



ATATÜRK  
UNIVERSITY  
PUBLICATIONS


# Veterinary Sciences *and Practices*

*Formerly: Atatürk University Journal of Veterinary Sciences  
Official journal of Atatürk University Veterinary Sciences*

**Volume 18 • Issue 3 • December 2023**

# Veterinary Sciences and Practices

## Editor-in-Chief

Mustafa Sinan AKTAŞ 

Department of Internal Medicine, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Türkiye

## Associate Editors

Hakan AYDIN 

Department of Virology, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Türkiye

Murat GENÇ 

Department of Zootechnics, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Türkiye

Uğur ÖZENTÜRK 

Department of Zootechnics, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Türkiye

Kerim Emre YANAR 

Department of Veterinary Internal Medicine, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Türkiye

## Statistical Editor

Ekrem LAÇIN 

Department of Zootechnics, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Türkiye

## Foreign Language Editor

M. Gökhan ŞENOCAK 

Department of Surgery, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Türkiye

## Advisory Board

Mustafa ALIŞARLI

Department of Food Hygiene and Technology, Bolu Abant İzzet Baysal University, Faculty of Veterinary Medicine, Bolu, Türkiye

Mustafa ATASEVER

Department of Food Hygiene and Technology, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Türkiye

Aleksandra GORECKA-BRUZDA

Department of Animal Behavior, Polish Academy of Sciences, Institute of Genetics and Animal Biotechnology, Warsaw, Poland

Zekai HALICI

Department of Medical Pharmacology, Atatürk University, Faculty of Veterinary Medicine, Erzurum, Türkiye

Ardita JAHJA-HOXHA

Department of Food Business, Savonia University of Applied Sciences, Kosovo

Tanvir RAHMAN

Department of Microbiology and Hygiene, Bangladesh Agricultural University, Bangladesh

Eva VOSSLAROVA

Department of Animal Protection and Welfare and Veterinary Public Health, Veterinary and Pharmaceutical Sciences University, Czech Republic

Daniel ZAHNER

Faculty of Veterinary Medicine, Justus Liebig University Giessen, Giessen, Germany



### Founder

İbrahim Kara

### General Manager

Ali Şahin

### Finance Coordinator

Sinem Fehime İlhan

### Journal Managers

Deniz Kaya

İrmak Berberoğlu

Arzu Arı

### Publications Coordinators

Alara Ergin

İrem Özmen

Derya Azer

Beril Tekay

Nisanur Atıcı

Şeref Mert Gücün

Simge Akkaş

### Web Specialists

Erdem Ercivan

Doğan Oruç

### Project Assistant

Batuhan Kara

### Contact

Publisher: Atatürk University  
Address: Atatürk University, Yakutiye,  
Erzurum, Türkiye

Publishing Service: AVES  
Address: Büyükdere Cad., 199/6,  
34394 Şişli, İstanbul, Türkiye  
Phone: +90 212 217 17 00  
E-mail: info@avesyayincilik.com  
Webpage: www.avesyayincilik.com

# Veterinary Sciences and Practices

## ABOUT

Veterinary Sciences and Practices is a peer-reviewed, open access, online-only journal published by Atatürk University.

Veterinary Sciences and Practices is published triannually in Turkish and English, with issues released in April, August, and December. Beginning on October 17, 2023, Veterinary Sciences and Practices will exclusively consider articles in English. However, Turkish abstracts will still be included in English articles alongside the English abstracts. A language editor will be responsible for translating the English abstracts of accepted papers into Turkish.

### Journal History

As of 2022, the journal has changed its title to Veterinary Sciences and Practices.

### Current Title

Veterinary Sciences and Practices  
EISSN: 2822-3608

### Previous Title (2006-2021)

Atatürk Üniversitesi Veteriner Bilimleri Dergisi  
ISSN: 1306-6137  
EISSN: 2147-9615

Veterinary Sciences and Practices currently indexed in Scopus, DOAJ, EBSCO, EMBASE, CABI, China National Knowledge Infrastructure (CNKI) and TUBITAK ULAKBIM TR Index.

Veterinary Sciences and Practices aims to publish studies of the highest scientific level in all fields of veterinary medicine.

Veterinary Sciences and Practices is a comprehensive journal dedicated to the field of veterinary medicine, encompassing various aspects of animal health, diseases, diagnostics, treatment techniques, and preventive measures. The primary focus of the journal is to publish original research that addresses significant clinical inquiries and contributes to the advancement of knowledge and treatment of veterinary conditions. The scope of the journal includes studies on the efficacy of different treatment modalities, innovative diagnostic tools or techniques, and novel approaches to the prevention and management of diverse veterinary diseases and injuries. Veterinary Sciences and Practices aims to foster the dissemination of high-quality research that can enhance the well-being and healthcare of animals, promote animal welfare, and improve the overall practice of veterinary sciences.

Veterinary Sciences and Practices publishes clinical and basic research articles, review articles, case reports, letters to the editor, editorial commentaries, short communications, and brief reports.

The target audience of the journal includes specialists and professionals working and interested in all disciplines of veterinary medicine.

### Open Access Statement

Veterinary Sciences and Practices is an open access publication.

Starting on April 2022, all content published in the journal is licensed under the Creative Commons Attribution-NonCommercial (CC BY-NC) 4.0 International License which allows third parties to use the content for non-commercial purposes as long as they give credit to the original work. This license allows for the content to be shared and adapted for non-commercial purposes, promoting the dissemination and use of the research published in the journal.

The content published before April 2022 was licensed under a traditional copyright, but the archive is still available for free access.

All published content is available online, free of charge at <https://veterinarysciences-ataunipress.org/EN>.

You can find the current version of the Instructions to Authors at <https://veterinarysciences-ataunipress.org/>.

**Editor-in-Chief:** Mustafa Sinan AKTAŞ

**Address:** Atatürk University, Faculty of Veterinary Medicine, Department of Internal Medicine, Erzurum, Türkiye

**E-mail:** [vetdergisi@atauni.edu.tr](mailto:vetdergisi@atauni.edu.tr)

**Publisher:** Atatürk University

**Address:** Atatürk University, Yakutiye, Erzurum, Türkiye

**Publishing Service:** AVES

**Address:** Büyükdere Cad., 199/6 34394 Şişli, İstanbul, Türkiye

**Phone:** +90 212 217 17 00

**E-mail:** [info@avesyayincilik.com](mailto:info@avesyayincilik.com)

**Webpage:** [www.avesyayincilik.com](http://www.avesyayincilik.com)

## CONTENTS

### RESEARCH ARTICLES / ARAŞTIRMA MAKALELERİ

- 90** **Effects of *Vitis vinifera* L. cv. "Merlot" Seed Extract Against Thallium (I) Sulfate-Induced Reproductive Damage in Male Rats**  
Erkek Sıçanlarda Talyum (I) Sülfatın Neden Olduğu Üreme Hasarına Karşı *Vitis vinifera* L. cv "Merlot" Tohum Ekstraktının Etkileri  
*Ali Doğan ÖMÜR, Betül APAYDIN YILDIRIM, Behzad MOKHTARE, Sefa KÜÇÜKLER, Ali Sefa MENDİL, Arzu GEZER, Serkan Ali AKARUSU*
- 95** **Immunomodulatory and Anti-Inflammatory Effect of Thymoquinone on Rat Liver and Kidneys**  
Timokinonun Rat Karaciğer ve Böbrekleri Üzerindeki İmmunomodülatör ve Antiinflatuvar Etkisi  
*Şerife TÜTÜNCÜ, Tuğrul ERTUĞRUL, Ali ERTEKİN, Nurcan DELİCE, Emine ALTIN*
- 102** **An Agent Forgotten in the Diagnosis of Calf Diarrhea: Bovine Noroviruses and Molecular Characterization**  
Buzağı İshallerinde Teşiste Unutulan Bir Etken: Sığırların Norovirusları ve Moleküler Karakterizasyonu  
*Mehmet Özkan TIMURKAN, Hakan AYDIN,*
- 107** **Effectiveness of Hypochlorous Acid in Cats with Bacterial Cystitis**  
Bakteriyel Sistitli Kedilerde Hipokloröz Asidin Etkinliği  
*Serpil ELMACI, Sercan Hüseyin BAYENDUR, Abuzer ACAR*
- 112** **Protective Effect of Subsieve Grape Extract (*Vitis vinifera* L.) on Testes, Reproductive Hormones, and Some Spermatological Parameters in Heat Stress-Induced Rats**  
Elekaltı Üzüm Ekstraktının (*Vitis Vinifera* L.) Sıcaklık Stresi Uygulanan Ratlarda Testis, Reprodüktif Hormonlar ve Bazı Spermatolojik Parametreler Üzerine Koruyucu Etkisi  
*Volkan KOŞAL, Abdurrahman AVCI, Nuriye Tuğba BİNGÖL, Ömer Faruk KELEŞ, Ahmet Ufuk KÖMÜROĞLU, Çağlar OKULMUŞ*
- 117** **Echocardiographic Evidence of Left Ventricular Hypertrophy in Obese Cats**  
Obez Kedilerde Sol Ventrikül Hipertrofisinin Ekokardiyografik Bulguları  
*Marzieh RAHİMİNİYYAT, Farnoosh ARFAEE, Arman ABDOUS, Pardis KABİR*
- 123** ***Lawsonia inermis* Linn. Positively Improves the Expression of Various Inflammatory Cytokines and Apoptotic Cell Death Biomarkers of Streptozotocin-Induced Diabetic Wistar Rats**  
*Lawsonia inermis* Linn., Streptozotosinle İndüklenmiş Diyabetik Wistar Ratların Çeşitli İnflamatuar Sitokinler ve Apoptotik Hücre Ölümü Biyobelirteçlerinin Ekspresyonunu Olumlu Bir Şekilde Artırır  
*Aremu ABDULFATAİ, Akorede Ganiu JİMOH, Basiru AFİSU, Yusuf Kolawole SULEİMAN, Akeem Olayiwola AHMED, Raufu Adisa İBRAHİM*
- 133** **Acknowledgement of Reviewers**