



# NOTULAE SCIENTIA BIOLOGICAE

Volume 2, Issue 1 (2010)

*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, <http://scialert.net>
- ScientificCommons, <http://en.scientificcommons.org>
- 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://journalseek>
- Elton B Stephens Company (EBSCO), <http://www.ebscohost.com>

*Print ISSN 2067-3205, Electronic ISSN 2067-3264*  
[www.notulaebiologicae.ro](http://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@notulae.ro](mailto:rsestras@notulae.ro)

**Editorial Committee**

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

## 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	Clafin University, 400 Magnolia Street, Orangeburg, SC 29115, USA; obagasra@clafin.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	Clafin University, 400 Magnolia Street, Orangeburg, SC 29115, USA; rdillard@clafin.edu
Gheorghe CIMPOIEȘ	The State Agrarian University of Moldova, 44 Mircesti Str., Chisinau, Moldova; cimpoies@uasm.md
Kamal CHOWDHURY	Clafin University, 400 Magnolia Street, Orangeburg, SC 29115, USA; kchowdhury@clafin.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; cristea@grbot.ubbcluj.ro
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; engelman@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 & 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
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 biology and agronomy and 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.

Being aware of your interests, we are looking forward to your collaboration and we are waiting for you to join us and help us develop this journal with your high-quality, original articles about all life and medical science domains.

Prof. Dr. Radu SESTRĂȘ  
Editor-in-Chief

## Contents

### • Medicine

#### Genetics

##### **MicroRNA Implication in Cancer**

Iker BADIOLA ..... 7

#### Alternative Medicine

##### **A Natural Wonder Drug Helps to Prevent Cancer: Garlic Oil**

Sankaran MIRUNALINI, Ganesan DHAMODHARAN, Kandhan KARTHISHWARAN ..... 14

### • Biology

#### Genetics

##### **Genetic Engineering for Viral Disease Management in Plants**

Shabir Hussain WANI, Gulzar S. SANGHERA ..... 20

#### Botany

##### **Plant Community Traits of Shohada Protected Area, West Azerbaijan, Iran**

Abdollah HASSANZADEH GORTTAPEH, Lala MALK MOHAMADI ..... 29

##### **Some Quality Traits of Different Wild Plants**

Mehmet BASBAG, Ramazan DEMIREL, Mustafa AVCI ..... 36

##### **Desiccation Stress and the Effect of Humidity in Mosses**

Aina Arinola FAJUKE ..... 40

##### **Phenology of German Chamomile and its Changes under Different Irrigation Regimes and Plant Densities**

Alireza PIRZAD, Mohammad Reza SHAKIBA, Saeed ZEHTAB-SALMASI, Seyed Abolghasem MOHAMMADI, Reza DARVISHZADEH, Abbas HASSANI ..... 43

##### **Characterization and Evaluation of some Cultivars of Sweet Pepper (*Capsicum annuum*)**

Kolawole Edomwonyi LAW-OGBOMO, Joyce Egberanwen LAW-OGBOMO ..... 49

#### Phytopathology

##### **Screening of Turkish Melon Accessions for Resistance to ZYMV, WMV and CMV**

Ercan EKBIC, Hakan FIDAN, Mehtap YILDIZ, Kazım ABAK ..... 55

#### Microbiology

##### **Micropropagation of *Costus speciosus* (Koen.) Sm. Using Nodal Segment Culture**

Kshetrimayum PUNYARANI, G. Jitendra SHARMA ..... 58

##### **Shoot Regeneration from Leaf Explants of *Withania somnifera* (L.) Dunal**

Aruna Girish JOSHI, Mainavati A. PADHYA ..... 63

##### ***In Vitro* Shoot Bud Differentiation from Hypocotyl Explants of Chili Peppers (*Capsicum annuum* L.)**

Owk ANIEL KUMAR, Sape SUBBA TATA ..... 66

##### **Effect of Hormones on Direct Shoot Regeneration in Hypocotyl Explants of Tomato**

Rizwan RASHID, Sarbjit Singh BAL ..... 70

- Horticulture and Agriculture

Crop and Soil Sciences

<b>Effect of Row Spacing and Seeding Rate on Yield Component and Seed Yield of Alfalfa</b> <i>(Medicago sativa L.)</i> Gholamreza ABADOUZ, Abdollah HASANZADEH GORTTAPEH, Abdol Amir RAHNEMA, Adela BEHRADFAR.....	74
<b>Effects of Salinity on Yield and Component Characters in Canola</b> <i>(Brassica napus L.)</i> Cultivars Ahmad BYBORDI.....	81
<b>Evaluation of Selection Indices for Alfalfa</b> <i>(Medicago sativa L.)</i> Hassan MONIRIFAR.....	84
<b>Evaluation Effects of Different Planting Systems on Water Use Efficiency, Relative Water Content and Some Plant Growth Parameters in Onion</b> <i>(Allium cepa L.)</i> Mousa IZADKHAH, Mehdi TAJBAKSH, Mohamad Reza ZARDOSHTY, Abdollah HASANZADEH GORATTEPH.....	88
<b>Evaluation of Application Methods Efficiency of Zinc and Iron for Canola</b> <i>(Brassica napus L.)</i> Ahmad BYBORDI, Garib MAMEDOV.....	94
<b>Effects of Priming Techniques on Seed Germination and Early Growth Characteristics of</b> <i>Bromus tomentellus L. and Bromus inermis L.</i> Ali TAVILLI, Salman ZARE, Seyed Amir MOOSAVI, Abdolghader ENAYATI.....	104
<b>Effects of Intercropping (Canola-Faba Bean) on Density and Diversity of Weeds</b> Mohammad Hossain GHARINEH, Seyed-Amir MOOSAVI.....	109
<b>Study Effect of NaCl Salinity and Nitrogen Form on Composition of Canola</b> <i>(Brassica napus L.)</i> Ahmad BYBORDI.....	113

Plant Breeding

<b>Quantitative Genetic Analysis for Yield and Yield Components in Boro Rice</b> <i>(Oryza sativa L.)</i> Supriyo CHAKRABORTY, Pradip K. DAS, Biswajit GUHA, Kalyan K. SARMAH, Bhubaneswar BARMAN.....	117
<b>Determination on Genetic Variation for Morphological Traits and Yield Components of New Winter Wheat</b> <i>(Triticum aestivum L.)</i> Lines Sali ALIU, Shukri FETAHU.....	121
<b>Relationships between some Quantitative Characters in Selected Cowpea Germplasm</b> [ <i>(Vigna unguiculata L. (Walp))</i> ] Muhammad L. UMAR, Mohammed G. SANUSI, Fagwalawa D. LAWAN.....	125

- Forestry

Biotechnology

<b>Genetic Analysis of <i>Pinus sylvestris L.</i> and <i>Pinus sylvestris forma turfosa L.</i> Using RAPD Markers</b> Beáta ÁBRAHÁM, Ildikó MIKLÓSSY, Erika KOVÁCS, Éva TAMÁS, Ildikó MÉSZÁROS, Szabolcs SZILVESZTER, Aurelia BREZEANU, Szabolcs LÁNYI.....	129
--	-----