A Taxonomic Update of Historic Nori Specimens using Molecular Methods

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Nori, a type of algae common in the food industry, is classified in the red algal genera *Porphyra* and *Pyropia*. Recently, these two genera underwent a taxonomic update and many species were reclassified (Sutherland 2011). In 2015, an undergraduate student at the University of New Haven identified 10 species in the Long Island Sound region, 4 of which were new records. This study aimed to determine how long these species have actually been in this region. Sixty specimens from the New York Botanical Garden herbarium from locations within New England, with an emphasis on the Long Island Sound, were sampled. Genomic DNA was extracted, then amplified using primers designed specifically for these two genera of algae for the nuclear encoded SSU rRNA and chloroplast encoded *rbcL*. Sequences of the specimens were then compared to known species to determine their identity. Almost 70% of the samples that were sequenced were successfully identified and 6 of the 8 PCR primer pairs designed were successful 80% of the time or more. Two species, *Pyropia parva* and *Pyropia tenipudalis* had not been recorded in North America prior to the study in 2015, but specimens from New York in 1882 and New Jersey in 1891 were found for each species, respectively. These species have actually been present for at least 135 years, but due to their cryptic morphology, they have been constantly misidentified as different species. Further molecular work on cryptic species in herbaria is necessary to update species distribution records.

Work Cited

Sutherland JE, Lindstrom SC, Nelson WA, Brodie J, Lynch MDJ, Hwang MS, Choi H, Miyata M, Kikuchi N, Oliveira MC and others. 2011. A new look at an ancient order: generic revision of the Bangiales (Rhodophyta). J Phycol. 47: 1131-1151.

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