

Camillea selangorensis sp. nov. from Malaysia

Margaret A. Whalley¹, Anthony J. S. Whalley² & E. B. Gareth Jones

¹School of Biomolecular Sciences, Liverpool John Moores University, Byrom Street, Liverpool L3 3AF, U.K.

²School of Biological Sciences, University of Portsmouth, King Henry 1 Street, Portsmouth PO1 2DY, U.K.

Whalley, M. A., A. J. S. Whalley & E. B. G. Jones (1996). *Camillea selangorensis* sp. nov. from Malaysia. – *Sydowia* 48 (1): 145–151.

A new species of *Camillea* from Kuala Selangor, Malaysia is described and its relationship to other species of *Camillea* is discussed.

Keywords: *Camillea*, taxonomy, Xylariaceae.

Fries (1849) erected the genus *Camillea* Fr. to accommodate those Xylariaceous fungi which have erect cylindrical, or short discoid black stromata with hard carbonaceous crusts. This generic concept has now been expanded to include those applanate species, formerly placed in *Hypoxylon* Bull., which possess light-coloured, ornamented ascospores without germ slits and have a bipartite stroma with a dehiscent ectostroma. (Læssøe & al., 1989; San Martín Gonzales & Rogers, 1993; M. A. Whalley, 1995). *Camillea* is also a neotropical genus, with by far the largest concentration of species occurring in the Amazon region. *Camillea tinctor* (Berk.) Læssøe & al. and *C. obularia* (Fr.) Læssøe & al. are the only species previously known from outside the Americas (Læssøe & al., 1989; Rogers & al., 1991). In fact *C. tinctor* is widely distributed and is known from South and Central America, Africa, Singapore, Malaysia, Thailand, Papua New Guinea, and also occurs in temperate North America (Læssøe & al., 1989; Miller, 1961; Van der Gucht, 1992; A. J. S. Whalley, 1993, 1995).

Although the ascospores of most *Camillea* species appear smooth by light microscopy, scanning electron microscopy shows them to be characteristically ornamented with warts, spines, pits, reticulations or to be longitudinally ribbed (Læssøe & al., 1989; San Martín Gonzales & Rogers, 1993; Rogers & al., 1991; M. A. Whalley, 1995). Pits and reticulations are the most common form of ornamentation encountered, with just three species – *C. obularia*, *C. signata* (Jong & Benjamin) Læssøe & al., and *C. verruculospora* J. D. Rogers & al. possessing warted ornaments and belonging to the subgenus *Jongiella* of *Camillea* (Læssøe & al., 1989; Rogers & al., 1991). *Camillea*

selangorensis, described below, becomes the fourth member of subgenus *Jongiella* on the basis of its distinctive, warted ascospore ornamentation.

Key to species of *Camillea* subgenus *Jongiella*

1. Stromata usually cupulate or discoid, rarely elongate, more or less immersed 2
1. Stromata circular, orbicular or elongate, raised and with a distinctly elevated rim 3
2. Stromata brown; ascospores 11–18 x 5–5.7 µm, ellipsoid; ostioles usually indistinctly papillate *C. obularia* (Fr.) Læssøe & al.
2. Stromata black; ascospores 10–13 x 6–7 µm, ellipsoid; ostioles papillate with annulate disc *C. signata* (Jong & Benjamin) Læssøe & al.
3. Stromata cylindrical, up to 6 mm high, surrounded by a prominent raised rim; ascospores 11–13.5 x 4.5–6.5 µm, ellipsoid inaequilateral *C. verruculospora* J. D. Rogers & al.
3. Stromata circular to orbicular, or elongate, surrounded by a slightly raised rim; ascospores 10–14 x 3.5–6.5 µm, ellipsoid inaequilateral *C. selangorensis* M. A. Whalley & al.

Camillea selangorensis M. A. Whalley, A. J. S. Whalley & E. B. G. Jones, sp. nov. – Figs 1–3.

Stromata per corticem erumpentia, cylindrica vel orbicularia, applanata vel convexa, elevato labro circumcincta, atra, 7–16 x 6–10 mm diam., vel interdum elongata, 11–29 x 6–10 mm, ca. 2–3 mm crassa, atra, ostiolis papillatis. Perithecia in entostromatibus brunneonigris, fragilia, contigua, basim insidentia, cylindrica, 0.5–0.8 mm diam. Asci 8–spori, 106–146 µm, sp.p. 85–103 µm, stipitibus 17–53 µm; apparatus apicalis atrocyaneus in Melzer, fere rhomboideus, 2.5–3.8 x 3.0–3.8 µm. Ascosporae oblique uniseriatae, hyalinae vel dilute luteae, ellipsoideo-inaequilateriales, sub LM verruculosae sed sub SEM distincte verrucosae, 10.0–13.8 x 3.8–6.3 µm.

Holotypus. – Malaysia, Kuala Selangor Nature Reserve, Provincia Selangor, in cortice putrescentium truncorum; leg. M. A. Whalley, 14. IV. 1995 (M. A. Whalley KS11, IMI).

Etymology. – *Selangorensis* (Lat.) refers to the geographical region in Malaysia.

Stromata erumpent through bark, circular to orbicular, 7–16 x 6–10 mm, or elongated, 11–29 x 6–10 mm, ca. 2–3 mm thick, with applanate to convex apex, surrounded by a slightly raised rim, black,

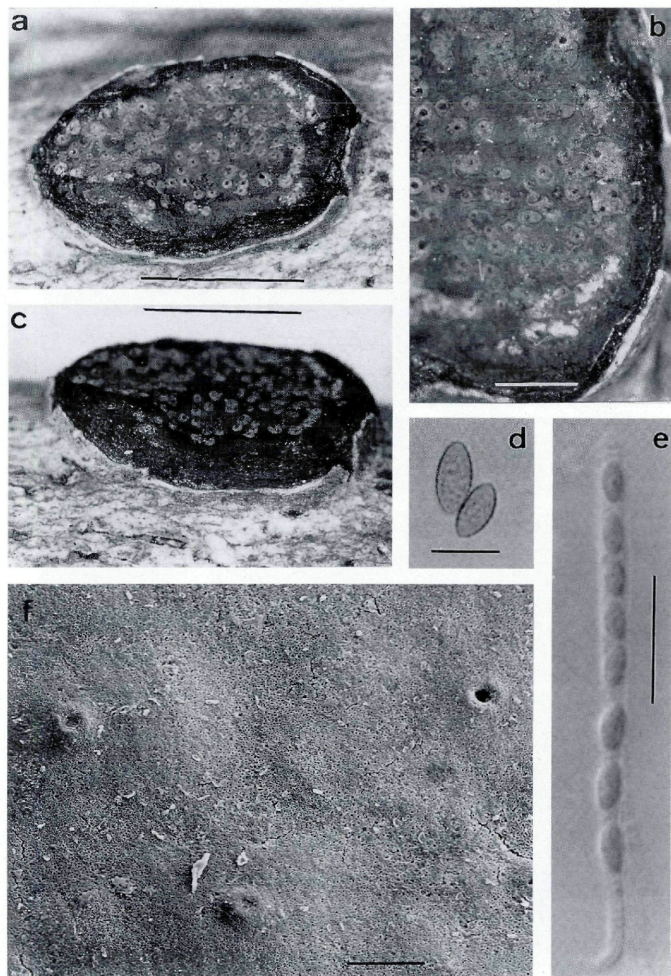


Fig. 1. *Camillea selangorensis* (holotype). – a. Stroma. Bar 5 mm. – b. Stroma showing slightly elevated rim. Bar 2 mm. – c. Stroma. Bar 5 mm. – d. Ascospores with ornamentation faintly visible by light microscopy. Bar 10 µm. – e. Ascus. Bar 25 µm. – f. Stromal surface with papillate ostioles. Bar 100 µm.

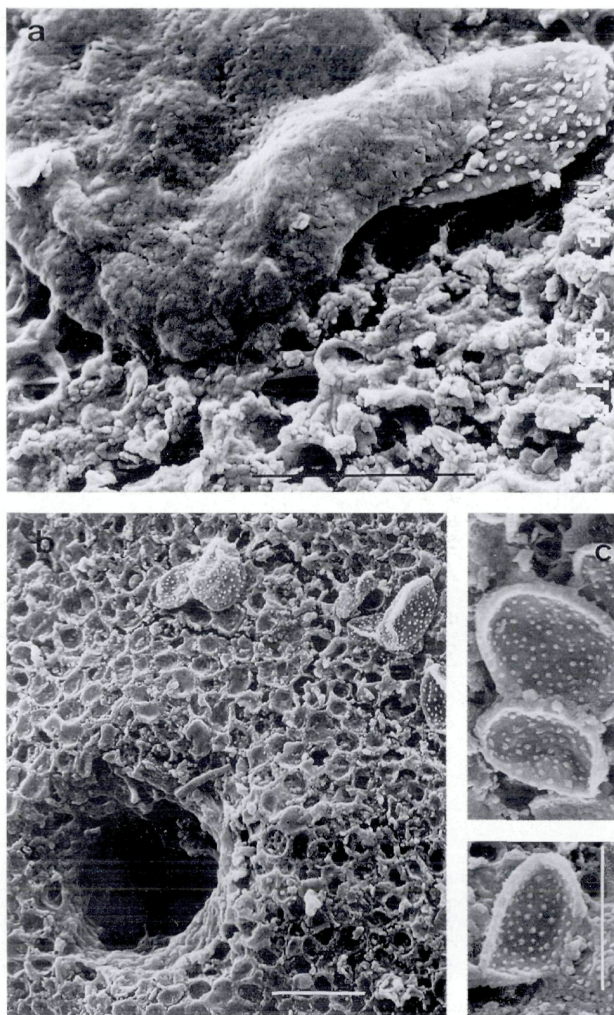


Fig. 2. *Camillea selangorensis*. – a. Ostiole with covering pushed aside by exuding ascospores. Bar 10 μm . – b. Ostiolar depression. Bar 10 μm . – c. Ascospores showing ornamentation by SEM. Bar 10 μm .

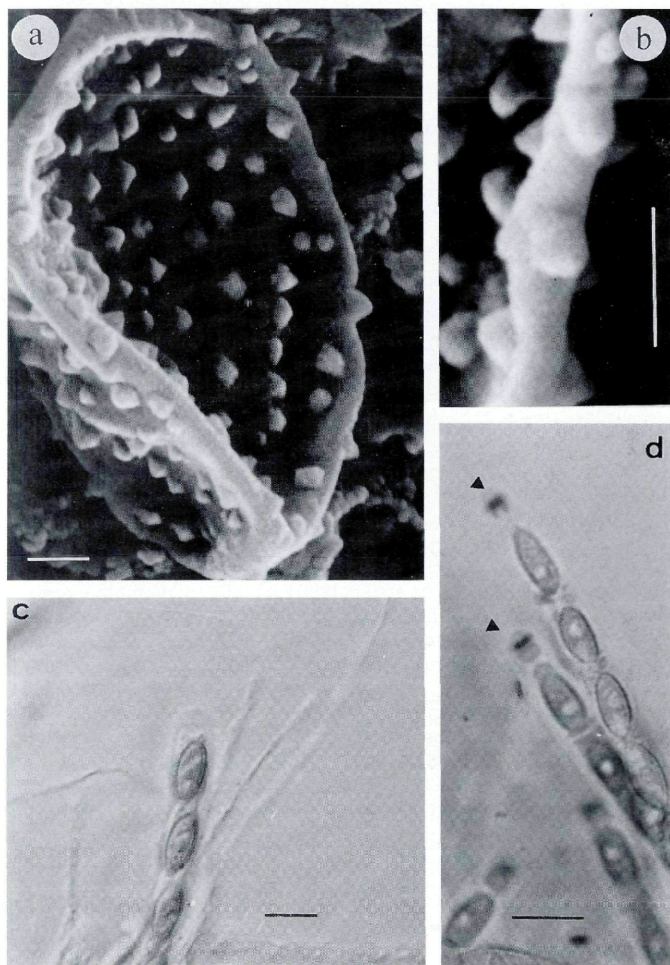


Fig. 3. *Camillea selangorensis*. – a. Ascospore surface with ornamentation. Bar 1 μ m. – b. Ascospore ornamentation. Bar 1 μ m. – c. Ascus tip and paraphyses by differential-interference microscopy. Bar 10 μ m. – d. Ascus tip with apical apparatus stained in Melzer's Iodine Reagent (arrowed). Bar 10 μ m.

ostioles finely papillate becoming punctate in age. – *Perithecia* packed in brownish black, brittle entostroma, basally seated, cylindrical, individually erumpent, 0.5–0.8 mm in diam. – *Asci* 8-spored, cylindrical, total 106–146 μm , 3.5–5.8 μm wide, sp. p. 85–103 μm , stipe 17–53 μm , apical apparatus prominent, dark blue in Melzer's iodine reagent, more or less rhomboid, 2.5–3.8 μm tall and 3.0–3.8 μm wide. – *Paraphyses* long, thread-like, unbranched, 152–182 μm long and 7.5 μm at their broadest point, persistent. – *Ascospores* obliquely uniseriate, hyaline or dilute yellow, one-celled, ellipsoid inaequilateral, minutely warted by light microscopy, strongly verrucose by scanning electron microscopy, 10.0–13.8 $\times$ 3.8–6.3 μm , germ slit absent. – *Anamorph* unknown.

Distribution. – Malaysia, known from one locality in Kuala Selangor Nature Reserve.

Camillea selangorensis is distinctive because of its slightly elevated stromata, weakly papillate, but very prominent, ostioles, and distinctly warted ascospores. The only three species of *Camillea* described which have warted ornamentation of their ascospore walls are *C. obularia*, *C. verruculospora* and *C. signata* (Rogers & al., 1991). *Camillea selangorensis* differs from *C. obularia* in its raised stromata with delicately elevated rim. In this respect it bears some resemblance to *C. verruculospora* but its stromata are usually much more elongate and not so strongly raised and columnar. The ascospore ornaments of *C. selangorensis* also resemble more closely those of *C. verruculospora*, being generally blunt verrucae and not the acute arrowhead form seen in *C. obularia* (Rogers & al., 1991). It also differs from *C. signata* in its raised stromal form, in lacking an annulate ostiolar disc, and having narrower ascospores (Jong & Benjamin, 1971). Unfortunately no SEM studies of ascospores of *C. signata* have been undertaken (Rogers & al., 1991).

In *C. tinctor*, the other species of *Camillea* so far known from Malaysia, the stromata are plano-convex not raised; the ascospores are considerably larger, 13–22 $\times$ 5–8.5 μm , and have a reticulate, not warted, ornamentation.

Acknowledgments

We wish to thank Professor Dato A. Nawawi of the Department of Botany, University of Malaya, Kuala Lumpur for his considerable help during our recent visits to Malaysia.

References

- Fries, E. (1849). *Summa Vegetabilium Scandinaviae*. – Part 2. Bonnier, Stockholm & Leipzig.
- Jong, S. C. & C. R. Benjamin (1971). North American species of *Nummularia*. – *Mycologia* 63: 862–876.
- Læssøe, T., J. D. Rogers & A. J. S. Whalley (1989). *Camillea*, *Jongiella* and light-spored species of *Hypoxyylon*. – *Mycol. Res.* 93: 121–155.
- Miller, J. H. (1961). A monograph of the world species of *Hypoxyylon*. – University of Georgia Press, Athens, USA.
- Rogers, J. D., T. Læssøe & D. J. Lodge (1991). *Camillea*: new combinations and a new species. – *Mycologia* 83: 224–227.
- San Martín Gonzales, F. & J. D. Rogers (1993). *Biscogniauxia* and *Camillea* in Mexico. – *Mycotaxon* 47: 229–258.
- Van der Gucht, K. (1992). Contribution towards a revision of the genera *Camillea* and *Biscogniauxia* (Xylariaceae, ascomycetes) from Papua New Guinea. – *Mycotaxon* 45: 259–273.
- Whalley, A. J. S. (1993). Tropical Xylariaceae: their distribution and ecological situation. – In: Isaac, S., J. C. Frankland, R. Watling & A. J. S. Whalley (eds.). *Aspects of tropical Mycology*. Cambridge University Press, Cambridge. UK: 103–119.
- (1996). *Biscogniauxia*, *Camillea* and *Hypoxyylon* (ascomycetes) in South East Asia. – In: Janardhanan, K. K., D. L. Hawksworth, C. Rajendran & K. Natarajan (eds.). *Tropical Mycology*. IBH Publishing Co., New Delhi. India: in press.
- Whalley, M. A. (1995). *Camillea fusiformis* sp. nov. from Ecuador. – *Sydowia* 47: 82–88.

(Manuscript accepted 2nd December 1995)

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 1996

Band/Volume: [48](#)

Autor(en)/Author(s): Whalley Margaret A., Whalley Anthony J. S., Jones E. B. Gareth

Artikel/Article: [Camillea selangorensis sp. nov. from Malaysia. 145-151](#)