

ISSN 2224-4980



**International
Journal of Ecosystems and Ecology Science
(IJEES)**

<https://doi.org/10.31407/ijeess>



Essays on Ecosystems and Environmental Research

Volume 11/4, 2021

August - December 2021

<http://ijeess.net/>

**International
Journal of Ecosystems and Ecology Science
(IJEES)**

<https://doi.org/10.31407/ijeess>





Editor In Chief

Hysen Mankolli, Professor, Ecologist, Plainfield, Illinois, USA; Health and Environment Association, Tirana Albania; Earth System Science Interdisciplinary Center (ESSIC), University of Maryland College Park, USA, Consultant Scientist;

Deputy-Editor-in-Chief

Sukru Dursun, Professor, Konya Technical University, Environmental Engineering Dep., Konya-Turkey;
Massimo Zuchetti, Professor, MIT, Massachusetts Institute of Technology, Cambridge MA, USA;
Cezar Kongoli, Professor, University of Maryland College Park, Earth System Science Interdisciplinary Center (ESSIC), USA;
Selim Dogan, Professor, Konya Technical University, Environmental Engineering Dep., Konya-Turkey;

International Scientific Editorial Board

Sukru Dursun, Professor, Konya Technical University, Environmental Engineering Dep., Konya, Turkey;
Massimo Zuchetti, Professor, MIT, Massachusetts Institute of Technology, Cambridge MA, USA;
Veselin Alexandrov, Professor, National Institute of Meteorology and Hydrology, Bulgaria;
Nicola Senesi, Professor, University of Bari, Bari, Italy;
Wander Michelle M, Professor, University of Illinois at Urbana-Champaign, Urbana, Urbana, IL 61801, USA;
Vladimir Pesic, Professor, University of Montenegro, Department of Biology, Podgorica Montenegro;
Ibraim Dincer, Professor, University of Ontario, Faculty of Engineering and Applied Science, Ontario, Canada;
Hysen Mankolli, Professor, Ecologist, Plainfield, Illinois, USA;
Lyudmyla Symochko, Prof. Assoc. Dr. Uzhhorod National University, Faculty of Biology, Uzhhorod, Ukraine;
Zacharoula S. Andreopoulou, Professor, Aristotle University of Thessaloniki, Thessaloniki, Greece;
Mariana Golumbeanu, PhD, National Institute for Marine Research and Development "Grigore Antipa", Constanta, Romania;
Antonis K. Kokkinakis, Professor, Aristotle University of Thessaloniki, Thessaloniki, Greece;
Olivia Cioboiu, PhD, The Oltenia Museum Craiova, Popa Şapcă str. No 8, Rumania;
Nasser Modirshahla, Professor, Islamic Azad University, Department of Applied Chemistry, Iran;
Nina Liogchii, Professor, Institut of Ecology and Geografy, Republic of Moldova;
Trajce Talevski, Professor, Hydrobiological Institute, Naum Ohidski 50, 6000 Ohrid - R.Macedonia;
Alexander V. Derunkov, Professor, Dep. of Entomology, National Museum of Natural History, Washington DC, USA;
Can Ozgur Colpan, Professor, Ryerson University, Canada;
Muhammad Ashraf, Professor, University of Agriculture, Faculty of Sciences, Faisalabad 38040, Pakistan.;
Roberto Mancinelli, Professor, University of Tuscia, Viterbo, Italy;
Bahrive Gulgun, Professor, Ege University, Izmir, Turkey;

Insaf Mekki, PhD, National Research Institute for Rural Engineering, Water, and Forestry (I.N.R.G.R.E.F), Ariana, Tunisia;
Hany Gaber El Shaer, PhD, IUCN Centre for Mediterranean Cooperation / Global Marine, Egypt;
Ertugrul Esmeray, Ph.D, Karabuk University, Engineering Faculty, Environmental Engineering Department Turkey;
Violeta Vidaček-Hainš, PhD, Ass. Professor, University of Zagreb, Croatia;
Cezar Kongoli, Professor, University of Maryland College Park, Earth System Science Interdisciplinary Center (ESSIC), USA;
Justas Kažys, PhD, Assoc. Professor, Vilnius University, Department of Hydrology and Climatology, Vilnius –Lithuania;
Selim Dogan, PhD, Assoc. Professor Selcuk University, Environmental Engineering Department, Konya Turkey;
Hisham Mostafa Alidrisi, PhD, Assoc. Professor, King Abdulaziz University, Engineering College, Jeddah Saudi, Arabia;
Khalid A. A. Al-Ghamdi, PhD, Assoc. Professor, King Abdulaziz University, Engineering College, Jeddah Saudi, Arabia;
Osman Taylan, PhD, Assoc. Professor, King Abdulaziz University, Engineering College, Jeddah Saudi, Arabia;
Robert J. Kuligowski, PhD, University of Maryland College P, Earth System Science Interdisciplinary Center (ESSIC), USA;
Mariia M. Fedoriak, Professor, Chernivtsi National University, Dep. of Ecology and Biomonitoring, Chernivtsi, Ukraine;
Narayan Ramappa Birasal, Associate Professor, KLE Society's G H College, Zoology Department, , Karnataka state, India;
Rana P. Singh, Professor, Babasaheb Bhimrao Ambedkar University, Dep. of Environmental Science, U.P., India;
Hayati AKMAN, Dr., Selcuk University, Seed Department, 42430 Konya, Turkey;
Fatma ÇANKA KILIÇ, Professor, Kocaeli University, Technology Faculty, Energy Systems Engineering Dep., Kocaeli, Turkey;
Ferim Gashi, Dr., University of Pristina, Department of Geography, Faculty of Mathematical-Natural Sciences, Kosovo;
Altin Dorri, Professor Assoc., Polytechnic University of Tirana, Tirana, Albania;
Alexander P. Szykh, Professor, Russian Academy of Sciences, Siberian Institute, Irkutsk, Lermonyova, Russia;
Zeynep Eren, Associate Professor, Ataturk University, Environmental Engineering Department, Erzurum, Turkey;
Sheida Korjani, PhD, Department of Architecture, Tabriz Branch, Islamic Azad University, Tabriz, Iran;
Maan Maarroof, PhD, Assistant Professor, University of Mosul, College of Veterinary Medicine, Iraq;
Koula Doukani, Professor, University of Ibn Khaldoun, Zaaroura, Tiaret, Algeria;
Svetla Petkova Gateva, PhD, Institute of Biodiversity and Ecosystem Research, Bulgarian Acad. of Sciences, Sofia, Bulgaria;
Rrahim Sejdiu, Professor Assistant, PhD, University of Applied Sciences-Ferizaj, Kosovo;
Mouloud BOUHOUHOU, Dr., ENS Assia Djebar - Constantine, Algeria;
Dinh Tran Ngoc Huy, Dr., Banking University HCMC, Ho Chi Minh city Vietnam-International University of Japan, Japan;

Publication Information:

International journal of ecosystems and ecology science (IJEES), ISSN 2224-4980, publishing original articles, reviews and short communications of high scientific standard on ecosystems and science ecology. By: Hysen Mankolli, Professor, Ecologist, Plainfield, Illinois, USA; Health and Environment Association, Tirana, Albania;

ISSN International Centre, *Bibliographic Data Section*, PARIS, FRANCE;

Bib - ID 68337; ISO standard 3297;

Key title: International journal of ecosystems and ecology science

Abbreviated key title: *Int. j. ecosyst. ecol. sci.*

ISSN 2224-4980; <http://ijeess.net/>

Frequency: four times a year. IJEES Electronic Journal Publication: Plainfield, Illinois, USA;

DOI prefix: 10.31407, <https://doi.org/10.31407/ijeess>



ESCI Clarivate, [http://ip-science.thomsonreuters.com/cgi-](http://ip-science.thomsonreuters.com/cgi-bin/jrnlst/jlresults.cgi?PC=MASTER&Word=ijeess)

[bin/jrnlst/jlresults.cgi?PC=MASTER&Word=ijeess](http://ip-science.thomsonreuters.com/cgi-bin/jrnlst/jlresults.cgi?PC=MASTER&Word=ijeess)

UOI license: <http://u-o-i.org/1.01/ijeess>; <http://www.u-o-i.org/index.php/SearchLicense>



[DPI Digital Library](http://www.dpi.com) USA and assign unique digital no. DPI: 16.10047.IJEES

U.S. National Library of Medicine,

NLM ID: [101726509](https://www.ncbi.nlm.nih.gov/nlmcatalog/101726509) [Serial]; **Other ID:** (OCOLC)879805056;

<https://www.ncbi.nlm.nih.gov/nlmcatalog/101726509>

This journal has the status of an international journal.

Aims and Scope:

The goals of the International journal of ecosystems and ecology science (IJEES), ISSN 2224-4980, are to bring together researchers and scientists with interests in the quality of the ecosystems research results, theories, technologies, systems, tools, applications, the work in progress and experiences on ecosystems used. The main topics of interest are:

- ✓ Ecosystems
- ✓ Agro ecosystems
- ✓ Forest ecosystems
- ✓ Ecology
- ✓ Plant Ecology
- ✓ Animal Ecology
- ✓ Human Ecology
- ✓ Lakes and Rivers ecosystems
- ✓ Applied Biology
- ✓ Applied Ecology
- ✓ Applied Chemistry
- ✓ Biodiversity
- ✓ Energy
- ✓ Geology
- ✓ Bioaccumulation
- ✓ Desalination
- ✓ Water
- ✓ Soil
- ✓ Air pollution
- ✓ Climate Change
- ✓ Ecosystem restoration
- ✓ Environment toxicology
- ✓ Environment protection
- ✓ Environmental radioactivity
- ✓ Environmental legislation
- ✓ Environmental management
- ✓ Environmental education.
- ✓ Green technology
- ✓ Socioeconomic aspects in Ecosystems
- ✓ Agro tourism and National Park
- ✓ Health Care
- ✓ Food security
- ✓ Rights and Environmental Laws
- ✓ Environment Engineering
- ✓ Environment Architecture
- ✓ Eco philosophy Issue

Abstracted / Indexed / Impact Factor in:

International journal of ecosystems and ecology science (IJEES), ISSN 2224-4980,

IJEES: <http://ijeess.net/>

IJEES have an international status and has been indexed, abstracted and have impact factors:

IJEES doi crossref

<https://doi.org/10.31407/ijeess>

IJEES, Volume 11/4, 2021 part 2 (special issue)

[https://www.ijeess.net/journal-82-International--Journal-of-Ecosystems-and-Ecology-Science--\(IJEES\)--Volume-11-4,-2021.html](https://www.ijeess.net/journal-82-International--Journal-of-Ecosystems-and-Ecology-Science--(IJEES)--Volume-11-4,-2021.html)

Clarivate Analytics

<http://ip-science.thomsonreuters.com/cgi-bin/jrnlst/jlresults.cgi?PC=MASTER&Word=ijeess>

<https://mjl.clarivate.com/home?PC=MASTER&Word=ijeess>

Web of Science Core Collection

<https://apps.clarivate.com/mjl-beta/search-results>

Emerging Sources Citation Index - JOURNAL LIST

<http://mjl.clarivate.com/cgi-bin/jrnlst/jlresults.cgi?PC=EX&Alpha=I>

Scilit

<https://www.scilit.net/journal-articles/1892436>

CiteFactor: IF 2019-2020:1.40;

<https://www.citefactor.org/impact-factor/impact-factor-of-journal-International-Journal-of-Ecosystems-and-Ecology-Science-IJEES.php>

EBSCO's library products,USA

<http://www.ebscohost.com/for-publishers/for-publishers>

IARC: Journal Impact Factor (USA), IF=2017: 1.811; IF=2016: 1.463; =2015: 0.861

http://iarci.org/index.php/journal_information/show/44/0/2224-4980

Index Copernicus ICV= 2019: 100.00; ICV= 2018: 100.00; ICV= 2017: 98.95; ICV= 2016: 81.17; 2015: 93.51;

<https://journals.indexcopernicus.com/search/journal/issue?issueId=197247&journalId=31407>

Academic Resource Index Research Bible:

<http://paper.researchbib.com/view/issn/2224-4980/10/2>

Google scholar Cited

<https://scholar.google.com/citations?user=W89N8qgAAAAJ&hl=en>

MIAR

<http://miar.ub.edu/issn/2224-4980>

Eduindex Impact Factor

<https://www.eduindex.org/2017/08/international-journal-of-ecosystems-and.html>

Directory of Research Journals Indexing (DRJI)

<http://olddrji.lbp.world/JournalProfile.aspx?jid=2224-4980>

WorldCat

https://www.worldcat.org/search?qt=affiliate_wc_org_all&ai=Directory_ashok.drji%252540gmail.com&fq=&q=2224-4980&wcsbtn2w=Go

US. National Library of Medicine, NLM ID: 101726509 [Serial]; Other ID: (OCOLC)879805056;

<https://www.ncbi.nlm.nih.gov/nlmcatalog/101726509>

Global Impact Factor (GIF) IF= 2015: 0.765; 2014: 0.625; 2013: 0.541; IF= 2012: 0.425;

<http://globalimpactfactor.com/journals-list/?snap=I>

CAS Chemical Abstracts Service – CAS database

<http://cassi.cas.org/search.jsp>

Journal Factor: ISSN 2224-4980

http://www.journalfactor.org/advance_search.php

Directory of Research Journals Indexing (DRJI)

<http://olddrji.lbp.world/justIncluded.aspx>

Environment-and-Nature/Biodiversity/Ecosystem.

<http://www.efita.org/Environment-and-Nature/Biodiversity/Ecosystem-Biodiversity/IJEES-details-28892.html>

NewJour : Electronic Journal&Newsletters

<http://gulib.georgetown.edu/newjour/nj2/index.html>

Environmental expert

<http://www.environmental-expert.com/magazines/?keyword=ecosystem+science>

Currently Indexing at Pro Quest

http://www.proquest.com/en-US/catalogs/databases/detail/periodicals_index.shtml

CABI

<http://www.cabi.org/default.aspx?page=1016&site=170&pid=40&xsltab=2&newtitlesonly=1&search=>

Academia.edu

http://www.academia.edu/3834422/2013_Networking_approach_to_the_sustainable_development_of_European_Regions_bordering_major_rivers

Manuscripts and correspondence are invited for publication

*Dear Professors, PhD, researchers and scholars of the field of ecosystems and related areas to, such as environmental engineering, agriculture, bio-chemistry, soil, water and air pollution, geology, forestry, urban ecology, resource economics, etc., at the moment, I declare the sending of scientific journal articles to International Journal of Ecosystems and Ecology Science (IJEES) is open. Sending of items can only be done electronically, to the following address: e-mail: editorijeess@gmail.com; 2011ijeese@gmail.com; mjedisishendeti@yahoo.com; The confirmation of receiving these items will be announced within the period of one to three weeks after sending. Whether the article is accepted or not, will be announced within a period of two to three weeks. Only original articles will be accepted, validated, and not to have or be published in other journals. Publication lasts from two to six months. All Rights Reserved Copyright by © IJEES (the first or correspondent author have responsible for the accuracy of the article). Submission guidelines and Web Submission System are available at: <https://www.ijeess.net/page-6-Guide-for-authors.html>;
Note: If the paper is published in another journal or if it includes false or inaccurate claims, it will be rejected or removed automatically as that constitutes a violation. Zero tolerance!*

Editorial Office:

*IJEES Electronic Journal Publication: Plainfield, Illinois, USA; E-mail: editorijeess@gmail.com;
Health and Environment Association, Tirana, Albania; E-mail: mjedisishendeti@yahoo.com;*

**International
Journal of Ecosystems and Ecology Science
(IJEES)**

DOI: <https://doi.org/10.31407/ijeess>

Volume 11/4, 2021, part 2 (special issue)

DOI: <https://doi.org/10.31407/ijeess11.4>

Table of contents:

Eduard A. Snegin^{1*}, Anton A. Sychev¹, Olesia Yu. Artemchuk¹, Anatolii S. Barkhatov¹, Sergei R. Yusupov¹, Elena A. Snegina¹, Aleksandra Yu. Tishchenko¹, POLYMORPHISM OF THE CSN2 GENE (VERSIONS A1/A2) IN DIFFERENT BREEDS OF DAIRY CATTLE IN THE CENTRAL BLACK SOIL REGION OF RUSSIA, page 959-964;

DOI: <https://doi.org/10.31407/ijeess11.438>

Eduard A. Snegin^{1*}, Anton A. Sychev¹, Olesia Yu. Artemchuk¹, Anatolii S. Barkhatov¹, Sergei R. Yusupov¹, Elena A. Snegina¹, Aleksandra Yu. Tishchenko¹, BsmI AND HinfI POLYMORPHISMS OF THE FABP4 GENE OF DIFFERENT PIG BREEDS OF THE BELGOROD REGION IN RUSSIA, page 965-970;

DOI: <https://doi.org/10.31407/ijeess11.439>

Eduard A. Snegin^{1*}, Anton A. Sychev¹, Olesia Yu. Artemchuk¹, Anatolii S. Barkhatov¹, Sergei R. Yusupov¹, Elena A. Snegina¹, Aleksandra Yu. Tishchenko¹, HINFI POLYMORPHISM OF THE H-FABP GENE OF DIFFERENT BREEDS OF PIGS IN THE BELGOROD REGION OF RUSSIA, page 971-976;

DOI: <https://doi.org/10.31407/ijeess11.440>

Eduard A. Snegin^{1*}, Anton A. Sychev¹, Olesia Yu. Artemchuk¹, Anatolii S. Barkhatov¹, Sergei R. Yusupov¹, Elena A. Snegina¹, Aleksandra Yu. Tishchenko¹, T3266G AND A1112G POLYMORPHISMS IN THE LEPTIN GENE OF VARIOUS PIG BREEDS OF THE BELGOROD REGION OF RUSSIA, page 977-982;

DOI: <https://doi.org/10.31407/ijeess11.441>

Lyudmila K. Buslovskaya^{1*}, Alexey Yu. Kovtunenکو¹, Yulia P. Ryzhkova¹, ACID-BASE RELATIONSHIPS IN THE BODY OF FARM ANIMALS OF DIFFERENT AGES AND PRODUCTIVITY, page 983-988;

DOI: <https://doi.org/10.31407/ijeess11.442>

Lyudmila K. Buslovskaya^{1*}, Alexey Yu. Kovtunenکو¹, ENERGY METABOLISM AND PRODUCTIVITY OF FARM ANIMALS DURING ADAPTATION TO HIGH AIR TEMPERATURE, page 989-994;

DOI: <https://doi.org/10.31407/ijeess11.443>

Lyudmila K. Buslovskaya^{1*}, Alexey Yu. Kovtunenکو¹, INFLUENCE OF PRODUCTION TRANSPORT ON PHYSIOLOGICAL STATE OF BROILER CHICKENS, page 995-1000;

DOI: <https://doi.org/10.31407/ijeess11.444>

Lyudmila K. Buslovskaya^{1*}, Alexey Yu. Kovtunenکو¹, INFLUENCE OF INCREASED NOISE LEVEL ON PHYSIOLOGICAL STATE OF BROILER CHICKENS IN INDUSTRIAL CONDITIONS, page 1001-1006;

DOI: <https://doi.org/10.31407/ijeess11.445>

Lyudmila K. Buslovskaya^{1*}, Alexey Yu. Kovtunenکو¹, Valery A. Cherkasov¹, ADAPTATION OF FARM ANIMALS TO HOUSING CONDITIONS, page 1007-1012;
DOI: <https://doi.org/10.31407/ijeess11.446>

Lyudmila K. Buslovskaya^{1*}, Alexey Yu. Kovtunenکو¹, ACID-BASE BALANCE OF FARM ANIMALS DURING ADAPTATION TO HIGH AIR TEMPERATURE, page 1013-1018;
DOI: <https://doi.org/10.31407/ijeess11.447>

Vladislav L. Anichin^{1*}, Marina V. Vladyka², Alina I. Dobrunova², Elena A. Stryabkova², Valeriy K. Tokhtar², THE STATE AND PROSPECTS OF SMART SPECIALIZATION OF THE AGRO-INDUSTRIAL COMPLEX OF THE BELGOROD REGION, page 1019-1024;
DOI: <https://doi.org/10.31407/ijeess11.448>

Anton A. Sychev^{1*}, Eduard A. Snegin¹, Olesia Yu. Artemchuk¹, Anatolii S. Barkhatov¹, Sergei R. Yusupov¹, Elena A. Snegina¹, Aleksandra Yu. Tishchenko¹, THE POLYMORPHISM IN THE DYSTROPHIN GENE (DMD) OF VARIOUS BREEDS OF THE PIGS IN THE BELGOROD REGION OF RUSSIA, page 1025-1028;
DOI: <https://doi.org/10.31407/ijeess11.449>