

BOOK REVIEW

Sarat Misra. 2022. *Similipal: The Forest of Hundred Orchids*. Wildlife organization, Forest and Environment Department, Government of Odisha, Bhubaneswar, India. Pp. 360.

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This book *Similipal: The Forest of Hundred Orchids* deals with the morphology and lifeform of the orchids of Similipal forest of Odisha that has the credit of a National Park, a Tiger Reserve, and a Biosphere Reserve. This book with elaborate information on all aspects of orchids will be very useful to Foresters, Plant Scientists, Research Scholars, and to the Hobbyist interested in study of orchids, not only for Similipal but also for other regions of India.

The state Odisha has 144 orchid species/sub species under 53 genera, while Similipal alone holds 101 species. The orchids in Similipal display immense diversity in their vegetative and floral forms. The stem in the monopodial form may be barely 3 mm long as in *Chiloschista parishii* to 90 cm in *Acampe rigida*. In the sympodial form the whole plant may be just 20 mm long as in *Oberonia proudlockii* to as long as 140 cm in *Dendrobium moschatum*. Flowers in orchids exhibit innumerable range of variation in its shape, posture, colour, and size. All the flowers have 3 sepals, alternated with 3 petals, together called the perianth; one of the petals located at the rear side, is greatly modified in its shape, posture, and colour so as to make it noticeable. The seeds (non-endospermic) in orchids are the smallest amongst the flowering plants; a single capsule may contain several hundreds to a few lakhs of these seeds.

Orchids are forest-dwelling herbaceous plants. Terrestrial and epiphytic orchids are present in the Similipal forest. In terrestrial orchids, two categories are available, i) the evergreen terrestrials (e.g. *Acanthephippium*; *Calanthe*); ii) the apparently seasonal terrestrial orchids (*Eulophia*, *Spiranthes*). Mycotrophic terrestrial orchids are also present which do not possess an aerial stem or leaves but underground stem is present with a simple ellipsoid or branched rhizome. The epiphytic orchids grow on the trunk or branches of trees and they have two different types of growth- monopodial (e.g. *Acampe*, *Rhynchostylis*) and sympodial (e.g. *Dendrobium*, *Pholidota*). The Similipal forest is located in the North of Odisha state in the Mayurbhanj district between 86°-06' to 86°-36' (East) longitude and 21°-31' to 22°-02' (North) latitude and occupies area of 2750 sq. km. Climatic conditions of the forest supports wide range of orchid flora because of suitable rainfall (1780 mm to 2698 mm), temperature (7.2°C to 37.4°C), and humidity (mean 84% to 87.9%).

Appendix-I in field study part gives an idea about distribution of orchid species on different routes, in which 17 different routes were mentioned including different orchid species present there. Appendix-II in flowering behavior part has a table entitled flowering calendar of the Similipal orchids where orchid species are arranged according to their flowering month starting from January to December. About 99% orchid species are Monandreae (only one stamen is fertile and functional) and merely 1% orchid species are with two or three fertile stamens. The classification of Darius L. Szlachetko (Szlachetko, 1995) is followed in this book. Orchids of Similipal belonging to six subfamilies, the genera in Similipal are grouped under these six subfamilies. In subfamily Orchidoideae, 16 species are found under 5 genera, subfamily Tropidoideae have 2 species under 1 genera, subfamily Spiranthoideae have 8 species under 3 genera, subfamily Vanilloideae have 5 species under 2 genera, subfamily Epidendroideae have 40 species under 15 genera, subfamily Vandoideae have 29 species under 17 genera.

The 100 taxa of the orchids of Similipal include 43 genera, 25 sub tribes, 14 tribes and in 6 families as per the classification of Szlachetko. The members of subfamilies such as Tropidoideae, Spiranthoideae, and Vanilloideae inhabiting primary forests in the tropics, have become rare as their habitats are shrinking fast. *Cirrhopetalum panigrahanum*, *Dendrobium prasanna*, *Eria meghasaniensis*, and *Oberonia similipalensis* are four endemic species found in Similipal forest. A few species like *Bulbophyllum macraei*, *Diploprora championi*, *Disperis neilgherrensis*, and *Goodyera fumata* are very rare species known with a restricted range. Out of 100 taxa, 44 species are terrestrial, 2 are mycotrophic, and 54 species are epiphytic.

The list of orchid species recorded from Similipal, in sequence with the key to the species, based on field characters, is enumerated in this book; this comprises 100 taxa (99 species and 1 variety). The brief morphological description appears first highlighting the feature(s) specific to the taxon. Several orchids of Similipal forest possess medicinal value for their curative property. These contain phyto-constituents like alkaloids, flavonoids, glycosides, terpenes etc. of therapeutic importance. Many have anti-bacterial, anti-malarial, and anti-viral properties. As some rare orchids present here are declining very fast in their natural habitats. Some measures (plantation of trees, orchid sanctuary, rehabilitation of orchids inside Similipal, establishment of medicinal plant gardens in forested areas, and re-introduction of rare orchids into the wild) should be taken to conserve and protect these beautiful orchids. Pictures of orchids are beautifully arranged in this book.

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