

2023 Volume 15 Issue 1



HOTYLAE SCIENTIA BIOLOGICAE





NOTULAE SCIENTIA BIOLOGICAE

2023 Volume 15, Issue 1

Publisher:

Society of Land Measurements and Cadastre from Transylvania (SMTCT)

Society/institution:

Horticulture and Forestry Society from Transylvania

Abstracted and/or indexed:

- [Scopus – Cite Score 2021](#) (<https://www.scopus.com/sourceid/21101047445>). Subject area:
 - Agricultural and Biological Sciences: Agricultural and Biological Sciences (miscellaneous)
 - Agricultural and Biological Sciences: Agronomy and Crop Science
 - Agricultural and Biological Sciences: Forestry
 - Agricultural and Biological Sciences: Horticulture
 - Agricultural and Biological Sciences: Plant Science
 - Biochemistry, Genetics and Molecular Biology: Biochemistry, Genetics and Molecular Biology (miscellaneous)
 - Medicine: Medicine (miscellaneous)
- [Directory of Open Access Journals](#)
- [Elton B Stephens Company \(EBSCO\)](#)
- [ProQuest](#)
- [Centre for Agriculture and Biosciences International \(CABI\)](#)
- [Chemical Abstracts Service \(CAS\)](#)
- [Ulrich's Periodicals Directory](#)
- [Bielefeld Academic Search Engine \(BASE\)](#)
- [British Library Direct \(BLD\)](#)
- [The European Library](#)
- [OCLC WorldCat](#)
- [Harvard Library](#)
- [CrossRef](#)
- [Information Matrix for the Analysis of Journals \(MIAR\)](#)
- [Google Scholar](#)
- [Scilit](#)

Print ISSN 2067-3205, Electronic ISSN 2067-3264

www.notulaebiologicae.ro

Editorial Board

Editors-in-Chief

- [Radu E. SESTRAS](#), Horticulture and Forestry Society from Transylvania (SHST), Cluj-Napoca, Romania
- [Sorana D. BOLBOACĂ](#), University of Medicine and Pharmacy, Cluj-Napoca, Romania
- [Oscar VICENTE](#), COMAV, Universitat Politècnica de València, Valencia, Spain

Advisory Editors

- [Cornel CĂTOI](#), University of Agricultural Sciences and Veterinary Medicine (UASVM) Cluj-Napoca, Romania (Rector, UASVM)
- [Doru C. PAMFIL](#), UASVM Cluj-Napoca, Romania (President, Cluj-Napoca Branch of Romanian Academy)
- [Viorel MITRE](#), SHST/UASVM Cluj-Napoca, Romania (President, SHST)

Associate Editors

- [Monica BOSCAIU](#), Polytechnic University of Valencia, Spain
- [Birsen CAKIR](#), Ege University, Izmir, Turkey
- [Milić ČUROVIĆ](#), Montenegro Univ., Podgorica, Montenegro
- [Hossam S. EL-BELTAGI](#), Cairo University, Egypt; King Faisal University, Al-Ahsa, Saudi Arabia
- [Lorentz JÄNTSCHI](#), Polytechnic University of Cluj-Napoca, Romania
- [Ioanna KAKABOUKI](#), Agricultural University of Athens, Iera Odos, 75, 11855, Athens, Greece
- [Kamil KUČA](#), University of Hradec Králové, Hradec Králové, Czech Republic
- [Leonardo LEONARDI](#), University of Perugia, Italy
- [Allan Klynger Da Silva LOBATO](#), Universidade Federal Rural da Amazônia, Paragominas, Brazil
- [Felicia LOGHIN](#), University of Medicine and Pharmacy, Cluj-Napoca, Romania
- [Andrei Daniel MIHALCA](#), UASVM Cluj-Napoca, Romania
- [Andrei MOCAN](#), University of Medicine and Pharmacy, Cluj-Napoca, Romania
- [José Alberto PEREIRA](#), Institut. Politécnico de Bragança, Portugal
- [Ioana Delia POP](#), UASVM Cluj-Napoca, Romania
- [Agnieszka SĘKARA](#), Agricultural University of Kraków, Kraków, Poland
- [Adriana F. SESTRAS](#), UASVM Cluj-Napoca, Romania
- [Lei SHI](#), Huazhong Agricultural University, Wuhan, China
- [Pilar S. TESTILLANO](#), Biological Research Centre, Madrid, Spain
- [Robert VEBERIČ](#), University of Ljubljana, Ljubljana, Slovenia
- [Dan VODNAR](#), UASVM Cluj-Napoca, Romania

Editorial Board - Scientific Members & Section Editors

- [Anthony Jide AFOLAYAN](#), University of Fort Hare, Alice Campus, South Africa
- [Ioan Vasile ABRUDAN](#), Transilvania University, Brașov, Romania
- [Douglas D. ARCHBOLD](#), University of Kentucky, Lexington, USA
- [Grigore BĂCIUT](#), University of Medicine and Pharmacy, Cluj-Napoca, Romania
- [Umberto BERNABUCCI](#), University of Tuscia, Viterbo, Italy
- [Dimitrios BILALIS](#), Agricultural University of Athens, Athens, Greece
- [Anca Dana BUZOIANU](#), University of Medicine and Pharmacy, Cluj-Napoca, Romania
- [Suriyan CHA-UM](#), National Center for Genetic Engineering & Biotechnology - BIOTEC, Thailand
- [Ioan COMAN](#), University of Medicine and Pharmacy, Cluj-Napoca, Romania
- [Vasile CRISTEA](#), Babes-Bolyai University, Cluj-Napoca, Romania
- [Róbert FARKAS](#), Szent István University, Budapest, Hungary
- [Ana FITA](#), Polytechnic University of Valencia, Spain
- [László FODOR](#), Szent István University, Budapest, Hungary
- [Marek GAJEWSKI](#), Warsaw Agricultural University, Warsaw, Poland
- [Stefano GREGO](#), University of Tuscia, Viterbo, Italy
- [Hulya ILBI](#), Ege University, Izmir, Turkey
- [Florin IORAŞ](#), Buckinghamshire New University, High Wycombe, United Kingdom
- [Alexandru IRIMIE](#), ‘Ion Chiricuta’ Cancer Institute, Cluj-Napoca, Romania
- [Kaushalendra Kumar JHA](#), Indian Institute of Forest Management, Bhopal, India
- [Stefania MASCI](#), University of Tuscia, Viterbo, Italy
- [Dan MIHU](#), University of Medicine and Pharmacy, Cluj-Napoca, Romania
- [Meena MISRA](#), Institute of Frontier Sciences&Biotechnology, Baramunda, Bhubaneswar, India
- [Bernardo MURILLO-AMADOR](#), Centro de Investigaciones Biologicas del Noroeste, La Paz, Mexico
- [Vladimir PEŠIĆ](#), University of Montenegro, Podgorica, Montenegro
- [Neiva Izabel PIEROZZI](#), Instituto Agronômico de Campinas, CPDR Genéticos Vegetais, Brazil
- [Jaime PROHENES](#), Polytechnic University of Valencia, Valencia, Spain
- [Cosmin I. PUIA](#), University of Medicine and Pharmacy, Cluj-Napoca, Romania
- [Chen QIN](#), School of Life Science, Shanghai Univ., Shanghai, China
- [Adrián RODRÍGUEZ-BURRUEZO](#), Polytechnic University of Valencia, Valencia, Spain
- [Marco SARIGU](#), Università degli Studi di Cagliari, Cagliari, Italy
- [Klaus SCHALLER](#), Research Center Geisenheim, Geisenheim, Germany
- [Anoop Kumar SRIVASTAVA](#), ICAR – Central Citrus Research Institute, Nagpur, India
- [Franci STAMPAR](#), University of Ljubljana, Ljubljana, Slovenia
- [Feng XU](#), Yangtze University, Jingzhou 434025, Hubei Province, China

Editorial and Administrative Support

- [Adriana D. BACIU](#), UASVM Cluj-Napoca, Romania
- [Cătălina DAN](#), UASVM Cluj-Napoca, Romania
- [Mihail KANTOR](#), Mycology and Nematology Genetic Diversity and Biology Laboratory USDA, ARS, Beltsville, MD 20705, USA
- [Laura Ioana MACAVEI](#), Università degli Studi di Modena e Reggio Emilia, Modena, Italy
- [Lucica MIHALTE](#), UASVM Cluj-Napoca, Romania
- [Irina M. MORAR](#), UASVM Cluj-Napoca, Romania
- [Andreea D. ONA](#), UASVM Cluj-Napoca, Romania
- [Corina F. SERBAN](#), Washington State University, Stone Fruit Breeding & Genetics, IAREC, Prosser, WA 99350-8694, USA
- [Alina M. TRUȚĂ](#), UASVM Cluj-Napoca, Romania

Linguistic Editors

- [Mihaela RUSU](#), UASVM Cluj-Napoca, Romania
- [Rodica STAN](#), UASVM Cluj-Napoca, Romania

Journal Office

- [Roxana L. STOIAN](#), UASVM Cluj-Napoca, Romania
- [Silviu L. MIC](#), UASVM Cluj-Napoca, Romania

Technical Support

- [Ligia CRĂCIUN](#), UASVM Cluj-Napoca, Romania
- [Diana-Maria MIRCEA](#), UASVM Cluj-Napoca, Romania
- [Diana Alexandra POP](#), UASVM Cluj-Napoca, Romania
- [Paula STAN \(GAVRIS\)](#), UASVM Cluj-Napoca, Romania

Notice

To be cited **Notulae Scientia Biologicae** or abbreviated title **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 <https://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. Authors whose mother tongue is not English are strongly urged to have their manuscripts reviewed linguistically before submission.

Manuscripts submitted must be edited, for clarity and conformity purposes according to Author's 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.

Publication Frequency

Quarterly (four issues per volume/year):

- Issue 1: January-March
- Issue 2: April-June
- Issue 3: July-September
- Issue 4: October-December

Publication Ethics and Publication Malpractice Policy

The journal respects the publication ethics norms, based on internationally accepted best practice guidelines for journal editors, notably the Committee on Publication Ethics ([COPE](#)), the World Association of Medical Editors Ethics ([WAME](#)), the International Committee of Medical Journal Editors ([ICMJE](#)) and Consolidated Standards of Reporting Trials ([Consort](#)).

Editor-in-Chief
Prof. dr. h.c. Radu E. SESTRAŞ

Table of Contents - Vol 15, No 1 (2023)

CONTENT	Article number
Editorial Introduction pages, Notulae Scientia Biologicae 15(1), 2023 Radu E. SESTRAS	11534 PDF
<hr/>	
Review articles A review of Moroccan medicinal plants used in the treatment of inflammation Aziz ZOUHRI, Yahya EL-MERNISSI, Naoual EL MENYIY, Toufik BOUDDINE, Nora MIR, Kamal EL AISSAOUI, Hassan AMHAMDI, Abdelhay ELHARRAK, Lhoussain HAJJI	11414 PDF
From skin infection to invasive diseases: A descriptive review of <i>Staphylococcus aureus</i>, focusing on Panton-Valentine leucocidin and methicillin-resistant strains Ikrame ZEOUK	11402 PDF
Pathophysiological aspects of renal stone formation and stone types Rabie KACHKOUL, Ghita BENJELLOUN TOUIMI, Ghita EL MOUHRI, Radouane EL HABBANI, Anissa LAHRICHI	11462 PDF
Potential biological control agents for the control of vector mosquitoes: A review Anjali RAWANI	11325 PDF
<hr/>	
Research articles A short-term survival analysis of severe patients with acute vascular event admitted on intensive care unit department Alexandra SAIOC, Vlad-Ionuț NECHITA, Cosmin I. PUJA	11394 PDF
Antidepressant and anxiolytic-like activities of the dichloromethane/methanol extract of <i>Crateva adansonii</i> in mice exposed to chronic mild stress Galba J. BEPPE, Nanou G. ALLAH-DOUM, Bertrand P. BARGA, Alice I. FOLEFACK, Alain B. DONGMO	11459 PDF
Biogenesis of silver nanoparticles from the shoot extract of <i>Delonix regia</i> its characterization (UV-Vis spectroscopy and SEM) and evaluation for antimicrobial potential Bhawana SHARMA, Afroz ALAM	11199 PDF
Assessment of analgesic properties of alcohol and aqueous extracts of <i>Opuntia ficus-indica</i> flowers Rajaa LAYACHI, Aziz MOUHADDACH, Lamiae AMALLAH, Mohammed BENAZIZ, Fatima BOUAZZA, Souad BENAICH, Rachida HASSIKOU, Souad SKALLI	11351 PDF
Elemental impact on antibacterial study of hydroalcoholic leaves extract of <i>Belosynapsis vivipara</i> Kuntal DAS, Sravani SINGIRIKONDA	11409 PDF

Phytochemical studies and in vitro evaluation of the antioxidant activity of some medicinal and aromatic plants from Morocco	11423	PDF
Anas EL MEKKAOUI, Mohamed KHAMAR, Chaimae SLIMANI, Abderrahman NOUNAH, Essediya CHERKAOUI, Fatima BENRADI, Chaimae RAIS		
Environmental variations on physicochemical properties in vasicine content of <i>Adhatoda vasica</i> – An ayurvedic medicinal plant	11368	PDF
Palshikar GAUTAM, Shanmugapandiyan PITCHAIMUTHU		
Antioxidant capacity and nutraceutical compounds content of six common bean (<i>Phaseolus vulgaris</i> L.) varieties harvested in Morelos, Mexico	11353	PDF
Celia CHÁVEZ-MENDOZA, Esteban SÁNCHEZ		
Antagonism and plant growth promoting traits of actinomycetes isolated from the rhizosphere of halophyte <i>Atriplex halimus</i> L.	11437	PDF
Inas BOUKELLOUL, Lamia AOUAR, Mohamed CHEKARA BOUZIANI, Amar ZELLAGUI, Mouna DERDOUR, Youcef NECIB		
FTIR analysis and study of some physicochemical parameters and antioxidant activity of <i>Opuntia ficus-indica</i> seed oil from Tebessa region, Algeria	11345	PDF
Mouna DIB, Amel BENBOTT		
Chemical composition of <i>Vitex agnus-castus</i> L. flowers collected from populations distributed in Aydin, Türkiye	11377	PDF
Emre SEVİNDİK, Deniz KARAKOYUN, İbrahim M. GÜLDERE, Fatih BORHAN, Elif APAYDIN, Emre KABİL		
Impact of magnetization of irrigation water on growth, yield and nutritional qualities of tomato under deficit irrigation	11360	PDF
Modupe R. BAIYERI, Kamorudeen O. YUSUF, Rasheed O. OBALOWU, Ganiyu SAAD, Ibrahim K. BANJOKO		
Soil seed bank studies of <i>Tithonia rotundifolia</i> invaded fallow land and competitive association with <i>Chromolaena odorata</i>	11380	PDF
Yetunde I. BULU, Rilwan O. AHMED, Opefoluwa D. FADAYOMI, Otitoloju KEKERE		
Paraburkholderia tropica PKI7 and Kosakonia arachidis PKI8: Two newly reported tannase producing bacteria isolated from forest soil and study of their tannase producing potentiality	11379	PDF
Ishita BISWAS, Pradeep K. DAS MOHAPATRA		
Anatomical and morphological structure of the leaf of the genus <i>Malus</i> spp.	11449	PDF
Inna GONCHAROVSKA, Iwona SZOT		
Flow cytometry and chromosome numbers variation in argan tree <i>Argania spinosa</i> (L.) Skeels	11451	PDF
Ali EL BOUKHARI, Salma TABI, Abdelhamid EL MOUSADIK, Rachida EL BOULLANI, Abdelghani TAHIRI, Meriyem KOUFAN, Hamid BENYAHIA, Rachid BOUHARROUD, Naima AIT AABD		

Journal Contact

Mailing Address

[Notulae Scientia Biologicae](#)

Radu E. SESTRAS, Editor-in-Chief

Society of Land Measurements and Cadastre from Transylvania - SMTCT

134 Donath Street, 400293

Cluj-Napoca, Romania

Horticulture and Forestry Society from Transylvania

3-5 Manastur St., 400372 Cluj-Napoca, Romania

Phone: +40 264-596 384; Fax: +40 364-819 182

Email: rsestras@notulaebiologicae.ro

Technical Support Contact

Email: editor1@notulaebiologicae.ro

Publisher

- [Society of Land Measurements and Cadastre from Transylvania \(SMTCT\)](#)

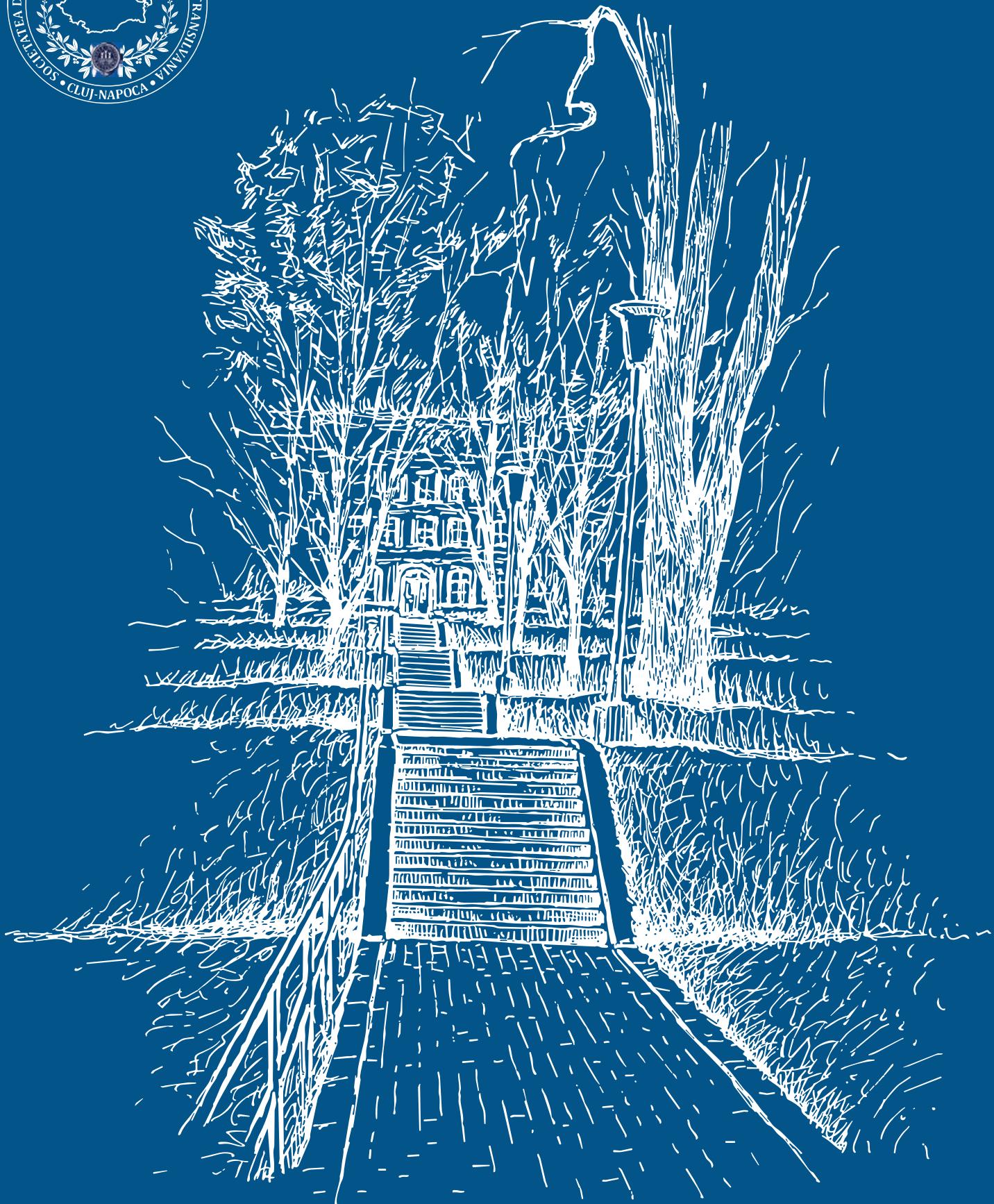
Journal Sponsorship: Societies/Institutions

- [Society of Land Measurements and Cadastre from Transylvania \(SMTCT\)](#)
- [Horticulture and Forestry Society from Transylvania](#)
- [University of Agricultural Sciences and Veterinary Medicine \(UASVM\)](#)

Sources of Support

Additional agencies or organizations that provide financial or in-kind support:
SC TOPOCAD





Electronic ISSN 2067-3264
www.notulaebiologicae.ro