Pyricularia contorta sp. nov. – a new species from Vietnam

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Abstract: Alexandrova, A. V., Braun, U. & Mel'nik, V. A. 2013: *Pyricularia contorta* sp. nov. – a new species from Vietnam. Schlechtendalia **25**: 73–76.

The new species *Pyricularia contorta*, found in Vietnam on leaves of *Saccharum spontaneum* (Poaceae), is described, illustrated and discussed. This species is well characterised and easily distinguishable from all other species of *Pyricularia* by its densely spirally twisted conidiophores which are unique in this genus.

Zusammenfassung: Alexandrova, A. V., Braun, U. & Mel'nik, V. A. 2013: *Pyricularia contorta* sp. nov. – eine neue Art aus Vietnam. Schlechtendalia **25**: 73–76.

Die neue Art *Pyricularia contorta*, gefunden in Vietnam auf Blättern von *Saccharum spontaneum* (Poaceae), wird beschrieben, abgebildet und diskutiert. Diese Art ist gut charakterisiert und einfach unterscheidbar von allen anderen *Pyricularia*-Arten durch ihre dicht spiralig verdrehten Konidienträger, was einmalig innerhalb dieser Gattung ist.

Key words: *Pyricularia*, new species, Southeast Asia, contorted appendages.

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Introduction

The genus *Pyricularia* (Sacc.) Sacc. (≡ *Ramularia* subgen. *Pyricularia* Sacc.; Saccardo 1880, 1886) is a hyphomycetous genus mainly occurring on monocotyledonous hosts and substrates, including numerous grasses (Poaceae). A survey of species on grasses has recently been given by McKenzie et al. (2010) in a table. *Pyricularia* belongs to a complex of anamorph genera with denticulate conidiogenous cells and is well characterized by its "open" denticles (cut off by a septum to form a separating cell), rhexolytic conidial secession and didymo- to phragmosporous, mostly more or less obovoid-pyriform conidia (Ellis 1971a, 1976; Zhang et al. 2003; Seifert et al. 2011).

Mel'nik (2011, 2012a,b) and Mel'nik et al. (2012, 2013) published results of examinations of several hyphomycetes recently collected in Vietnam within the frame of a Research Program of the Vietnam-Russian Tropical Research and Technological Centre, including some new species and numerous new records. An additional collection found on still living leaves of *Saccharum spontaneum* can be easily assigned to *Pyricularia* due to its characteristic conidiogenous cells with denticles formed as separating cells and two-septate obovoid-pyriform conidia. Attempts to cultivate this fungus, in order to be able to carry out molecular sequence analyses, failed unfortunately, but due to its unique features of the conidiophores, characterized by being densely contorted (spirally twisted), a further treatment and description of this fungus is possible.

Material and Methods

Fresh samples collected in the course of field trips in Vietnam were dried at room temperature. The material was later examined in distilled water and photographed using a Zeiss microscope, Stemi 2000CS, and Axio Imager A1 equipped with Nomarski differential interference contrast optics. Identification was carried out through comparison with current taxonomic works dealing with *Pyricularia* spp. The examined specimen is deposited at HAL and LE.

Result

Pyricularia contorta Melnik, U. Braun & A.V. Alexandrova, **sp. nov.** Figs 1–7

MycoBank, MB 803983.

Etym.: epithet derived from the shape of the conidiophores which are densely contorted.

Differt ab omnibus speciebus Pyriculariae conidiophoris dense contortis.

Colonies on still green parts of faded or necrotic leaves, not very conspicuous for the unaided eye, effuse, fine, dark brown to blackish. Conidiophores scattered, solitary or in small, loose groups, 2–3(–6), arising from a single immersed swollen hyphal cell, 5–12(–14) µm diam., brown, usually somewhat darker than the conidiophore, wall somewhat thickened, or arising from small clusters or such cells, erect, macronematous, mononematous, unbranched, straight or almost so, 90–170(–200) µm long, composed of a contorted, i.e. densely spirally twisted, basal part with numerous conspicuous coils, 20–80(–140) µm long and 5–9 µm wide, 1–2 shorter following cells, 10–25(–30) µm long, straight or also somewhat contorted, and a terminal fertile part (conidiogenous cell), not twisted, 30–80 µm long and 4–8 µm wide, or with a contorted base immediately followed by a conidiogenous cell, occasionally with a short twisted basal cell followed by a straight longer cell and a straight terminal conidiogenous cells, pale to medium brown at the base, paler towards the tip, apex usually very pale or even subhyaline, 1–4-septate, wall thin to somewhat thickened, smooth or almost so. Conidiogenous cells integrated, terminal, occasionally with an additional intercalary conidiogenous cell, 30–80 µm long and 4–8 µm wide, sympodially proliferating, pale brown to apically subhyaline, with several distinct "open" denticles, occasionally somewhat clustered, cut off by a septum to form a separating cell, subcylindrical-conical, 1.8–3.5(–4) µm long and 2–3.5(–3.8) µm wide at the base and 1.3–3 µm above. Conidia solitary, obovoid-pyriform, 20–24 × 9–14 µm, mature conidia with two septa, one in the upper and one in the lower half, non-constricted at the septum, thin-walled, subhyaline, greenish to straw-coloured or very pale olivaceous, apex usually obtuse, rounded or occasionally somewhat attenuated, base rounded to somewhat attenuated and truncate, sometimes somewhat darker, refractive, frills passing quickly, not persistent; conidial secession rhexolytic. Teleomorph unknown.

Holotype: Vietnam, Dong Nai Prov., Cat Tien National Park, Nam Cat Tien Sector, secondary monsoon lowland tropical forest with *Lagerstroemia* spp. and plants belonging to the *Dipterocarpaceae*, roadside, 11°26'17''N, 107°25'20''E, 157 m alt., on still living leaves of *Saccharum spontaneum* L. (*Poaceae*), 28 Nov. 2012, A. V. Alexandrova (HAL 2592 F). Isotype: LE 263867. Paratype (Topotype material collected in March 2013): U. Braun, Fungi sel. exs. 207 (BPI, BRIP, GZU, HAL, HMAS, K, KR, KUS, LE, M, PDD).

Discussion

Pyricularia contorta is a typical species of *Pyricularia* with macronematous, mononematous, pigmented conidiophores, integrated, terminal distinctly denticulate conidiogenous cells with separating cells, rhexolytic conidial secession and obovoid-pyriform, two-septate, pale conidia formed singly. However, *P. contorta* is unique among other species of *Pyricularia* and easily distinguishable by its contorted conidiophores with numerous densely arranged coils. The conidiophores of other *Pyricularia* species, including all taxa described from grasses (McKenzie et al. 2010), are straight or at most somewhat flexuous, as for instance described for *P. kookicola* Bussaban and *P. variabilis* Bussaban (Bussaban et al. 2003). Beside obvious differences in the shape and structure of the conidiophores, some other *Pyricularia* species on grasses differ from *P. contorta* in having either smaller, consistently 1-septate conidia [*P. didyma* M.B. Ellis (Ellis 1971b)] or distinctly larger conidia [*P. cortaderiae* McKenzie, average 29.3 × 13.7 µm (McKenzie et al. 2010); *P. penniseti* Prasada & Goyal, average 27.5 × 9.2 µm, (Prasada & Goyal 1970)], whereas *P. dubiosa* (Speg.) Viégas, *P. grisea* Sacc., *P. oryzae* Cavara, and *P. panici-paludosi* (Sawada) S. Ito are characterized by having conidia of similar size (see McKenzie et al. 2010, Table).

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Figs 1–6: *Pyricularia contorta*. 1. Conidiophore. 2. Conidiogenous cell. 3. Conidia. 4–5. Fragments of conidiophores. 6. Colony with scattered conidiophores. Bars – 10 µm (1–5), 50 µm (6).

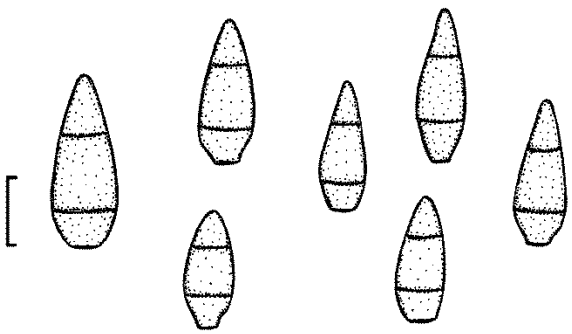

Fig. 7: *Pyricularia contorta*. Conidia. Bar – 10 µm. U. Braun del.

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