In this issue

Azadirachta indica fruit transcriptome

Neem is a unique, versatile and important tree species, used for multiple purposes, and often called as the panacea of all diseases. The plant has special significance to India and due to its diverse use, is called as the nature's pharmacy. Neem oil and its derivatives support multiple cottage industries and is one of the important contributors to the country's bio-economy. The neem tree is also one

of the most intensively studied sources for natural products. Due to its wide array of applications, azadirachtin, a terpenoid derived from neem seed kernel, has been the subject of intense research for decades. Azadirachtin, has been one of the most widely studied chemical compounds of plant origin and its commercial formulations have been found to be toxic against a large range of insect species, whilst retaining very low mammalian toxicity. Although efforts have been successful in the past towards synthesizing azadirachtin in the lab, the commercial viability of the lab-synthesized azadirachtin remains low. Despite the wealth of information, there is no sequence information available on its genome and/or transcriptomes. Sequencing the plant's genome and its coding parts is the first step towards understanding of the diverse pathways and enzymes involved in the synthesis of terpenoids, including azadirachtin, which might pave way(s) for mass-production of these useful terpenoids and other chemicals through microbial engineering. **See page 1553**.

Pollen analysis of spider webs

Pollen analysis of spider webs is important in view of its significance in understanding the pollen rain/vegetation relationship as well as in allergenicity for allergologists. Spider webs are rarely used in establishing the interplay between the extant vegetation and the pollen grains deposited in the sediments, contrary to the traditional way of establishing the same, i.e. surface samples, mud samples, moss pollsters, etc. And the database generated is used as modern analogue for the precise delineation of pollen diagram for the reconstruction of palaeovegetation and palaeoclimate of the area under study.

The pollen assemblage demonstrates the dominance of pollen of trees and herbs, whereas shrubs as well as fern spores and algal remains are poorly represented. Among the arboreal pollen trapped in webs, *Madhuca indica*, *Holoptelea*, *Lannea coromandelica*, *Emblica officinalis* and *Aegle mermelos* are predominating tree taxa and their representation corresponds largely with their presence in local flora. *Schleichera oleosa*, *Syzygium*, *Grewia*, Sapotaceae, *Flacourtia*, Anacardiaceae and *Acacia* are also reported moderately. *Lagerstroemia parviflora*, *Tectona grandis*, *Mitragyna parvifolia*, *Diospyros melanoxylon*, *Dalbergia*, *Bombax ceiba*, *Ailanthus excelsa*, etc. are not represented in good frequencies, despite being the common constituents of the floristics. Their erroneous presence in the pollen rain may be attributed to low pollen productivity and differential pollen preservation as well. Therefore, the palynoassemblages recovered from the analysis of spider webs do not reflect the factual composition of local vegetation of the study area, so far as the tree taxa are concerned.

On the other hand, the ground vegetation is honestly portrayed by the encounter of a good number of Tubuliflorae, Poaceae, Cheno/Am, Caryophyllaceae, *Xanthium*, *Capsicum frutescens*, Brassicaceae. However, the outstanding high frequencies of Lamiaceae cf. *Pogostemon* and *Hyptis* and Asteraceae (Tubuliflorae) cf. *Blumea* and *Eclipta* in almost all the samples have been noticed, except SW-4. This might have occurred owing to charging of the local environment with the pollen of the tall herbaceous members of these families, which were seen gregariously and in full bloom at the study site while sampling were carried out. Ferns which occur abundantly along the adjoining stream banks are marked by the sporadic retrieval of trilete spores. Their poor representation could be ascribed to the prevailing damp condition around the sampling provenance, which inhibits their easy dispersal by wind.

In addition to the different types of pollen traps, spider webs have also been proved to be an efficient natural trap of airborne pollen grains and spores, which reflects almost the local vegetation of the study area. The spider-web samples also show variability in terms of the pollen assemblages because of their position, size and age. Wind speed and humidity are other local factors that affect the retention of pollen grains and spores in webs. Further research looking into the causes behind this is required. However, the study could also entail the evaluation of the allergenicity of different pollen grains and spores in the area of study, causing asthma, hay fever, dermatitis and other disorders. Allergic diseases can be controlled and symptoms can be minimized if we know what triggers them. **See page 1586**.