

**DEPENDENCE OF LEAF FLUCTUATING ASYMMETRY  
OF *BETULA PENDULA* (BETULACEAE) ON MOTOR TRAFFIC POLLUTION  
INTENSITY**

© *E. A. Erofeeva*<sup>1</sup>

Lobachevskiy State University of Nizhniy Novgorod, Russia

<sup>1</sup>E-mail: ele77785674@yandex.ru

On the basis of 5 year research the dependence of integral fluctuating asymmetry index (FA) of *Betula pendula* Roth leaf and environmental quality score (evaluating by FA with using Zakharov et al. scale) on motor traffic intensity was found in urban environments in Nizhniy Novgorod, Russia.

In long term observations it was revealed that an increase in motor traffic intensity from 0 to ~4000 vehicles per hour induced a linear increase in FA of *B. pendula* leaf up to 1.5 times in comparison with the control. The environmental quality score changed from 1 (a relative norm) to 5 (a critical state). It was showed that weather fluctuations influenced significantly the leaf FA of trees in the control plot and in the area of moderate traffic pollution. At a high level of traffic load (traffic more then 2000 vehicles per hour) anthropogenic factors was a main contributor to the formation of the FA.

**Key words:** *Betula pendula*, leaf, fluctuating asymmetry, motor transport, environmental pollution.