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ECOLOGICAL GROUP OF WATER BIRDS

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Abstract: The article provides information on types of waterfowl, seasonal changes of birds, and ecological groups .

Key words: Diving, Birds in the air, Water birds on land, wintering birds .

Aquatic birds are characterized by dense plumage, strong downward development, well-developed coccyx glands for feather lubrication, and floating membranes on the legs. This ecological group of our birds includes guillemots, guillemots, hummingbirds, birds, grebes, copepods, anseriforms. The nature and degree of contact with the aquatic environment, as well as morphological adaptation, are very diverse in these birds. The following main subgroups are distinguished in this group.

Divers are the most adapted to living in water. This includes auks, loons, toadstools. They spend most of their lives in reservoirs, they only come in contact with land during the nesting period. Food is taken only in the water, in its thickness and at the bottom. They dive and swim beautifully. On land, they move with difficulty, fly poorly. Nests are located near water.

Aerial birds - spend most of their lives in the air, searching for food in water (fish and other aquatic animals). This type includes flowers, terns, tube noses. Noticing the predator, they dropped a little into the water, rushed after it, and again climbed on the wing. They swim well, their legs are equipped with membranes, but they do not dive (with rare exceptions). The beak is strong, elongated, slightly bent at the end of most part. They roam freely on land.

Terrestrial waterfowl are the least associated with water. These include ducks, swans, geese. They often nest away from bodies of water. However, the relationship with water is not the same. Diving ducks, compared to others, are associated with water, feeding only in ponds, diving well and getting food from very deep. They fly relatively well, but with difficulty. Mallards or river ducks, which usually feed on land, are less connected to water and prefer shallow areas with grass and shrubs in water bodies. They dive poorly, fly well. Geese are the least connected to water. Although they nest near bodies of water, they rarely enter the water and feed almost exclusively on land. In geese, the filtering apparatus is poorly developed, and the serrated teeth along the edges of the beak are adapted for plucking plants.

Winter completely changes the feeding conditions of birds in temperate and high latitudes. In general, the range of all types of nutrients is reduced. Green shoots, grasses, berries and fruits of herbaceous plants and low-growing shrubs, almost all seeds, almost all invertebrates, amphibians, reptiles and fish completely disappear for birds in frozen water bodies . Hunting for rodents and other animals becomes very difficult, because animals hide in holes and many hibernate.

In the bark of trees, some seeds of tall herbaceous plants, insects and their larvae, some small animals and waste in settlements, garbage dumps and available on roads. In general, during this period, plant food prevails over animal food, but their production becomes more difficult.

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Birds must also change their diet, change from animal food to plant food, and also to household waste, and change the way they obtain food, thus changing the whole pace of their life. Thus, birds accustomed to gathering food on the ground must move to trees, and those that collect insects from leaves must now pass insects under the bark of trees for wintering.

Birds that can change their "habits" in this way usually do not make long flights, which reinforces their sedentary behavior. Such birds can live in the same latitudes all year round.

Another way to adapt to changing nutritional conditions is to store food. Many birds are engaged in food storage. Both plant and animal feed, including small animal and bird carcasses, are in stock. Nutcrackers from crows and jays have made great strides in food storage. Nutcrackers produce large quantities of pine nuts under the roots and moss of trees. Stocks of myrtle and berries made by the jay in autumn, hidden in groves and under the roots of trees, reach 4 kg. Crows and magpies can also hide leaves or small objects under snow. It should be noted that usually the bird itself eats only part of its reserves and uses reserves created by other species of birds from this population.

increases the heat transfer of the bird's body both indirectly and through changes in feeding conditions . More precisely, only one of the several indicators that determine the temperature is the cooling capacity of the environment, the most important indicators are humidity and air speed.

Heat production increases and heat insulation improves to compensate for heat loss of birds. The decrease in temperature is especially strong for small birds, in which heat exchange increases several times with seasonal changes in temperature. And since heat production requires energy, small birds are forced to eat all day. In winter, daylight hours are short, which is another problem for wintering in cold latitudes at low latitudes .

In wintering birds, changes in body and behavior occur due to cold.

Changes aimed at improving the thermal insulation of the body consist of an increase in the density and softness of the hair (the number and length of the hair increases, the down part of the hair develops, and the mass of the hair increases by one and a half or more times until winter) and subcutaneous fat in the form of an increase in their own energy reserves., the mass increases by 1-5 grams. Fat reserves increase more in birds in winter away from human habitations, and in winter near them, birds have less fat reserves, probably because of favorable feeding and protection conditions.

Depending on the behavior of birds, adaptation to winter conditions is characterized by the use of various types of shelter, as well as gathering birds in groups for the night. The lowest temperature is observed at night, and since the night is a period of rest for most birds, the metabolic rate decreases and heat generation is less efficient, so it is necessary to reduce heat transfer to birds during this period. Birds: leading a terrestrial lifestyle, curling up in the snow, some digging holes in the snow, some using cavities in tree trunks. Such methods are suitable both for sleeping and for protection from the weather. Birds wintering in residential areas gather under roofs, in various spaces of buildings, etc. Not individually, but in groups, such protection will be more effective. Some birds that roost in trees at night also organize shelters (crows, jackdaws, sometimes robins). They gather in large groups, perch tightly on a tree, a dozen or more birds per branch, fluff their feathers and spend the night there. With such a dense planting, the air temperature between sitting birds increases and heat transfer decreases.

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In the Northern Hemisphere, there is a decrease in daylight hours during autumn and winter, which is especially observed in temperate and high latitudes, where daylight hours are reduced by half or even more. This affects the daily activities of birds. So, in the Far North, on a polar summer day, birds are active all day, constantly alternating between resting and foraging. In summer, in the temperate zone, birds are most active in the morning and evening; they rest at night and in the middle of the day. Thus, if in the spring-summer period the birds have enough time to eat and rest, in the autumn-winter period the birds will have to rest all day and search for food.

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