



ORCHIDS OF CHOTA-NAGPUR

By

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The Chota-Nagpur Division, situated in the State of Bihar and forming a block embracing the entire southern portion of the State, is a region of plateaux and mountainous spurs which are the eastward termination of the huge Satpura-Vindhyan massif. The average elevation is generally above 1000 feet above sea-level and the main strike is North-East to South-West. The main drainage is into the Sone and the Mahanadi rivers, the former finally emptying itself into the Ganga. Ranchi and Hazaribagh are the two main plateaux, each being about 2000 feet above sea-level, and between them lies the deep valley of the Damodar. To the West of Ranchi and Hazaribagh lie still higher plateaux, locally called *pats*, often over 3000 feet in elevation, the best known among them being Neterhat. This area is a wonderland of water-falls, the most famous being those at Hundrughagh, Jonah, Dassamghagh and Lower Ghagri, all situated in the Ranchi District. Unfortunately the destruction of forests in this area has proceeded apace, and apart from the State-owned forests, more than 50% of the privately owned forests had been wiped out by 1946. The destruction has now been halted by the transfer of all private forests to Government management.

Mention must be made of the Tundi Hills which, starting from the Manbhum district, penetrate into the Hazaribagh district, culminating finally in the Parasnath Hill which is the highest point in the State, being 4,430 feet above sea-level.

Climatically the whole area is of the monsoon type and characterised by dry, cool winters from the middle of October to the middle of February; a dry hot season from middle February to June; and a warm wet season from July to September. The bulk of the rainfall is due to the South-West monsoon lasting from July to September. The average rain-

fall is from 50" to 60", the least being in the Palamau district, and the highest in the Ranchi district, but the highest rainfall recorded at any place is at Tholkobad in the Singhbhum district, which frequently exceeds 100" annually. The tops of the plateaux are, however, comparatively cool, and at Neterhat, for example, the hot weather even is not unpleasant.

Floristically, the forests of Singhbhum and of the major portion of the other districts come within the classification "Moist Peninsular Sal" of Champion. On hot dry slopes they change into dry xerophytic types of miscellaneous forests, whereas in the moist sheltered valleys they change into evergreen types. The common associates of Sal are *Careya arborea* and *Dillinea pentagyna* on the moister aspects, and in other places the Terminalias and *Pterocarpus marsupium*. The dry mixed forests contain mostly *Anogeissus latifolia* associated with *Dillinea aurea*, *Gardenia* spp. and *Phoenix* spp. The evergreen portions contain *Michelia champaca*, *Anthocephalus kadamba*, *Cederela toona*, etc., and in one particular valley in the Singhbhum district even *Xylia xylocarpa*. The best forests of this area lie in the Singhbhum district, particularly in the tracts known as the Kolhan and Porahat Government Estates. The other districts also have fairly large areas of forests, but the bulk of them are in a poor state due to past maltreatment.

This distribution of forests and rainfall reflects itself in the occurrence of Orchids; and as is to be expected the largest number occur in Singhbhum. On the other hand, the lack of heat at Neterhat leads to the presence of some Orchids there which are not to be found elsewhere. Intermediate distributions occur in between. Below is given a list of Orchids, both terrestrial and epiphytic, with a short description of each:—

Family *Orchidaceae*.

I. HABENARIA. All terrestrial forms, tuberous herbs.

1. *H. stenopetala* : Pale green flowers, 0.7-1", in racemes 4-9" long. Flowers from August to October; found

in Singhbhum, and probably the whole of Chota-Nagpur.

2. *H. digitata* : Greenish or green and white flowers, 0.3 - 0.6" in laxly flowered recemes about 6" long. Flowers from July to September ; found in Manbhum, and near Parasnath Hill.
3. *H. susannae* : Large white flowers, 2.5 - 4" in few flowered racemes. Flowers September to October ; found in Singhbhum, Palamau and Hazaribagh.
4. *H. platyphylla* : Pure white flowers, 0.5 - 0.6", in dense spikes. Flowers August to September ; on clayey ground near streams in Singhbhum.
5. *H. plantaginea* : White flowers, 0.2 - 0.5", in lax spikes. Flowers August to October, found in Singhbhum, Manbhum and Parasnath Hill.
6. *H. triflora* : Large pure white flowers, about 1" across, only 1 to 3 flowers on a stem. Flowers August to September ; found in Singhbhum and Ranchi, on stream banks.
7. *H. commelinifolia* : Numerous white scentless flowers, 0.5 - 0.8", with a funnel-shaped mouth. Flowers, September ; found in Singhbhum, Manbhum, Hazaribagh and Ranchi.
8. *H. furcifera* : Green flowers, 0.6 - 0.7 inches, in a lax spike. Flowers August to September ; found in Singhbhum and Ichadag in Ranchi.
9. *H. affinis* : Green flowers, about the same size as the above, in spikes 4 to 10" long ; found in Singhbhum.
10. *H. marginata* : Yellow flowers, 0.8" ; in a spike 2 to 4" long. Flowers September to October ; found in Manbhum, (Tundi Hills) and Jonah in Ranchi.

11. *H. diphylla* : Flowers greenish white 0.5", in a narrow spike 2 to 4" long. Flowers, September ; found in damp places in Singhbhum.
12. *H. galeandra* : Purple flowers, 0.2", in spikes 2 to 4" long. Flowers, July ; found in the woods of Chota-Nagpur.
13. *H. stocksii* : Small yellow flowers in lax spikes 3 to 5" long. Flowers, October ; found on Parasnath Hill.
14. *H. goodyeroides* : Yellowish-green flowers, 0.3 - 0.4", in dense spikes 4 to 6" long. Flowers September to October ; found on Parasnath Hill.
15. *H. constricta* : Yellowish or greenish or white flowers in dense spikes, 4 to 7" long. Flowers June to July ; found in the open jungles of Manbhum and Chota-Nagpur.
16. *H. lawii* : Very small white flowers, in narrow spikes. Flowers August to September ; found on Ichadag Hill in Ranchi, and on the Parasnath Hill.

II. GOODYERA. Terrestrial.

1. *G. procera* : White flowers, globose, in spikes 3 to 4" long. Flowers March to April ; found in Singhbhum near streams.

III. ZEUXINE: Terrestrial, herbaceous, small flowers.

1. *Z. sulcata* : Small white flowers in a stout spike with grass-like leaves. Flowers January to February ; found in Manbhum and Singhbhum.

IV. POGONIA. Terrestrial, tuberous herbs with a single remarkable leaf, appearing after the flowers.

- i. *P. flabelliformis* : Green flowers spreading and drooping, 0.7". Flowers May to June ; found on Ichadag Hill in Ranchi, Palamau and Neterhat.

V. OBERONIA. Tufted epiphytes with very small flowers in dense spikes or racemes.

1. *O. falconeri* : Inconspicuous greenish-yellow flowers. Flowers in October ; found throughout Chota-Nagpur.

VI. MICROSTYLIS. Terrestrial, with small flowers in terminal racemes.

1. *M. congesta* : Pale dirty reddish or yellow flowers in dense racemes 2 to 4" long, small. Flowers June to July ; found on Parasnath Hill.

VII. LIPARIS. Terrestrial, with small flowers in terminal racemes.

1. *L. bituberculata* : Delicate pink flowers. Flowers in August ; found at Neterhat.

VIII. PHOLIDOTA. Epiphytes, with small flowers.

1. *P. imbricata* : Whitish or yellowish flowers on drooping racemes. Flowers in August ; found on trees and rocks in Singhbhum and Neterhat.

IX. ACANTHEPHIPIUM. Terrestrial, with a few large flowers in lateral racemes.

1. *A. striatum* : Pink flowers with bold red lines and lip tinged with yellow, 1.25" long. Flowers May to July ; found throughout Chota-Nagpur.

X. GEODORUM. Terrestrial.

1. *G. dilatatum* : Very large leaves, 15 to 18" long ; white flowers 1.25" long with a spoon-shaped lip,

pink-veined and flushed, in a decurved raceme. Flowers June to July; found in Singhbhum, Tundi Hills, Palamau, Hazaribagh and Parasnath Hill.

XI. EULOPHIA. Terrestrial herbs with large flowers in lateral racemes.

1. *E. flava*: In racemes with 12—20 golden yellow flowers about 3" in diameter. Flowers May to June; found in Singhbhum in marshy places, Ranchi and Palamau.
2. *E. nuda*: White or red, or even crimson flowers. Flowers May to June, the leaves appearing after flowering in June; found in Singhbhum, Ranchi and Palamau.
3. *E. campestris*: Greenish or yellowish flowers with red or brown clouds in lax racemes. Flowers in April; found in Singhbhum, Ranchi, Palamau and Neterhat.

XII. DENDROBIUM. Epiphytes with large and handsome flowers in racemes, often scented.

1. *D. herbaceum*: Very small yellow flowers in very short, few flowered racemes. Flowers July to November; found on the Parasnath Hill.
2. *D. formosum*: Beautiful white lily-like flowers with yellow centres on terminal few flowered racemes. Flowers April to May; found throughout Chota-Nagpur. Specimens on the 56th milestone on the Chaibassa-Ranchi road have been noticed to flower every year.
3. *D. bicameratum*: Large yellow or greenish white flowers with crimson spots densely clustered on a

short rachis in a raceme. Flowers August to September; found in Singhbhum and on Parasnath Hill.

4. *D. macrostachyum*: Flowers greenish yellow tipped with pink, in clusters of 2 to 3. Flowers July to August; found in Manbhum.
5. *D. crepidatum*: Pink or white large-sized flowers with a big yellow spot on the lip. Flowers in March; found throughout Chota-Nagpur.
6. *D. fimbriatum*: 2" long chrome yellow flowers with a deep purple blotch on the lip. Flowers in the hot season; found in cultivation in Ranchi.
7. *D. moschatum*: Large yellowish pink flowers with two dark spots on the lip with a delicate scent of musk. Flowers May to July; found only in Leda 3 in the Kolhan Division, Singhbhum.

XIII. ERIA. Epiphytes with not large or showy flowers, racemose.

1. *E. flava*: Moderate-sized yellow flowers with purple markings on the lip. Flowers in February; found in Chota-Nagpur.

XIV. LUISIA. Epiphytes with small drooping flowers.

1. *L. trichorhiza*: Pale yellowish green flowers with purple lines. Flowers March to April; found in Chota-Nagpur.
2. *L. inconspicua*: Small yellowish green flowers in clusters. Flowers June to July; found in Manbhum and Jonah in Ranchi.

XV. RHYNCHOSTYLIS. Epiphytes with flowers in drooping racemes.

1. *R. retusa*: White flowers blotched with pink or violet. Flowers May to July; found in Ranchi and Manbhum.

XVI. DORITES. Epiphytes with flowers in lax racemes.

1. *D. wightii*: Inconspicuous yellow flowers with purple markings on the lip, on short lateral racemes. Flowers in July; found in Chota-Nagpur.

XVII. SARCANTHUS. Epiphytes.

1. *S. insectifer*: Small greenish flowers in few flowered corymbs. Flowers June to July; found in Singhbhum, Hazaribagh and Ranchi.

XVIII. SACCOLABIUM. Small flowers in a lateral inflorescence.

1. *S. praemorsum*: Yellow flowers with transverse red markings. Flowers in the rainy season; found at Hundrughagh in Ranchi.

XIX. VANDA, Epiphytes, with showy flowers in small racemes; lip large with a spurred base.

1. *V. parviflora*: Yellow flowers with pink lips in erect racemes. Flowers April to May; found throughout Chota-Nagpur.
2. *V. tessellata*: Bluish or brown flowers with violet or crimson lips, sepals always tessellated. Flowers April to July; one of the most common orchids found throughout Chota-Nagpur.

XX. AERIDES. Epiphytes with very showy flowers in dense racemes.

1. *A. multiflorum* : Medium-sized pink or purple flowers with a long, beaked lip. Flowers May to June; found in Manbhum and Singbhum.
2. *A. odoratum* ; Moderate-sized flowers with rose purple at the tips, lip long and clawed, rose, sweet-scented. Flowers in May; found in Singbhum.

NOTE : *It will be observed that the number of terrestrial orchids found in Chota-Nagpur far exceeds the number of epiphytic ones.*

