



Genetic variation of *Sargassum horneri* populations detected by inter-simple sequence repeats

J.R. Ren^{1,2}, R. Yang^{1,2}, Y.Y. He^{1,2} and Q.H. Sun^{1,3}

¹School of Marine Science, Ningbo University,
Key Laboratory of Applied Marine Biotechnology, Ministry of Education,
Ningbo, China

²Marine Biotechnology Laboratory, Ningbo University, Ningbo, China

³Wenzhou Seatiger Seaweed Cultivation Co., Ltd., Wenzhou, China

Corresponding author: R. Yang
E-mail: yangrui@nbu.edu.cn

Genet. Mol. Res. 14 (1): 619-625 (2015)

Received March 13, 2014

Accepted July 11, 2014

Published January 30, 2015

DOI <http://dx.doi.org/10.4238/2015.January.30.3>

ABSTRACT. The seaweed *Sargassum horneri* is an important brown alga in the marine environment, and it is an important raw material in the alginate industry. Unfortunately, the fixed resource that was originally reported is now reduced or disappeared, and increased floating populations have been reported in recent years. We sampled a floating population and 4 fixed cultivated populations of *S. horneri* along the coast of Zhejiang, China. Inter-simple sequence repeat (ISSR) markers were applied in this research to analyze the genetic variation between floating populations and fixed cultivated populations of *S. horneri*. In total, 220 loci were amplified with 23 ISSR primers. The percentage of polymorphic loci within each population ranged from 53.64 to 95.45%. The highest diversity was observed in population 3, which was the local species that was suspension cultured in the lab and then fixed cultivated in the Nanji Islands before sampling. The lowest diversity was obtained in the floating population 4. The genetic distances among

the 5 *S. horneri* populations ranged from 0.0819 to 0.2889, and the distance tendency confirmed the genetic diversity. The results suggest that the floating population had the lowest genetic diversity and could not be joined into the cluster branch of the fixed cultivated populations.

Key words: *Sargassum horneri*; Floating populations; Inter-simple sequence repeat (ISSR); Genetic variation