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A new species of *Ijuhya, I. antillana,* from the French West Indies

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Abstract — A detailed description of *Ijuhya antillana* sp. nov. is presented based on two collections on dead inflorescences of *Heliconia caribaea* in Guadeloupe and Martinique. The *Acremonium*-like anamorph has been obtained in culture. A key to the species of *Ijuhya* with fasciculate hairs is presented.

Key words —*Ascomycota*, *Bionectriaceae, Heliconiaceae*

Introduction

During the course of a research program on the fungal diversity of Lesser Antilles, conducted by Prof. R. Courtecuisse under the auspices of Société Mycologique de France with the funding from ONF (French Forest Office) and DREAL (Martinique delegation of French Environment ministery), interesting collections of *Hypocreales* have been made in different localities and ecological situations in Martinique and Guadeloupe. A species first collected in August 2007 in Martinique represents a new taxon of the genus *Ijuhya*. Later, a second specimen of the same species from Guadeloupe was cultured from single ascospores that produced an asexual state *Acremonium*-like. A description and illustrations of this new species are presented here.

Materials & methods

Specimens were examined using the methods described by Rossman *et al,* (1999). Microscopic observations and measurements were made in water and ascospore ornamentation was observed in lactic cotton blue.

Taxonomy

Ijuhya antillana Lechat & Courtec., **sp. nov.** **FIGS. 1**

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Ascomata subglobosa, apice applanata, 160–230 µm diametro, subhyalina vel aurantia, corona subapicalis pilis agglutinatis hyalinis vel aurantia, crasse-tunicatis, flexuosis composita, colore in KOH non mutanda. Asci 60–75 × 6.5 µm, octospori, unitunicati, inamyloidei. Ascosporae fusiformes vel ellipsoideae, (10.5–)11–13(–14) × 2.5–3.5 µm, uniseptatae, sublaeves. Status asexualis: Acremonii similis

Holotypus: French West Indies, Martinique, Morne Rouge, la Propreté, 29 Aug. 2007, on dead inflorescence of *Heliconia caribaea* (*Heliconiaceae*), Christian Lechat CLL7321 (LIP); ex-type culture CBS 122797.
Additional specimen: French West Indies, Guadeloupe, Petit Bourg, sentier de la Chute de Moreau, 14 Aug. 2008, on dead inflorescence of *Heliconia caribaea*, Christian Lechat CLL8321 (LIP).

ETYMOLOGY: The epithet refers to The Lesser Antilles, the region where this species was collected twice.

ASCOMATA gregarious, solitary or crowded in groups of 2–3, superficial, subglobose, apex flattened with a minute papilla, 120–160 µm high × 160–230 µm diam (^{m} = 145 × 210 µm, n = 15), white when immature, later dark orange to brownish-orange, collapsing cupulate when dry, not changing colour in 3–5% KOH or lactic acid. Perithecial wall abundantly covered by flexuous hyphae 2.5–3 µm diam developing from ascomatal base, apex surrounded by thick-walled hairs except on papilla, hairs 100–160 µm long, 2.5–3 µm wide, pale yellowish to brownish-orange when dry, cylindrical, slightly flexuous, thick-walled, wall 0.7–1 µm thick, rounded at tip, septate, arising from cells of ascomatal wall, fasciculate, agglutinated into triangular teeth 100–160 µm long × 20–30 µm wide at base, arranged in a stellate fringe around upper margin of perithecia.
PERITHECIAL WALL 20–30 µm thick, composed of two regions: outer region 12–20 µm wide, of 3–5 layers of globose to elongate cells 3–10 × 3–4.5 µm with yellow wall; inner region 6–10 µm wide, of elongate, flattened, hyaline cells 5–10 × 1.5–3 µm.
Asci 60–75 × 6–8.5 µm (^{m} = 71.5 × 8 µm, n = 20), clavate to fusoid, apex flattened, without ring, with 8 obliquely uniseriate or irregularly biseriate ascospores. No interthecial elements seen.
ASCOSPORES (10.5–)11–13(–14) × 2.5–3.5µm (^{m} = 12.7 × 3.2 µm, n = 30), hyaline, fusoid-ellipsoidal, straight, equally 2-celled, not constricted at septum, punctate-striate with 2 drops in each cell.

Anamorph: *Acremonium*-like

Cultural characteristics: After one week at 25°C on Difco PDA containing 5 mg/L streptomycin, colony 3–4 cm diam, mycelium white, producing an abundant *Acremonium*-like culture in center of colony, composed of monophialidic conidiophores, 28–60 µm long, 2–3 µm diam, arising from smooth hyphae 2–3 µm diam, producing ellipsoidal conidia (4.5–)5–7(–8) × 1.8–3 µm (^{m} = 6.4 × 2.4 µm, n = 30), hyaline, smooth, non-septate, with a basal abscission scar.

Discussion

Ijuhya antillana is placed in the genus *Ijuhya* Starbäck based on the ascomata not changing color in 3% KOH or lactic acid, fasciculate hairs around the perithecial apex, striate ascospores, ascomatal wall of small, thick-walled cells and *Acremonium*-like anamorphs as defined by Rossman et al. (1999).

This species is related to several known species of *Ijuhya,* which have a stellate crown of fasciculate, agglutinated hairs around the perithecial apex, such as *I. chilensis* (Speg.) Rossman & Samuels (Rossman et al. 1999), *I. dentifera* (Samuels) Rossman & Samuels (Samuels 1976 as *Nectria dentifera*), *I. equiseti-hiemalis* Lechat & Baral (Lechat & Baral 2008), *I. peristomialis* (Berk. & Broome.) Rossman & Samuels (Rossman et al. 1999), and *I. parilis* (Syd.) Rossman & Samuels (Samuels 1988). The new species differs from these in size and ornamentation of ascospores and/or length of fasciculate hairs.

Key to species of *Ijuhya* with fasciculate hairs

1. Hairs 200–300 µm long; ascospores (24–) 30–60(–110) × 4–7(–8) µm, striate; ascomata pale yellow ..... **I. peristomialis**
1. Hairs averaging less than 200 µm long 2

2. Ascospores averaging less than 12 µm long 3
2. Ascospores averaging more than 12 µm long 4

3. Ascospores (8.5–)9.5–11.5(–12.5) × 2.8–3.2(–3.5) µm, striate; ascomata brownish-orange, hairs 28–80 × 2–2.5(–3) µm ..... **I. equiseti-hiemalis**
3. Ascospores 6–8(–9) × 3–4 µm, spinulose; ascomata orange-yellow, hairs 150–200 × 3–4 µm ..... **I. dentifera**

4. Ascospores striate 5
4. Ascospores spinulose 14.5–20 × (2.5–)3–5(–5.4) µm, ascomata brownish-orange, hairs 30–50 µm long ..... **I. parilis**

5. Ascospores (10.5–)11–13(–14) × 2.5–3.5 µm; ascomata dark orange, hairs 100–160 µm × 2.5–3 µm ..... ***I. antillana***
5. Ascospores (19–)21–28 × 3.5–4.5 µm; ascomata dull orange, hairs up to 100 µm long ..... ***I. chilensis***

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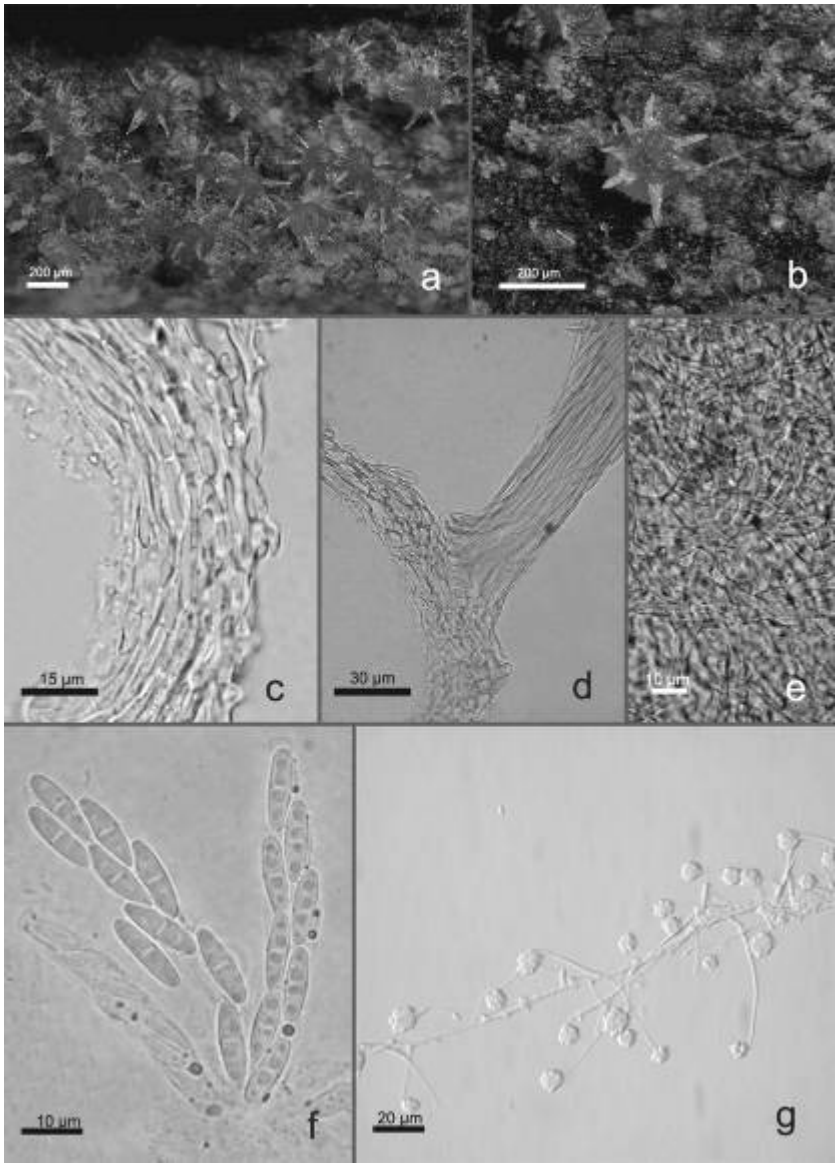

Fig. 1. *Ijuhya antillana*. **a.** Ascomata **b.** Single ascoma. **c**. Median section of perithecium. **d.** Fasciculate hairs. **e.** Hyphae covering ascomatal surface. **f.** Asci. **g.** *Acremonium*-like anamorph in culture. Additional photos at http://www.ascofrance.fr.