**Detailed report on the Ph.D., thesis entitled “Biochemical Studies on the Antidiabetic Effects of Musa paradisiaca Tepal Extract and Antiulcerogenic Potential of Syringin, An Active Phytochemical Isolated from the Musa paradisiaca Tepal Extract” submitted by Mr. C. Shanmuga Sundaram under the guidance of Dr. S. Subramanian, Assistant Professor, Department of Biochemistry, University of Madras, Guindy Campus, Chennai – 25. for the award of degree of doctor of philosophy.**

**DETAILED REPORT**

The topic of research chosen by the candidate for his Ph.D., programme is of socially relevant one because of the fact that the treatment of diabetes and ulcer are not successful inspite of an array of allopathic drugs commercially available for treating them. Despite of great strides that have been made in understanding and management of these dreadful diseases, serious secondary complications coupled with side effects have not been controlled. Hence, search for novel drugs especially from ethanobotanicals continues. In the present study the candidate has made an attempt to search for a successful therapy for the treatment of diabetes and ulcer.

The thesis is conveniently divided in two chapters. First chapter deals with the antidiabetic effects of the *Musa paradisiaca* tepal extract and the second chapter deals with the antiulcerogenic potential of syringin, a phenyl propanoid glucoside present in the tepal extract. The introduction section is written with up to date literature survey. The description of the plant *Musa paradisiaca* is very interesting and informative. In fact, the candidate has taken enormous efforts in collecting the details pertaining to the origin as well as use of various parts of *Musa* *Paradisiaca*.

The study is well designed, planned and executed. The biochemical parameters analyzed indicate the beneficial properties of the tepal extract in ameliorating hyperglycemia and its associated complications. The histological and ultrastructural studies made on the pancreas, liver and kidney indicate the tissue protective nature of the tepal extract. The anti-inflammatory role of the extract is established by assaying the levels of inflammatory markers. The hypolipidemic potential of the extract is evidenced from normalized lipid profile.

Extraction, isolation and characterization of syringin is supported with spectral studies. The study involves the use of three different ulcer models to study the effect of syringin. The effect of syringin on biochemical parameters, gastric juice and gastric mucosa substantiates the antiulcerogenic potential of syringin. Further, the histological analysis made on gastric mucosa illustrates the ulcer curative potential of syringin.

Since, the candidate has already published his research data in TWO peer reviewed Journals. I strongly **RECOMMEND** the thesis for the award of doctor of philosophy.