

e-ISSN: 2148-6905

a peer-reviewed  
online journal

hosted by **DergiPark**

# International Journal of Secondary Metabolite

Volume: 11

Issue: 3

September 2024

<https://dergipark.org.tr/en/pub/ijsm>

**Volume 11****Issue 3****2024**

<b>Editor</b>	Prof. Dr. Selami SELVİ
<b>Address</b>	Balıkesir University, Altinoluk Vocational School, Edremit/Balıkesir, Türkiye
<b>Phone</b>	+90 266 396 1552
<b>E-mail</b>	<a href="mailto:sselvi@balikesir.edu.tr">sselvi@balikesir.edu.tr</a>
<b>Publisher</b>	Prof. Dr. Izzet KARA
<b>Address</b>	Pamukkale University, Education Faculty, Kinikli Campus, 20070 Denizli, Türkiye
<b>Phone</b>	+90 258 296 1036
<b>Fax</b>	+90 258 296 1200
<b>E-mail</b>	<a href="mailto:ikara@pau.edu.tr">ikara@pau.edu.tr</a> <a href="mailto:ijsm.editor@gmail.com">ijsm.editor@gmail.com</a>
<b>Journal Contact</b>	Prof. Dr. Gurkan SEMİZ
<b>Address</b>	Pamukkale University, Faculty of Science, Department of Biology, Kinikli Campus, Denizli, 20070, Türkiye
<b>Phone</b>	+90 258 296 3582
<b>Fax</b>	+90 258 296 1200
<b>E-mail</b>	<a href="mailto:gsemiz@pau.edu.tr">gsemiz@pau.edu.tr</a>
<b>Frequency</b>	4 issues per year (March, June, September, December)
<b>Online ISSN</b>	2148-6905
<b>Website</b>	<a href="https://dergipark.org.tr/en/pub/ijsm">https://dergipark.org.tr/en/pub/ijsm</a>
<b>Cover Design</b>	IJSM

International Journal of Secondary Metabolite (IJSM) is a peer-reviewed and academic online journal. The scientific and legal responsibility for manuscripts published in our journal belongs to the authors(s).

## **International Journal of Secondary Metabolite**

*International Journal of Secondary Metabolite* (IJSM) purposes the publication of articles related to secondary metabolites of plant and allied organisms (algae, fungi, and lichens). IJSM is open-access, peer-reviewed academic journal published electronically and quarterly. The journal is the goal to improve the research culture and help knowledge spread rapidly in the academic world by providing a common academic platform in the scope. The journal is published in English.

IJSM is published 4 issues per year (March, June, September, December), and accepting manuscripts related to secondary metabolites of plant and allied organisms (algae, fungi, and lichens). Research areas covered in the journal are phytochemistry, biochemistry, biotechnology, ethnopharmacology, biological and pharmacological activities (antimicrobial activity, antioxidant activity, antiulcer activity, anti-convulsant activity, anti-anxiety activity, antidiabetic activity, anti-gout activity, antiprotozoal activity, anti-inflammatory activity, antispasmodic activity, antiparasitic activity, anti-mutagenic activity, anticholinesterase activity, antidepressant activity, hepatoprotective activity, anti-anxiety activity, anti-convulsant activity, anti-spasmodic activity, anticancer activity). IJSM welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence. Authors are required to frame their research questions and discuss their results in terms of major questions in plant biology. Contribution is open to researchers of all nationalities. The following types of articles will be considered:

1. Research articles: Original research in various fields of plant and allied organisms (algae, fungi, and lichens) will be evaluated as research articles.
2. Research notes: These include articles such as preliminary notes on a study or manuscripts new records on secondary metabolites.
3. Reviews: Reviews of recent developments, improvements, discoveries, and ideas in various fields of plant and allied organisms (algae, fungi, and lichens) will be requested by the editor or advisory board.
4. Letters to the editor: These include opinions, comments relating to the publishing policy of the International Journal of Secondary Metabolite, news, and suggestions. Letters are not to exceed one journal page.

All articles accepted to the IJSM are published without charge for article submission, review or printing.

### **Indexes and Databases:**

- SCOPUS
- TR Dizin
- EBSCOHOST databases
- MIAR (Information Matrix for Analysis of the Journals)
- SIS (Scientific Index Service) Database,
- ERIH PLUS
- CAB Abstracts
- DOAJ
- JournalTOCs
- idealonline
- CrossRef
- ASOS Index

### Editors

**Dr. Selami Selvi**, *Balikesir University, Türkiye*

### Editorial Board

**Dr. Akym Assani**, *Canadian Food Inspection Agency, Canada*

**Dr. Alaattin Sen**, *Abdullah Gül University, Türkiye*

**Dr. Bui Thanh Tung**, *Vietnam National University, Vietnam*

**Dr. Ebru Ataslar**, *Eskisehir Osmangazi University, Türkiye*

**Dr. Eyup Bagci**, *Firat University, Türkiye*

**Dr. Faik Kantar**, *Akdeniz University, Türkiye*

**Dr. Fawzi Mahomoodally**, *University of Mauritius, Réduit, Mauritius*

**Dr. Fethi Ahmet Ozdemir**, *Bingol University, Türkiye*

**Dr. Gokhan Zengin**, *Selcuk Üniversitesi, Türkiye*

**Dr. Gurkan Semiz**, *Pamukkale University, Türkiye*

**Dr. Hakan Akca**, *Pamukkale University, Türkiye*

**Dr. Haniyeh Bidadi**, *University of Tsukuba, Japan*

**Dr. Huseyin Servi**, *Altinbas University, Türkiye*

**Dr. Ibrahim Kivrak**, *Mugla Sitki Kocman University, Türkiye*

**Dr. Lucian Hriteu**, *Alexandru Ioan Cuza University of Iasi, Romania*

**Dr. Meriem Elaloui**, *National Institute of Research in Rural Engineering, Tunisia*

**Dr. Muhammad Akram**, *Government College University Faisalabad, Pakistan*

**Dr. Mohammad Asadi**, *University of Mohaghegh Ardabili, Iran*

**Dr. Namik M. Rashydov**, *National Academy of Sciences of Ukraine, Ukraine*

**Dr. Nazim A. Mamedov**, *University of Massachusetts Amherst, USA*

**Dr. Oktay Erdogan**, *Pamukkale University, Türkiye*

**Dr. Ozan Emre Eyupoğlu**, *Istanbul Medipol University, Türkiye*

**Dr. Sharad Vats**, *Banasthali University, India*

**Dr. Seyda Kivrak**, *Mugla Sitki Kocman University, Türkiye*

**Dr. Sibel Silici**, *Erciyes University, Turkey*

**Dr. Vahid Tavallali**, *Payame Noor University, Iran*

**Dr. Yesim Kara**, *Pamukkale University, Türkiye*

### Foreign Language Editor

**Dr. R. Sahin Arslan**, *Pamukkale University, Türkiye*

**Dr. Hatice Altun**, *Pamukkale University, Türkiye*

### Latin Language Editor

**Dr. Hasan Genc**, *Burdur Mehmet Akif Ersoy University, Türkiye*

## Table of Contents

### **Research Articles**

Total phenolic content and antioxidant activity of extracts obtained from tobacco waste seeds, grown under organic production

**Page: 408-420 PDF**

Liliya Stoyanova, Maria Angelova Romova, Margarita Docheva, Desislava Kirkova

Biological control of pathogenic fungi using *Pseudomonas brassicacearum* isolated from *Aronia × prunifolia* (Marshall) Rehder roots

**Page: 421-434 PDF**

Luau Burhan Mustafa, Ahmed Ismael Naqee Al-bayati, Dunya Albayati, İbrahim Özkoç

Assessment of the differences of hematological variables and their correlation with glycemic control among type 2 diabetes mellitus patients in Iraq: Comparative cross-sectional study

**Page: 435-444 PDF**

Osamah Ahmed

Carotenoid content, phytochemical screening, and antioxidant potential of Kantutay (*Lantana camara* L.), Katuray (*Sesbania grandiflora* L.), and Blue Ternate (*Clitoria ternatea* L.) flowers in the Philippines

**Page: 445-461 PDF**

Melanie D. Piedad, Lexter Natividad

Selenium nanoparticles synthesized via green methods from *Calluna vulgaris* extract: Exploring their antioxidant and antibacterial activities

**Page: 462-471 PDF**

Ecem Erdem, Çiğdem Aydın Acar

Secondary metabolites of *Santolina africana*: chemical profiles and assessment of biological activities

**Page: 472-485 PDF**

Marwa Khammassi, Sana Khedhri, Awatef Slama, Meriam Boudkhılı, Ismail Amrı, Lamia Hamrouni, Bassem Jammoussi

The preliminary study on the antifungal effect of Kaffir lime (*Citrus hystrix* DC) peel extract against *Malassezia furfur*

**Page: 486-493 PDF**

Mulyati Sri Rahayu, Wizar Putri Mellaratna, Nailah Najah

Antibacterial and antioxidant properties and phytochemical screening of *Laurus nobilis* L. extract from Ethiopia

**Page: 494-506 PDF**

Rebecca Beyene, Teshome Biru, Prof. Aman Dekebo

Chemical content profile and antioxidant activity of *Rhododendron ponticum* extracts

**Page: 507-513 PDF**

Yusuf Sıcak, İrfan Öztürk, Bihter Şahin, Dilaycan Çam, Cansel Cakır

Effective inhibition of bacterial sialidases by phenolic acids and flavonoids

**Page: 514-521 PDF**

Yana Gocheva, Milena Nikolova, Stephan Engibarov, Irina Lazarkevich, Rумыana Eneva

---

Chemical composition and potent antibacterial activities of colony-forming cyanobacteria, *Desmonostoc muscorum* (Nostocales, Cyanophyceae)

**Page: 522-532 PDF**

Eldrin Arguelles

---

Effects of nitric oxide on composition of the isolated essential oil from *Satureja hortensis* L. (Lamiaceae), under the cadmium stress

**Page: 533-542 PDF**

Iraj Azizi, Mohammad Asadi

---

Antimicrobial and antibiofilm studies on three endemic species of *Verbascum* L. (Scrophulariaceae) in Türkiye

**Page: 543-550 PDF**

Pervin Soyer, Sevim Küçük, Yağmur Tunalı

---

Cytotoxic effect of *Eleutherococcus trifolius* (L.) S.Y. Hu stem bark extracts on Gastric, Lung, and Hepatocellular cancer cells

**Page: 551-561 PDF**

Nguyen Quan, Bui Thi Kim Ly, Hoang Thanh Chi

---

Chemical characterization and antioxidant activities of essential oil of *Ficus elastica* Roxb. ex Hornem. leaves

**Page: 562-573 PDF**

Chika Attama, Lawrence Luka, Chidama, Bulama Ndakudu

---

Molluscicidal activity of *Nigella sativa* seed, *Azadirachta indica* leaf and *Khaya senegalensis* bark ethanolic extracts against *Bulinus truncatus* snails

**Page: 574-583 PDF**

Ayat Alrasheid, Gokhan Zengin, Saad Mohammed Hussein Ayoub, Ahmed Saeed Kabbashi

---

Examination of the chemical composition and anti-diabetic activities of the oils of *Abelmoschus esculentus*, *Peganum harmala*, and *Aquilaria agallocha* cultivated in Muğla

**Page: 584-591 PDF**

Yunus Çetintaş, Ayşe Çetintaş, Yusuf Sıcak, Mehmet Öztürk

---

Phytochemical screening and in vitro biological activity of *Amaranthus viridis* growing in Northern Cyprus

**Page: 592-603 PDF**

Melis Sümengen Özdenefe, Fikret Büyükkaya Kayış, Ümit Haydar Erol, Aysun Mercimek Takcı

---