





## MASAYO SOMA, PhD EVOLUTION OF MULTIMODAL COURTSHIP COMMUNICATION IN ESTRILDID FINCHES

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According to classical sexual selection theory, ornamental traits have evolved in males through female mate choice. However, mutual mate choice can cause the evolution of elaborate sexual traits in both sexes. Especially in birds, males and females may share vocal and/or visual displays for within- and among-pair communication. Duet singing in songbirds is related to mutual mate guarding, joint resource defence, and signaling commitment. Coordinated visual displays (dance displays) of mating pairs are thought to perform similar functions, but are less well studied. In order to understand the diversity of sexual communication from evolutionary and ethological perspectives, we have been looking into courtship dance displays of Estrildid finches (family: *Estrildidae*). In this taxonomic group, males and females often share an identical courtship dance, which is expressed as a combination of several simple actions, such as repeated hopping and bill-wiping. We recently found that the dance displays of some Estrildid species are more complex than they look. Specifically, our observation using high-speed video cameras revealed that cordon-bleus (Uraeginthus spp.) perform tap-dance like displays. In a single bobbing motion, they hop with their heads pointed upwards and stamp their feet several times so rapidly that it is invisible to the naked eye. We also found that both male and female cordon-bleus perform such acrobatic dances more frequently in the presence of others, suggesting that the dance functions for signaling commitment towards their partners, and mate-guarding. Considering that they are socially monogamous, and maintain long term pair bonds, their intersexual communication in the form of ritualized dance would play vital role in mate choice, pair-formation and pair-bonding. These findings will be discussed in relation to what has been found in our recent phylogenetic comparative studies of Estrildid finches.

**Masayo Soma** is an associate professor at Department of Biology, Faculty of Science, Hokkaido University (Sapporo, Japan), and also a member of Science Council of Japan. Her main research question concerns why animals evolved to have complex communication systems. After she received a PhD on a behavioral ecological study of the songs of the Bengalese finch from the University of Tokyo in 2007, she has broadened her research into interspecific comparisons, and also tries to understand birds' dancing display form the perspective of human music. She is also interested in non-vocal sound, olfactory, and vibratory communications in birds.