Supplementary Taxonomy S1. Descriptions of Oomycota species previously unrecorded in Korea

Freshwater samples, including algae, animal debris, plant litter, soil sediment, and water, were collected from various freshwater environments in Korea. B. Nam and Y.J. Choi collected samples, from which B. Nam isolated pure oomycete cultures. Identification was performed through morphological examination and molecular phylogenetic analysis.

***Elongisporangium undulatum* (H.E. Petersen) Uzuhasi, Tojo & Kakish., Mycoscience 51 (5): 364 (2010) [MB#517650]**

Description: Colonies formed a radiate pattern with short and dense aerial mycelia on PDA and V8A, but showed submerged growth on CMA. Colony diameter on PDA and CMA 60–65 mm, on V8A > 70 mm at 25 °C, after 72 h. Main hyphae up to 7 µm wide. Sporangia proliferating internally by 1 or more sporangiophores; sometimes provided with a hyaline papilla; mostly forming short discharge tubes. Chlamydospores globose to subglobose; intercalary and terminal; dark yellow; 16–75 µm diam. Oogonia and oospores not observed.

Strains examined Korea, Jeollanam-do, Boseong (34°41'22.9"N 126°59'10.3"E), ex soil sediment in freshwater, May 2019 (NNIBRFG24242 =W923). Korea, Jeju-do, Jeju (33°22'03.7"N 126°22'06.7"E), ex freshwater, Apr. 2021 (W1823). Korea, Jeju-do, Jeju (33°26'18.5"N 126°41'47.4"E), ex soil sediment in freshwater, Apr. 2021 (W1882).

***Globisporangium alternatum* (M.Z. Rahman, Abdelz. & Kageyama) H.D.T. Nguyen & C.F.J. Spies, Mycologia 114 (3): 509 (2022) [MB#840709]**

Description: Colonies formed a vague chrysanthemum pattern on PDA, V8A, and CMA. Colony diameter on PDA and CMA 50–55 mm, on V8A 65–70 mm at 25 °C, after 72 h. Main hyphae up to 4.5 µm wide. Sporangia globose or subglobose; terminal or intercalary; 14–28 µm in diameter. Oogonia globose; terminal or intercalary; smooth-walled; 13–22 µm in diameter. Oospores aplerotic; 10–18 µm in diameter.

Strains examined Korea, Jeollabuk-do, Jeongeup (35°35'17.4"N 127°00'33.8"E), ex a decaying plant leaf in freshwater, Apr. 2020 (W1166, NNIBRFG31695=W1167).

***Globisporangium attrantheridium* (Allain-Boulé & Lévesque) Uzuhashi, Tojo & Kakish., Mycoscience 51 (5): 361 (2010) [MB#517580]**

Description: Colonies formed a vague chrysanthemum pattern with short and dense aerial mycelia on PDA and V8A, but showed submerged growth on CMA. Colony diameter on PDA 65–70 mm, on V8A > 70 mm, on CMA 65–70 mm at 25 °C, after 72 h. Main hyphae up to 5 µm wide. Hyphal swellings abundant; spherical; terminal, subterminal or intercalary; rarely catenulate; 19–28 µm. Sporangia globose or subglobose; terminal or intercalary; 10–23 µm in diameter.

Strains examined Korea, Jeollanam-do, Hwasun (34°55'12"N 126°52'36"E), ex a decaying plant leaf in freshwater, Mar. 2019 (W757). Jeollanam-do, Naju (35°2'43"N 126°42'2"E), ex soil sediment in freshwater, Mar. 2019 (NNIBRFG21812=W786, W789). Jeollanam-do, Naju (35°2'47"N 126°42'4"E), ex a decaying plant leaf in freshwater, Mar. 2019 (W803). Jeollabuk-do, Jinan (35°45'19"N 127°27'08"E), ex soil sediment in freshwater, Mar. 2019 (W828). Jeollabuk-do, Gochang (35°28'24.2"N 126°38'03.4"E), ex soil sediment in freshwater, June 2020 (W1226, W1227, W1228, W1229). Jeollabuk-do, Gochang (35°28'24.2"N 126°38'03.4"E), ex a decaying plant leaf in freshwater, June 2020 (W1238, W1239, W1240). Jeollabuk-do, Gochang

(35°29'24.3"N 126°38'22.6"E), ex soil sediment in freshwater, June 2020 (W1243, W1244). Jeollabuk-do, Jeonju (35°46'49.4"N 127°05'41.6"E), ex a decaying plant leaf in freshwater, July 2020 (W1326). Jeollabuk-do, Imsil (35°42'57.9"N 127°11'18.4"E), ex soil sediment in freshwater, July 2020 (W1327). Jeollanam-do, Gokseong (35°15'07"N 127°06'06.7"E), ex soil sediment in freshwater, July 2020 (W1329, W1331). Jeollabuk-do, Buan (35°37'45"N 126°37'58"E), ex soil sediment in freshwater, Aug. 2020 (W1358, W1359). Jeollanam-do, Jangseong (35°23'34"N 126°44'15.2"E), ex soil sediment in freshwater, Sept. 2020 (W1410). Jeollabuk-do, Jeonju (35°51'55.4"N 127°02'59.1"E), ex a decaying plant leaf in freshwater, Sept. 2020 (W1459). Jeollabuk-do, Gunsan (35°56'07"N 126°37'45"E), ex soil sediment in freshwater, Mar. 2021 (W1607). Chungcheongnam-do, Taean (36°26'51.9"N 126°23'15.7"E), ex freshwater, Apr. 2021 (W1793). Jeollanam-do, Jindo (34°30'19.9"N 126°22'00.8"E), ex soil sediment in freshwater, June 2021 (W2000). Jeollabuk-do, Gunsan (35°55'54.9"N 126°43'09"E), ex a decaying plant leaf in freshwater, June 2021 (W2033, W2034).

Globisporangium macrosporum **Vaartaja & Plaats-Niterink, Studies in Mycology 21: 89 (1981) [MB#111875]**

Description: Colonies formed a vague chrysanthemum pattern with little aerial mycelia on PDA, V8A, and CMA, but showed submerged growth on CMA. Colony diameter on PDA 65–70 mm, on V8A > 70 mm, on CMA 65–70 mm at 25 °C, after 72 h. Main hyphae up to 7 µm wide. Sporangia globose or subglobose; terminal and intercalary; 18–35 µm in diameter. Discharge tube up to 13 µm wide and 100 µm long. Encysted zoospores 10–18 µm in diameter. Oogonia not formed.

Strains examined Korea, Jeollanam-do, Yeongam (34°44'44"N 126°39'45"E), ex soil sediment in freshwater, Mar. 2019 (NNIBRFG21806 =W716). Korea, Jeollabuk-do, Gochang (35°28'21.9"N 126°38'03.9"E), ex soil sediment in freshwater, June 2020 (W1219).

Globisporangium marsipium **(Drechsler) Uzuhashi, Tojo & Kakish., Mycoscience 51 (5): 362 (2010) [MB#517604]**

Description: Colonies formed a radiate pattern with little aerial mycelia on PDA and V8A, but showed submerged growth on CMA. Colony diameter on PDA and V8A 65–70 mm, on CMA 60–65 mm at 25 °C, after 72 h. Main hyphae up to 7 µm wide. Appressoria club-shaped bodies observed. Sporangia subspherical 20–70 µm in diameter or pyriform 15–25 x 10–15 µm; terminal, sometimes intercalary. Oogonia terminal or intercalary; smooth-walled; 25–40 µm in diameter. Oospores spherical to subspherical; aplerotic; usually yellowish; 20–35 µm in diameter.

Strains examined Korea, Jeollabuk-do, Iksan (36°06'26.5"N 126°59'31.7"E), ex a decaying plant leaf in freshwater, June 2020 (NNIBRFG31699=W1296, W1293). Korea, Gangwon-do, Hoengseong (37°27'25.1"N 128°01'37.7"E), ex soil sediment in freshwater, June 2021 (W2070).

Globisporangium nagaii **(S. Ito & Tokun.) Uzuhashi, Tojo & Kakish., Mycoscience 51 (5): 362 (2010) [MB#517610]**

Description: Colonies formed a vague chrysanthemum or radiate pattern on PDA, V8A and CMA. Colony diameter on PDA 30–35 mm, on V8A 55–60 mm, on CMA 50–55 mm at 25 °C, after 72 h. Main hyphae up to 4 µm wide. Sporangia ovoidal, pyriform, or rarely spherical; terminal; 24–36 µm in diameter. Oogonia terminal, mostly spheroidal, sometimes irregular; smooth-walled; 14–

22 µm in diameter. Oospores spherical; single in an oogonium; usually containing a large oil-drop; 12–19 µm in diameter.
Strains examined Korea, Jeollabuk-do, Gunsan (35°55'57.6"N 126°43'03.2"E), ex a decaying plant leaf in freshwater, Feb. 2021 (NNIBRFG35141=W1534). Jeju-do, Jeju (33°26'18.5"N 126°41'47.4"E), ex a decaying plant leaf in freshwater, Apr. 2021 (W1885).

Globisporangium paddicum **Hirane ex Uzuhashi, Tojo & Kakish., Mycoscience 51 (5): 362 (2010) [MB#517616]**
Description: Colonies formed a radiate pattern on PDA, V8A and CMA. Colony diameter on PDA 30–35 mm, on V8A 55–60 mm, on CMA 50–55 mm at 25 °C, after 72 h. Main hyphae up to 6 µm wide. Sporangia spherical or ellipsoidal proliferating; 25–34 x 21–27 µm in diameter. Oogonia globose; with spiny; 14–30 µm in diameter. Oospores globose; aplerotic. Antheridia monoclinous or diclinous.
Strain examined Korea, Jeollabuk-do, Gunsan (35°56'07"N 126°37'45"E), ex a decaying plant leaf in freshwater, Mar. 2021 (NNIBRFG35143=W1603).

Globisporangium rostratifingens **(De Cock & Lévesque) Uzuhashi, Tojo & Kakish., Mycoscience 51 (5): 363 (2010) [MB#517628]**
Description: Colonies formed a vague chrysanthemum or radiate pattern on PDA, V8A and CMA. Colony diameter on PDA 30–35 mm, on V8A 55–60 mm, on CMA 50–55 mm at 25 °C, after 72 h. Main hyphae up to 7 µm wide. Sporangia globose, occasionally oval; intercalary, occasionally terminal; 11–27 µm in diameter. Discharge tube up to 30 µm long and 5–10 µm wide. Many sporangia do not develop zoospores but may germinate directly by one or more hyphae. Oogonia globose; intercalary, occasionally terminal; smooth-walled; 11–22 µm in diameter.
Strains examined Korea, Jeollabuk-do, Gunsan (35°56'07"N 126°37'45"E), ex soil sediment, Mar. 2021 (NNIBRFG35144=W1608). Jeju-do, Jeju (33°22'03.7"N 126°22'06.7"E), ex a decaying plant leaf in freshwater, Apr. 2021 (W1830).

Globisporangium selbyi **(M.L. Ellis, Broders & Dorrance) H.D.T. Nguyen & C.F.J. Spies, Mycologia 114 (3): 510 (2022) [MB#840740]**
Description: Colonies formed a rosette pattern with little aerial mycelia on PDA, a vague rosaceous pattern with limited surface mycelia on V8A, and a radiate pattern on CMA. On CMA they showed submerged growth. Colony diameter on PDA 20–25 mm, on V8A and CMA 40–45 mm, at 25 °C, after 72 h. Main hyphae up to 7 µm wide. Sporangia globose or slightly ellipsoidal; terminal or intercalary; 25–40 µm in diameter. Oogonia spherical; terminal or intercalary; smooth-walled; 25–30 µm in diameter. Oospores spherical; with 1–2.5 µm thick wall; 18–25 µm in diameter.
Strain examined Korea, Jeollanam-do, Yeongam (34°47'15"N 126°40'39"E), ex soil sediment, Mar. 2019 (NNIBRFG21809=W743).

Globisporangium sylvaticum **(W.A. Campb. & F.F.Hendrix) Uzuhashi, Tojo & Kakish., Mycoscience 51 (5): 363 (2010) [MB#517636]**
Description: Colonies formed a radiate pattern with short and dense aerial mycelia on PDA and V8A. On CMA show submerged growth. Colony diameter on PDA 60–65 mm, on V8A > 70 mm and on CMA 60–65 mm, at 25 °C, after 72 h. Main hyphae up to 7 µm wide. Sporangia and

zoospores not produced. Hyphal swellings, globose or limoniform; intercalary or terminal; up to 32 µm in diameter. Oogonia smooth-walled; intercalary or terminal; 16–20 µm in diameter. Oospores aplerotic; with 1–2 thick wall; 13–19 µm in diameter.
Strain examined Korea, Jeollanam-do, Naju (34°55'2"N 126°50'0"E), ex soil sediment, Mar. 2019 (NNIBRFG21811=W769).

Globisporangium terrestre **(B. Paul) Uzuhashi, Tojo & Kakish., Mycoscience 51 (5): 363 (2010) [MB#517637]**
Description: Colonies formed a vague chrysanthemum or radiate pattern on PDA, V8A and CMA. Colony diameter on PDA 65–70 mm, on V8A > 70 mm, on CMA 65–70 mm at 25 °C, after 72 h. Main hyphae up to 8 µm wide. Sporangia globose to somewhat elongated; mostly intercalary, at times terminal and subterminal; 15–35 µm in diameter. Oogonia spherical; smooth-walled; mostly intercalary, rarely terminal; 18–30 µm in diameter. Oospores spherical; aplerotic; usually one, sometimes up to three per oogonium; 10–25 µm in diameter.
Strains examined Korea, Jeollanam-do, Hwasun (34°55'12"N 126°52'36"E), ex soil sediment, Mar. 2019 (W747). Jeollabuk-do, Jinan (35°45'19.0"N 127°27'08"E), ex soil sediment, Mar. 2019 (W836). Chungcheongnam-do, Nonsan (36°12'57.9"N 127°17'16.2"E), ex soil sediment, Aug. 2020 (W1401, W1402). Jeollabuk-do, Jeonju (35°51'55.4"N 127°02'59.1"E), ex a decaying plant leaf in freshwater, Sept. 2020 (W1467). Gangwon-do, Pyeongchang (37°40'21.9"N 128°40'09.1"E), ex a decaying plant leaf in freshwater, Sept. 2020 (W1487). Jeollabuk-do, Gunsan (35°55'59.9"N 126°37'25.6"E), ex soil sediment in freshwater, Mar. 2021 (W1584). Jeollanam-do, Jindo (34°30'19.9"N 126°22'00.8"E), ex a decaying plant leaf in freshwater, June 2021 (W2000, NNIBRFG35152=W2010). Gyeongsangbuk-do, Mungyeong (36°39'54.4"N 128°17'16.3"E), ex soil sediment in freshwater, June 2021 (W2024). Gangwon-do, Hoengseong (37°27'25.1"N 128°01'37.7"E), ex soil sediment in freshwater, June 2021 (W2080).

Phytophthora inundata **Brasier, Sánch. Hern. & S.A. Kirk, Mycological Research 107 (4): 481 (2003) [MB#373599]**
Description: Colonies formed a light chrysanthemum pattern on PDA and CMA, a radiate pattern on V8A. Colony diameter on PDA 30–35 mm, on V8A 55–60 mm, on CMA 30–35 mm at 25 °C, after 72 h. Sporangia ovoid or obpyriform; nonpapillate; internal proliferation; in unbranched or sympodial sporangiophores; 30–65 µm length x 20–52 µm width. Hyphal swellings globose, subglobose, or irregular. No chlamydospores and oogonia seen on PDA, V8 and CMA.
Strain examined Korea**,** Jeollabuk-do, Buan (35°40'04.1"N 126°31'43.6"E), ex a decaying plant leaf in freshwater, Apr. 2021 (NNIBRFG37601=W1757).

Pythium acanthicum **Drechsler, Journal of the Washington Academy of Sciences 20: 408 (1930) [MB#255635]**
Description: Colonies formed a rosette pattern with little aerial mycelia on PDA and V8A. On CMA show submerged growth. Colony diameter on PDA 25–30 mm, on V8A and CMA > 70 mm at 25 °C, after 72 h. Main hyphae up to 5.5 µm wide. Sporangia subglobose; terminal or intercalary; 13–35 µm in diameter. Oogonia spherical or subspherical; terminal or intercalary; wall thin and ornamented; 15–27 µm in diameter. Oospores plerotic; colourless or slightly yellow; 15–25 µm in diameter.

Strains examined Korea**,** Gyeongsangbuk-do, Sangju (36°29'34"N 128°16'11"E), ex soil sediment in freshwater, Aug. 2019 (NNIBRFG24243=W927). Gyeongsangbuk-do, Sangju (36°27'32"N 128°14'47"E), ex soil sediment in freshwater, Aug. 2019 (W936).

Pythium apleroticum **Tokun., Transactions of the Sapporo Natural History Society 14 (1): 12 (1935) [MB#257065]**

Description: Colonies formed a vague chrysanthemum or radiate pattern on PDA, V8A and CMA. Colony diameter on PDA 65–70 mm, on V8A > 70 mm, on CMA 65–70 mm at 25 °C, after 72 h. Main hyphae up to 7 µm wide. Sporangia filamentous. Zoospores readily discharged after vesicle formation. Oogonia spheroidal; terminal; 11–20 µm in diameter. Oospores aplerotic; bearing single antheridia per oogonium; 9–17 µm in diameter. Antheridia diclinous, curved, cylindrical, various in shape.

Strains examined Korea, Jeollabuk-do, Jeonju (35°51'55.4"N 127°02'59.1"E), ex a decaying alga in freshwater, Sept. 2020 (W1472). Jeollabuk-do, Gunsan (35°55'54.9"N 126°43'09"E), ex freshwater, June 2021 (NNIBRFG35153=W2032).

Pythium biforme **Uzuhashi & G. Okada, Antonie van Leeuwenhoek 2015: 389 (2015) [MB#809358]**

Description: Colonies formed a vague chrysanthemum pattern with little aerial mycelia on PDA and V8A. On CMA showed submerged growth. Colony diameter on PDA 15–20 mm, on V8A and CMA 40–45 mm at 25 °C, after 72 h. Main hyphae up to 3.5 µm wide. Hyphal bodies, globose, ovoid or peanut shaped; terminal or intercalary; 15–40 µm diam. (av. 26 µm). Hyphal inflated structures; inflated filamentous. Oogonia smooth-walled; terminal or rarely intercalary; 14–26 µm in diameter. Oospores plerotic; 11–24 µm in diameter.

Strains examined Korea, Jeollabuk-do, Jinan (35°45'21.6"N 127°27'07"E), ex a decaying plant leaf in freshwater, Mar. 2019 (W811, NNIBRFG21813=W813). Jeollabuk-do, Jinan (35°44'56"N 127°30'25"E), ex a decaying plant leaf in freshwater, Mar. 2019 (W849). Jeollabuk-do, Jangsu (35°43'30"N 127°30'39"E), ex a decaying plant leaf in freshwater, Mar. 2019 (W868). Jeollanam-do, Damyang (35°11'03.9"N 127°00'44.9"E), ex a decaying plant leaf in freshwater, Jan. 2021 (W1505, W1506, W1507). Jeollabuk-do, Gunsan (35°55'57.6"N 126°43'03.2"E), ex a decaying plant leaf in freshwater, Feb. 2021 (W1530, W1531, W1533, W1535). Jeollabuk-do, Gunsan (35°55'57.6"N 126°43'03.2"E), ex soil sediment in freshwater, Feb. 2021 (W1538). Jeollabuk-do, Gunsan (35°56'07"N 126°37'45"E), ex a decaying plant leaf in freshwater, Mar. 2021 (W1598, W1601).

Pythium brachiatum **Uzuhashi & G. Okada, Antonie van Leeuwenhoek 2015: 386 (2015) [MB#809359]**

Description: Colonies formed form a vague chrysanthemum pattern on PDA, V8A and CMA. Colony diameter on PDA and CMA 35–40 mm, on V8A 40–45 mm at 25 °C, after 72 h. Main hyphae up to 5.5 µm wide. Sporangia and zoospores not observed. Hyphal inflated structures filamentous slightly inflated. Oogonia globose; smooth-walled, occasionally with a projection; terminal or intercalary, sometimes in chains; 13–34.5 µm in diameter. Oospores globose; plerotic, occasionally aplerotic, av. 16.5 µm in diameter.

Strain examined Korea, Jeollabuk-do, Gunsan (35°55'57.6"N 126°43'03.2"E), ex a decaying plant leaf in freshwater, Feb. 2021 (NNIBRFG35142=W1541).

Pythium cedri **Jia J. Chen & X.B. Zheng, Phytotaxa 309 (2): 137 (2017) [MB#818071]**
Description: Colonies formed a rosette pattern with little aerial mycelia on PDA, a vague rosaceous pattern on V8A and CMA. On CMA show submerged growth. Colony diameter on PDA 20–25 mm, on V8A > 70 mm and on CMA 40–45 mm, at 25 °C, after 72 h. Main hyphae up to 4 µm wide. Sporangia spherical, toruloid or irregular; terminal or intercalary; spherical sporangia, 10–25 µm in diameter; other sporangia, 18–25 µm wide and 50–150 µm long. Oogonia globose; terminal; ornamented with blunt spines; 17.5–32.5 µm in diameter. Oospores spherical; with 0.5–1.3 µm thick wall; 14–26 µm in diameter.
Strain examined Korea, Jeollanam-do, Hwasun (34°55'12"N 126°52'36"E), ex a decaying plant leaf in freshwater, Mar. 2019 (NNIBRFG21810=W754).

Pythium insidiosum **De Cock, L. Mendoza, A.A. Padhye, Ajello & Kaufman, Journal of Clinical Microbiology 25 (2): 345 (1987) [MB#130421]**
Description: Colonies formed a vague chrysanthemum or radiate pattern on PDA and V8A. On CMA showed submerged growth. Colony diameter on PDA and V8A 50–55 mm, on CMA 45–50 mm at 25 °C, after 72 h. Main hyphae up to 6 µm wide. Sporangia filamentous. Oogonia subglobose; intercalary, sometimes subterminal; 20–36 µm in diameter. Oospores aplerotic, occasionally plerotic; 17–27 µm in diameter.
Strain examined Korea, Jeollabuk-do, Iksan (36°06'26.5"N 126°59'31.7"E), ex a decaying plant leaf in freshwater, June 2020 (NNIBRFG31698=W1285).

Pythium oryzicollum **Salmaninezhad & Mostowf., Mycologia 111 (4): 700 (2019) [MB#831258]**
Description: Colonies formed a rosette or chrysanthemum pattern with little aerial mycelia on PDA, V8A and CMA. Colony diameter on PDA and CMA 30–35 mm, on V8A 25–30 mm at 25 °C, after 72 h. Main hyphae up to 5.5 µm wide. Chlamydospores and hyphal swellings are observed. Oogonia globose; smooth-walled; 25–35 µm in diameter. Antheridia clubshaped; terminal; monoclinous or diclinous; 1–2 (rarely 4) per oogonium. Oospores spherical; plerotic; 24–35 µm in diameter.
Strains examined Korea, Chungcheongnam-do, Seocheon (36°01'51.0"N 126°44'42.3"E), ex freshwater, May 2020 (NNIBRFG31696=W1211, W1212, W1213). Chungcheongnam-do, Nonsan (36°12'57.9"N 127°17'16.2"E), ex a snail in freshwater, Aug. 2020 (W1403).

Pythium pachycaule **Ali-Shtayeh, Botanical Journal of the Linnean Society 91 (1-2): 313 (1985) [MB#104703]**
Description: Colonies formed a radiate pattern on PDA, V8A and CMA. Colony diameter on PDA 30–35 mm, on V8A 55–60 mm, on CMA 50–55 mm at 25 °C, after 72 h. Main hyphae up to 10 µm wide. Sporangia filamentous, slightly inflated; terminal; discharge tube up to 250 µm long and 5 µm wide. Oogonia globose, sac- or trumpet-shaped; smooth-walled; usually with a long thick neck cell; terminal or intercalary; 24–34 µm in diameter, when elongated then 44–110 µm long. Oospores globose, sometimes spindle-shaped; aplerotic; 1–2 per oogonium; 18–25 µm in diameter.
Strains examined Korea, Jeollanam-do, Jangseong (35°15'31.6"N 126°37'58.8"E), ex freshwater, Mar. 2021 (NNIBRFG35145=W1650, W1651). Gangwon-do, Pyeongchang (37°32'00.5"N 128°27'24.1"E), ex a decaying plant leaf in freshwater, June 2021 (W2058).

Pythium subutonaiense **Jia J. Chen & X.B. Zheng, Mycobiology 47 (3): 276 (2019) [MB#824731]**

Description: Colonies formed a rosette pattern with little aerial mycelia on PDA and stellate pattern on V8A. On CMA show submerged growth. Colony diameter on PDA and V8A > 70 mm, on CMA 40–45 mm, at 25 °C, after 72 h. Main hyphae up to 5 µm wide. Hyphal swellings globose to sub-globose; 20–37 µm in diameter. Sporangia filamentous non-inflated. Oospore globose; plerotic; 15–20 µm in diameter.

Strains examined Korea, Jeollabuk-do, Gimje (35°51'08.3"N 126°49'21.8"E), ex freshwater, Jan. 2017 (W430B, W432). Jeollabuk-do, Imsil (35°38'4"N 127°24'52"E), ex soil sediment in freshwater, Sept. 2018 (W692). Gyeongsangbuk-do, Sangju (36°28'32"N 128°15'26"E), ex freshwater, Aug. 2019 (W928, NNIBRFG24244=W929). Jeollabuk-do, Gunsan (35°55'57.6"N 126°43'03.2"E), ex soil sediment in freshwater, Feb. 2021 (W1537, W1539). Jeollabuk-do, Gunsan (35°55'57.6"N 126°43'03.2"E), ex frogspawn in freshwater, Feb. 2021 (W1553, W1555). Jeollabuk-do, Gunsan (35°55'54.8"N 126°37'24.2"E), ex a decaying plant leaf in freshwater, Mar. 2021 (W1573). Jeollabuk-do, Gunsan (35°55'59.9"N 126°37'25.6"E), ex a decaying plant leaf in freshwater, Mar. 2021 (W1578). Jeollabuk-do, Gunsan (35°55'59.9"N 126°37'25.6"E), ex soil sediment in freshwater, Mar. 2021 (W1587). Jeollabuk-do, Gunsan (35°56'07"N 126°37'45"E), ex a decaying plant leaf in freshwater, Mar. 2021 (W1589, W1591, W1592).

Pythium utonaiense **Uzuhashi & G. Okada, Antonie van Leeuwenhoek 2015: 386 (2015) [MB#809357]**

Description: Colonies formed a rosette pattern on PDA, V8A and CMA. Colony diameter on PDA and V8A 55–60 mm, on CMA 50–55 mm at 25 °C, after 72 h. Main hyphae up to 5 µm wide. Sporangia filamentous non-inflated, giving rise to vesicle containing various numbers of zoospores. Encysted zoospores; 6–11 µm diameter. Oogonia globose; smooth-walled or occasionally with a projection; terminal, rarely intercalary; 10–23 µm in diameter. Oospores globose; plerotic; one per oogonium; 8–18 µm in diameter.

Strain examined Korea, Jeollanam-do, Hampyeong (35°08'38.8"N 126°26'08.7"E), ex a decaying plant leaf in freshwater, Mar. 2021 (NNIBRFG35146=W1684).