

Qualitative and Quantitative Analysis of Phytochemical constituents in *Clitoria ternatea* L. †

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Abstract: *Clitoria ternatea*, commonly known as butterfly pea; family *Fabaceae*, is a medicinal plant that possesses many bioactive secondary metabolites that can be effectively used to treat various human diseases. The present study involves the qualitative and quantitative analysis of the various phytochemicals from ethanol extract of root, leaves, flowers, and seeds of the blue genotype of *Clitoria ternatea*. The qualitative test of phytochemical constituents revealed that the seeds and flowers of *C. ternatea* strongly contain alkaloids, carbohydrates, flavonoids, phenols, tannins, amino acids, proteins, terpenoids, and sterols in comparison to root and leaves, whereas saponin, oxalates, and resins are absent in roots, leaves, and seeds. The quantitative observation showed that the total carbohydrate was found maximum in leaves, i.e. (79 Glc mg/gFwt) compared to root, seed, and flower. However, the total phenols, flavonoids, tannins, and anthocyanin pigments were found maximum in flowers, i.e. (93mgGAE/g Fwt), (469 Catechine mg/g Fwt), (72TAEmg/g Fwt) and (178CGE/g Fwt) respectively in comparison to seeds, leaves, and root. These results showed that the flowers and leaves had a good quantity of carbohydrates, phenols, flavonoids, tannins, and anthocyanins. Hence, the present study is an effort to explore the bioactive natural substances from the root, flowers, seeds, and leaves of *Clitoria ternatea*, that can be used in the pharmaceutical industry as a source of therapeutic agent for launching new natural herbal medicine.

Keywords: *Clitoria ternatea*; qualitative tests; quantitative tests; secondary metabolites; phytochemicals; herbal medicine.

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Conflicts of Interest

The authors declare no conflict of interest.