

SHORT COMMUNICATION

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## Bambusicolous fungi in Japan (8): a new species of *Pseudolachnella* from Yakushima Island, southern Japan

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**Abstract** A coelomycetous fungus occurring on culms of *Pleioblastus* sp. in Yakushima Island, southern Japan, is described and illustrated as a new species, *Pseudolachnella yakushimensis*. The species is characterized by cupulate, superficial black setose conidiomata, and cylindrical 3-septate conidia with two to five appendages at each end. *Pseudolachnella yakushimensis* is similar to *P. indica* and *P. scolecospora* by its 3-septate conidia, but is different from them by its smaller conidia with more than two appendages.

**Key words** Anamorphic fungi · Bamboo · Coelomycetes · *Pseudolachnea* · Taxonomy

*Pseudolachnella yakushimensis* G. Sato, Kaz. Tanaka & Hosoya, sp. nov. Figs. 1–13

Conidiomata sparsa, superficialia, rotundata vel elliptica, 220–430 µm, setosa, nigra. Setae cylindricae, septatae, infra atrobrunneae, superne pallide brunneae, 60–220 µm longae, 4–5 µm latae. Conidiophora raro ramifera, septata, hyalina, laevia. Cellulae conidiogenae phialidicae, cylindricae, hyalinae, laeves. Conidia 15–33 × 2–3 µm, cylindrica, ad apicem rotundata, 3-septata, hyalina, recta vel leviter curvata, laevia, utrinque appendiculata; appendices 1–4 µm longae, 2–5, non ramosae, filiformes.

Holotypus. HHUF 29683.

Conidiomata scattered, superficial, elliptical to rounded in outline, 180 µm high, 220–430 µm diameter, setose, black

(Figs. 1, 2). Conidiomatal setae cylindrical, thick-walled, septate, dark brown, acute and paler toward the apex, 60–220 µm long, 3–5 µm wide at the base, 1.5–3 µm at the apex (Figs. 1, 2). Conidiophores lining the cavity of the conidioma, scarcely branched, septate, hyaline, smooth, 3–6.5 × 1–2.5 µm (Figs. 3, 8). Conidiogenous cells phialidic, cylindrical, hyaline, smooth, 7–11 × 2–3 µm (Figs. 3, 8). Conidia 15–33 × 2–3 µm (mean = 23.0 × 2.7 µm,  $n = 50$ ), L/W = 6.1–13.2 (mean = 8.7,  $n = 50$ ), cylindrical, with a rounded apex, 3-septate, hyaline, straight or slightly curved, smooth, with 2–5 appendages at each end; appendage 1–4 µm long (mean = 2.1 µm,  $n = 50$ ), filiform, unbranched (Figs. 4–7, 9–12).

Teleomorph. Unknown.

**Etymology.** In reference to the type locality, Yakushima Island.

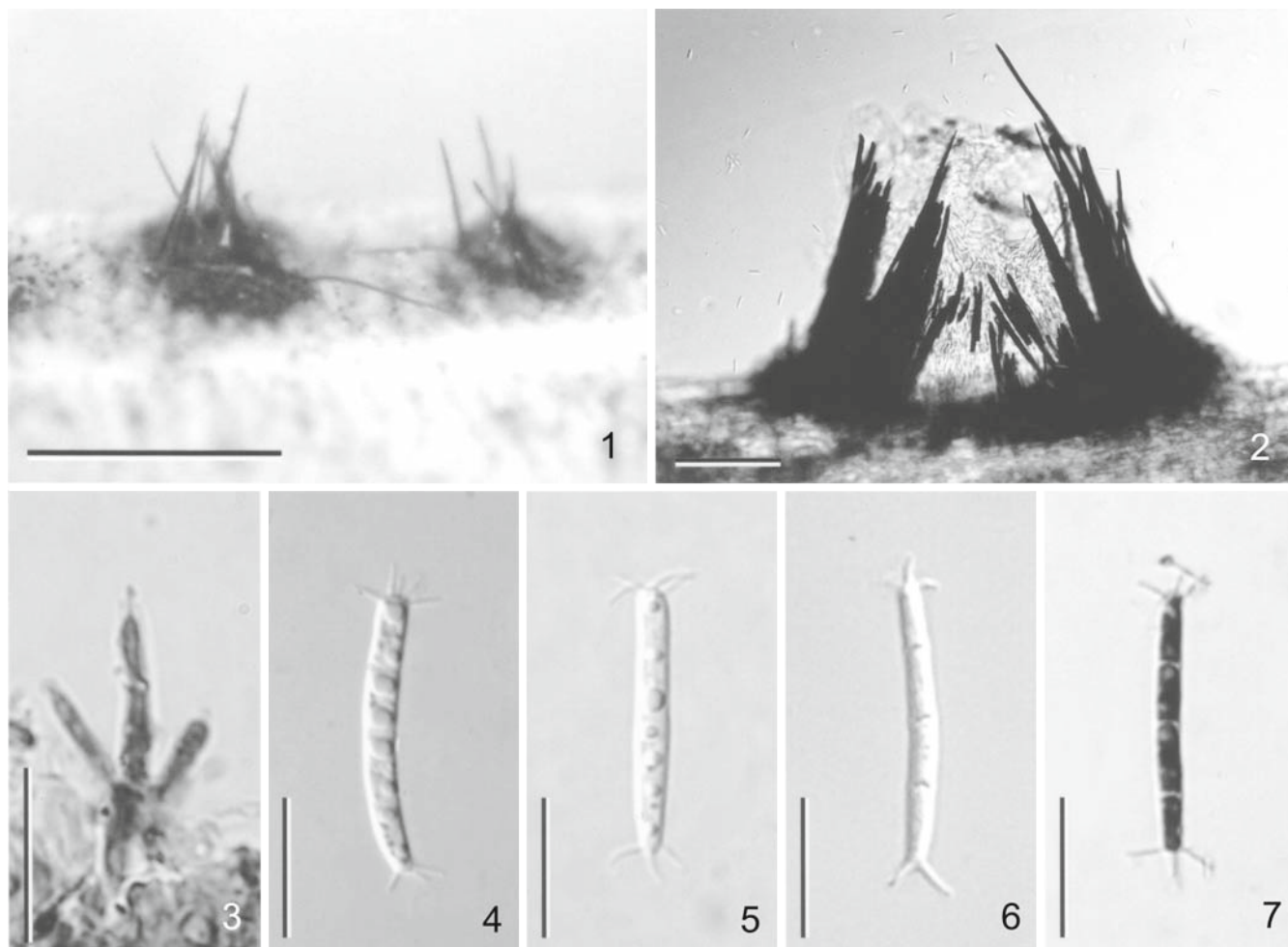
**Materials examined.** On culms of *Pleioblastus* sp.; Japan, Shiratani-unsuikyō, Yakushima Island, Kagoshima Prefecture, October 19, 2005, coll. K. Tanaka and T. Hosoya, KT 1888 (HHUF 29683 holotype; TNS-F-12431 isotype). Single conidium culture isolated from the holotype (JCM 15101).

**Cultural characters.** Colonies on potato dextrose agar white to cream, wetty, sulcate, 30 mm after 13 days at 25°C in 12 h light/12 h dark. Colonies on malt extract agar white, velvety-floccose, 30 mm in the same condition. Colonies on cornmeal agar white, velvety-floccose, 25 mm in the same condition (Fig. 13). On rice straw agar (Tanaka and Harada 2003), conidiomata formed within 2 months at 20°C in BL-B light. Conidia produced from culture condition were similar to those found from the natural specimens.

**Notes.** In the course of investigation into the fungal diversity in Yakushima Island (Hosoya and Tanaka 2007a,b; Tanaka and Hosoya 2006), a coelomycetous fungus was found on culms of *Pleioblastus* sp. It had cupulate conidiomata surrounded by numerous black setae and cylindrical 3-septate conidia provided with 2–5 appendages at both ends. These features fit well with the generic concept of *Pseudolachnella* Teng provided by Nag Raj (1993), but the fungus differed from all known species in the genus. Therefore, we describe here the fungus as a new species, *Pseudolachnella yakushimensis*.

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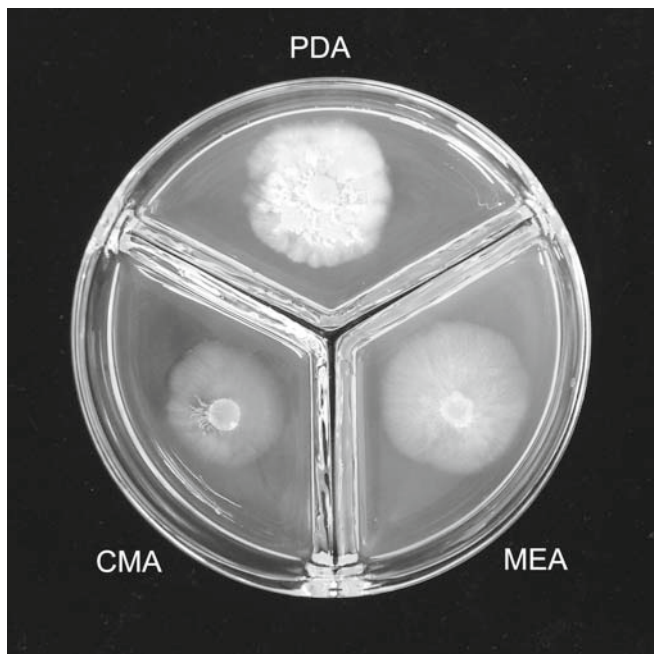
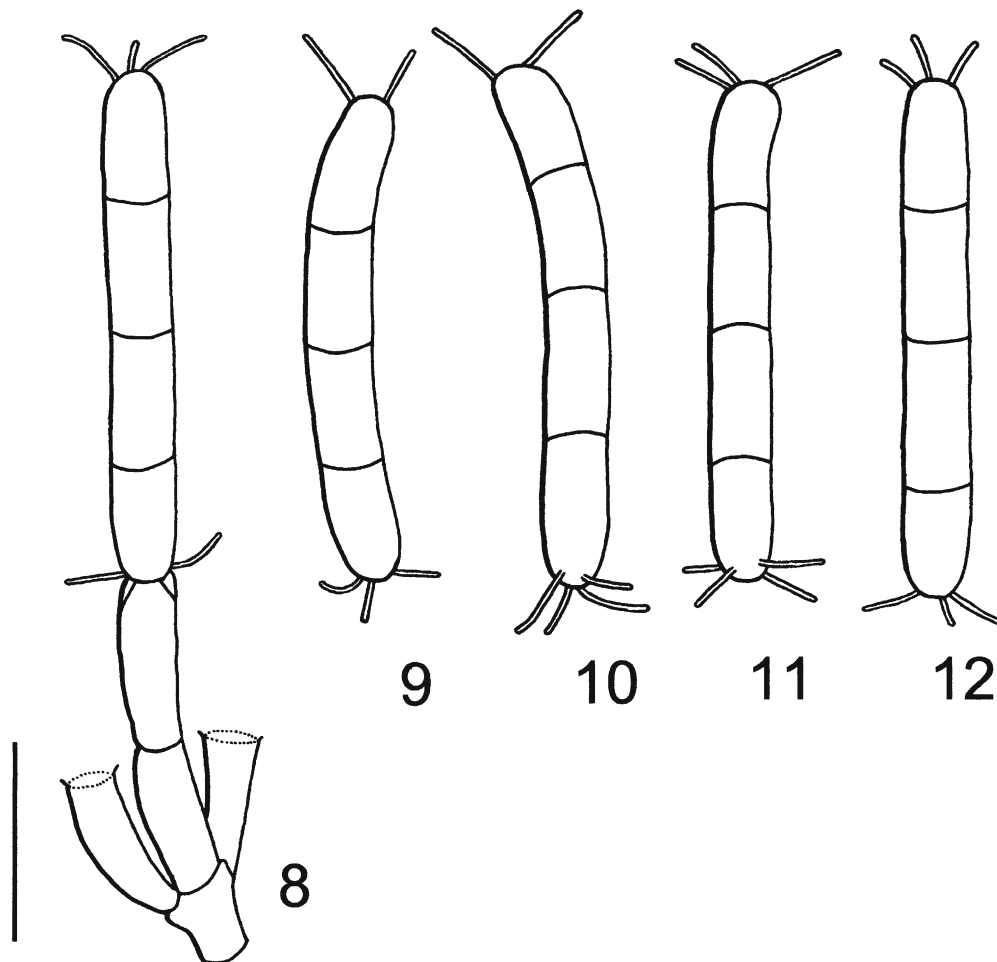
**Figs. 1–7.** *Pseudolachnella yakushimensis* (HHUF 29683, holotype). **1** Conidioma on host surface. **2** Longitudinal section of conidioma. **3** Conidiophores with conidia. **4–7** Conidia (**3, 7** stained with trypan blue). Bars **1** 250  $\mu\text{m}$ ; **2** 100  $\mu\text{m}$ ; **3–7** 10  $\mu\text{m}$

The genus *Pseudolachnella* typified by *P. scolecospora* (Teng & C.I. Chen) Teng was established by Teng (1936) from China. This genus had been previously treated as a synonym of *Pseudolachnea* Ranoj. (Sutton 1977, 1980), but the latter genus differs from *Pseudolachnella* in having 1-septate conidia with a simple appendage and its habitats, such as twigs or wood of divers angiosperms (Nag Raj 1993). On the other hand, species of *Pseudolachnella* occur on culms or leaf sheath of various bamboos, such as *Panicum*, *Phyllostachys*, *Pleioblastus*, and *Sasa*, and appear to be widely distributed throughout Asia (Nag Raj 1993). Seven species are presently recognized in this genus (Zhao et al. 2004). Among them, four species originally described as species in *Chaetopatella* I. Hino & Katum., namely *P. coronata* (I. Hino & Katum.) Nag Raj, *P. longiciliata* (I. Hino & Katum.) Nag Raj, *P. ryukyuensis* (I. Hino & Katum.) Nag Raj, and *P. setulosa* (I. Hino & Katum.) Nag Raj, have been reported from Japan (Hino and Katumoto 1958, 1960).

*Pseudolachnella yakushimensis* on *Pleioblastus* sp. is similar to *P. indica* (V.G. Rao & Verghese) Nag Raj and *P. scolecospora* in the 3-septate conidia. However, the conidial size of *P. yakushimensis* is smaller ( $23.0 \times 2.7 \mu\text{m}$ ) than the latter two species ( $31.8 \times 2.2 \mu\text{m}$  in *P. indica*,  $39.5 \times 2.5 \mu\text{m}$  in *P. scolecospora*; Nag Raj 1993), and *P. yakushimensis* has 2–5 appendages at each end of the conidia (the latter two species have only 1 appendage at each end of conidia; Nag Raj 1993). In terms of conidial length, *P. yakushimensis* is closest to *P. vermospora* R.L. Zhao, Y.M. Yang & G.C. Zhao ( $22\text{--}28 \mu\text{m}$ ), but *P. vermospora* has (5–)7-septate and wider (L/W 5) conidia (Zhao et al. 2004).

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**Figs. 8–12.** *Pseudolachnella yakushimensis* (HHUF 29683, holotype). **8** Conidiophores with conidia. **9–12** Conidia. Bars 10  $\mu\text{m}$



**Fig. 13.** *Pseudolachnella yakushimensis* (JCM 15101, ex-holotype). Cultural characteristics on potato dextrose agar (PDA), cornmeal agar (CMA), and malt extract agar (MEA) after 13 days at 25°C in 12 h light/12 h dark

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