The thesis entitled ‘Biosystematics, Phytopharmacological and Tissue Culture Studies on Thevetia peruviana’ is a comprehensive evaluation of three infraspecific taxa of the genus comprising its nomenclature, phytochemical constituents, pharmacological efficacy and conservation strategies. The work is presented in 6 chapters, first chapter deals with a general introduction; and the subsequent chapters are presented with brief introductions, materials and methods, results, discussion and summary. The last chapter concludes with the overall outcomes of the study.

Chapter 1: Provides a general introduction with a review of the literature of the morphological descriptions, pharmacological aspects and the need for propagation, the objectives of the study and scope of the present investigation.

Chapter 2: Deals with biosystematics, interlinking evidences from various branches of plant sciences like morphology, anatomy, embryology, palynology, phytochemistry and DNA sequencing.

Chapter 3: Focuses on the physico-chemical parameters and phytochemical constituents of various plant parts, and the quantification of peruvoside, the selected cardiac glycoside for the study.

Chapter 4: Emphasizes the pharmacological aspects of the plant extracts. Part I deals with the antimicrobial properties, Part II discusses antioxidant efficacies, part III describes the cytotoxic efficacy on two tumour cell lines and part IV provides toxicity analysis of seed kernels on Wistar rat animal models.

Chapter 5: Describes the micropropagation of the taxon using leaf and internode explants via indirect organogenesis and somatic embryogenesis in the first part. The second part provides the quantification of peruvoside from the selected callus mass grown in different hormonal combinations.

Chapter 6: Concluding remarks and future prospects are summarized. References are consolidated in the last part of the thesis in alphabetical order.