Sterile hyphae ramose, septate, partially sunken in the substratum, hyaline, partially superficial and creeping in aerial funicula, hyaline at first, then more or less fuscus. Conidiophores fusci, erect, septate, variously ramose, bearing apically conidia in chains. Conidia dark, lenticular, provided of a prominent crown.

Note: The Genus, whose main characteristic is the ornamentation of spores, includes at the moment one only species: *S. atrum* DAL VESCO.

Ref.:

DAL VESCO, G. (1961) – Una nuova Dematiacea isolata dal suolo, Stephanosporium atrum, n. gen. et n. sp. = Descrizione ed osservazioni. Allonia, **7**, 181—193.

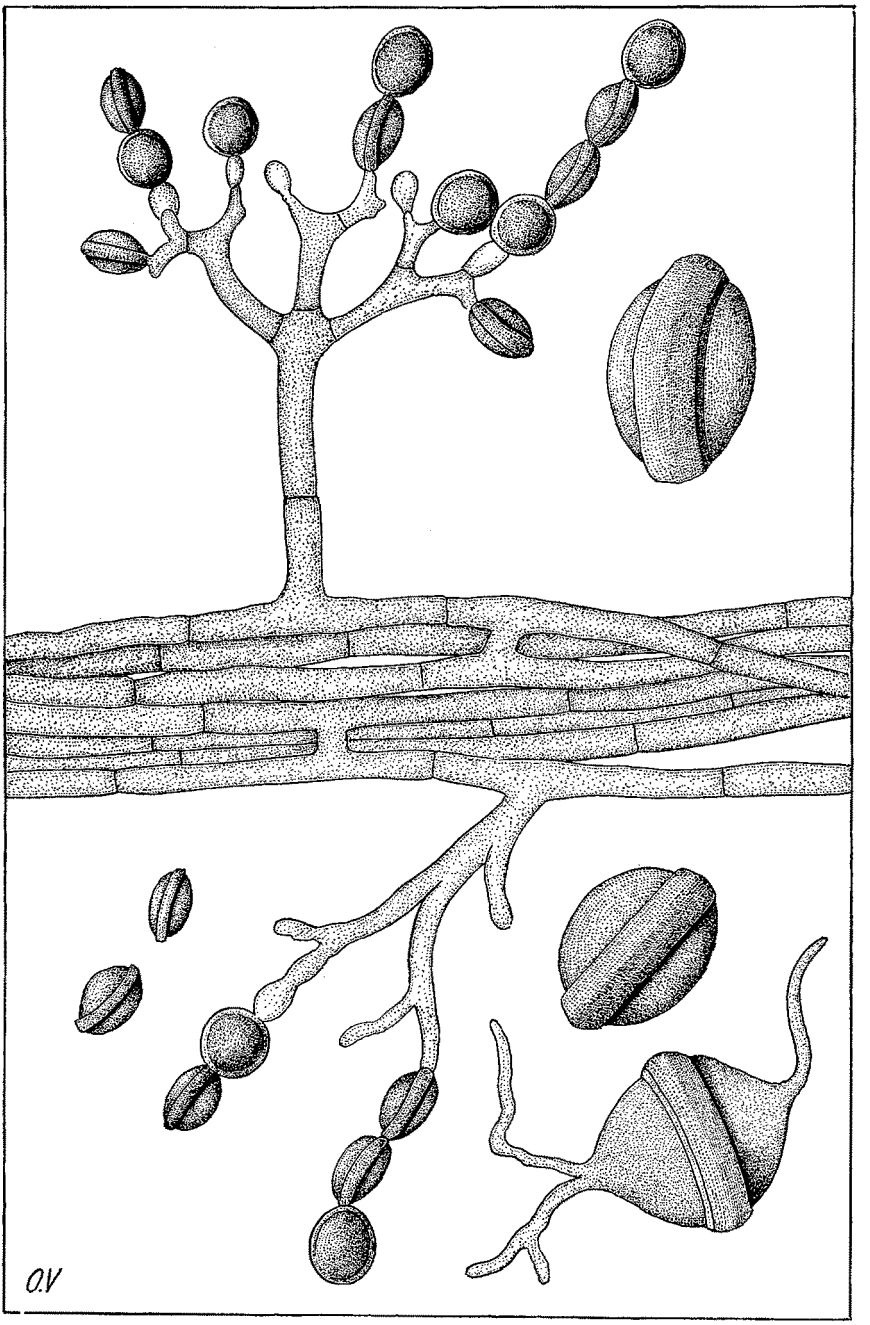

PLATE A 198

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

SAPROPHYTA

Gen. Phialocephala KENDRICK

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate A 199

Mycopathologia et Mycologia Applicata XIX

Conidiophores are darkly pigmented, solitary or occasionally clustered, with a single stipe bearing at its apex a complex sporogenous head. This consists of from one to several multiplicative series of metulae, the ultimate series of which collectively bear numerous phialides. The phialides often possess well-marked collarettes, and produce numerous small, usually hyaline amerospores, which often become aggregated around the sporogenous head in a drop of slime.

Habitat: often on decaying wood or bark, or isolated from worked wood or living trees.

Note: The Genus belongs to the hyphomycetal group Leptographium-like and from this Genus separated. In the same group is also Verticicladiella HUGHES (I.M. IX–A 200).

In the plate:

A – *Phialocephala dimorphospora* KENDRICK
(in A' conidiophore from culture)

B – *Phialocephala bactrospora* KENDRICK

Ref.:

KENDRICK, W. B. (1961) – The Leptographium complex. Phialocephala gen. nov. Canad. J. Bot., **39**, 1079—1085.

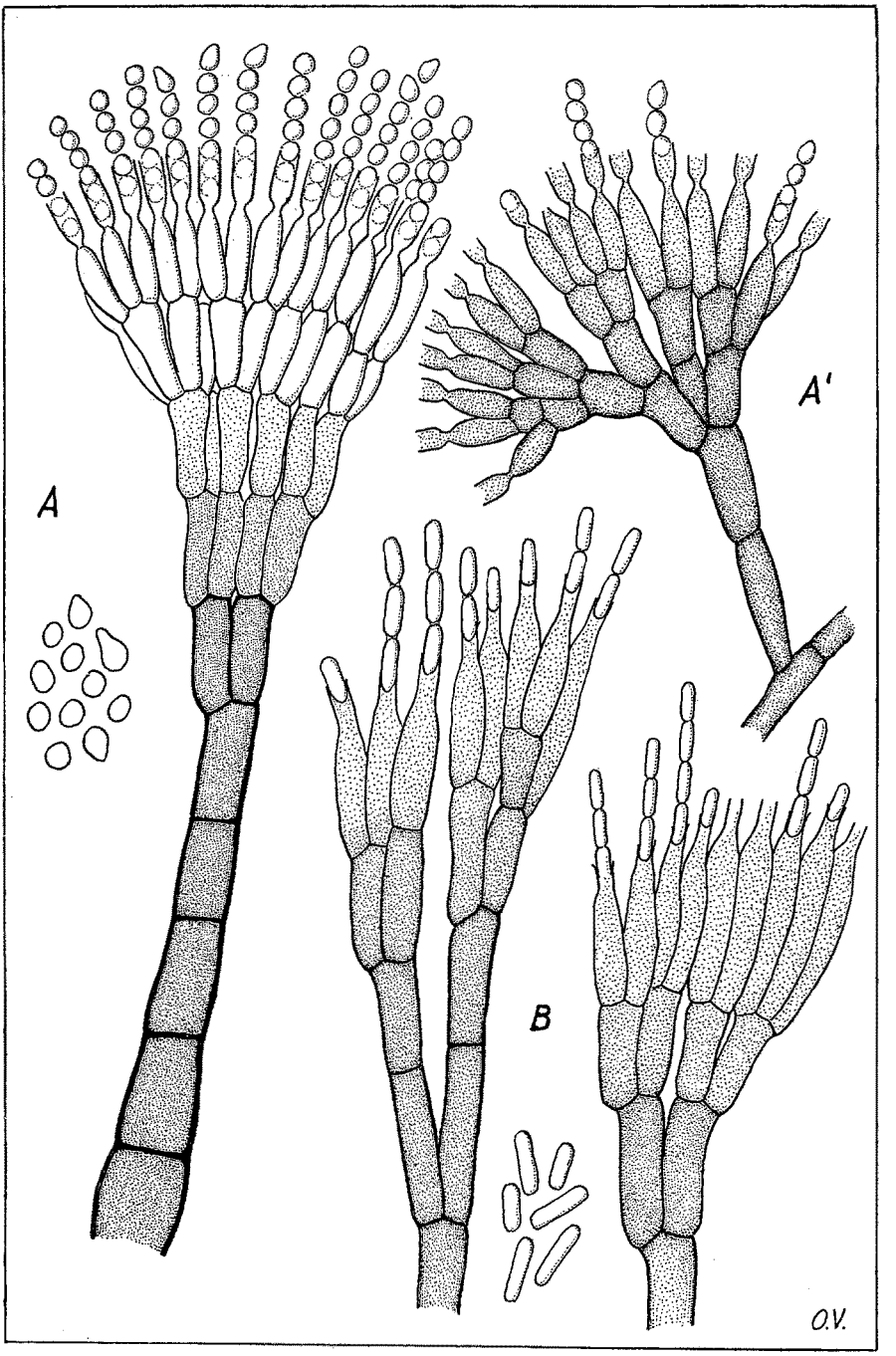

PLATE A 199

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

SAPROPHYTA

Gen. Verticicladiella Hughes

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate A 200

Mycopathologia et Mycologia Applicata XIX

Conidiophores similar to Verticicladium, in a mucous head; primary, secondary and tertiary branches smaller and smaller, parallel, approached; sporogenous cells subparallel. Conidia continuous, hyaline, ovate or slightly curved, smooth, aeropleurogenous, from sporogenous cells which are reunited in a mucous head.

Note: The genus linked to Leptographium LAGERBERGER & MELIN, considered a complex of forms characterizing several genera. Preveously the same Author separated from that group the Gen. Phialocephala HENDRICK (I.M. IX–A, 199).

In the plate:

1 – *Vert. abietina* (PECK) HUGHES
2 – *Vert. penicillata* (GROSM.) KENDRICK
3 – *Vert. procera* KENDRICK

(from KENDRICK)

Ref.:

KENDRICK, W. B. (1962) – The Leptographium complex. Verticicladiella Hughes. Canad. J. Bot., **40**, 771—797.

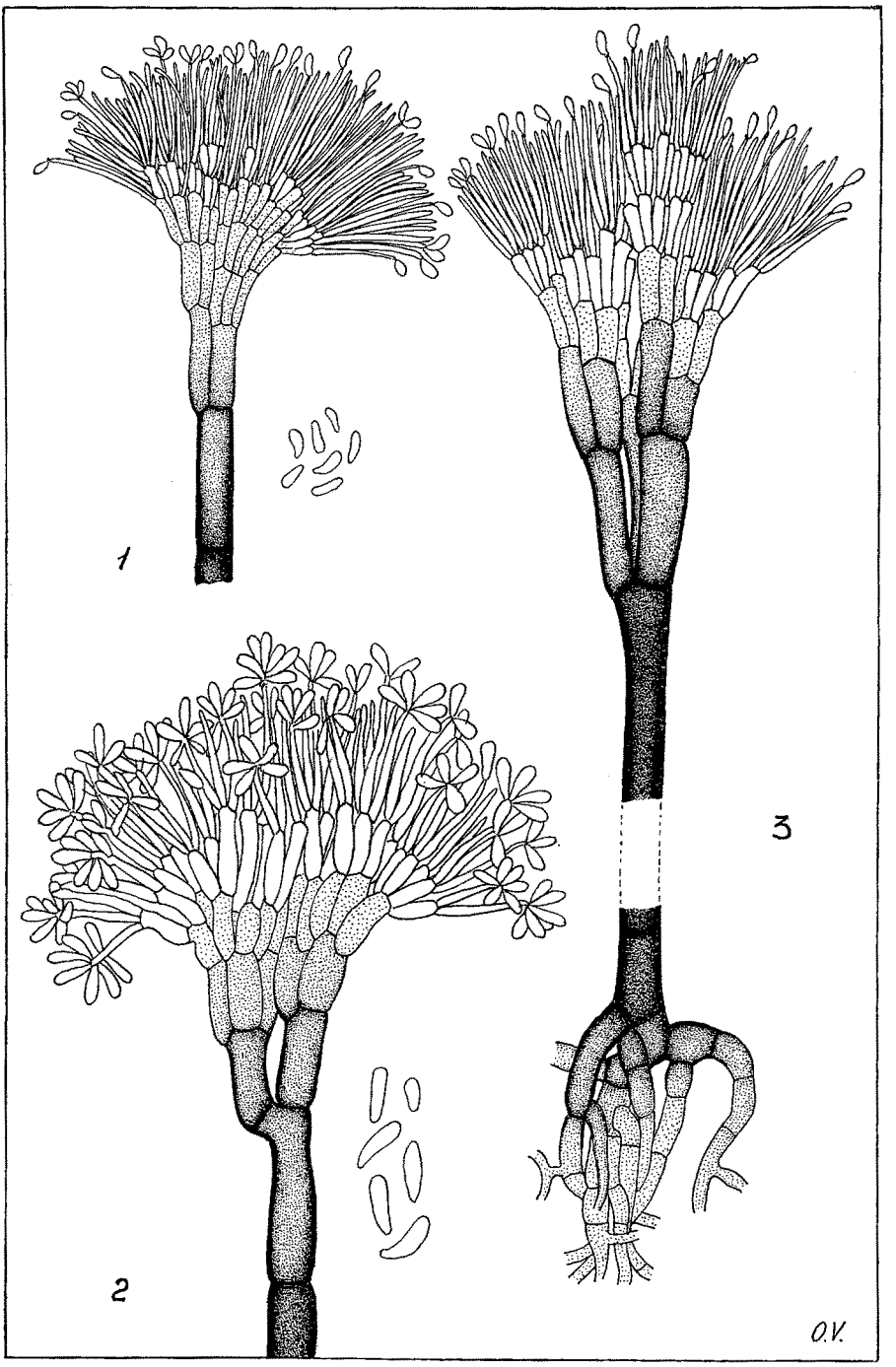

PLATE A 200

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

PHYTOPATHOGEN

Gen. Polythrincium Kunze & Schm. ex Fr.

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate A 201

Mycopathologia et Mycologia Applicata XIX

Conidiophores crowded in clusters, dark, simple but irregular, flexuous or torulose.

Conidia olivaceous to dark, single, terminal, 2-celled.

Note: The most commonly known and economically important species is *P. trifolii* KZE., conidial form of *Dothidella trifolii* BAYL–ELLIOTT & STANSF. (= *Cymadothea trifolii* (PERS.) WOLF, in the opinion of some Authors).

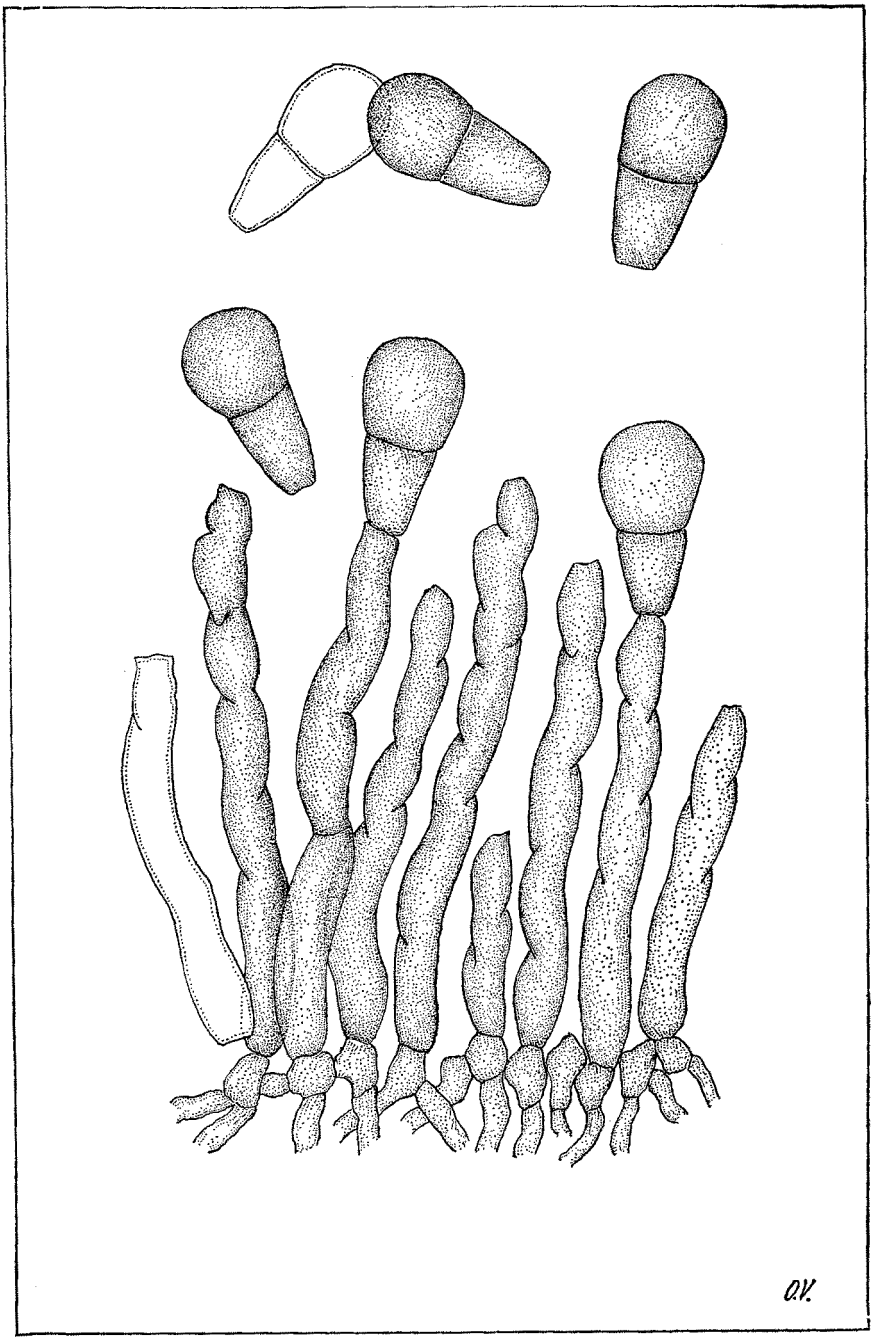

PLATE A 201

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

SAPROPHYTA

Gen. Trichaegum Corda

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate A 202

Mycopathologia et Mycologia Applicata XIX

Conidiophores dark, simple, erect or ascendent, joined in clusters. Conidia globose, pleurogenous, variously septate, arising laterally at the base of the conidiophore.

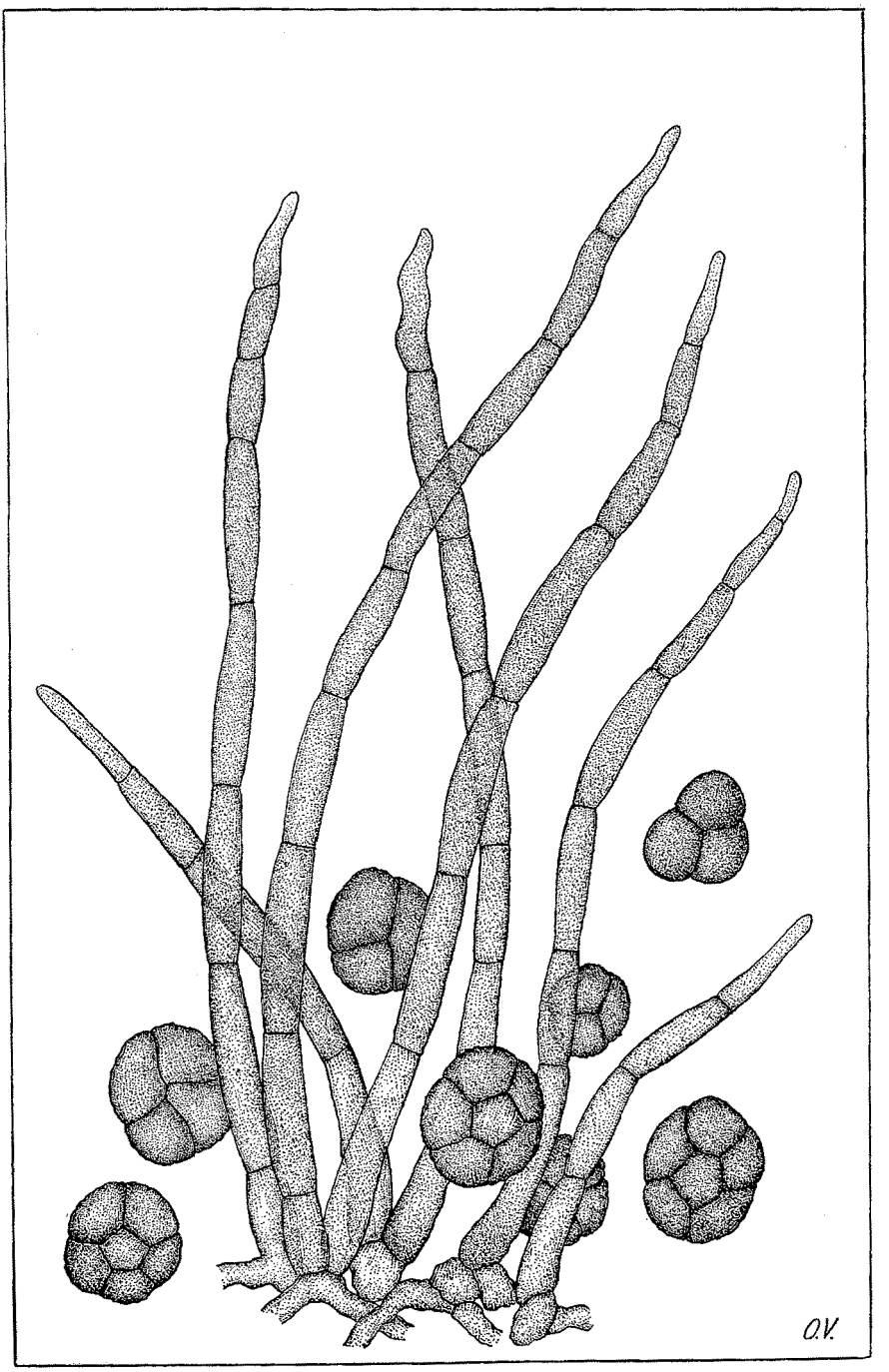

PLATE A 202

FUNGI IMPERFECTI
MONILIALES
DEMATIACEAE

SAPROPHYTA

Gen. Oidiodendron Robak

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate A 203

Mycopathologia et Mycologia Applicata XIX

Vegetative hyphae hyaline or pigmented, simple or united into coremia-like strands, conidiophores produced singly or in clumps arising from substratum, aerial hyphae or hyphal ropes, slender, pigmented, smooth or rough, usually simple, sometime branching into two or several main trunks, 100–250 μ tall in most species, rarely up to 500 μ, sometimes short or lacking; conidiophores branching repeatedly at the top to form heads of delicate, hyaline, interlacing fertile hyphae; fertile hyphae forming numerous short segments by basipetal septation; maturing from the tip towards the main conidiophore axis into branching chains of unicellular arthrospores; arthrospores smooth, or more often slightly or strongly roughened, hyaline or pigmented, globose, subglobose, ovoid, or cylindric, falling free at maturity to leave the conidiophores as naked trunks with stumps of fertile hyphae still apparent.

(from BARRON)

Note: The Genus is apparently similar to Cladosporium (I.M. VI–A, 128) and to Hormodendrum (I.M. X–A, 224).

In the plate:

1 – *Oid. echinulatum* BARRON

2 – *Oid. tenuissimum* (PECK.) HUGHES

3 – *Oid. truncatum* BARRON

4 – *Oid. maius* BARRON

Ref.:

BARRON, G. L. (1962) – New species and new records of Oidiodendron. Canad. J. Bot., **40**, 589—607.

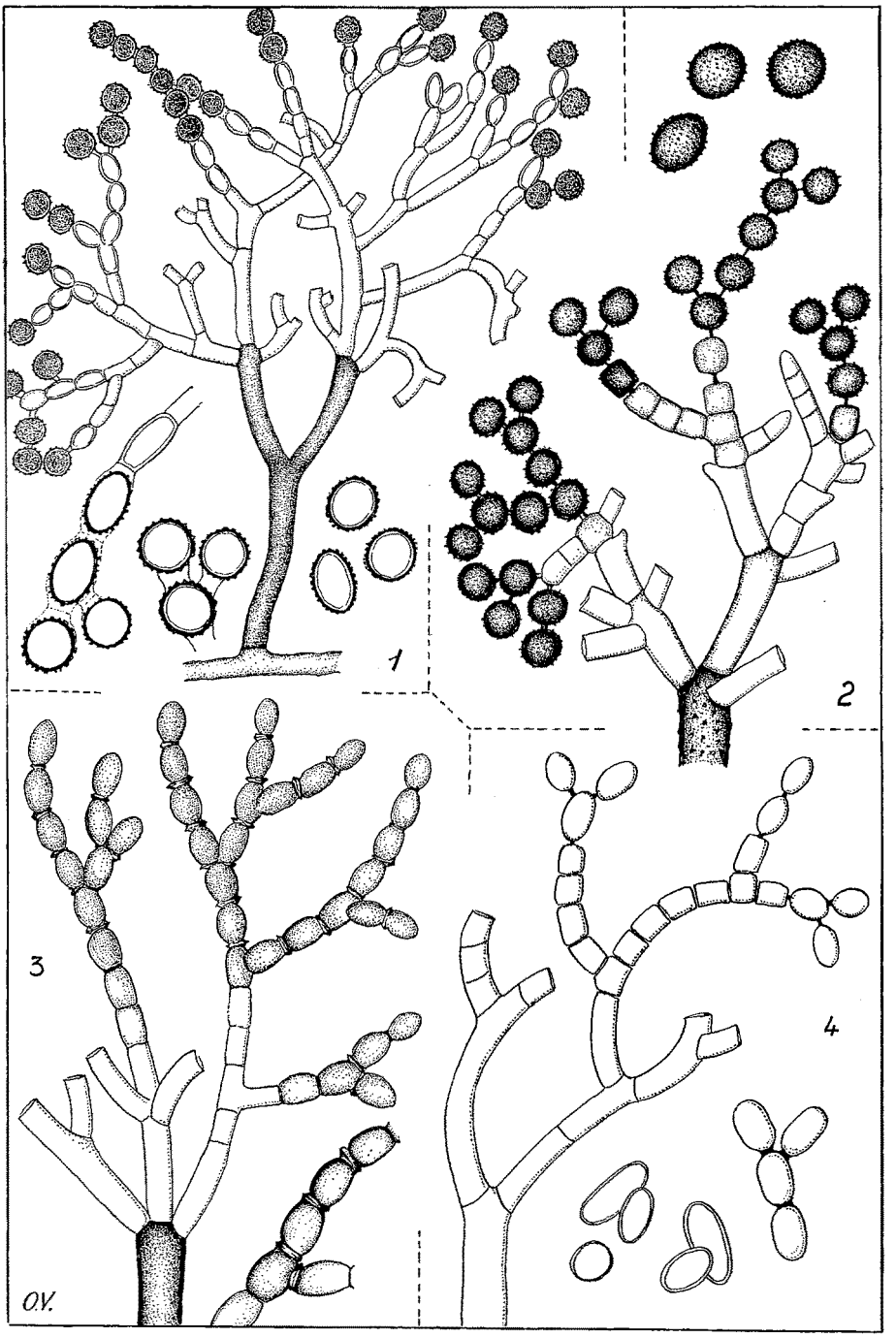

PLATE A 203

PHYCOMYCETES
SPIROGYRALES
MUCORACEAE

SAPROPHYTA

Gen. Chaetocladium Fres.

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate B 66

Aereal mycelium creeping, constituted by stolons and sporangiferous apparati. No 1st order sporangia. The main axis of 2nd order branches are terminating in an elongated and sterile tip, bearing monosporic sporangioles (biologically regarded as conidia) attached in points which are slightly inflated.

Note: The known species are *C. Jonesii* FR., with echinulate sporangioles, and *C. Brefeldii* v. TIEGH. & LE MONNIER, with smooth sporangioles.

In the plate:

A representative scheme of the Genus. In *a*, zygospore formation.

Ref.:

NAUMOV, N. A. (1939) – Clés des Mucorinées. Encyclopédie Mycologique. Paris.

ZYCHA, H. (1935) – Mucorineae; in Kryptogamenflora der Mark Brandenburg Leipzig.

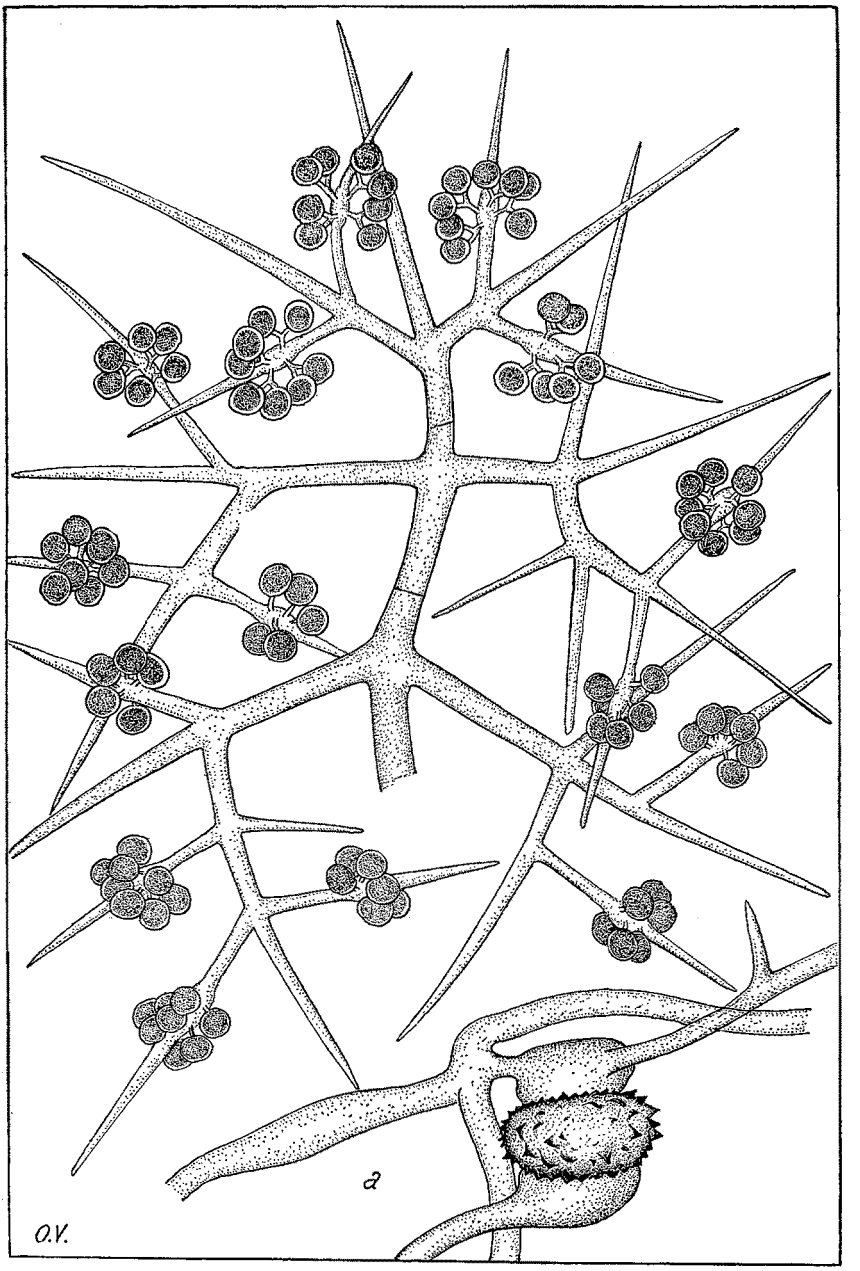

PLATE B 66

PHYCOMYCETES
SPIROGYRALES
MUCORACEAE

SAPROPHYTA

Gen. Cokeromyces SHANOR

ICONOGRAPHIA MYCOLOGICA

VERONA — BENEDEK

Plate B 67

Mycopathologia et Mycologia Applicata XIX

Sporangioles produced abundantly on stalks over the surface of terminal capitate swellings of sporangiophores; spores dark and not possessing radiating delicate cilium-like appendages; sporangia and conidia absent.
Zygospores produced between short, relatively straight cipulating branches as in Mucor or Cunninghamella and not between tips of twining branches as in Blakeslea or Choanophora.

(from SHANOR)

In the plate:

Cokeromyces recurvatus POITRAS

1 – apical portion of young sporangiophore before much elongation of the sporangiole stalks has occurred;

2 – apical portion of small sporangiophore bearing five sporangioles;

3 – Characteristic sporangiophore with numerous sporangioles;

4 – spores;

5 – zygospores in different stages of development.

(after SHANOR)

Ref.:

SHANOR, L., POITRAS, A. W. & BENJAMIN, R. K. (1950) – A new Genus of the Choanophoraceae. Mycologia, **42**, 271—278.

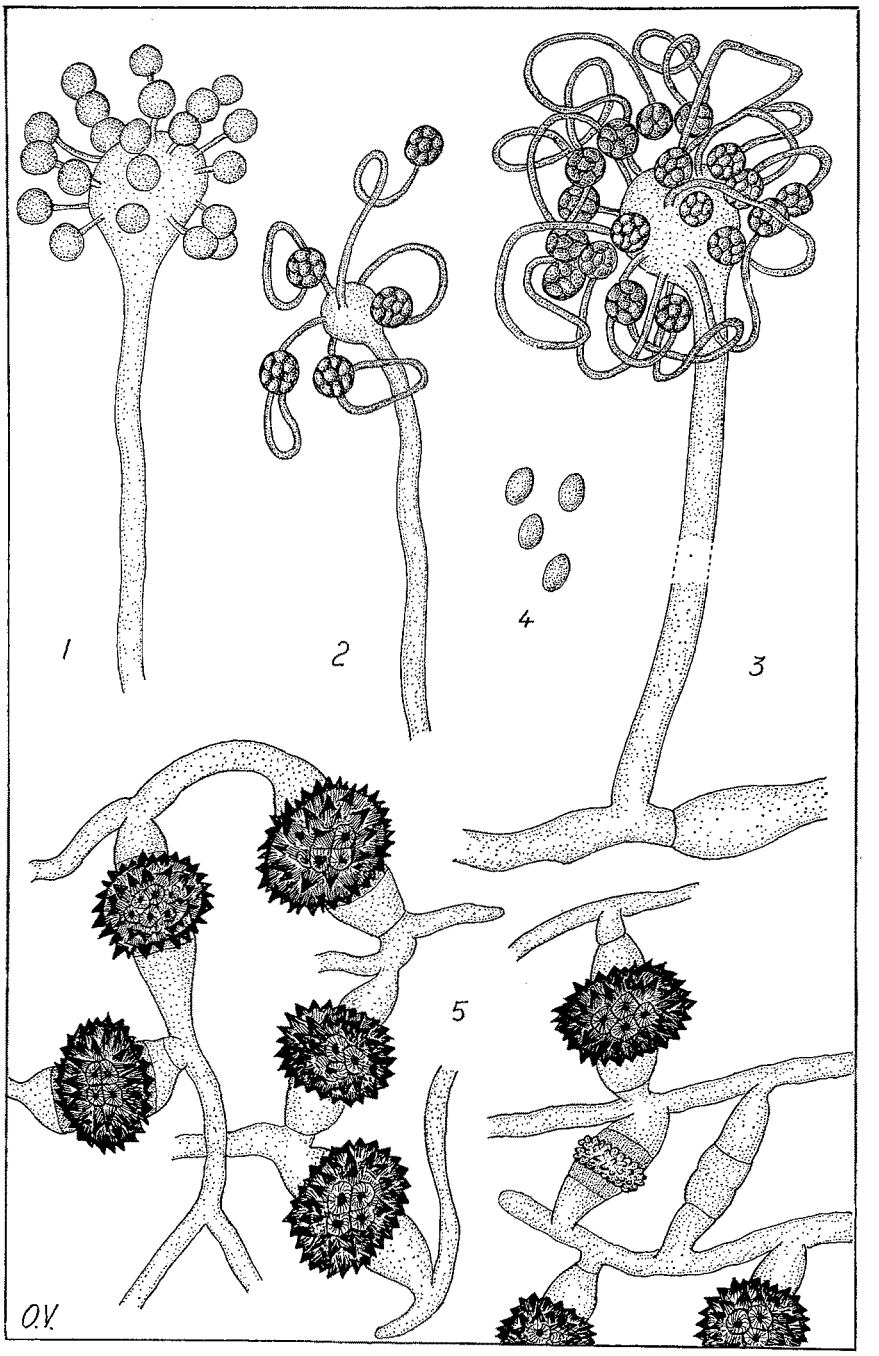

PLATE B 67

PHYCOMYCETES
SPIROGYRALES
MUCORACEAE

SAPROPHYTA

Gen. Chaetostylum v. Tieghem & Le Monnier

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate B 68

Mycopathologia et Mycologia Applicata XIX

Sporangipherous apparatus represented by sporangia of two orders. Those of the 2nd order are verticillately branched with no dichotomous branching.

The Genus, which resembles Thamnidium (I.M. II–B, 11) and Helicostylum (I.M. IX, B–69), was erected by VAN TIEGHEM & LE MONNIER (1873) based on the described characters.

Note: The Genus is maintained as a valid one by HESSELTINE. More recently LYTHGOE discussed such a validity in regard to Gen. Helicostylum and transferred the type species *Chaet. freseni* v. TIEGH. & LE MONNIER into Gen. Helicostylum CDA. CLEMENTS & SHEAR consider Genera Chaetostylum, Helicostylum and Bulbothamnidium as synonyms of Gen. Thamnidium.

Ref.:

HESSELTINE, C. W. (1955) – Genera of Mucorales with notes on their taxonomy. Mycologia, **47**, 344—363.
LYTHGOE, J. N., (1958) – Taxonomic notes on the Genera Helicostylum and Chaetostylum (Mucoraceae). Trans. Brit. mycol. Soc., **41**, 135—141.
NAUMOV, N. A. (1939) – Clés des Mucorinées. Encyclopédie Mycologique. Paris.

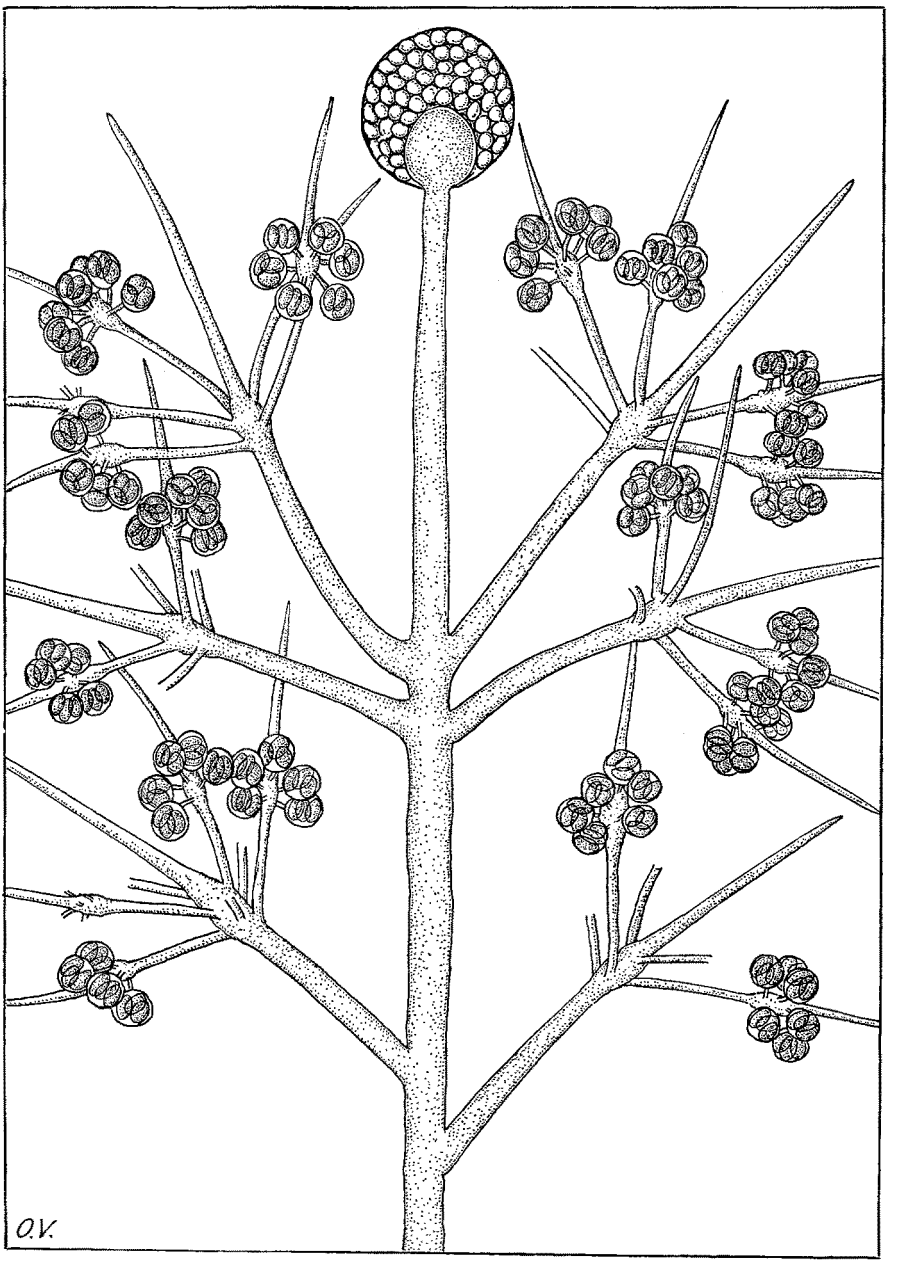

PLATE B 68

PHYCOMYCETES
SPIROGYRALES
MUCORACEAE

SAPROPHYTA

Gen. Helicostylum Corda

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate B 69

Mycopathologia et Mycologia Applicata XIX

This Genus was instituted by CORDA (1842) for mucoraceous fungi resembling Thamnidium (I.M. II–B, 11), but with circinate pedicels and no dichotomous branching. The branches of first order arise sympodially or verticillately; those of the second order are simple, not branched, but spirally curved. Rhizoids and stolons may be present without assuming a particular taxonomical significance.

Note: CLEMENTS & SHEAR consider this Genus as a synonym of Thamnidium. Other Authors consider it as distinct and refer to it Gen. Chaetostylum (I.M. IX, B–68), later instituted by VAN THIEGHEM & LE MONNIER.

In the plate:

1 – *H. piriforme* BAINIER
   a) Types of columellae of the terminal sporangis;
   b) a sterile tip of the sporangiophore with a cluster of numerous sporangiola;
   c) sporangiospores.
   (after MEHROTRA & MEHROTRA)

2 – *H. venustellum* LYTHGOE
   sph) sporangiophore; spl) sporangiole; sp) spores.
   (after LYTHGOE)

3 – *H. lucknowense* RAI et al.
   (after RAI et al.)

4 – Diagram of sporangiophores of:
   a) *H. elegans* CDA.;
   b) *H. frenesii* (V. TIEGH. & LE MON.) LYTHGOE;
   c) *H. venustellum* LYTHGOE. (I, side branch of 1st. order; II, id. of 2nd order; III, id. of 3rd order).

Ref.:

HESSELTINE, C. W. (1955) – Genera of Mucorales with notes on their taxonomy. Mycologia, **47**, 344—363.

LYTHGOE, J. N. (1958) – Taxonomic notes on the Genera Helicostylum and Chaetostylum (Mucoraceae). Trans. Brit. mycol. Soc., **41**, 135—141.

RAI, J. N., TEWARI, J. P. & MUKERJI, K. C. (1961) – A new Helicostylum from indian soils. Canad. J. Bot., **39**, 1281—1285.

MEHROTRA, B. S. & MEHROTRA, M. D. (1962) – Morphological and physiological studies of Helicostylum piriforme Bainier. Phytopath. Z., **45**, 21—32.

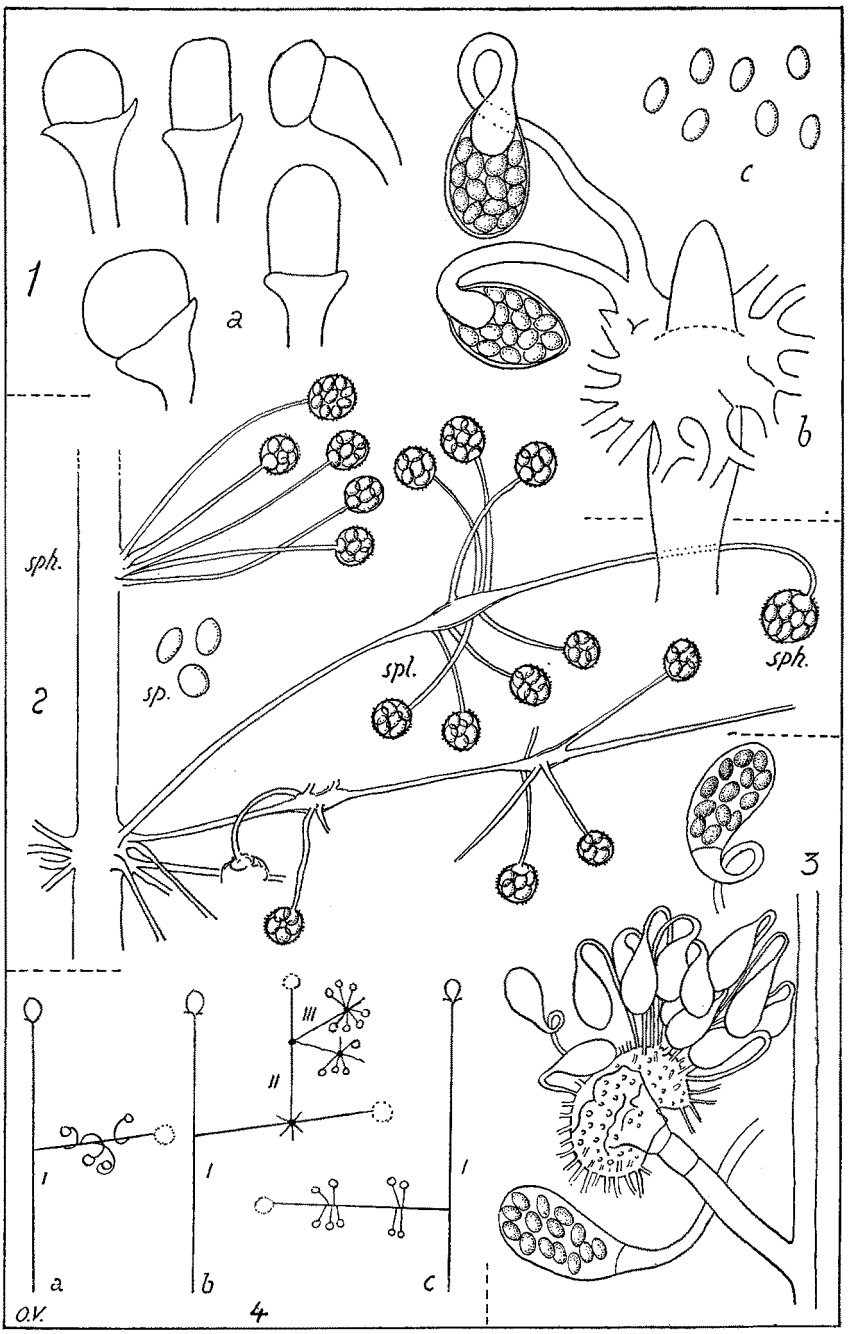

PLATE B 69

PHYCOMYCETES
PROTOCOCCALES
OLPIDIACEA

PHYTOPATHOGEN
(parasitic of aquatic Phycomycetes)

Gen. Rozella Cornu

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate B 70

Mycopathologia et Mycologia Applicata XIX

Thallus endobiotic, holocarpic, at first naked and indistinguishable from the host contents, later walled, at maturity forming either the rudiment of the sporangium, the wall of which is fused with that of the hypertrophied host (except when intercalary), or the resting spore, sporangium inoperculate, thin-walled, smooth, with one or more discharge papillae; zoospores formed in the sporangium, posteriorly uniflagellate, often with a single globule; resting spore endobiotic, thick-walled, smooth or spiny, apparently asexually formed, lying loosely in the swollen, sometimes walled-off, portion of the host, upon germination functioning as a sporangium.

(from SPARROW)

In the plate:

1 – *R. polyphagi* SPARROW, in prosporangium of *Polyphagus euglenae:*
   a) mature sporangium with several discharge papillae;
   b) discharge of zoospores.

2 – *R. septigena* CORNU: resting spores in swollen lateral hyphal outgrowths of *Saprolegnia spiralis* (Saprolegnia, I.M. II–B, 23).

3 – *R. allomyces* FOUST, parasitic in Allomyces (I.M. II–B, 13 & IV–B, 37):
   a) mature resting spores in zoosporangia of host and (right) immature thalli in zoosporangia and hyphae of host;
   b) discharging sporangium of parasite.

Ref.:

SPARROW, F. K. jr. (1960) – Aquatic Phycomycetes. The Univ. of Michigan Press.

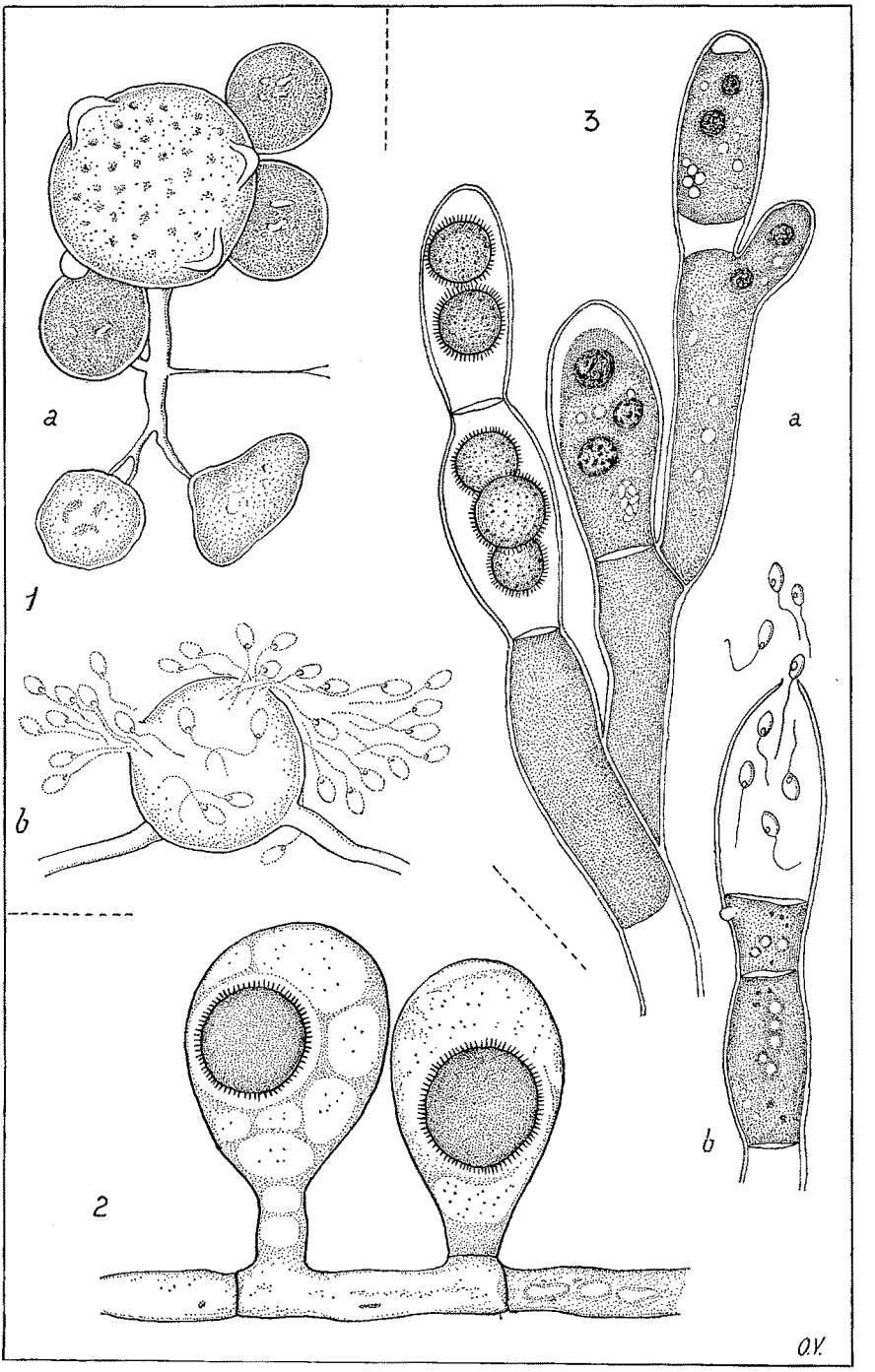

PLATE B 70

PHYCOMYCETES
PROTOCOCCALES
CHYTRIDIACEAE

PARASITE on algae (1), or on insects (2, 3)
PHYTOPATOGEN and
ZOOPATHOGEN

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1 - Gen. Entophlyctis FISCHER

2 - Gen. Phlyctorhiza HANSON

3 - Gen. Mitochytridium DANGEARD

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate B 71

1 – Gen. Entophlyctis Fischer

Thallus endobiotic, monocentric, eucarpic, consisting of the evanescent epibiotic cyst of the zoospore and the endobiotic rudiment of the sporangium or resting spore and a rhizoidal system arising from it; sporangium inoperculate, with a discharge tube the tip of which at least is extramatrical; zoospores posteriorly uniflagellate, usually with a single globule, formed within the sporangium, escaping upon the deliquescence of the tip of the discharge tube; resting spore thick-walled, endobiotic, borne like the sporangium, apparently asexually developed, upon germination forming zoospores in an externally produced sporangium.

(from Sparrow)

2 – Gen. Phlyctorhiza Hanson

Thallus monocentric, eucarpic, intramatrical. Zoosporangia developing as an outgrowth of the germ tube while the zoospore usually persists as a cyst. Rhizoidal system oriented on the base and periphery of the sporangium, frequently anastomosing. Zoosporangia variously shaped, with one basal, lateral, or apical exit papilla. Zoospores posteriorly uniflagellate. Resting spores variously shaped, thick walled, and apparently developing in the same manner as the sporangia; upon germination functioning as prosporangia.

(from Hanson, cited by Sparrow)

3 – Gen. Mitochytridium Dangeard

Thallus endobiotic, eucarpic, monocentric, consisting of a broad, cylindrical, and unbranched, branched, or irregularly lobate tube, the rudiment of the zoosporangium, from which arise one or more delicate axes which become divided distally into rhizoids, wall giving a cellulose reaction with chloriodide of zinc; sporangium inoperculate, formed from the tubular part of the thallus which is cut off by cross walls from the rhizoids; zoospores posteriorly uniflagellate, with a single globule, completely formed within the sporangium and escaping successively to the outside by one or more short tubes which penetrate the wall of the substratum; resting spore (?) endobiotic, with rhizoids, apparently asexually formed, germination not observed.

(from Sparrow)

Note: The three genera belong to Fam. Phlyctidiaceae, and to Sub-Fam. Entophlyctoideae. This Subfamily presents endobiotic sporangium and resting spore; rhizoidal vegetative system.

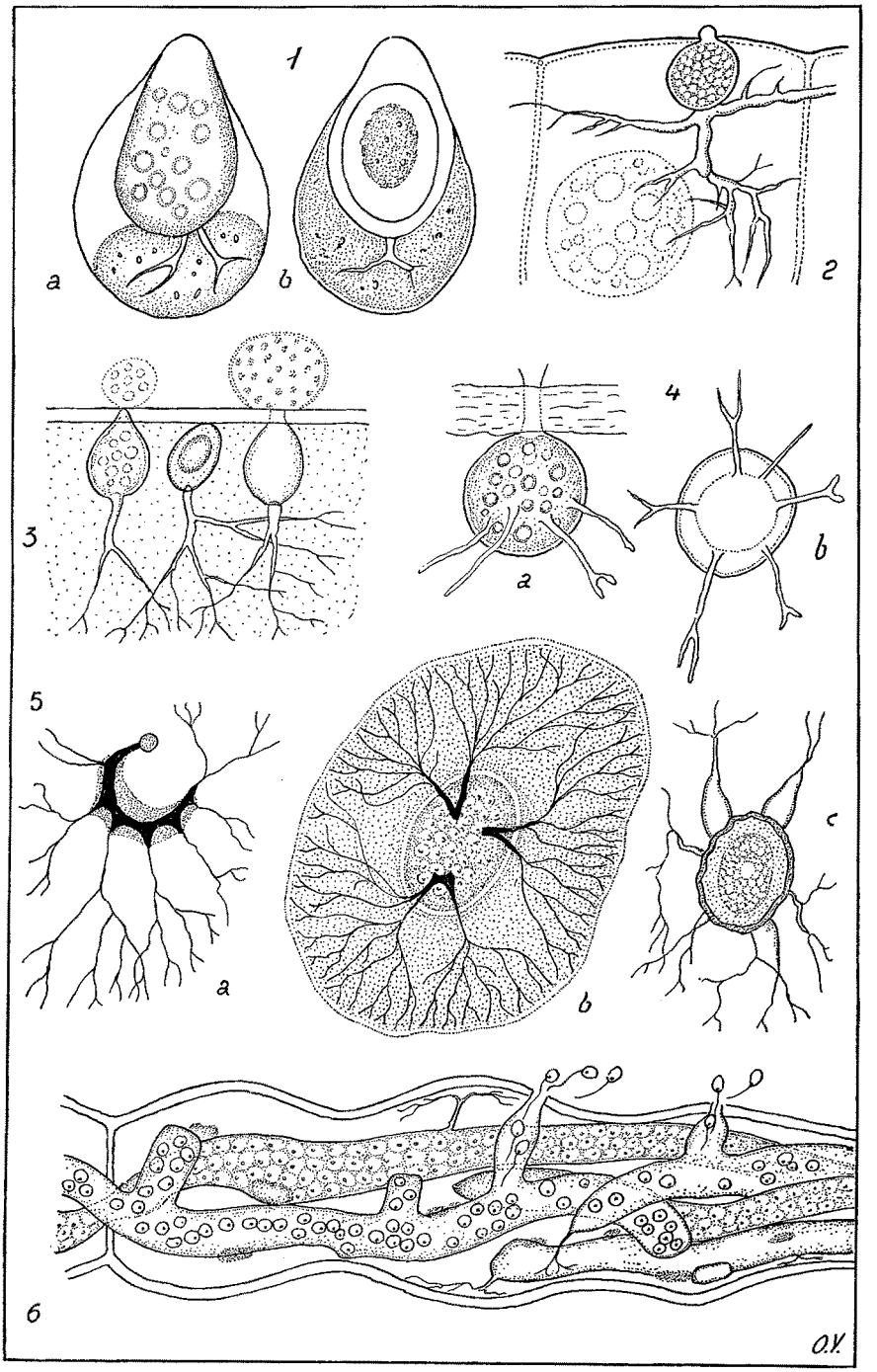

PLATE B 71

Zoospore cyst usually evanescent.
To the same Subfamily belong the genera Diplophlyctis (I.M. V–B, 44), Rhizosiphon (I.M. IX–B, 73) and Aphanistis (I.M. IX–B, 73).

In the plate:

1 – *Entophlyctis apiculata* (BRAUN) FISCHER, in Gloeococcus:
   a) habit of sporangial plant;
   b) resting spore.
2 – *E. bulligera* (ZOPF) FISCHER, in Spirogyra.
3 – *E.* (?)*vaucheriae* (FISCH.) FISCHER, in Cladophora.
4 – *E. helioformis* (DANG.) RAMSBOTTOM, in Nitella:
   a) mature sporangium bearing stubby rhizoids;
   b) underside of empty sporangium showing attachment of stubby rhizoids.
5 – *Phlyctorhiza endogena* HANSON, in insect tegument:
   a) early stage in resication of rhizoidal system to produce sporangial rudiment;
   b) discharge of zoospores of a mature sporangium;
   c) tuberculate resting spore with vesiculate rhizoids.
6 – *Mitochytridium ramosum* DANG., in Docidium sp.: portion of desmid cell with parts of several sporangia.

Ref.:

SPARROW, F. K. Jr. (1960) – Aquatic Phycomycetes. The Univ. of Michigan Press.

PHYCOMYCETES
PROTOCOCCALES
CHYTRIDIACEAE

PHYTOPATHOGEN
(parasitic on other fungi)
and ZOOPATHOGEN

Gen. Septosperma WHIFFEN

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate B 72

Mycopathologia et Mycologia Applicata XIX

Thallus extramatrical, eucarpic. Zoosporangia, arising by enlargement of zoospores, spherical, ovoid, or ellipsoid, each sporangium with a single exit pore. Zoospores uniguttulate and posteriorly uniciliate. Resting bodies elongated, ellipsoid to clavate, divided by cross wall into an empty proximal portion and a distal portion containing protoplasma and one or more oil globules. Zoosporangia and resting bodies attached to host by bulbous, discoid, or slightly branched haustorium.

(from WHIFFEN)

Note: The Genus is similar to Phlyctidium from which it differs by the nature of the resting spore only.
S. anomalum (COUCH) WHIFFEN, parasitizes sporangia of Phlyctidium, Chytriomyces, (I.M. VIII–B, 53), Zygorhizidium, Rhizophydium (I.M. IV–B, 28), etc.
S. rhizophidii WHIFFEN, parasitizes Rhizophydium, Rhizidium (I.M. VIII–B, 52), etc., and cysts of microscopical animals.

In the plate:
Septosperma rhizophidii WHIFFEN:
a), zoospores; b), young thallus with sac-like haustorium; c), resting spore with haustorium; d, e), sporangia and resting spores in various stages of development on host thalli; f), six parasitic thalli on a host thallus; g), resting spore with bifurcated rhizoidal system; h), resting spore.

Ref.:

WHIFFEN, A. J. (1942) – Two new Chytrid genera. Mycologia, **34**, 543—557.
WILLOUGHBY, L. G. (1956) – Studies on soil Chytrids. I. Rhizidium richmondense sp. nov. and its parasites. Trans. Brit. mycol. Soc., **39**, 125—141.

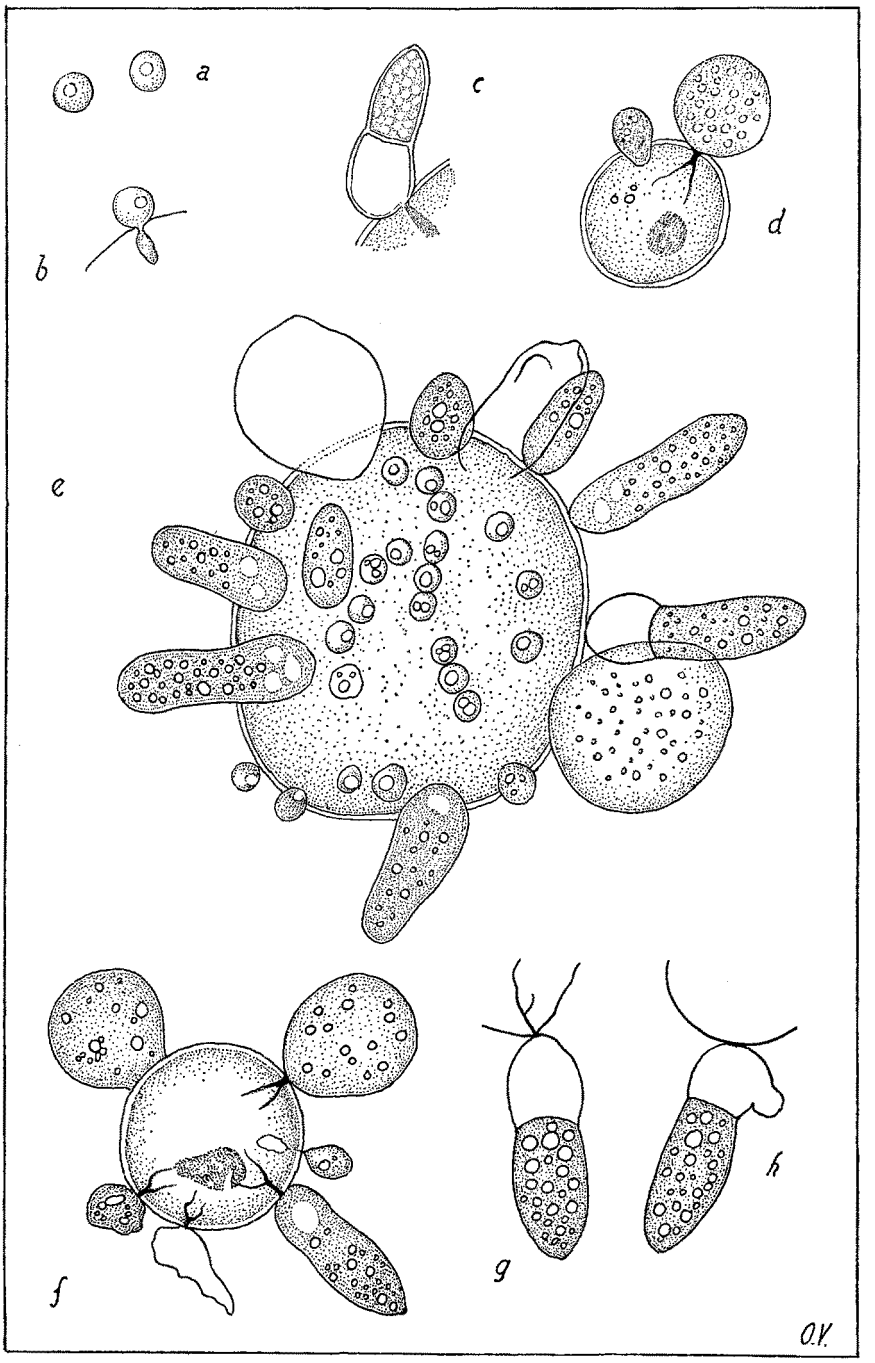

PLATE B 72

PHYCOMYCETES
PROTOCOCCALES
CHYTRIDIACEAE

PHYTOPATHOGEN
(Parasites of blue-green algae)

Gen. Rhizosiphon SCHERFFEL

Gen. Aphanistis SOROKIN

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate B 73

Mycopathologia et Mycologia Applicata XIX

1 – Gen. Rhizosiphon SCHERFFEL

Thallus endobiotic, monocentric, eucarpic, polyphagous, consisting of a central structure at the tip of the penetration tube of the zoospore – the rudiment of the prosporangium – from which may emerge two broad isodiametric unbranched hypha-like vegetative structures on opposite sides (occasionally one or sometimes lacking); sporangium inoperculate, partly or wholly extramatrical, formed as an outgrowth of the prosporangium; zoospores posteriorly uniflagellate, with one or more globules, fully formed in the sporangium, escaping through a short discharge tube; resting spore thick-walled, with one or many globules, endobiotic, with or without a vegetative system, asexually or (?) sexually formed, upon germination functioning as a prosporangium.

(from SPARROW)

2 – Gen. Aphanistis SOROKIN

Thallus endobiotic, monocentric, polyphagous, eucarpic, sterile part consisting of a branched or unbranched isodiametric septate filament; sporangium inoperculate, terminal, separated by a cross wall from the vegetative part of the thallus, with or without one or more discharge tubes; zoospores posteriorly uniflagellate, with a single globule, escaping after the deliquescence of one or more papillae; resting spore not observed.

(from SPARROW)

In the plate:

1 – *Rhizosiphon crassum* SCHERFFEL in filament of *Filarskya* sp., mature sporangium with already opened discharge tube, resting laterally on broad prosporangium.

2 – *Rh. anabaenae* (FHODE & SKUJA) CANTER, sporangium on heterocyst of *Anabaena sphaerica*.

3 – *Rh. crassum* SCHERFFEL, nearly mature sporangium with persistent cyst and germ tube of zoospore on *Anabaena* sp.

4 – *Aphanistis oedogoniorum* SOROKIN in *Oedogonium* sp.;
a) plants bearing sporangia in oogonia of host;
b) different shapes assumed by zoosporangia.

Ref.:

SPARROW, K. E. jr. (1960) – Aquatic Phycomycetes. Univ. of Michigan Press.

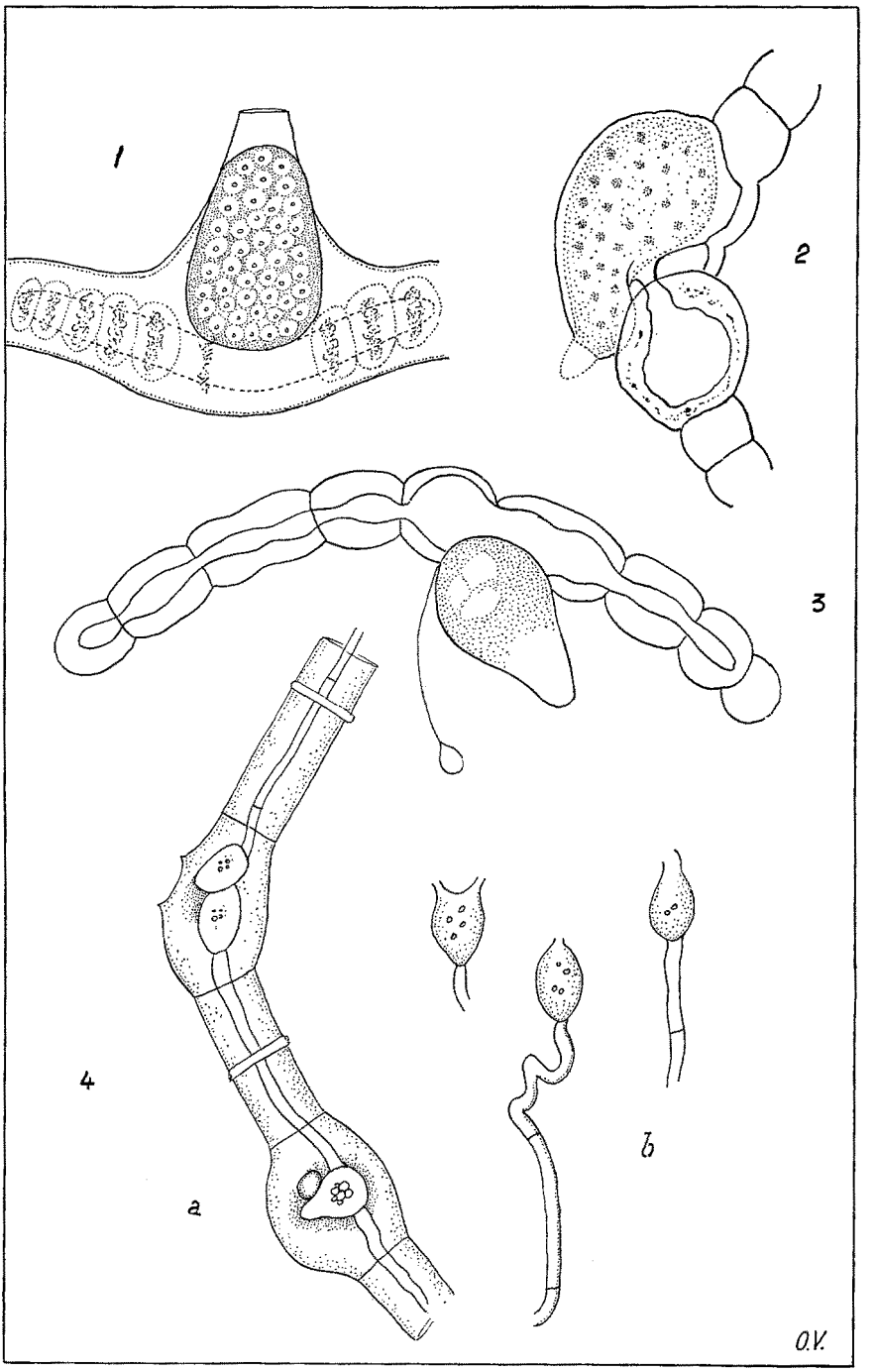

PLATE B 73

ASCOMYCETES
PEZIZALES
DERMATEACEAE

PHYTOPATHOGEN
(or SAPROPHYTA)

Gen. Sphaerangium SEAVER

ICONOGRAPHIA MYCOLOGICA

VERONA — BENEDEK

Plate C 116

Mycopathologia et Mycologia Applicata XIX

Apothecia as in Cenangium (I.M. IX–C, 117); asci clavate, 4—8 spored; spores large, subglobose or ellipsoid, at first hyaline, becoming brown; paraphyses forming an epithecium.

In the plate:

1 – *Sph. tetrasporum* (ELLIS) SEAVER
2 – *Sph. tiliae* SEAVER

(after SEAVER)

Ref.:
SEAVER, F. J. (1961) – The North American Cup-fungi. New York.

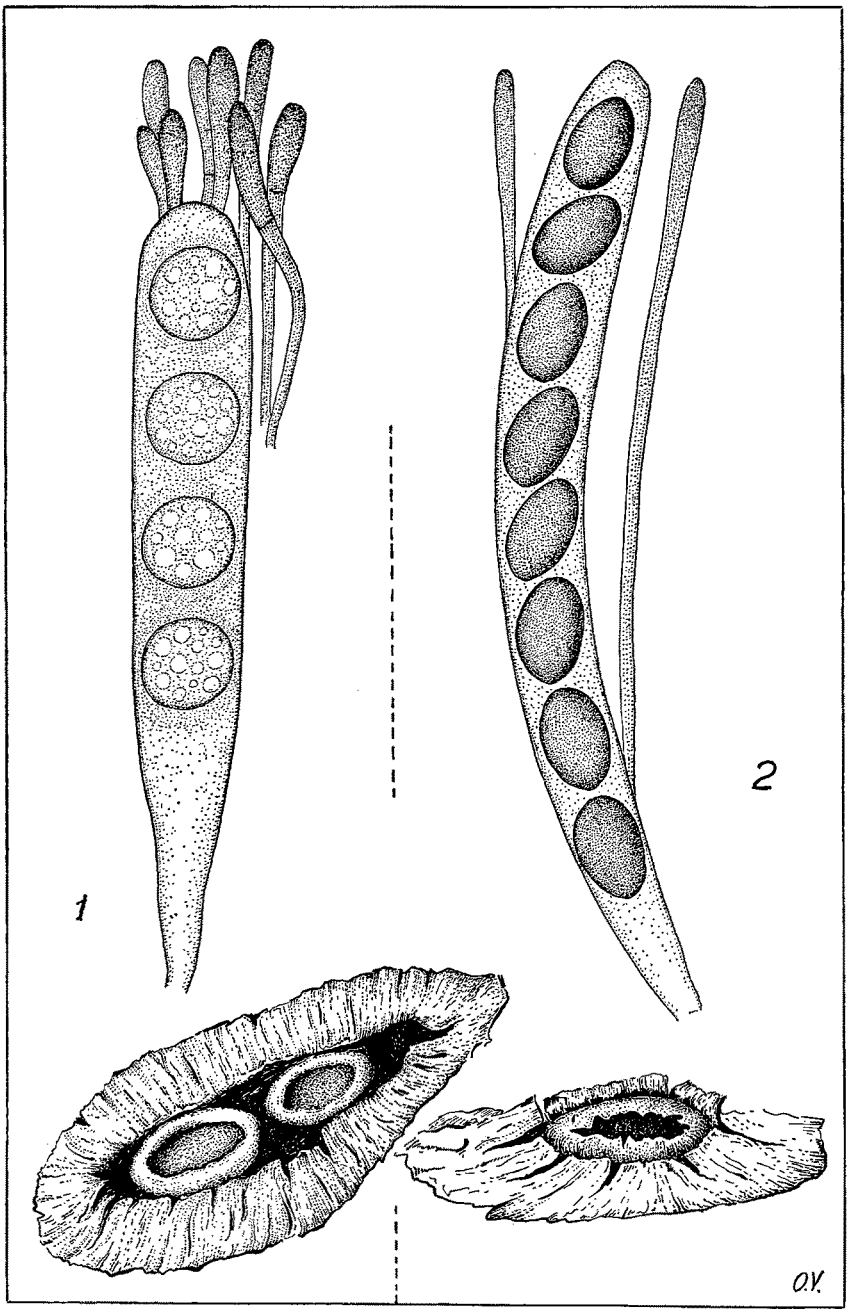

PLATE C 116

ASCOMYCETES
PEZIZALES
DERMATEACEAE

PHYTOPATHOGEN

Gen. Cenangium Fries

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate C 117

Mycopathologia et Mycologia Applicata XIX

Apothecia isolate or even in variously numerous clusters. Subepidermal at first, then erumpent, apothecia are sessile, without a stromatal basis, colored in their inner portion, bright outside, closed at first, then opening.
Asci 8-spored, of variable form, with filiform paraphyses, simple or branched, hyaline or subhyaline.
Ascospores simple, hyaline, ellipsoid, elongated, often allantoid.

Note: The Genus includes a certain number of species occurring on coniferous trees, Alnus, Populus, etc. where they form cancerous lesions or cause wilts of branches as *Cenangium abietis* (PERS.) REHM (= *C. ferruginosum* FR.) which is responsible of the dye back of pines, and *C. populneum* (PERS.) REHM on poplar.
C. abietis and *C. populneum* have as pycnidial form species of Gen. Dothichiza (I.M. IX–A, 193).

In the plate:

1 – Apothecia and asci of *C. populneum* (PERS.) REHM;
2 – Apothecia and asci of *C. pruinosum* (ELLIS & EV.) SEAV.

Ref.:
SEAVER, F. J. (1961) – The North American Cup-fungi. New York.

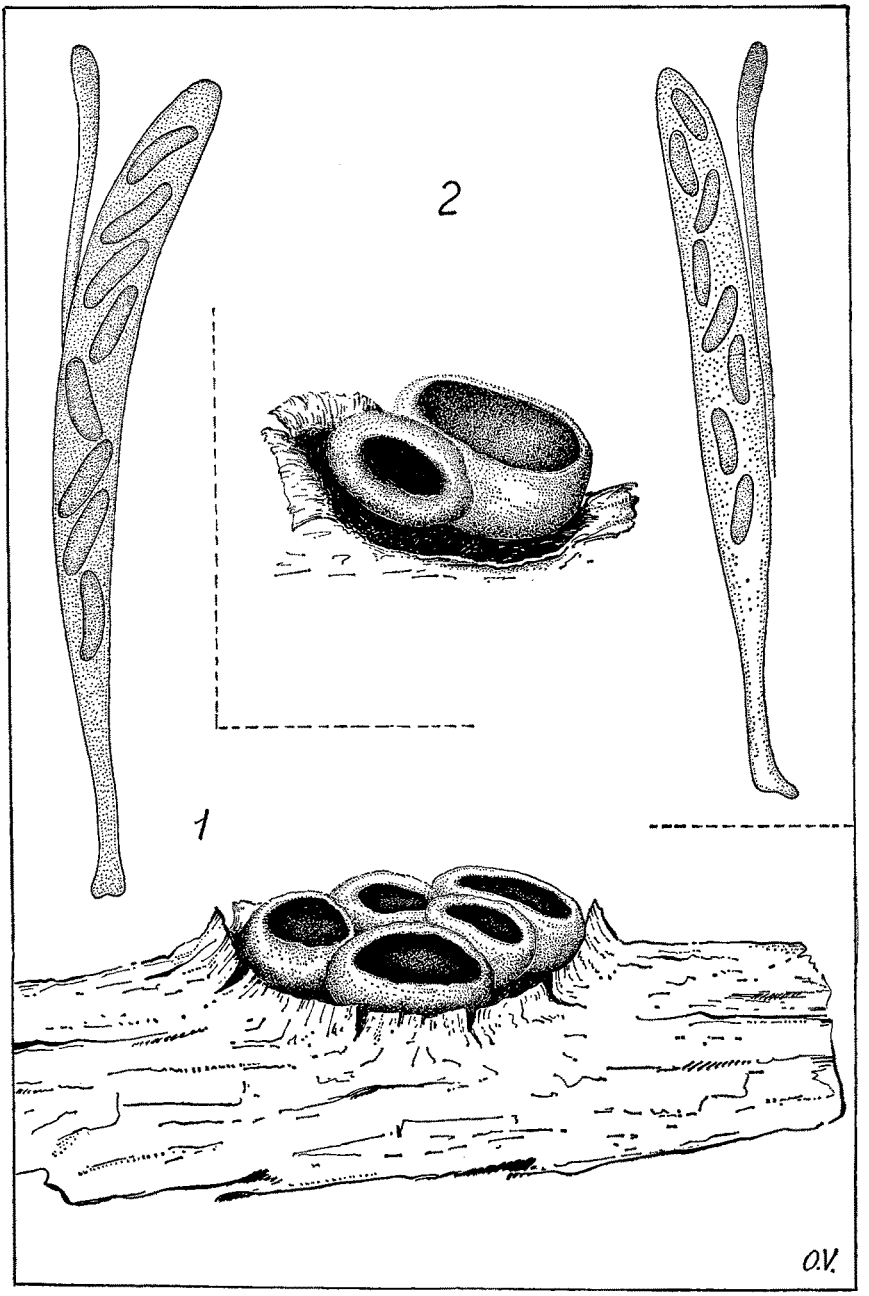

PLATE C 117

ASCOMYCETES
SPHAERIALES

SAPROPHYTA

Gen. Gelasinospora DOWDING

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate C 118

Mycopathologia et Mycologia Applicata XIX

Perithecia superficial, sparse or gregarious, typically pyriform, with membranaceous walls, yellowish at first, then more or less brown, fuliginous, with presence of flexuous filaments.
Asci cylindric or claviform, provided of a short pedicel, paraphysate when young, with 4—8 spores present.
Spores subglobose or elliptical, typically furnished.

Note: The Genus is considered near Sordaria (I.M., I–C 1) due to the characters presented by the mycelium, the perithecia and the apical apparatus of the asci. It differs by the characters of spores.

In the plate:

Gel. calospora
a) perithecium; b) ascus; c) ascospores.
Gel. tetrasperma
d) ascus.
Gel. cerealis
e) ascus; f) apical portion of the ascus.

(after MOREAU)

Ref.:
ALEXOPOULOS, C. J. & SUN HUANG SUN (1950) – A new species of Gelasinospora. Mycologia, **42**, 723—734.
CAIN, R. F. (1950) – Studies of coprophilous Ascomycetes. I. Gelasinospora. Canad. J. Res., **28**, 566—576.
DOWDING, E. S. (1933) – Gelasinospora, a new genus of Pyrenomycetes with pitted spores. Canad. J. Res., **9**, 294—305.
MOREAU, C. (1951) – Le genre Gelasinospora Dowding. La Mycothèque, I suppl. (Catalogue des Collections . . . etc.), 39—41.
MOREAU, C. (1953) – Les Genres Sordaria et Pleurage. Encyclopédie Mycologique, XXV. Paris.

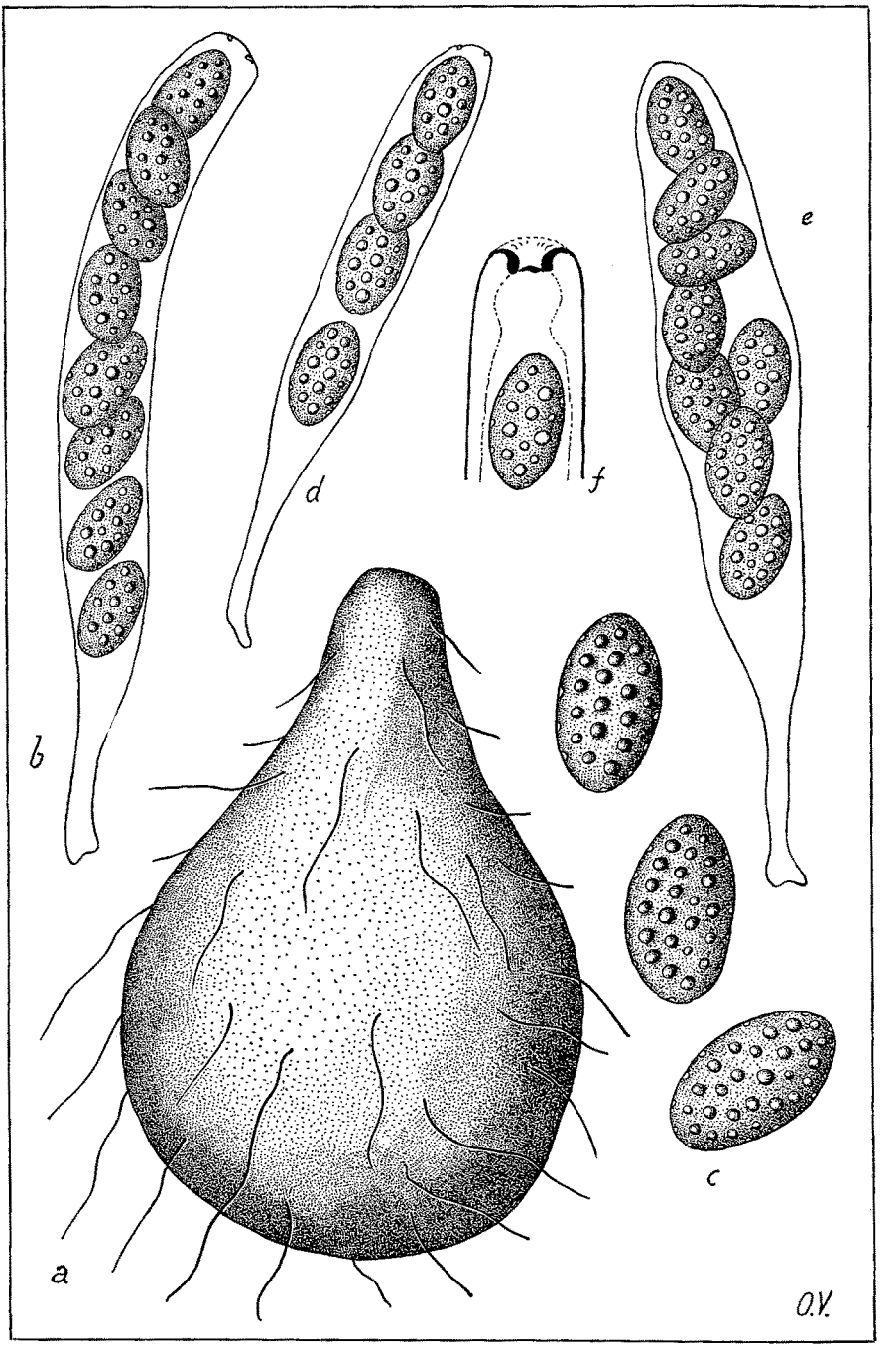

PLATE C 118

ASCOMYCETES
SPHAERIALES
SPHAERIACEAE

SAPROPHYTA

Gen. Sporormia De Not.

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate C 119

Mycopathologia et Mycologia Applicata XIX

Perithecia generally little immersed into the substratum and usually isolated. They are pyriform, provided of a more or less long neck, glabrous or provided of flexuous hairs, slightly colored, more rarely dark colored.
Asci cylindraceous or clavate, containing 8 spores, composed of 4 or more cells, only transversely septate; epispore very dark brown or blackish, with a germ slit in each cell; a gelatinous covering of the spore is present.

Note: The Genus includes fimicole species. For considerations relative to differences between this and other fimicole Genera (Sordaria, Delitschia, Leptosphaeria, etc)., see C. MOREAU.
ELLIS & EVERHART (North American Pyrenomycetes, p. 136, 1892) created Genus Sporormiella for species of Sporormia having perithecia immersed in a stroma. C. MOREAU, on the contrary, thinks it is not useful to maintain such a distinction as the general and fundamental characters are identical for both Genera.

In the plate:

1 – Perithecia.
2 – Ascus and spores of *S. intermedia* AURSWALD.
3 – Ascus and spore of *S. ambigua* NIESSL.
4 – Ascospores of *S. heptamera* AURSWALD.
(2—4 after MOREAU)

Ref.:

MOREAU, C. (1953) – Les genres Sordaria et Pleurage. Encyclopédie Mycologique, XXV. Paris.

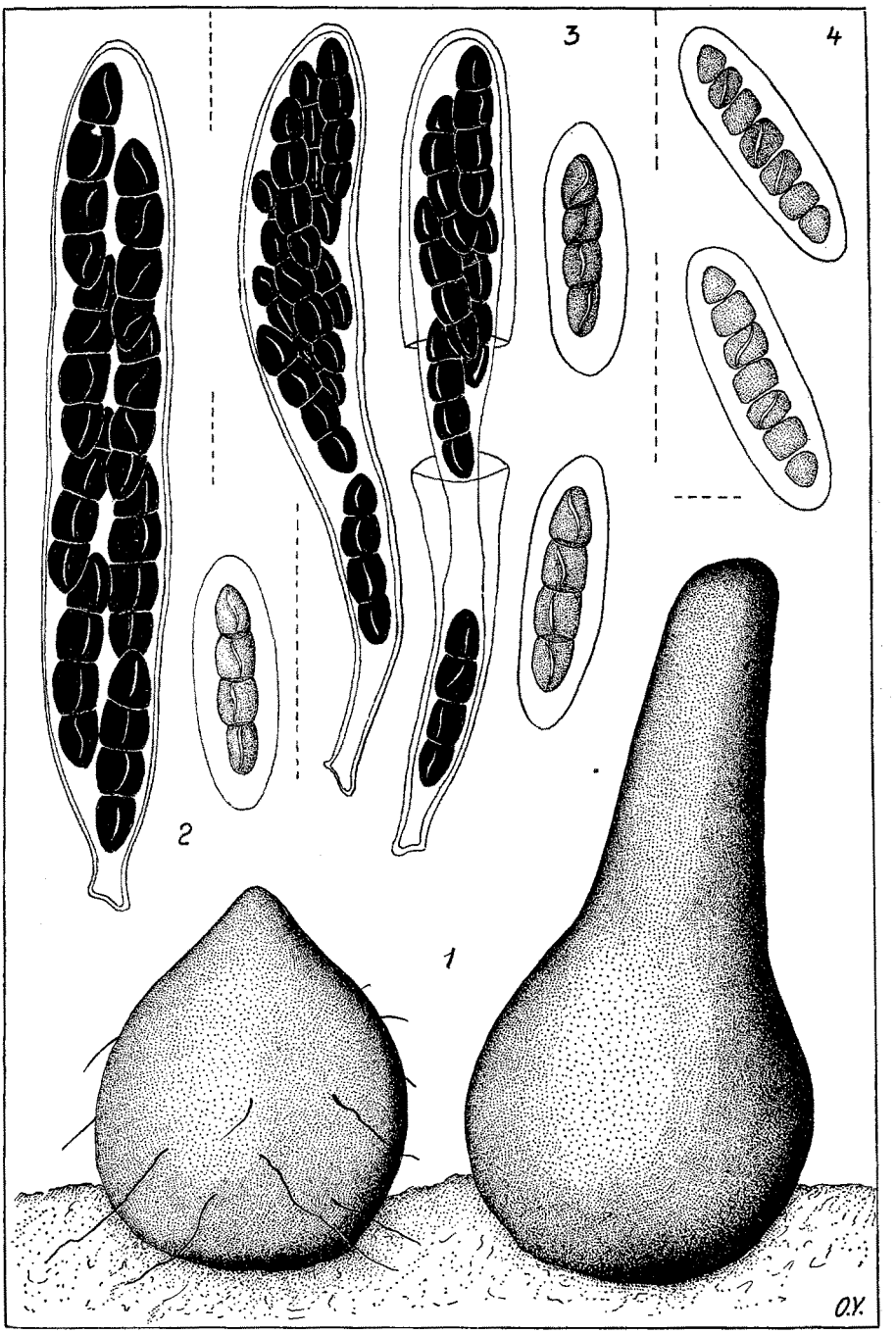

PLATE C 119

ASCOMYCETES
SPHAERIALES
SPHAERIACEAE

SAPROPHYTA

Gen. Delitschia Awd.

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate C 120

Mycopathologia et Mycologia Applicata XIX

Perithecia generally deeply immersed, slightly colored to almost carbonaceous, subglobose and provided with a neck which is sometimes covered with few hairs.
Asci cylindraceous, pseudoparaphysate, generally containing 8 spores (or more), 2–celled, almost opaque-black, each cell with a germ slit in the epispore, gelatinous covering present.

Note: The Genus includes fimicole species. MUNK puts it near Delitschia, Gen. Trichodelitschia MUNK, with the following diagnosis:
"Pseudothecia pear-shaped, more or less immersed; papilla bristly. Spores 2-celled, without a germ slit; the ends of the spores show a rather complicated, subhyaline structure probably functioning as a germ pore".
In Delitschiella SACC. species are included with many-spored asci.

In the plate:

1 – *Delitschia eccentrica* GRIFFITHS:
a) perithecium; b) ascus; c) young spores; d) mature and e) inflated spores.

2 – 5 – Ascus and ascospores of *D. timaganensis* CAIN (2), *D. leporina* GRIFFITHS (3), *D. gigaspora* CAIN (4), *D. bisporula* (CROUAN) HANSEN (5).

(after C. MOREAU)

Ref.:

MOREAU, C. (1953) – Les genres Sordaria et Pleurage. Encyclopédie Mycologique, XXV. Paris.
MUNK, A. (1957) – Danish Pyrenomycetes. Copenhagen.

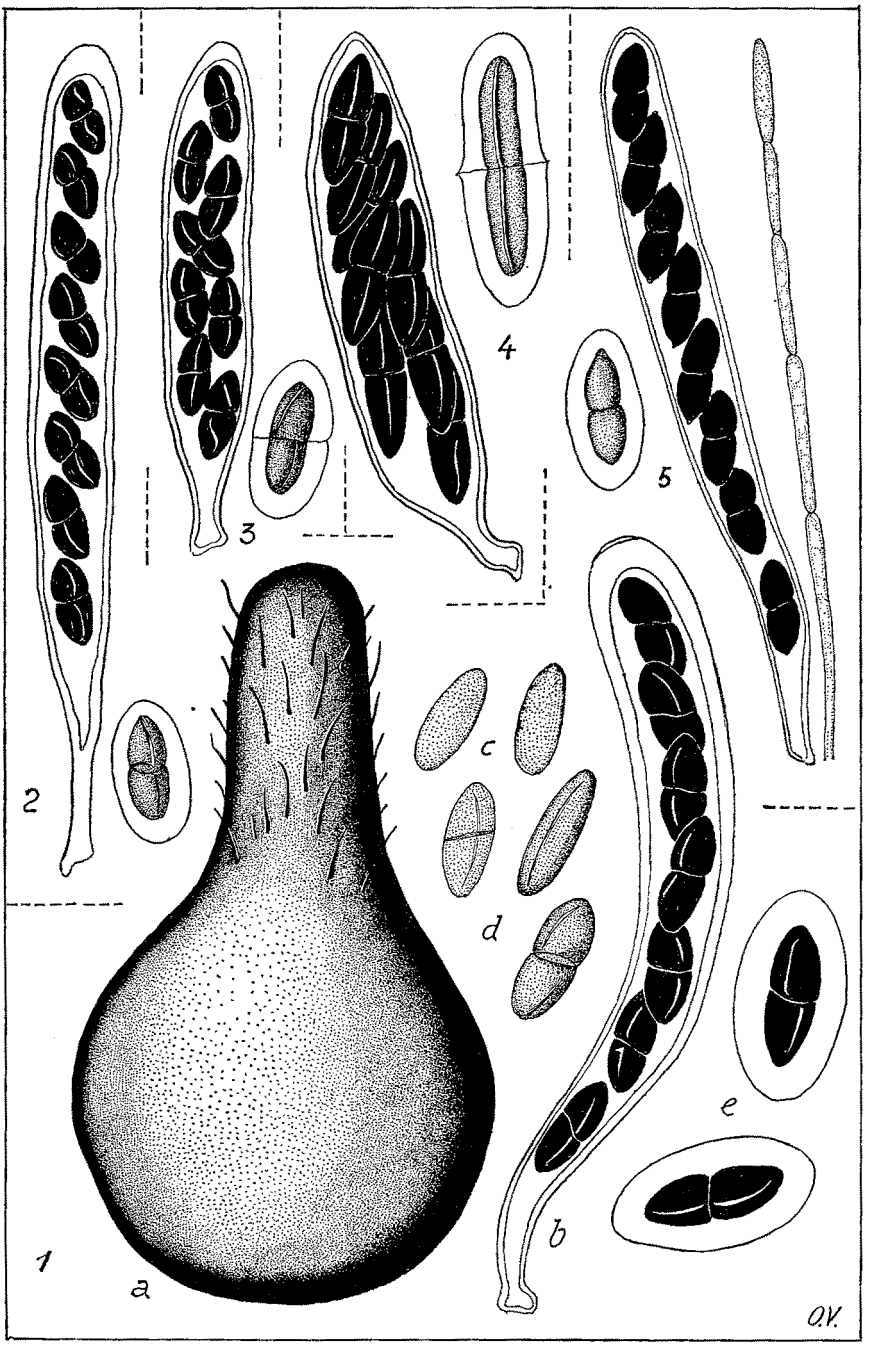

PLATE C 120

ASCOMYCETES
SPHAERIALES
SPHAERIACEAE

SAPROPHYTA

Gen. Hypocopra Fr.

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate C 121

Mycopathologia et Mycologia Applicata XIX

Perithecia large, globoid or pyriform, with pulvinate ostiole, immersed in a clypeiform stroma, blackish, more or less developed. Asci clavate or cylindraceous, paraphysate, containing 8 spores which are simple, generally elliptic, hyaline at first, then brown when ripe, with gelatinous outer walls.

Note: This Genus includes fimicole species which are some way recalling Gen. Sordaria (I.M. I–C, 1). Hypocopra differs from this by the intricate texture of the peridium and by the typical xylarioid ring in the apex of the ascus. Hypocopra is therefore much more closely related to Xylariaceae than to Sordariaceae.

In the plate:

Hypocopra equorum (FUCKEL) WINTER:
a) perithecium sunken in the stroma;
b) asci and paraphyses;
c) apical portion of the ascus showing the inferior apical rings much developed (1), little developed (2), and the presence of a deep invagination (3);
d) young ascospores (1), ripe ascospores (2), and ascospores with inflated outer walls (3).

(after C. MOREAU)

Ref.:

MOREAU, C. (1953) – Les genres Sordaria et Pleurage. Encyclopédie Mycologique, XXV. Paris.
CHADEFAUD, M. (1953) – Sur un Hypocopra, sa position systématique, ses spores et ses asques. C. R. Acad. Sci., **236**, 513—514.

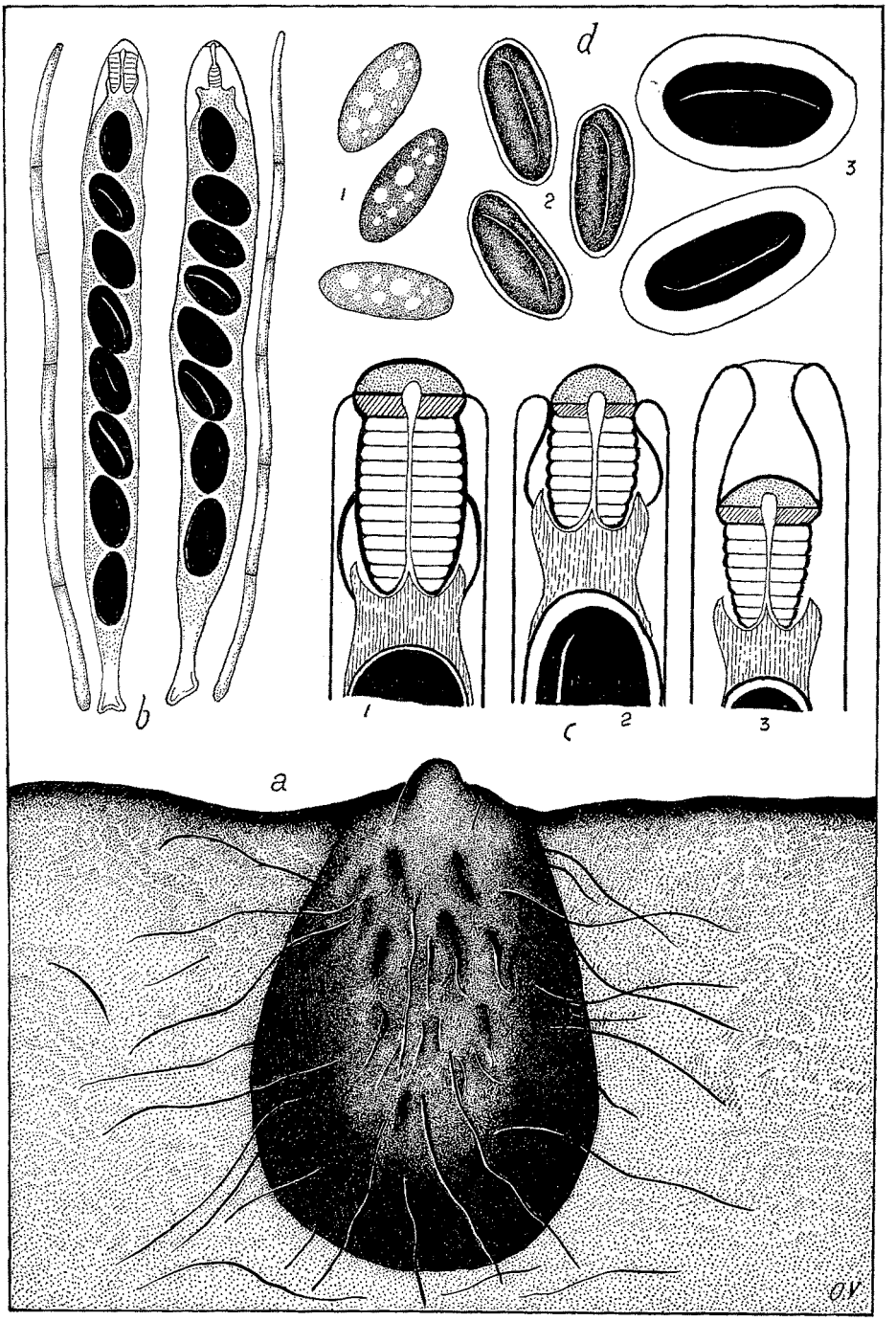

PLATE C 121

ASCOMYCETES
SPHAERIALES
SPHAERIACEAE

SAPROPHYTA

Gen. Pleurage Fries (sensu Moreau)

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate C 122

Mycopathologia et Mycologia Applicata XIX

Mycelium hyaline or greenish fuliginous. Perithecia pyriform or subconic, olivaceous brown or fuliginous brown, colored more intensely in their upper portion, membranaceous to coriaceous, free, glabrous or provided of hairs of different aspect.
Asci cylindraceous, claviform or fusoid, with frustum apical apparatus, paraphysate.
Ascospores ellipsoid, provided with a primary appendage and with a secondary one.

Note: The Genus belongs to coprophilous fungi and by some Authors is erroneously considered as synonym with Sordaria (I.M. I–C, 1). It is on the contrary well characterized by the presence of appendages on the ascospores, while, on the spores of Sordaria is only present a layer of gelatimous matter all around. The Genus has as synonyms Schizothecium CDA., Podospora CESATI, Malinvernia RABENH., and, as MOREAU, also Philocopra SPEG.
The name Podospora is actually used by many Authors (as, for instance, CAIN) instead of Pleurage, as it is etymologically more exact, although more recent.
In Philocopra, at last, species with asci containing more than 8 spores are by many Authors retained separate. However, MOREAU demonstrated that in Pleurage the various species may give rise to forms with more than 8 spores per ascus. Also CAIN, on the other hand, describes as Podospora (that is Pleurage) many-sporogenous species.

In the plate:

1 – *Pleurage curvula* (DE BARY) KUNTZE:
a) perithecia; b) detail of a cluster of hairs; c) ascus; d) apical apparatus of the ascus (apex of a young ascus (1), ascus in which the first spore is respectively still far or near to the apex (2, 3), ascus presenting a deep invagination (4), ascus after the exit of spores (5)).

2 – *Pleurage fimiseda* (CES & DE NOT.) GRIFFITHS:
a) perithecium; b) ascus formation; c) ascospore.

3 – Ascospores of:
a) *P. neglecta* (HANSEN) MOREAU; b) *P. minor* (ELLIS & EVER.); c) *P. taenioides* GRIFFITHS; d) *P. piriformis* (BAYER) MOREAU; e) *P. decipiens* (WINTER) GRIFFITHS; f) *P. vestita* (ZOPF) GRIFFITHS. (after MOREAU)

Ref.:

MOREAU, C. (1953) – Les Genres Sordaria et Pleurage. P. Lechevalier. Paris.
CAIN, R. F. (1962) – Studies of coprophilous Ascomycetes. VIII. New species of Podospora. Canad. J. Bot., **40**, 447—490.

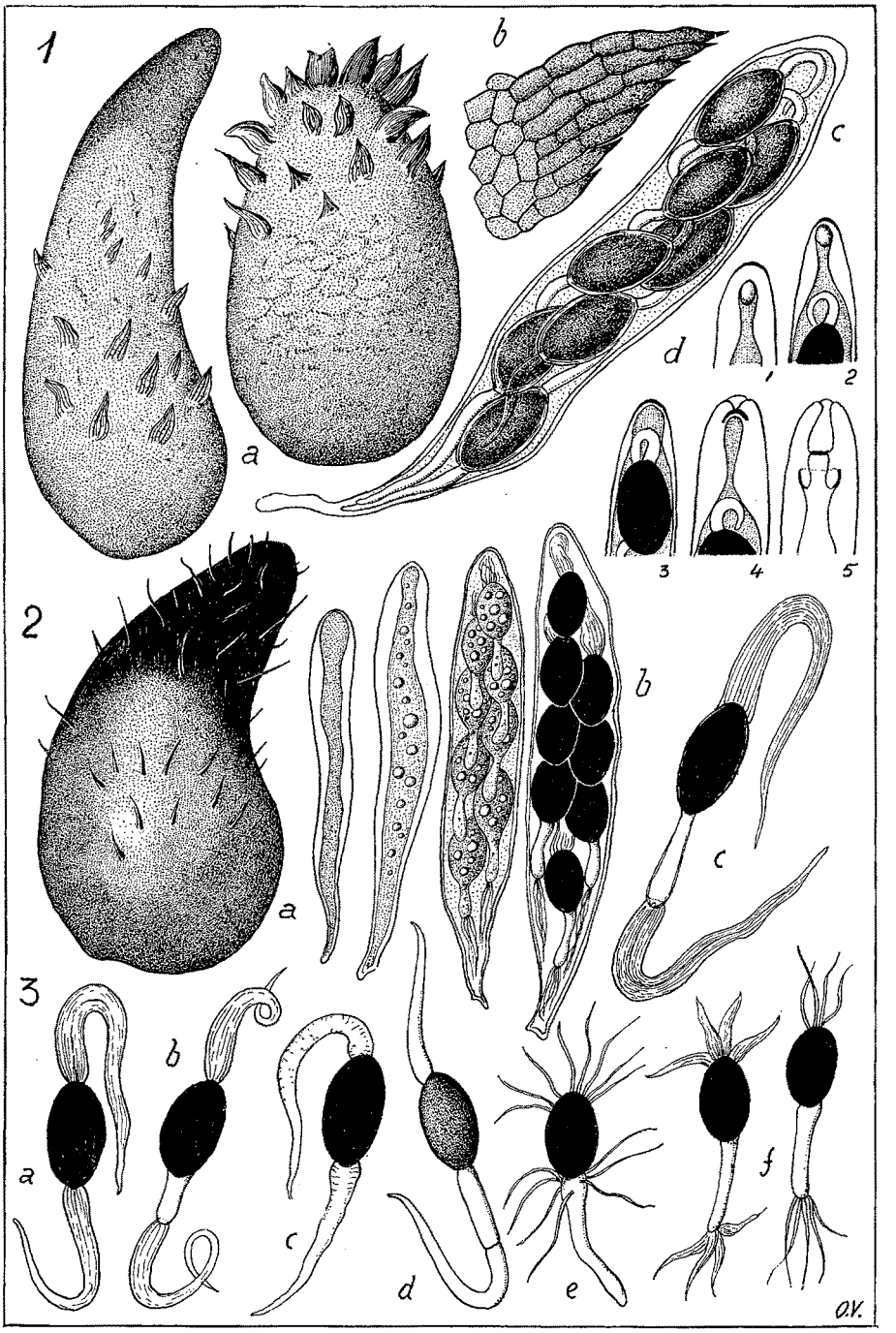

PLATE C 122

ASCOMYCETES
SPHAERIALES
SPHAERIACEAE

SAPROPHYTA

Gen. Lindra I. M. Wilson

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate C 123

Mycopathologia et Mycologia Applicata XIX

Perithecia solitary or gregarious, sometimes aggregate, semi-globose or somewhat rounded, with thick and black walls, with a short or no neck. Asci cylindro-clavate, 8-spored, liquefying, aparaphysate. Ascospores filiform, hyaline, septate and multi-vacuolate, provided at extremities with an appendage which is hyaline, globose or subglobose.

Note: This Genus is lignicole and actually includes only one species. It is near the group Lulworthia-Halophiobolus, but differs from them by the characters of spores and of the perithecial walls. In Halophiobolus spores are filiform, hyaline, aseptate, serpent-like, with conoid appendage and the perithecial walls are typically membranous and sub-hyaline to black. In Lindra spores are similarly filiform and hyaline, but are septate, with globose appendages; the perithecial walls are extremely thick and black.

In the plate:

Lindra inflata WILSON

1 – wood showing perithecia;
2 – section of a perithecium;
3 – ascospores mounted in glycerine (a) or in sea water (b).

Ref.:

WILSON, I. M. (1956) – Some new marine Pyrenomycetes on wood or rope. Halophiobolus and Lindra. Trans. Brit. mycol. Soc., **39**, 401—415.

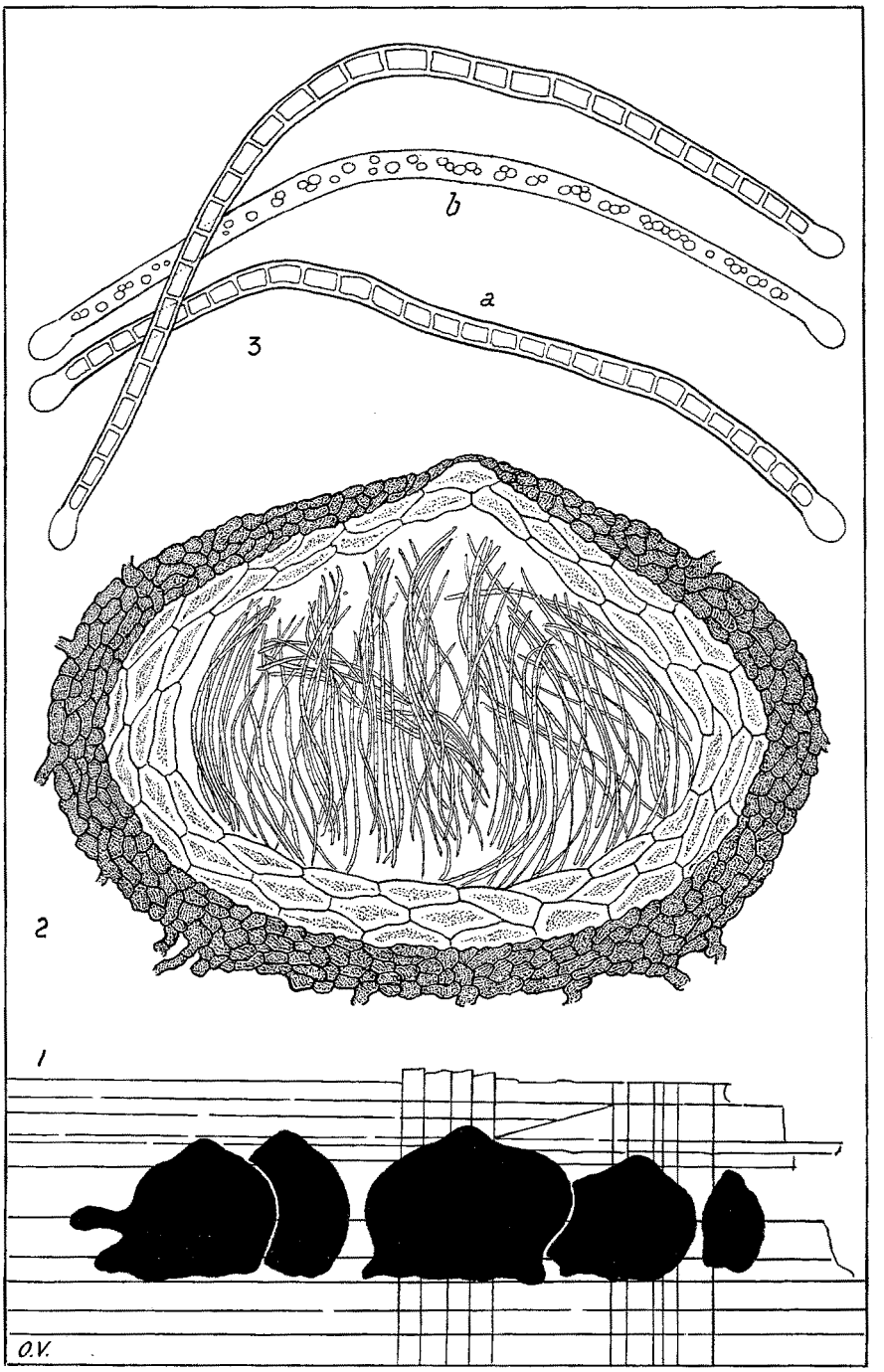

PLATE C 123

ASCOMYCETES
SPHAERIALES
SPHAERIACEAE

SAPROPHYTA

Gen. Halophiobolus Linder

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate C 124

Mycopathologia et Mycologia Applicata XIX

LINDER (1944) separated the Genus Halophiobolus from Ophiobolus by the marine habitat of all its known species, the predominantly membranous perithecia, the lack of paraphyses and the characteristic conoid, hyaline appendages at each end of the ascospores. The Genus is distiguishable from Linospora (I.M. V–C, 71) by the absence of a clypeus, and from Robergea by the absence of paraphyses.
Lately PETRAK observed that many species listed by LINDER ought to be referred to Linocarpon SYD.
CRIBB & CRIBB, in 1955, thereafter retained Halophiobolus identical to Lulworthia, described first by SUTHERLAND (I.M. VI–C, 91).
WILSON observes (1956) that such a synonymy is probably correct; some new species are described as Halophiobolus. MEYER, at last, (1957) accepts the opinion of CRIBB & CRIBB and transfers Halophiobolus to Lulworthia. Undoubtedly, substantial differences are lacking. However, we think, it is not useless to present a drawing, figuring a species described by WILSON as belonging to Gen. Halophiobolus.
In any case, Halophiobolus, as well as Lulworthia, differ from Lindra WILSON (I.M. IX–C, 123) by the characters of spores and of the perithecial walls.

In the plate:

Hal. purpureus WILSON
a) apothecia, one of which sectioned; b) ascospores;
c) mycelium and chlamydospores.

Ref.:

WILSON, I. M. (1956) – Some new marine Pyrenomycetes on wood and rope: Halophiobolus and Lindra. Trans. Brit. mycol. Soc., **39**, 401—415.

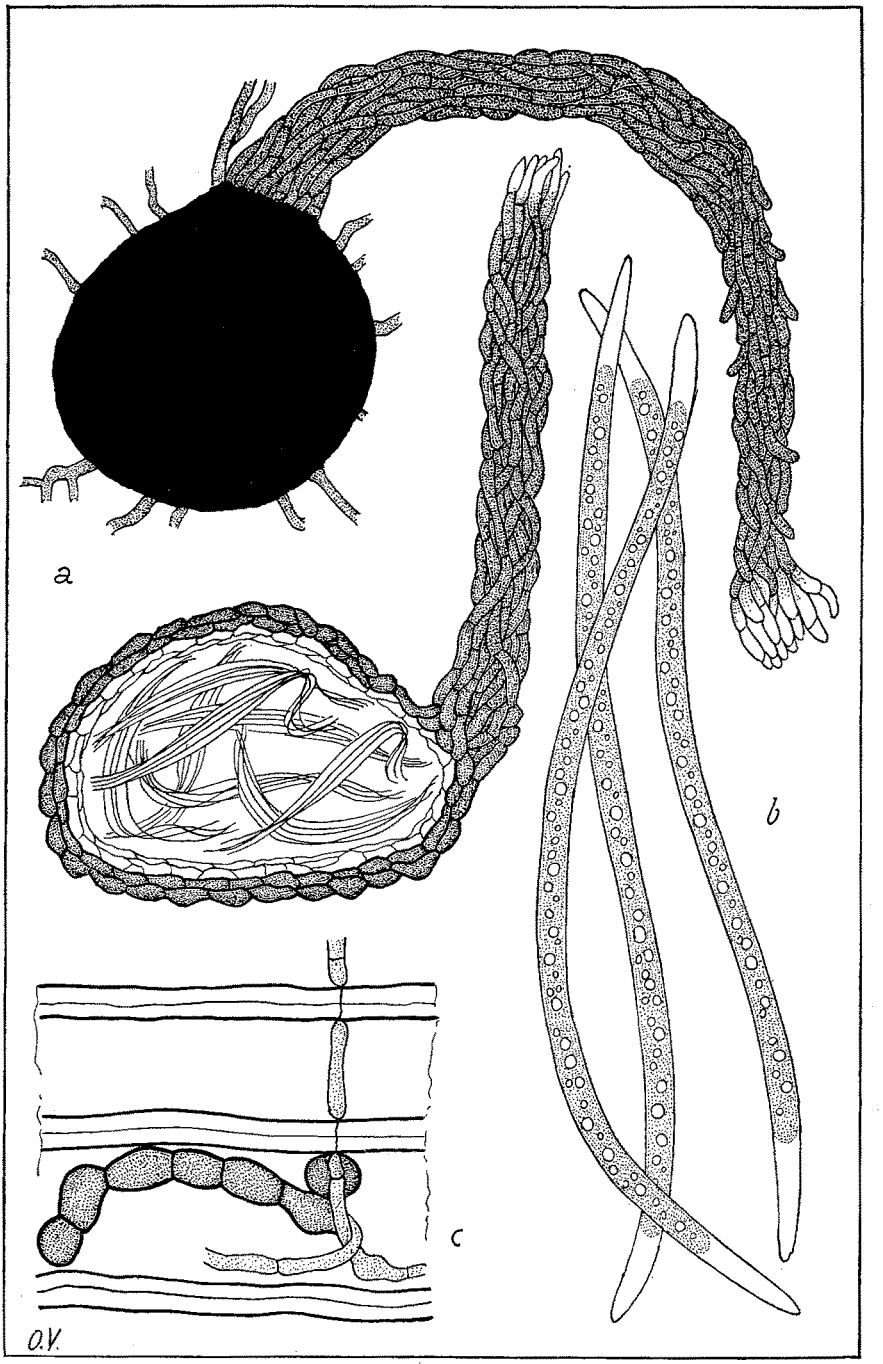

PLATE C 124

ASCOMYCETES
SPHAERIALES
SPHAERIACEAE

SAPROPHYTA

Gen. Bombardia Fr. emend. Cl. Moreau 1954

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate C 125

Mycopathologia et Mycologia Applicata XIX

Perithecia sparse or gregarious, globose-pyriform, provided of a long neck, with walls hard and coriaceous, brown to black, provided of hairs and basally or rhizoidal hyphae. Asci cylindraceous with a refractive sphere in the apical apparatus, paraphysate.
Spores worm-shaped, geniculate when young; the mature spore has an oval dark coloured body with a distal germ pore; the proximal portion of the spore remains as a cylindric vestigium; two terminal, small, pointed appendages are generally present.

Note: The Genus includes lignicole and fimicole species and looks rather near Pleurage (I.M. IX–C, 122) from which it is differing for several characters (see C. MOREAU).

In the plate:

Bombardia coprophila (FRIES) KIRSCHSTEIN
a) perithecium; b) ascus; c, d, e) successive stages of development of the apical apparatus; f) paraphyses; g) young ascospores; h) ascospores near ripeness; i) mature spores.
(from C. MOREAU)

Ref.:

MOREAU, C. (1947) – Bombardia coprophila (Fries) Kirsc. sur excréments d'éléphants. Rev. Mycol., **61**, 53—60.

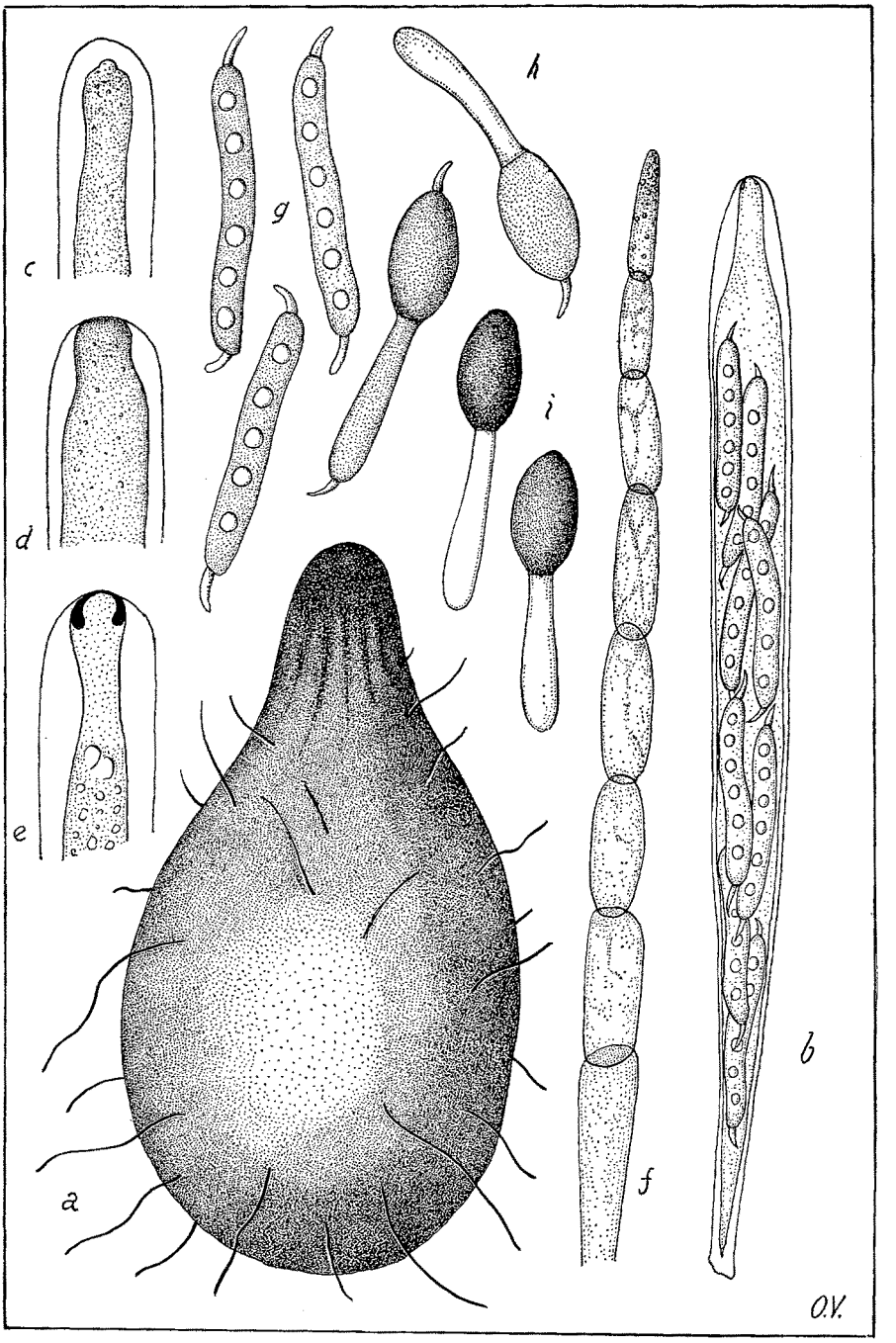

PLATE C 125

ASCOMYCETES
SPHAERIALES
SPHAERIACEAE

PHYTOPATHOGEN

Gen. Endothia Fries

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate C 126

Mycopathologia et Mycologia Applicata XIX

Stroma thick, intraperidermal, containing in depth ovoid or sphaerical lodges which emerge at the surface of the stroma through a narrow, often very long neck.
Asci more or less elongated, paraphysate. Ascospores ovoid, hyaline, 2-celled.

Note: The Genus includes *Endothia parasitica* (MURR.) P. J. et H. W. ANDERSON. This species is of a particular economical interest as it is the cause of the destruction of chestnut trees, (chestnutblight).

In the plate:

Formation of the perithecium of *E. parasitica*
(from ANDERSON & RANKIN)

a–c) Coiled ascogonia, invested with loosely arranged fungous tissue that makes up the central portion of the primordium. Many primordia occur within each stroma.
d–f) Multinucleate cells composing the basal portion of the ascogonia.
g) Multicellular, multinuclear ascogonium, viewed laterally the upper portion being a part of the slender trichogyne.
h) Stroma with ascogonium at center.
i) Young perithecium.
l) Complex of perithecia within stroma (schematic).
m) Ascus.

Ref.:

ANDERSON, P. J. & RANKIN, W. H. (1914) – Endothia canker of chestnut. Cornell Agr. Exp. Sta. Bull., **347**, 530—618.

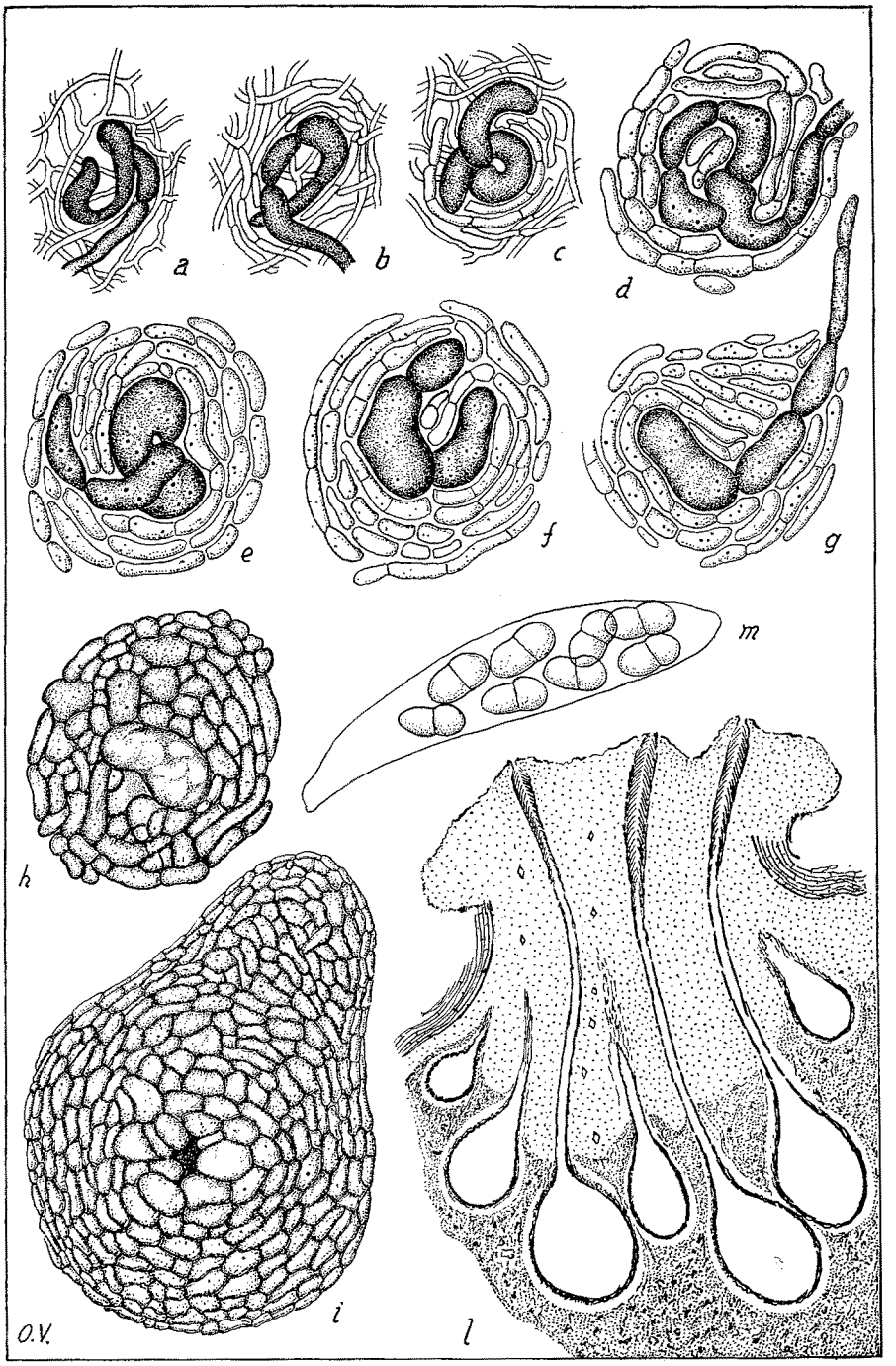

PLATE C 126

ASCOMYCETES
SPHAERIALES
SPHAERIACEAE

PHYTOPATHOGEN

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1 - Gen. Platyspora L. E. WEHMEYER

2 - Gen. Clathrospora RAB.

3 - Gen. Pyrenophora FcK. emend., non FR.

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate C 127

Mycopathologia et Mycologia Applicata XIX

1 – Gen. Platyspora L. E. WEHMEYER

Ascostromata flattened-globose, finally collapsing-pezizoid, with more or less dark brown, radiating hyphal tomentum about the base. Asci stout-clavate, bitunicate, thick-walled. Spores strongly flattened in one plane, fusoid-ellipsoid to clavate-ellipsoid, with a single vertical septum running through the central cells but not through the end cells in face view. In edge view, cylindric or somewhat tapered toward the ends, with no vertical septa visible.

(from WEHMEYER)

2 – Gen. Clathrospora RAB.

Ascostromata small (100—300 μ), membranous, buried in the substrate, erumpent as a papillate, ostiolar neck. Asci bitunicate, broad-clavate, with thickened walls and a claw-like basal attachment. Spores yellow-brown to dark yellow-brown, strongly flattened in one plane, mostly fusoid-ellipsoid in face view, cylindric to fusoid in edge view, with 2 or more vertical septa in face view and none (or a few faint ones in *C. multiseptata*) in edge view; walls usually punctate. Almost entirely on monocotyledonous hosts.

(from WEHMEYER)

3 – Gen. Pyrenophora FCK. emend., non FR.

Ascostroma arising as a sterile stromatic mass of cells, variable in size (100—700 μ), often remaining sterile for some time, glabrous or with conidiophore-like setae, finally thin- or thick-walled. Pseudoparaphyses not well developed. Asci somewhat saccate to broadly clavate, bitunicate, with a thickened wall, particularly above, at the rounded apex; base claw-like. Spores irregularly biseriate, large, pale yellow to yellow-brown, usually somewhat asymmetric, with the primary septum slightly nearer to the broader end, muriform, with one vertical septum, in face view, of one or all of the cells.

(from WEHMEYER)

Note: Some species of Pyrenophora have as conidial stage species of Helminthosporium.

All the Genera here recalled are near Gen. Pleospora (I.M. I–C, 3).

- In Platyspora spores are definitely flattened in one plane, with 1 (rarely 2) vertical septum continuous through the central cells.
- In Clathrospora spores are definitely flattened in one plane, with 3 to 7 vertical septa.

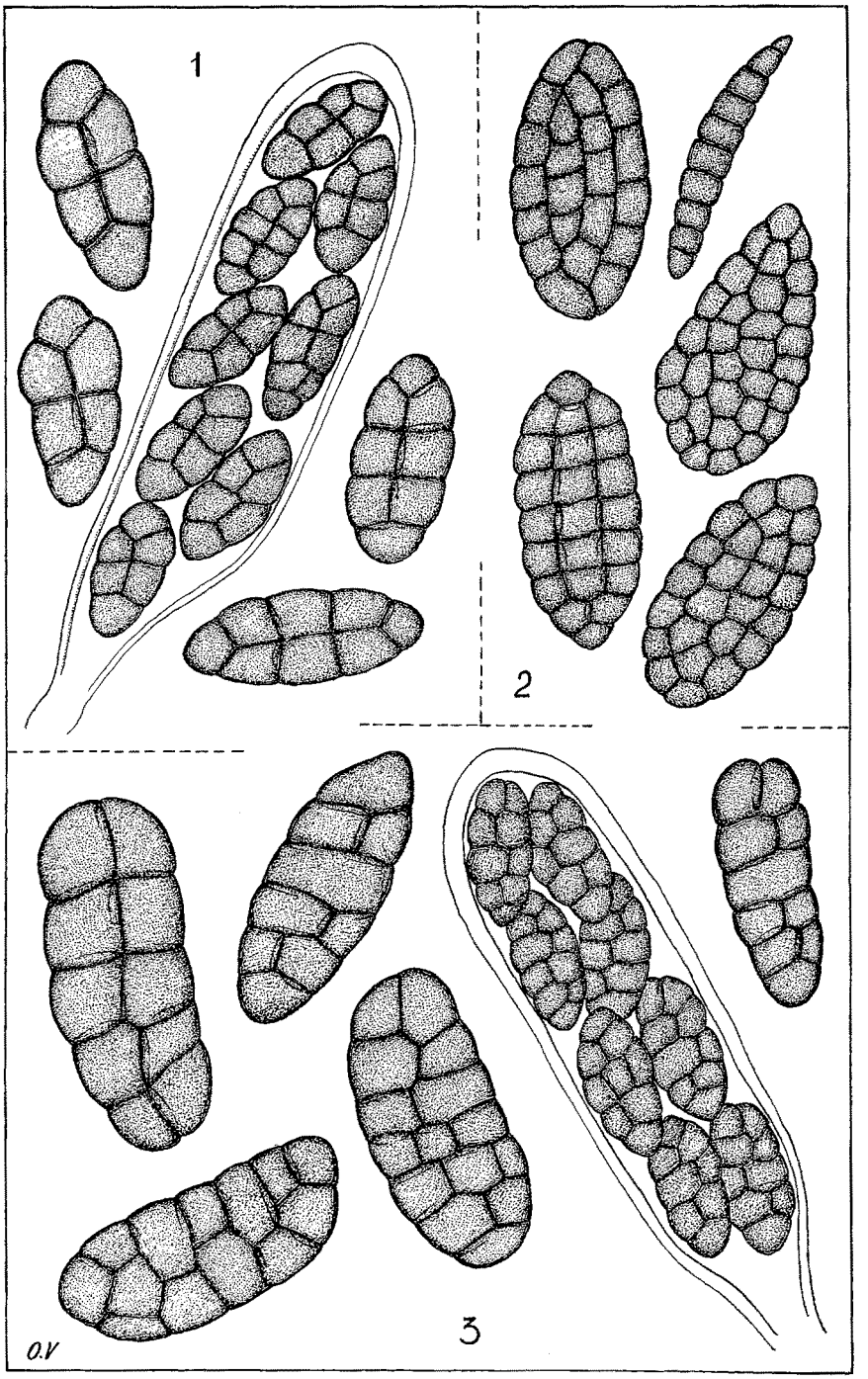

PLATE C 127

– In Pyrenophora spores are not so flattened, large, usually pale yellow-brown, not more than 7-septate; asci are large; ascostromata have indefinite pseudoparaphyses, setose in some species.

(In Pleospora ascostromata are with definite pseudoparaphyses; spores are not so flattened, various, but generally smaller, with more than 7 septa, often dark-colored).

In the plate:

1 – Platyspora
2 – Clathrospora
3 – Pyrenophora

Ref.:
WEHMEYER, L. E. (1961) – A world Monograph of the Genus Pleospora and its segregates. The Univ. of Michigan Press.

ASCOMYCETES
PERISPORIALES
EUROTIACEAE

SAPROPHYTA

Gen. Preussia Fuckel

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate C 128

Mycopathologia et Mycologia Applicata XIX

Ascocarps superficial, cleistocarpous, unilocular, stromatic, black, shining, glabrous, globose to subglobose, with thin, carbonaceous-membranaceous peridium, with no definite cleavage areas.
Asci 8-spored, broadly clavate and arranged in a parallel fascicle, or subglobose and irregularly disposed, short to long stipitate, with crozier at base, without pore or thickening in apex and without special means of dehiscence, rarely exhibiting a bitunicate characteristic type of elongation fairly thick walled and persistent in a water mount while still immature but becoming very fragile and evanescent at the time of maturity of ascospores. Paraphyses usually present in early stages of development but disappearing at maturity except in abnormal ascocarps containing few asci.
Ascospores lying parallel in a fascicle or irregularly disposed in a subglobose mass, with three transverse septa, deeply constricted; segments readily separable at maturity, dark brown and opaque with thick wall and elongated germinal slit extending full length of each cell.

(from R. F. CAIN)

Note: This Genus, which has been instituted on the basis of the characters presented by *Perisporium funiculatum* PREUSS, includes coprophilus species. The cultural characters and the development of the ascocarp are in Preussia very similar to those presented by Gen. Sporormia, so that often the two Genera have been confused. (MUNK)

In the plate:

1 – *Preussia funiculata* (PREUSS) FUCKEL
2 – *Preussia fleischhaki* (AUERSW.) CAIN
3 – *Preussia isomera* CAIN
4 – *Preussia typharium* (SACC.) CAIN

Ref.:
MUNK, A. (1957) – Danish Pyrenomycetes. Dansk bot. Ark. **17**, 1—491.
CAIN, R. F. (1961) – Studies of coprophilous Ascomycetes. VII – Preussia. Canad. J. Bot., **39**, 1633—1666.

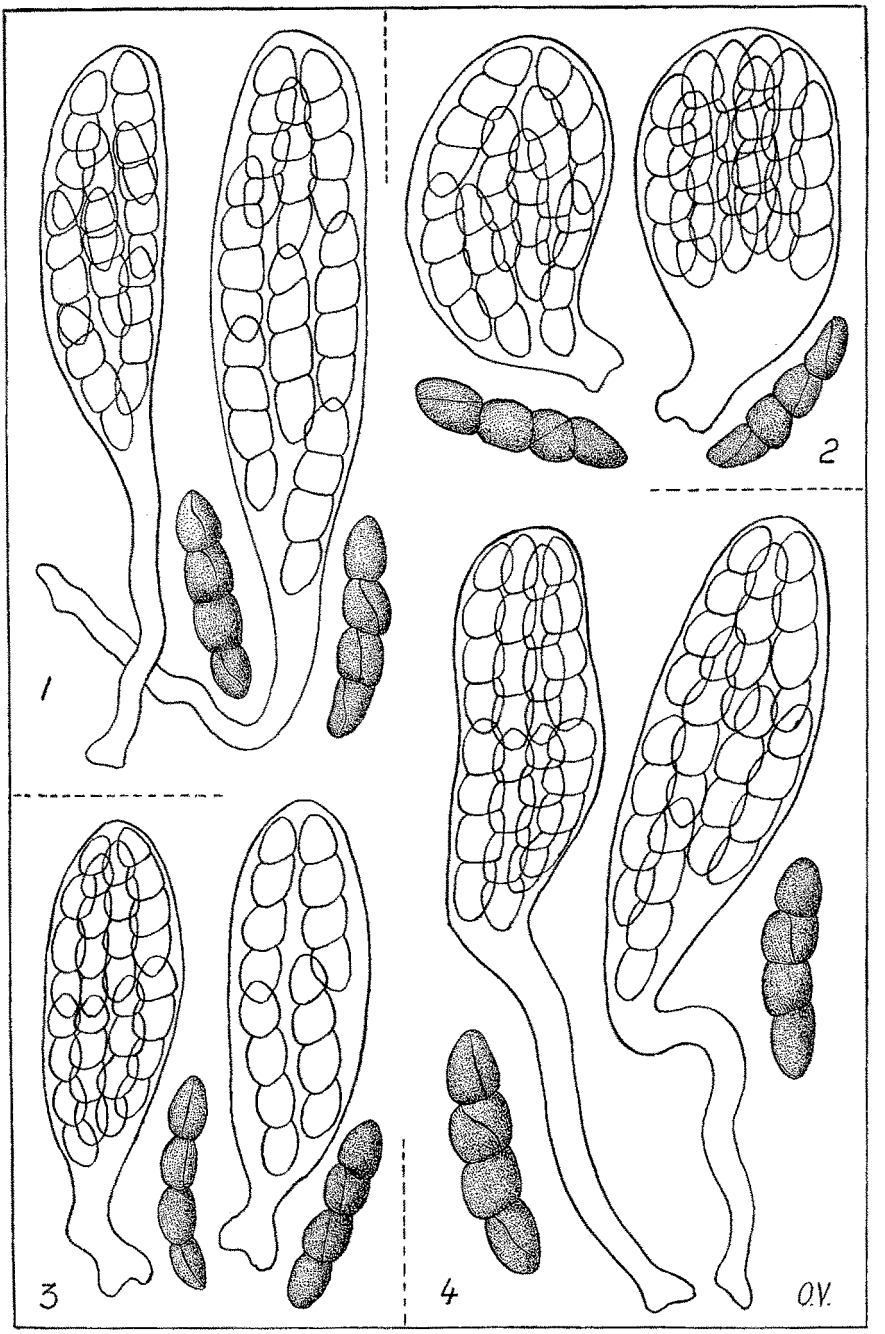

PLATE C 128

ASCOMYCETES
PERISPORIALES
EUROTIACEAE

SAPROPHYTA

Gen. Thielavia Zopf

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate C 129

Mycopathologia et Mycologia Applicata XIX

Perithecia sphaerical, usually small, without ostiole, with black walls. Asci club-shaped, with fleeting walls, generally containing 8 spores. Ascospores ovoid, lemon-shaped, one-celled, brown.

Note: Up to these last years the Genus excited a certain interest from a phytopathological point of view as to that, or better to its type-species *T. basicola* ZOPF, was reported a conidial stage early described as *Torula basicola* BERK. & BR., capable of causing a kind of basal rot on several cultivated plants. More recently MCCORMICK demonstrated that there is no genetical relation between this perithecial stage and such a conidial form, which is, on the contrary, to be referred to Gen. Thielaviopsis WENT. (I.M. IX, A–197).

Perithecia, as described in the diagnosis, are glabrous; to the Genus is referred but one species – *T. setosa* DADE – in which numerous, more or less long setae are found. In culture, such a species tends however to lose the setae.

Ascospores are usually ovoid or lemon-shaped. Recently, however, a species has been described by CAIN whose spores are more variable in shape and size.

Finally it is interesting to note that the formation of perithecia is conditioned in culture by the presence of other fungi. For instance, *T. setosa* forms perithecia only when growing together with *Aspergillus flavus*.

In the plate:

A – *Thielavia terricola* (GILMAN & ABBOTT) EMMONS
1) beginning of the formation of the perithecium;
2) perithecium within which the formation of the asci is beginning;
3) perithecium;
4) ascus;
5) ascospores.

B – *Thielavia setosa* DADE
1) perithecium;
2) ascus.

C – Ascospores of *Thielavia variospora* CAIN.

Ref.:

DOGUET, G. (1956) – Le Genre Thielavia Zopf. Rev. Mycol., **21**, Suppl. Col. 1—21.

LUCAS, G. (1949) – Studies on the morphology and cytology of Thielavia basicola Zopf. Mycologia, **41**, 553—560.

MCCORMICK, F. A. (1925) – Perithecia of Thielavia basicola in culture and the stimulation of their production by extracts from other fungi. Forty-eight ann. Rep. Connecticut Agric. Stat. Bull., **269**.

CAIN, R. F. (1961) – Studies of soil fungi. III New species of Coniochaeta, Chaetomidium and Thielavia. Canad. J. Bot., **39**, 1231—1239.

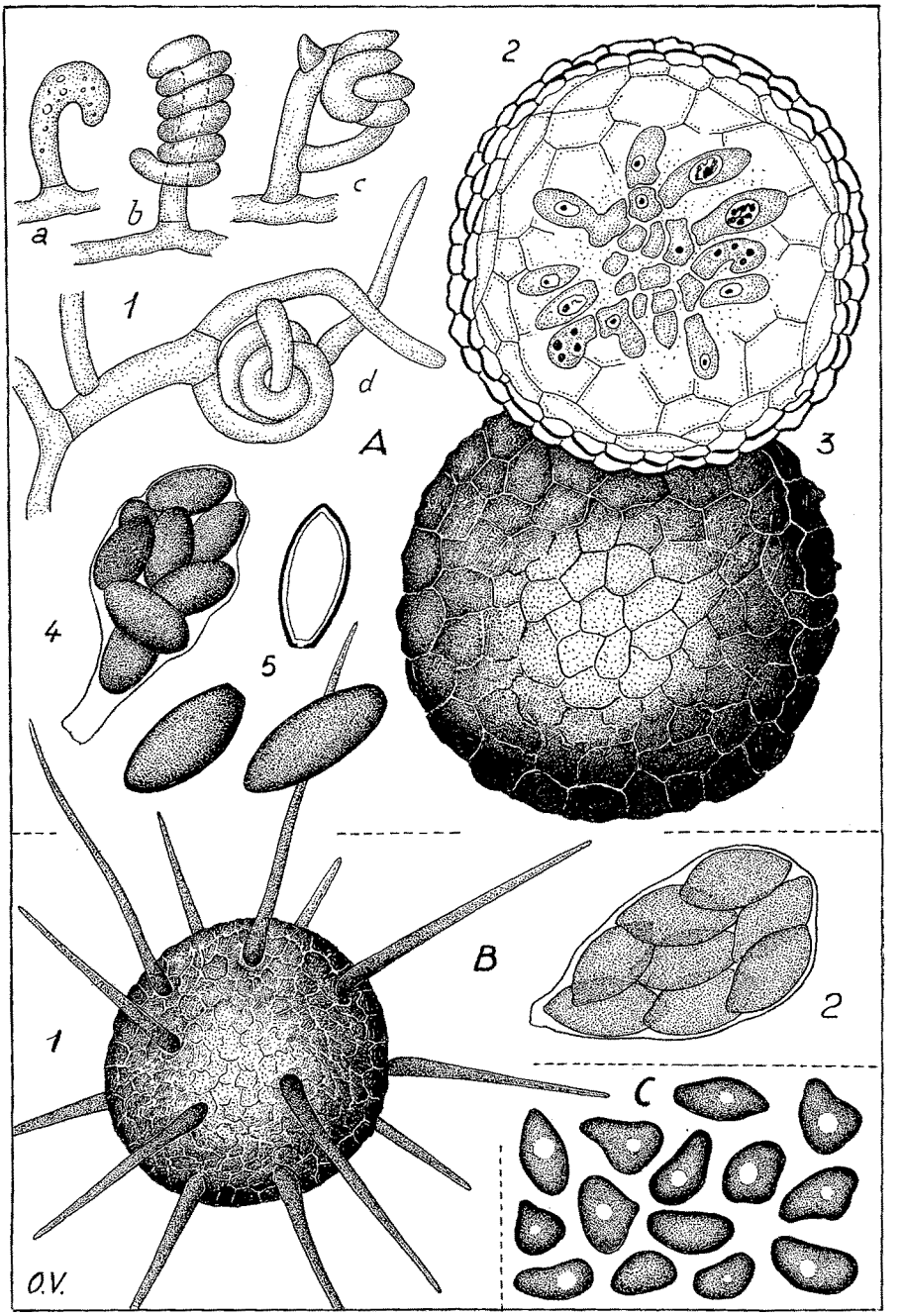

PLATE C 129

ASCOMYCETES
(see references)

SAPROPHYTA

Gen. Diplogelasinospora CAIN

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate C 130

Mycopathologia et Mycologia Applicata XIX

Perithecia globose, black, superficial, membranaceous, nonstromatic, nonostiolate, with single cavity. Asci cylindrical, 8-spored, arranged in parallel fascicle, evanescent.
Ascospores ellipsoid, transversely uniseptate, one cell remaining hyaline, one becoming black and opaque; wall of ascospore becoming pitted as in Gelasinospora. No conidial stage known.

(from CAIN)

Note: The Genus, as mentioned in the diagnosis, recalls Gen. Gelasinospora. (I.M. IX–C, 118).

In the plate:

1 – (a, b, c,) – Early stages in the development of the perithecia.
2 – Mature perithecium.
3 – Immature ascus containing eight one-celled, hyaline ascospores.
4 – Mature ascus.
5 – Upper half of mature asci.
6 – Ascospores: a), immature; b), partially mature; c), mature.

(imited from CAIN)

Ref.:

CAIN, R. F. (1961) – Anixiella and Diplogelasinospora, two Genera with cleistothecia and pitted ascospores. Canad. J. Bot., **39**, 1667—1677.

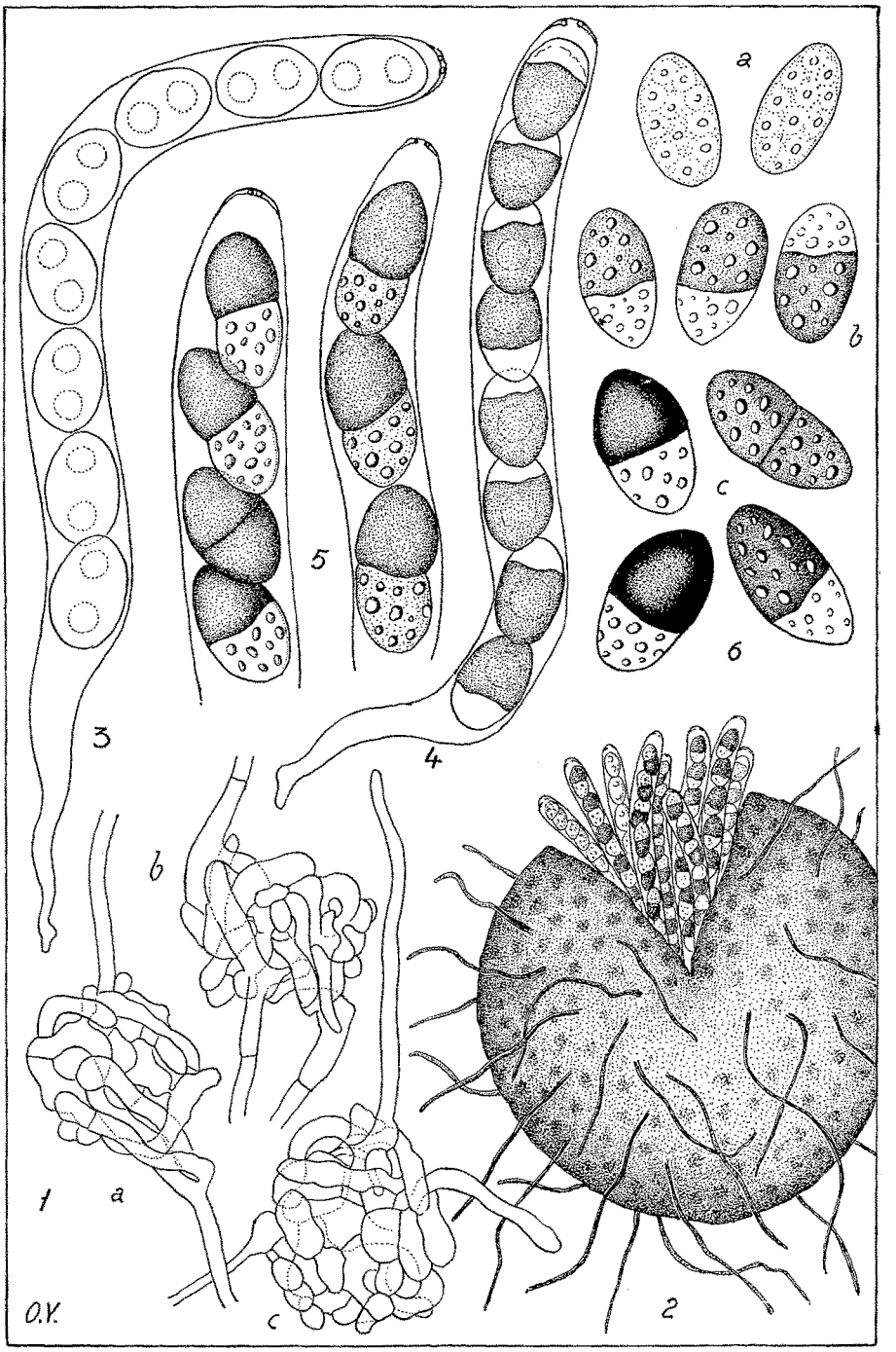

PLATE C 130

ASCOMYCETES
(see note)

SAPROPHYTA

Gen. Anixiella Saito & Minoura

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate C 131

Mycopathologia et Mycologia Applicata XIX

Mycelium white, sparse. Perithecia globose, black, glabrous, smooth, superficial, with peridium slender, membranous, pseudoparenchymatous. Asci 8-spored, clavate, evanescent. Ascospores biseriate, ellipsoid, not septate, black; the walls of the ascospores are pitted as in Gelasinospora; germ pore rounded, at poles. Conidial forms unknown.

Note: The Genus was instituted by SAITO & MINOURA (J. Fermentation Technol., **26**, 4, 1948). The relative diagnosis was formulated later by CAIN. SAITO & MINOURA placed Anixiella in the Family Perisporiaceae; CAIN, on the contrary, places it into Neurosporaceae. The most remarkable characteristic of the Genus is represented by the aspect of spores which are similar to Gelasinospora (I.M. IX–C, 118).

In the plate:

Anixiella reticulata (BOOTH & EBBEN) CAIN
a) young perithecium;
b) perithecium;
c) asci;
d) immature spores;
e) mature spores.

Ref.:

CAIN, R. F. (1961) – Anixiella and Diplogelasinospora, two Genera with cleistothecia and pitted ascospores. Canad. J. Bot., **39**, 1667—1677.

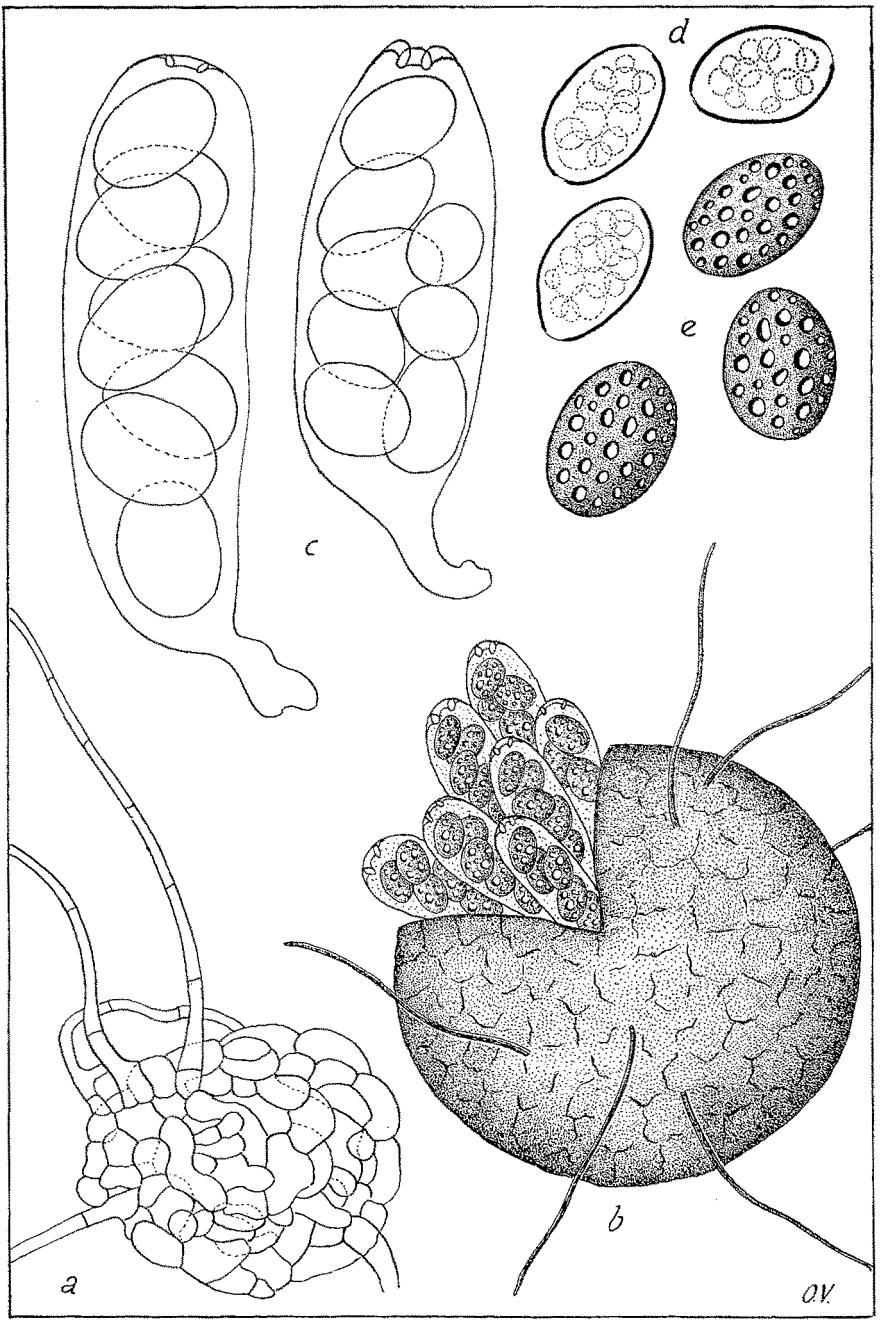

PLATE C 131

ASCOMYCETES
MICROTHYRIALES
POLYSTOMELLACEAE

PHYTOPATHOGEN

Gen. Rhipidocarpum Theissen & Sydow

ICONOGRAPHIA MYCOLOGICA

Verona — Benedek

Plate C 132

Mycopathologia et Mycologia Applicata XIX

Ascostroma superficial, flabellately disposed, with innate hypostroma; hymenia linear, also flabellately arranged.
Six asci present, immersed in a paraphysoid tissue, containing spores brown, 2-celled.

In the plate:

Rhipidocarpum javanicum (PAT.) TH.

a) external aspect of ascostroma
b) edge of ascostroma
c) ascoma sectioned
d) ascospores
e) germinating ascospores.

Ref.:
ARNAUD, G. (1918) – Les Asterinées. Thèse. Montpellier.

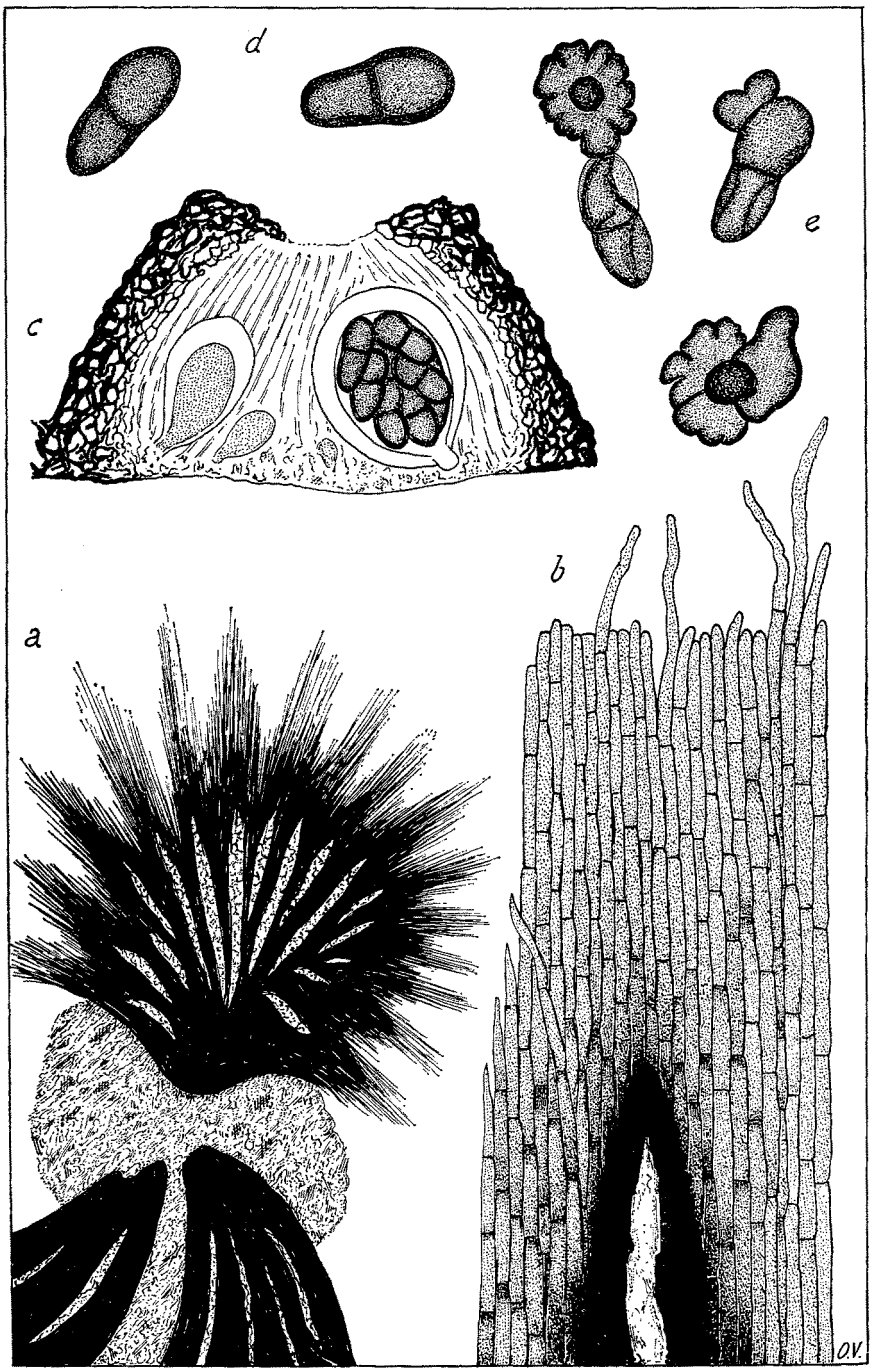

PLATE C 132

ASCOMYCETES
MICROTHYRIALES
POLYSTOMELLACEAE

PHYTOPATHOGEN

Gen. Cycloschizum Henn.

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate C 133

Mycopathologia et Mycologia Applicata XIX

Ascoma superficial, attached at the center, with innate hypostroma; hymenia arranged in a more or less complete ring.
Asci 8-spored, paraphysate; spores 2-celled, hyaline (or brown – see note –).

Note: ARNAUD, in his monograph, describes species which present also brown spores.
CLEMENTS & SHEAR indicate for Cycloschizum spores hyaline. Species with 2-celled, brown spores, contained in paraphysate asci, are on the contrary referred to Gen. Dielsella HENN. On the other hand, it has already been kept distinct for such a character by THEISSEN & SYDOW.

In the plate:

In I is figured *Cycloschizum Alyxiae* (MASSEE) ARN., otherwise referable to *Dielsella Alyxiae* (MASSEE) THEISS. & SYD. and early described as *Dothidea Alyxiae* MASSEE. In II is figured *Cycloschizum elaeicolum* (MAUBL.) ARN. early described as *Hysterostomella elaeicola* MAUBL. (*a*, superficial aspect of fructifications; *b*. fructifications sectioned; *c*. ascospores).

Ref.:

ARNAUD, G. (1918) – Les Asterinées. Montpellier.

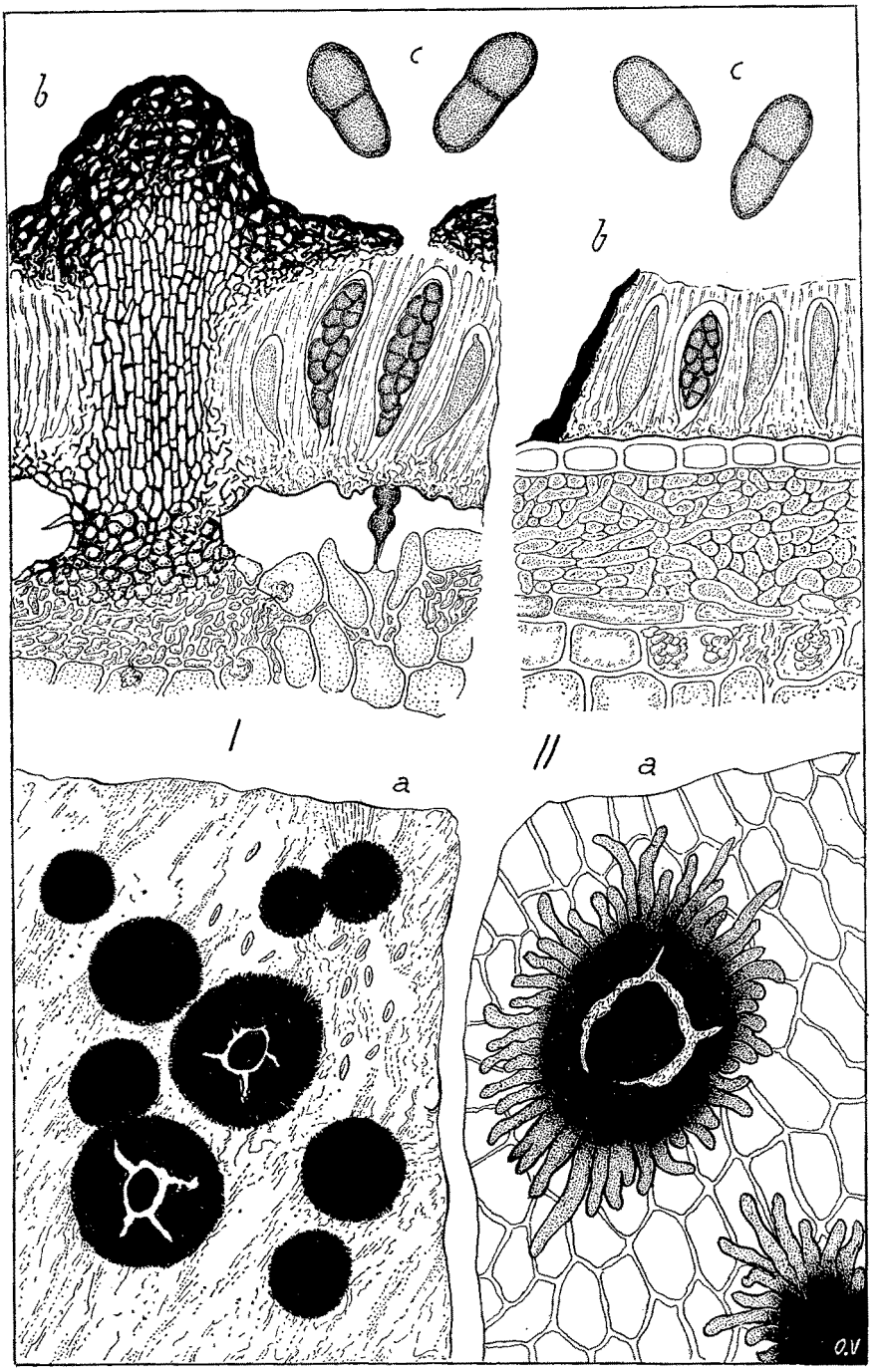

PLATE C 133

ASCOMYCETES
MICROTHYRIALES
POLYSTOMELLACEAE

SAPROPHYTA

Gen. Parmulina Theiss. & Syd.

ICONOGRAPHIA MYCOLOGICA
Verona — Benedek
Plate C 134

Mycopathologia et Mycologia Applicata XIX

Ascoma superficial, with innate hypostroma, attached at the center. Hymenia stellately arranged. Asci immersed in a paraphysoid tissue, containing spores 2-celled, brown.

In the plate:

Parmulina asterospora ARN.

a) portion of ascostroma
b) edge
c) sectioned ascoma
d) ascus
e) ascospores.

Ref.:

ARNAUD, G. (1918) – Les Asterinées. Thèse. Montpellier.

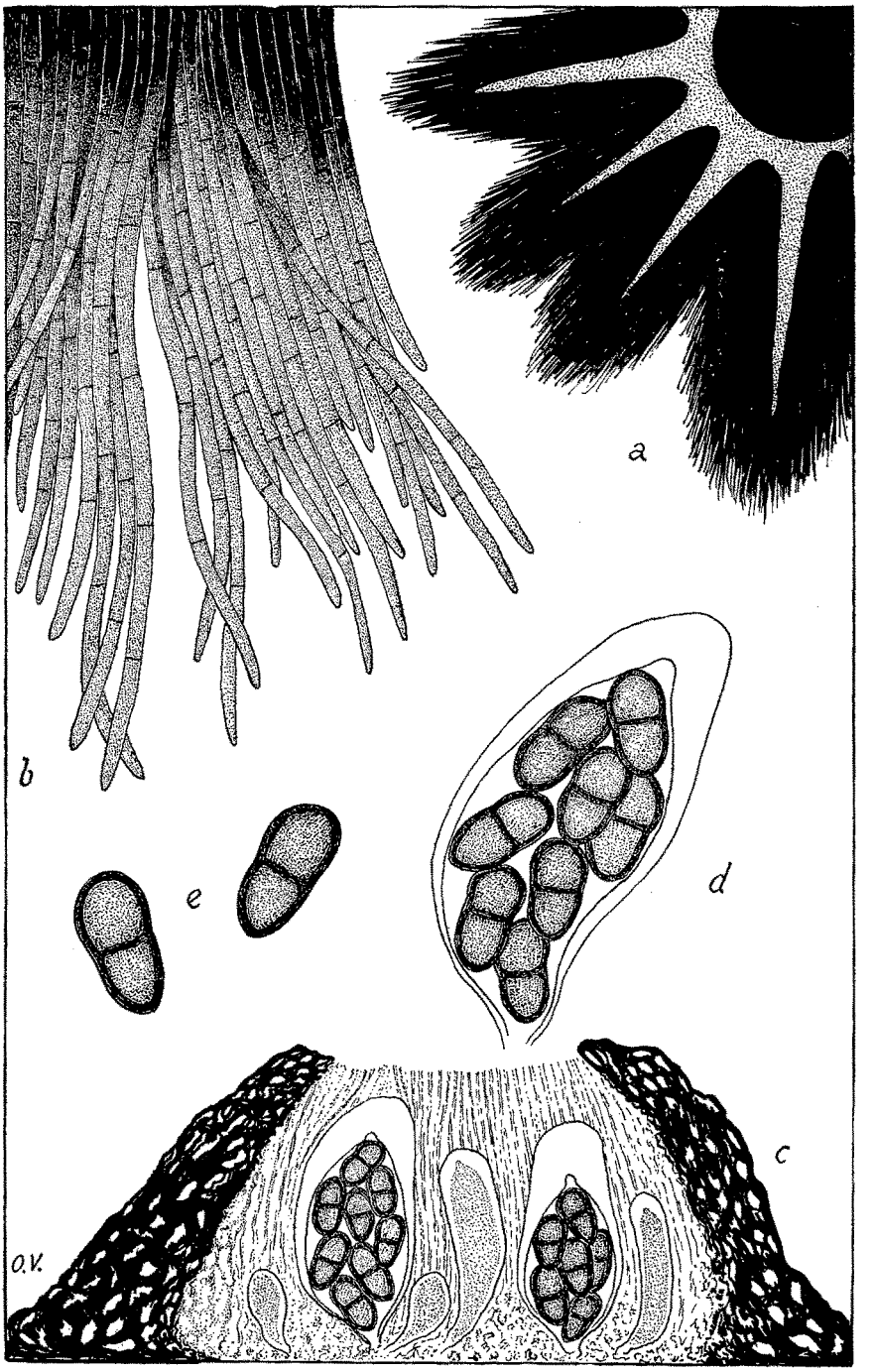

PLATE C 134

ASCOMYCETES
SPHAERIALES
HYPOCREACEAE

SAPROPHYTA

Gen. Neurospora SHEAR & DODGE

ICONOGRAPHIA MYCOLOGICA
VERONA — BENEDEK
Plate C 135

Mycopathologia et Mycologia Applicata XIX

Perithecia superficial or immersed in the substrate, sparse or gregarious, often covered with a mycelial layer, more or less globose or pyriform, with coriaceous walls, dark brown.
Asci cylindraceous, often paraphysate when young, containing 8 spores which are elliptic to oblong, typically longitudinally streaked, provided of two germinative pores, olive-yellow at first, then dark-brown.

Note: This Genus includes six species, among which *N. tetrasperma* SHEAR & DODGE is characterized by the presence of only 4 spores per ascus.
This Genus represents the perfect stage of some species of Monilia. On this Genus (and particularly on *N. crassa* SHEAR & DODGE and *N. sitophila* SH. & DOD.) a copious bibliography concerning researches has been accumulated in the last years on genetics.

In the plate:

upward: Life cycle of Neurospora.
downward: Perithecium, ascus and ascospores.

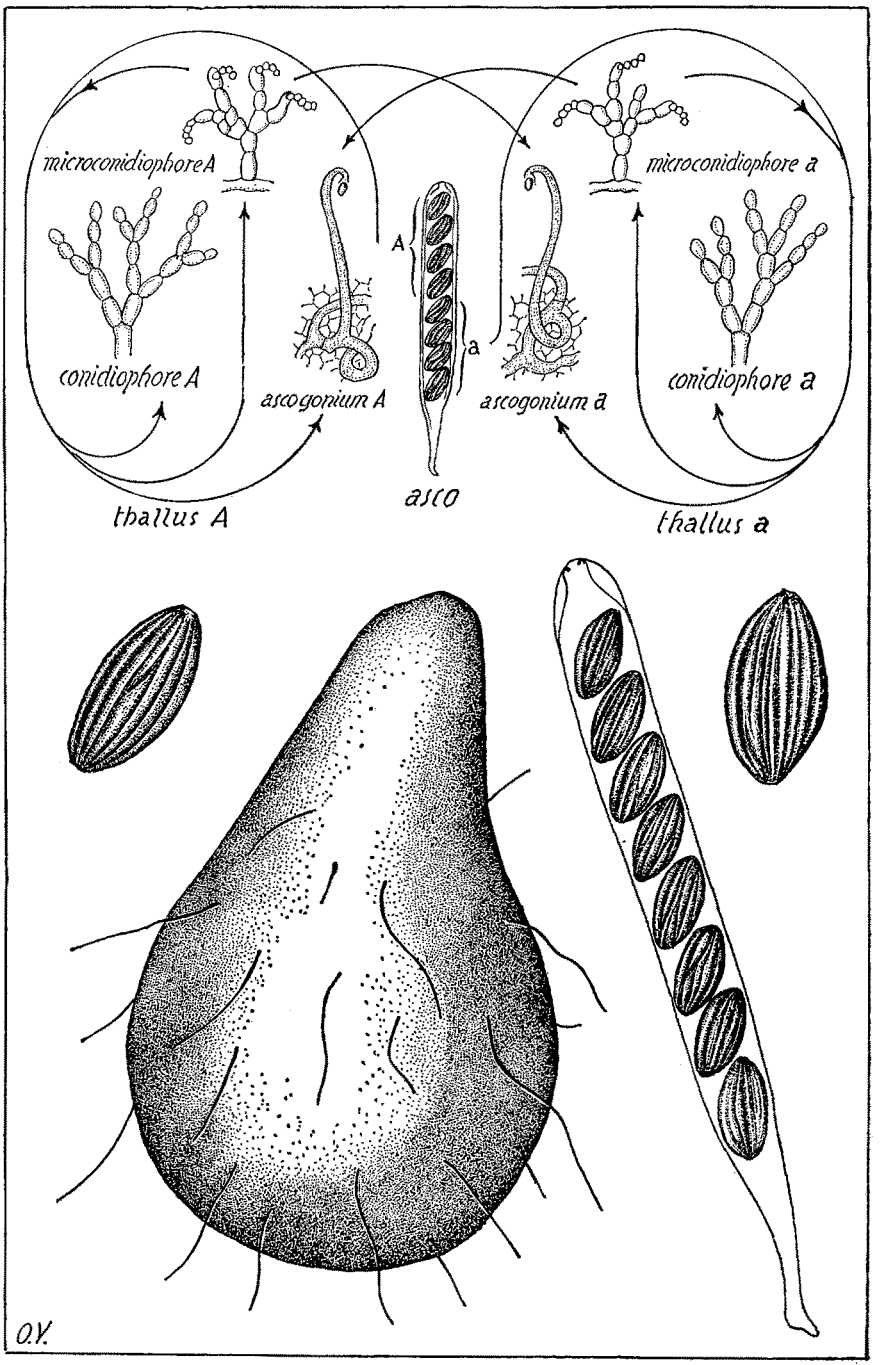
microconidiophore A
microconidiophore a
conidiophore A
conidiophore a
ascogonium A
ascogonium a
A
a
asco
thallus A
thallus a
O.Y.

PLATE C 135