

**Development of molecular diagnostics for *Phytophthora* taxon C a new *Phytophthora* threatening UK trees, woodlands and ornamental plants.**

Kelvin Hughes, Ruth Griffin, Neil Boonham & Alan Inman, Plant Heath Group, Central Science Laboratory (CSL), York, UK. YO41 1LZ, k.hughes@csl.gov.uk, +44 1904 462000.

In autumn 2003, a new *Phytophthora* species informally designated *Phytophthora* taxon C sp. nov. (PtC), was isolated in south west England from rhododendron by CSL and from a large bleeding canker on a mature beech tree (*Fagus sylvatica*) by Forest Research (FR). Morphological assessment by CSL and FR revealed each isolate to be the same species (PtC). ITS sequences from PtC isolates from CSL and FR were aligned with PtC data from Dr. David Cook (SCRI, Dundee) and were shown to be identical and distinct from other *Phytophthora* species on the Genbank database. The closest match was to *P. boehmeriae*, a species in an outlying *Phytophthora* clade. Further alignment with ITS data from 45 other *Phytophthora* isolates, representing 10 *Phytophthora* species including *P. ramorum* and *P. boehmeriae* has allowed PtC TaqMan<sup>®</sup> primers and probes to be designed. These and other primers and probes based on the cytochrome oxidase gene (subunits I & II), are being evaluated on pure cultures and plant samples. Work is also under way to use PtC primers for on-site use and to profile isolates from within and between infected sites with molecular methods including AFLP.