

AP-01

**First Descriptions of *Petalonia zosterifolia* and  
*Scytosiphon gracilis* (Scytosiphonaceae,  
Phaeophyceae) in Korea with Special Reference to  
nrDNA ITS Sequence Comparisons**

Ga Yeon Cho, Eun Chan Yang, Sang Hee Lee and Sung Min Boo  
Department of Biology, Chungnam National University, Daejeon 305-764

The Scytosiphonaceae is an ectocarpalean brown algal family, that is a recent focus of systematics and marine biodiversity. We here describe *Petalonia zosterifolia* and *Scytosiphon gracilis* in Korea for the first time. *P. zosterifolia*, occurred on the East coast, had flat, linear and solid thalli. *S. gracilis*, found in Jeju, had cylindrical to flat and hollow thalli. However, both were so similar that it is difficult to identify by morphology alone. In order to determine if the nuclear DNA reveals the distinctness of both species and to know their phylogenetic relationships, the ITS region sequences were newly determined in 22 samples of *P. zosterifolia*, *Scytosiphon gracilis*, and other three members of both genera from Korea. We found little variations among samples of *P. zosterifolia* from different location and *S. gracilis* from different years, respectively, but extensive interspecific divergence of each species to other members in *Petalonia* and *Scytosiphon*. All trees in our analyses consistently showed a close relationship between *P. zosterifolia* and *S. gracilis*. This result, being congruent with morphology and with the published data of plastid *rbc* and partial nrDNA large subunit gene sequences, strongly suggests that *P. zosterifolia* and *S. gracilis* might have diverged from the most recent common ancestor.

**Key words:** ITS region, Morphology, *Petalonia zosterifolia*, Phaeophyceae,  
*Scytosiphon gracilis*, Scytosiphonaceae, Taxonomy