

# Taxonomic study on Hyphomycetes from litters of Taiwan

Jin Liang Chen

*Department of Hospital and Health Care Administration, Chia-Nan College of Pharmacy & Science, Tainan, Taiwan 717, R.O.C.*

**Abstract:** *A taxonomic study on Hyphomycetes from litters of Taiwan was conducted from August, 1998 to July, 1999. Forty hyphomycetes were identified to genus and where possible species level. They including 4 new species, 8 new record species and 28 record species.*

**Keywords:** Hyphomycetes (mitosporic fungi), taxonomy, litters, Taiwan.

---

## 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 4 new species of 8 new recorded species and 28 recorded species were recognized.

## Materials and Methods

The various decayed stems, barks and rotten leaves were collected between August, 1998 to July, 1999 from forests in Taiwan. Material was returned to the laboratory in plastic boxes and examined as soon as possible for associated fungi, or some non-fruiting specimens were incubated for 1-7 d in a moist plastic boxes to promote sporulation. Then under a stereomicroscope, the single spore or mass fungal spores with the microneedle of asepsis to separate establish pure

culture. Fungal characteristic and conidiogenesis of the obtained hyphomycetes were examined with a Olympus light microscope (BX50), immediately after according to the taxonomic concepts of Barron, Hughes, Tubaki, Ellis and Saccardo take into identification. The identified fungi besides were described, illustrated (with drawing tube) and photographed (with camera).

## Results

Forty taxa of hyphomycetes are described, illustrated and photographed from forest litter in Taiwan. They included 4 new species, 8 new recorded species. And 28 recorded species.

## Acknowledgments

This study was supported by grants from National Science Council (NSC88-2313-B-041-001).

## References

- Chang, H.S. 1989a. Six synnematosus 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 synnematosus 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. 1997a. *Barbatospora*, a new genus of Hyphomycetes from Taiwan. Mycol. Res.: in press
- Chen, J.L. and Tzean, S.S. 1997b. *Turturconchata*, a new genus of Hyphomycetes from Taiwan. Mycol. Res.: in press
- Chen, J.L. and Tzean, S.S. 1997c. *Dactylella huisuniana*, a new nematode-trapping fungi from Taiwan. Mycol. Res.: in press
- Chen, J.L., Lin, W.S and Tzean, S.S. 1998. A new species of *Lambdasporium* from Taiwan. Bot. Bull. Academia Sinica: submitted.
- Chen, J.L., Lin, W.S and Tzean, S.S. 1998. *Aphanocladium macrosporum* sp. nov. from Taiwan. Bot. Bull. Academia Sinica: submitted.
- 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 synnematus 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. *Cheiromoniliophora 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.