

ALCOHOL IN THE WORLD OF ANIMALS

Summary

This article presents ample evidence that the taste for alcohol is not only a human vice, but also the animals of all species. Animals living in the wild environmental eat different types of fruit, nectar, seaweed and other vegetable products, which due to the content of readily fermentable sugars in the mature stage also contain a certain amount of alcohol. The smell of alcohol emanating from the ripe fruit in the dense tropical forest enabled the animals to find food, thus increasing their chance of survival. Diet of primate ancestors of *Homo sapiens* in a large part consisted of fruit, often too ripe, in which sugar has been converted to alcohol. As a result of evolutionary processes, this tendency could prevail in our ancestors and had been passed to the modern generations. Experimentally demonstrated alcohol consumption and its consequences in animals are similar to those in humans. The rate of alcohol metabolism in the body is associated with the duration of consumption. Research results indicate that the

risk of alcoholic addiction in the 50–60% depends on genetic factors. On the chromosomes of mice and rats several genes associated with the syndrome “abstinence from alcohol” were identified. Negative effects of alcohol were also demonstrated on the development of muscle, associated with decreased levels of anabolic hormone (IGF1). Contrary to popular belief, alcohol does not affect the relaxation of stress, instead increases the response to stressors. In brains of people who drink alcohol were observed increases in the content of the protein called tissue plasminogen activator, which cooperates with receptors in the brain (NMDA). The number of these receptors is growing rapidly, but their activity is blocked by alcohol. After the cessation of alcohol use these receptors become activated, which leads to development of life-threatening condition known as “delirium tremens”. It is believed that alcohol is the only addictive substance, which after stopping of its consumption may cause deaths.