



**NATURAL HYBRIDS OF RESIDENT AND INTRODUCED *PHYTOPHTHORA* SPECIES PROLIFERATING ON MULTIPLE NEW HOSTS IN EUROPE**

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Several atypical *Phytophthora cactorum* strains were characterized by numerous abortive oospores, heterozygous malic enzyme patterns and double bases at well defined positions in the ITS sequence. More detailed comparisons revealed that these strains contained the malic enzyme alleles and the ITS sequences of both *Phytophthora cactorum* and the new species *Phytophthora hedraiandra*. It was concluded that these atypical strains constituted hybrids of those two species. Indeed, some hybrid strains contained the mitochondrial encoded *Cox I* sequence of *P. hedraiandra* and one strain contained the *P. cactorum Cox I* sequence, confirming the hybrid nature of these strains. Our data also suggest that the hybrids are evolving. *P. cactorum* is a resident species in Europe, but *P. hedraiandra* has been found only once in the Netherlands and is assumed to be a recent introduction. The hybrids are found on multiple new hosts, not known as host of either parent. In the Netherlands and Belgium the hybrids seem to outcompete the resident *P. cactorum* on *Rhododendron*. They proliferated successfully in several European countries.