

Special Issue

Mechanisms and Ecology of Migration and Homing

Message from the Guest Editor

Homing is broadly defined as the ability to return to a goal location (e.g., breeding grounds, familiar sites) after displacement, which can be either active or passive. It has been shown in a taxonomically diverse range of vertebrates, including homing pigeons, migratory birds, sea turtles, amphibians, and fish that rely on a multitude of visual, olfactory, acoustic, celestial, magnetic, and self-motion cues. Surprisingly, however, systematic studies characterizing navigational strategies and underlying sensory mechanisms in non-migratory species, particularly in mammals, are scarce.

Migration in an eco-ethological sense refers to long-distance seasonal movements between two areas. In some species, roundtrip migration is accomplished only once in lifetime. In others, migration by experienced individuals has been shown to involve navigational processes, the mechanisms behind which can be studied by analyzing the conditions under which failures occur.

The study of migration and homing has a multi- and interdisciplinary character, with significant heuristic potential to enhance our knowledge and open up new horizons in understanding the diversity of life, as well as ourselves.

Guest Editor

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