

TERRITORIALITY AND FLOCK FORMATION AS POSSIBLE MECHANISMS FOR MAINTAINING SPECIES STABILITY: COMMENTARY ON V. G. GORSHKOV, A. M. MAKARIEVA (2020) “KEY ECOLOGICAL PARAMETERS OF IMMOBILE AND LOCOMOTIVE LIFE”

V. M. Gavrilov

*Lomonosov Moscow State University, 1 Leninskiye Gory, Moscow, 119991, Russia
E-mail: vmgavrilov@mail.ru*

Abstract. In the work of Gorshkov and Makarieva [1] an idea was put forward that the formation of a continuous cover by immobile organisms (the so-called “lack of space abundance”) allows the species to effectively expel non-competitive individuals from the population thus maintaining genetic stability. An analogue of such “lack of space abundance” (continuous cover) is the territoriality in birds, when all areas suitable for reproduction are occupied and defended against intrusions of competitors. In the regime of territoriality, competition during the period of reproduction occurs only between close neighbors that are normally not numerous. This appears to be insufficient for the maintenance of species stability in birds, as during migration and overwintering birds assemble into big flocks where population densities and the intensity of competitive interaction become higher. Immobile organisms, on the other hand, are able to compete with their immediate neighbors only. This leads to the conclusion that, for such local competitive interaction to be effective, the frequency of appearance of non-competitive individuals in immobile organisms should be significantly lower than in locomotive organisms (birds).

Keywords: ecological stability, competition, population structure, avian energetics, basal metabolism.