

In the presented work we study an application of evolutionary game theory in behavioral ecology, specifically the habitat selection game, which describes the distribution of population into a finite number of patches. We also show the existence, uniqueness and evolutionary stability of the ideal free distribution (IFD) observed in natural environments. To describe the process of the distribution we specify the dynamics of the habitat selection game using dispersion dynamics, and we show the stability of the IFD for different types of dispersion dynamics using the classical theory of ordinary differential equations and the theory of ordinary differential equations with discontinuous righthand sides.