

Editor : Prof. Dr. Selami SELVİ  
Address : Balıkesir University,  
Altınoluk Vocational School, Edremit/Balıkesir, Türkiye  
Phone : +90 266 396 1552  
E-mail : [sselvi@balikesir.edu.tr](mailto:sselvi@balikesir.edu.tr)

Publisher : Prof. Dr. İzzet KARA  
Address : Pamukkale University, Education Faculty,  
Kinikli Campus, 20070 Denizli, Türkiye  
Phone : +90 258 296 1036  
Fax : +90 258 296 1200  
E-mail : [ikara@pau.edu.tr](mailto:ikara@pau.edu.tr)  
[ijsm.editor@gmail.com](mailto:ijsm.editor@gmail.com)

Frequency : 4 issues per year (March, June, September, December)  
Online ISSN : 2148-6905  
Website : <https://dergipark.org.tr/en/pub/ijsm>

Cover Design: Merve SENTURK

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
- EBSCO
- CAB Abstracts
- MIAR
- DOAJ,
- SIS (Scientific Index Service) Database,
- JournalTOCs
- idealonline
- ResearchBib
- 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. Tunhan Demirci**, *Suleyman Demirel University, Türkiye*

**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**

Effects of glutathione on mitochondrial DNA and antioxidant enzyme activities in *Drosophila melanogaster*

**Page:** 377-386 **PDF**

Hulya YILDIZ

---

Composition analysis and antibacterial activity evaluation of different crude extracts of *Mentha piperita* (Lamiaceae)

**Page:** 387-396 **PDF**

Ms. Zahra Mohammed AL-HAJRI, Md Amzad HOSSAIN, Salim Said AL-TOUBY

---

Mineral contents, antimicrobial profile, acute and chronic toxicity of the aqueous extract of Moroccan *Thymus vulgaris* in rodents

**Page:** 397-414 **PDF**

Nidal Naceiri MRABTI, Hanae Naceiri MRABTI, Latifa DOUDACH, Zineb KHALIL, Mohamed Reda KACHMAR, Mouna MEKKAOU, Moulay El Abbes FAOUZI, Emad M. ABDALLAH, Gokhan ZENGİN, Abdelhakim BOUYAHYA, Menana ELHALLAOUI

---

Chemical profiling of *Oxalis* species growing wild in Egypt using HRLC/MS Spectrometry

**Page:** 426-439 **PDF**

Amal DRAZ, Salwa KAWASHTY, Eman SHAMSO, Hasnaa HOSNI, Sameh HUSSEIN

---

Influence of drying method and infusion time on purple basil leaves tea

**Page:** 457-466 **PDF**

Ayca GULHAN, Hacer COKLAR, Mehmet AKBULUT

---

Pharmacokinetics, drug-likeness, antibacterial and antioxidant activity of secondary metabolites from the roots extracts of *Crinum abyssinicum* and *Calotropis procera* and in silico molecular docking study

**Page:** 467-492 **PDF**

Getachew TEGEGN, Yadessa MELAKU, Rajalakshmanan ESWARAMOORTHY, Milkyas ENDALE ANNISA

---

Antioxidant and antimicrobial activities of methanol extracts from *Adonis paryadrica* (Asteraceae) – a critically endangered endemic species growing in the Turkish flora

**Page:** 493-503 **PDF**

Mustafa CUCE

---

Determination of heavy metal concentrations and soil samples of *Betula pendula* and *Populus tremula* in Nemrut Crater Lake

**Page:** 504-512 **PDF**

Sukru HAYTA, Elif FIRAT

---

Medical physiological perspective to biochemical assays and GC-MS results of corn tassel

**Page:** 513-524 **PDF**

Burak YAMAN

---

Combined effect of nitrogen and phosphorus on growth and biochemical composition of *Tetrademus obliquus* (Turpin) M.J. Wynne

**Page:** 525-537 **PDF**

Fusun AKGUL, Riza AKGUL

---

The phenolic profile and biological activities of common *Scorzonera* species from Eastern Anatolia

**Page:** 538-550 **PDF**

Sazgar Hassan BABAKR, Emre EREZ, Muzaffer MUKEMRE, Abdullah DALAR

---

### ***Review Articles***

---

Review on phytochemicals and biological activities of natural sweeteners *Stevia rebaudiana* Bertoni

**Page:** 415-425 **PDF**

Md Amzad HOSSAIN, Said AL HARTHY, Salem SAID AL TOUBY

---

Medicinal uses, chemical constituents and biological activities of *Rumex abyssinicus*: A Comprehensive review

**Page:** 440-456 **PDF**

Gashaw NIGUSSIE, Mekdes TOLA, Tiruwork FANTA

---