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NEW RECORD OF HOST-PLANTS OF THE LAC INSECT, *KERRIA LACCA* (KERR)

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SUMMARY

The authors record *Boswellia serrata* from West Bengal, *Viscum articulatum* from Bihar and West Bengal and *Gomphrena globosa*, an ornamental plant of all-India status, as new lac hosts, and *Schleichera oleosa*, kusum, as a new host of *V. articulatum*.

Introduction

Several authors have published lists of host-plants of the lac insect, *Kerria lacca* (Kerr) (Syn. *Laccifer lacca* Kerr), from time to time. More recent of these are by Roonwal *et al* (1958) and supplementary lists by Varshney and Teotia (1964) and Varshney (1968), including the unrecorded host-species from West Bengal (Das Gupta and Mehra, 1967) and Madhya Pradesh (Mehra and Gokulpure, 1967). The three new host species, two for *Kusmi* strain and one for *Rangeeni* strain, recorded in this paper are a further supplement to the above mentioned list. Of these, *Viscum articulatum* Burm. may be credited to the host-plant accounts of the States of Bihar and West Bengal and *Boswellia serrata* to that of West Bengal only. The third one, namely *Gomphrena globosa*, an ornamental plant of All-India status, got casually inoculated in potted condition at Jhalda, West Bengal.

1. *Boswellia serrata* Roxb. (*salai, salga*) (Burseraceae). The Indian Olibanum tree.

Of the ten species of trees and shrubs of this genus distributed in the tropical parts of Asia and Africa, *B. serrata* is the only species found in India.

In order to support barbed-wire fencing with a view to avoiding recurring expenditure on the generally used dead poles, which are prone to termite attack and weathering, this species was raised from large cuttings. The species did come up to our expectations except in the beginning when the poles, which did not strike root had to be replaced now and then, but once settled they fared well.

In August 1958 a number of sparse cells of *Aghani* 1958-59 crop were observed on this host as a result of casual inoculation with *Kusmi* broodlac from a neighbouring *Kusum* tree. The insects reached maturity in January 1959 but the subsequent progeny died before male emergence. During July 1959 about eight plants were artificially inoculated for *Aghani* 1959-60 crop with *Kusmi* broodlac. Male emergence was observed in mid-September 1959, 8 weeks after inoculation. Only sparse but healthy insects, however, lived through crop maturity and larval emergence was observed in January 1960, as in 1958-59 crop. The mature lac was left for self-inoculation of the plants but the progeny died in April 1960 before male emergence. The complete mortality of both *Jethwi* 1959 and 1960 crops is not unexpected because the cuttings had not yet developed a crown to provide whatever protection it could offer during the summer months and sustain a successful crop. But it is doubtful if even full grown trees with a well formed crown can sustain a good *Jethwi* crop since this species has small leaves and is deciduous during January to May or June, which covers the whole of summer.

A comparison of the *Aghani* crop on this host and *kusum* indicates that male emergence in both cases occur at the same time in September but larval emergence on this host was delayed by about a fortnight.

Further trials were given up to prevent ill effects on the young *B. serrata* plants by sap drainage by the lac insects and by cutting of lac bearing branches of the unformed crown.

2. *Gomphrena globosa* Linn. (*Gool-mukul*) (Amaranthaceae). The Bachelor's Button Flower.

A potted plant of this species got casually inoculated in July 1959 from a sample of *palas* lac stick kept beside it, whence 88 larvae covered about 7 cm of one of the shoots. Of these 15 female insects successfully completed the life-cycle of the *Katki* crop and the larvae emerged in the third week of October 1959, after which the plant died.

3. *Viscum articulatum* Burm. (*banda*) (Loranthaceae).

According to Haines (1924) the name *banda* applies to *V. monoicum* Roxb. and *V. orientale* Willd. and to some *Loranthus* spp. "often with the name of the host tree prefixed". Since here it has been recorded as a parasite of *kusum*, it may be called *kusum-banda*.

A bush of this species attached to a *kusum* tree at the experimental plantation of the Institute at Hesal (Ranchi District) was found casually inoculated with *Kusmi* broodlac used for inoculating *kusum* tree for *Jethwi* 1958 crop. 32 living, mature and healthy cells of this crop were found sparsely distributed on the parasitic bush, from which the larvae emerged in the first week of July 1958 along with the larval emergence on *kusum* trees in the plantation.

A bush of this species attached to a *kusum* tree at Jhalda Plantation was also found casually inoculated with *kusmi* broodlac used for inoculating the *kusum* tree in July 1961 for *Aghani* 1961-62 crop. After about 65 per cent initial larval mortality (from an average settlement of 136 larvae per 5 cm), a sparse and patchy encrustation of well developed female insects was obtained from which larval emergence was observed on January 15, 1962, about a fortnight after emergence on *kusum* trees.

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