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A new species of *Bahusutrabeeja* from Guangxi, China

Xiao-Xia Li[1, 2], Ji-Wen Xia[2], Li-Guo Ma[2],
Rafael F. Castañeda-Ruíz[3] & Xiu-Guo Zhang[2*]

[1] *Life Sciences Institute, Zunyi Normal College, Zunyi, Guizhou, 563002, China*
[2] *Department of Plant Pathology, Shandong Agricultural University, Tai'an, Shandong, 271018, China*
[3] *Instituto de Investigaciones Fundamentales en Agricultura Tropical "Alejandro de Humboldt" (INIFAT), calle 1, esq. 2, Santiago de Las Vegas, Ciudad de La Habana, Cuba C. P. 17200*
*Correspondence to: *zhxg@sdau.edu.cn, sdau613@163.com*

Abstract —*Bahusutrabeeja exappendiculata* sp. nov. was discovered on rotten branches from subtropical forest of Guangxi Province, China. It differs from previously described *Bahusutrabeeja* species in having colourless globose conidia without appendages. The fungus is described, illustrated and compared with similar taxa.

Key words — anamorphic fungi, taxonomy

Introduction

During ongoing surveys of saprobic microfungi from subtropical forests of Guangxi Province, China, an interesting anamorphic fungus was collected on rotten branches. Its conidiogenesis and conidia suggest that the fungus belongs in *Bahusutrabeeja* Subram. & Bhat (Subramanian & Bhat 1977).

The type of this genus, *B. dwaya* Subram. & Bhat, has distinct, mononematous conidiophores with integrated, terminal, cylindrical conidiogenous cells. Conidiogenous cells produce conidia in succession by percurrent proliferation from a single fertile locus. The conidia are colourless, smooth, thick walled, aseptate, spherical or rounded-cubical or obpyriform to obclavate, with several to many slender appendages distributed over the surface. They accumulate in a slimy mass at the apex of the conidiogenous cell. The genera *Nawawia* Marvanová (Marvanová 1980) and *Chalarodes* McKenzie (McKenzie 1991), which are similar, were also considered, as they both have macronematous conidiophores, conidiogenous cells each with a single fertile locus producing appendaged conidia in succession by percurrent proliferation. The conidia are,

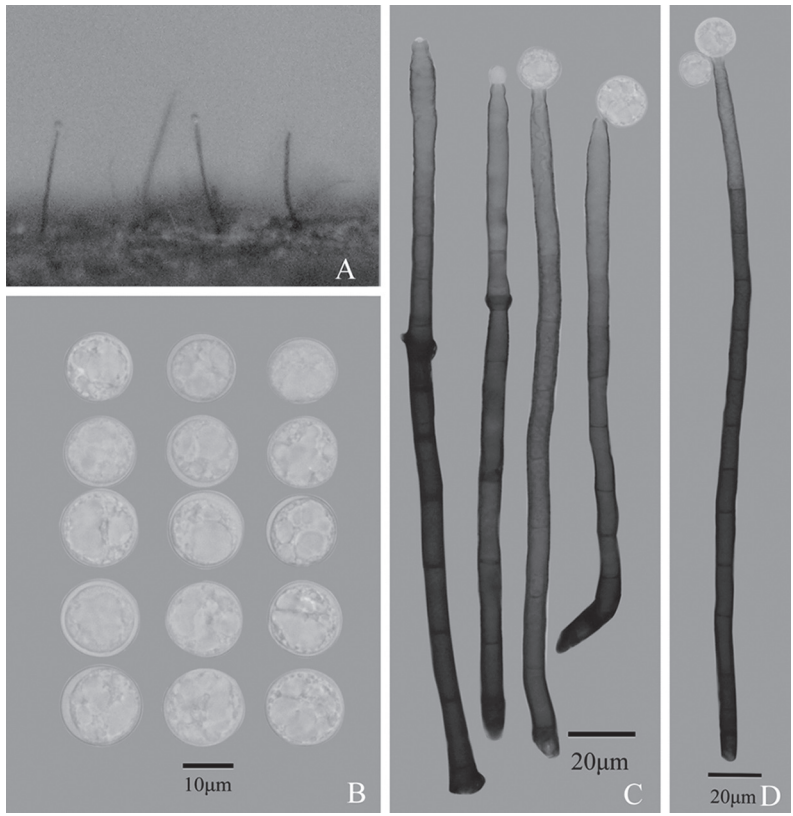

Fig. 1. *Bahusutrabeeja exappendiculata.* A. Colonies on natural substratum. B. Globose conidia. C, D. Conidiophores with developing conidia.

however, pyramidal or tetrahedric in *Nawawia*, while in *Chalarodes* they are obconical, with each bearing two distal setulae.

Worldwide, five species are currently included in *Bahusutrabeeja*. Those species are separated by conidial shape, size, and appendages (Ma et al. 2011, 2012). All of those species occur on rotten twigs and branches. The present fungus is morphologically distinct from all five previously known species and is, therefore, described here as a new species. A key to all six species is provided.

Bahusutrabeeja exappendiculata Xiao X. Li & X.G. Zhang, **sp. nov.** Fig. 1

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Differs from all other *Bahusutrabeeja* species in having colourless, globose conidia without appendages.

Type: China, Guangxi Province: Dayaoshan Nature Reserve, on rotten branches of an unidentified broad-leaved tree, 10 Nov. 2012, Xiao X. Li (**Holotype** HSAUP H 9070; **isotype**, HMAS 243429).

Etymology: *exappendiculata*, in reference to conidia without appendages.

Colonies on the natural substratum effuse, dark brown to blackish, velvety, with scattered conidiophores visible under the stereomicroscope, each with a colourless, globose conidial mass at the tip. Mycelium partly superficial, partly immersed in the substratum, composed of almost colourless to brown, septate, branched hyphae. Conidiophores mononematous, erect, straight or slightly flexuous, occasionally branched, cylindrical, smooth, thick-walled, 6- to 14-septate, 161–275 × 5–6.5 µm, dark reddish brown to dark brown at the base which is up to 11.5 µm wide, pale brown to brown at the apex, with a single conidiogenous cell at the apex, often proliferating percurrently through the collarette of that conidiogenous cell, and produce further growth with additional septa, and eventually a new conidiogenous cell. Conidiogenous cells terminal, integrated, cylindrical, slightly swollen toward the belly, up to 7.5 µm wide, producing conidia by percurrent non-progressive proliferation from a single fertile locus at the apex where there is a prominent, slightly narrower collarette, 3–4 µm wide. Conidia colourless, globose, thick-walled, aseptate, 10.5–16 µm diam., without appendages, aggregating in a slimy colourless mass at the apex of the conidiogenous cell.

Comments — *Bahusutrabeeja exappendiculata* differs from all previously described species in the genus in producing conidia with no appendages. The new species resembles *B. dwaya* (Subramanian & Bhat 1977), *B. globosa* Bhat & W.B. Kendr. (Bhat & Kendrick 1993), and *B. bunyensis* McKenzie (McKenzie 1997) in conidial shape and pigmentation. The conidia of *B. exappendiculata* are, however, clearly larger than those of *B. bunyensis* (7.5–10.5 × 7.5–9.5 µm), and smaller than those of *B. globosa* (18–22 µm). In *B. dwaya*, the first-formed conidium is pear-shaped while subsequent conidia are spherical.

Key to described *Bahusutrabeeja* species

1. Conidia not spherical 2
   Conidia spherical or subspherical 3
2. Conidia angular, 7–8 µm diam. ..... *B. angularis*
   Conidia obpyriform to obclavate, 15–20 × 5–8 µm ..... *B. dubhashii*
3. Conidia without appendages, 10.5–16 µm diam. ..... *B. exappendiculata*
   Conidia with appendages 4
4. Conidia with 3 appendages, 7.5–10.5 × 7.5–9.5 µm ..... *B. bunyensis*
   Conidia with 8–12 appendages 5
5. Conidia 12.5–14 µm diam. ..... *B. dwaya*
   Conidia 18–22 µm diam. ..... *B. globosa*

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