

천리포 연안습지의 형성과 발달
Holocene record of environmental changes
from the Chollipo coastal wetland

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Wetland deposits are important paleoenvironmental repositories and, hence, valuable archives of climate and ecology. Especially, coastal wetlands are widely recognised for preserving records of environmental changes such as relative sea level rise, anthropogenic activity and catastrophic events including floodings or forest fires. This study aimed to identify Holocene environmental changes of the Chollipo coastal wetland and, by inference, climate changes in Korea. A 5.39 m long core, CL-④ (36°47' 57" N, 126°09' 04" E), has been recovered from the Chollipo coastal wetland, western coast of Korea. The CL-④ core is divided into four units from unit 1 to 4 in ascending order, based on sedimentary textures and grain size distribution. Unit 1 sediments of the Holocene Climate Maximum, about 6,000 ¹⁴C yrBP, consist mainly silt or fine sand. Unit 1 shows very shallow marine diatom assemblage and low TOC/TN ratio, indicating deposition in shallow marine environments such as tidal flat or beach. Diatoms from unit 2 are exclusively non-marine. Abundant terrestrial plant fragments such as *Trapa* also indicate that the small lake or pond was developed around the coring site at around 5,000 ¹⁴C yrBP. During the deposition of unit 2, sand dune was supposed to be initiated around the Chollipo area due to the lowered sea level. This sand dune was estimated to be responsible for building up the non-marine deposits of unit 2. Unit 3, which commenced formation around 3,500 ¹⁴C yrBP, is characterized by peat accumulation, and shows intensively decomposed plant fragments. Black color is dominant in unit 3 and coincides with high TOC and TN concentrations. In unit 4, from about 2,000 ¹⁴C yrBP, sediment input increased again. Some layers yields marine diatoms, suggestive of intermittent marine influences. The multiproxy study of the CL-④ core sediments revealed Holocene environmental changes and the depositional conditions under which the Chollipo wetland formed. The results of our study show that there is likely to be considerable records of environmental changes preserved in the coastal wetlands in Korea.

주요어: coastal wetland, environmental changes, Holocene

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