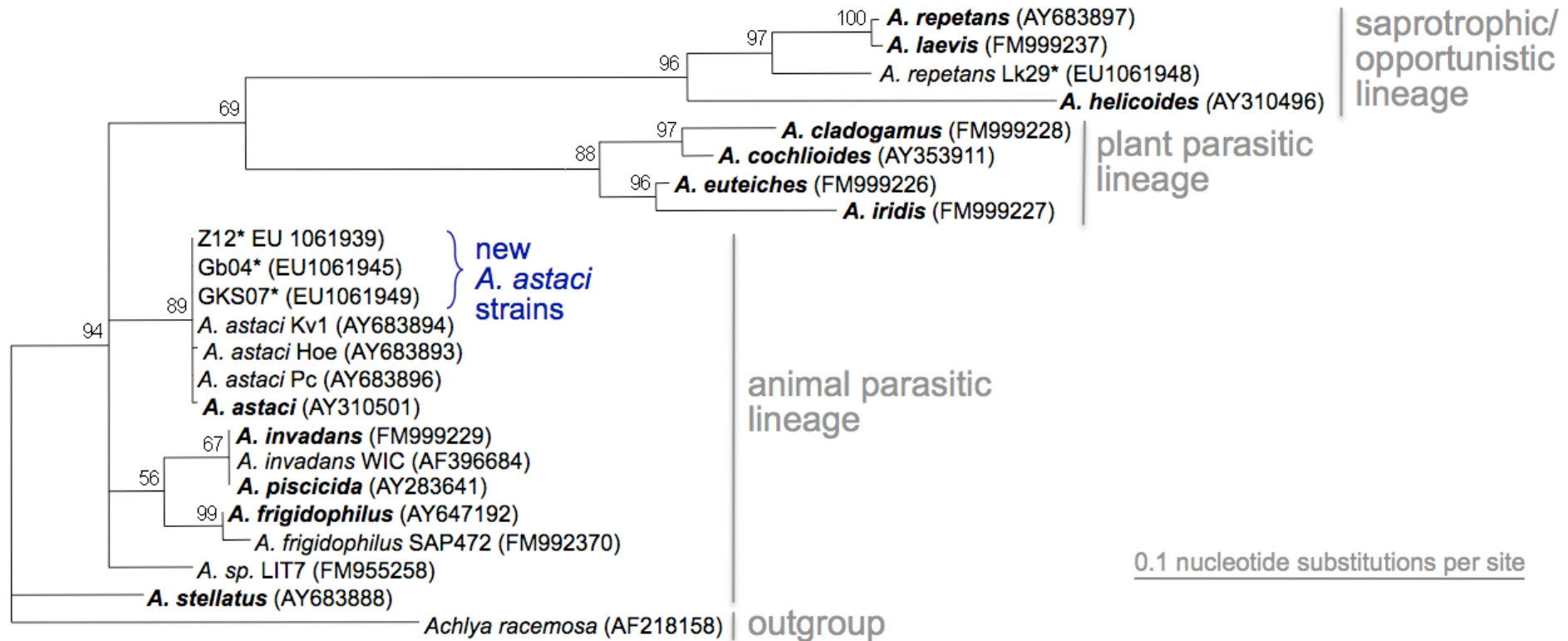
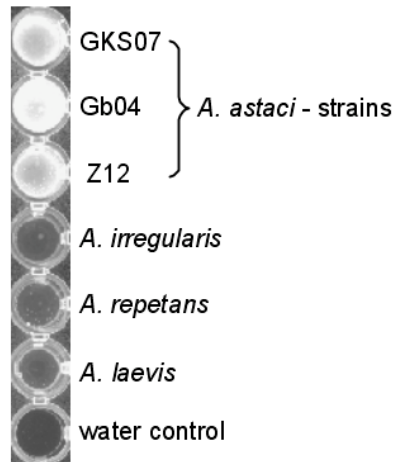


A



B



Additional file 1

Species identification of the Austrian strains isolated in this work based on phylogenetic analysis of *ITS* sequences (A) and constitutive chitinase activity in substrate-free medium (B).

A: Phylogenetic relationships among members of the genus *Aphanomyces* analysed by maximum likelihood of *ITS* sequences. The Austrian strains isolated in this work are denoted by an asterisk (*A. astaci*-strains Gb04, Z12, and GKS07, and *A. repetans* strain LK29). Parentheses contain GenBank accession numbers. Reference strains [1] are given in bold. Note that *A. invadans* is synonymous with *A. piscicida* since species separation is not supported by *ITS*-sequence phylogeny [1].

B: Detection of chitinase activity in chitin-free medium using the 4-methylumbelliferyl caprilate fluorescence test. All three Austrian *A. astaci*-strains developed strong chitinolytic activity in substrate-free medium which is a characteristic feature of this species.