



## FLORAL CHANGES IN *CLITORIA TERNATEA* L.

### Botany

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### ABSTRACT

Current research deals with the some interesting changes in the accessory and essential floral whorls of *Clitoria ternatea*.

### KEYWORDS:

### INTRODUCTION

*Clitoria ternatea* L., commonly known as a butterfly pea is a member of family leguminosae (fabaceae) which is characterized by the polypetalous corolla and diadelphous stamens. It is commonly grown as an ornamental climber in public and house gardens. The plant also has great pharmacological importance<sup>1</sup>. *Clitoria ternatea* is a climbing or trailing herb originated from tropical Asia. General floral morphology of the butterfly pea exhibits calyx consisting five sepals, corolla with five petals, androecium having ten stamens and monocarpellary carpel. The corolla has distinct arrangement consisting five clawed petals (Figure 1. a). The posterior large and conspicuous expanded wing shaped petal is called standard or vexillum; two small lateral free petals are wings and anterior most two petals are fused to form boat like structure called keel or carina. The keel encloses the essential whorls of the flower i.e. androecium and gynoecium which facilitated the self pollination. It is well known that the key characteristic of family fabaceae is presence of diadelphous stamens (Figure 1. b); forming two bundles showing (9+1) condition<sup>2,3</sup>.

### RESULT AND DISCUSSION

During general observation, some flowers of *Clitoria* were observed and collected which were showing interesting features adding ornamental value to them. After keen observation of these interesting morphological characters, the references were searched to enlighten the focus on floral modification aspects. But it was noticed that such flowers were referred as double flowers<sup>4</sup> as a general term. After further study and dissection of the flower, it was noticed that, the flower consists five petals, all of which resembling as a standard. That means the small lateral wings and smaller keel resembled like the standard. Further observations revealed that, the striking key character, diadelphous stamens were also changed and the ten stamens were free not following the diadelphous condition (Figure. 1.c).

A literature survey showed that, images of such flowers are there on the internet search engine sources (wikipedia etc.) but the report is missing and in general they have termed such flowers as double flower which in botanic perspective is not true. Actually it is a single flower with general floral morphology as five sepals, five petals, ten stamens and monocarpellary gynoecium. But in this the keel and lateral wings have been modified and looks like standard. Again the diadelphous condition is also missing and the ten stamens are free in nature. Such type of floral adaptations is might be due to genetic changes caused due to environmental, edaphic or breeding factors. In future pure line breeding programmes should be implied to obtain such homozygous forms of *Clitoria*.



**ACKNOWLEDGEMENTS:** Authors are very much thankful to Dr. A. S. Nigvekar, Dr. D. K. Gaikwad, Principal and staff members of The New College, Kolhapur.

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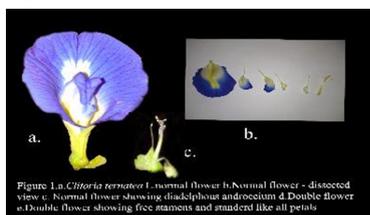


Figure 1. a. *Clitoria ternatea* L. normal flower b. Normal flower - dissected view c. Normal flower showing diadelphous androecium d. Double flower