# In this issue

## Conservation values of species

India's Wildlife (Protection) Act is an important conservation law, legally protecting wildlife in the country. Its utility in protecting invertebrates has been seriously impaired by a lack of rationale for listing of species in its various schedules. On **page 729** of this issue, using butterflies of the Western Ghats as a representative group of invertebrates, Krushnamegh Kunte, a butterfly biologist, demonstrates a method of computing conservation values of species based on multiple species attributes such as global distribution, habitat use and status. The article argues that such a method provides an appropriate rationale – conservation values – to judge whether a species should be listed, and under which schedule it could be listed. The article also urges for a more dynamic government response to conservation needs with periodic assessment of changing conservation status of species that may or may not be currently protected by law. Such a system would be better equipped to protect biodiversity treasure of this country, including endemic species such as this little

known butterfly, *Mycalesis igilia* (Small Long-brand Bushbrown), endemic to the evergreen and semi-evergreen forests of Coorg and Nilgiris in the Western Ghats.

## An alternative tracking dye for gel electrophoresis

Bromophenol blue (BPB) is widely used as a 'tracking dye' to find out an ion front in the electrophoretic technique. It is a well known fact that colorants from the synthetic sources can be harmful and cause allergies. R. Siva *et al.* (**page 765**) show that the pigment from *Bixa orellana* L. can be used as a tracking dye in place of BPB. The synthetic BPB has been replaced by the natural dye, i.e. the seeds of *Bixa orellana* L., commonly known as Annatto. It yields orange to red colour dye from its pericarp, which is the potential source as a tracking dye. The utility of this dye was tested using proteins that exhibit different physicochemical properties and compared with other commonly used staining methods as well as Western blot methods.

## Mammals in rainforest fragments

Much of the world's tropical rainforests, remain today as shadows of their former self-small degraded patches surrounded by human-use land. One of conservation science's focus areas in the recent past has been to find out what of the original diversity can be retained in these patches. Sridhar *et al*. (**page 748**) report the findings of one such investigation in a fragmented rainforest landscape in the Anamalai hills, southern Western Ghats, India. They compare occurrence and abundance of mammals between large protected rainforest patches within Indira Gandhi Wildlife Sanctuary and smaller patches on private land on the adjoining Valparai plateau using line transect distance sampling. They find that most mammals found in protected rainforests also persist in privately-owned fragments, often at comparable population densities. Through comparisons with past estimates, the authors also show that arboreal mammal abundances have increased substantially over the last decade in the privately-owned fragments. While these findings might at first glance seem encouraging, the authors feel that it is also a cause for worry – abnormally high population densities may negatively affect social behaviour, habitat and other species in these fragments. Habitat restoration and improving connectivity between fragments might help stabilize densities to near-normal values.

## Biosurfactants

Humans have transformed the Earth and sustained population growth will further accentuate the influence of humans on the environment. As a result, concern about environmental protection has increased recently from a global viewpoint and the chemical and pharmaceutical industries anticipate revolutionary transformations in the future. Many industries have however recognized the potential of living cells in the pre-treatment of raw materials, processing operations, product modifications, selective waste management, energy recycling and conservation. It is also becoming increasingly recognized that surfactants can have a range of uses. Biosurfactants are a structurally diverse group of amphipathic surface-active molecules synthesized by microorganisms. They attracted attention as hydrocarbon dissolution agents for the first time in the late 1960s and their applications have been greatly extended in the past five decades as an improved alternative to chemical surfactants as they are non toxic and biodegradable. The total quantity of chemical and biological surfactants produced in the US and all over the world is estimated at more than 10 billion pounds and 25 billion pounds, respectively. In spite of the fact that there are so many chemical surfactants, there is great interest in biosurfactants, as they may provide new properties that the classical chemical surfactants may lack. K. Muthusamy *et al.* (**page 736**) describe some practical approaches that have been adopted to make the biosurfactant production process economically attractive. Also they discuss the role and applications of biosurfactants focusing on medicinal and therapeutic perspectives.