



NEW HOSTPLANT RECORD FOR LAC INSECT *KERRIA* SPP. FROM ANDHRA PRADESH

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ABSTRACT

Lac is the only natural resin of animal origin produced by lac insects. The host range of lac insect is more than 400 plant species. Thick dark brown lac encrustation on the stem of an exotic plant *Conocarpus lancifolius* Engl., was noticed and recorded as a new host plant for lac insect from Andhra Pradesh, India.

Key words: *Kerria*, new host plant, *Conocarpus lancifolius*, Andhra Pradesh, lac insect, Hemiptera, Tachardiidae, natural resin, lac encrustation, Combretaceae

Lac is a natural resin secreted by lac insect *Kerria* spp (Hemiptera: Tachardiidae). Lac insect produces three products of commercial importance: lac resin, wax and dye. Lac derived products are biodegradable, non-toxic and environment friendly and have tremendous export potential. In India the total lac production was 16352 mt during 2016-17 (National Lac Database, 2018). India earned 24521.60 lakh rupees, by exporting 7230.97 mt of lac during 2016-17 (Yogi et al., 2020). In addition to this, lac insect-host association contributes to the conservation of biodiversity viz., flora, fauna and soil microorganisms (Sharma et al., 2006). In the lac ecosystem, host tree constitutes the first trophic level, the lac insect itself is at second trophic level and insect-predators, parasitoids inflicting damage to lac insect constitute the third trophic level. There are hyper-parasitoids constituting the fourth trophic level of the lac ecosystem (Koteswara Rao et al., 2013). Host range of lac insect is more than 400 plant species prevailing mostly in forest areas. A total of 30 species of lac insects were recorded under genus *Kerria* from all over the world while 23 were recorded from India alone (Rajgopal et al., 2021).

A survey was conducted in different parts of Andhra Pradesh to record the lac insect host plants and occurrence of lac insects in Andhra Pradesh during 2018-19 and 2019-20. During the survey, the lac insects were found on the stem and twigs of *Conocarpus lancifolius* Engl., at Guntur, Andhra Pradesh. The shrub *C. lancifolius* (Combretaceae) is an exotic plant species introduced into India (Stace, 1965). It is a fast growing,

drought-resistant, evergreen shrub with shining foliage and it is popularly grown on road sides, road dividers, premises of various offices and schools as an avenue tree in many parts of the country. The tree grows upto 20 m in height. This straight-branched tree with lance shaped leaves hence species name *lancifolius*. It is recommended for a variety of soil types, including saline soils (Nagireddy et al., 2016).

Natural lac encrustation was first reported on the stem of *C. lancifolius* during April, 2019 and the emergence of crawlers from matured female lac insect cells during the second fortnight of August. Later, development of yellow spots were noticed on matured female cells of lac encrustation during the second fortnight of September and thick dark brown lac encrustation was recorded on host plants during the first fortnight of November (Fig. 1). Thus, the lac insect has completed its whole life cycle on the *Conocarpus* proving it as a host plant. In future there is a lot of scope for exploitation of this plant for commercial cultivation of lac in waste lands and saline soils in the state and rest of the country.

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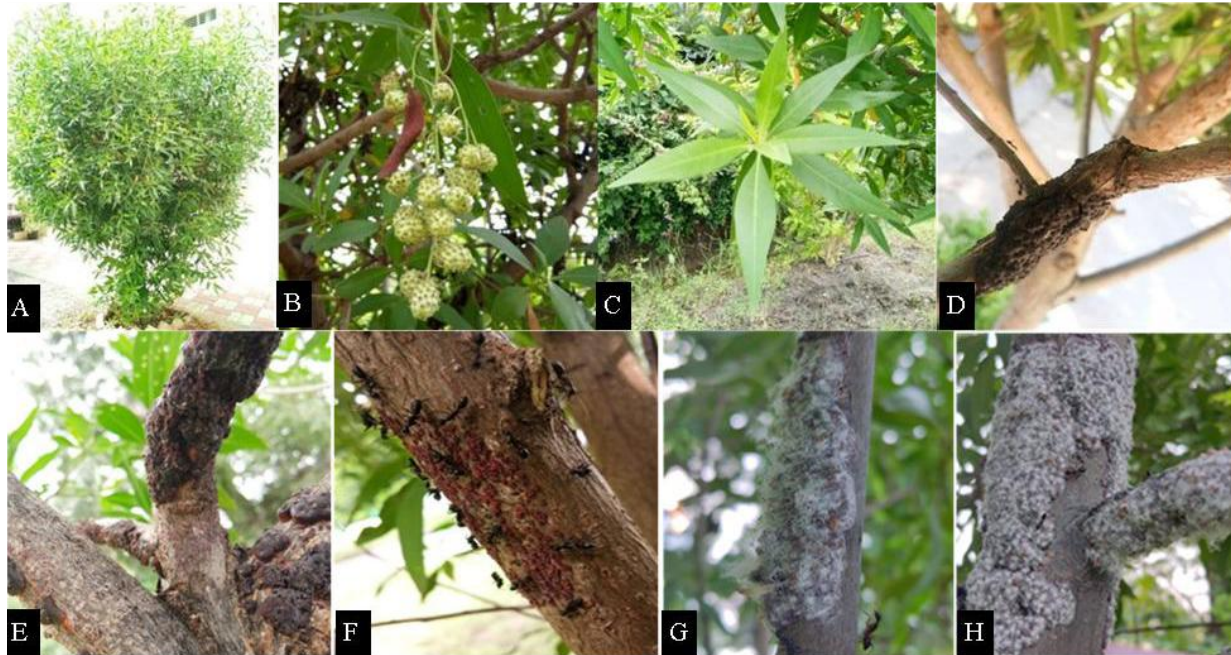


Fig. 1. (A) Plant of *C. lancifolius*, (B) Fruits of *C. lancifolius*, (C) Leaves of *C. lancifolius*, (D), (E), (F), (G) and (H) Encrustation of different stages of lac insect on *C. lancifolius*

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