

---

# MYCOTAXON

DOI: 10.5248/114.417

Volume 114, pp. 417–421

October–December 2010

---

## Taxonomic studies of *Ellisembia* from Hainan, China

JIAN MA, YI-DONG ZHANG, LI-GUO MA,  
SHOU-CAI REN & XIU-GUO ZHANG\*

zhxg@sdau.edu.cn, sdau613@163.com

Department of Plant Pathology, Shandong Agricultural University  
Taian, 271018, China

**Abstract** — Two new species of the anamorphic genus *Ellisembia* were collected from tropical forests in Hainan Province, China. *Ellisembia podocarp*i sp. nov. and *E. photinia*e sp. nov., occurring respectively on dead branches of *Podocarpus imbricatus* and *Photinia parvifolia*, are described and illustrated. They are compared with similar species.

**Key words** —anamorphic fungi, taxonomy

### Introduction

The genus *Ellisembia* was introduced by Subramanian (1992) to accommodate *Sporidesmium*-like species that have determinate or irregularly percurrently extending conidiogenous cells that produce distoseptate conidia. Wu & Zhuang (2005) merged *Imicles* Shoemaker & Hambl. (Shoemaker & Hambleton 2001) into *Ellisembia*, and expanded the generic concept to include typically lageniform, ovoid or doliiform percurrently extending conidiogenous cells. Following the generic concept of Subramanian (1992) and Wu & Zhuang (2005), more than 40 species have been described under *Ellisembia*, most of which are saprobes on rotten wood and dead branches of various plants (Subramanian 1992, McKenzie 1995, 2010, Goh & Hyde 1999, Mena & Delgado 2000, Zhou & Hyde 2001, Wu & Zhuang 2005, Heuchert & Braun 2006, Ma et al. 2008).

The tropical forests of Hainan have a rich mycota, and many wood-inhabiting fungi have been discovered there (Dai & Cui 2006, Zhang et al. 2009, Dai & Li 2010). During an ongoing mycological survey in these forests, numerous conidial fungi were collected on dead branches. Among these were two species having the morphological characteristics of genus *Ellisembia*. They differ

---

\*Corresponding author

significantly from previously described *Ellisembia* species and are therefore proposed as new taxa.

### Taxonomy

*Ellisembia podocarpi* Jian Ma & X.G. Zhang, sp. nov.

FIGS. 1–4

MYCOBANK MB 518837

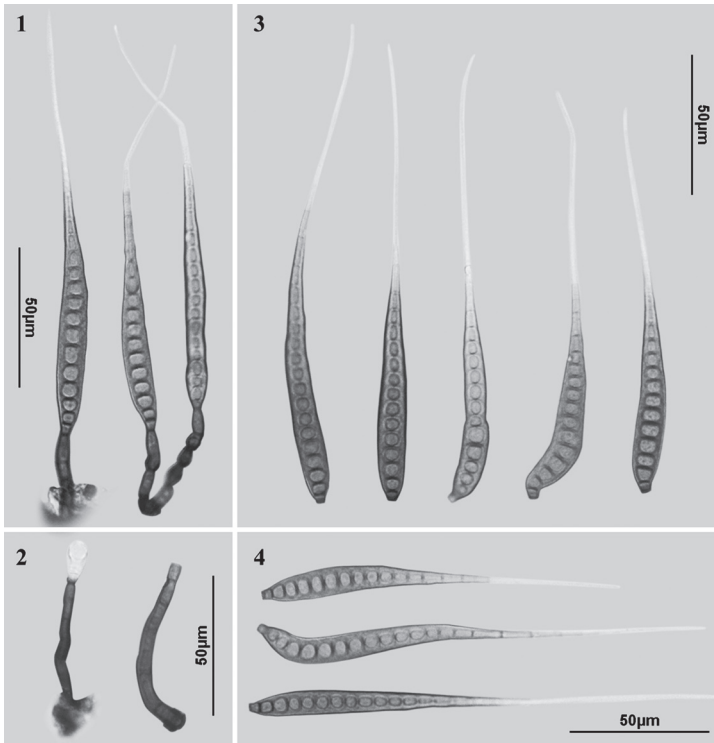
*Fungus anamorphicus*. COLONIAE in substrato naturali effusae, brunneae, pilosae. Mycelium partim superficiale, partim immersum in substrato, ex hyphis ramosis, septatis, pallide brunneis, laevibus, 1.5–3  $\mu\text{m}$  crassis compositum. CONIDIOPHORA macronemata, mononematica, singula vel fasciculata, erecta, nonramosa, recta vel flexuosa, cylindrica, brunnea, laevia, septata, 32–65  $\times$  3–5.5  $\mu\text{m}$ . CELLULAE CONIDIOGENAE monoblasticae, integratae, terminales, lageniformes vel cylindricae, brunneae, laeves, 8–16  $\times$  3–4.5  $\mu\text{m}$ , ad usque 0–3 proliferationes lageniformes vel doliiformes percurrentes. Conidiorum secessio schizolytica. CONIDIA holoblastica, solitaria, acrogena, recta vel curvata, obclavata, ad longa rostrata, laevia, brunnea vel pallide brunnea, 13–19-distoseptata, 110–170  $\mu\text{m}$  longa (rostrum incluso), 7.5–10  $\mu\text{m}$  crassa, basi truncata 2–4  $\mu\text{m}$  lata, cellula apicali versus attenuate, pallide brunnea vel subhyalina, aseptata, laevia, rostrum, ad usque 80  $\mu\text{m}$  longo, 1–2.5  $\mu\text{m}$  lato.

HOLOTYPE: on dead branches of *Podocarpus imbricatus* Blume (*Podocarpaceae*), tropical forest of Jianfengling, Hainan Province, China. 3 May 2007, J. Ma, HSAUP H5281 (isotype HMAS 146080).

ETYMOLOGY: in reference to the host genus, *Podocarpus*.

Anamorphic fungi. COLONIES on natural substrate effuse, brown, hairy. Mycelium partly superficial, partly immersed in the substratum, composed of branched, septate, pale brown, smooth-walled hyphae, 1.5–3  $\mu\text{m}$  thick. CONIDIOPHORES macronematous, mononematous, singly or in groups, erect, unbranched, straight or flexuous, cylindrical, brown, smooth, septate, 32–65  $\times$  3–5.5  $\mu\text{m}$ . CONIDIOGENOUS CELLS monoblastic, integrated, terminal, lageniform or cylindrical, brown, smooth, 8–16  $\times$  3–4.5  $\mu\text{m}$ , with 0–3 lageniform or doliiform percurrent proliferations. Conidial secession schizolytic. CONIDIA holoblastic, solitary, acrogenous, straight or curved, obclavate to long-rostrate, smooth-walled, brown to pale brown, 13–19-distoseptate, 110–170  $\mu\text{m}$  long (rostrum included), 7.5–10  $\mu\text{m}$  thick in the broadest part, 2–4  $\mu\text{m}$  wide at the truncate base, apex extended into a pale brown to subhyaline, aseptate, smooth, rostrum, up to 80  $\mu\text{m}$  long, 1–2.5  $\mu\text{m}$  wide.

*Ellisembia podocarpi* is morphologically most similar to *E. filia* W.P. Wu (Wu & Zhuang 2005) and *E. maungatautari* McKenzie (McKenzie 2010), but differs from *E. filia* (conidia 40–50  $\mu\text{m}$  long, 7–9-distoseptate) in having longer conidia with more numerous distosepta, and from *E. maungatautari* (conidia 13–15  $\mu\text{m}$  wide, 17–23-distoseptate) in having narrower conidia with fewer distosepta. In addition, conidiophores of *E. podocarpi* extend percurrently up to 3 times while *E. filia* and *E. maungatautari* conidiophores do not extend.



FIGS. 1–4. *Ellisembia podocarpi*. 1, 2. Conidiophores with terminal conidia. 3, 4. Conidia.

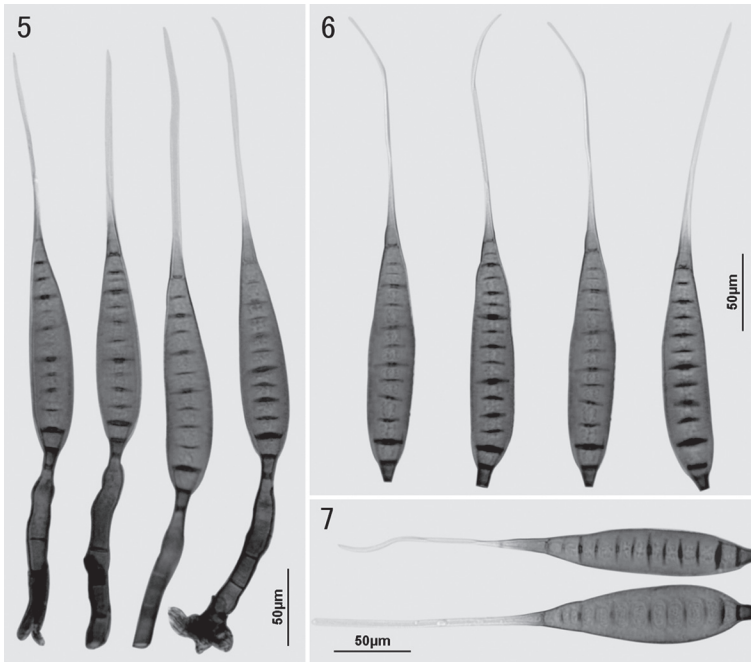
***Ellisembia photinia*** Jian Ma & X.G. Zhang, sp. nov.

FIGS. 5–7

MYCOBANK MB 518838

*Fungus anamorphicus*. COLONIAE in substrato naturali effusae, brunneae, pilosae. Mycelium partim superficiale, partim immersum in substrato, ex hyphis ramosis, septatis, pallide brunneis, laevibus, 1.5–2.5 µm crassis compositum. CONIDIOPHORA macronemata, mononematica, singula vel fasciculata, erecta, nonramosa, recta vel flexuosa, cylindrica, brunnea vel atrobrunnea, laevia, septata, 8.5–32 × 5.5–7.5 µm. CELLULAE CONIDIOGENAE monoblasticae, integratae, terminales, lageniformes vel cylindricae, brunneae, laeves, 27–30 × 6.5–7.5 µm, ad usque 0–1 proliferationes cylindricae percurrentes. Conidium secessio schizolytica. CONIDIA holoblastica, solitaria, acrogena, recta vel leviter curvata, obclavata, ad longa rostrata, laevia, brunnea vel pallide brunnea, 10–16-distoseptata, 92–170 µm longa (rostro incluso), 13–16 µm crassa, basi truncata 3–5 µm lata, cellula apicali versus attenuate, pallide brunnea vel subhyalina, aseptata, laevia, rostro 43–90 × 1–1.5 µm.

HOLOTYPE: on dead branches of *Photinia parvifolia* C.K. Schneid. (*Rosaceae*), tropical forest of Bawangling, Hainan Province, China. 10 Dec 2009, J. Ma, HSAUP H5189–4 (isotype HMAS 146081).



FIGS. 5–7. *Ellisembia photiniaie*. 5. Conidiophores with terminal conidia. 6, 7. Conidia.

ETYMOLOGY: in reference to the host genus, *Photinia*.

Anamorphic fungi. COLONIES on natural substrate effuse, brown, hairy. Mycelium partly superficial, partly immersed in the substratum, composed of branched, septate, pale brown, smooth-walled hyphae, 1.5–2.5  $\mu\text{m}$  thick. CONIDIOPHORES macronematous, mononematous, singly or in groups, erect, unbranched, straight or flexuous, cylindrical, brown to dark brown, smooth, septate, 8.5–32  $\times$  5.5–7.5  $\mu\text{m}$ . CONIDIOGENOUS CELLS monoblastic, integrated, terminal, lageniform or cylindrical, brown, smooth, 27–30  $\times$  6.5–7.5  $\mu\text{m}$  wide, with 0–1 cylindrical percurrent proliferations. Conidial secession schizolytic. CONIDIA holoblastic, solitary, acrogenous, straight or slightly curved, obclavate to long-rostrate, smooth-walled, brown to pale brown, 10–16-distoseptate, 92–170  $\mu\text{m}$  long (rostrum included), 13–16  $\mu\text{m}$  thick in the broadest part, 3–5  $\mu\text{m}$  wide at the truncate base, apex extended into a pale brown to subhyaline, aseptate, smooth, rostrum 43–90  $\times$  1–1.5  $\mu\text{m}$ .

*Ellisembia photiniaie* bears some resemblances to *E. filia* (Wu & Zhuang 2005) and *E. maungatautari* (McKenzie 2010) in conidial shape. However, conidia of *E. photiniaie* are distinctly larger than those of *E. filia* (conidia 40–50  $\times$  7–8

µm), and shorter than those of *E. maungatautari* (conidia 85–125 µm long). In addition, conidia of *E. photiniae* have 10–16 distosepta, while those of *E. filia* and *E. maungatautari* have 7–9 and 17–23 distosepta, respectively.

### Acknowledgments

The authors express gratitude to Dr W.B. Kendrick and Dr R.F. Castañeda Ruíz for serving as pre-submission reviewers and for their valuable comments and suggestions. This project was supported by the National Natural Science Foundation of China (Nos. 30499340, 30770015) and the Ministry of Science and Technology of the People's Republic of China (Nos. 2006FY120100, 2006FY110500–5).

### Literature cited

- Dai YC, Cui BK. 2006. Two new species of *Wrightoporia* (Basidiomycota, *Aphyllphorales*) from southern China. *Mycotaxon* 96: 199–206.
- Dai YC, Li HJ. 2010. Notes on *Hydnochaete* (*Hymenochaetales*) with a seta-less new species discovered in China. *Mycotaxon* 111: 481–487. doi:10.5248/111.481.
- Goh TK, Hyde KD. 1999. Fungi on submerged wood and bamboo in the Plover Cove Reservoir, Hong Kong. *Fungal Diversity* 3: 57–85.
- Heuchert B, Braun U. 2006. On some dematiaceous lichenicolous hyphomycetes. *Herzogia* 19: 11–21.
- Ma J, Zhang K, Zhang XG. 2008. Two new *Ellisembia* species from Hainan, China. *Mycotaxon* 104: 141–145.
- McKenzie EHC. 1995. Dematiaceous hyphomycetes on *Pandanaceae*. 5. *Sporidesmium* sensu lato. *Mycotaxon* 56: 9–29.
- McKenzie EHC. 2010. Three new phragmosporous hyphomycetes on *Ripogonum* from an 'ecological island' in New Zealand. *Mycotaxon* 111: 183–196. doi:10.5248/111.183.
- Mena-Portales J, Delgado-Rodríguez G, Heredia-Abarca G. 2000. Nuevas combinaciones para especies de *Sporidesmium* sens. lat.. *Boletín de la Sociedad Micológica de Madrid* 25: 265–269.
- Shoemaker RA, Hambleton S. 2001. "*Helminthosporium*" *asterinum*, *Polydesmus elegans*, *Imimyces*, and allies. *Canadian Journal of Botany* 79(5): 592–599. doi:10.1139/cjb-79-5-592.
- Subramanian CV. 1992. A reassessment of *Sporidesmium* (hyphomycetes) and some related taxa. *Proceedings of the Indian National Science Academy B* 58(4): 179–190.
- Wu WP, Zhuang WY. 2005. *Sporidesmium*, *Endophragiella* and related genera from China. *Fungal Diversity Research Series* 15: 1–351.
- Zhang K, Fu HB, Zhang XG. 2009. Taxonomic studies of *Corynespora* from Hainan, China. *Mycotaxon* 109: 85–93.
- Zhou DQ, Hyde KD, Wu XL. 2001. New records of *Ellisembia*, *Penzigomyces*, *Sporidesmium* and *Repetophragma* species on bamboo from China. *Acta Botanica Yunnanica* 23(1): 45–51.

