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Survey report on National Research Centre for Orchids

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Abstract- National Research Centre for Orchids was established on 5th October, 1996 by the Indian Council of Agricultural Research (ICAR), New Delhi to organise programme on improvement in productivity quality and commercialization of orchids. Orchids are one of the high value crop cultivated for cut flower and pot plants in Sikkim. Usually, the orchids are grown on the plant in Sikkim. Orchids are one of the most sought after flower, they are expensive, elegant dainty, rare to find and possess a miraculous beauty of courses not everyone can afford to buy an orchid on their way home as a gift to often. However, even a one-time gift of an orchid signifies feelings of love romance and friendship in this project we will study history of orchids, findings of orchids, growth & conservation of orchids etc.

Key words: Orchids, NRCO, ICAR, Elegant, Miraculous, Conservation

INTRODUCTION

Orchids are mostly found in the North Easternmost tip of India, like Arunachal Pradesh, Sikkim Darjeeling, Ranipool, Kalimpong, Rangpo, Gangtok, Pakyong, Dikling, and adjoining areas. Sikkim is called 'The Land of Rising Sun' it is also fondly called 'Land of Down lit Mountains' or the 'Orchid State' for the abundance of a beautiful and rare orchid species found here. Eurasia, America and Canada are known as the home of orchids but today they are found almost in every part of the world. A French botanist Noel Bernard was the first to discover this magnificent flower, back in the year 1899, he came across seeds of a terrestrial orchids *Neottia*. He found that these seeds were germinated in some fruit which were infected by mould.

Another discovery was by Charles Darwin, he noted a single orchid plant *Ophrys*. Charles Darwin, in a letter to Joseph Hooker, wrote, I never was more interested in any subject in my life than orchid.

Orchids constitute on order of royalty in the world of ornamental plants and they are of horticulture importance and play a very useful role in balance the forest ecosystem. Theophrastus, a student of Plato noted the round praised bulbous of one Common European Orchids and named it the Greek word for testicle. Later this name was applied not only to one genes but also to the entire Family Orchidaceae.

MATERIALS & METHODS

Stationary items, DSLR camera, Mobile Temperature G.P.S etc. NRCO at Dikling Road is a wonderful place where I met Director of NRCO, Dr. Rampal Sir, there I

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visited laboratory, had taken photographs of Orchids of Poly houses and Net houses. In the NRCO the research area was divided in two parts the NRCO Office and Administrative Building, where researchers works in their lab. In this building library and conference hall are well maintained. On 5th October 1996, ICAR established NRCO on the basis of planning commission in 5 year plan institute works, as for vision for research & development activities orchids commercialization and sustainable utilization the library system.

OBSERVATION

Tissue culture lab were operating using multiplication of Orchids. Entomology section, Plant pathology section, Horticulture, Soil Science lab were well maintained. 325 different species of orchids were grown in 4 acre land for conservation purpose. Growing Orchids in polyhouse chamber, Tropical Orchid chamber, Natural Net House, is a very often process. Germination of polyhouse Rapidly Growth in Polyhouse. Rapidly increases Growth of Net house and Lower Part of the NRCO where cold climate are found Orchids are attached with the wood or in Natural condition.

DISCUSSION

There are four Veda in Sanskrit literature Rig Veda Sam Veda, Ayur Veda and Atharva Veda, written between 400 and 1600 B.C. Ayur Veda deals with use of plant drugs, it is considered as an Up Veda. The Indian orchids were brought to the notice of the world by Charak the great Indian medicine man. Charak the great Indian medicine man brings in notice of the world about the existence of orchid around 125 A.D. He described 'VANDA' and several others orchids in his book Charak Samhita which provides description of present known orchid like *Flickingeria*, *Malaxis*, *Eulophia*, species¹ having tremendous horticulture and medicinal value. It is believed that Chinese were the first to cultivate and describe orchids. They were certainly the first to describe orchids for medicinal uses.² In early 200 BC the Chinese Pharmacopeia "The San Nung Pen Tsao Ching" mention *Dendrobium* as a stringent, analgesic, anti-inflammatory substances. Reinikka reports a Chinese legend 'Shunnug' who described *Striata* and a *Dendrobium* species in his book 'Materia Medica' of the 28th Century B.C. One of the earliest nomenclature used around 937-286 BC for Orchids was that:- "The Orchids a generic name which

stands for the testicles like things are basically the pair of underground tuber of many European terrestrial orchids".

In breeding programme, selection of good and healthy plant and flower by visual observation accounts to a great extent. Evidences of natural hybridization. Occurring among wild species were reported³ in *Dendrobium*, Offspring's of reciprocal crosses show variations in characters like cane length and flower colour, flower size, flowering season and flower yield.⁴ Selection of flower size, and flower colour are effective in *Dendrobium* improvement programme.⁵ In *Cymbidium*, fragrance is the most important character sought after by breeders. *Cymbidium munronianum* has been used as parent in several breeding programme.⁶ The higher order hybrid, *Paphiopedilum* F.C Puddle with six species in parentage plays a predominant role in breeding for white flower colour in the genus.⁷ An extensive breeding programme in phalaenopsis using 29 wild species and 873 varieties were studied by a group of workers⁸ for development of new hybrids inter:- group hybridization between Phalaenopsis type *Dendrobium* extends flowering season, expands the range of flower colour and shapes and increases the flowering.⁹ Majority of commercially grown orchids today are hybrids derived from *Arachnis*, *Vanda*, *Renanthera*, *Ascocentrum*, *Cymbidium*, *Cattleya*, *Dendrobium*, *Oncidium*, *Phalaenopsis* and *Paphiopedilum*.¹⁰ *Vanda sanderiana* and *Vanda coerulea* are the two important Vandal species found in the back ground of most of the Vandaceous hybrids.¹¹ Most orchids have two basic sets (diploid, 2x) of chromosomes. Tetraploid plants are more Fertile bearing flowers of better texture, bigger and more intense colouration.¹² Many Indian species have earned worldwide recognition in breeding program due to their inherent attractiveness coupled with their ability to transmit these character to hybrids. Some of the leading species are *Aerides multiflorum*, *Cymbidium devonianum*, *C.lourianum*, *C.tracyanum*, *C.elegans*, *Dendrobium aggregatum*, *Dendrobium chrysotoxum*, *Dendrobium formosum*, *Dendrobium nobile*, *Paphiopedilum venustum*, *Vanda coerulea* etc.¹³

CONCLUSION

Collection of orchids from their natural bodies should be made illegal unless the same is made for scientific study or for propagation and preservation at

institutional level. Plant should not be collected and natural homes of orchids should not be destroyed without the permission of the local authorities. The market of Orchids can increase throughout the World.



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