



NOTULAE SCIENTIA BIOLOGICAE

Volume 3, Issue 3 (2011)

*Published by AcademicPres on behalf of:
Horticulture and Forestry Society from Transylvania*

Abstracted and/or indexed:

- Centre for Agriculture and Biosciences International (CABI), <http://www.cabi.org>
- ProQuest-CSA (Cambridge Scientific Abstracts, <http://www.proquest.co.uk/>)
- Chemical Abstracts Service (CAS), <http://www.cas.org>
- Directory of Open Access Journals (DOAJ), <http://www.doaj.org>
- Index Copernicus, <http://www.indexcopernicus.com>
- Russian Scientific and Technical Information Institute (VINITI), <http://www.viniti.ru>
- Asian Science Citation Index (ASCI), <http://scialert.net>
- Scientific Commons, <http://en.scientificcommons.org>
- Bielefeld Academic Search Engine (BASE), <http://www.base-search.net>
- Google Scholar, <http://scholar.google.com>
- Open J-Gate, <http://www.openj-gate.com>
- Academic research, citation reports and discussion lists getCITED, <http://www.getcited.org>
- Open Archives Initiative Protocol for Metadata Harvesting (OAIster), <http://www.oaister.org>
- China Educational Publications Import and Export Corporation (SOCOLAR), <http://www.socolar.com>
- Genamics JournalSeek, <http://journalseek.net>
- WorldCat, <http://www.worldcat.org/>
- Elton B Stephens Company (EBSCO), <http://www.ebscohost.com>
- The National Science Digital Library (NSDL), <http://nsdl.org>

Print ISSN 2067-3205, Electronic ISSN 2067-3264
www.notulaebiologicae.ro

Editorial office

AcademicPres, University of Agricultural Sciences and Veterinary Medicine
 3-5 Manastur St., 400372 Cluj-Napoca, Romania
 Phone: +40 264-596 384 ext. 176
 Fax +40 364-819 343
 E-mail: rsestras@notulac.ro

Editorial Committee

Editor-in-Chief:	Radu E. SESTRĂȘ	University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca (USAMV Cluj-Napoca), 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; rsestras@notulac.ro
Science Editor:	Doru PAMFIL	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; dpamfil@usamvcluj.ro
Publisher Director:	Liviu Al. MĂRGHITAȘ	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; lmarghitas@usamvcluj.ro
Advisory Editor:	Viorel MITRE	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; mitreviorel@yahoo.com
Production Editors:	Sorana BOLBOACĂ	University of Medicine and Pharmacy, 13 Emil Isac, 400023, Cluj-Napoca, Romania; sbolboaca@umfcluj.ro
	Monica BOSCAIU	Universidad Politécnica de Valencia, EPS Gandia, Carretera Nazaret-Oliva s/n, 467300 Gandia, Spain; mobosnea@eaf.upv.es
	Cornel CĂTOI	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; cornelcatoi@yahoo.com
	Vasile COZMA	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; cozmavasile@yahoo.com
	Ioan Ștefan GROZA	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; ioangroza@yahoo.com
	Lorentz JÄNTSCHI	Technical University of Cluj-Napoca, 15 Constantin Daicoviciu, 400020, Cluj-Napoca, Romania; lori@academicdirect.org
	Vioara MIREȘAN	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; vmiresan@yahoo.com
	Sevastița MUSTE	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; smuste@usamvcluj.ro
	Ioan ROTAR	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; irotar@usamvcluj.ro
	Adriana SESTRĂȘ	Fruit Research Station, 3-5 Horticultorilor St., 400454 Cluj-Napoca, Romania; asestras@yahoo.com
	Augustin VLAIC	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; avlaic@usamvcluj.ro
Linguistic editor:	Mihaela RUSU	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; mrusu@notulaeobotanicae.ro
	Rodica STAN	University of Agricultural Sciences and Veterinary Medicine, 3-5 Manastur St., 400372 Cluj-Napoca, Romania; ro7si@yahoo.com
Technical support:	Ionuț GOTEA	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; igotea@gmail.com
	Cătălina DAN	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj, Romania; cdan@notulaeobotanicae.ro
	Mihail KANTOR	Clafin University, 400 Magnolia Street, Orangeburg, SC 29115 USA; catrisu@yahoo.com
	Rodica FLUTUR	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; rodica_flutur@yahoo.com
	Mathieu THOMAS	Institut National de la Recherche Agronomique (INRA), France; mateothom@gmail.com
	Alina Maria VÎLCAN	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; alina_vilcan@yahoo.com
	Valentina FLORAN	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; tina_f_1212@yahoo.com
Journal secretary:	Lucica MIHALTE	University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăstur St., 400372 Cluj-Napoca, Romania; lmihalte@notulaeobotanicae.ro

Editorial Board

Name	Address
Ioan Vasile ABRUDAN	Transilvania University, 1 Sirul Beethoven St., 500123 Brasov, Romania; abrudan@unitbv.ro
Ezz Al-Dein Muhammed AL-RAMAMNEH	Sweileh, Amman, Jordan; ezznew@yahoo.com
Omar BAGASRA	Claffin University, 400 Magnolia Street, Orangeburg, SC 29115, USA; obagasra@claffin.edu
Grigore BĂCIUȚ	University of Medicine and Pharmacy, 37 Cardinal Iuliu Hossu Str., 400029 Cluj-Napoca, Romania; gbaciut@umfcluj.ro
Umberto BERNABUCCI	University of Tuscia, Via S. Camillo de Lellis 1-01100 Viterbo, Italy; bernab@unitus.it
Marius BOJIȚĂ	University of Medicine and Pharmacy, 13 Emil Isac, 400023, Cluj-Napoca, Romania; mbojita@umfcluj.ro
Rebecca BULLARD-DILLARD	Claffin University, 400 Magnolia Street, Orangeburg, SC 29115, USA; rdillard@claffin.edu
Gheorghe CIMPOIEȘ	The State Agrarian University of Moldova, 44 Mircesti Str., Chisinau, Moldova; cimpoies@uasm.md
Kamal CHOWDHURY	Claffin University, 400 Magnolia Street, Orangeburg, SC 29115, USA; kchowdhury@claffin.edu
Ioan COMAN	University of Medicine and Pharmacy, 13 Emil Isac, 400023, Cluj-Napoca, Romania; jcoman@yahoo.com.
Vasile CRISTEA	Babes-Bolyai University, 44 Gh Bilascu Str., 400015 Cluj-Napoca, Romania; crista@grbot.ubbcluj.ro
David HENSLEY	University of Arkansas, Fayetteville, AR 72701, United States; dhensley@uark.edu
Iker BADIOLA ETXABURU	Parque Tecnológico de Bizkaia, Ed. 502 Planta 1 48750 Derio Bizkaia, Spain; ibadiola@innoprot.com
Florent ENGELMANN	Centre IRD, Montpellier - BP 64501, 911 Av Agropolis, F-34394 Montpellier Cedex 5, France; engelma@mpl.ird.fr
Róbert FARKAS	Faculty of Veterinary Science, Szent István University, Budapest Pf. 2, Hungary; farkas.robert@aotk.szie.hu
László FODOR	Faculty of Veterinary Science, Szent István University, Budapest, Hungary; Fodor.Laszlo@aotk.szie.hu
Marek GAJEWSKI	Warsaw Agricultural University, 166 Nowoursynowska, 02-787 Warsaw, Poland; marek_gajewski@sggw.pl
Stefano GREGO	University of Tuscia, Via S. Camillo de Lellis 1-01100 Viterbo, Italy; grego@unitus.it
Cristian IBÁÑEZ GUTIÉRREZ	Faculty of Sciences at La Serena University, Chile; cibanez@utalca.cl
Serge HAMON	Centre IRD, Montpellier - BP 64501, 911 Av Agropolis, F-34394 Montpellier Cedex 5, France; serge.hamon@ird.fr
Roman HOLUBOWICZ	Agricultural University of Poznań, Department of Horticultural Seed Science and Technology, Poland; rholubowicz@au.poznan.pl
Florin IORAȘ	Buckinghamshire New University, United Kingdom; Florin.Ioras@bucks.ac.uk
Alexandru IRIMIE	'Ion Chiricuta' Cancer Institute, 34-36 Republicii St., 400015 Cluj- Napoca, Romania; office@iocn.ro
Stefania MASCI	University of Tuscia, Via S. Camillo de Lellis 1-01100 Viterbo, Italy; masci@unitus.it
Dan MIHU	University of Medicine and Pharmacy, 13 Emil Isac, 400023, Cluj-Napoca, Romania; dan.mihu@yahoo.com
Meena MISRA	Institute of Frontier Sciences and Biotechnology, Baramunda, Bhubaneswar-751004, India; meenamisra@yahoo.com
Réka NAGY	University of Zurich, Institute of Plant Biology, Zollikerstrasse 107, CH 8008 Zurich, Switzerland; rnagy@botinst.uzh.ch
Daniel Ioan PĂCURAR	Umea Plant Science Centre, Sweden; daniel.pacurar@genfys.slu.se
Neiva Izabel PIEROZZI	Instituto Agronômico de Campinas, CPDR Geneticos Vegetais, Brazil; pierozzi@iac.sp.gov.br
Jaime PROHENS	Instituto de Conservación y Mejora de la Agrodiversidad Valenciana; Spain, jprohens@btc.upv.es
Chen QIN	School of Life Science, Shanghai Univ., 99 Shangda R., Baoshan District, Shanghai, 200436, China; chenqincc@yahoo.com.cn
Klaus SCHALLER	Research Center Geisenheim, P.O. Box 1158, D-65358 Geisenheim, Germany; k.schaller@fa-gm.de
Lei SHI	University Massachusetts, Sch Med, Department Neurobiol, Worcester, MA 01605 USA; shil@janelia.hhmi.org
Oscar VICENTE	IBMCP Universidad Politécnica de Valencia, Camino de Vera s/n. 46022 Valencia, Spain; ovicente@ibmcp.upv.es
Zhang WEIGUANG	College of Food Science, Southwest Agricultural University, China; zwguang@hotmail.com

Notice

To be cited **Not Sci Biol**

The Editorial Board of Not Sci Biol is not responsible for statements and opinions published; they represent the views of the authors or persons to whom they are credited. Publication of research information does not constitute a recommendation or endorsement of products involved.

Aims and scope

Notulae Scientia Biologicae is a quarterly peer-reviewed journal aimed at disseminating significant research and original papers, critical reviews and short reviews on life sciences and medicine, development of new methodologies that can be of interest to a wide audience of scientists in all areas of biology sciences. The journal encourages authors to frame their research questions and discuss their results in terms of the major questions of biology, agriculture, horticulture, forestry, biotechnology and medicine, thereby maximizing the impact, spreading and value of their research. The papers must be of potential interest to a significant number of scientists and, if specific to a local situation, must be relevant to a wide body of knowledge in life and medical sciences. Articles should make a significant contribution to the advancement of knowledge or toward a better understanding of existing biological, agricultural and medical concepts. An international Editorial Board advises the journal. The total content of the journal may be used for educational, non-profit purposes without regard to copyright. The distribution of the material is encouraged with the condition that the authors and the source (**Notulae Scientia Biologicae** or **Not Sci Biol**) are mentioned.

Submission

The journal offers to authors a fully web-enabled online manuscript submission, instructions for authors and review system available at <http://www.notulaebiologicae.ro>.

Papers are published in English (British spelling) and the authors are fully responsible for the originality of their papers and for the correctness of their subject-matter, language and formal attributes. A language reviewer revises English, but authors are strongly urged to have the papers reviewed linguistically prior to submission.

Manuscripts submitted must be edited, for clarity and conformity purposes according to Authors guidelines, and must not have been previously published or simultaneously submitted elsewhere.

The papers can be submitted online by the “senior author” (the main author, or the person who takes responsibility for the integrity of the work as a whole, from submission to the published article). The submission process is described on the web site.

An Author Statement, available on the website, should be enclosed by “senior author” declaring that the paper has not been published anywhere else, permission to reproduce the material, authorship credit, contributors and creditors for the integrity of the work as a whole, to avoid the conflicts of interest and scientist fraud, and respecting the ethical principles of publishing, research and scientific rights.

The Editorial Committee of the Journal NOTULAE SCIENTIA BIOLOGICAE

Are kindly inviting you to contribute with scientifically papers to our journal **Notulae Scientia Biologicae**, Print ISSN 2067-3205; Electronic ISSN 2067-3264.

Prof. dr. Radu SESTRĂȘ
Editor-in-Chief

Contents

• Medicine

Hematology

Genetic Analysis of ABO and Rh Blood Groups in Backward Caste Population of Uttar Pradesh, India

Vandana RAI, Pradeep KUMAR..... 07

Trans-National Genetic Distance and Genetic Identity of Barak Valley Hindus en Route the Journey of Mankind from Africa for ABO Gene

Supriyo CHAKRABORTY, Saumendra Kumar BHATTACHARJEE..... 15

• Plant Sciences

Botany

Diversity in the Stem Anatomy and Tissues of Several Species of *Annona* (*Annonaceae*) in Nigeria

Abayomi Ezekiel FOLORUNSO 20

Ecology

Effect of Media on Algae Growth for Bio-Fuel Production

Sriharsha KARAMPUDI, Kamal CHOWDHURY 33

Influence of Weed Competition on Potato Growth, Production and Radiation Use Efficiency

Farzad MONDANI, Farid GOLZARDI, Godarz AHMADVAND, Reza GHORBANI, Rooholla MORADI 42

Local Diversity

Socioeconomic Study of Grasses and Legumes in Baria and Godhra Forest Division, Gujarat

Dhara J. GANDHI, Susy ALBERT, Neeta R. PANDYA, Krishna R. PANCHAL 53

Comparative Analysis of Drought Indices for Drought Zone Scheme of Northern Khorasan Province of Iran

Ehsan EYSHI REZAEI, Azade MOHAMMADIAN, Mansoreh KOOHI, Mohammad BANNAYAN 62

Plant Pathology

Response of *Solanum melongena* L. to Inoculation with Arbuscular Mycorrhizal Fungi under Low and High Phosphate Condition

Irfan AZIZ, Mohd AYOOB, Paramjit Kaur JITE..... 70

Interaction Effects of Arbuscular Mycorrhizal Fungi and Different Phosphate Levels on Growth Performance of *Catharanthus roseus* Linn.

Mohd AYOOB, Irfan AZIZ, Paramjit Kaur JITE..... 75

Integrated Management of Damping-off, Root and/or Stem Rot Diseases of Chickpea and Efficacy of the Suggested Formula

Montaser Fawzy ABDEL-MONAIM..... 80

Microbiology

- The Influence of Explant Types and Orientation on *in Vitro* Culture of *Musa balbisiana* ‘Kluai Hin’ (BBB group)**
Kamnoon KANCHANAPOOM, Nararatn PROMSORN..... 89
- Potential of *Launea taraxacifolia* (Willd) Amin Ex. C. Jeffrey for *in Vitro* Regeneration**
Ayobola M. SAKPERE, Ejeoghene R. AYISIRE, Olufemi I. ABIOYE 93
- The Effect of Plant Growth Regulators on Callus Induction and Regeneration of *Amygdalus communis***
Naimeh SHARIFMOGHADDAM, Abbas SAFARNEJAD, Sayed Mohammad TABATABAEI..... 97
- Effect of Basal Media and Sugar Types on *in Vitro* Regeneration of *Grammatophyllum speciosum* Blume**
Montakarn PIMSEN, Kamnoon KANCHANAPOOM 101

Biochemistry

- Biochemical Changes During Seed Germination of *Sterculia urens* Roxb.**
Botcha SATYANARAYANA, Prattipati SUBHASHINI DEVI, Atluru ARUNDHATI..... 105

• Horticulture and Agriculture

Fruit Tree Growing

- Studies on ‘Kinnow’ (*Citrus reticulata* Blanco.) Decline in Relation to Soil-Plant Nutritional Status**
Parveen KUMAR, Suneel SHARMA, Surender S. DHANKHAR, Partap Singh PARTAP 109

Crop and Soil Sciences

- Effect of Defoliation and Fe and Mn Spraying on Quality and Quantity Characteristics of Sunflower (*Helianthus annuus* L.)**
Farshid VAZIN, Mojtaba HASSANZADEHDELOUEI, Mohamad javad KHERADMAND 113
- Effects of Water Deficit Stress on Several Quantitative and Qualitative Characteristics of Canola (*Brassica napus* L.) Cultivars**
Seyed Mohammad HOSSEINI, Payman HASSIBI..... 120
- Effects of Accelerated Aging on Soybean Seed Germination Indexes at Laboratory Conditions**
Zahra RASTEGAR, Mohammad SEDGHI, Saeid KHOMARI 126
- Germination and Seedling Properties of Different Wheat Cultivars under Salinity Conditions**
Hamdollah ESKANDARI, Kamyar KAZEMI 130

Plant Breeding

- Genetic Diversity Analysis of Iranian Improved Rice Cultivars through RAPD Markers**
Ghaffar KIANI 135

Forestry

- Temperature Evolution in Poplar (*Populus nigra*) Tension Wood and Normal Wood during a Conventional Drying Process**
Asghar TARMIAN, Amir SEPEHR, Mahdi SHAHVERDI..... 140
- The Effect of Wood Knot as a Defect on Modulus of Elasticity (MOE) and Damping Correlation**
Mohammad Ali HOSSEIN, Mahdi SHAHVERDI, Mehran ROOHNIA 145