CBGP
Centre de Biologie pour la Gestion des Populations

Mardi 18 octobre 2022, 11:00
Salle de réunion + visio

ECOLOGICAL DISCONTINUITY PACKAGES GENES INTO DISCRETE UNITS OF DIVERSITY

par
Romain Villoutreix
Postdoc CEFE, Montpellier

A major unresolved issue in biology is why phenotypic and genetic variation is sometimes continuous, yet other times packaged into discrete units of diversity, such as morphs, ecotypes, and species. In theory, ecological discontinuities can impose strong disruptive selection that promotes the evolution of discrete forms, but direct tests of this hypothesis are lacking.

Here we show that Timema stick insects exhibit genetically-determined color morphs that range from weakly to strongly discontinuous. Color data from nature and a manipulative field experiment demonstrate that greater morph differentiation is associated with shifts from host plants favoring more continuous color variation to those favoring very different colors (i.e., green leaves versus brown stems).

Our results show how ecological factors promote discrete variation, with variable effects on reproductive isolation and thus the potential for speciation.

Centre d'Ecologie Fonctionnelle & Evolutive

Contact : serena.dool@gmail.com