

Hong, C.; Richardson, P.; Ghimire, S.; Hao, W.; Kong, P.; Moorman, G.; J. Lea-Cox, J.; and Ross, D. 2010. Two new homothallic species of *Phytophthora* from irrigation reservoirs and natural waterways in Virginia. *Phytopathology* 100:S51.

Two distinct genotypes (L2 and A-2) were recovered from irrigation reservoirs and a stream in Virginia, U.S.A. Following molecular, morphological and physiological examinations, the 'L2' genotype was named *Phytophthora aquimorbida* and the 'A-2' designated *Phytophthora* taxon 'aquatilis'. Both species are homothallic. *P. aquimorbida* is characterized by its noncaducous and nonpapillate sporangia, lateral and intercalary chlamydospores, catenulate and radiating hyphal swellings, and plerotic oospores formed in globose oogonia mostly in the absence of an antheridium. *P. taxon 'aquatilis'* produces plerotic oospores in globose oogonia mostly with a diclinous, paragynous antheridium, and semi-papillate, caducous sporangia with variable pedicel lengths but it does not produce chlamydospores nor hyphal swellings. Sequence analyses revealed that the closest relatives are *P. hydropathica*, *P. irrigata* and *P. parsiana* for *P. aquimorbida* and *P. multivesiculata* for *P. taxon 'aquatilis'*. The optimum temperature for culture growth is 30 and 20°C for *P. aquimorbida* and *P. taxon 'aquatilis'*, respectively. Both *P. aquimorbida* and *P. taxon 'aquatilis'* were pathogenic to rhododendron plants and caused root discoloration, pale leaves, wilting, tip necrosis and dieback. Their plant biosecurity risk is also discussed.