

student to learn from practical sessions, dissecting in laboratories to have a better understanding of the subject, which cannot be replaced by virtual animal models. Virtual classes are not as effective as classroom studies, where students and teachers can interact.

It is important to note that most of the students pursuing a B Sc degree do not opt for science out of interest, but are those who fail to secure admission in a professional course like engineering or medicine. These students find theory classes difficult but cherish practical classes, which also enthuse them to learn. For example, several eminent scientists switched to other branches of science on the basis of interest generated while they were undergraduates. It is therefore

essential to restore the interest of students. Secondly, undergraduate learning strengthens the foundation for further studies. Training at the undergraduate level is essential. At later stages, it is difficult to develop and learn skills for handling animals or perform dissections. But few academicians argue that dissection is essential only at the postgraduate level.

Moreover, the animals used for dissection in zoology departments are generally bred in the university animal houses, a way of conservation. Not all animals dissected are endangered. There are only a few species on which dissection is performed. But those setting the guidelines opine that dissection has led to extinction of species, which is not true. To address

this problem, colleges and universities can be encouraged to start breeding centres.

There are other factors contributing to extinction. Illegal animal killing or hunting is prevalent in different parts of the country. In short, the current ban on dissections may not help solve the existing problem, but may affect the higher education system in India.

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## Some lianas in Tripura, India, demand urgent conservation efforts

Blessed with curious growth form, the lianas occupy an important position in the forest ecosystems of tropical areas. They are woody climbers, characterized by at least some secondary wood in their vasculature. After germination and rooting, they ascend to the forest canopy supported by other arboreal tree species. They have special adaptive features such as twining stems, tendrils, hooks, thorns and spines which act as specialized organs of attachment to their host plants. By attaching to large trees they form arboreal

paths for monkeys and other primates. They are also being used in cultural practices of daily livelihood of the local tribes dwelling in the forest villages.

In an ongoing study on the lianas of Tripura, we surveyed the Jampui hill ranges, Serhmun, Damcherra, Kanchanpur, Jolai and Hmuntha under North District, and Chawmanu, Saikar, Laljuri, Koramcherra and Kunkicherra under Dhalai District. About 30 liana species have been collected and enumerated so far from these areas. It was observed that the species richness and abundance of lianas is diminishing, mostly due to anthropogenic activities. Three species, viz. *Baumontia grandiflora* (Roxb.) Wall. (Apocynaceae), *Parabarium micranthum* (A.DC.) Pierre (Apocynaceae) and *Uncaria sessilifructus* Roxb. (Rubiaceae) were rarely found in the field and hardly traced in their habitat. In Tripura, the practice of jhum cultivation, rubber and supari (areca nut) plantation, and tea and pineapple cultivation are the main sources of livelihood for the rural and tribal people. As a result, the undisturbed forest areas are gradually being destroyed. Extension of villages and agricultural fields was also noticed. The impact of disturbed habitats on the population of supporting plant species like *Shorea robusta* Gaertn., *Artocarpus heterophyllus* Lamk., *Ficus religiosa* L., *Ficus* sp., *Syzygium* sp., etc. also reflects on the population of lianas, as the distribution

and abundance of lianas are directly influenced by the host trees<sup>1,2</sup>. With the destruction of one tree species, at least 2–3 lianas species are also being wiped out from the area (Figure 1). Therefore, the direct and indirect destruction of species has become an alarming threat for lianas growing in the state. Hence, the conservation of lianas and their host species is a matter of concern, and a proper conservation policy involving local people is the need of the hour.



**Figure 1.** Burnt lianas and their supporting species for jhum cultivation.

1. Balfour, D. A. and Bond, W. J., *J. Ecol.*, 1993, **11**, 93–99.
2. Chalmers, A. C. and Turner, J. C., *Proc. Linn. Soc.*, 1994, **114**, 73–90.

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