DEVELOPMENT OF MICROSATELLITE MARKERS TO STUDY THE POPULATION BIOLOGY OF THE WOOD-INHABITING FUNGUS, *O. QUERCUS*

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The *Ophiostoma piceae* complex encompasses a suite of taxa that inhabit the wood of conifers and angiosperms. They are generally known as sap-stain fungi and have a worldwide distribution but are thought to be native to the Northern Hemisphere. Well known species in the complex are *O. piceae* and *O. quercus*, which are morphologically similar and were treated as a single taxon for many years. They are now known to typically occur on either hardwoods (*O. quercus*) or conifers (*O. piceae*). Phylogenetic studies have shown that these two species can be separated based on DNA sequence comparisons as well as on mating compatibility. It has been suggested that *O. quercus* is native to Europe and was introduced into the Southern Hemisphere and North America. However, previous studies have found that *O. quercus* is extensively distributed throughout South Africa on native and exotic hardwoods. In addition, it has been reported from other Southern Hemisphere countries. The extensive distribution of *O. quercus* in the Southern Hemisphere has resulted in uncertainty concerning its centre of origin. The aim of this study was to develop microsatellite markers that can be used to consider the population biology of *O. quercus* isolates from hardwood trees from various parts of the world. Polymorphic microsatellite markers were developed using an enrichment protocol, FIASCO. Sequences obtained from this enrichment revealed 22 putative microsatellites including a mixture of di, tri, tetra and hexanucleotide repeats. Primers were designed flanking these microsatellites and tested for polymorphisms. The polymorphic primers will be used in population genetic studies to provide new information on the genetic diversity and movement across populations of *O. quercus*.