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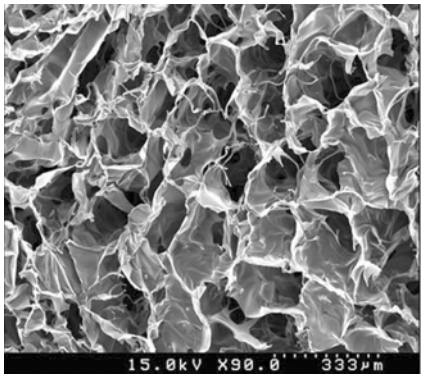
Sandalwood

Sandalwood (*Santalum album* L.) occupies an important place in Indian culture and heritage because of its extremely valued fragrant wood and oil. Among the various *Santalum* species, *S. album* is commercially highly rated. Sandalwood grown in South Indian states such as Karnataka, Tamil Nadu and Kerala are of superior quality. These regions are presently devoid of larger girth trees under natural conditions. Right from Tippu Sultan's time, sandalwood tree was a royal tree and every tree belonged to the government. This restriction discouraged public from

cultivating sandalwood but also encouraged illicit felling and smuggling. The core of the wood (heartwood) contains the essential oil comprising sesquiterpene alcohols – α and β santalol which has huge demand in perfumery and cosmetic industry. The heartwood is extensively used for intricate carving and providing livelihood for large number of artisans. A major killer of sandalwood is the spike disease, caused by a phytoplasma, for which no remedy has been found. In the absence of large plantations, improvement work in sandalwood has to wait until they become available. On account of the recent relaxed government policies, farmers and entrepreneurs have shown interest in sandal cultivation. If implemented it would not only help in conservation but also bring back the original name and glory of sandalwood to India. Arun Kumar *et al.* (**page 1408**) discuss the history and the future status of sandalwood.

Chitosan–hydroxyapatite macroporous matrix

There are numerous studies for engineering damaged bone and different three-dimensional matrix have been fabricated, however, no single step processing for fabricating macroporous matrix has been reported so far. Zo *et al.* (**page 1438**) present synthesis of supermacroporous scaffolds for bone tissue engineering applications. Chitosan–hydroxyapatite is



synthesized in simple two-step process using freeze-drying technique. All composite and scaffolds fabricated by various groups using these polymers required post-synthesis processing. The authors report macroporous scaffold with ideal physicochemical properties for bone tissue engineering. Chitosan–hydroxyapatite was seeded with osteoblast and metabolic and functional assay such as alkaline phosphatase proves the ideal microenvironment provided by the scaffold for cell adhesion and proliferation leading to enhanced mineral deposition.

New human fossils

Sankhyan *et al.* (**page 1461**) report two rare human fossils – a humerus and a femur in association with rich faunal and archaeological assemblages in Central Narmada Valley. The findings greatly clarify the dismal picture of human evolution in South Asia earlier understood by a partial cranium discovered in 1982, followed by two clavicles and a rib fossil reported in this journal in the year 1997 and 2005 and regarded as a different archaic man. The present

study re-asserts two types of early humans in Central Narmada Valley. The partial cranium and the femur come from a large-bodied archaic *Homo sapiens* or *Homo heidelbergensis* found in Africa and Europe who emerged in the Narmada Valley at around 250 kya and hunted mega mammals with large flake Acheulian implements. At around 150 kya he was succeeded by a pygmy-sized short and stocky archaic *Homo sapiens* known by the two clavicles and the rib who hunted with small Middle Palaeolithic implements. The humerus, found in association with the bone implements discovered in the Narmada Valley, documents a successful continuity of the short-bodied lineage unto 70 kya and beyond. It is quite likely that the indigenous archaic hominins attained anatomical and behavioural modernity in Indian heartland and subsequently lead to the Andaman Pygmy, the Munda and the like.