

# 41<sup>th</sup> Special seminar on The IDEC Institute, Smaso Seminar, 22<sup>th</sup> PHIS Seminar

Date: Dec, 7th, 2023, 14:00~

Place: Hiroshima University IDEC DT-Colab

Online: <https://00m.in/RGB9O>

**Title :** Endozoochorous seed dispersal by the Korean water deer  
(*Hydropotes inermis argyropus*) in the Korean peninsula

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## Abstract

Seed dispersal is a vital ecological process that influences vegetation dynamics. Long-distance seed dispersal (over 100 m) sustains plant community connectivity, genetic diversity, and adaptation to environmental changes like habitat fragmentation and climate change. Endozoochory, through ingestion and defecation of seeds by animals, plays a crucial role in spreading seeds over long distances, particularly ungulates, due to their extensive roaming and gut retention time. Despite the importance of this process, the interplay between regional flora, diet choices, and endozoochory remains poorly understood, with varying results regarding the effects of gut passage on seed recovery and germination. This study investigates these aspects, focusing on the Korean water deer, the dominant wild ungulate in the Korean peninsula. The results show that the Korean water deer predominantly disperse small-seeded forbs and graminoids, with more numbers of seeds in lowland areas. Diet composition varies by habitat and season, with a higher proportion of woody plants in forested areas and forbs and graminoids in lowlands. Although the endozoochory process may entail lower seed recovery and germination rates, it serves as a means for potentially long-distance seed dispersal. Korean water deer can act as indirect ecological filters by dispersing seeds with similar traits across diverse flora. This study can contribute to a better understanding of long-distance seed dispersal mechanisms by ungulates.

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