

## Propagation through root suckers in *Garcinia lanceifolia* Roxb., an endemic medicinal plant species of North East India

The genus *Garcinia* (family: Clusiaceae) consists of about 250 species distributed throughout the world. It is represented by 43 species and five varieties in the Indian subcontinent. *Garcinia lanceifolia* (G. Don) Roxb. Syn., *G. lanceifolia* var. *oxyphylla* (Planch. & Triana) Laness. is an important yet less known endemic medicinal plant found in Assam (plains of Upper Brahmaputra and Barak valley), Meghalaya (Khasi and Garo Hills), Nagaland in North East India, and the southern part of Bangladesh<sup>1,2</sup>. Locally known as *Rupahi thekera* (Assamese), *Kengrapal* (Garo) and *Dieng Soh Jadu* (Khasi), this plant species is reported as rare in wild conditions, occurring only under cultivation in homestead gardens and generally grown under dense shade of other trees<sup>3-5</sup>. It is characterized by lanceolate/elliptic, leathery, petiolated leaves (with a margined pit on the upper side at the base) small, yellowish-green, solitary/axillary flowers in clusters along with small, thick-skinned berry fruits with juicy, acidic and fragrant pulp. The fruits and young leaves are consumed either as raw and/or cooked as a vegetable; apart from their use in pickling. Different ethnic communities endemic to NE India are reported to have traditionally used this plant as a pain reliever and hypoglycaemic agent<sup>6-9</sup>. Studies confirmed the presence of alkaloids, saponins, flavonoids, cardiac glycosides,

terpenoids, phytosterols and tannins<sup>10,11</sup>. With respect to conservation status, it is reported by various authors as sporadic, rare in wild conditions and endangered. In view of the imminent risk of extinction in the wild, the species is now being cultivated in homesteads<sup>3</sup>.

During the survey of the habitat and population of *G. lanceifolia*, it was observed that the species is propagated by root suckers. Roots grow up to 1–1.5 m from the main stem. It was stated by the growers that there is almost 100% chances of survival of plantlet emerging from root suckers, if transplanted after attaining 8–12 leaves and about 6–10 inches in height. It was also observed from the plants grown in Rain Forest Research Institute (RFRI), Jorhat and also mentioned by the farmers that cutting of the apical shoot of 4–6-yr-old trees provided more plants through root suckers in comparison to the trees with apical shoots (Figure 1). A well-grown plant of a height up to 2–3 m can produce 30–50 plants from suckers if maintained for the purpose. No further experimentation on the application of rooting hormone or mechanical aeration of soil near the roots was conducted. The present study refutes the probability of seed propagation<sup>11,12</sup> (mostly reported in the literature as natural regeneration) and mentions sucker propagation as the only viable option for multiplication.

Plants propagated through root suckers in the RFRI nursery are being used in various institutional plantation programmes.

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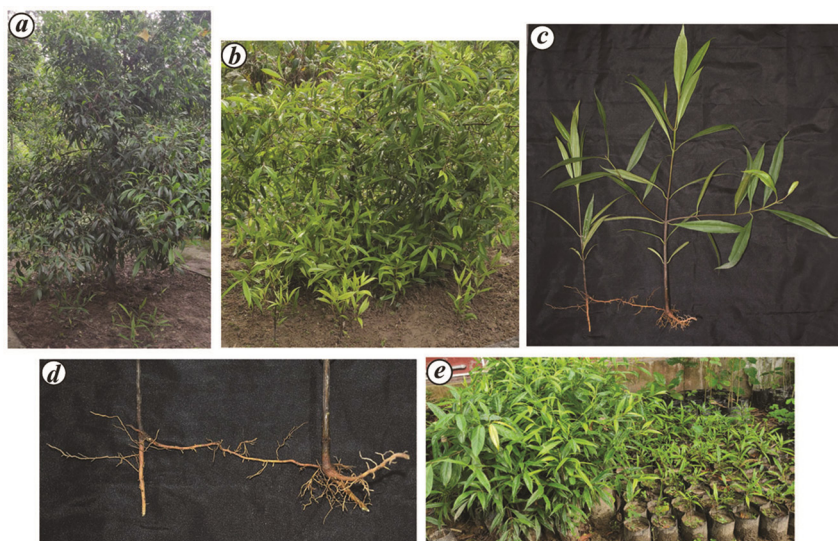
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**Figure 1.** a, Emergence of less number of plants through root suckers of *Garcinia lanceifolia* with intact apical shoots. b, Profuse emergence of plants from root suckers in *G. lanceifolia* with damaged apical shoots. c, d, Two sucker plants of *G. lanceifolia* along with their root system. e, *G. lanceifolia* plants propagated through root suckers in Rain Forest Research Institute, Jorhat nursery.