



# Evaluation of the taxonomic status of water dropwort (*Oenanthe*, Apiaceae) accessions from East Asia based on nuclear rDNA internal transcribed spacer sequences

S. Fu<sup>1</sup>, L.N. Li<sup>2</sup>, Z.C. Long<sup>2</sup>, W.D. Ke<sup>3</sup>, A.H. Ye<sup>3</sup>, Y.H. Guo<sup>1</sup> and J.M. Chen<sup>2</sup>

<sup>1</sup>Laboratory of Plant Systematics and Evolutionary Biology,  
College of Life Sciences, Wuhan University, Wuhan, Hubei, China

<sup>2</sup>Key Laboratory of Aquatic Botany and Watershed Ecology,  
Wuhan Botanical Garden, Chinese Academy of Sciences, Wuhan, Hubei, China

<sup>3</sup>Wuhan Vegetable Scientific Research Institute,  
Wuhan National Field Observation and Research Station for Aquatic Vegetables,  
Wuhan, China

Corresponding authors: Y.H. Guo / J.M. Chen  
E-mail: yhguo@whu.edu.cn / jmchen@wbgcas.cn

Genet. Mol. Res. 15 (2): gmr.15027363

Received August 5, 2015

Accepted November 13, 2015

Published April 25, 2016

DOI <http://dx.doi.org/10.4238/gmr.15027363>

**ABSTRACT.** *Oenanthe* L. is a taxonomically complex genus, several species of which have long been used as vegetables and traditional medicines in East Asia. In order to clarify the taxonomic status of *Oenanthe* accessions and provide baseline data for the sustainable use of its genetic resources, we examined sequence variations in the internal transcribed spacer (ITS) region of *Oenanthe* accessions collected from a wide geographical area in China and its neighboring countries. For comparison, ITS sequences in GenBank for almost all currently reported species of *Oenanthe* were also included in our analyses. Both phylogenetic tree construction methods (Bayesian inference and maximum likelihood) revealed that the accessions tended to cluster

into two groups, which were closely related to *O. mildbraedii* and *O. sarmentosa*. However, these two species have never been recorded in China or its neighboring countries. Therefore, it seems probable that in our sampled locations, *Oenanthe* accessions have been given an incorrect name, such as *O. javanica*. Future studies should carefully check the morphological characteristics of other *Oenanthe* species and sequence their ITS regions in order to clarify the taxonomic status of the genus.

**Key words:** East Asia; nrDNA ITS; *Oenanthe*; Taxonomy; Water dropwort