

Запорізький державний університет  
Дніпропетровський державний університет  
Міжнародний інститут державного та муніципального управління

## РАЦІОНАЛЬНЕ ПРИРОДОКОРИСТУВАННЯ: СИСТЕМНИЙ АНАЛІЗ У ЕКОЛОГІЇ

Тези доповідей  
другої міжнародної науково-практичної  
конференції  
(Севастополь, 9-13 вересня 1996 р.)

Конференція проводиться за участю:

- Московського державного університету
- Міжнародного товариства екоотоксикології та безпеки навколишнього середовища (SECOTOX)
- Східно-Європейського товариства математичної екології (ECESME)
- Міжнародної асоціації "Жінки у науці та освіті"

1996

УДК 574+502

Видання вміщує матеріали міжнародної конференції, присвяченої математичним методам раціонального природокористування та екологічній безпеці.

Для фахівців у галузі охорони навколишнього середовища, а також для студентів медичних, біологічних, агрономічних та технічних факультетів

The book contains the materials of the Second Practical Conference on Sustainable Development. The mathematical modelling approach to sustainable development and ecological safety is discussed.

The book may be useful for specialities in the field of environmental protection and for students of medical, biological, agricultural and engineering specialities.

**Редакційна колегія: С.В.Чернишенко (відп.ред.), В.М.Гришко**

## **РАЦІОНАЛЬНЕ ПРИРОДОКОРИСТУВАННЯ: СИСТЕМНИЙ АНАЛІЗ У ЕКОЛОГІЇ**

**Тези доповідей  
другої міжнародної науково-практичної конференції**

Sevastopol State Technical University  
Zaporozhye State University  
Dnipropetrovsk State University  
International Institute of State and Municipal Administration

# **SUSTAINABLE DEVELOPMENT: SYSTEM ANALYSIS IN ECOLOGY**

**2nd Practical Conference**

**(Sevastopol, Ukraine, September 9-12, 1996)**

**Conference Abstracts**

In collaboration with:

- Moscow State University
- Eastern and Central European Society of Mathematical Ecology (ECESME)
- International Society of Ecotoxicology and Environmental Safety (SECOTOX)
- International Society "Women in Science and Education"

1996

**МІНІСТЕРСТВО ОСВІТИ УКРАЇНИ**  
**Севастопольський державний технічний університет**

## MALAKOFAUNA AND ANTHROPIC CHANGES OF THE ENVIRONMENT

I.M.Khokhutkin, D.V.Zeifert\*

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Abundant and inhabiting large areas continental mollusc species are a good object for the research of pollution effects and monitoring. We have analyzed data from the literature and our own data. The data were received supporting the idea of using land-snails as indicators of contaminations with heavy metals and pesticides. We revealed two strategies in land-snails feeding: the quantity of the consumed food depends on the environmental temperature or not. When bioenergy balances in certain species under various living conditions are known, it is possible to estimate their ability to spread.

The second aspect of the problem is that human activities change historically-formed areas, thus affecting populations of land-snails directly (killing) or indirectly (biotope disturbance). Based on a 90-year research of land-snails in Udmurtia (Kralikovskii, 1889, 1891, 1903 and our data) we have marked that malakofauna of this region is unchanged. This can be explained by the fact that the increasing human-made pressure reduces the whole area of all the species but does not change the habitats of most species.

Effects of pollutants cause populations response reactions which are specific for various levels of life organization. Alongside the homeostatic regulation of interrelations between biological systems and abiotic biogeocoenotic factors undergoes changes. These changes are based on the preadaptive peculiarities of organisms. New situations with evolutionary consequences may result from interconnection between all levels of organization and the integral homeostatic response to human-made pressure.

## **MALAKOFAUNA AND ANTHROPIC CHANGES OF THE ENVIRONMENT**

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