CBGP
Centre de Biologie pour la Gestion des Populations

Mardi 3 septembre 2019, 11:00
Salle de réunion

ANIMAL CHORUSES EMERGE FROM RECEIVER PSYCHOLOGY

par
Michael D. Greenfield
Univ. Kansas, Lawrence, USA

In a chorus, singers align their verses with one another in some non-random way. When singing insects form a chorus, the alignment may only be a crude grouping of song during a given time of the day or night; e.g. a midday or evening chorus. But in the case of insect species that repeat discrete song units – calls, chirps, buzzes, etc. – in rhythmic fashion, the chorus may be much more refined.

Insect synchronies are about long-range advertisement songs that males broadcast to females. What makes male insects synchronize when females are within earshot? Three explanations may account for this cooperation among males: synchrony may ❶ preserve the clarity of rhythm or discrete song units within a local group that nearby females need to hear before moving toward any one male, ❷ pose a cognitive problem for predators and parasites who listen to the advertisement songs of their prey and hosts before attacking and ❸ would maximize the peak sound intensity that a local group of males broadcast, affording a group that synchronizes a longer radius of attraction than a comparable group that does not bother to.

Because synchronies may arise from cooperation or competition, the study of insect choruses can offer some insight to the roles of these opposing forces in shaping behavior. A small difference in a very basic trait can trigger a cascade of evolutionary events, ultimately influencing the emergence of rather dissimilar behavior characterizing social interactions at the level of animal groups.

KU
THE UNIVERSITY OF KANSAS