

## ABSTRACT

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### **“Forensic DNA Markers in Some Threatened Species of Snakes: Isolation and Characterisation of Microsatellite from Rat Snake (*Ptyas mucosa*)”**

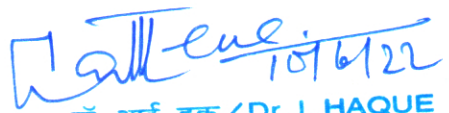
**Submitted By: Ishani Mitra**

Destroying habitats and illegal trading of body parts can endanger the animals, plants, and other organisms that live at a biodiversity area. The impact of unprecedented declination due to illegal trafficking of species can be extremely detrimental to the endurance of exposed populations in the wild and is a serious worldwide concern for wildlife management to stop the illegal smuggling, hunting and poaching of wildlife, be it for their medicinal value or ornamental body parts. Technological advancement in human forensic provides a backbone for Wildlife investigation.

Use of molecular markers for identification of protected species offers a greater premise in the field of conservation biology. The information on genetic diversity of wildlife is necessary to ascertain the genetically deteriorated populations so that better management plans can be established for their conservation. Accurate classification of these threatened species allows understanding of the species biology and identification of distinct populations that should be managed with utmost care. Molecular markers are versatile tools for identification of populations with genetic crisis by comparing genetic diversities that in turn helps to resolve taxonomic uncertainties and to establish management units within species. The genetic marker analysis also provides sensitive and useful tools for prevention of illegal hunting and poaching and for more effective implementation of the laws for protection of the endangered species. The synopsis proposes to study tools of DNA markers technology for application in molecular diversity analysis with special emphasis on wildlife conservation.

Hence, for this study we have selected the Indian Rat snake (*Ptyas mucosa*) which is one of the important species in the class of Indian snakes, it's listed in the Appendix II of CITES. According to 2009 Red list these species are lower risk and it's near to threatened. The information gather from the field of genetics/molecular biology could be of immense value for conservation efforts of this species in Indian flora and fauna. In this regard, there is always a need to use genetic data for better understanding of evolutionary relationships, the insights into the genome composition and variations in the endangered species of rat snake. In view of the above, it is considered conservation and rebuilding goals are thus urgently required. Here, besides establishing some DNA molecular tools for identification of snake oriented crime exhibits we isolated polymorphic microsatellite loci for Indian rat snake which will enable investigation of the population genetic characteristics of this species throughout its distribution.

  
**DR. (MRS.) SOMA ROY**  
Assistant Director & Scientist 'C' (Biology)  
Central Forensic Science Laboratory,  
DFSS, MHA, Government of India  
Kolkata - 700 014  
**Dr. (Mrs) Soma Roy**  
Assistant Director,  
Central Forensic Science Laboratory,  
Directorate of Forensic Science Services  
Ministry of Home Affairs,  
Government of India, Kolkata, India

  
**Dr. Ikramul Haque**  
Director,  
Central Forensic Science Laboratory,  
Directorate of Forensic Science Services  
Ministry of Home Affairs,  
Government of India, Chandigarh, India

**डॉ. आई. हक / Dr. I. HAQUE**  
निदेशक एवं वैज्ञानिक(ई) / Director & Scientist(E)  
केन्द्रीय न्यायालयिक विज्ञान प्रयोगशाला,  
Central Forensic Science Laboratory,  
न्यायालयिक विज्ञान सेवा निदेशालय,  
Directorate of Forensic Science Services,  
भारत सरकार, चण्डीगढ़-160036  
MHA, Govt. of India, Chandigarh-160036

  
**Ishani Mitra**