



Genetic diversity of Hot Pepper (*Capsicum annum*) from selected areas of Ethiopia using Inter Simple Sequence Repeats (ISSR) marker

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Abstract: Hot pepper (*Capsicum annum*) is the most important vegetable crop belonging to the Solanaceae family. Despite its economic importance, little research has been undertaken on genetic characterization of hot pepper germplasm and cultivars. Genetic diversity of 53 *C. annum* accessions was addressed using Inter Simple Sequence Repeat (ISSR) markers. The main objective of this study was to investigate the genetic diversity among the Ethiopian hot pepper germplasm collections using ISSR markers. Genomic DNA was extracted from 53 accessions of individuals using CTAB extraction method. A diluted genomic DNA was subjected to PCR amplification. Two di-nucleotide and two penta nucleotide repeat primers amplified a total of 29 clear and reproducible bands. All bands were 100% polymorphic. Both UPGMA dendrogram and neighbor joining (NJ) trees were constructed for the individual cultivars using Jaccard's similarity coefficient. The dendrogram clearly indicated two major clusters and three sub-clusters. The genetic diversity among C



Biography: Mulugeta Kebede Tesissa was born and raised in Shoa, Ethiopia. He studied biology at Addis Ababa University and after graduating worked as a biology teacher and then as a lecturer in Applied Biology at Hawassa University. His PhD thesis, on a sandwich programme between Addis Ababa and Oslo Universities, investigates the phylogeography, glacial refugia, and conservation of the unique afroalpine ecosystem, focusing on montane plant elements (*Lobelia giberroa*, *Hypericum revolutum*, and *Erica arborea*).

Publications: 1 Phylogeography and conservation genetics of a giant lobelia (*Lobelia giberroa*) in Ethiopian and Tropical East African mountains
2 Phylogeography of the heathers *Erica arborea* and *E. trimera* in the afro-alpine 'sky islands' inferred from AFLPs and plastid DNA sequences
3 Assessment of biomass energy use pattern and biogas technology domestication programme in Ethiopia
4 Floristic composition, vegetation structure and regeneration status of Wabero forest, Oromia Regional State, Southeastern Ethiopia
5 Genetic Diversity of Hot Pepper (*Capsicum annum*) from Selected Areas of Ethiopia Using Inter Simple Sequence Repeats (ISSR) Marker

[14th International Conference on Agriculture and Plant Science June 22-23, 2020](#)

Abstract Citation : Mulugeta Kebede, "[Genetic diversity of Hot Pepper \(*Capsicum annum*\) from selected areas of Ethiopia using Inter Simple Sequence Repeats \(ISSR\) marker](#)", [AGRI SUMMIT 2020, 14th International Conference on Agriculture and Plant Science June 22-23, 2020](#).