

# *Fungiflex: the untold story*

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# 1. Introduction

Some years ago, we carried out some ground-breaking research into chemical communication within mushroom fruit bodies. Because we were hoping to commercialise the research, the work was never published beyond initial patent applications.

We believed at the time that we had devised methods to gain access to at least some of the chemical signals that control fungal morphogenesis, and developed a method (the basis of a patent application at the time) to extract compounds which caused mushroom stipes to bend at the point of application within hours of treatment.

Using standardised bioassays, we made a start on purifying and chemically characterising the extracted substances. We worked with two components which had recognisably different activities in the bioassay. These we called **Fungiflex 1** and **Fungiflex 2**. Our extracts caused (vertical) mushroom stipes to bend towards a drop of the extract within 1 hour of its application to the side of the stipe. This (essentially a **localised growth inhibition**) was **Fungiflex 1 activity**. Such stipes grew back to the vertical in about 9 hours, but then started bending in the opposite direction **at the point of application of the drop**. By 18 hours the stipe had bent to an angle of 90° from the vertical. This (a **localised growth promotion**) was **Fungiflex 2 activity**.

Our research has not lost its uniqueness, ***nor has it been duplicated*** up to now, and the scientific knowledge we revealed is still important and worthy of publication. In these pages, we summarise our research in the hope that it might stimulate additional research and prompt further advances. This document is structured to give you successively greater amounts of detail about our discoveries. We start with a summary of the outcome of our research, and this includes sufficient background information for you to put our findings into their scientific context. In Appendix 1 we outline some earlier research (indeed, 30 years earlier) that now seems directly relevant. Appendix 2 is effectively our ‘results’ section, and details the experiments that were carried out, and shows how our interpretations developed. Finally, Appendix 3 displays our ‘methods’ in sufficient detail for you to replicate any of our experiments (and, where feasible in this section, we give cross-references to present day sources of materials).

As well as reading through this document, you may like to refer to the website ***David Moore’s World of Fungi*** at <http://www.davidmoore.org.uk>. There’s a lot of useful information on this website; but it’s also a source of (free) PDF reprints of our published papers. You don’t have to go searching through dusty old libraries to find 30-year old literature (some of which was only published on *paper!*). Go to a dusty old website and download the PDF in nice clean 21<sup>st</sup> century electrons.

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