New and Interesting Records of South African Fungi. Part II.*

By

P. H. B. Talbot.

Sixteen species of fungi newly recorded for South Africa are described here, three of which are new species of helicosporous Fungi Imperfecti.

Arthrobotrys Oligospora Fres.: Drechsler in Mycologia 29 (1937) 464, f. 3.
Illustrations: Drechsler, loc. cit.; **Fig. 1.**

Collections: 41012, *C. O'Connor*, on Potato leaves and filter paper in a culture, Div. of Plant Pathology, Pretoria, Aug. 1954.

A branched, septate, hyaline, repent mycelium, 5–8 μ wide, gives rise to erect conidiophores. These are hyaline and either unbranched or rarely forked near the base, 4–7 μ wide, 0·5–1 mm. long, septate in the sterile basal part. The fertile part bears swollen nodes at intervals, each having a whorl of short denticles to which the conidia are attached. The apex of the conidiophore is similarly swollen and denticulate. The conidia are hyaline, thinwalled, obovate to obpyriform, with a single cross-septum situated well below the middle of the conidium. A short truncate apiculus is present and the conidia are sometimes slightly constricted at the septum. The conidia measure 13–16 × 23–27 μ.

This attractive species has not previously been recorded in South Africa. In determining the species, Drechsler's (loc. cit.) account of the species of *Arthrobotrys* has been followed. The size and shape of the conidia, and the situation of the conidial septum, are reliable characters on which to differentiate the species.

Dendryphiopsis Atra (Corda) Hughes in Canad. Journ. Bot. 31 (1953) 655, 638, figs. 89–90.
Dendryphion atrum Corda, Icones Fung. 4 (1840) 33.

Illustrations: Hughes, loc. cit.; **Fig. 2.**

Collections: 40993, *P. H. B. Talbot*, on fallen *Populus deltoides*, " Goedehoop ", Piet Retief distr. Apr. 1954.

The conidiophores are blackish-brown, stout, thickwalled, septate, about 9 μ wide, and arise from the woody substratum singly, forming conspicuous black patches. The apex of the main axis of the conidiophore is terminated by a conidium. Near the apex, " primary, secondary, tertiary, and even quaternary distinct lateral branches arise each in turn being terminated by a solitary conidium " (Hughes, loc. cit. p. 638). The conidia are very dark, thickwalled, with 1–4–(5) septa and a distinct basal hilum. The five-celled conidia measure 58–65 × 13–15 μ.

No chains of conidia were seen, a fact stressed by Hughes, but a few of the conidia possessed deep constrictions suggesting that their growth had been halted and then resumed. This species is a new record for South Africa.

Ceratocystis adiposa (Butler) Moreau in Rev. de Mycol. 17 (1952), Suppl. Colonial No. 1, p. 22.

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* Part i of this paper appeared in Bothalia 6 (1951) 183–204.

Sphaeronema adiposum Butler in India Dept. Agric. Mem. Bot. ser. i, 3 (1906) 40; Saccardo Syll. Fung. 22 (1913) 926.

Endoconidiophora adiposa (Butler) Davidson in Journ. Agric. Res. 50 (1935) 802.

Ceratostomella adiposum (Butler) Sartoris in Journ. Agric. Res. 35 (1927) 577.

Illustrations: Sartoris, l.c., figs. 1–4; Davidson, l.c., figs. 3, A–F; **Fig. 3** (conidial stage), **Fig. 4** (perithecial stage).

Collections: 39199, *van Niekerk*, on pine shooks, Pretoria, Feb. 1951.

The conidial stage of this fungus was found on pine shooks sent in for examination; subsequently the fungus was grown on malt agar, producing conidia readily and perithecia after 2½ months in culture.

Conidial Stage: The repent mycelium is first hyaline then pale coloured, branched, septate, 1·5–3·4–6·8 μ wide. Erect phialophores arise at right angles to the hyphae. They are brown, 1–4 celled, commonly two-celled, somewhat constricted at the septa, thinwalled, surmounted by a one-celled phialide. The phialides are cylindrical or slightly urn-shaped, brown, (18)–23–26 μ long, expanding into a minute collarette at the apex. Together the phialide and phialophore measure 25–50 × 5·7–6·8 μ.

The endogenous conidia are produced in basipetal succession from the phialides, and form chains of up to 20 or more extruded conidia. The conidia vary in form according to age. When young they are almost hyaline and smooth, subglobose, broadly elliptical or roughly cylindrical with rounded ends. Later they become deeply coloured, minutely warted or strongly striately verrucose, broad elliptical to cylindric-oblong, (9)–14–18 × 8–10 μ. Sometimes the last-formed conidium (nearest the phialide) may be greatly swollen, 18–22 μ in diameter, very darkly coloured, with a strongly warted or semi-spinose wall.

Perithecial Stage: The perithecia are dark, globose, about 200 μ in diameter, embedded in the substratum, with a beak 1–2 mm. long, tapering from 90 μ wide at the base to 24 μ wide at the apex. The apex is rostrate, divided into a number of brown, septate hairs, 2·4–3·2 μ wide, becoming paler towards the ends. Asci were not seen but copious ascospores extruded from the perithecium and formed an opalescent, slimy droplet at the apex of the beak. The ascospores are hemispherical, or semilunate in section, 5–6·4 × 3·3–4·8 μ.

Professor W. J. Lütjeharms very kindly suggested the genus *Endoconidiophora* thus enabling me to identify this most interesting fungus, which has not before been recorded in South Africa.

Botryosporium longibrachiatum (Oud.) Maire in Ann. Mycol. 1 (1903) 341; Saccardo Syll. Fung. 18 (1906) 510.

Botrytis longibrachiata Oudemans; Saccardo Syll. Fung. 10 (1892) 537.

Radaisiella elegans Bainier in Bull. Soc. Myc. de Fr. 26 (1910) 382, Pl. 20.

Cephalosporium dendroides Ellis & Kellerman in Journ. of Mycol. 9 (1903) 5, figs. 1–4.

Illustrations: Bainier, loc. cit. (as *Radaisiella elegans*); Kellerman, loc. cit. (as *Cephalosporium dendroides*); **Fig. 5.**

Collections: 40518, *J. E. van der Plank*, on dead potato stems and leaves in greenhouse, Div. of Plant Pathology, Pretoria, Apr. 1951.

The conidiophores are 9–12·5 μ wide, hyaline, septate, bearing numerous lateral fertile branches, or pegs where these have been detached. The fertile branches are (48)–80–110 μ long, expanding in width from the base to the apex, which is rounded or diamond-shaped in section and is 10–14 μ wide. The swollen fertile apex bears in turn a number of ampullae with innumerable, minute spicules which carry the conidia. The conidia are hyaline, smooth, one-celled, elliptical, 2·3–2·8 × 4·5–5 μ.

This fungus occurs characteristically in greenhouses on dead or decaying substrata, and is a strikingly beautiful object in the microscope. The above collection is a new record for South Africa.

Xenosporella larvalis (Morgan) Linder in Ann. Mo. Bot. Gard. 16 (1929) 322, Pl. 25, figs. 12–15.

Helicoma larvale Morgan in Cincinnati Soc. Nat. Hist. Journ. 15 (1892) 45, f. 9.

Illustrations: Linder, loc. cit.; **Fig. 6.**

Collections: 36840, *P. H. B. Talbot*, Garstfontein, Pretoria distr., Aug. 1948; 36997, *W. G. Rump* (595), on mangrove, Isipingo, 1944.

Colonies thin, effuse, powdery, gray-black or brownish. Conidiophores 4–5·3 × 33–40 μ, branched, septate, hyaline or dilute fuscous above, the basal cells fuscous, 3·5–5·3 μ wide, arising from repent, septate, branched fuscous hyphae. Conidia 18·8–22 μ diam., the filament 8 μ wide, hyaline to dilute fuscous and frequently coiled round a central cell, the cells divided off by dark septa, acrogenous, coiled once, divided longitudinally and transversely into 15–17 cells, basal cell oblong and truncate.

The subhyaline conidia divided by dark septa and the subhyaline conidiophores, also the measurements, place this species as *X. larvalis*. According to Linder the conidiophores may be up to 75 μ long, and the conidia rarely show a central cell. The collection cited on mangrove was mixed with much other fungous material, some of which was another, undetermined helicosporous mould.

Xenosporella rosea sp. nov.

Illustrations: **Fig. 7.**

Collections: Type, No. 36976, *P. H. B. Talbot*, on *Eucalyptus* stump, Hendrina road, near Ermelo, Feb. 1949.

Colonies effused over bark, coarsely granular, rosy-coloured due to the massed colour of the conidia. Conidiophores short, hyaline or very dilutely coloured, up to 10 μ long and 4–5·3 μ wide, arising from a repent mycelium composed of branched, septate, hyaline to deep fuscous hyphae, 4–7·5 μ wide, sometimes with the shorter cells constricted to appear moniliform. Conidia acrogenous, coiled ¾–1¼ times round 1–5 deep-fuscous central cells, which are 4–6·7 μ in diameter and subglobose. The conidia are hyaline to fuscous, usually only very dilutely coloured or slightly darker at the septa, divided first by transverse walls then by longitudinal walls into 26–34 cells when mature, the coil 33–44 μ diam.; filament 14·6–18·5 μ diam.; conidia widest at the middle, tapering to the ends, the distal end rounded, the base rounded or occasionally somewhat truncate. In optical cross section the filament appears to be divided by radial walls into 4–6 cells.

This species corresponds with none in Linder's monograph of the Helicosporous Fungi Imperfecti (in Ann. Mo. Bot. Gard. 16, 1929, 318). In the size of its conidia it comes nearest to *X. thaxteri*, but the latter has black colonies, longer conidiophores and wider conidial filaments. The presence of several central cells in the conidium is characteristic of the new species.

Xenosporella rosea sp. nov.

Fungus effusus, pulverulentus, rosaceus. Conidiophora brevia, usque ad 10 μ longa, hyalina vel pallidissime colorata, 4–5·3 μ diam., ex hyphis repentis orientia. Hyphae repentae, ramosae, septatae, hyalinae vel atro-fuscae, interdum moniliformae, 4–7·5 μ diam. Conidia 33–44 μ diam., filo 14·6–18·5 μ diam., hyalina vel fusca, muriforma, cellulis 26–34, acrogena, in spiram circa 1–5 cellulas centrales, fuscas, subglobosas, ¾–1¼-ter glomeratis.

Helicoma interveniens sp. nov.

Illustrations: **Fig. 8.**

Collections: Type, No. 40519, *P. H. B. Talbot*, on dead wood, Transvaal *sine loc.*, 1950.

Effused, forming a blackish, hirsute colony. Repent mycelium sparse, fuscous, septate, branched, 5–6 μ wide. Conidiophores erect, single or in small groups, not branched, straight or often irregularly bent, deep brown but pellucid, the terminal cell almost hyaline and rounded when immature, but tapering to a minute sporogenous tooth when fertile. The conidiophores are multiseptate, 125–230 × 5–6 μ, with up to 7 lateral sporogenous teeth in old conidiophores. Conidia acropleurogenous, borne on minute sporogenous teeth, coiled tightly $1\frac{1}{4}$ times, hyaline to very pale yellowish, with (7)–11–13 hyaline septa, the filament 6·5–8 μ wide, with both ends rounded and without constrictions at the septa; diameter of the coiled conidia 18–22 μ.

This fungus has characters in common with several other species, but differs from each in certain well-marked features. It is rather similar to *H. curtisii* Berk., but the latter differs in having fewer septa in the conidia, tapering-rounded instead of rounded basal cells to the conidia, very rarely pleurogenous conidia, and coiled spores of a smaller diameter. *H. curtisii* was figured and described in Bothalia 6 (1951) 187, f. 9. Other species which required careful comparison were *H. velutinum* Ellis, *H. mulleri* Corda and *H. ambiens* Morgan. The new species differs from *H. velutinum* in having pleurogenous conidia without constrictions at the septa. It differs from *H. mulleri* in having minute, unbranched sporogenous teeth and larger conidia and from *H. ambiens* in having unbranched conidiophores and more septa in the conidia.

Helicoma interveniens sp. nov.

Fungus effusus, subniger, hirsutus. Hyphae repentae parcae, fuscae, septatae, ramosae, 5–6 μ diam. Conidiophora erecta, non ramosa, recta vel curvata, atro-fusca, pellucida, multiseptata, 125–230 × 5–6 μ. Conidia in dentibus minutis orientia, acrogena, 18–22 μ diam., filo 6·5–8 μ diam., hyalina vel substraminea, septis hyalinis (7)–11–13, non constricta, in spiram $1\frac{1}{4}$-ter glomeratis.

Helicosporium gracile (Morgan) Linder in Ann. Mo. Bot. Gard. 16 (1929) 281, Pl. 13, figs. 4, 7; Pl. 14, figs. 9–11.

Helicomyces gracilis Morgan in Cincinnati Soc. Nat. Hist. Journ. 15 (1892) 40, f. 2.

Illustrations: Linder, loc. cit.; **Fig. 9.**

Collections: 36949, *P. H. B. Talbot*, on dead *Acacia mollissima* twigs, Atholl Expt. Station, E. Tvl., Feb. 1949.

The colonies form inconspicuous, greenish-yellow patches on wood and bark, composed of a repent mycelium of fuscous, septate hyphae, 3–4·3 μ wide, bearing occasional sporogenous teeth. The conidiophores arise erect from the repent hyphae. They are fuscous, septate, unbranched, with acute apex, 58–140 × 3·5–4·5–(7) μ, bearing minute sporogenous teeth acropleurogenously, from which the conidia arise. The conidia are hyaline, glaucous-yellowish in a mass, coiled up to $3\frac{1}{2}$ turns, filamentous, the filaments up to 1·5 μ wide, seldom showing the septa, the coils 9–15 μ diam., partly uncoiling when wetted.

Linder emphasises that *H. gracile* has dilutely coloured conidiophores and hyphae. The present specimen is pellucid throughout, though not very dilutely coloured. It differs from *H. vegetum* Nees (fide Linder, loc. cit. p. 277) in its creeping habit and the repent mycelium which bears conidia either directly or upon conidiophores.

Helicosporium lumbricoides Sacc. emend Matruchot; Linder in Ann. Mo. Bot. Gard. 16 (1929) 282, Pl. 15, f. 5.

Illustrations: Linder loc. cit.; **Fig. 10.**

Collections: 40521, *P. H. B. Talbot*, under bark of *Eucalyptus*, Fountains, Pretoria, Aug. 1952.

The colonies are effused, light- to sooty-grey, readily separable from the substratum. Conidiophores arising from a dark repent mycelium, ascending or more or less erect, subhyaline to pellucid deep brown, septate, branched and much anastomosed, 3·4–5·7 μ wide. Conidia pleurogenous, borne singly on small sporogenous teeth situated on the lower parts of the conidiophores, hyaline, the filament hygroscopic, 1·5–2 μ wide, coiled 2¼–3 times, indistinctly many-septate (10–14 septa seen); Coiled conidia 20–25 μ diam.

This specimen was found together with *Lasiosphaeria pezizula* and its conidial stage, *Helicoma curtisii*, on the same piece of bark.

It is evident from Linder's descriptions (loc. cit.) that *Helicosporium lumbricoides* and *H. lumbricopsis* Linder are rather similar. I have determined the present collection as *H. lumbricoides* because the mycelial mat is easily detached, the conidiophores are of the width given for this species and form an anastomosed network, and the conidial filaments are 2 μ or less in width and have fewer septa than in *H. lumbricopsis*.

Helicosporium ramosum sp. nov.

Illustrations: **Fig. 11.**

Collections: Type, No. 40546, *P. H. B. Talbot*, on dead wood, Fountains, Pretoria, Nov. 1951.

The colonies are sparse, white and pulverulent. The conidiophores are erect, 30–240 μ long, 3·2–4 μ wide, branched below and often anastomosing above, fuscous, subhyaline near the apex, arising from a repent mycelium. The repent hyphae are subhyaline to fuscous, 2·5–4·5 μ diam., branched and anastomosed. The conidia are hyaline, white in a mass, acropleurogenous, borne on lateral denticles on the main axis of the conidiophores, or on terminal or lateral denticles on branches of the conidiophores or repent mycelium. These branches are up to 40 μ long. The conidial coil is 19–24–(27) μ diam., the filament 1·6 μ wide, with about 15 septa, coiled 1½–2½ times.

This species is distinguished by its white colonies and by the branched anastomosed conidiophores and conidial size, a combination of characters not found in any description I have traced. It somewhat resembles *H. lumbricoides*, but differs in the way in which the conidiophores branch.

Helicosporium ramosum sp. nov.

Fungus parcus, albidus, pulverulentus. Conidiophora ex hyphis repentis orientia, erecta, 30–240 × 3·2–4 μ, fusca, subhyalina prope apicem, infra ramosa, supra anastomosa. Hyphae repentae subhyalinae vel fuscae, ramosae, anastomosae, 2·5–4·5 μ diam. Conidia hyalina, acropleurogena, in dentibus lateralis in axe principali conidiophorum vel in ramis conidiophorum et hypharum repentium orientia. Rami usque ad 40 μ longi. Conidia 19–24–(27) μ diam., filo 1·6 μ diam., septis circa 15, in spiram 1½–2½-ter glomeratis.

Coremiella ulmariae (McWeeney) Mason apud Hughes in Canad. Journ. Bot. 31 (1953) 640, figs. 92, 93.

Stysanus ulmariae McWeeney in Irish Naturalist 4 (1895) 273–277, figs. 1–6.

Coremiella cystopoides Bubák & Krieger apud Bubák in Ann. Mycol. 10 (1912) 52–53, f. ii.

Illustrations: McWeeney, loc. cit.; Hughes, loc. cit.; Bubák, loc. cit.; **Fig. 12.**

Collections: 41016, *H. J. Potgieter*, College of Agriculture, Potchefstroom, Dec. 1954.

The fungus forms small synnemata up to 1 mm. high, which are composed of a stalk up to about 0·2 mm. wide, made up of loosely interwoven parallel hyphae, which expand near the apex by repeated dichotomous branching into a subglobose head up to about 0·5 mm. diam. The whole structure is whitish to grey, with the stalk usually a darker grey. The hyphae of the synnema are sparingly branched, smooth, hyaline to pale brown, 4·8–6·4 μ diam. The terminal branches composing the head are closely septate and become transformed into rows of endoconidia, the rows being 20–140 μ long and 5 μ wide. The endoconidia are cubical to rounded, with a thickened wall bearing a minute pore in each end wall. They are dilutely coloured and about 5 μ wide. The conidia are separated by intermediate cells whose lateral walls remain thin and eventually collapse inwards to free the conidia.

This species has not been recorded in South Africa before, though Prof. Lütjeharms tells me he has isolated it many times in Bloemfontein on decaying plant stems.

Hughes (loc. cit.) gives an interesting account of the way in which the conidia are formed. I am indebted to the Director of the Commonwealth Mycological Institute for a copy of McWeeney's diagnosis of *C. ulmariae* and for the information that the Institute regards *C. cystopoides* as a later synonym.

Piricularia oryzae Cavara, Fungi Longob. exsicc. No. 49, 1891; Briosi & Cavara, I Funghi Parass. No. 188, 1892; Cavara, Atti Ist. bot. Univ. Pavia, ser. ii, 2 (1892) 280.

Illustrations: Watts Padwick, Manual of Rice Diseases (1950) f. 3.; **Fig. 13.**

Collections: 41033, *Gerrit Moerdyk*, on *Oryza sativa*, Nylstroom distr., Jan. 1953.

The fungus forms discrete to confluent whitish, greyish or light brown spots on leaves of rice, surrounded by a dark reddish brown discoloration. The whitish area is about 0·5–3 mm. in its greatest diameter, becoming tinged greyish when the fungus is well developed. The conidiophores arise singly or more often in groups. They are unbranched, hyaline to pale brown at the base and hyaline at the apices, with two or three septa, 3·2–5 μ wide and 90–140 μ long, cylindrical, attenuated to a sharp apex. The conidium is borne terminally on the conidiophore and is pushed aside by a lateral offshoot of the conidiophore which in turn bears a terminal conidium. This process may be repeated 3–4–(7) times as lateral offshoots arise in succession. Each conidium is solitary, acrogenous, hyaline to pale olivaceous, usually 3-celled (1–4 celled), subglobose when young, becoming ovate or typically pyriform, with a small spicular point of attachment, 16–25 × 7–11 μ.

Doidge (in Bothalia 5, 1950, 685) lists this species from Mocambique, but it has not hitherto been recorded in South Africa. Since the above collection was made, it has been seen fairly frequently. Watts Padwick (Manual of Rice Diseases, 1950, pp. 1–21) gives a comprehensive account of this and allied species of *Piricularia*. According to Watts Padwick, Nishikado was able to separate four species of *Piricularia* " each having distinct morphological characters and a rather narrow host range ". The following were the species dealt with by Nishikado:—

Piricularia oryzae Cav., on *Oryza sativa*;
Piricularia grisea (Cooke) Sacc., on *Digitaria sanguinalis*;
Piricularia setariae Nishikado, on *Setaria italica* and *S. viridis*;
Piricularia zingiberi Nishikado, on *Zingiber mioga* and *Z. officinale*.

In the following two entries, the determination of the fungus as to species has been made not on the morphology of the fungus, but purely by following the host range given by Nishikado, since these fungi are only critically separable from *Piricularia oryzae*. Each constitutes a new record for South Africa.

Piricularia setariae Nishikado: Watts Padwick, Manual of Rice Diseases (1950) 8. *Collections*: 39097, *S. J. Truter*, on *Setaria italica*, " Ukulinga " farm, Pietermaritzburg, Aug. 1950.

Piricularia grisea (Cooke) Saccardo, Mich. 2, p. 148; Sacc. Syll. Fung. 4 (1886) 217; Watts Padwick, Manual of Rice Diseases (1950) 8.

Trichothecium griseum Cooke in Ravenel Amer. Fungi n. 580.
Collections: 41015, *S. J. Truter*, on *Digitaria sanguinalis*, Pietermaritzburg distr., Sept. 1954.

Cordyceps tuberculata (Lebert) Maire in Bull. Soc. d'Hist. Nat. de l'Afrique du Nord 8 (1917) 165; Petch in Trans. Brit. Myc. Soc. 16 (1931) 213–217; Dingley in Trans. Roy. Soc. N.Z. 81 (1953) 338.

Akrophyton tuberculatum Lebert in Zeitschr. f. wiss. Zool. 9 (1868) 375.
Cordyceps sphingum (Schw.) Berk. & Curt. in Journ. Linn. Soc. Bot. 10 (1868) 375.
Illustrations: Petch in Trans. Brit. Myc. Soc. 9 (1924) Pl. 2, f. 12 (as *Torrubiella ochracea*); Lloyd Myc. Notes 5 (1916) 591–592, figs. 830–832 (as *Cordyceps sphingum*); Herre in Mycologia 15 (1923) 280, f. 1. (as *C. sphingum*); **Fig. 14.**
Collections: 39185, *R. Ripley*, on dead sphingid moth, College of Agriculture, Cedara, Apr. 1949; 41014, *S. J. Truter*, on dead moth, Pietermaritzburg distr., Sept. 1954.

Mycelium whitish, covering the whole under surface of a dead moth, arising from which are numerous closely aggregated cylindrical to clavate or irregular clavae, bearing perithecia in groups towards or at the apex, or frequently only on one side of the clava. The clavae are sometimes subulate, pointed and sterile. The clavae are whitish to very pale yellow, 2–3 mm. long and 0·3–0·5 mm. wide, composed of very closely interwoven hyphae, which are hyaline, septate, much branched, narrow. The perithecia are found in groups, very slightly immersed in the hyphae of the clavae, bright pale lemon yellow all over, becoming ochraceous, ovoid to conical, glabrous, somewhat pellucid, 0·3–0·4 mm. high and 0·2–0·3 mm. diam. Paraphyses absent. Asci cylindrical, tapering to the base, rounded at the apex, 3–4·8 × 225–310 μ. Ascospores 8 per ascus, filamentous, hyaline, almost as long as the asci, septate, becoming divided into part spores.

A full account of the history, synonymy and morphology of this species is given by Petch (1931, loc. cit.). This species is a new record for South Africa.

Phymatotrichum silvicolum Taubenhaus & Watkins in Amer. Journ. Bot. 24 (1937) 387–390, figs. 1–22.

Illustrations: Taubenhaus & Watkins, loc. cit.; **Fig. 15.**
Collections: No. 41033, *P. H. B. Talbot*, on moist soil, Nel Street, Pretoria, Jan. 1955.

The fungus forms a cottony to pulverulent, white mycelial mat on moist soil, later changing to a light tan or greyish colour. The hyphae are hyaline, branched, septate, commonly 7–10 μ wide, forming synnemata or remaining separate. Lateral swellings from the hyphae develop into branches which at first are simple, but later form somewhat swollen, terminal clusters of branches. These are the conidiophores and together with a part of the main stalk become minutely papillate. The conidia are attached by minute stipes and cover the whole surface of the conidiophores so that the latter are practically obscured. The conidia are hyaline, globose or subglobose to ovoid, with thin walls and without septa, 2·5–4·5 μ in diameter, produced in vast numbers.

In their excellent description of this species Taubenhaus and Watkins differentiate it from other species of *Phymatotrichum* by "the length and slenderness of the conidiophores, the characteristic apical cluster of dendroid or digitate branches which are clavate or moderately inflated, and the distribution of the actual spore-bearing area from well down on the stalk of the conidiophore to the apices of all its branches."

This fungus was first brought to my notice by Dr. S. J. Truter who found it in the Union Buildings gardens after a spell of wet weather in February. Subsequently it was found under pine trees near the Botha Statue. I am much indebted to Prof. W. J. Lütjeharms for identifying this fungus and informing me that at one time it was quite common under pine trees at the University of the Orange Free State, Bloemfontein.

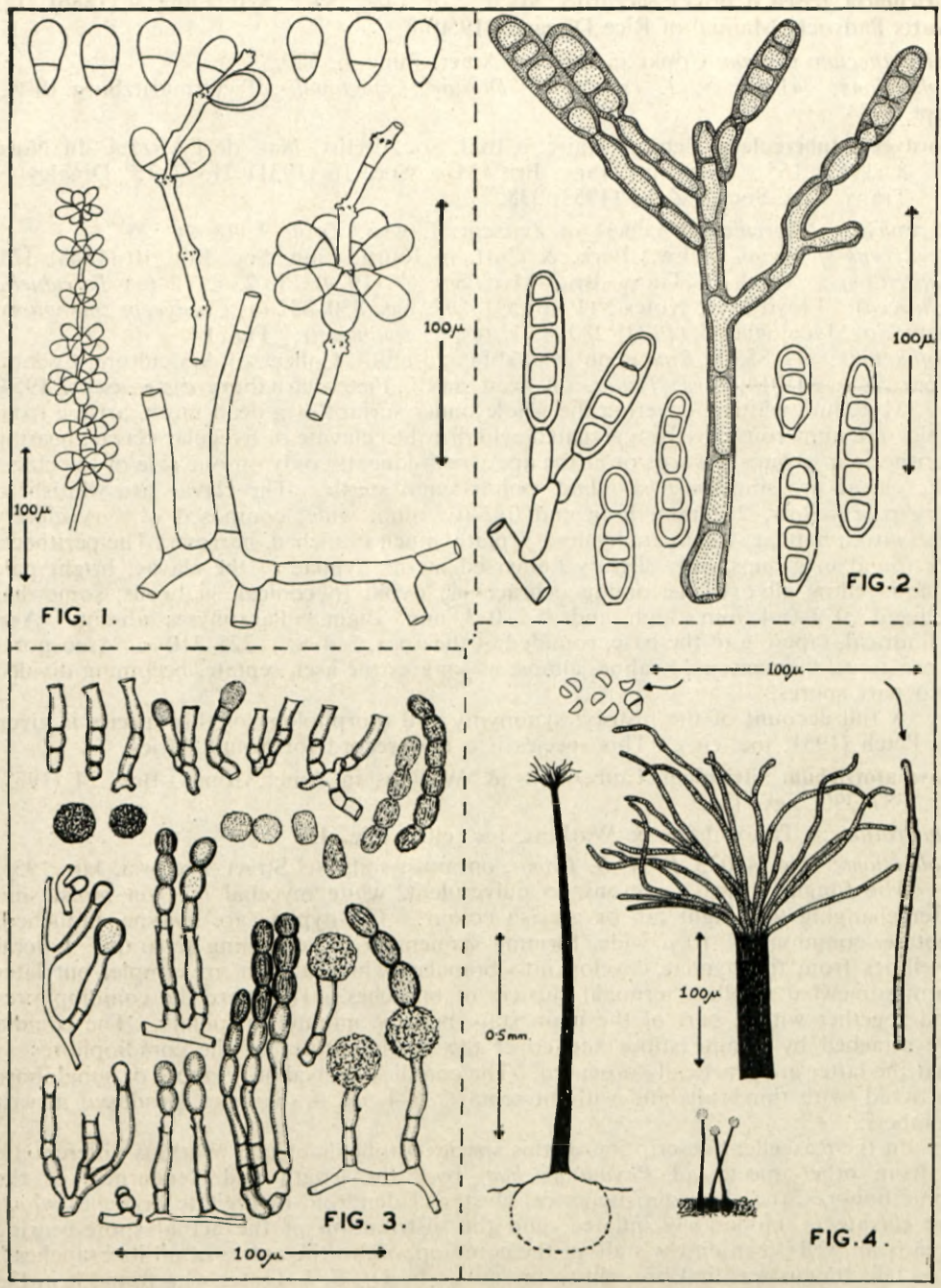

FIG. 1.—*Arthrobotrys oligospora*; FIG. 2.—*Dendryphiopsis atra*; FIG. 3.—*Ceratocystis adiposa* (conidial); FIG. 4.—*Ceratocystis adiposa* (perithecial).

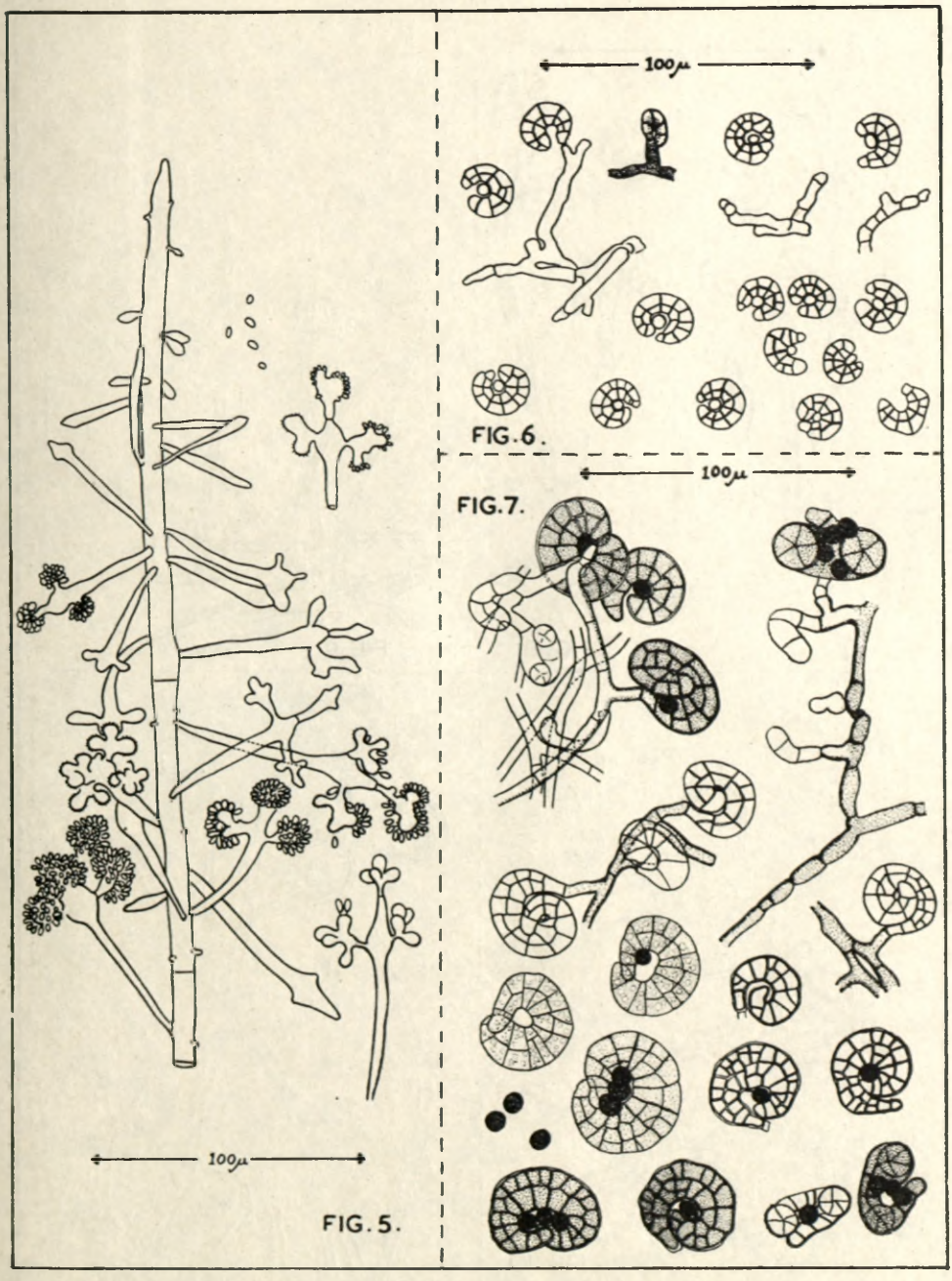

FIG. 5.—*Botryosporium longibrachiatum*; FIG. 6.—*Xenosporella larvalis*; FIG. 7.—*Xenosporella rosea*.

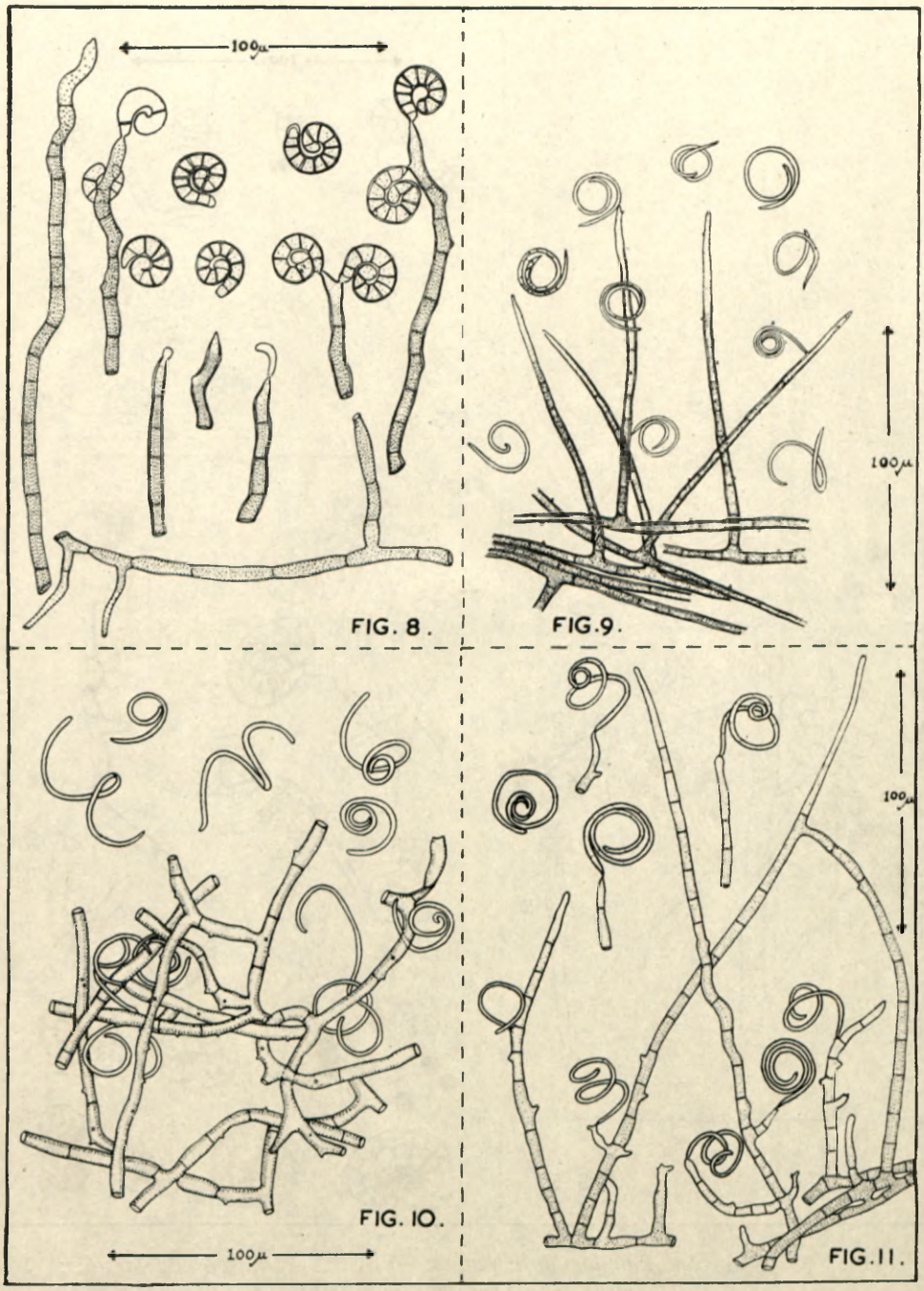

FIG. 8.—*Helicoma interveniens*; FIG. 9.—*Helicosporium gracile*;
FIG. 10.—*Helicosporium lumbricoides*; FIG. 11.—*Helicosporium ramosum.*

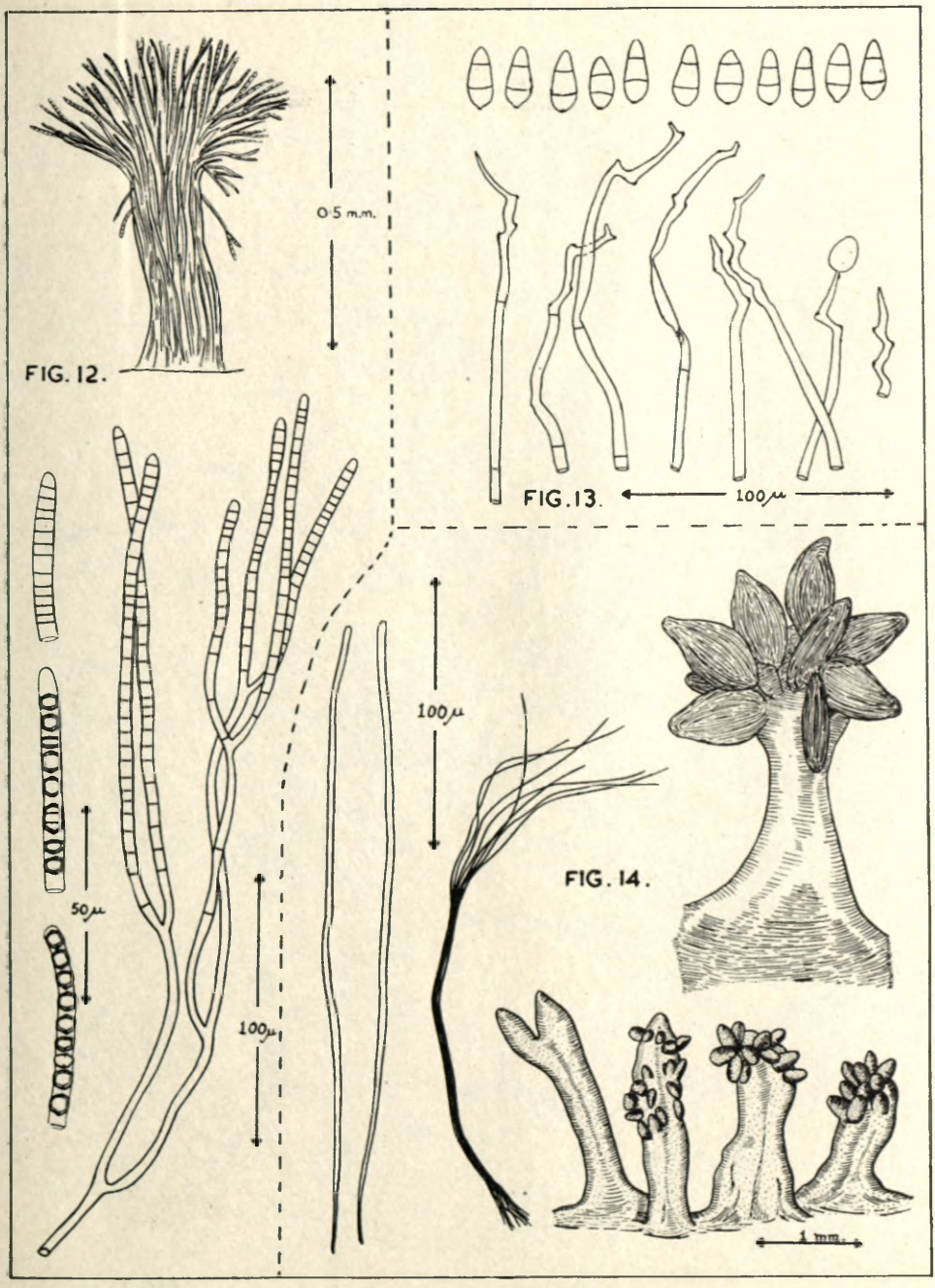

FIG. 12.—*Coremiella ulmariae*; FIG. 13.—*Piricularia oryzae*;
FIG. 14.—*Cordyceps tuberculata*.

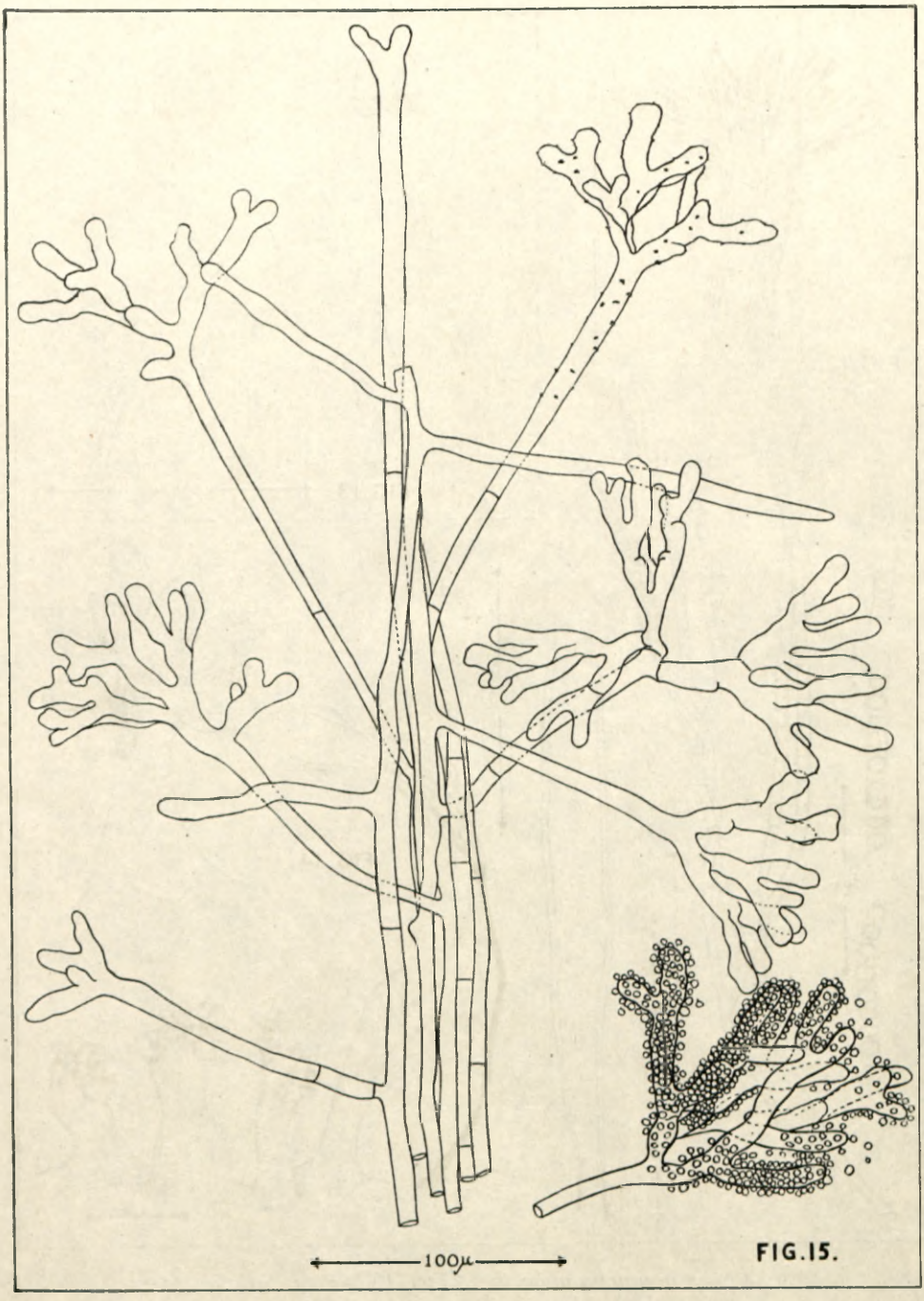

FIG. 15.—*Phymatotrichum silvicolum.*