



Paleoenvironmental analysis of Late Quaternary diatom flora from the Ulleung Basin, Korea

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Late Pleistocene diatom flora from the piston cores 00GHP-01 drilled in the southwestern margin of the Ulleung Basin, East Sea, was analysed for paleoenvironmental reconstruction. Core samples yielded abundant and diversified diatom species, from which six assemblage zones are recognized. All the assemblage zones have been strongly influenced by the Tsushima Current, thus revealing history of the Tsushima Current. The six assemblages of core 00GHP-01 and their characteristics are as follows:

1) *Pseudoeunotia doliolus* Assemblage Zone (AZ), established at 502-410 cm in depth, is dominated by *P. doliolus* together with tropical Pacific species, which indicates inflow of high saline and warm water, and rising of sea-level. 2) *Paralia sulcata* AZ (410-360 cm) is characterized by predominance of *P. sulcata* and brackish-benthic species indicative of the falling of sea-level at the beginning of the glacial period. 3) *Rhizosolenia hebetata* var. *hiemalis* AZ (360-280 cm) reflects that a significant amount of fresh water from Korea and China had flowed into the East Sea. 4) *Paralia sulcata* - *Cyclotella striata* - *Thalassiothrix longissima* AZ (260-100 cm) documents a minor inflow of the Tsushima Current into the East Sea. 5) *Paralia sulcata* - *Thalassionema nitzschioides* AZ (100-40 cm) indicates low salinity in surface water. In addition, associated fresh water and extinct species may indicate an influx of terrigenous material by the erosion of shores during the stages of lowering sea-level. 6) *Pseudoeunotia doliolus* - *Thalassionema nitzschioides* AZ (28-0 cm) is interpreted to have been deposited in relatively warm-water conditions that influenced high productivity.

It could be concluded that diatom assemblages of the Ulleung Basin have been influenced by relatively strong Tsushima Current twice during the deposition of lowermost

(502-400 cm) and uppermost (28-0 cm) intervals. A relatively weak Tsushima Current was also recorded at middle interval (250-200 cm) since the latest Pleistocene.

Key words: Diatom, Ulleung Basin, East Sea, Tsushima Current, Assemblage zone