

Alarming threat of *Mimosa Diplotricha* in unique savanna grassland ecosystem of Kaziranga national park, a UNESCO world heritage site: Problems and solutions

Praveen Kumar Verma
Rain Forest Research Institute, India

In Kaziranga National Park, (a world Heritage site) there are three main types of vegetation: alluvial inundated grasslands, tropical wet evergreen forests and tropical semi-evergreen forests. The KNP of Assam is the ecologically famous for Savanna Grass Ecosystem, characterized by subtropical climate where the grass layer is almost continuous interrupted with some trees and shrubs in varying proportion. Grasslands predominate in the west, with the tall grasses like elephant grass on the higher ground and the shorter grasses growing around the small water bodies, locally known as 'beels'. The characteristics of this unique biome are combination of Wet and Dry seasons. The dependent of this unique Ecosystem are Great Indian one horned Rhino, Royal Bengal tiger, Elephant, Largest population of Swamp deer, Wild Buffalo with many more others. The main tall grass species are *Imperata cylindrica*, *Erianthus* spp., *Phragmites karka*, *Saccharum* sp (S. spontanium and other), *Pennisetum purpureum* (Elephant grass) and *Vetiveria zizanioides* while small grass combines with *Cyprus rotundus*, *Echinochloa*, *Paspalum longifolium*, *Nareng*, and *Echinochloa* species while several other also part of this system like *Eragrostis uniloides*, *Paspalum conjugatum*, *Themeda villosa*, *Oplismenus composites*, *Centotheca leppacea*, *Schoenoplectus*, and *Poa*. The several part of this unique Savanna grassland ecosystem or "matrix of grasses" is being transformed through a polymorphic weed *Mimosa diplotricha* which belongs to Fabaceae. Due to their seed ecology it establish in new area as runner, climber and shrub. Even fire to grasses leads to resprouting of seed of *Mimosa* which releases plentiful seeds that readily establish seedlings on the fertile ash bed. The species introduced in Assam by Tea growers of upper Assam as Nitrogen fixation plant. Year after year species inters in Kaziranga National Park through river Brahmaputra and some other small rivers and become naturalized in park. The species have harmful effect on herbivorous due to 'Mimosin', a poisonous amino acid. The plant is exceptionally persistent because it produces physically and physiologically durable seeds which can stay alive in the soil for several years. Due to their high potential seed output the series of experiments done to control *M. diplotricha* for further spreading. Its includes total exhausting of seed bank through uprooting of regenerated seedlings continuously and carefully systematic effort which exhausts all soil seed bank. Small plants are very easy to hand pulled out even mature one also pulled out pre- seed setting stage. In case of mature seed stage the hole plant cut and then burned on site with a very hot fire to destroy them, low fire enhance germination. The paper is discussed about conservation of unique Savona Grass ecosystem for management of Kaziranga National Park, a lost home of 'One horn Great Indian Rhino'.

pkverma_bryo@yahoo.co.in

Unique biodiversity of south east Asia: Need for conservation and preservation

Pradeep Kumar Srivastava
Central Drug Research Institute, India

Due to increasing population, international trade and poverty, underdeveloped nations and developing countries are the biggest victim of over exploitation of biodiversity. Two hundred drug-yielding plants have become extinct by the end of the last century and the loss of each plant had been worth around more than \$ 203 million. It's an alarming news as drugs obtained from the plants are more effective, well tolerated and less toxic. Plants provide us a number of drugs starting from morphine to taxol and a great future lies ahead in plants from marine sources, which can provide us especially newer antibiotics. Environmental factors like global warming caused by chlorofluorocarbons, per fluorocarbons, UV radiation besides deforestation, desert formation and industrial pollution may cause extinction of several medicinal plants even before their medicinal value is known to us. In India, northeast areas and western ghats region are already among the mega biodiversity rich areas of the world. Northeast region of India has a special kind of vegetation which has at one hand Himalayan impact and on the other hand has got the coastal impact due to the nearby Bay of Bengal. Bangkok, the capital of Thailand has lost 3200 hectares of land and Indonesia has lost 3,76000 hectares of land due to urbanization. In India also around 6 million hectares of land had been affected by urbanization by the end of the year 2000. During the Gulf war in which 8,16000 metric tones of oil was poured in the ocean, caused extensive damage to mangrove vegetation, coral reefs and even zooplanktons and phytoplanktons of that region. All this is bound to have severe adverse effect on the several plant species including medicinal plants. Thus biodiversity conservation has become a complex issue for many of the countries. This paper using a novel science SCIENTOONICS will highlights the grave scenario with special reference to Asia and Pacific region, about the various environmental factors& strategies which needs to be taken care of, in order to conserve the medicinal plants and thus to preserve our rich biodiversity.

pkscdri@gmail.com