

Endangered slender loris needs conservation

The slender loris (*Loris lydekkerianus*) is one of the nocturnal, small-sized primates found in South India and Sri Lanka. It weighs about 265 g and measures about 26 cm in body length. The two subspecies found in South India are *Loris lydekkerianus lydekkerianus* in the dry forests of the Eastern Ghats and *Loris lydekkerianus malabaricus* in the wet forests of the Western Ghats¹. The coat colour of the species varies depending on the geographical location; the wet forest subspecies tends to be dark in colour, while the dry forest subspecies is lighter.

The slender loris is classified as 'Highly Endangered' by the Indian Wildlife Act and 'Vulnerable' by the IUCN². Forest fragmentation, hunting and trapping have reduced the existence of the species to pocket populations. Conservation measures are urgently required for its survival; yet, substantive and long-term plans are lacking. The major stumbling block in the conservation of this

species is the lack of information on its behaviour in its natural habitat. For decades, many studies have reported its morphology and reproductive parameters alone^{3–5}. Long-term field studies undertaken had focused on the socio-ecology of the species^{6,7}.

A population survey of the slender loris was conducted in the scrubs of *Pentanus facicularis* on the Kuzhithurai river bank (tributary of Thamirabarani River) of Kanayakumari District, Tamil Nadu, India. It was observed that a reasonable number of slender lorises were killed for medical use by the tribal people. Local people believe that oil prepared from the slender loris flesh can be used to treat tuberculosis. Apart from this, the eye extract of slender loris is also used as medicine for eye diseases, which has no scientific support. This pocket of the slender loris population needs to be conserved. The present observation lays emphasis on the long-term behavioural

study for management strategies in conservation.

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Capparis spinosa: unconventional potential food source in cold arid deserts of Ladakh

Capparis spinosa (Capparidaceae) – also called 'caper' and locally known as 'Kabra' – is an under-utilized wild plant, occasionally used by local people of Ladakh as a leafy vegetable. *Capparis* is an evergreen perennial bush that grows along the roadside, on the slopes, dry, rocky and stony soils. It can withstand extreme temperature (–40°C to +40°C) of Ladakh and is highly drought-tolerant (Figure 1). This plant has multiple uses in cuisine as salad, leafy vegetable, pickle and condiments. Besides these, it helps in soil and water conservation, desertification control and land reclamation in the fragile, cold ecosystem of Ladakh. *Capparis* has all the potential to meet the calorie requirements of the army deployed in the 'Ladakh' sector during road close period (November to April) and can play a significant role both in the national and international spice trade in the future.

A sample of 100 g of prepared capers contains energy (23 kcal), carbohydrates

(5 g), sugar (0.41 g), dietary fibre (3.2 g), fat (0.9 g), protein (2.36 g), vitamin C (4.3 g), iron (1.7 mg) and sodium (2964 mg)¹. Immature flower buds pickled in vinegar, sauce, or preserved in salt are in great demand in European countries². Previous chemical studies have reported the presence of alkaloids, lipids, flavonoids and glucosinolates, which are known as

flavour compounds, cancer-preventing agents and biopesticides³. *Capparis* flower buds contain 100.51 mg of rutin equivalent/g methanolic extract, which exhibits antioxidant activity⁴. The seed oil yield ranges from 27.3 to 37.6 g/100 g and contains high vitamin-E (134 mg/100 g) and tocopherol (4961.8–10,009.1 mg/kg), which act as natural antioxidants. Sterol,



Figure 1. **a**, *Capparis spinosa* flower and buds. **b**, Partially opened *C. spinosa* flower bud during night.

an important constituent of oil, is capable of lowering plasma cholesterol⁵.

In Ladakh, several types of medicinal preparations from *Capparis* are being used by the Amchis (local traditional doctors) for the treatment of various ailments. The root bark is analgesic, anthelmintic, deobstuent, diuretic, expectorant and vaso-constructive⁶. It is also used in the treatment of gastrointestinal infection, diarrhoea and rheumatism^{2,7}. The leaves are bruised and applied as a poultice in the treatment of gout, cough, expelling stomach worm and for diabetes^{7,8}. Four bacterial strains, viz. *Pseudomonas stutzeri* var. mendocina, *Comamonas* sp., *Agrobacterium tumefaciens* bivar. 2 and *Sphingobacterium* sp., isolated from the rhizosphere of caper were found⁸ to fix N₂.

Unfortunately, this plant has not been exploited to its full potential either by the scientists or by the local farmers of Ladakh. The plant is not cultivated and grows wild in different parts of Ladakh,

especially around 3500 m amsl. The cultivation practices of caper are being standardized by the Defence Institute of High Altitude Research, Leh, for commercial cultivation in the farmer's field. This Institute is in the process of developing various products from this plant so as to make it economically sustainable for the local farmers of Ladakh.

The unique characteristics of *Capparis* in improving the fragile ecosystem, socio-economic upliftment of the local farmers, and the food and nutritional requirements of troops deployed at the high altitudes of Ladakh are receiving due attention from the Institute.

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Ankylosaur skull and type locality

Balaram's editorial on 'Paleontology: A Minefield of Controversies' as always, makes for scintillating reading¹. The rules that govern the establishment of new taxa apply equally to biologists and palaeontologists and are set by the International Commission on Zoological Nomenclature (<http://www.iczn.org>). The requirement (Article 76 and Recommendation 73C) for naming a new species is that the details of the Type Locality should be stated. A newly established taxon should have detailed information about its locality, age and provenance. In the case of the ankylosaur skull published in *Current Science*², the descrip-

tion fails to meet this important criterion. An invalid species once in the scientific literature is really a thorn in the taxonomist's flesh, much like an appendix which can do no good but must be carried throughout life. A case in point is an Indian species of a giant fossil ape, *Gigantopithecus*, bought from a farmer in Himachal Pradesh and described over four decades ago in a prestigious journal. In spite of multiple expeditions over the years to find more specimens of the great ape, the locality has not been traced and the status of the specimen remains in limbo. The value of new taxonomic material depends on its reproducibility

and the ethics involved in its procurement. I feel therefore that the rightful place of the splendid ankylosaur skull is in the collector's home, possibly a museum but not in a scientific journal.

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