Figure 2. ***a***, A branch showing nascent branchlets studded with auxiliary buds. ***b***, A single branchlet with tip bursting into multiple shoots. ***c***, A growing branch with branchlets and multiple shoots.

branches also did not terminate in the usual manner; instead they were seen sprouting into numerous branchlets of varying lengths, each swollen at the base and broadening upwards, and housing a number of auxiliary buds (Figure 2 *a–c*), almost approaching the mathematical equivalent of the fractals. This feature is reminiscent of the multiple shooting patterns commonly observed in regenerating tissue calluses.

How do we account for this unusual growth pattern? How does a determinate shoot transform into an indeterminate one? It might be due to some hormonal imbalance which has resulted in such a morphogenetic event, possibly regulating switches of cascades of genes responsible for the twin growth patterns. The hormonal imbalance might have been due to some endophytic infection. Externally, there seems to be no sign of any kind of infection or insect bite. As such, this calls for an urgent and thorough investigation.

BHASKAR CHAURASIA
D. C. ATRI*

Department of Botany,
Dr H.S. Gour Vishwavidyalaya,
Sagar 470 003, India
**e-mail: dcatri1@yahoo.co.in*

Chilkigarh Kanak Durga Sacred Grove, West Bengal

Sacred groves are traditionally protected forest patches maintained on socio-religious grounds. Owing to social protection, these groves support a rich collection of plants and animals, including some rare and endemic taxa[1–3]. In India, about 13,720 sacred groves have been enumerated from different states[4]. Although Andhra Pradesh, Kerala, Maharashtra and Tamil Nadu have the maximum number of these forests, in West Bengal sacred groves are abundantly found in tribal-dominated districts like Bankura, Midnapore and Purulia. The Chilkigarh Kanak Durga Sacred Grove (lat. 22°15′–22°0′N and long. 86°45′–87°0′E) is the largest of its kind. It is located 30 km northwest of Kharagpur railway station in Chilkigarh village under Jamboni Police Station of Midnapore (W) District, West Bengal, along the border areas of Jharkhand and Orissa. The grove, consisting of a mixed vegetation of deciduous, semi-deciduous and evergreen species, occupies about 60 acre land and is bounded by crop fields, households, Sal forests and river. It houses the historically famous temple of goddess Kanak Durga (Figure 1). Presently, the entire sacred complex is maintained by a temple trust. Since the last few years, the trust has introduced many socio-culturally relevant plants in the grove. Moreover, the entire forest is regenerating with flora from West Bengal, Jharkhand and Orissa. The present study highlights the biological significance of the area.

Figure 1. Kanak Durga temple inside the sacred grove.

The grove supports 388 species of angiosperms covering 295 genera under 75 families. Herbs, shrubs, trees and climbers represent 208, 45, 89 and 46 species respectively. It bears 11 species with edible fruits, 25 species having sacred value, ten species used as timber plants, 12 species having firewood value and 105 species of medicinal plants, of which a few are rapidly vanishing from the surrounding forest areas.

Owing to the high level of social protection, the sacred grove provides optimum conditions congenial for the growth of plants. Some of the lofty trees seen are *Adina cordifolia*, *Alangium salvifolium*, *Alstonia scholaris*, *Anthocephalus cadamba*, *Holoptelea integrifolia*, *Mimusops elengii* and *Strychnos nux-vomica*. Besides, some woody climbers like *Bauhinia vahlii* show monstrous growth in the grove. Additionally, due to prevalence of near-wild environs typical of protected forests, the grove supports one amphibian species, six species of reptiles, 13 species of birds and six species of mammals.

The Kanak Durga Sacred Grove, although fairly well protected, is facing mild threats due to minor micro-habitat changes for developmental works, grazing and exotic weed invasion. Therefore, there is an urgent need to preserve the grove. A small task force consisting of the present stakeholders may be entrusted to look after the grove. Steps should be taken to promote awareness among the visitors, tourists and villagers about the importance and relevance of conservation of the grove. Presently, there is no legislation regarding the conservation of sacred groves in West Bengal. Thus, a sacred grove conservation programme may be initiated taking the concerned scientists, local people, administrative bodies, NGOs, etc. into confidence.

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R. K. BHAKAT

Department of Botany and Forestry,
Vidyasagar University,
Midnapore 721 102, India
e-mail: rkbhakat@rediffmail.com