

行政院國家科學委員會專題研究計畫 期中進度報告

台灣不完全菌生物多樣性資源調查(1/2)

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台灣不完全菌之生物多樣性探討

中文摘要

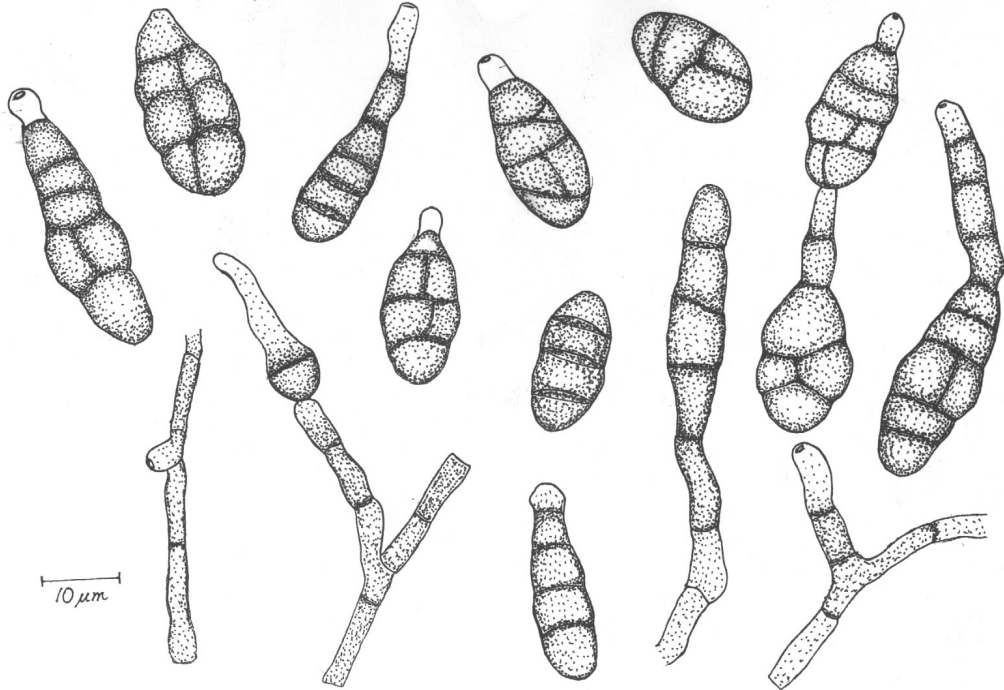
於台北縣石碇鄉皇帝殿、草嶺古道，台北市陽明山國家公園，所採集之枯枝敗葉，共分離出30株絲狀真菌，已鑑定出十種，其中 *Codinaea longispora*、*Pestalotiopsis palustris*、*Scolecobasidium cateniphorum* 為台灣新紀錄種此外，*Colletotrichum* sp.、*Alternaria* sp.、*Dactylaria* sp.、以及一種具螺旋孢子之真菌獨具形態構造特徵，尚待更進一步鑑定。

Summary

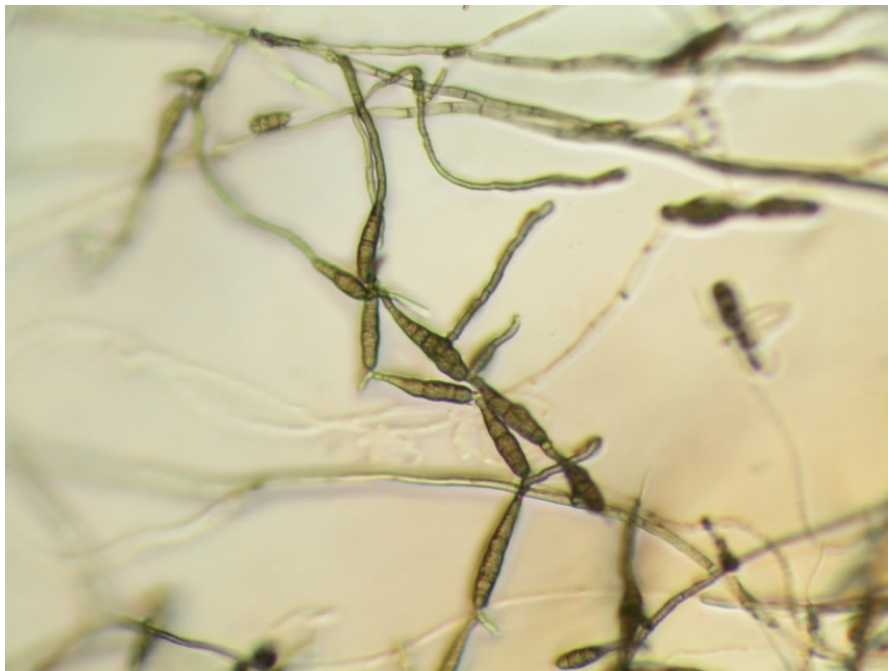
Totally 30 filamentous fungi were isolated from decaying leaves or twigs collected from Taipei City (Yangmingshan National Park), Taipei County (Huang Ti Tien、Tsao Ling), Miouli County (Fa Yun Temple), and axenically cultured on carrot potato agar (CPA) slant. Their morphological characteristics illustrated. Among the eleven hyphomycetous species, *Codinaea longispora*、*Pestalotiopsis palustris*、*Scolecobasidium cateniphorum*, were first recorded from Taiwan, and species of *Colletotrichum* sp.、*Alternaria* sp.、*Dactylaria* sp.、and a helicosporous species, all with unique morphological features remained further identification.

Alternaria sp.

Source : from rotten leaf , Tienwei, Chunghwa County, Feb.11,2003.



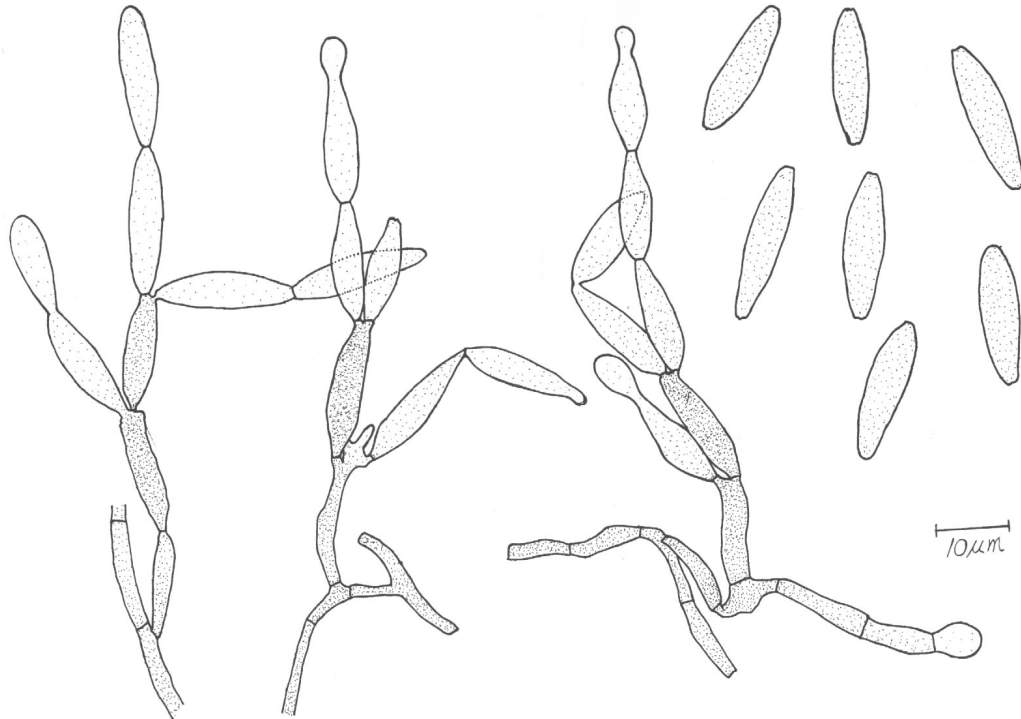
Alternaria sp. Conidia and conidiophores.



Cladosporium elegans Matsushima

Colonies on carrot and potato agar in 21 days at room temperature white, bruneous while sporulating. *Hyphae* septate hyaline or pallid bruneous. *Conidiophore* erect, simple, septate. *Ramoconidia* in 1-2 series, catenulate, 15.9-25.9(19.87) × 4.4-5.2(4.8) μ m. *Conidia* , 2-4 series, oblong-ellipsoid, 18.5-22.4(19.8) × 4.6-5.3(5.03) μ m.

Source : from rotten leaf, Huang Ti Tien, Taipei County, July 14, 2002.



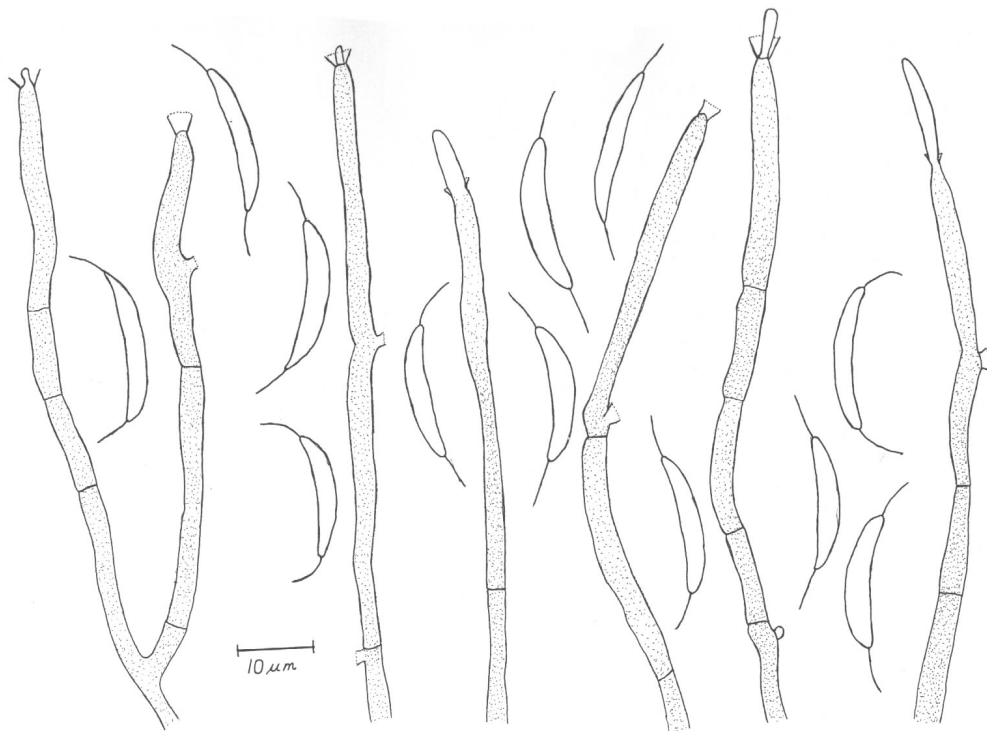
Cladosporium elegans. Conidia and conidiophores.

***Codinaea longispora* S. Hughes & W. B. Kendr.**

Colonies on carrot agar in 12 days at room temperature grow properly and sporulating abundantly. *Mycelium* composed of immersed, branched, septate, brown hyphae.

Conidiophores stalked polyphialidic, simple or rarely branched, arising singly or in groups of up to 5, pale brown to brown toward the base, paler and subhyaline toward the apex. *Conidiogenous cells* initially consist of a simple stalked phialide terminal, integrate, enteroblastic, later also proliferate, subterminal, lateral, percurrent, enteroblastic, collarette. *Phialospores* hyaline, curved, non-septate, asymmetrical, markedly tapered toward the pointed ends, $18.5-21.7(19.8) \times 2.48-3.55(2.87) \mu\text{m}$, bearing at each end a simple, straight or gently curved setulae $4.62-6.4(5.82) \mu\text{m}$ long.

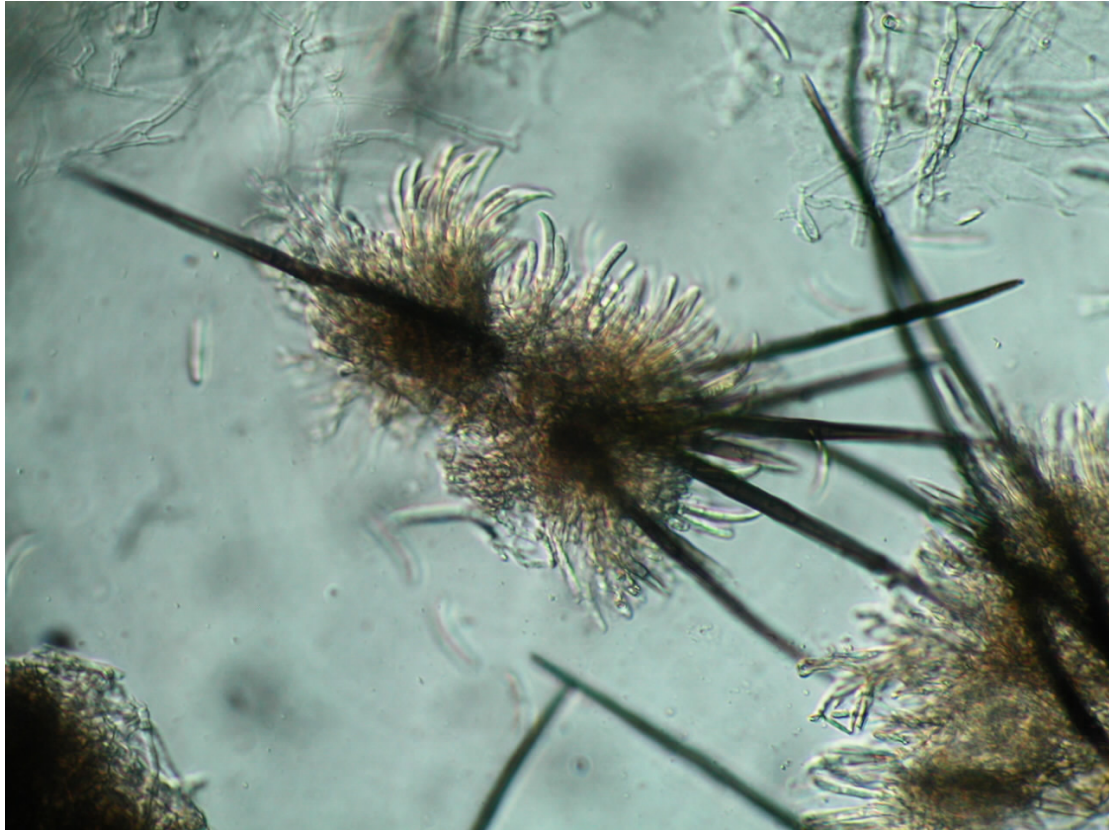
Source : from rotten leaf, Tsao Ling, Taipei County, April 26, 2003.



Codinaea longispora, Conidia and conidiophores.

Colletotrichum sp.

Source : from rotten leaf, Tsao Ling, Taipei County, April 26,2003.

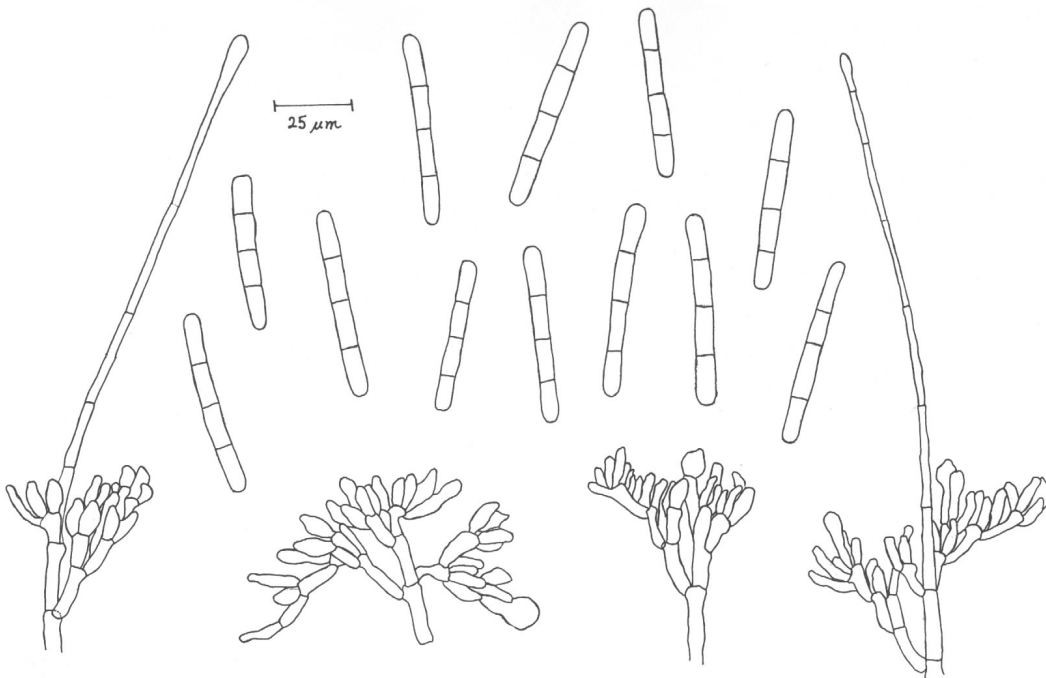


Colletotrichum sp. Sporodochia with falcate conidia and rigid black setae.

***Cylindrocladium ilicicola* Hawley**

Colonies on carrot agar in 15 days at room temperature sporulating. ***Phialophores*** erect, dichotomously branched in the upper part, terminating in fasciculated phialides. ***Sterile poles***, thin-walled, inflated at the apex to 4.46 μ m wide. ***Phialospores*** cylindrical, 52.4-66.7(61.2) \times 4.4-7.1(5.93) μ m, usually with 1-3 septate, hyaline. ***Perithecia*** not observed.

Source : from rotten leaf , Tsao Ling, Taipei County, April 26,2003.

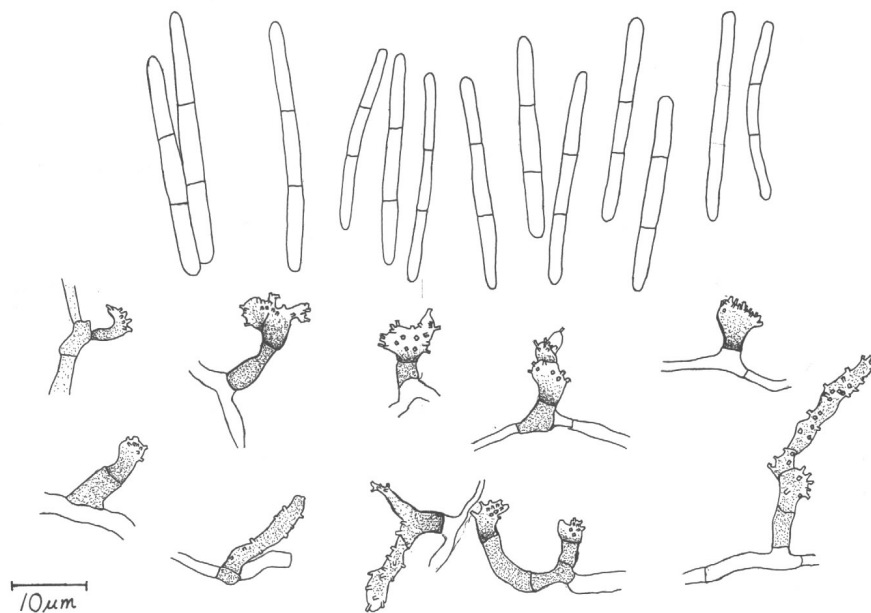


Cylindrocladium ilicicola. Conidia, conidiophores, and conidiogenous cells.

***Dactylaria biseptata* Matsushima**

Colonies on carrot agar in 7 days at room temperature sporulating. *Mycelium* septates, hyaline. *Conidiophore* brown, simple, or rarely branched, clavate, cylindrical, nodulated or irregular-shaped, usually with short cylindrical denticles laterally or terminally. *Conidia* hyaline cylindrical, often slightly curved, 25.6-29.9(28.05) × 1.4-2.8(2.02) μm.

Source : from rotten leaf, Fa Yun Temple, Miouli County, Nov. 30, 2002.

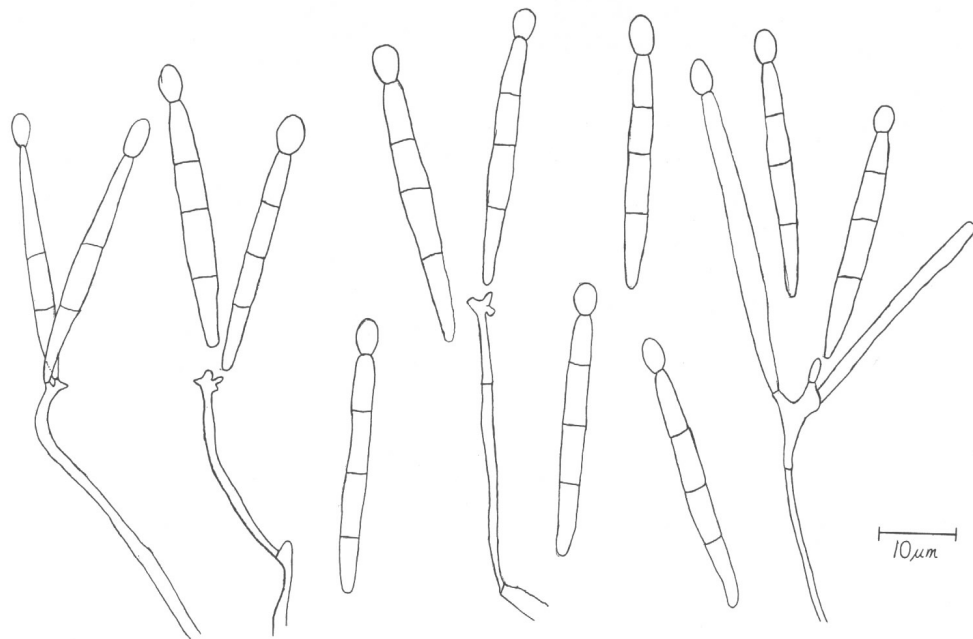


Dactylaria biseptata Conidia and conidiophores.

***Dactylaria haptospora* Drechsler**

Vegetative hyphae hyaline, septate, 1.2-4.0 μ m in diam. *Conidiophores* hyaline, erect, septate, 2.8-4.4 μ m in diam at the base, tapering gradually upward, 1.2-1.8 μ m at the tip, bearing short branches or spurs and conidia; conidia hyaline, spindle-shape, 2-4 septate, often the middle cell the largest, 35.6-41.9(38.37) \times 2.8-3.9(3.26) μ m; trapping nematodes by means of globose or ellipsoidal unicellular adhesive knobs.

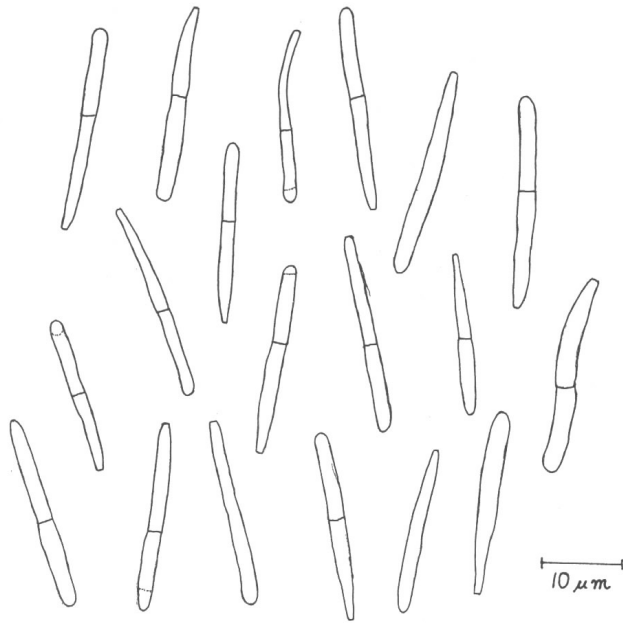
Source : from rotten leaf, Tsao Ling, Taipei County, April 26,2003.



Dactylaria haptospora. Conidia and conidiophores.

Dactylaria sp.

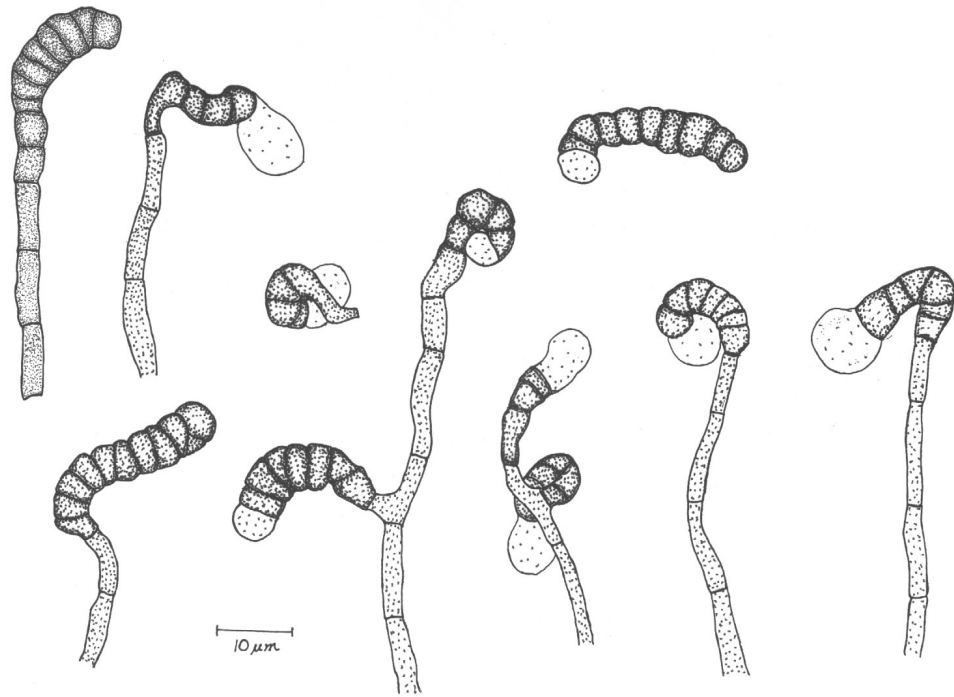
Source : from rotten leaf, Fa Yun Temple, Miaoli County, Nov.30,2002.



Dactylaria sp. Conidia.

Unidentified species with helicospores.

Source : from rotten leaf, Tsao Ling , Taipei County, April 26,2003.



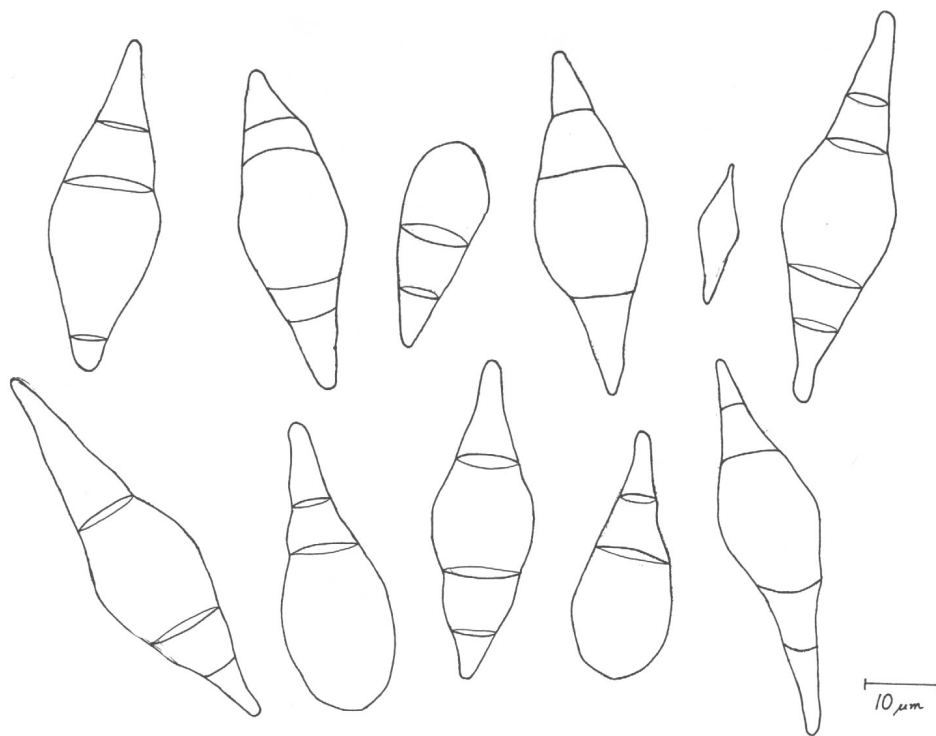
An unidentified species with helicospore. Conidia and conidiophores.

***Monacrosporium cionopaga* Drechsler**

Colonies on carrot and potato agar in 10 days at room temperature sporulating.

Hyphae hyaline, septate. *Conidophores* usually unbranched, gradually heavily tapering upward, bearing a single conidium. *Conidia* hyaline, mostly broadly spindle-shaped, rounded distally, narrowing proximally, base truncate, 2-4 septate, mostly 3-4 septate, the middle cell the largest, 29.2-56.8(45.28) × 11.4-14.9(14.25) μ m. Nematophagous.

Source : From rotten leaf, Yangmingshan National Park, Taipei City, April 18, 2003.



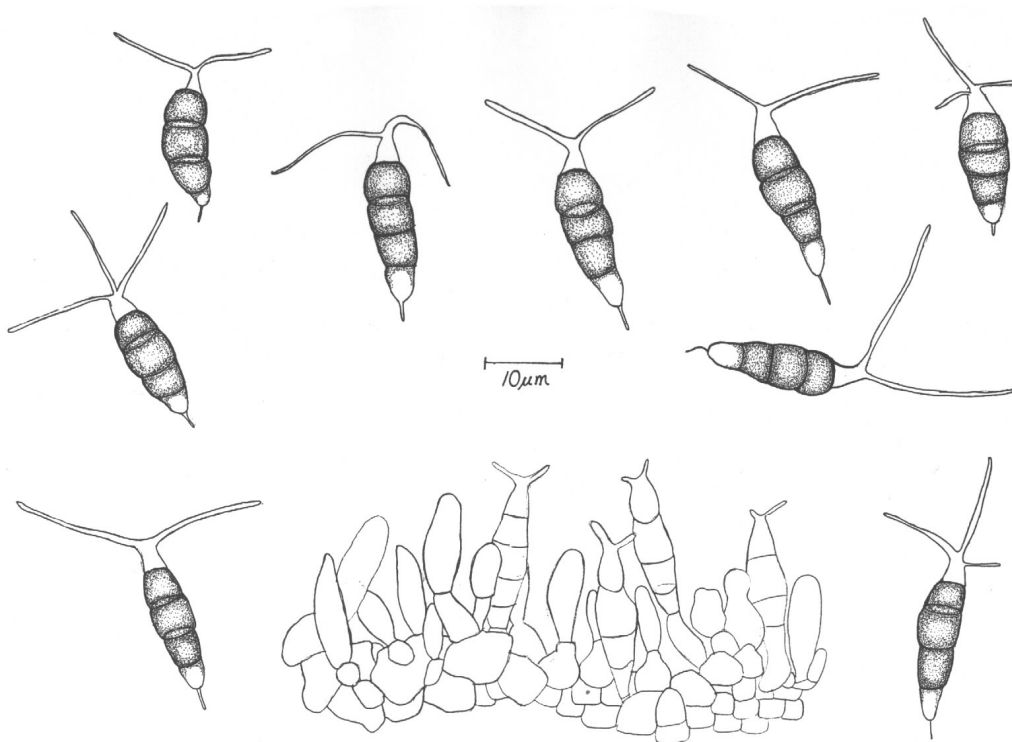
Monacrosporium cionopaga, Conidia.

***Pestalotiopsis palustris* Nag Raj**

Colonies, on carrot and potato agar in 10 days at room temperature sporulating.

Conidiophores arising from the basal stroma, mostly reduced to conidiogenous cells, occasionally 1-septate at the base and unbranched, colorless, smooth-walled, invested in mucus. **Conidiogenous cells** ampulliform to lageniform, $6.7-8.3(7.44) \times 2.3-3.7(3.1) \mu\text{m}$, colorless, smooth. **Conidia** fusiform, 4-septate, $18.5-23.5(20.96) \times 5.3-6.4(5.9) \mu\text{m}$, bearing appendages; basal cell obconic with a truncate base, almost colorless, thin- and smooth-walled, $3.3-4.7(3.7) \mu\text{m}$ long; 3 median cells doliform, thick-walled, pigmented and versicolored, together $11.7-14(12.8) \mu\text{m}$ long; apical cell conical, colorless, thin- and smooth-walled, $1.7-4.7(3.56) \mu\text{m}$ long. **Appendages** tubular, flexuous; appendages on apical cell arising in the upper half of the cell in two tiers-one as an extension of the apical cell, with 1-4 in the second tier at different loci, occasionally one of them irregularly forked, unequal, $4.7-19(10) \mu\text{m}$ long; basal appendage, usually present, single, unbranched, attenuated, centric, $1.7-4(2.68) \mu\text{m}$ long.

Source : from rotten leaf , Tsao Ling, Taipei County, April.26, 2003.

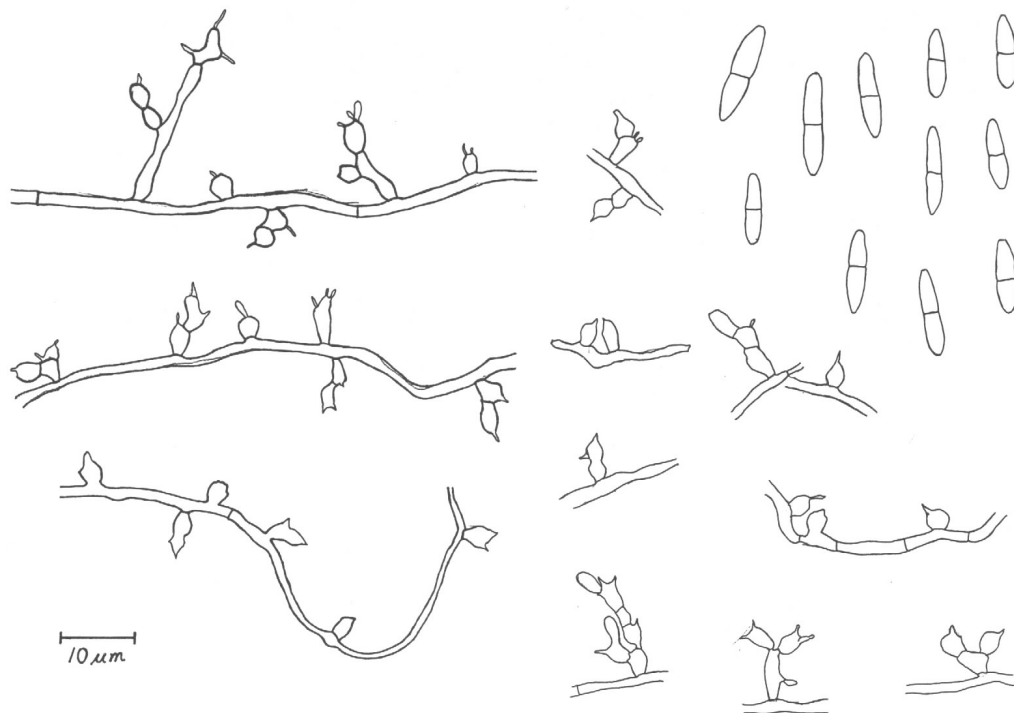


Pestalotiopsis palustris. Acervulus with conidiogenous cells and conidia.

***Scolecobasidium cateniphorum* Matsushima**

Colonies, on carrot agar in 21 days at room temperature sporulating. **Mycelium** hyaline, septate. **Conidiophores** erect, cylindrical, clavate, 3.5-6.4(4.18) × 1.7-2.8(2.38) μ m. **Conidiogenous cell** subhyaline or owl-shaped, with acute denticles, often in tuft. **Conidia** 1-septate, slightly constricted, 9.6-14.2(11.33) × 2.1-2.8(2.44) μ m.

Source : from rotten leaf, Tsao Ling, Taipei County, April 26, 2003.



Scolecobasidium cateniphorum. Conidia and conidiophores.

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Table 1. Status of hyphomycetes isolated from latters.

Species	Sampling site	Documentation
<i>Cladosporium elegans</i>	Huang Ti Tien	Priorly recorded
<i>Codinaea longispora</i>	Tsao Ling, Taipei County	Newly record
<i>Cylindrocladium tiiicola</i>	Tsao Ling, Taipei County	Priorly recorded
<i>Dactylaria bisepata</i>	Fa Yun Temple, Miouli County	Priorly recorded
<i>Dactylaria haptopora</i>	Tsao Ling, Taipei County	Priorly recorded
<i>Monacrosporium cionopaga</i>	Yangmingshan National Park	Priorly recorded
<i>Pestalotiopsis palustris</i>	Tsao Ling, Taipei County	Newly recorded
<i>Scolecobasidium careniphorum</i>	Tsao Ling, Taipei County	Newly recorded