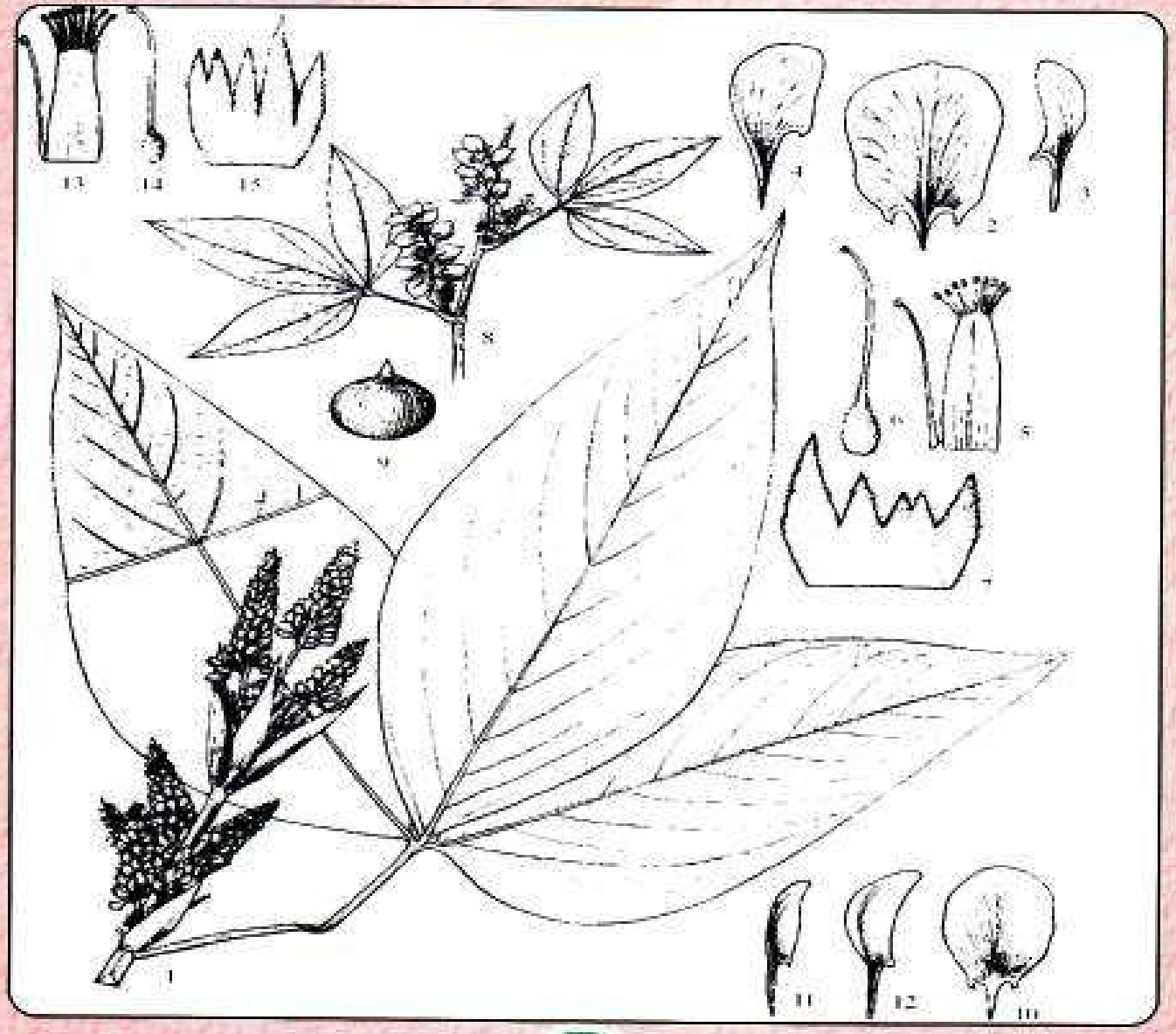
37

MONOGRAPH
ON
FLEMINGIA STRICTA ROXB
& *FLEMINGIA PANICULATA* WALLICH EX.BENTH



FOREST BOTANY DIVISION
STATE FOREST RESEARCH INSTITUTE
JABALPUR (M.P.)

MONOGRAPH
ON
FLEMINGIA STRICTA ROXB.
& *FLEMINGIA PANICULATA* WALLICH EX. BENTH

O. P. CHAUBEY
Scientist & Head Forest Botany Division

ASSOCIATE
A.K. SHARMA
Research Officer

FOREST BOTANY DIVISION
STATE FOREST RESEARCH INSTITUTE
JABALPUR (M.P.)

FOREWORD

Flemingia stricta Roxb and *Flemingia paniculata* Wallich ex.Benth are rare and prioritized species for conservation in the botanical garden (as per BSI guidelines). They belong to family *Fabaceae*. These are commonly known as Salpani. Both the Species are important from ecological point of view to add soil Nitrogen and need *Ex-situ* and *in-situ* conservation.

This monograph provides useful information on the distribution and habitat, morphology, flowering and fruiting, natural regeneration, artificial regeneration, utilization, chemical constituents threat status, conservation measures etc., of these two species of genus *Flemingia* for promoting their conservation and overall development of forestry and environmental sectors.

Financial assistance from the Ministry of Environment and Forests, Govt of India, New Delhi for printing this educational material is gratefully acknowledged. Thanks are due to Shri Koushal Tiwari, Computer Operator for neatly typing of manuscript.

(C.P. Rai, IFS)
Director

CONTENTS

1. *FLEMINGIA STRICTA* ROXB.

I. KNOWING THE SPECIES

Syn. *Moghania stricta* (Roxb.) Kuntze, *Flemingia stricta* var. *pteropus* Baker, *M.stricta* var.pteropus (baker) Mukerjee.

It is a rare and prioritized species for conservation in the botanical garden (as per BSI guidelines). It belongs to family *Fabaceae*. It is commonly known as Salpani.

II. DISTRIBUTION AND HABITAT

It is occasional in distribution. It occurs in rocky areas of forests at Balaghat, Chhindwara in Madhya Pradesh and Bastar in Chhattisgarh states. Outside India it is distributed in Combodia, Indonesia, Laos, Phililippines, Thailand, Vietnam.

III. MORPHOLOGY

Shrubs, tall, Stems robust young branchlets trigonous prismatic, with sparse short adpressed hairs. Leaves digitately 3 – foliate, stipules lanceolate, apex acuminate, petiole 8-16 cm, wings absent or extremely narrow, pubescent, leaflets oblong or lanceolate to obliquely ovate – lanceolate, apex acuminate. Raceme terminal or axillary, columnar- cylindric , 10-16 cm , densely pubescent, bracts ovate – lanceolate, 9-13 mm, sparsely hairy, deciduous, peduncle 1-3mm. Flowers 1-1.5 cm , clustered. Calyx 5 lobed, lobes lanceolate, equal or sub-equal to tube, lower one much longer. Corolla purple , standard with darker striae, petals sub-equal; standard wider, oblong to almost orbicular, strongly

contracted and narrowed above auricles, clawed , auriculate, glabrous, apex slightly emarginate; wings obliquely ovate, long clawed, auricle acute; keel almost semiorbicular, long clawed, apex obtuse. Ovary ovoid , pubescent, sessile; style linear, glabrous. Legume elliptic,10-15 x 5-7 mm, pubescent, apex slightly oblique, mucrnate. Seeds 2, brown or black, oblong or orbicular, ca. 2x3 mm.

IV. FLOWERING AND FRUITING

January –March

V. NATURAL REGENERATION

Natural regeneration is very scanty.

VI. ARTIFICIAL REGENERATION

Artificial regeneration occurs through seeds and cuttings.

VII. CHEMICAL CONSTITUENTS

A glycoside, tamarixetin 3-rhamnoside together with kaempferol 3-rhamnoside, mearnsetin 3-rhamnoside, quercetin 3-rhamnoside, myricetin 3-rhamnoside and sitosterol glucoside, was identified from the leaves of *Flemingia stricta*.

VIII. UTILIZATION

Species is important from ecological point of view to add soil Nitrogen.

IX. THREAT STATUS AND CONSERVATION MEASURES

Least concern as per IUCN guidelines. *Ex-situ* and *in-situ* conservation are needed.

X. SOURCE INSTITUTIONS FOR DETAILED INFORMATION

1. State Forest Research Institute, Polipathar, Jabalpur 482008 (M.P.)
2. Botanical Survey of India, Central Circle 10 Chatham Lines, Allahabad 211002 (UP)
3. Forest Research Institute, PO – New Forest, Dehradun (Uttaranchal)
4. Flora of Balaghat, Chhindwara in Madhya Pradesh and Bastar in Chhattisgarh states.
5. Department of Chemistry, Nagarjuna University, Nagarjunanagar 522 510 India.

2. *FLEMINGIA PANICULATA* WALLICH EX.BENTH

I. KNOWING THE SPECIES

It is a rare and priorities species for conservation in the botanical garden (as per BSI guidelines). It belongs to family *Fabaceae*. It is commonly known as Ramdant Katta, Salpin.

II. DISTRIBUTION AND HABITAT

It is occasional in distribution. It occurs in sal forests and damp valleys at Seoni and Sidhi in Madhya Pradesh, and Bastar and Surguja in Chhattisgarh.

III. MORPHOLOGY AND ANATOMY

Erect shrub, 1-3m high, with slender pubescent branches. Leaves simple, ovate to ovate – lanceolate, 7-15cm long, acute, acuminate or cuspidate, cordate, glabrous except on veins beneath, petioles 1-2.5cm long, thickened at both the ends. Racemes axillary or terminal, panicled or fascicled, up to 15cm long, tomentose, bracts pilose, boat shaped. Calyx 4-5mm long, tomentose, teeth lanceolate, acuminate. Corolla purple or pink, exserted. Pods oblong, 12-14mm long, pubescent, 2 seeded. The main features of the root cross-section of *F. paniculata* are:cork layer is composed of 4 to 7series of cells;having more secrete cells in phloem; xylem tube mostly single or several together;ray cells and thin-walled cell with some starch grains, calcium oxalate and brown-hexagonal.

IV. FLOWERING AND FRUITING

February – March

V. NATURAL REGENERATION

Natural regeneration is very scanty.

VI. ARTIFICIAL REGENERATION

Artificial regeneration occurs through seeds and cuttings.

VII. UTILIZATION

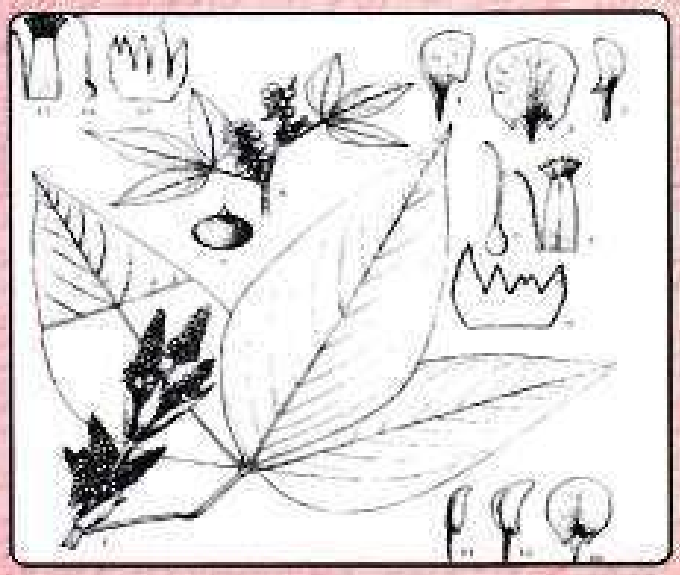
Species is important from ecological point of view to add soil Nitrogen.

VIII. THREAT STATUS AND CONSERVATION MEASURES

Least concern as per IUCN guidelines. *Ex-situ* and *in-situ* conservation are needed.

IX. SOURCE INSTITUTIONS FOR DETAILED INFORMATION

1. State Forest Research Institute, Polipathar, Jabalpur 482008 (M.P.)
2. Botanical Survey of India, Central Circle 10 Chatham Lines, Allahabad 211002 (UP)
3. Forest Research Institute, PO – New Forest, Dehradun (Uttaranchal)



Printed at : Rasa Printing Press, JBP. Mob. 9 303 303 909