Conversion of forest land in Garo Hills

The tropical rain forests are extremely diverse in the tree species, often having more than 200 species per hectare. The mixed deciduous sal (Shorea robusta) forest and open bamboo forests are generally occurred in and around study areas. The Government owned reserve forests in Meghalaya is only 3–3.2 per cent of the total of 36.5% where due to road and other infrastructural development, the forests have been over exploited in recent time. As a result, natural forest stands are becoming less in arial extent causing formation of rolling grassland day by day. The most affected plants like bamboo taxa (Bambusa vulgaris, B. tulda, Calamus strictus, etc.), canes (Calamus guruha, C. tenuis, etc.), ferns (Blechnum, Dryopteris, Lycopodium, Lygodium, Selaginella, Adiantum spp.) and medicinal taxa (Costus speciosus, Rauwolfia serpentina, Curcuma aromatica, Dioscorea alata, Nepenthes khasiana and Emblica officinalis) are either destroyed or seriously damaged due to forest soil erosion. As of now few pockets of undisturbed natural vegetation still in existence which can play havoc for mankind in future. Therefore, preserving biodiversity should be taken into consideration at the first hand rather ruthless destruction of forest land by any means which may vanish the homeland of many biota growing in pristine environment in no time where we live in. See page 281.

Usage of technology in wildlife studies

Surendra Varma et al. (page 324) present their experimental study on using technology in wildlife studies. Although there is a history of using technology in wildlife studies, only recently has its value been highlighted, giving rise to many systematic and scientific experiments in order to validate the use of technology for wildlife conservation. It is important to carry out these validations through a multi-disciplinary team, wherein the technology and experimental design as well as the knowledge of the wildlife species and conservation needs can be taken care of.

The camera trap technology has considerable scientific, conservation and management advantages for a variety of species, and has been applied to species ranging from the largest to the smallest and even elusive wildlife species. The authors emphasize the findings of using camera trap technique for the Asian elephants, an endangered and flagship species of biodiversity conservation. The study has valuable information and the survey results indicate that the technique is usable for population studies of the species. These findings based on ‘opportunist’ samplings are comparable with the long-term studies of the species and motivates them to suggest that manpower, resource and time involved in classification of elephants for population studies could be brought down considerably through this technology. The other key gains in using this technique are that, unlike other conventional methods, there is no need for specialists to be present in the field all the time, and all the locations and the cameras can be deployed simultaneously in many elephant habitats.

Seedlings from seed fragments! An unusual evolution

If you want two seedlings from a seed, just cut the seed into two before sowing. This is the story of Garcinia gummi-gutta whose seed fragments produce seedlings naturally and independently (Geeta Joshi et al., page 372). The seed of this species (some call it ‘seed-like structure’) is a swollen hypocotyl with a vascular connection between the poles. Any fragment greater than 1 mm containing this vasculature was not only found capable of regeneration but also capable of maintaining polarity (shoot and root tend to emerge from their respective poles). The regenerative abilities extend to the point that a seed from which a seedling has already emerged retains its abilities to produce another independent seedling!

Clues to understand this remarkable evolution might lie in the frugivore–seed dispersal interaction. It is generally understood that seeds that need mammals for their dispersal gain advantage after passing through the mammalian gut. Here, in the case of G. gummi-gutta, it has been argued that seeds that are damaged while fruits are being chewed may gain a similar advantage.