



Genetic Variability in Two Important Medicinal Plants of India – *Oroxylum Indicum* & *Gmelina Arborea* Using RAPD and ISSR Markers

Kumar Amandeep^{*}, Badarinarayan S, Brindavanam N.B.

Bio-Resource Development, Dabur Research and Development Center, Dabur India Ltd.,
22, Site-IV, Sahibabad, Ghaziabad-201010, U.P., India

Address for Correspondence: Kumar Amandeep; amandeep.kumar@dabur.com

ABSTRACT: Evolutionary potential of a taxon is a function of the nature and amount of genetic variability occurring in it. Conservation genetic studies suggest that genetic diversity significantly influences the long term viability and persistence of local population. The present study was undertaken to analyze genetical diversity using RAPD (Random Amplified Polymorphic DNA) and ISSR (Inter-Simple Sequence Repeats) markers in two important medicinal plants *Oroxylum indicum* (Syonak) and *Gmelina arborea* (Gambhari). Genetical variability within different accessions of the two medicinal plants was examined by Cluster analysis, Genetic distance and the percentage of polymorphic loci. To examine the genetic relationship, a dendrogram was constructed using a UPGMA (Unweighted Pair Group Method with Arithmetic mean) analysis as implemented by NTSYSpc version 2.2. Genetic distance analysis using RAPD and ISSR data revealed Low genetic diversity between accessions of *O. indicum* and between accessions of *G. arborea*. In addition, the percentage of polymorphic loci in accessions of *O. indicum* was 28.8% and in accessions of *G. arborea* was 40%. The observed distributive pattern of genetic variation of the species *O. indicum* and *G. arborea*, accessions provides important baseline data for conservation and collection strategies and suggests that the species are suffering from narrow genetic base. © 2014 iGlobal Research and Publishing Foundation. All rights reserved.

Conference Proceedings: International Conference on Life Sciences, Informatics, Food and Environment;
August 29- 30, 2014

Indo Global Journal of Pharmaceutical Sciences(ISSN 2249 1023 ; CODEN- IGJPAI; NLM ID: 101610675)
indexed and abstracted in EMBASE(Elsevier), SCIRUS(Elsevier),CABI, CAB Abstracts, Chemical Abstract
Services(CAS), American Chemical Society(ACS), Index Copernicus, EBSCO, DOAJ, Google Scholar and many
more. For further details, visit <http://iglobaljournal.com>