Key to the species of *Ijuhya*

1. Ascospores 5- or more-septate or muriform 2
1. Ascospores 1–3-septate 4

2 (1). Ascospores muriform, with 7–13 transverse septa and one, irregular, longitudinal septum, 48–97 × 10–16 µm, smooth ..... *I. dictyospora*
2. Ascospores only transversely septate, generally less than 45 µm long, coarsely striate 3

3 (2). Ascospores 5–7-septate, rarely 1–3- or up to 11-septate, (24–)30–60(–110) × 4–7(–8) µm, fusiform ..... *I. peristomialis*
3. Ascospores 5–9(–13)-septate, 27–42 × 3–4.5 µm, narrowly fusiform . *I. corynespora*

4 (1). Ascospores fusiform, more than 10 µm long 5
4. Ascospores oblong to ellipsoid or narrowly ellipsoid, less than 10 µm long 8

5 (4). Ascospores 14.5–20 × (2.5–)3–5(–5.5) µm, spinulose ..... *I. parilis*
5. Ascospores more than 20 µm, coarsely striate 6

6 (5). Ascomata with a flattened apical disk; ascospores (19.5–)21.5–24.5(–25.5) × 4–5 µm ..... *I. paraparilis*
6. Ascomata with an apical fringe of fasciculate hairs 7

7 (6). Ascospores (1–)5–7(–11)-septate, (24–)30–60(–110) × 4–7(–8) µm long; ascomata white to pale yellow ..... *I. peristomialis* (see under 3)
7. Ascospores 1-septate, 21–28 × 3.5–4.5 µm; ascomata dull orange ..... *I. chilensis*

8 (4). Ascospores finely striate, 7.5–9 × 2.5–3 µm; ascomata umber, with an acute apex, finely scurfy due to free ends of hyphae ..... *I. bambusina*
8. Ascospores smooth or finely spinulose; ascomata white, yellow to orange or sienna, with an apical disk and/or fasciculate hairs or hyphae 9

9 (8). Ascomata white, 150 µm diam or less; ascospores ellipsoid to oblong, (7.5–)8.5–10(–11) × 2–2.5(–3) µm, smooth-walled ..... *I. leucocarpa*
9. Ascomata yellow, orange or sienna, more than 150 µm diam; ascospores smooth or finely spinulose 10

10 (9). Ascomata sienna, with short, sinuous hairs extending from the wall; ascospores oblong to narrowly ellipsoid, 7–9 × 2–2.5 µm, smooth-walled ..... *I. aquifolii*
10. Ascomata yellow to orange, with fasciculate hairs; ascospores ellipsoid, 6–8 × 3–4 µm, finely spinulose ..... *I. dentifera*

KALLICHROMA Kohlm. & Volkm.-Kohlm., Mycol. Res. 97: 759. 1993.

Type: *K. tethys* (Kohlm. & E. Kohlm.) Kohlm. & Volkm.-Kohlm. (≡ *Hydronectria tethys* Kohlm & E. Kohlm.).

Ascomata depressed subglobose to ellipsoid, at first immersed, erumpent, ostiolate, periphyses surrounded by a gelatinous matrix, non-papillate, indistinctly clypeate, fleshy-leathery, yellow-orange, gregarious or frequently confluent; clypeoid tissue extending from peridium around the ostiole and often connecting with adjacent ascomata. Ascomatal wall of three regions: outer region of polygonal cells with large lumina; middle region of thick-walled cells with small lumina; inner region of elongate, flattened, thick-walled cells, forming a *textura angularis*. Apical paraphyses present, septate, simple, apically attached, merging with the periphyses. Asci subcylindrical to clavate, thin-walled at maturity except for the narrow, thick-walled persistent apex, without apical apparatus, maturing successively on the ascogenous tissue at the bottom of the centrum, 8-spored, ascospores biseriate. Ascospores ellipsoid, equally 1-septate, hyaline, longitudinally striate by thin ribs or smooth, with or without an early dissolving mucilaginous sheath. Anamorph un

known. On driftwood, mangrove roots, and submerged wood and branches in marine habitats. Description modified from Kohlmeyer & Volkmann-Kohlmeyer (1993).
NOTES.— Kohlmeyer & Volkmann-Kohlmeyer (1993) established this genus for two taxa previously described in *Hydronectria*. They provided a thorough account of the genus including the type, *K. tethys*, and one additional species, *K. glabrum* (Kohlm.) Kohlm. & Volkm.-Kohlm. (≡ *Hydronectria tethys* var. *glabra* Kohlm.). *Kallichroma tethys* occurs in warm temperate and tropical regions of the Atlantic, Indian and Pacific Oceans, while *K. glabrum* has been less commonly collected, known only from the Indian Ocean and the Pacific Ocean on the east coast of Australia.

LASIONECTRIA (Sacc.) Cooke, Grevillea 12: 111. 1884.

≡ *Nectria* subgenus *Lasionectria* Sacc., Syll. Fung. 2: 505. 1883.
Lectotype, designated by Clements & Shear (1931): *L. mantuana* (Sacc.) Cooke (≡ *Nectria mantuana* Sacc.).

Ascomata non-stromatic, superficial, orange to dark red-orange or dark brown, slightly darker in KOH but not KOH+, subglobose to globose, collapsed slightly cupulate when dry or not, often with fasciculate and/or solitary hairs. Ascomatal wall generally more than 20 μm thick, of two regions: outer region of thick-walled, pigmented cells; inner region of elongate, thin-walled, hyaline cells. Asci clavate. Ascospores broadly ellipsoid, 1-septate, hyaline, generally smooth-walled. Anamorph, where known, *Acremonium*. On dead woody and herbaceous substrata including basidiocarps.
NOTES.— Saccardo (1883) established *Nectria* subgenus *Lasionectria* for nine species of *Nectria* having hairs on the ascomata. Cooke (1884) listed nineteen species in *Lasionectria* including many of the original nine species; he divided the genus into two subgenera based on ascospore septation. The presence of hairs on the ascomata is not a characteristic that reflects relatedness, thus most species previously placed in *Lasionectria* are excluded from the genus. Clements & Shear (1931) considered *Dasyphthora* Clem., *Epinectria* Syd. & P. Syd., and *Neohenningsia* Koord. to be later synonyms of *Lasionectria*. Based on an examination of their type specimens, none of these genera are synonyms of *Lasionectria* and they are discussed elsewhere. The type specimen of *Lasionectria mantuana* was examined. This species is similar to species previously placed in the *Nectria sylvana*-group (Samuels, 1976b) for which *Lasionectria* provides a generic name. The genus *Lasionectria* is distinct among genera in the *Bionectriaceae* in that the ascomatal wall is composed of thick-walled cells each with a small lumen. Three species are included in *Lasionectria* as described below.

Lasionectria mantuana (Sacc.) Cooke, Grevillea 12: 111. 1884. — Plate 2. e; Plate 5. f, g.

≡ *Nectria mantuana* Sacc., Michelia 1: 52. 1877.

Ascomata superficial with bases slightly immersed on decorticated wood fibers, solitary or in groups of 2–3; ascomata subglobose, collapsed cupulate when dry, 150 μm high × 250 μm diam, dark red-orange, becoming slightly darker in KOH but not blood-red or purple, without papilla. Ascomatal wall appearing roughened due to both short, fasciculate and solitary hairs. Ascomatal wall 18–35 μm thick, of two regions: outer region 12–15 μm thick, of thick-walled cells forming a *textura angularis*, walls pigmented in the upper portion of the ascomata, hyaline towards the base, about 1.5 μm thick, each with a small lumen; inner region 8–21 μm thick, cells elongate, forming a thin-walled *textura angularis* to *textura prismatica*. Short, solitary hairs extending from the outer region, hairs 12–18 μm long × 3–3.5 μm wide, 0–1-septate, slightly flexuous to wavy, hyaline, tapering slightly from the base to the broadly rounded apex. Around the apex beset with sparse, fasciculate hairs, 30–36 μm long × 15–22 μm wide at the base, individual hyphae 3–4.5 μm wide with rounded apices. Asci clavate, 42 × 6 μm, apex simple, 8-spored, ascospores uniseriate. Ascospores broadly ellipsoid, 8.5–9.5 × 3–3.5 μm, 1-septate, slightly constricted, hyaline, smooth (although one striate spore was seen).

HABITAT AND DISTRIBUTION.— Known only from the type specimen.

HOLOTYPE.— ITALY. Mantova, Migliaretto, on decorticated poplar wood, Feb 1873, A. Magnaguti-Rondinini (PAD).

ILLUSTRATIONS.— Weese (1916, Figs. 4 A–C).

Lasionectria sylvana (Mouton) Rossman & Samuels, *comb. nov.*

≡ *Nectria sylvana* Mouton, Bull. Soc. Roy. Bot. Belgique 39: 49. 1900.
= *Calonectria fimbriata* Seaver & Waterston, Mycologia 32: 404. 1940.

Anamorph: *Acremonium* sp.
Ascomata superficial on sparse subtending hyphae, hyphae septate, branched, smooth, *ca* 3 μm diam, walls *ca* 1 μm thick. Ascomata urniform, *ca* 150 μm high × (185–)210–250 μm across the flat top, superficial, solitary or in groups of 2–4, orange, becoming slightly collabent, when dry; papilla lacking or very short and acute; ostiolate, apex flattened, of cylindrical, septate, unbranched hyphae, tips of the hyphae rounded, *ca* 2 μm wide. Ascomatal wall 15–25 μm thick, cells in lon-