**Research Highlights**

This review provides detailed analysis of the different molecular mechanisms associated with interspecific mycelial interaction including;

* Some key findings that indicate a switch from primary to secondary metabolism in competing mycelia.
* Cellular conscription of a range of toxic metabolite-detoxifying enzymes to clean-up the mycelial conflict zone.
* Implication of cyclophilins, ubiquitin proteins, heat shock proteins and phosphoglucomutase in the stabilization of proteins during mycelial combat.
* Increased secretion and possible role of hydrophobins in barrage formation during mycelial combat.
* Implications of nutrient uptake as an arsenal for outcompeting rival species on different substrates.