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ON THE DEVELOPMENT OF THE INTERIOR CHARACTERS IN THE TERRESTRIAL VERTEBRATES

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The study of the relative growth of a number of the most important internal organs in terrestrial vertebrates (as heart, liver, intestine, pancreas, renals) and their haemathological indices has been carried out on the material obtained from the Southern Ural and Trans-Ural. This study enabled the statement of the following regularities in the development of the interior peculiarities of the above animals.

The rate and the direction of the relative growth of the interior indices modify in the process of the animal development. These modifications are correlated with the changes in the mode and conditions of life of the growing animal. On the strength of this, along with the general regularities of the interior characters' development, which are characteristic to the certain systematical groups, it is possible to state the specific peculiarities of a single species.

In the majority of mammals the young animal growth is accompanied by the decrease of the relative size of all the studied organs, which is connected with the increasing requirements of young animals to food and with the more intensive metabolism. This rule doesn't hold only for such groups of mammals, in which the adults are distinguished by the most intensive metabolism (Soricidae, Chiroptera). In Soricidae — contrary to other mammals — the continuous increase of the relative size of studied organs is being observed till the transition of the youngs to an independent mode of life. The mammals brain growth is terminated previous to the body growth. The examination of single species enables to find out their developmental specific, connected with their biological peculiarities.

All birds are being characterized by the vigorous development of organs, connected with the digestion (intestine, pancreas, liver), already by the eclosion. In the precocious birds in the age of some days the systems, connected with maintenance of the high level of metabolism (heart, circulatory and excretory systems) attain their maximum development, whereas in the nestling birds only the adult specimens possess the maximum relative heart weight: the conspicuous increase of the rate of heart growth and that of the red blood corpuscles are connected with the maturity inception and the activity increase.

In reptiles the relative heart weight is decreasing during the whole life of the animal, whereas the quantity of the red blood corpuscles attains its maximum by the second year and doesn't significantly change for the future. The rate of the relative pancreas growth doesn't significantly change either. Contrary to the mammals, in reptiles (as well as in amphibians) the straight correlation of the relative intestine length with the total animal size is being observed.

In the majority of the amphibians during the first year of life the delay of the increase of the mass of studied organs in comparison to the increase of the total weight of the animal is being observed. In *Bufo bufo* only, corresponding to its more active mode of life, the increase of the relative heart- and liver-weight, as well as the increase of the quantity of the red blood corpuscles are being observed as the animal is growing. The amphibian brain grows during their whole life, but its growth falls behind the increase of the body weight. Therefore, the relative weight of the amphibian brain is always in invert proportion to the weight of the specimen.

The presented work, concerned with the study of the interior characters of the terrestrial vertebrates, has been carried out on the base of the examination of circa 6000 specimens, belonging to 127 species (amphibians — 5 species, reptiles — 5 species, birds — 96 species, mammals — 21 species).