

# STUDIES ON HYPHOMYCETES—I

BY C. V. SUBRAMANIAN, F.A.Sc.

(Department of Botany, University of Rajasthan, Jodhpur)

Received August 14, 1961

It is proposed to present in a series of papers the results of systematic and taxonomic studies on Hyphomycetes. This paper is the first in the series and is an extension of the author's previous work on this group of fungi.

1. *Helminthosporium obclavatum* Bubak and Sydow, 1915, *Ann. mycol., Berl.*, **13**: 12; Saccardo, P. A., 1931, *Sylloge fungorum*, **25**: 833.

Bubak and Sydow (1915) described *Helminthosporium obclavatum* as follows: "Cæspitulis effusis, castaneo-brunneis, velutinis; conidiophoris cæspitulosis elongatis, filiformibus, 100–200  $\mu$  longis, 3.5–4.5  $\mu$  latis, multi-septatis, castaneis, rectis vel flexuosis, apice rotundatis vel paucè inflatulis, rarissime ramosis; conidiis fusoido-obclavatis, 50–80  $\times$  9–11  $\mu$ , rectis vel sub-curveis, ad apicem sensim longe attenuatis, ibidemque dilutioribus, basim versus brevè attenuatis et truncatis, 6–9-septatis, non constrictis, castaneis, levibus. Hab. in ligno nudo, Sao Paulo, pr. Campinas, Brasilia (Noak).—In societate *Pilacres Petersii* Berk. et Curt." Bubak and Sydow (1915) added "Eine sehr schone Art, welche mit *H. bogoriense* Penz. and Sacc., *H. obclavatum* Sacc. und *H. leptosporum* Sacc. verwandt ist, aber von allen genugend verschieden".

I have studied type material of this fungus, ex. Herb. Mus. Botan., Stockholm. The colonies are brownish-black or chestnut-brown in colour, effuse and velvety. The conidiophores are distinct, simple or sometimes branched, usually erect, straight or bent, brown in colour, septate, slightly swollen at the base, of almost uniform width and cylindrical throughout, smoothly rounded at the tip, 98–200  $\mu$  long, up to 5.6  $\mu$  wide at the base, about 4.9  $\mu$  wide in the middle, and about 4.2  $\mu$  wide towards the tip. The conidiophore may proliferate through scars of fallen conidia. The conidia are produced singly and acrogenously at the tips of conidiophores or conidiophore branches. They are brown, obclavate-fusoid, straight or sometimes somewhat curved or bent, widest midway between the middle and the base, 5–9-septate, often slightly or markedly constricted at the septa, with somewhat caudate apex, basal cell crucible-shaped with a distinct flat scar 2.1–3.5  $\mu$  wide, sometimes roughened towards the basal half or two-thirds, paler above,

darker below, 29–73  $\mu$  long, 7.0–9.1  $\mu$  wide where widest, and 2.1–3.5  $\mu$  wide at the tip.

It will be obvious from the above description and the accompanying figure (Fig. 1) that the fungus is not a *Helminthosporium*, as typified by

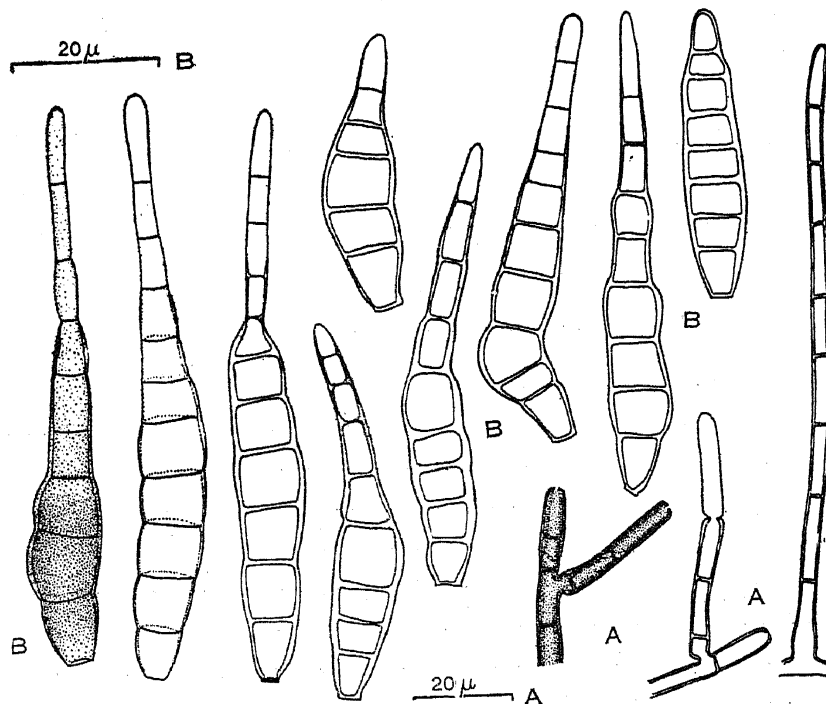


FIG. 1. *Sporidesmium obclavatulum*: (A) Conidiophores. (B) Conidia.

*H. ciliare* (Pers.) Hughes. I consider it to be a *Sporidesmium* and, accordingly, the following combination is proposed:

*Sporidesmium obclavatulum* (Bubak and Sydow) Subramanian comb. nov.

*Basionym*.—*Helminthosporium obclavatulum* Bubak and Sydow, 1915, *Ann. mycol., Berl.*, 13: 12.

*Type specimen*.—On decorticated wood (in association with *Pilacre petersii*) Brazil: Sao Paulo, Campinas, Dec. 1897, F. Noack, ex. Herb. Mus. Botan., Stockholm.

2. *Helminthosporium bombycinum* Spegazzini, 1888, *Bol. Acad. Nac. Ciencias Cordoba*, 11: 305; Saccardo, 1892, *Sylloge fungorum*, 10: 612.

Spegazzini (1888) placed the fungus tentatively in the genus *Helminthosporium* and his description was as follows: "Pulvinuli late effusi crassiusculi gossypinulo-villosuli superficiales olivacei; hyphæ cylindræ (5  $\mu$ ), simplices flexuosulæ dense intricatæ, hinc inde parce noduloso-geniculatæ fuliginæ;

conidia acropleurogena nodulis insidentia, cylindræa v. clavulata, longitudine varia ( $20-50 \times 4-5 \mu$ ), dense septulata, ad septa non v. constricta, loculis subcuboideis, lævia catenulata atra. Hab. Ad ramulos vivos *Pernetiæ mucronatæ* in sylvis prope Agaia in Hoste island, Jun. 1882. Obs. species habitu ac hypharum fabrica *Helminthosporio* Pers., conidiis autem catenulatis *Dendryphio* Wllr. accedens sed biogena; an huc *Antennaria scoriadea* Berk. ?” (Spegazzini, 1888, p. 305).

I have examined type material of this taxon, made available to me through the kind courtesy of Dr. J. C. Lindquist. The following description is based on a study of the type specimen, ex Colecciones Micologicas, Museo-Instituto Spegazzini.

The colonies are effuse, superficial, cottony and olivaceous. The conidiophores are simple (very rarely branched), erect or decumbent, straight or bent or flexuous, pale brown below, darker above, somewhat cylindrical,  $3.5-4.2 \mu$  wide at the base,  $4.9-7.0 \mu$  wide in the middle, becoming slightly wider at the tip,  $4.2-8.4 \mu$  wide at the tip, many-septate, septa up to  $21 \mu$  apart below and up to  $11.2 \mu$  apart above, and  $180-432 \mu$  long. The conidia are produced in (? acropetal) chains acrogenously from the tip of the conidiophore. The conidia are subcylindrical to cylindrical and of somewhat uniform width, straight or bent or curved variously, up to 23-septate (septae  $2.8-12.6 \mu$  apart), sometimes constricted at the septa, pale olivaceous to brown in colour, smooth, with the end cells rounded,  $10.8-198.0 \mu$  long and  $5.6-7.0 \mu$  wide (see Fig. 2).

Spegazzini himself disposed his fungus doubtfully in *Helminthosporium* and the present study has also shown that the fungus is not a *Helminthosporium*. Spegazzini's fungus is quite distinct from species of the genus *Corynespora* in which the phragmospores are pseudoseptate. I have not been able to observe any geniculations on the conidiophores referred to by Spegazzini in his diagnosis. As already mentioned above, Spegazzini wrote: “conidiis autem catenulatis *Dendryphio* Wllr. accedens sed biogena”. Sydow (1928) proposed the genus *Ormathodium* for *Dendryphion*-like fungi which are biogenous. The production of phragmospores in chains and the dematiaceous and biogenous nature of Spegazzini's fungus indicate that it may provisionally be placed in the genus *Ormathodium* as:

***Ormathodium bombycinum* (Speg.) Subramanian comb. nov.**

*Basonym*.—*Helminthosporium bombycinum* Speg., 1888, in *Bol. Acad. Nac. Ciencias Cordoba*, 11: 305.

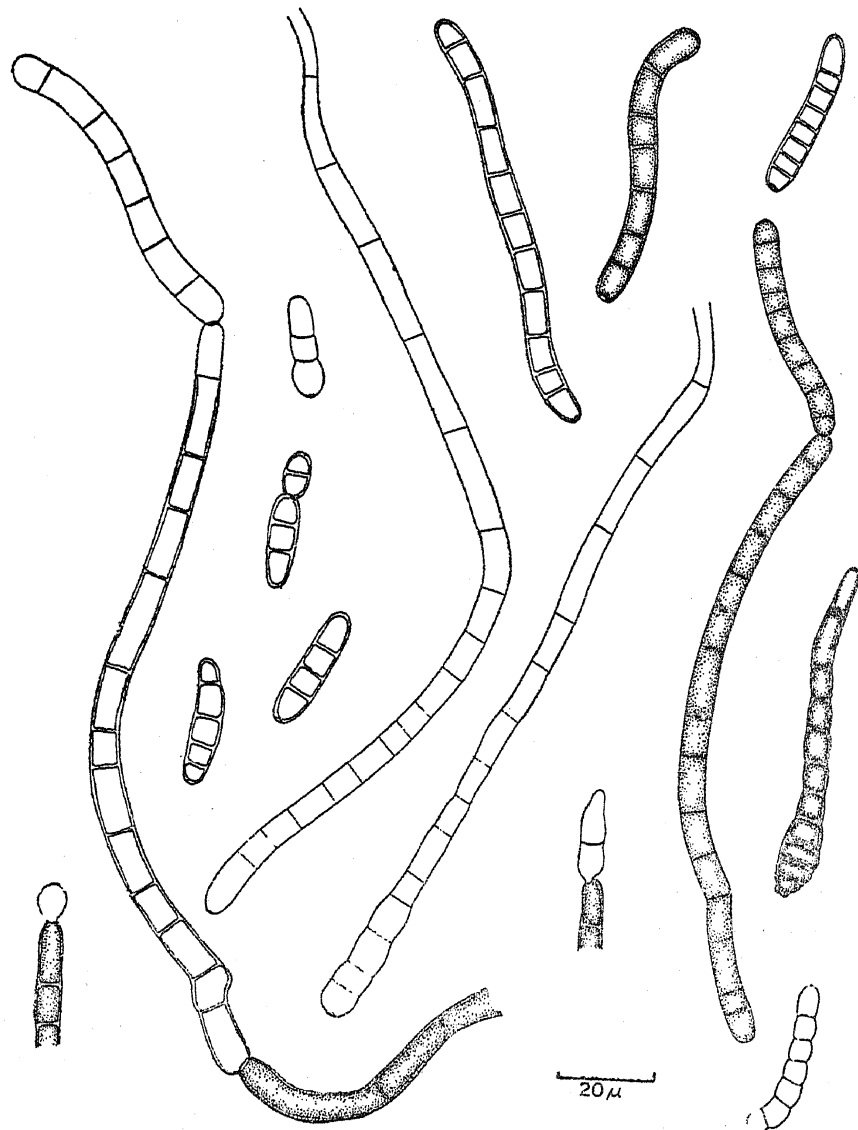


FIG. 2. *Ormathodium bombycinum*: conidiophores and conidia.

*Type specimen*.—On *Pernetia mucronata*, Isla de los Estados, Agaia, June 1882, Coll. Spegazzini, ex. Universidad Nacional de la Plata Museo-Instituto Spegazzini, Colecciones micologicas No. 26676.

3. *Clasterosporium densum* Sydow, 1912, *Ann. mycol., Berl.*, 10: 444; Saccardo, 1931, *Sylloge fungorum*, 25: 808.

*Clasterosporium densum* was described by Sydow (1912 b) from a collection on leaves of *Faurea speciosa* from Transvaal. Sydow's diagnosis of the fungus was as follows: "Hypophyllum, effusum, atro-brunneum, subvelutinum, tandem totam folii superficiem fere occupans; hyphis sterilibus

dense intertextis, anastomosantibus, rete densissimum formantibus, varie ramosis, flavo-fuscis,  $2.5-4\mu$  cr., septatis; hyphis fertilibus brevissimis, fere nullis; conidiis solitariis, vermiformibus, plerumque leniter curvulis, utrinque obtusis, 3-7-septatis, sæpe leniter constrictis, septo uno alterove sæpe obliquo, subinde sed raro etiam cellula una alterove septo longitudinali iterum divisa, brunneis,  $18-34 \times 6-9\mu$ " (Sydow, 1912 *b*, p. 444).

I have examined type material of this fungus, ex. Herb. Botanical Museum, Stockholm. The colonies are hypophyllous, blackish-brown in colour, effuse, somewhat velvety and often occupying large areas on the undersurface of leaves. The repent vegetative hyphæ are intricately and reticulately branched, subhyaline to pale golden in colour, thin-walled, smooth, septate, and  $2.1-4.2\mu$  wide. The conidiophores arise laterally or terminally on the vegetative hyphæ and are short, non-septate and simple, or may be longer and septate, up to  $2.1-3.5\mu$  wide at the base,  $2.8-4.2\mu$  wide in the middle and  $2.1-2.8\mu$  wide at the tip, often with distinct annellations towards the tip, indicating successive production of acrogenous conidia on the same conidiophore. The conidiophores are  $14-30\mu$  long. The conidia are acrogenous, produced singly, straight or curved, variable in shape, clavate to obclavate or subcylindrical, long or short, up to nine times transversely septate, sometimes with longitudinal or oblique septa in one or more cells, often faintly or distinctly constricted at septa, with the apical cell smoothly and usually broadly rounded, and with the basal cell crucible-shaped and narrowed below to a distinct flat basal scar (indicating point of attachment to conidiophore). The conidia are dark brown and thick-walled when mature,  $12-40\mu$  long,  $5.6-8.4\mu$  where widest, and  $4.2-7.0\mu$  wide towards the apex (*i.e.*, width of apical cell); the basal scar of the conidium is  $1.4-2.1\mu$  wide (Fig. 3).

A hyphopodiate mycelium and production of phragmospores are characteristic of the genus *Clasterosporium*. *Clasterosporium densum* is dematiaceous but does not possess hyphopodia in the mycelium; further, a large number of the mature conidia are dictyospores. It is, therefore, not a *Clasterosporium*. A noteworthy feature of the fungus is the successive production of conidia acrogenously on the same conidiophore leading to the formation of distinct and characteristic annellations on the conidiophores such as are seen in *Annellophora* and other phragmospored genera. I know of no genus of the Dematiaceæ-Dictyosporæ which can take in this fungus and therefore a new genus is proposed here for it. The generic name *Annellophorella* is derived from *Annellophora*; the name is suggestive of a feature both genera have in common, *i.e.*, annellations on the conidiophores.

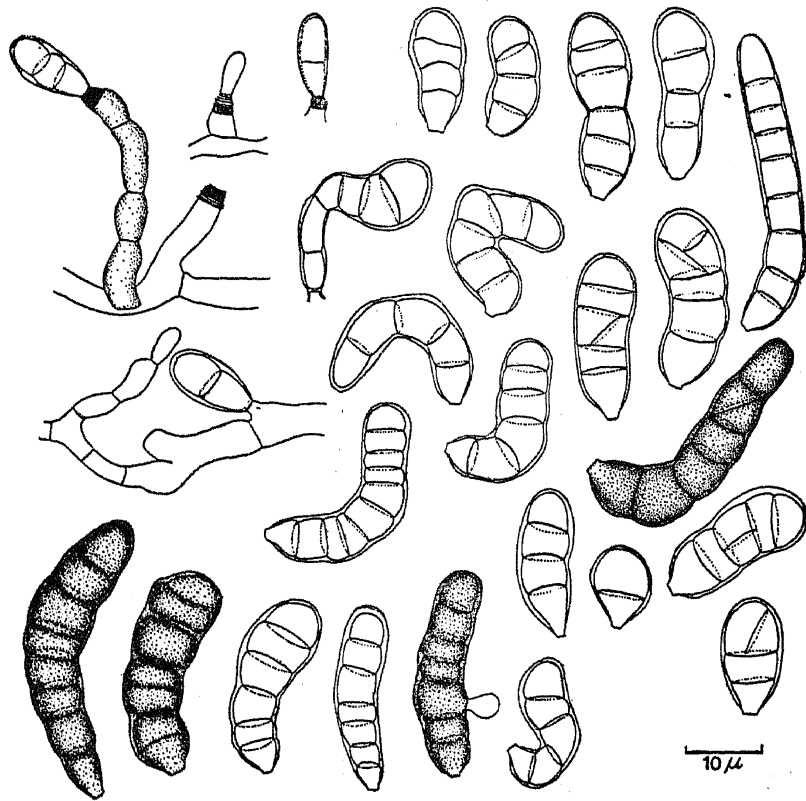


FIG. 3. *Annellophorella densa*: conidiophores and conidia.

**ANNELLOPHORELLA** Subramanian gen. nov.

Pertinet ad Fungos Imperfectos, ad Moniliales, Dematiaceas, Dictyosporas. Hyphæ septatæ, ramosæ. Conidiophori emergentes lateraliter vel terminaliter e cellulis hypharum, simplices, breves, sæpe septati, annulis distinctis ad apicem ornati. Conidia acrogena, dictyospora, formæ variæ, fusca, producta singulariter.

Fungus imperfectus, Moniliales, Dematiaceæ, Dictyosporæ. Hyphæ septate, branched. Conidiophores arising laterally or terminally on cells of hyphæ, simple, short, often septate, with distinct annellations towards apex. Conidia acrogenous, dictyosporous, of variable shape, dark coloured, produced singly.

*Type species*

***Annellophorella densa*** (Sydow) Subramanian comb. nov.

*Easonym.*—*Clasterosporium densum* Sydow, 1912, *Ann. mycol., Berl.*, 10: 444,

*Type Specimen.*—On leaves of *Fourea speciosa*, Lemana Spelonken, District Zontpausberg, Transvaal Province, 14-8-1911, coll. E. M. Doidge (South Africa), Union Department of Agriculture, ex. Mus. Botan., Stockholm.

4. *Clasterosporium degenerans* Sydow, 1914, *Ann. mycol., Berl.*, **12** : 164-65; Saccardo, 1931, *Sylloge fungorum*, **25** : 808.

*Clasterosporium degenerans* was described by Sydow (1914, pp. 164-65) as follows: "Maculis decoloribus, amphigenis, indeterminatis, irregularibus, cæspitulis hypophyllis, dense aggregatis, minutis, e strato stromatico oriundis; hyphis fertilibus hyalinis, plerumque ramosis et continuis, brevibus, hyalinis; conidiis quoad formam et magnitudinem variabilibus, plerumque oblongis, solitarie ortis vel paucis catenulatim oriundis, sed mox secedentibus, utrinque obtusis, 2-9-septatis, ad septa constrictis, loculis paucis subinde etiam longitudinaliter vel oblique 1-septatis, intus nubiloso farctis vel grosse guttatis, dilutissime hyalinis, tandem sordide fuscidulis, 16-42×9-13  $\mu$ . Hab. in foliis vivis *Pruni mume*, Kuroishi, prov. Mutsu 1-11-1913, No. 572".

I have examined type material of this fungus ex. Herb. Botan. Mus., Stockholm. The colonies on the leaves are effuse and spreading, whitish, and, in appearance, resemble somewhat those of some basidiomycete fungi such as *Hypochnus* or *Corticium*. The mycelium is composed of spreading vegetative hyphæ which are hyaline, slender, thin-walled, branched, septate and 3-5  $\mu$  wide. The conidia may be produced acrogenously and singly directly on conidiophores or may arise laterally directly on cells of the vegetative hyphæ. The conidiophores arise from cells of the repent hyphæ laterally or terminally and are usually simple and short, 11-14  $\mu$  long, and 3.5-4.9  $\mu$  wide. The conidia are hyaline, thick-walled, smooth, very variable in shape, short-clavate or subcylindrical or obclavate, 14.0-46.2  $\mu$  long, up to nine times transversely septate, sometimes obliquely septate, often with longitudinal septa in one or more cells, markedly constricted at the septa, and usually with a somewhat mamillate flat base which is (1.4)-2.1-(2.8)  $\mu$  wide. The conidia are 7-13  $\mu$  where widest; the apical cell is smoothly and often broadly rounded and 6.3-9.1  $\mu$  wide, and the basal cell is 4.9-8.4  $\mu$  wide.

Sydow (1914) mentioned that the conidia are "solitarie ortis vel paucis catenulatim oriundis", but no conidial chains were observed in the material although a careful search was made. None of the conidia had more than one scar. Accordingly, I consider that the conidia are produced singly. The hyaline mycelium and the hyaline conidia indicate that the fungus belongs to the Moniliaceæ; the genus *Clasterosporium* is dematiaceous and therefore the present fungus cannot be retained in this genus. As already mentioned

while discussing *C. densum*, the genus *Clasterosporium* has hyphopodiate mycelium and phæophragmospores, whereas *Clasterosporium degenerans* produces hyalodictyospores and does not possess hyphopodia in the mycelium. Indeed, Sydow himself considered his fungus to be a degenerate (*i.e.*, hyaline) *Clasterosporium* as the specific epithet chosen by him indicates; before Sydow, several dematiaceous dictyosporous forms had also been placed in this genus, although it is now known that the proper disposition of this genus is in the Dematiaceæ-Phragmosporæ. In concluding his discussion of the fungus, Sydow commented as follows: "Man kan den Pilz mit gleichem Rechte wie zu *Clasterosporium* auch zu einer hyalinsporigen oder dictyosporen Gattung stellen oder für denselben vielleicht auch eine neue Gattung wegen der reihenweise entstehenden Konidien aufstellen" (Sydow, 1914, p. 165). It will be clear from the foregoing description and discussion and the accompanying illustrations that Sydow's fungus cannot be retained in *Clasterosporium*. I know of no genus of the Moniliaceæ which can take it and I am therefore proposing a new genus for it. The generic name chosen, *viz.*, *Hyalodictys* is suggestive of the hyaline dictyospores which are characteristic of the fungus.

#### HYALODICTYS Subramanian gen. nov.

Pertinet ad Fungos Imperfectos, ad Moniliales, Moniliaceæ, Dictyosporas. Hyphæ hyalinæ, ramosæ, septatæ. Conidia sessilia, directe insidentia cellulis hypharum vegetativarum vel conidiophoris brevibus, hyalina, formæ variæ, dictyospora, producta singulariter et acrogene.

Fungus imperfectus, Moniliales, Moniliaceæ, Dictyosporæ. Hyphæ hyaline, branched, septate. Conidia sessile, borne directly on cells of vegetative hyphæ or on short conidiophores, hyaline, of variable shape, dictyosporous, produced singly and acrogenously.

#### *Type Species*

***Hyalodictys degenerans* (Sydow) Subramanian comb. nov.**

*Basonym.*—*Clasterosporium degenerans* Sydow, 1914, *Ann. mycol., Berl.*, 12: 164-65.

*Type specimen.*—On *Prunus mume*, Kuroisha, Prov. Mutan, Nov. 1, 1913, coll. M. Miura, No. 572 ex. Herb. Mus. Botan., Stockholm.

A specimen labelled "*Clasterosporium degenerans* Syd. Japonia, Prov. Suruga, Inaba. In foliis *Pruni Persicæ*, 10-10-1921, leg. K. Hara" ex. Herb. Mus. Botan., Stockholm, was also examined. The general appearance of the fungus colonies on the leaf is similar to that of the type specimen of



*Clasterosporium degenerans*; however, no dictyospores were observed in the material. The vegetative hyphæ are hyaline, thin-walled, branched, septate, and up to  $4.2\ \mu$  wide. The conidiophores are simple, short, borne laterally or terminally on vegetative hyphæ, up to  $4.2\ \mu$  wide, and up to  $14\ \mu$  long. The conidia are hyaline, of variable shape, subcylindrical to fusiform or narrow-clavate to narrow-obclavate, straight or bent or curved, smooth, up to eight times transversely septate,  $4.2\text{--}6.3\ \mu$  wide where widest,  $14\text{--}35\ \mu$  long, and produced singly and acrogenously on conidiophores. The basal cell of the conidium is  $3.5\text{--}4.9\ \mu$  wide, is somewhat truncate and has a somewhat flat, often imperceptible apiculus  $1.4\text{--}2.1\ \mu$  wide; the apical cell has a broadly rounded or narrowly rounded and blunt tip and is  $2.8\text{--}6.3\ \mu$  wide.

It is difficult to assign this specimen to *Hyalodictys degenerans*, since the conidial shape and septation are very much different (compare Figs. 4 and 5). The fungus is moniliaceous and it may be disposed under the Phragmosporæ. Proper assignment of this fungus to a moniliaceous genus should, however, await further studies on phragmospored moniliaceous fungi.

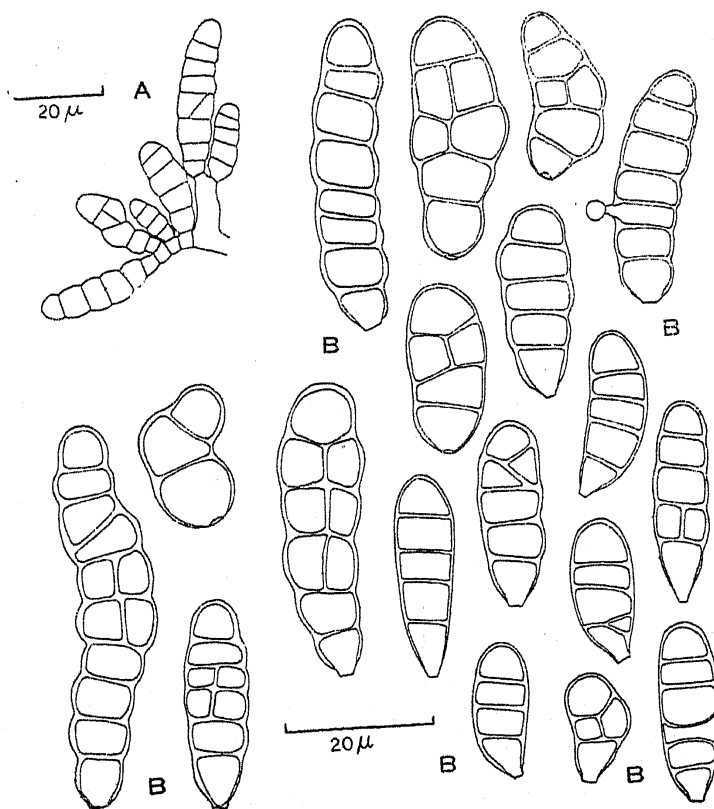


FIG. 4. *Hyalodictys degenerans*: (A) Conidiophores with conidia. (B) Conidia.

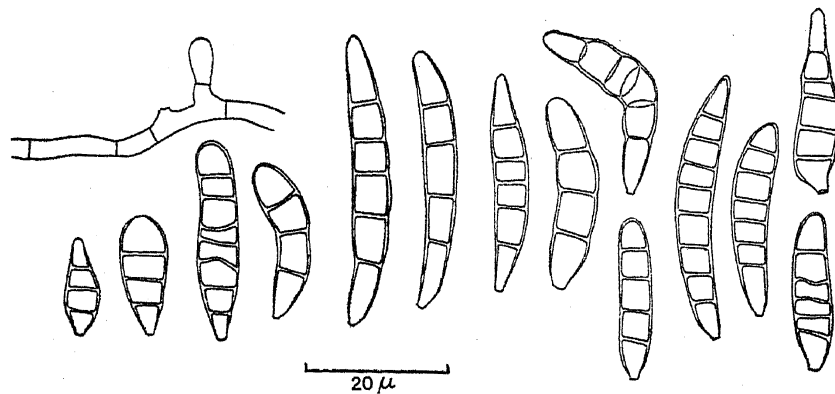


FIG. 5. Conidiophores and conidia from specimen labelled *Clasterosporium degenerans* Syd., Japonia, Prov. Suruga, Inata. In foliis *Pruni persicæ* 10-10-1921 leg. K. Hara," ex Herb. Mus. Botan., Stockholm.

5. *Helminthosporium polyphragmium* Sydow, 1912, *Ann. mycol., Berl.*, **10**: 409; Saccardo, 1931, *Sylloge fungorum*, **25**: 831.

H. and P. Sydow described *Helminthosporium polyphragmium* as follows: "Cæspitulis longe effusis, velutinis, densis, atris; hyphis erectis, obscure fuscis, remotiuscule septatis (articulis singulis 20-35  $\mu$  longis), simplicibus, 300-425  $\times$  10-14  $\mu$ , rigidis; conidiis longe clavatis, 18-28-septatis, fuscis, apicem versus longe cuspidatis et dilutioribus, 120-190  $\times$  15-17  $\mu$ . Hab. in ramis ecorticatis Camelliæ japonicæ, prov. Mino, Kawanyemura, Japonia, 25-2-1912, leg. K. Hara". The Sydows added: "Die Art ist mit *H. lanceolatum* Cke. nächst verwandt, besitzt aber breitere Konidien".

I have examined type material of this taxon, ex Herb. Mus. Botan., Stockholm. The colonies on the substratum are dark brown, effuse and markedly velutinous. The conidiophores are simple, erect, straight or bent or curved, somewhat cylindrical, dark brown, septate, often jointed, 440-560  $\mu$  long, 11.2-15.4  $\mu$  wide at the base, 9.8-12.6  $\mu$  wide in the middle and 8.4-9.1  $\mu$  wide at the tip. The conidia are not long-clavate as described by the Sydows, but they are mostly long-obclavate to cylindrical, pale to dark brown in colour, produced singly at the tip of the conidiophore, with up to twenty pseudosepta, 112-196  $\mu$  long, 6.6-7.0  $\mu$  wide at the base, 4.2-6.3  $\mu$  wide towards the tip, and with a maximum width of about 12.6-19.6  $\mu$  below the middle. No chains of conidia were seen in the collection. The conidiophore proliferates through the scar of a fallen conidium and produces another conidium acrogenously. A repetition of this process gives the conidiophore a jointed appearance. It will be obvious from the above description and the accompanying figure (Fig. 6) that the fungus is not a *Helminthosporium*. I consider it to be a *Corynespora* (see Wei, 1950)

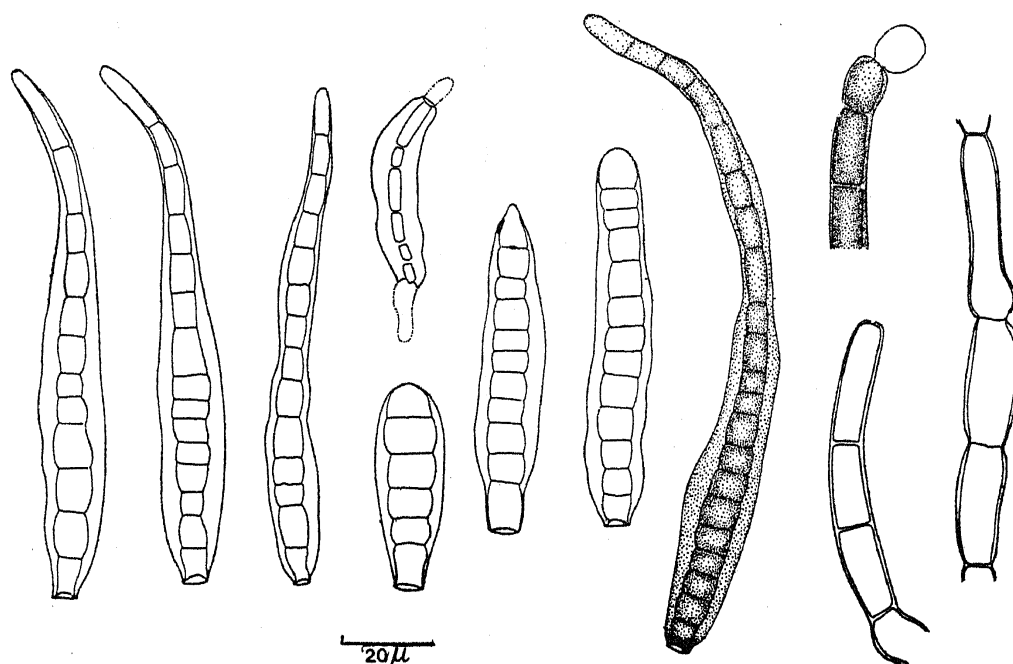


FIG. 6. Conidiophores and conidia of *Helminthosporium polyphragmium* Syd.

and, amongst the species of this genus so far known (see Ellis, 1957), may be placed in *Corynespora cassiicola* (Berk. and Curt.) Wei.

#### 6. *Sporidesmium camelliae-japonicae* sp. nov.

Associated with *Helminthosporium polyphragmium* in the type material already referred to was another distinct Dematiaceous Hyphomycete which is described below.

The vegetative hyphae are creeping, subhyaline to pale brown, branched, septate, and  $2.8-5.6\ \mu$  wide. The conidiophores arise laterally from cells of the repent hyphae or terminally on them, the basal cell being usually swollen. The conidiophores are erect or decumbent, straight or bent, simple, dark brown below, paler above, subcylindrical (being somewhat narrower above), smooth, up to 5-septate,  $12-42\ \mu$  long,  $4.2-5.6\ \mu$  wide at the base,  $2.8-3.5\ \mu$  wide in the middle and  $2.1-2.8\ \mu$  wide at the tip. The conidia are produced acrogenously and singly at the tips of the conidiophores. They are obclavate, being broadest immediately above the base, straight or bent or sometimes curved, subhyaline to pale brown, up to 8-septate, sometimes constricted at septa, with a flat base  $2.1-2.8\ \mu$  wide,  $6.3-7.0\ \mu$  wide where widest,  $2.1-2.8\ \mu$  wide at the tip which is almost subhyaline and blunt and rounded, and  $30-45\ \mu$  long.

From the description and the accompanying figure (Fig. 7), it will be obvious that the fungus is a *Sporidesmium* as circumscribed by Ellis (1958). It has a superficial resemblance to *Sporidesmium densum* (Sacc. and Roum.) Mason and Hughes; but the former has conidiophores which are considerably shorter and conidia which are distinctly smaller. It is described here as a new species.

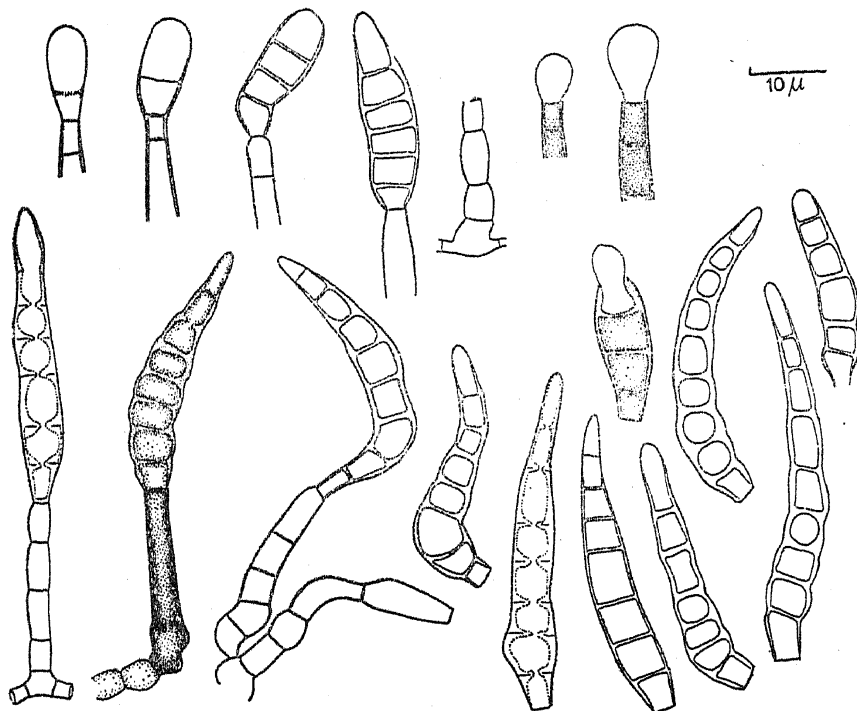


FIG. 7. *Sporidesmium camelliae-japonicae*: conidiophores and conidia.

***Sporidesmium camelliae-japonicae* Subramanian sp. nov.**

Hyphæ vegetativæ repentes, subhyalinæ vel pallide brunneæ, ramosæ, septatæ,  $2.8-5.6 \mu$  latæ. Conidiophori surgentes lateraliter vel terminaliter e cellulis hyphæ repentes, erecti vel decumbentes, recti vel curvati, simplices, fusce brunnei infra, pallidiores supra, subcylindrici, leves, usque quinquies septati,  $12-42 \mu$  longi,  $4.2-5.6 \mu$  lati ad basin,  $2.8-3.5 \mu$  lati ad medium,  $2.1-2.8 \mu$  lati ad apicem. Conidia producta acrogene et singulariter conidiophoris, obclavata, latissima supra ipsam basin, recta vel curvata vel flexa, subhyalina vel pallide brunnea, usque octies septata, nonnumquam paulum constricta ad quædam septa, basi plana  $2.1-2.8 \mu$  lata,  $6.3-7.0 \mu$  lata ad partem latissimam,  $2.1-2.8 \mu$  lata ad apicem,  $30-40 \mu$  longa, obtusa et rotundata et subhyalina ad apicem.

Typus lectus in ramis emortuis *Camelliae japonicae* in prov. Mino Kawanyemura in Japonia die 25 februarii anni 1912 a K. Hara sociatus

*Helminthosporio polyphragmio* (*Corynesporæ cassiicolæ*), (Slide No. MUBL 1626).

Vegetative hyphæ creeping, subhyaline to pale brown, branched, septate,  $2.8-5.6\ \mu$  wide. Conidiophores arising laterally or terminally from cells of repent hyphæ, erect or decumbent, straight or bent, simple, dark brown below, paler above, subcylindrical, smooth, up to 5-septate,  $12-42\ \mu$  long,  $4.2-5.6\ \mu$  wide at the base,  $2.8-3.5\ \mu$  wide in the middle,  $2.1-2.8\ \mu$  wide at the tip. Conidia produced acrogenously and singly on conidiophores, obclavate, broadest immediately above base, straight or bent or curved, subhyaline to pale brown, up to 8-septate, sometimes slightly constricted at some of the septa, with a flat base  $2.1-2.8\ \mu$  wide,  $6.3-7.0\ \mu$  wide where widest,  $2.1-2.8\ \mu$  wide at the tip,  $30-40\ \mu$  long, blunt and rounded and subhyaline towards tip.

On dead branches of *Camellia japonica*, Prov. Mino Kawanyemura, Japan, 25-2-1912, coll. K. Hara (Type: slide No. MUBL 1626), in association with, and on the twigs containing type material of *Helminthosporium polyphragmium*.

#### SUMMARY

Taxonomic notes on some interesting Hyphomycetes are presented in this paper. On the basis of study of type material of three species of *Helminthosporium* (*H. obclavatulum* Bubak and Sydow, *H. bombycinum* Speg. and *H. polyphragmium* H. and P. Sydow), *H. obclavatulum* is removed to *Sporidesmium* as *S. obclavatulum* (Bubak and Sydow) comb. nov.; *Helminthosporium bombycinum* is placed in the genus *Ormathodium* as *O. bombycinum* (Speg.) comb. nov.; *Helminthosporium polyphragmium* is considered to be a synonym of *Corynespora cassiicola* (Berk. and Curt.) Wei. Type material of two species of *Clasterosporium* (*C. densum* H. and P. Sydow, and *C. degenerans* H. and P. Sydow) was also studied. Both species are described in detail. *C. densum* is a dematiaceous fungus producing dictyospores acrogenously and singly on conidiophores which have conspicuous annellations; further, the mycelium of this species is not hyphopodiate. *C. densum* is, therefore, considered distinct from the genus *Clasterosporium* (which has hyphopodiate mycelium and produces phragmospores) and placed in a new genus *Annellophorella* as *A. densa* (H. and P. Sydow) comb. nov. *Clasterosporium degenerans* is a moniliaceous fungus with hyaline mycelium and hyaline dictyospores; the mycelium is not hyphopodiate. These features exclude this fungus from the genus *Clasterosporium*. It is made the type of a new genus, *Hyalodictys* and the new combination, *H. degenerans* (H. and P. Sydow) Subram. is proposed. A dematiaceous phragmospored fungus found in association with *Helminthosporium polyphragmium* Sydow in the

type material of this species was also studied and is considered to be a *Sporidesmium*; it appears to be distinct from species of this genus so far known and is given a new name, *Sporidesmium camellia-japonicae*.

## ACKNOWLEDGEMENTS

This work was carried out at the Indian Agricultural Research Institute, New Delhi, and I am deeply indebted to Dr. B. P. Pal, Director of the I.A.R.I., for kind encouragement and facilities. I am grateful to the Rev. Fr. Dr. H. Santapau, Chief Botanist, Botanical Survey of India, for kindly translating the diagnoses of the new taxa into Latin. To the Director, Naturhistoriska Riksmuseet, Stockholm, Sweden, and to Dr. J. C. Lindquist of the Instituto de Botanica "Spegazzini", University of La Plata, Argentina, I am thankful for making available for study type material of the Hyphomycetes included in the present study.

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