
Crossing boundaries: flux of aquatic winged insects toward agricultural lands and its potential contribution to ecosystem services

Julien Raitif^{*†1,2}, Jean Marc Roussel², Christophe Piscard³, and Manuel Plantegenest⁴

¹Institut de Génétique, Environnement et Protection des Plantes (IGEPP) – Institut National de la Recherche Agronomique : UMR1349 – Domaine de la Motte au Vicomte BP 3532735653 Le Rheu, France

²Écologie et santé des écosystèmes (ESE) – Institut National de la Recherche Agronomique : UMR985 – AGROCAMPUS OUEST 65 rue de Saint-Brieuc 35042 Rennes cedex, France

³Ecosystèmes, biodiversité, évolution [Rennes] (ECOBIO) – Centre National de la Recherche Scientifique : UMR6553 – Bâtiment 14 - Université de Rennes 1 - Campus de Beaulieu - CS 74205 - 35042 Rennes Cedex - France, France

⁴Institut de Génétique, Environnement et Protection des Plantes (IGEPP) – Agrocampus Ouest – AGROCAMPUS OUEST, UMR1349 IGEPP, F-35042 Rennes, France, France

Abstract

Linkage between aquatic and terrestrial habitats aroused scientific interest on ecological subsidies, *i.e.* how the transfer of matter and energy between adjacent ecosystems can modify their own functioning. Freshwater ecosystems are widespread in agricultural landscapes, however the possible implication of aquatic subsidies is rarely considered. To fill this knowledge gap, we carried out a field work to study winged aquatic insects emergence and dispersal from twelve second-to-third order lowland streams in an intensive agricultural landscape in the northwest of France for one year. The contribution of aquatic insect emergence to ecosystem services in agricultural landscapes is discussed.

*Speaker

†Corresponding author: julien.raitif@rennes.inra.fr