

E09: Origin of flyways and evolution of birds

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According to modern notions flyways are parts of the migration area with higher concentration of birds and exist within the wide front of migration. It is possible to select flyways of several levels from continental to local. They form the complex structure of migration area. In our opinion, the origin of flyways is connected with energetics of migration. Their network is fixed in the course of evolution. Flyway is the part of migration area, where migration can pass with minimal energy expenditure. It is the optimal way under present conditions. Deflection of population from these optimal paths leads to increasing energy expenditure, and natural selection will render a stabilising influence on the ordered structure of migration area. Changing the conditions of environment brings change of the system of flyways. The following factors influence flyway location: (1) Possibility of passage of a given species in given place (migration of storks and raptors around seas, etc.). (2) Optimising migration conditions in given place (aerodynamic, defensive and other factors). (3) Minimising distance. (4) Optimising foraging conditions. Generally, forming of flyways is a reaction of birds to unfavourable environmental conditions. They will be more expressed where environmental influences are strongest.

Key words: migration, orientation