

A Note on *Biscogniauxia nummularium* var. *merrillii*, Wood-inhabiting Fungus

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(Received November 19, 2004)

The genus *Biscogniauxia* is a member of the Xylariaceae that has brown to dark brown and phaseoliform single cell ascospores with a conspicuous full germ slit. The isolates of *Biscogniauxia* collected from Mt. Nejang-san in Korea are compared with similar taxa and described. The isolation of *B. nummularia* var. *merrillii* is the first record with a precise description in Korea.

KEYWORDS: *Biscogniauxia nummularia* var. *merrillii*, Germ slit, Xylariaceae

This paper deals with a comprehensive account of the *B. nummularia* var. *merrillii* in Korea. *Biscogniauxia* has long been known as *Nummularia* Tulasne and Tulasne (1863), until Miller (1961) placed in the section *Applanata* of *Hypoxylon*. *Biscogniauxia* are largely included lignicolous taxa that were traditionally designated to *Nummularia* or *Hypoxylon* section *Applanata* (Miller, 1961; Pouzar, 1979; Eckblad and Granmo, 1978). The current concept of *Biscogniauxia* was defined by Pouzar (1979) and resumed by Ju and Rogers (1996). It means that non-descriptive name, *Biscogniauxia* Kuntze, was adopted for the genus (Pouzar, 1979; Ju and Rogers, 1996). Many descriptions of numerous additional species were described (Miller, 1961; Pouzar, 1979; Gonzalez and Rogers, 1993; van der Gucht, 1992, 1994; Ju and Rogers, 1996) as following: bipartite erumpent stromata through bark or wood, having applanate and then turbinate to cupulate shape and carbonaceous or noncarbonaceous texture. In cases where stromata are formed within bark the outermost layer may adhere to overlying bark, asci that are cylindrical, 8-spored, having short stipes and iodine-positive apical ascus ring. Ascospores that are uniseriate, subglobose to ellipsoid or lemon-shaped with germ slit, showing non-ornamented brown to nearly black surface.

Each description was based on the macro- and microscopical analysis of materials collected from Mt. Nejang-san in Korea. To observe stromata and perithecia, stereomicroscopy was used. To observe ascospores and asci, squash slides were made from fresh ascomata and light microscopy was used. In order to remove dirty particles on the surface of stromata, 1% KOH was used, and for staining of apical apparatus of the ascus, the Melzer's reagent was used.

The measurement based on samples of 20 fully mature ascospores and asci are presented as length x width. *Biscogniauxia nummularium* var. *merrillii* is described and

illustrated.

***Biscogniauxia nummularia* var. *merrillii* (Bres.) Van der Gucht, Mycotaxon 45:267 (1992)**

Hypoxylon nummularium var. *merrillii* (Bres.) J.H. Mill., A monograph of the world species of *Hypoxylon*: 126 (1961)

Numulariola merrillii (Bres.) P.M.D. Martin, J.S. African Bot. 35: 303 (1969)

Stromata erumpent from bark or decorticated wood, orbicular to elliptic to irregular in outline, depending on substrate, preceded by a light brown conidial layer, later dark brown and finally an ascomycete stroma develops which is black, very carbonaceous, applanate to convex, 1~4 × 0.2~1 cm broad and 1~1.5 mm thick, with ostiola finely papillate, slightly raised, wide open and punctate with age, 3~4 mm broad. Perithecia globose to oblong, compressed, 2~5 mm wide. Asci cylindrical, 8-spored, short stalked, 90~120 µm long. Ascospores 9~10.5 × 5.4~6.6 µm, dark brown, elliptic fusoid to elliptic, with obtuse at both ends. Germ slits found. Paraphyses filiform.

Known habitat: Unidentified decorticated hardwood

Known distribution: Western India, North east India, United States, China, Ceylon, Java, Malaysia, New Zealand, Philippines (Miller, 1961; van der Gucht, 1992, 1994).

Specimen collected: Mt. Nejang-san, South Korea (Fig. 1)

Collection date: June in 1995

Note: This fungus, collected from broken lying decorticated hardwood in lowland of forest, fits the description given by Miller (1961) and Whalley and Taligoola (1978) (Table 1). This variety differs from variety *pseudopachyloma*, having 10~13 (~14) × (6.5~) 7.5~8.5 µm ascospores (Gonzalez and Rogers, 1993) only in the smaller ascospores (9~10.5 × 5.4~6.6 µm, present collection). Recently, Rogers *et al.* (1997) proposed that the anamorphs and cultural characteristics of two genera, *Jumillera* and *Whalleya*

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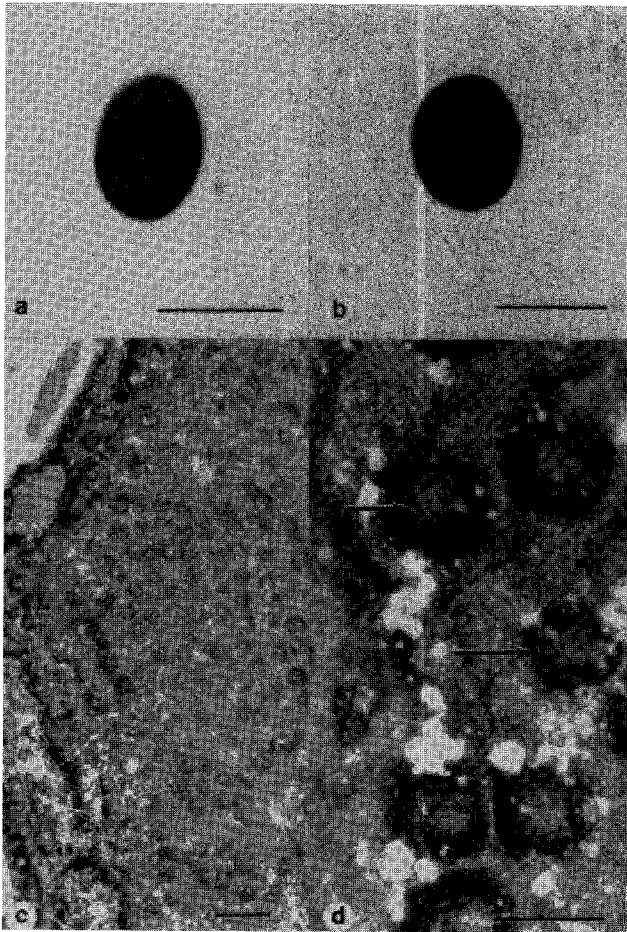


Fig. 1. *Biscogniauxia nummularium* var. *merrillii*. a, b. Ascospores oval to round in shape with an oil guttule (bar : 10 μ m). c. Habit of stroma on wood (bar : 1 mm). D. Surface of stroma with erumpent ascomata (arrow) (bar : 0.5 mm).

differ from *Biscogniauxia*, since some mycologist aware that a number of taxa do not fit well into this or any genus. Miller (1961) considered *Hypoxylon cinereum*, *N. cinerea*, and *N. grisea* to be synonyms of *H. hypophlaeum*. But Rogers *et al.* (1997) could not locate type

material of *Nummularia cinerea*, even though Jumillera have *Geniculosporium*-like synanamorphs with dry conidia Unfortunately, I was unable to have anamorph stage of this fungus. With this reason I have put this collection into genus of *Biscogniauxia*, instead of *Jumillera*, representing of *B. nummularia* var. *merrillii*. Even though there were some records of close taxa, such as *Hypoxylon* and *Xylaira* (Lee and Hong, 1985; Lee, 1988; Park and Lee, 1991; Jung, 1993; Lee *et al.*, 2000), the isolation of *B. nummularia* var. *merrillii* in the genus *Biscogniauxia* Kruntze will be the first record, having precise description in Korea.

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Table 1. Comparison of *B. nummularia* var. *merrillii* to other collections

	<i>B. nummularia</i> var. <i>merrillii</i> (present collection)	<i>B. nummularia</i> var. <i>merrillii</i> (der Gucht, 1992)	<i>Jumillera cinerea</i> (Rogers <i>et al.</i> , 1997)
Color of stroma	dark brown to black, very carbonaceous	black, matt and smooth, internally dark brown	surface dull gray, becoming black
Shape of stroma	applanate to convex	erumpent, applanate, circular to elliptic	applanate or effused-pulvinate
Size of perithecia	0.2-0.3 mm diam. \times 0.3 mm high	0.15-0.25 mm diam. \times 0.4-0.8 mm high	0.1-0.3 mm diam.
Shape of perithecia	obovoid	cylindrical	obovoid
Size of ascus	90-120 μ m, having short stalked	not measured	95-110 μ m length \times 4.5-6 μ m broad
Size of ascospore	9-10.5 \times 5.4-6.6 μ m	(9.5)10-12(12.5) \times 5-6 μ m	8.5-12 \times 4-5 μ m
Habitat	unidentified decorticated hardwood	on dead wood	on dead wood

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