

Highly variable STR markers of *Neobalanocarpus heimii* (Dipterocarpaceae) for forensic DNA profiling.

Abstract

Neobalanocarpus heimii, locally known as chengal, is an important timber species in Peninsular Malaysia. Owing to the high demand for its valuable timber, *N. heimii* is subjected to illegal logging and this species may become endangered in the near future. The present study was designed to identify a set of highly polymorphic short tandem repeat (STR) markers for timber tracking of *N. heimii*. An extensive evaluation of 51 STRs developed for Dipterocarpaceae managed to identify 12 STR loci (Nhe004, Nhe005, Nhe011, Nhe015, Nhe018, Hbi161, Sle392, Sle605, Slu044a, Shc03, Shc04 and Shc07), which showed specific amplification, high polymorphism, single-locus mode of inheritance, absence of null alleles and absence of mononucleotide repeat motifs in *N. heimii*. These loci can be readily used to establish a linkage between the evidentiary sample and the source, thus providing a useful set of markers for individual identification in *N. heimii*.

Keyword: Chengal; Forensic science; Individual identification; Tropical tree species; Illegal logging.