



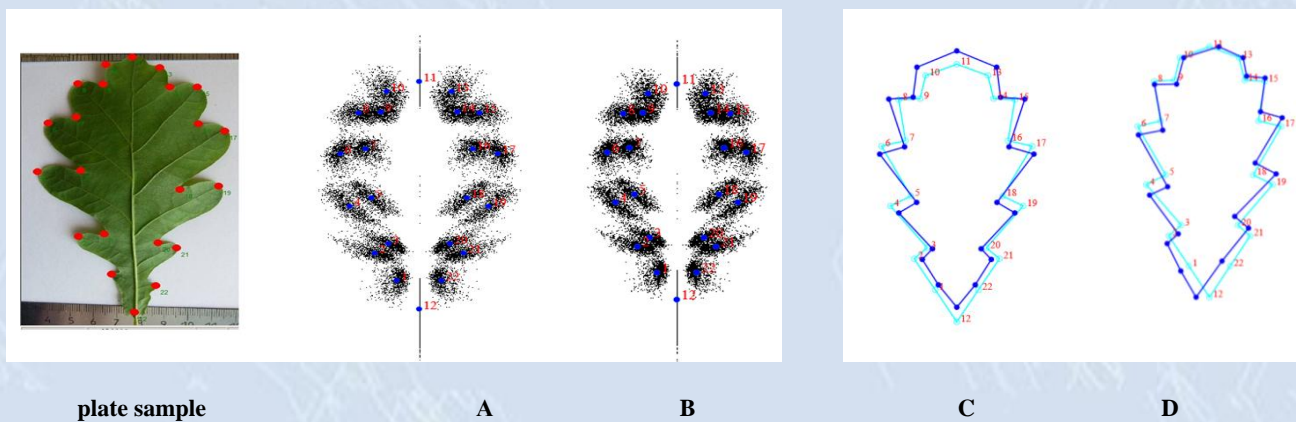
# Development of new method for testing developmental stability natural population of *Quercus robur*

Владимирский  
ГОСУДАРСТВЕННЫЙ  
УНИВЕРСИТЕТ  
имени Александра Григорьевича  
и Николая Григорьевича Столетовых



*Chair biological and geographical education, Baranov S.G., docent; Lalakin S.V., Kochetova V.V., students*

Actuality of problem is in evaluation ecosystem status and early diagnostics of stress impact on plant population. The aim is a probation method bilaterally asymmetry testing in leaf plates. The value of deviation from the perfect asymmetry report on the level of stress load in the population and in the ecosystem



**Pros:** accuracy, high speed 3 type asymmetry testing, variety along axis (A), matrix symmetry (C) and variety in bilateral asymmetry (B), matrix asymmetry (D)

**Contras of traditional methods:** low accuracy, high routine time, blurring in testing kinds of asymmetry

**Research goal:** testing of value Fluctuating asymmetry in oak populations in Vladimir region.

**Scientific and practical novelty:** leaf plate is an organ of plant having reaction on stress. The variety of leaf shape reflects genotype expression/environment impact. The genotype variety is evolution effect, which is testing genotype variety play role in forecast hysterical development of species. The phenotype variety shows the character of environmental impact that commonly use in ecosystem monitoring.

**Scheme of developmental stability monitoring is:**

Leaf collection – fluctuating asymmetry testing – testing of level developmental instability

**Requirements imposed:** PC, soft: Windows, Excel, MorphoJ, TPS

**Target audience:** research group of environmental organizations, developers of GIS