

for the above conclusions will be fully discussed and the petrology of the rocks fully described.

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Ranchi,

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¹ *Proceedings of the 19th Indian Science Congress*, 1932, 212.

² *Transactions, Mining and Geological Institute of India*, 1937, 31; *Memoir Geological Survey of India*, 49, Part 1, 215-216.

³ *Economic Geology*, 1939, 34, p. 166.

A MARGOSA TREE WITHOUT THE BITTER PRINCIPLE

At Kothanur village, 13 miles to the northeast of the Kollegal town in the Coimbatore District, there is a big banyan tree (*Ficus bengalensis* Linn.) which has a spread of nearly three-fourth acre enclosing within its trunk a large margosa tree (*Azadirachta indica* A. Juss.) of about 60 feet in height and 18 inches in diameter. The margosa overtops the banyan at its summit. The aerial roots of the banyan tree would have entwined the margosa tree to start with, as is commonly met with in combinations of the banyan with other species and after many years' growth would have formed a natural graft with the main stem of the margosa. The enclosed portion is about 10 feet in height and the trunk of the margosa tree cannot be seen to this height from the base. At this height a stout aerial root of the banyan tree is found to grow into a hollow in the trunk of the margosa tree caused by some decay in its heartwood; to all appearances the basal portions of both the trees have fused into one another. Evidently stem fusions have taken place in many places between the margosa tree and the banyan tree helped by the pressure exerted by the banyan.

The peculiarity of this margosa tree is the absence of the bitter principle in its leaves. The writer tasted them and some specimens of leaves brought by him to Coimbatore were declared by all who tasted them to be without the bitter principle found in margosa leaves.

The only plausible explanation for this peculiar phenomenon is that in many places the vessels and the sieve tubes of the margosa may have fused with those of the banyan as a result of "grafting" and the sap of the banyan is influencing the sap of the margosa.

Many seedlings of margosa from seeds fallen from this tree are growing under the parent tree; the leaves of these seedlings are normal and contain the usual bitter principle. The natural inference is that the absence of the bitter taste in the leaves of the margosa growing in combination with the banyan is not a genetic modification but merely the influence of the sap of the banyan on that of the margosa. Here is probably an extraordinary case of the influence of an unnatural stock (the banyan tree) on a scion (the margosa). It is interesting to note that such grafts could take place in nature between two widely different families of plants, i.e., between banyan, a member of *Moraceæ* and margosa, a member of *Meliaceæ*.

These "fused trees" have become very famous in the locality and the neighbourhood. People attribute strange powers to this combination especially to the margosa due to the absence of the bitter principle in its leaves. Offerings are made by villagers to this unusual margosa tree on Mondays and Fridays.

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