



Summary and Conclusions

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Family commelinaceae consists of about 50 genera and 700 species (Cronquist, 1981). It is wide spread in tropical and Subtropical regions. In India it is represented by about 14 genera and 85 species (Karthikeyan and Jain, 1989). The family is very interesting from the view point of morphological diversities, certain genera of this family have still contraversial position and interrelationship in systematics. Genus **Cyanotis** D.Don. is one of them. It consists of 50 species and represented in India by about 16 species. Some species of **Cyanotis** (Sensu Stricto) form a species complex and many times one can find difficulties in delimiting the taxa. This situation prompted us to undertake present study to understand the nature of species complex. The sutdy comprises morphological, ecogeographical, karyotype and meiotic analysis in **Amischophaselus Cucullata** and **Cyanotis** species found in Western Ghats.

Even taxa under two genera of the family commelinaceae have been studied morphologically and cytologically Amongst the seven taxa studied, **Amiscophaselus Cucullata** is a distinct species and differs significantly from cyanotis species.

Amongst cyanotis species studied in present investigation, **C.cristata**, **C.fasciculata**, **C.tuberosa** with its various forms and **C.concanensis** showed distinct entities on morphological ground.

It is revealed from the cytological studies of above taxa that **Amischophaselus Cucullata** is showing $2n=20$ and $n=10$ with distinct

karyotype than that of **Cyanotis** species. The chromosome numbers determined from **Cyanotis** species range from $2n=24$ to 72.

The chromosome complements of different populations of the same species have been found to differ from each other not only in the number but also in the structure of the chromosome to a greater or lesser extent. The karyotype in all the taxa studied are of asymmetrical nature and indicated advances in cause of evolution.

In the origin of different members of the family in general and genus **Cyanotis** in particular studied here, structural alternations have been as important as the changes in the number of chromosome, in the evolution of new forms. It is evident by meiotic studies in **Cyanotis tuberosa** ($2n=48$) that species is still in an active evolutionary phase.

In view of the data obtained so far, it has been suggested that polyploids have originated in western ghats and in process of stabilization by adopting structural alternations and hybridization mechanisms. they have greater tolerance to the higher altitudes.

It is apparent from the cytological studies on the genus **Cyanotis** that it has basic number $X=12$ with chromosome structure of commelinaceae, Taxonomy is an unending synthesis whose basis is becoming broadened, decade after decade. It is, therefore, highly essential to bring about a co-ordinated synthesis between the taxonomists and biosystematists. In this context further experimentation such as hybridization in **Cyanotis** and its allies will help to understand the relationship amongst them to a greater extent.