Using an established spotted cDNA microarray platform, the nature of changes in the transcriptional profiles of 2200 genes was measured for both hypovirus-infected and uninfected Cryphonectria parasitica. The extent of variation in gene expression, compared to the wild-type strain, was maximized by inclusion of up to five time points from both infected and non-infected samples. The datasets for each time point were compared with one another and with the wild-type strain. This comprehensive analysis identified numerous genes that displayed significant changes in expression levels, yet the majority of these showed changes in a time- and infection-dependent manner. The analysis revealed that the hypovirus infection led to the modulation of gene expression in both the Galpha- and Gbeta-gamma-signalling pathways. The extensive modulation of gene expression by hypovirus infection provides new insights into the viral manipulation of host signalling pathways, which likely contribute to the hypovirus-mediated phenotypic modification of C. parasitica.