SUPPLEMENTARY MATERIAL

Effect of plant extracts on book deteriorated fungal species

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The aim of the study was to evaluate the effect of leaf extracts of four plants against some isolated fungal species from deteriorated books. Aqueous, methanol and chloroform extracts of selected plant species were screened in vitro for their antifungal activity against some book deteriorating fungal species. 15 species belonging to 09 genera were isolated and identified from infested books in library. Aqueous and solvent extracts of leaves of *Azadiracta indica*, *Callistemon citrinus*, *Eucalyptus lanceolatus* and *Pongamia pinnata* was tested against some dominant fungal species viz. *Chaetomium spiralis*, *Alternaria alternata*, *Aspergillus flavus*, *Aspergillus niger*, *Aspergillus fumigatus* and *Rhizopus stolonifer*. Solvent extracts exhibited potent inhibitory activity than aqueous extracts. However, these plant extracts exhibited moderate activity against *Aspergillus flavus*, *Chaetomium spiralis*, *Rhizopus stolonifer* and *Alternaria alternata*.

Keywords: Deteriorated books; antifungal activity; *Azadiracta indica*; *Chaetomium spiralis*; solvent extract; aqueous extract.

Figure S1: Deteriorated books from which fungi were isolated

Figure S2(a): Showing growth of *Chaetomium spiralis* against aqueous extracts
 A=Medium with *Azadiracta indica* aqueous leaves extract,
 B=Medium with *Callistemon citrinus* aqueous leaves extract,
 C=Medium with *Eucalyptus lanceolatus* aqueous leaves extract,
 D=Medium with *Pongamia pinnata* aqueous leaves extract,
 E=Medium with Clotrimazol as a standard,
 F=Medium with distilled water as a control.

Figure S2(b): Showing growth of *Alternaria alternata* against aqueous extracts
 A=Medium with *Azadiracta indica* aqueous leaves extract,
 B=Medium with *Callistemon citrinus* aqueous leaves extract,
 C=Medium with *Eucalyptus lanceolatus* aqueous leaves extract,
 D=Medium with *Pongamia pinnata* aqueous leaves extract,
 E=Medium with Clotrimazol as a standard,
 F=Medium with distilled water as a control.

Figure S2(c): Showing growth of *Aspergillus niger* against aqueous extracts
 A=Medium with *Azadiracta indica* aqueous leaves extract,
 B=Medium with *Callistemon citrinus* aqueous leaves extract,
 C=Medium with *Eucalyptus lanceolatus* aqueous leaves extract,
 D=Medium with Clotrimazol as a standard,
 E=Medium with distilled water as a control.

Figure S2: Antifungal activity of aqueous extracts

Figure S3(a): Showing growth of *Chaetomium spiralis* against solvent extracts
 A=Medium with methanol leaves extract of *Azadiracta indica*, B=Medium with chloroform leaves extract of *Azadiracta indica*, C=Medium with methanol leaves extract of *Callistemon citrinus*, D=Medium with chloroform leaves extract of *Callistemon citrinus*, E=Medium with methanol leaves extract of *Eucalyptus lanceolatus*, F=Medium with chloroform leaves extract of *Eucalyptus lanceolatus*, G=Medium with methanol leaves extract of *Pongamia pinnata*, H=Medium with chloroform leaves extract of *Pongamia pinnata*, I=Medium with Clotrimazol as a standard, J=Medium with methanol as a control, K=Medium with chloroform as a control.

Figure S3(b): Showing growth of *Alternaria alternata* against solvent extracts
 A=Medium with methanol leaves extract of *Azadiracta indica*, B=Medium with chloroform leaves extract of *Azadiracta indica*, C=Medium with methanol leaves extract of *Callistemon citrinus*, D=Medium with chloroform leaves extract of *Callistemon citrinus*, E=Medium with methanol leaves extract of *Eucalyptus lanceolatus*, F=Medium with chloroform leaves extract of *Eucalyptus lanceolatus*, G=Medium with methanol leaves extract of *Pongamia pinnata*, H=Medium with chloroform leaves extract of *Pongamia pinnata*, I=Medium with Clotrimazol as a standard, J=Medium with methanol as a control, K=Medium with chloroform as a control.

Figure S3(c): Showing growth of *Aspergillus flavus* against solvent extracts
 A=Medium with methanol leaves extract of *Azadiracta indica*, B=Medium with chloroform leaves extract of *Azadiracta indica*, C=Medium with methanol leaves extract of *Callistemon citrinus*, D=Medium with chloroform leaves extract of *Callistemon citrinus*, E=Medium with methanol leaves extract of *Eucalyptus lanceolatus*, F=Medium with chloroform leaves extract of *Eucalyptus lanceolatus*, G=Medium with Clotrimazol as a standard, H=Medium with methanol as a control, I=Medium with chloroform as a control.

Figure S3(d): Showing growth of *Rhizopus stolonifer* against solvent extracts
 A=Medium with methanol leaves extract of *Azadiracta indica*, B=Medium with chloroform leaves extract of *Azadiracta indica*, C=Medium with methanol leaves extract of *Callistemon citrinus*, D=Medium with chloroform leaves extract of *Eucalyptus lanceolatus*, E=Medium with chloroform leaves extract of *Pongamia pinnata*, F=Medium with Clotrimazol as a standard, G=Medium with methanol as a control, H=Medium with chloroform as a control.

Figure S3: Antifungal activity of solvent extracts