



IFGTB NEWS



Quarterly Newsletter on societal applications of research and **Interventions in Forestry, Genetics and Tree Breeding** from the Institute of Forest Genetics and Tree Breeding, Coimbatore.

(A National Institute of the Indian Council of Forestry Research and Education,
Ministry of Environment, Forest & Climate Change, GOI)

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From the Director's Desk

The Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore, a premier institute under the Indian Council of Forestry Research and Education (ICFRE), has the National mandate for research in forest genetics and tree breeding. The Institute has been at the forefront of developing genetically improved planting material for industrially important tree species, particularly fast-growing exotics such as *Casuarina* and *Eucalyptus*, through sustained tree improvement programmes. The release of high-yielding clones by IFGTB has significantly contributed to the promotion of clonal forestry across the country. However, the success of clonal forestry is challenged by several biotic and abiotic factors, among which pest and disease incidences remain major concerns. In this issue of *IFGTB News*, we highlight the incidence of the *Eucalyptus* Leaf Roller on *Eucalyptus* Clone-193 and discuss its implications for clonal forestry.

This issue also showcases the potential for enhancing tree fodder availability in forest fringe villages, based on the findings of the All India Coordinated Research Programme on Tree Fodder funded under the CAMPA programme of the Ministry of Environment, Forest and Climate Change (MoEFCC). The results provide valuable insights into improving fodder resources while supporting sustainable livelihood options for local communities. Further, part of its commitment to biodiversity conservation, IFGTB is actively engaged in research on the ecorestoration of natural forests. In this context, the present issue features the ecological significance of *Cullenia exarillata*, an important native tree species of the Western Ghats, highlighting its role in sustaining forest biodiversity and ecosystem health.

It is my privilege to present this issue of *IFGTB News*. I am confident that the information presented herein will be valuable to officials of State Forest Departments, Forest Development Corporations, wood-based industries, forestry researchers, academic institutions, nursery growers, and farmers alike.

T. Rabi Kumar, IFS
Director, ICFRE - IFGTB

Incidence of the *Eucalyptus* Leaf Roller, *Strepsicrates rorthia* Meyrick (Lepidoptera: Tortricidae), on *Eucalyptus* Clone-193 at Jayamkondam, Tamil Nadu, India

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²Tamil Nadu News Print Papers Limited Unit II, Mondipaty, Trichy.

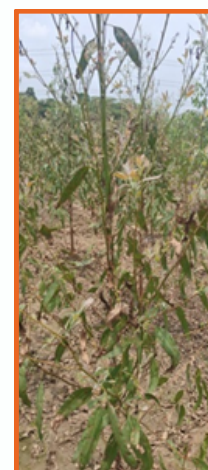
An infested plantation of *Eucalyptus* Clone-193 established during 2025 at Chatiram, Jayamkondam, Ariyalur District, Tamil Nadu, India (11°13'13.116" N, 79°22'56.64" E) was inspected as requested by Tamil Nadu Newsprint and Papers Limited (TNPL), Trichy. Heavy infestation by the *Eucalyptus* leaf roller, *Strepsicrates rorthia* caterpillar (Lepidoptera: Tortricidae) was observed in the plantation. Extensive rolling and feeding damage were observed on the foliage, resulting in severe defoliation. Clone-193 was found highly susceptible to infestation by *S. rorthia*. In contrast, nearby plantations established with Clone-7 did not exhibit any noticeable infestation or damage, suggesting possible clonal variation in susceptibility to the pest.

Strepsicrates rorthia, commonly known as *Eucalyptus* leaf roller, is a tortricid moth reported from India, Sri Lanka, Taiwan, Ghana, Madagascar, Mauritius, and South Africa. In India, the species has been recorded on several hosts including *Eucalyptus* spp., *Mangifera indica*, *Psidium guajava*, *Syzygium cumini*, *Eugenia jambolana*, and *Woodfordia fruticosa* from Punjab, Uttarakhand, West Bengal, and central India. The present observation is the first report of *S. rorthia* infestation on *Eucalyptus* in Tamil Nadu. The pest primarily attacks at juvenile stages, causing significant damage to leaves, buds, and young shoots. Larvae roll tender leaves and web to form protective shelters to reside and grow.

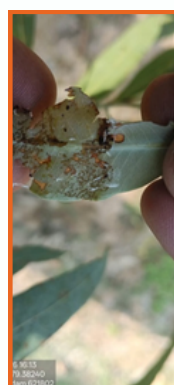
As feeding progresses, leaf tissue gets skeletonized that eventually dry. Young larvae are translucent green to yellowish in colour and become dark green with a brown head capsule with a pale lateral stripe. Information on the life cycle, seasonal incidence, host preference, and bioecology of *S. rorthia* under Indian conditions still remains limited. Effective management strategies could be drawn with more field studies in future.



Field observations at the infested site



Infested leaves



Strepsicrates rorthia larva

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Enhancing tree fodder availability in forest fringe villages

C. Buvaneswaran, C. H. Shaju, P. S. Devanand

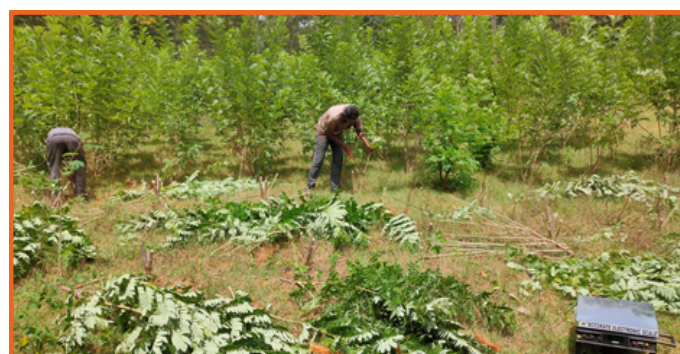
Deterioration of traditional fodder sources, coupled with rising livestock populations, has intensified pressure on forests through unsustainable fodder extraction and grazing. Enhancing fodder productivity through amelioration and developing pastures on non-arable lands is essential to meet ever-increasing fodder demand to support livestock, thereby reducing degradation of forest ecosystems. In this backdrop, a study was conducted under All India Coordinated Project (AICRP-17) on “Enhancement of Fodder Availability and Quality to Reduce Unsustainable Grazing in the Forest” funded by CAMPA-MEFCC, GoI.

A field trial was established in the forest fringe village of Talamalai, Sathyamangalam Taluk, Erode District, Tamil Nadu (11°37' 53.89" N, 76°59' 50.46" E), to evaluate the performance of four tree fodder species—*Hardwickia binata*, *Leucaena leucocephala*, *Gliricidia sepium*, and *Albizia lebbbeck*—under three planting spacings (1.0 × 1.0 m, 1.25 × 1.25 m, and 1.5 × 1.5 m). Among the said, *Gliricidia sepium* produced harvestable leaf fodder. During the first harvest, leaf fodder yields were 985, 610, and 455 kg ha⁻¹ at spacings of 1.0 × 1.0 m, 1.25 × 1.25 m, and 1.5 × 1.5 m, respectively. The second harvest, carried out from coppice shoots, recorded leaf fodder yields of 852, 1,192, and 1,280 g plant⁻¹, equivalent to 8,520, 7,628, and 5,689 kg ha⁻¹, respectively, under the three spacings.

Overall, *Gliricidia sepium* produced the highest cumulative biomass of 95.0 quintals ha⁻¹ from two harvests within two years at 1.0 × 1.0 m spacing, indicating its suitability for fodder production under forest fringes.

In contrast, *Albizia lebbbeck*, *Hardwickia binata*, and *Leucaena leucocephala* failed to establish satisfactorily due to cattle and wild animals browsing and other damages.

Spacing	No. of plants / ha	First Harvest		Second Harvest	
		Mean Fresh Leaf Biomass (g / tree)	Leaf fodder yield (kg / ha)	Mean fresh leaf biomass (g / tree)	Leaf fodder yield (kg / ha)
1x1 m	10000	9.857	98.570	852	852.000
1.25 x 1.25 m	6400	9.540	61.056	1192	762.880
1.5 x 1.5 m	4444	10.247	45.542	1280	568.889



First coppice harvest of *Gliricidia sepium* at Talamalai, Erode

It appears that *Gliricidia* is highly suitable for developing fodder banks in forest fringe villages, as it was not browsed or damaged by wild animals. However, there existed huge intra-specific variation in *Gliricidia* for their growth and also with special reference to the coppicing potential and leaf fodder production.

Hence, it is proposed that efforts can be made to select superior phenotypes in *Gliricidia* having greater yield and coppicing potential so as to improve uniformity in growth and coppicing as well as to harness the increased leaf fodder yield.

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Cullenia exarillata: Ecological Significance in Restoration and Biodiversity Conservation of the Western Ghats

D. Thangamani*, S. Lalitha and R. Anandalakshmi

Cullenia exarillata is a towering evergreen canopy species that attains a height of up to 40 m. Endemic to the mid-elevation (700–1400 m) wet tropical rainforests of the southern Western Ghats, it is characterized by a straight buttressed trunk, smooth off-white bark, and distinctive horizontal branches bearing knob-like tubercles that supports cauliflory. As an ecologically significant keystone species, *C. exarillata* forms a dominant component of the forest canopy in undisturbed evergreen forests, particularly in Silent Valley National Park, where, together with *Mesua ferrea* and *Palaquium ellipticum*, it constitutes nearly 80% of the mature tree population.

The distinctive reproductive phenology of *Cullenia exarillata* supports a complex and highly interconnected canopy food web. During the dry season, when the availability of other forest fruits is markedly reduced, its cream to pinkish-brown tubular flowers provide a critical food resource for a diverse assemblage of diurnal and nocturnal arboreal mammals. The flowers produce thick, fleshy, nectar-rich sepals that provides abundant seasonal food resource for several threatened fauna, including the Lion-tailed Macaque (*Macaca silenus*), Nilgiri Langur (*Semnopithecus johnii*), Malabar Giant Squirrel (*Ratufa indica*), and Brown Palm Civet (*Paradoxurus jerdoni*).

The flowers contribute 20–25% of the annual diet of the Lion-tailed Macaque (*Macaca silenus*) and up to 73% of the seasonal diet of the Brown Palm Civet (*Paradoxurus jerdoni*), highlighting their importance to Western Ghats fauna.



Pharmacognostic screening of the bark show a prominent presence of *cullenin* (a rare bis-indole alkaloid) alongside *cullenidine* and *cullenaline*, displaying significant antioxidant, anti-inflammatory, and selective cytotoxic activities against human cancer cell lines. Additionally, its leaf oil contains exceptionally high concentrations of phytol, palmitic acid, and nerolidol, properties highly valued in premium cosmetics, fine perfumery, and biotherapeutics



To secure this threatened resource from the risks of forest fragmentation and habitat conversion, ICFRE-IFGTB, under the NPFGR project with MoEFCC-CAMPA support, has undertaken comprehensive germplasm explorations across the Western Ghats. As part of these efforts, nearly 30 accessions have been collected from different parts of its natural distribution range for *in situ* conservation and ecological restoration.

Conserving *Cullenia exarillata* directly protects complex tropical food webs. As an essential native canopy builder, its systematic integration into ecological restoration programmes accelerates natural forest regeneration, enhances soil stability, optimizes carbon sequestration, and secures the future of endemic wildlife across the biodiversity-rich landscapes of the Western Ghats.

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EVENTS: JANUARY – MARCH 2026

✦ **TRAINING:** Participatory socio-economic data collection for the adaptation of new technologies (06th January); Skill Upgradation Training Programme on Plus Tree Selection and Forest Mensuration (19th – 20th January & 05th – 06th February); Recent Trends in Tree Cultivation Techniques (02nd – 06th February, 09th – 13th February & 02nd – 06th March); Selection of Seed Sources, Seed Testing, and Establishment of a Seed Centre (09th – 13th February); HRD Training on "Ethics and Values in Public Governance, Good Governance, RTI, Gender Sensitization, and Sexual Harassment at the Workplace" (23rd – 25th February); HRD Training on Forest Policy, Laws, and Environmental Law (09th – 13th March); Biopesticides for Insect Pest Management in Forest Nurseries and Agroforestry (16th March, 18th March, 19th March and 23rd March); Capacity Building Programme on Conservation and Propagation of Medicinal Plants (12 – 14th March); GSDP – Micro-Entrepreneur (NTPF): Plant Origin - Coconut Shell (09th January – 13th March).



- ★ **MEETINGS / CONFERENCE / WORKSHOP:** International Conference on Population and Conservation Genetics (28th – 30th January) was conducted at Coimbatore.
- ★ **OTHER EVENTS:** 77th Republic Day Celebrations.
- ★ **STAFF RETIREMENTS:**



Smt. Mahalakshmi R, TO
(March, 2026)



Mr. Nicholas A, MTS
(March, 2026)

About ICFRE – IFGTB

The ICFRE - Institute of Forest Genetics and Tree Breeding (ICFRE - IFGTB), Coimbatore, is a National Institution of the Indian Council of Forestry Research and Education (ICFRE), an Autonomous body under the Ministry of Environment, Forest and Climate Change, Government of India.

ICFRE - IFGTB has a mandate to develop improved varieties and advance management and silvicultural practices to enhance the productivity of natural and plantation forests under diverse ecological conditions and a changing environment.

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