3,7-dihydroxy 3',4' orthodihydroxy flavone
Summary:

In view of the constant use of high cost toxic fungicides, the target organism may become resistant. Also, their hazardous consequence contaminate surrounding environment with harmful substances. Therefore environmentally safe fungicides are needed as alternative antifungal agents from plant origin. Our present work was taken up in search of bioactive antifungal principle against phytopathogen from a common and easily available ethnomedicinally important plant *Clitoria ternatea* L.

**Chapter 1** includes the screening of crude extracts from few members of Leguminosae viz. *Clitoria ternatea* L, *Crotalaria pallid* L., *Cassia siamea* L., *Cassia alata* L., *Acacia arabica* Willd. against few microbial organisms viz. *Serratia marcescens*, *Erwinia herbicola*, *Xanthomonas sp.*, *Arthrobacter chlorophenolicus* (bacteria) and *Botrytis cineria*, *Fusarium oxysporum*, *Rhizoctonia solani*, *Aspergillus flavus* (fungi). Screening method revealed *C. ternatea* L. to be active against both bacteria (*Arthrobacter chlorophenolicus*) and fungus (*Fusarium oxysporum*). The crude bioactive fraction of *C. ternatea* L. was subjected to brine shrimp cytotoxicity assay. Extract was fractionated through column chromatography, purified and MIC was calculated.

**Chapter 2** incorporates chemical characterization of the compound by UV spectroscopy. The antifungal compound was identified as 3,7-dihydroxy 3',4' ortho dihydroxy flavone.

**Chapter 3** elucidates the antifungal efficacy of 3,7-dihydroxy 3',4' orthodihydroxy flavone in controlling surface infecting fungus of one legume seed (*Pisum sativum* L.) by analyzing some important physiological and biochemical parameters in vitro condition. The observed parameters were compared with healthy seeds and chemical fungicide gresiofulvin.

**Chapter 4** interprets antifungal effect of 3,7-dihydroxy 3',4' orthodi hydroxy flavone in controlling the fungal infestation caused due to *Fusarium oxysporum ciceri* of economically important legume plant of India *Pisum sativum* L. by analyzing some growth and developmental parameters. Here the parameters were also compared with healthy and gresiofulvin treated plants.

The author plans for her post doctoral work to incorporate the field application of the isolated compound in details.

Finaly, from a series of experiments it was concluded that 3,7-dihydroxy 3',4' orthodi hydroxy flavone from *Clitoria ternatea* L can be reported as non toxic, cost effective, antifungal compound.