Bot. Bull. Academia Sinica (1990) **31:** 257-262

(Short Communication)

Setiform conidiophore Hyphomycetes from Taiwan

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(*Received February 23, 1990; Accepted March 21, 1990*)

Abstract. Six setiform conidiophore Hyphomycetes: *Zanclospora novae-zelandiae, Cryptophialoidea secunda, Bahusutrabeeja angularis, B. dwaya, Kionochaeta pughii* and *K. ramifera* are described and illustrated. They are all new for Taiwan.

Key words: Setiform conidiophore Hyphomycetes; Taiwan.

Six setiform conidiophore Hyphomycetes new for Taiwan were recorded here to add to the materials for Taiwan mycoflora. They were all observed growing on decaying twigs collected from streams or wet areas along the streams. Procedure of handling those fungi was as described in the previous paper (Chang, 1989)

Species Descriptions and Remarks

Zanclospora novae-zelandiae Hughes & Kendrick, N. Z. Journal of Botany 3: 151-158, 1965 (Figs. 1, 2)

Setiform conidiophores are simple, arising singly from enlarged repent hyphal cell on rotten wood, forming thin turf, 140-200 μm. high, straight, mostly bent, brown to dark brown, 6.0-7.5 μm wider in middle and tapering to the apex, septate, thick-walled. Phialides formed in whorls of 4-7 cells, arise just below the distal septa of a series of 6-8 cells of the phialophore below the generally sterile apex, sessile, straight, ovoid to obpyriform, generally tightly adpressed to the setiform conidiophore, very light brown, 10-13.60 x 3.8-5.0 μm, open distal end lacking a well defined collarette. Phialoconidia hyaline, most were strongly curved, falcate, 19-30 x 1.0-2.5 μm. non-septate, produced in slime.

This fungus was first described by Hughes and Kendrick (1965) as a new genus and species from New Zealand. and setiform conidiopohores were simple or branched. However, in our specimens no setiform conidiophores were branched. We are not able to grow this fungus on laboratory media.

Habitat: On decaying twig.

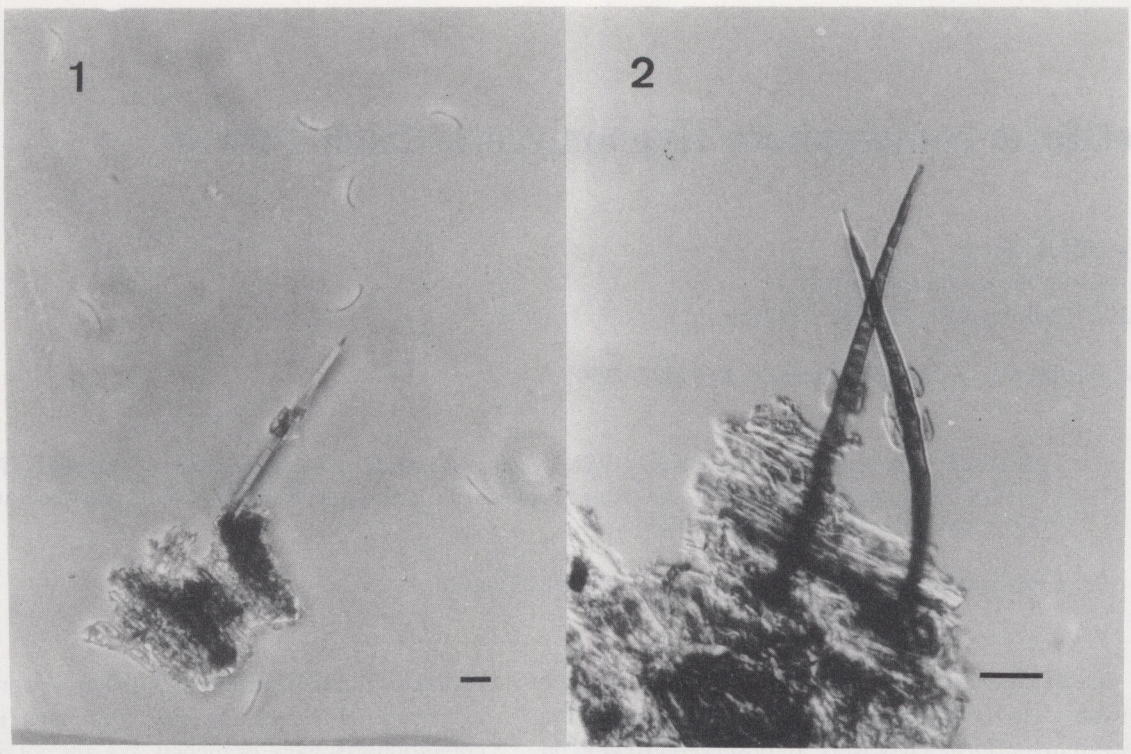
Distribution: Grass Mountain, Taipei.

Cryptophialoidea secunda (Kuthubutheen & Sutton) Kuthubutheen & Nawawi, Trans. Br. mycol. Soc. 89: 581-583, 1987. (Fig. 3)

Cryptophiale secunda Kuthubutheen & Sutton

Chaetopsina unitaleralis P. M. Kirk

Colonies on V-8 juice agar effuse, pale to olivaceous to greyish brown, slow-growing. Mycelium mainly superficial. Setiform conidiophore macronematous, mononematous, erect, straight, bent, subulate, brown, smooth, solitary, simple, thick-walled, septate with septa intervals more closely in the zone where conidiogenous cell occurred, up to 240 μm. long and 5.5-6.5 μm. wide. Conidiogenous cells formed in the middle part of setiform conidiophore and only along the inner side of bent conidiophore. Conidiogenous cells phialidic, discrete, determinate, lageniform; phialides with collarette, light olivaceous, brown, 7.5-10 x 3.7-4.7 μm. Conidia hyaline, smooth, septate at the middle, simple, falcate, 20-27.5 μm long and 1.4-2.3 μm wide. Our isolate is closer to the one reported by Kirk from



Figs. 1, 2. *Zanclospora novae-zelandiae,* setiform conidiophore, conidiogenus cells and conidia. Scale bar = 20 μm

Kenya (1985) in the dimensions of setiform conidiophore which was measured as 5-6.5 μm wide, whereas the conidiophores of Malaysia isolate of the type description (Kuthubutheen and Navawi, 1987) were 8-12 μm, significantly wider than our and Kenya isolates.

Habitat: On decaying twig.

Distribution: Hui-sun Forest Station, Nantou.

Bahusutrabeeja angularis Vasant Rao & de Hoog, Studies in Mycology 28: 67-68, 1986 (Figs. 4, 5, 6)

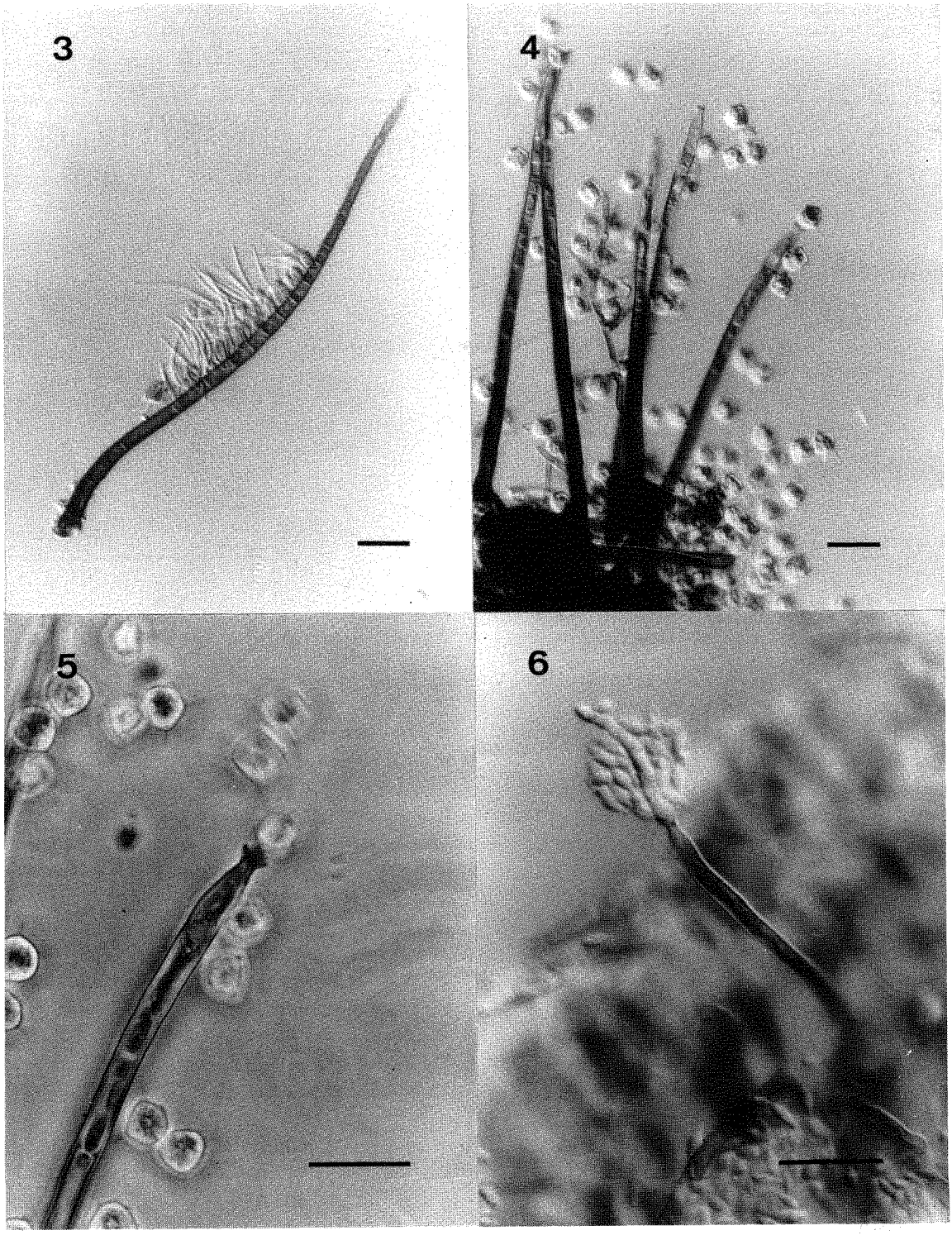
Colonies effuse on V-8 juice agar. Mycelium immersed, superficial, greyish brown. Conidiophores macronematous, mononematous, erect, unbranched, arising from the substrate on which hyphae formed thick-walled foot-cell like body and from there conidiophores developed, light brown to brown, septate, thick-walled, up to 200 μm high, 4.5-5.3 μm wide. Conidiogenous cells phialidic, funnel-shaped, up to 5-6 μm wide. Occasionally, the collarette proliferated with a new phialide opening. Conidia hyaline, smooth, thick-walled, rounded cubical, 6.3-7.2 μm diam. with a thin, hyaline appendage on each corner; conidia aggregated in slimy mass at the tip of conidiophore. However, our isolate, grown on autoclaved corn leaf section formed not only normal conidiophore and conidia but also microphialoconidia, ellipsoidal with one end sharper, no appendage, ca. 4.5 μm long, 1-1.5 μm wide. Conidiophores bearing micro-phialoconidia were also shorter and thinner than the normal ones. No germination was observed of those micro-phialoconidia and their function is still not known.

Habitat: On decaying twig.

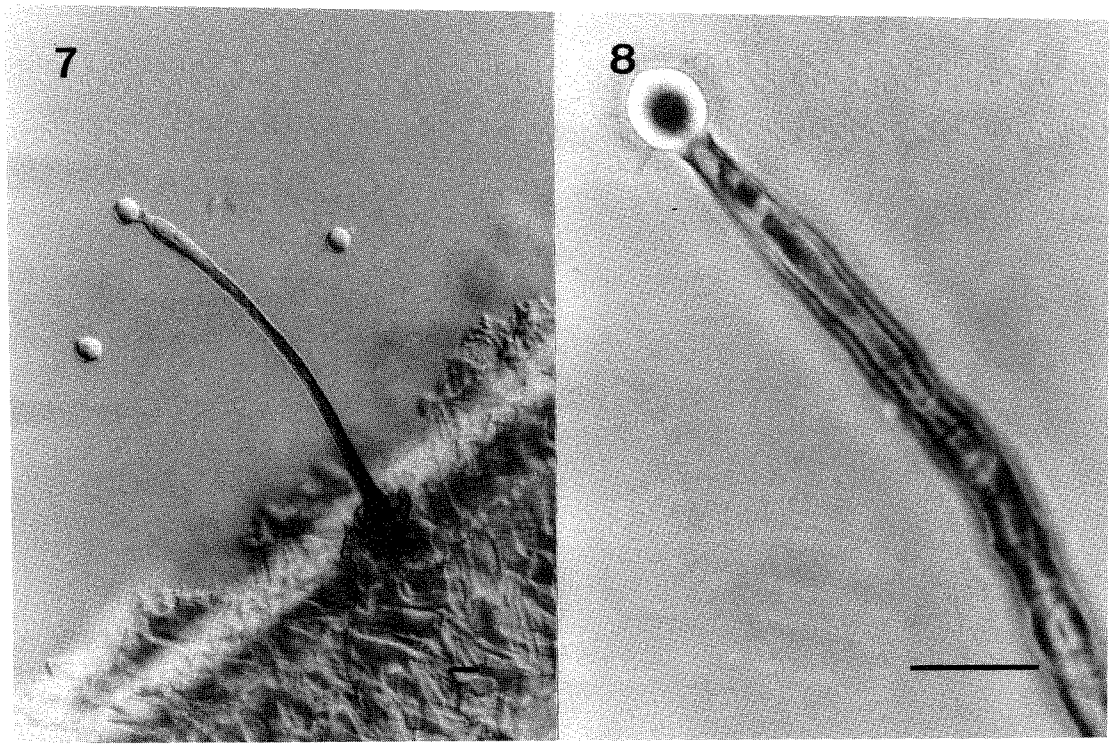
Distribution: Wu-lai, Taipei.

Bahusutrabeeja dwaya Subramanian & Bhat., Can. J. Bot. 55: 2202-2206, 1977 (Figs. 7, 8)

Colonies superficial, brown to darkish brown. Mycelium immersed. Conidiophores macronematous, mononematous, simple, arising singly from repent hyphae, brown at the basal part and light brown toward the upper part, smooth, wider at the basal part and tapering to the upper part, multiseptate, determinate, occasionally collarette proliferation with a new phialidic open end, up to 520 μm high, 9-15 μm wide,



Figs. 3-6. 3. *Cryptophiaeoidea secunda*, setiform conidiophores, conidiogenous cells and conidia. 4, 5. *Bahusutrabeeja angularis*, conidiophores, phialidic conidiogenous cells and conidia. 6. *Bahusutrabeeja angularis*, phialidic conidiogenous cells and microconidia. Scale bar = 20 μm



Figs. 7, 8. *Bahusutrabeeja dwaya*, conidiophores, phialidic conidiogenous cell and conidium. Scale bar = 20 μm

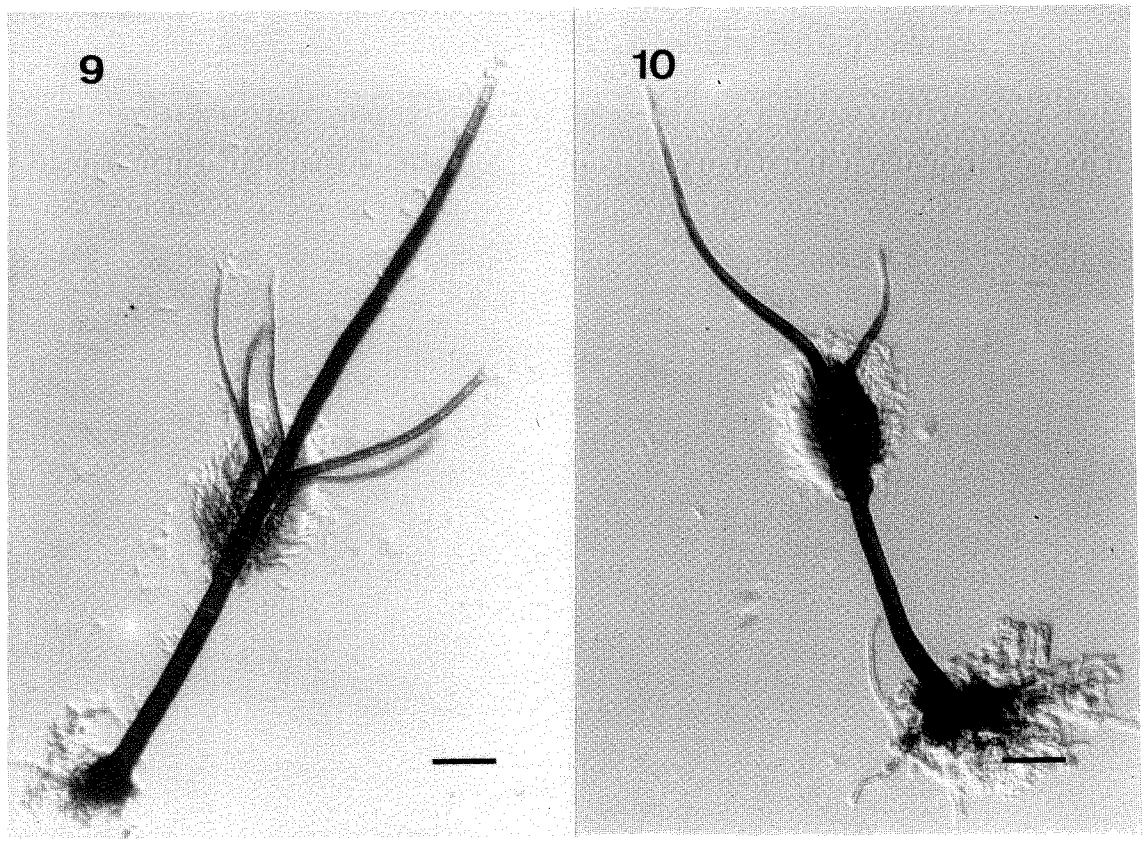
but up to 400 μm on natural substrate. Conidiogenous cells phialidic. Conidia spherical, hyaline, thick-walled, non-septate, with more or less 10 thin appendages, conidia usually aggregated as a mass on the tip of the conidiophore; 15 - 18 μm in diameter. No micro - phialoconidia were observed in this fungus.
Habitat: On decaying twig.
Distribution: Wu-lai, Taipei.

Kionochaeta pughii Kuthubutheen & Nawawi, Trans. Br. mycol. Soc. 90: 437-444, 1988 (Fig. 9)

Colonies effuse, sparse, brown to dark brown. Mycelium partly superficial, partly immersed. Conidiophores macronematous, mononematous, single, erect, straight or slightly flexuous, smooth, multiseptate, subulate, brown to dark brown, pale towards apex; main setiform conidiophores up to 290 μm high, 8.5-10 μm wide at the widest part and 3.5-4.0 μm wide at the upper part, with a whorl of 4 to 5 lateral branches arising from lower middle part, lateral branches also brown to dark brown, subulate, smooth, multisepate, up to 80 μm long, 2.5-3.7 μm wide. There are two fertile regions, one located immediately below the lateral branches, comprising a compactly branched, hyaline to pale brown conidiogenous apparatus; another region located at the tip of central element and lateral branches, comprising a series of irregular short branches on which conidiogenous cells are borne. Conidiogenous cells phialidic, ampulliform to lageniform, ca. 9 x 5.5 μm; conidia fusiform, hyaline, smooth, non-septate, slimy in mass, 4.5-6.2 μm long, 0.1-1 μm wide. This fungus differs from *K. ramifera* in that the tips of main and branched setiform conidiophores are fertile on which developed several conidiogenous cells.
Habitat: On decaying twig.
Distribution: Wulai, Taipei.

Kionochaeta ramifera (Matsushima) P. M. Kirk & B. Sutton, Trans. Br. mycol. Soc. 85: 715, 1985 (Fig. 10)

Setiform conidiophores subulate, smooth or verruculose, up to 240 μm high, 8.8-11.5 μm wide, up to 9 -septate, with a whorl of up to 3 divergent, sterile lateral branches inserted just below the middle, 20-50 μm long, 3.7-5.9 μm wide. Fertile region situated immedi-



Figs. 9, 10. 9. *Kionochaeta pughii*, setiform conidiophore, conidiogenous cells and conidia. 10. *Kionochaeta ramifera*, setiform conidiophore, conidiogenous cells and conidia. Scale bar = 20 μm

ately below the sterile branches, comprising a compactly branched, hyaline to pale brown conidiogenous apparatus. Conidiogenous cells ampulliform to lageniform or cylindrical, with an indistinct collarette, 4.7-6.5 μm long, 1.8-3.0 μm wide. Conidia aseptate, narrowly clavate, slightly curved, 3.8-5.5 x 0.4-0.8 μm. Conidia of our isolate are far smaller in size compared to those reported by Matsushima (1971), and Kirk and Sutton (1985).

Acknowledgement. Support of the National Science Council on this work as part of the materials for Taiwan fungal flora is appreciated.

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台灣產具剛毛狀分生子梗絲狀不完全菌

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本文記錄六種具剛毛狀分生子梗絲狀不完全菌: *Zanclospora novae-zelandiae, Cryptophialoidea secunda, Bahusutrabeeja angularis, B. dwaya, Kionochaeta pughii* 和 *K. ramifera.* 上述六種菌均爲台灣新記錄種。