

**Levels and tissue distributions of heavy metals
in some Korean seabirds**

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Concentrations of four essential elements(Fe, Mn, Zn and Cu) and three toxic metals(Cd, Pb and Hg) were measured in four selected tissues of three seabird species collected in the southern sea, Korea. Levels of four essential elements showed normal physiological levels. In general, these were highest in the liver and less variable than that of toxic metals among species. On the other hand, they were lowest in muscle. The level of Zn was highest in bone. Fe and Mn concentrations in all tissues were higher in the Swinhoe's Storm Petrel, *Oceanodroma monorhis*, than in the Black-tailed Gull, *Larus crassirostris* and Streaked Shearwater, *Calonectris leucomelas*. Zn and Cu concentrations in the kidney were higher in the Black-tailed Gull and Swinhoe's Storm Petrel than in the Streaked Shearwater.

Of the toxic metals, Pb concentrations were high in the bone, Cd high in the kidney, and Hg high in the liver. They were varied widely among species, depending on the differences in the diet among species. Especially high Cd concentrations were found in the kidney of the Swinhoe's Storm Petrel and Black-tailed Gull, exceeding $30\mu\text{g/g}$ wet weight in some. The main factor affecting kidney damage in these species is likely to be due to cadmium. Pb was not detected in any of the bird tissues except for bone tissue. The concentrations of Hg seemed to be natural rather than the results caused by environmental pollution.

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