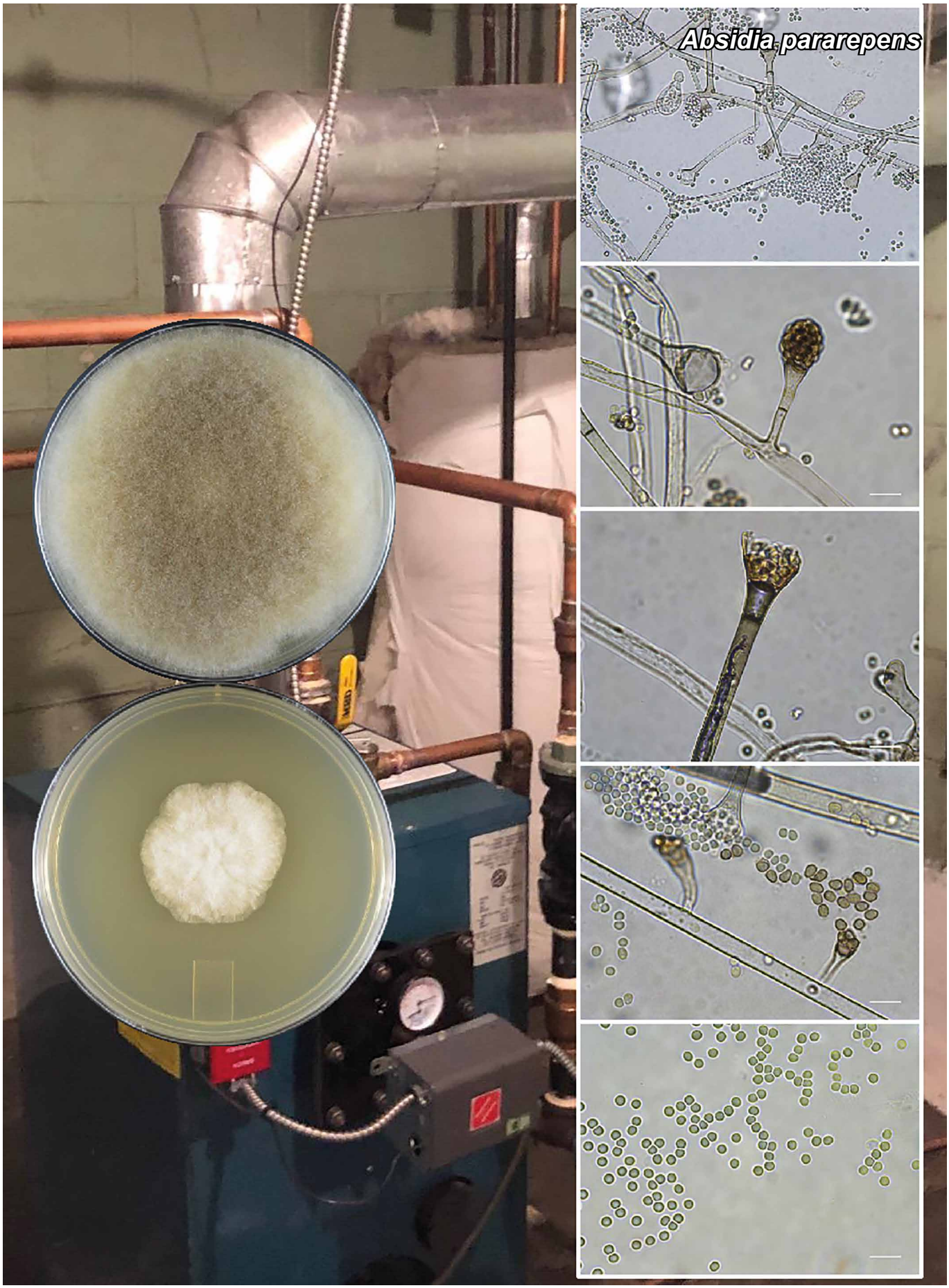
Absidia pararepens

Fungal Planet 1059 – 29 June 2020

Absidia pararepens Jurjević, M. Kolařík & Hubka, *sp. nov*.

Etymology. Refers to the phylogenetic proximity and phenotypic similarity to *A. repens*.

Classification — *Cunninghamellaceae*, *Mucorales*, *Mucoromycotina.*

Micromorphology (on malt extract agar; MEA): *Hyphae* hyaline to brownish, coenocytic, smooth, finely roughened to definitely roughened near crustaceous, 3–13 µm diam. *Sporangiophores* hyaline to brown near dark brown, simple or branched, arising solitarily, occasionally in pairs, never grouped in whorls, arising from aerial hyphae or substrate, most commonly 10–150 × 3–6 µm; smooth, finely roughened to definitely roughened near crustaceous walls, with a single septum below the sporangium and rarely with additional septum at the base. *Sporangia* hyaline to brown to dark greyish brown, most commonly pyriform, (10–)14–24(–26) µm diam, smooth-walled. *Apophyses* funnel-shaped, smooth-walled. *Columellae* globose, hemispherical, with a short collarette, occasionally with one projection, smooth-walled, (6–)12–17(–22) µm diam. *Sporangiospores* of two types: sub-globose to globose, hyaline, smooth-walled, and oval, occasionally slightly irregular, brown, rough-walled (formed in the different sporangia), (3.3–)3.5–5(–9) × (3.3–)3.5–6 µm. *Chlamydospores* (terminal and intercalary) occasionally present in the aerial mycelia. *Zygospores* not observed.

Culture characteristics — (in darkness, 25 °C after 3 d / 7 d): Colonies on MEA 39–45/>90 mm diam, cottony, mycelium at first white, then becoming grey to grey-brown (light mouse grey to mouse grey, R51; Ridgway (1912)), abundant sporulation, reverse colonial buff to deep colonial buff (R30), smooth and wavy zonate. Colonies on potato dextrose agar (PDA 39–44/>90 mm diam, cottony, mycelium at first white, then becoming grey to grey-brown [R51), very good sporulation, reverse grey to grey with buckthorn brown shades (R15), radially sulcate. Colonies on OA 35–40/>90 mm diam, cottony, mycelium at first white, then becoming light mouse grey to mouse grey (R51), good sporulation. Colony diam at 30 °C (in mm after 7 d): MEA 4–37; PDA 4–48; OA 5–48. No growth on MEA, PDA and OA at 32 °°C.

Typus. USA, New York, Jericho, bathroom, air, 12 Dec. 2015, *Ž. Jurjević* (holotype BPI 911217, cultures ex-type CCF 6352 = CBS 146002 = EMSL 3235; ITS and LSU sequences GenBank MT193669 and MT192308, MycoBank MB834983).

Additional materials examined. USA, Maryland, Parkton, bedroom, air, 16 Nov. 2015, *Ž. Jurjević*, culture CCF 6351 = EMSL 3145 (ITS and LSU sequences GenBank MT193670 and MT192307); New Jersey, Tinton Falls, basement, air, 08 Mar. 2016, *Ž. Jurjević*, culture CCF 6353 = EMSL 3556 (ITS sequence GenBank MT193671); New York, Massapequa Park, basement, swab, 09 Aug. 2016, *Ž. Jurjević*, culture CCF 6354 = EMSL 3570 (ITS sequence GenBank MT193672); Ohio, hospital, air, 26 Sept. 2016, *Ž. Jurjević*, culture CCF 6355 = EMSL 3656 (ITS sequence GenBank MT193673); New Jersey, Marlton, basement, concrete floor, swab, 04 Apr. 2017, *Ž. Jurjević*, culture CCF 6356 = EMSL 4142 (ITS sequence GenBank MT193674).

Colour illustrations. House basement. Seven-day-old cultures of *Absidia pararepens* on MEA (top to bottom 25 °C, 30 °C); sporangiophores, sporangiospores, and chlamydospores on MEA. Scale bars = 10 µm.

Notes — BLAST analyses with the ITS and LSU sequences of *A. pararepens* showed greatest similarity with *A. repens* ex-type CBS 115583 (~87 % and ~95 % similarity, respectively). The American isolates KAS 3611 (GenBank FJ849793), FSU 939 (GenBank AY944891), CBS 101.32 = FSU 5891 (GenBank EF030527), CBS 102.32 = FSU 5892 (GenBank EF030528), NRRL 1336 (GenBank AF113448) and 14849A (GenBank AY234881) also represent *A. pararepens*, while European isolates CBS 115583 (GenBank EU484281, HM849706) and FSU 4726 (GenBank EU484288) represent *A. repens* s.str. However, this geographic pattern should be confirmed by analysis of additional strains.

Hesseltine & Ellis (1966) invalidly designated a neotype for *A. repens*. In conflict with Art. 8.4 (Turland et al. 2018), the authors selected a living culture, NRRL 1336. This culture originated from a collection of A.F. Blakeslee, and was probably isolated in America. However, as pointed out by Hoffmann et al. (2009) and Hoffmann (2010), there are large genetic differences between European and American isolates of '*A. repens*'. Consequently, the neotype of *A. repens* should be selected from among European strains in accordance with the original description of Van Tieghem (1878), who collected *A. repens* on fruit of *Bertholletia excelsa* lying on a layer of moist *Sphagnum* in France. The specimen CBS 115583 originating from England, UK, was mentioned as isotype of *A. repens* by Hoffmann et al. (2009) and Hoffmann (2010), but formal typification has never been published.

To formalize the typification, we designate here a lectotype of *A. repens* (illustration from the original material): pl. 12, f. 55–63 (not paginated) in P. van Tieghem, *Annales des Sciences Naturelles Botanique* Ser. 6, Vol. 4. 1878 [1876]. MycoBank typification no. is MBT392665. Epitype designated here: specimen CBS 115583 (preserved in metabolically inactive state), ex-epitype culture CBS 115583. MycoBank typification no. is MBT392666).

Absidia pararepens has on average shorter sporangiophores (10–150 × 3–6 µm), and larger sporangiospores ((3.3–)3.5–5(–9) × (3.3–)3.5–6 µm) than the closely related *A. repens* ((50–)140–250(–450) × 2.5–6 µm), and (2.8–5.5(–6.5) × 2–3 µm), respectively.

Supplementary material

FP1059 A best scoring maximum likelihood tree based on the ITS region sequences shows the relationships of *Absidia pararepens* sp. nov. with other species.

Željko Jurjević, EMSL Analytical, Inc., 200 Route 130 North, Cinnaminson, NJ 08077 USA; e-mail: zjurjevic@emsl.com
Miroslav Kolařík, Laboratory of Fungal Genetics and Metabolism, Institute of Microbiology of the Czech Academy of Sciences, v.v.i, Vídeňská 1083, 142 20 Prague 4, Czech Republic; e-mail: mkolarik@biomed.cas.cz
Vit Hubka, Department of Botany, Faculty of Science, Charles University, Benátská 2, 128 01 Prague 2, Czech Republic, and Laboratory of Fungal Genetics and Metabolism, Institute of Microbiology of the Czech Academy of Sciences, v.v.i, Vídeňská 1083, 142 20 Prague 4, Czech Republic; e-mail: hubka@biomed.cas.cz