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Сборник содержит материалы научных работ Международной молодежной научно-практической конференции на иностранных языках «Люди. Наука. Инновации в новом тысячелетии» (Москва, 23–25 ноября 2015 г.). В работе конференции, организованной при поддержке РФФИ, принимали участие ученые, докторанты, аспиранты, магистранты и студенты российских и зарубежных вузов, сотрудники научно-исследовательских учреждений и производственных предприятий.

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ENVIRONMENTAL ASSESSMENT OF RAIFSKY PART OF VOLGA-KAMA NATURAL BIOSPHERIC RESERVE IN THE AREA OF INFLUENCE FEDERAL HIGHWAY A295

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Abstract: The assessment of changes of stability of development of a birch povisly (is carried out by Betula pendula roth.) in size of the fluctuating asymmetry in the territory of the Raifa part of of Volga-Kama natural biosphere reserve. It is revealed that the stream of motor transport has essential impact on quality of environment of the reserve.

Key Words: birch, the reserve, the fluctuating asymmetry, bioindication.

The aim of this study is to evaluate the environmental area Raifa part of Volga-Kama natural biosphere reserve in the zone of influence of the federal highway A-295.

Under the fluctuating asymmetry (FA) understand the change of bilateral independent characteristics of the organism. It was found that the phenomenon of fluctuating asymmetry due to the violation of the stability of the body as a result of external factors, first of all - man-made. Along with the traditional methods of control of chemical pollution by examining samples of water, air, soil, there are methods of biological indication

based on the change in the morphological structure of plants under the influence of man-made pollutants. The most frequently used assessment of the stability of living organisms on the level of asymmetry of morphological structures, in particular the severity of fluctuating asymmetry [1, 2].

Destabilization of development for metric signs there already at a relatively low level of environmental violations that have not yet associated with irreversible changes in populations. This allows you to use the FA as an indicator of even minor deviations from the background environment settings status is not yet leading to a significant reduction in the viability of individuals [2].

The most dangerous and intense source of air pollution of cities is road transport, emissions which found about 300 hazardous substances, among which are especially dangerous carbon monoxide, hydrocarbons (carcinogenic benzopyrene and benzanthracene, formaldehyde, benzene), nitrogen oxides, soot, lead, mercury, sulfur dioxide, aldehydes [3]. On the territory of the Republic of Tatarstan (RT) Total gross pollutant emissions from road transport businesses and individuals in 2013 amounted to 335.3 ths. Tons, or 52.9% of total emissions in the Republic of Tatarstan.

Volga-Kama natural biospheric reserve is located in the east of the Russian plain, in the north of the Middle Volga, in Tatarstan. In biogeographic respect of the territory of the reserve is located in the Eurasian area of temperate forests. Raifa part - is in the zone of subtaiga forests and Saralinsky - the zone of deciduous forests. Since both sites are located directly on ancient terraces of the river. Volga, his landscapes are intrazonal type. Raifa part of the reserve is located in Zelenodolsk district of Tatarsttan, 30 kilometers west of the city of Kazan.