

## Short Communication

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### The Lac Insect, Its Wild and Cultivated Species

S. MAHDIHASSAN

SD-34, Block A, N. Nazimabad, Karachi, Pakistan

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Shellac is a regular product of commerce and its biological source is the different species of lac insect. It has been observed that two species are found as encrustations not larger than three inches. When these chunks of lac are left on the trees, there does not result any further growth. It appears that these species are not capable of growing more than as small chunks of lac. These two insects are *Kerria fici* in North and *K. communis* in South India. Green found *K. fici* on *Ficus bengalensis* growing in Monghir, Bihar and named it as such. I found it again as a small chunk on a large *Ficus* tree in Dehli. It is the only lac insect that also grows on *Acacia catechu* and has been found in Jammu and Kashmir and on the same host plant in Rajputana. It has a special feature. Some insects would be yellow while the majority would be red. A similar species exists in Ceylon. *Kerria larvae* which also has two forms of insects yellow and red. Its biology has not been studied but the fact is that it is not cultivated anywhere nor is it known to produce lac even as much as a pound.

The other wild species of the lac is *K. communis* of south India. In Mysore it grows on *Ficus mysorensis* forming small chunks of lac. It suffices to say that it is never seen covering a whole branch of its host plant nor is it known to have been cultivated. In this case the reason is the preponderance of males in one of the two life cycles of the insect. The insect manages to exist by the larvae of male insects becoming bisexual when a next generation can arise. Thus there are two species of lac insect occurring as small chunks in nature which are never cultivated. They would be the wild species of lac insect, *K. fici* and *K. communis*.

The most prolific species is *K. mysorensis* growing on *Shorea taluria* in Mysore and the adjoining districts in India.

It has three life cycles in 13 lunar months. It does not grow on *Ficus mysorensis* although it is the host plant of the wild species *K. communis*.

The species which secretes most lac resin is *K. nagoliensis*, growing on the Kusum tree, *Schleichera trijua* in central India, best in Raipur district. Apparently, it has only one favourite host plant.

In Sindh the Babul tree, *Acacia arabica* is the host plant of the species, *K. Sindica*. On Babul no other species of lac would grow which then confirms *K. Sindica* as a different species. In Assam *Cajanus indicus* is cultivated as the host plant of the species *K. chinensis*. This species also grows on some diptocarpus tree in Vietnam, Siam, Burmah and Southern China. It is the best source of lac dye and in medieval ages was the main lac insect that was in demand.

In Bihar and central India the tree, *Butea frondosa* is the favourite host plant of a species of lac insect. It may be indicated as *K. lacca*. Its biology has not been studied. It is to be seen if it grows on *Schleichera trijua* and now it then differs from other species. Assuming it to be different we then have the following species as those that are regularly cultivated. (1) *K. mysorensis* on *Shorea taluria*, (2) *K. nagoliensis* on *Schleichera trijua*, (3) *K. Sindica* on *Acacia arabica*; (4) *K. chinensis* on *Diptocarpus trees*, (5) *K. lacca* on *Butia frondosa* and *Zizyphus jujuba*. We have previously considered the two wild species, *K. fici* and *K. communis*. This makes the lac insect in India to 7 Morphologists as systematic entomologists on finding slight anatomically different features have created new species. It is to be seen if these species can produce lac even as much as five pounds. It is not proposed to raise any controversy but unless the biology of these species is studied their recognition as species can be questioned.

**Summary.** Five species of lac insect are cultivated while two others are wild species. Lac insects must be studied biologically to confirm them as species on mere morphological differences.

**Key words:** Lac insects, *Kerria fici*, *K. communis*.