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ABILITY OF ELECTRIC EELS TO GENERATE ELECTRICITY AND WHAT PRACTICAL RELEVANCE IT HAS TODAY

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Electric eels are one of the most fascinating and shocking organisms at the same time. Even the scientists in the past were not sure what this organism is really capable of. In our work we will find out whether electric eels really generate electricity and what they are capable of.

Fish of the species electric eel (*Electrophorus electricus*) is the only representative of the genus of electric eels (*Electrophorus*). Eel generates discharges of various forces with internal special organs occupying the 0.8 part of the eel's body. Cells filling such organs are called electrocytes, serially connected in columns, which in turn are connected in parallel. Electricity in the eel body occurs using the enzyme of the sodium-potassium ATPase system, with the help of which an ion pump is formed and it can pump sodium ions out of the cell and pump potassium ions in their place. Thus, when the fish's brain supplies an electrical impulse to the entire nervous system, a positive charge forms inside the cell, a negative charge is formed outside, a potential difference and an electric field occurs that can kill small predators and stun large ones.

Our work is devoted to the study of the generation mechanism of forming electricity in living organisms. In the course of the work there is a historical reference of scientific research, methodological material and brief information about the current work of engineers.

The search for alternative sources of electricity is especially relevant in our time. In different countries of the world, researches are carried out on animals which can produce electricity in their own bodies. The study of such biophysical phenomena leads to the creation of alternative models, the introduction of which is possible in the daily life of a person. In our opinion, the actualization of this problem will provoke increased attention of scientists and potentially to further researches.

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