

特別講義

明治大学 国際交流基金事業 「研究者交流支援制度」

Functional evolution of the taste and digestive system in birds

2024年5月14日 火 3限
13:30~15:10

明治大学 生田キャンパス 第一校舎6号館 207教室

講演詳細（使用言語は英語です）

Sensory systems vary tremendously across organisms. As different species inhabit diverse environments and niches, sensory systems rapidly evolve to detect the cues relevant for a particular species. Examining these sensory changes in a comparative context yields insight into the evolution of the nervous system and animal behavior, and into broad questions about basic evolutionary processes such as the extent of convergence, the role of epistasis and contingency, and how novel protein functions arise. For instance, in some lineages of birds that rely on flower nectar or sap as food sources, the ability to sense sugars has convergently evolved through modifications of the ancestral savory receptor (T1R1-T1R3) – however, different parts of the receptor heterodimer have been recruited in different species. Moreover, identifying sensory shifts in the context of additional changes in an organism's physiology can yield insights into the relative timing of different traits, allowing us to reconstruct the series of events by which complex integrated phenotypes arise. Here, I will discuss our work examining the evolution of sensory and physiological diversity, focusing on the functional evolution of taste receptors and digestive enzymes in birds.

講師紹介 Maude Baldwin 博士

Maude Baldwin is a director at the Max Planck Institute for Biological Intelligence in Munich, Germany, at the Seewiesen and Martinsried campuses. Her lab studies the evolution of diverse sensory and physiological adaptations across the vertebrate phylogeny, employing comparative genomics, functional studies of candidate genes, and behavioral assays in the lab and the field.



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