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臺灣枯枝敗葉上絲孢綱真菌分類學之研究

Taxonomic study on Hyphomycetes from litter of Taiwan

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# Taxonomic study on Hyphomycetes from litter of Taiwan

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**Abstract:** *A taxonomic study on Hyphomycetes from litters of Taiwan was conducted from August, 1999 to July, 2000. Forty mitosporic fungi were identified to genus and where possible species level. They including 2 new species, 12 new record species and 26 record species.*

**Key words:** Hyphomycetes, Taiwan, taxonomy.

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進行為期一年的台灣枯枝敗葉上絲孢綱真菌分類學的研究，共有四十種絲孢綱真菌被鑑定，其中包括二十六種為台灣已知種，十二種為台灣新記錄種以及二種為世界性新種。

**關鍵詞：**絲孢綱真菌、臺灣、分類學

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## Introduction

Hyphomycetes (mitosporic fungi) are a group of fungi that lack sexual state in their life cycle. They are extensive to distribute in each ecosystem. According to the Ainsworth & Bisby's Dictionary of the fungi attend to current the hyphomycetes of the whole world, about 1,700 genus, 11,000 species are recorded (Hawksworth, *et al.* 1995). These fungi are of great interest, because informations of these fungi can provide knowledge of mycoflora in Taiwan, their potential ability to cause plant and animal disease, and their potential to produce novel compounds. Because of Taiwan with superior geography position, the weather of the island full year is pleasant as well as copious rain. However, the number and category of these mitosporic fungi are

not only numerous, but also biodiversity. The mitosporic fungi of Taiwan have been poorly studied both ecologically and taxonomically. Although totally approximately 900 taxa of hyphomycetes have already been described from Taiwan (It is about share the world to have known species one-tenth weak) by Chen (1992), Chang (1989a,b, 1990, 1991), Hsieh

(1987), Hsieh & Goh (1990), Huang *et al.* (1992), Liu (1987), Matsushima (1980, 1981, 1983, 1985, 1987), Sawada (1919, 1922, 1928, 1931, 1933, 1942, 1943a, 1944, 1959), Sivanesan & Hsieh (1990), Sun & Han (1971) and Tzean & Chen (1989a,b,c, 1990, 1991, 1992a,b, 1993, 1994), the mitosporic fungi of Taiwan are still largely unknown and undiscovered. Therefore, these plenty of hyphomycetes still are demand explored in this country.

During surveys of mitosporic fungi from forest litter in Taiwan, numerous conidial fungi were collected. This present study was recorded fifty species distribution of fungi associated with Hyphomycetes in Taiwan, included 2 new species, 12 new recorded species and 26 recorded species were recognized.

## Materials and Methods

Samples of rotten litters were collected in Taiwan during August, 1999 to July, 2000. Collections were incubated in moist chambers (plastic boxes, 30 X 20 X 12 cm, with three layers of moistened paper) for fungal sporulation. Pure culture was established by inoculating a single spore or spores onto 3% water agar using a sterile glass microneedle. A piece of agar containing isolated spores was transferred to oat meal agar (OMA) slants or plates under a stereomicroscope. Details of fungal characteristics and conidiogenesis were studied, measured, described, illustrated and photographed with Olympus light microscope (BX50) and Olympus stereoscope (SZH ILLB). The taxonomic systems of Barron (1968), Hughes (1953), Tubaki (1963), Ellis (1971) and Saccardo (1882-1931) were used for identification.

## Results

Forty taxa of mitosporic fungi are described, illustrated and photographed from forest litter in Taiwan. They included 2 new species, 12 new recorded species and 26 recorded species. Both live cultures and dried specimens were deposited in the Herbarium of the Chen-Fungus-Collection (Herb. CFC).

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## References

- Chang, H.S. 1989a. Six synnematos Hyphomycetes new for Taiwan. Bot. Bull. Academia Sinica 30:161-166.
- Chang, H.S. 1989b. Seven helicosporous Hyphomycetes new for Taiwan. Bot. Bull. Academia Sinica 30:223-227.
- Chang, H.S. 1990. Setiform conidiophore Hyphomycetes from Taiwan. Bot. Bull. Academia Sinica 31:257-262.
- Chang, H.S. 1991. Sterigmatobotrys uniseptata sp. nov. from Taiwan. Mycol. Res. 95:1142-1144.
- Chen, J. L., Hwang, C.H. and Tzean, S.S. 1991. *Dictyosporium digitatum* a new hyphomycetes from Taiwan. Mycol. Res. 95:1145-1149.
- Chen, J.L. and Tzean, S.S. 1993. *Megacapitula villosa* gen. et sp. nov. (Hyphomycetes) from Taiwan. Mycol. Res. 97:637-640.
- Chen, J.L. and Tzean, S.S. 1993. *Podosporium elongatum* a new synnematos Hyphomycetes from Taiwan. Mycol. Res. 97:637-640.
- Chen, J.L. and Tzean, S.S. 1995. A new species of *Ardhachandra* from Taiwan. Mycol. Res. 99:364-366.
- Chen, J.L. and Tzean, S.S. 1999. *Turturconchata*, a new genus of Hyphomycetes from Taiwan. Mycol. Res. 103:830-832.
- Chen, J.L. and Tzean, S.S. 1998. *Dactylella huisuniana*, a new nematode-trapping fungi from Taiwan. Mycol. Res. 102:1269-1273.
- Chen, J.L., Lin, W.S. and Tzean, S.S. 2000. A new species of *Lambda-sporium* from Taiwan. Bot. Bull. Academia Sinica 41:81-84.
- Chen, J.L., Lin, W.S. and Tzean, S.S. 1999. *Aphanocladium macrosporum* sp. nov. from Taiwan. Bot. Bull. Academia Sinica 40:333-336.
- Chen, J.L., Lin, W.S. and Tzean, S.S. 2000. New records from Taiwan of three interesting dematiaceous hyphomycetes. Bot. Bull. Academia Sinica 41:251-255.
- Chen, J.L. and Tzean, S.S. 1999. Two

- synnematous hyphomycetes from Taiwan. *Fung. Sci.* 14:31-35.
- Chen, J.L. and Tzean, S.S. 1999. Three species of *Dictyosporium* from Taiwan. *Fung. Sci.* 14:105-109.
- Chen, J.L. and Tzean, S.S. 1999. Two species of *Trinacrium* from Taiwan. *Fung. Sci.* 14:111-115.
- Chen, J.L. 2000. Taxonomic study of the genus *Clavatospora* (Hyphomycetes), with a new record species of the genus to Taiwan. *Fung. Sci.*: in press.
- Chen, J.L. and Tzean, S.S. 2000. Three species of *Spegazzinia* (hyphomycetes) from Taiwan. *Fung. Sci.* 15:81-87.
- Chen, J.L. and Tzean, S.S. 2000. An additional ten species of *Stachybotrys* from Taiwan. *Fung. Sci.* 15:93-107.
- Ellis, M.B. 1971. *Dematiaceous Hyphomycetes*. Commonwealth Mycological Institute, Kew, England.
- Ellis, M.B. 1976. *More Dematiaceous Hyphomycetes*. Commonwealth Mycological Institute, Kew, England.
- Hawksworth, D.L., Kirk, P.M., Sutton, B.C. and Pegler, D.N. 1995. Ainsworth & Bisby's Dictionary of The fungi. 8th, International Mycological Institute, England.
- Hsieh, W.H. and Goh, T.K. 1990. *Cercospora* and similar fungi from Taiwan. Haw Chang Book Company, Taipei, Taiwan.
- Matsushima, T. 1971. Microfungi of the Solomon Islands and Papua-New Guinea. Matsushima, Kobe, Japan.
- Matsushima, T. 1975. *Icones Microfungorum a Matsushima Lectorum*. Matsushima, Kobe, Japan.
- Matsushima, T. 1980. Saprophytic microfungi from Taiwan. Part 1. Hyphomycetes. Matsushima Mycological Memoirs No. 1. Matsushima, Kobe, Japan.
- Matsushima, T. 1981. Matsushima Mycological Memoirs No.2. Matsushima, Kobe, Japan.
- Matsushima, T. 1983. Matsushima Mycological Memoirs No.3. Matsushima, Kobe, Japan.
- Matsushima, T. 1985. Matsushima Mycological Memoirs No.4. Matsushima, Kobe, Japan.
- Matsushima, T. 1987. Matsushima Mycological Memoirs No.5. Matsushima, Kobe, Japan.
- Sawada, K. 1919. Descriptive catalogue of the Formosan fungi I. Taiwan Agri. Exp. Sta. Special Buool.
- Sivanesan, A. and Hsish, W.H. 1990. A synnematous species of *Janetia* from Taiwan. *Mycol. Res.* 94:566-569.
- Tzean, S.S. and Chen, J.L. 1989a. Two new species of *Dictyosporium* from Taiwan. *Mycol. Res.* 92:498-502.
- Tzean, S.S. and Chen, J.L. 1989b. A new species of *Triadelphia* from Taiwan. *Mycologia* 81:626-631.
- Tzean, S.S. and Chen, J.L. 1989c. A new species of *Endophragmiella* from Taiwan. *Mycologia* 81:800-805.
- Tzean, S.S. and Chen, J.L. 1990. *Cheiramoniliophora elegans* gen. Et sp. nov. *Mycol. Res.* 94:424-427.
- Tzean, S.S. and Chen, J.L. 1991. Two new species of *Dactylaria* from Taiwan. *Mycol. Res.* 95:1000-1004.
- Tzean, S.S., Chen, J.L., Liou, G.Y., Chen, C.C. and Hsu, W.H. 1990. *Aspergillus* and related teleomorphs from Taiwan. *Mycolo. Monogr. No. 1, Cult. Coll. & Res. Centre, Taiwan.*