



SRI LANKA VETERINARY ASSOCIATION

PROCEEDINGS OF THE

**77th ANNUAL
SCIENTIFIC SESSIONS**

**"Driving National Progress Through Veterinary Science:
Collaboration, Innovation, and Sustainability"**

22nd AUGUST 2025

The Grand Kandyan Hotel, Kandy

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Sri Lanka Veterinary Association

77th Annual Scientific Sessions

Programme and Abstracts

22nd August 2025
The Grand Kandyan Hotel
Kandy
Sri Lanka

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SRI LANKA VETERINARY ASSOCIATION
ISSN 3021-4397

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**ANNUAL SCIENTIFIC SESSIONS
SRI LANKA VETERINARY ASSOCIATION**

**22nd August 2025
The Grand Kandyan Hotel, Kandy**

Programme

- 8.30 a.m. – 9.00 a.m. Registration
- 9.00 a.m. – 9.15 a.m. Arrival of the Guests and Ceremonial Procession
- 9.15 a.m. – 9.30 a.m. National Anthem and Lighting of the Traditional Oil Lamp
- 9.30 a.m. – 9.40 a.m. Welcome Address
Dr. Ushan Pallegama
President, Sri Lanka Veterinary Association
- 9.40 a.m. – 9.50 a.m. Address by Platinum Sponsor
Ms. Deeba Giannoulis
Regional Head of Corporate Affairs - SAASSA, USSEC
- 9.50 a.m. – 10.20 a.m. Keynote Speech
Dr. Y. Reddi Bommineni
Director, Bureau Chief
Bronson Animal Disease Diagnostics Laboratory
Florida Department of Agriculture and Consumer Services, USA
- 10.20 a.m. – 10.30 a.m. Address by the Chair, Scientific Committee
Prof. Sampath Lokugalappatti
Chairman, Scientific Committee 2025
- 10.30 a.m. – 10.45 a.m. Address by the Chief Guest
Prof. Sarath Abeykoon
Hon. Governor, Central Province of Sri Lanka
- 10.45 a.m. – 10.55 a.m. Vote of Thanks
Dr. Chathura Priyadarshana
Secretary, Sri Lanka Veterinary Association
- 10.55 a.m. – 11.15 a.m. MORNING TEA**
- 11.30 a.m. onwards **Parallel Technical Sessions**

Parallel Technical Sessions: Morning (11.30 a.m. to 1.00 p.m.)

11.30 a.m. – 1.00 p.m. Clinical – I (**Venue: Royal Peacock Ball Room**)
Animal Health (**Venue: Golden Eagle Ball Room-Section A, 1st Floor**)
Veterinary Public Health (**Venue: Golden Eagle Ball Room -
Section B, 1st Floor**)

12.00 noon – 1.00 p.m. Mini Oral – Clinical (**Venue: Falcon Conference Room, 4th Floor**)

1.00 p.m. – 2.00 p.m. LUNCH

Parallel Technical Sessions: Afternoon (1.45 p.m. to 3.45 p.m.)

2.00 p.m. – 4.00 p.m. Clinical – II (**Venue: Royal Peacock Ball Room**)
Animal Production and Veterinary Educational Research
(**Venue: Venue: Golden Eagle Ball Room -Section A, 1st Floor**)
Wildlife and Aquatic Veterinary Medicine (**Venue: Golden Eagle Ball
Room -Section B, 1st Floor**)

2.00 p.m. – 4.00 p.m. Mini Oral – Research (**Venue: Falcon Conference Room, 4th Floor**)

4.00 p.m. – 4.10 p.m. Appreciations for the Scientific Committee, Chairs and Judges of
Scientific Sessions 2025

4.10 p.m. – 4.15 p.m. Vote of Thanks
Dr. Manoji Jayathilaka
Secretary, Scientific Committee 2025

4.15 p.m. AFTERNOON TEA

77th Executive Committee of SLVA

President	Dr. Ushan Pallegama
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Prof. Sampath Lokugalappatti

Secretary

Dr. Manoji Jayathilaka

Track Chairs

Veterinary Clinical Sciences – Dr. Eranda Rajapaksha

Animal Health – Dr. Thilini Anupama

Wildlife and Aquatic Veterinary Medicine – Dr. Dananjaya Karunaratna

Animal Production – Prof. Ruvini K. Mutucumarana

Veterinary Public Health – Dr. Kamalika Ubeyratne

Veterinary Educational Research – Prof. Nayana Wijayawardhane

Members

Dr. Chandani Ganga Wijesinghe

Dr. Madhavi Hathurusinghe

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Prof. Ruvini K. Mutucumarana
Prof. Nayana Wijayawardhane
Dr. Eranda Rajapaksha
Dr. Kamalika Uberathna
Dr. Thilini Anupama
Dr. Dananjaya Karunaratna
Dr. Chandani Ganga Wijesinghe
Dr. Madhavi Hathurusinghe
Dr. Saumya Wickramasinghe

Message from the President, Sri Lanka Veterinary Association



Dr. Ushan Pallegama

President

Sri Lanka Veterinary Association

It is my great pleasure to pen these words as the 77th President of the Sri Lanka Veterinary Association (SLVA) the premier professional body in Sri Lanka exclusively comprising veterinarians dedicated to advancing the veterinary profession since its inception in 1940.

SLVA has not only represented and served the veterinary community, but has also made significant contributions to national development through its objectives and aspirations in technical, socio-economic, and policy domains of veterinary medicine and animal science. These multifaceted contributions have been a hallmark of SLVA's legacy over the decades.

Our commitment to innovation in veterinary medicine and animal science particularly in fostering sustainability within the livestock sector and ensuring national food security is realized through strong collaborations with allied professions across both the public and private sectors. In alignment with this vision, our annual activities are guided by the theme: "Driving National Progress Through Veterinary Science: Collaboration, Innovation & Sustainability", which also serves as the central theme for the SLVA Annual Scientific Sessions 2025.

The Scientific Sessions are a cornerstone of SLVA's annual calendar, providing a vital platform for Sri Lankan veterinarians to present their research and clinical insights across diverse disciplines, including companion and large animal health and surgery, wildlife, aquaculture, livestock production, epidemiology, public health, food safety, and food security. The thousands of citations from SLVA Scientific Sessions publications underscore the national and international relevance of these contributions.

The 2025 Scientific Sessions are the result of a collaborative effort between the 77th Executive Committee of SLVA and the Scientific Committee 2025, comprising passionate professionals committed to elevating the veterinary profession and contributing to a national renaissance.

I extend my heartfelt appreciation to the Scientific Committee 2025, led by Prof. Sampath Lokugalappatti of the Faculty of Veterinary Medicine & Animal Science, as well as to all reviewers, judges, and contributors who supported this endeavor in various capacities. I also commend the unwavering dedication of my colleagues in the 77th Executive Committee of SLVA.

My sincere best wishes go to all presenters and contributors of Session 2025. May your work continue to strengthen and enrich the veterinary profession, and may your future endeavors be marked by excellence and impact.

Message from the Chairman of the Scientific Committee 2025, Sri Lanka Veterinary Association



Prof. Sampath Lokugalappatti
Chairman
77th Scientific Sessions of the SLVA

It is with great honour and enthusiasm that I extend this message as the Chairman of the Scientific Committee for the 77th Annual Scientific Sessions of the Sri Lanka Veterinary Association (SLVA). This year's sessions, held under the theme "Driving National Progress Through Veterinary Science: Collaboration, Innovation, and Sustainability," reflect our shared commitment to advancing veterinary science as a catalyst for national development.

The Scientific Committee received a total of 83 abstracts, a testament to the growing research engagement within the veterinary community. Following a rigorous review process and comprehensive ethical screening, 66 abstracts have been selected for presentation across eight technical sessions structured as three oral presentation sessions and one mini-oral session in both the morning and afternoon blocks.

The scientific programme is organized under a diverse set of thematic areas, reflecting the breadth and depth of contemporary veterinary inquiry. These include Clinical I & II, Animal Health, Animal Production & Veterinary Educational Research, Wildlife and Aquatic Veterinary Medicine, and Veterinary Public Health, along with two dedicated mini-oral streams: Mini-Oral (Clinical) and Mini-Oral (Research). This structure ensures focused discussions while promoting inclusive participation across disciplines and career stages.

The continued use of the mini-oral format has enabled a greater number of researchers to share their findings through oral presentations, enhancing the visibility and impact of their work. This approach also supports more dynamic engagement among participants and fosters broader scientific dialogue.

The realization of SLVA 2025 has been made possible through the tireless efforts of a passionate and committed team. I extend my deepest appreciation to the Scientific Committee members and abstract reviewers for their professionalism and dedication. I also wish to acknowledge the unwavering support of the SLVA Executive Committee, the current President, and the immediate past leadership, whose guidance has been instrumental in shaping this year's event.

As we gather at The Grand Kandyan Hotel on August 22nd, I invite all participants to engage in meaningful dialogue, forge new collaborations, and contribute to the advancement of veterinary science in Sri Lanka and beyond.

Let this be a celebration of knowledge, innovation, and shared purpose.

Message from the Chief Guest, 77th Scientific Sessions of the SLVA



Professor Emeritus S.B.S. Abeykoon

The Governor of Central Province
Sri Lanka

It is with great pleasure and honour that I extend my warm greetings to the Sri Lanka Veterinary Association (SLVA) on the occasion of its 77th Annual Scientific Sessions - 2025, held in the historic city of Kandy.

For over seven decades, the SLVA has stood as a beacon of excellence in advancing the veterinary profession in Sri Lanka, contributing significantly to the development of animal health, livestock production, public health, and food security. I am particularly pleased to note that this year's sessions continue the proud tradition of bringing together professionals, academics, and researchers to share knowledge, innovations, and best practices.

The veterinary profession plays a vital role in a nation's progress-not only in safeguarding animal health and welfare but also in supporting the livelihoods of thousands of farmers and ensuring the safety of animal-derived food for the citizens. In an era where zoonotic diseases and antimicrobial resistance pose growing global threats, the role of veterinary professionals has become more important than ever.

I am deeply appreciative of the SLVA's dedication to continuous professional development, and I commend its efforts in fostering collaboration, research, and education across the veterinary field. The theme and focus of this year's sessions are timely and relevant, reflecting the SLVA commitments to addressing national and global challenges through scientific inquiry and responsible practice.

I wish the SLVA continued success in all its endeavors and extend my best wishes to the organizers, delegates and all participants for productive and inspiring scientific sessions.

May this event further strengthen the veterinary profession in Sri Lanka and contribute meaningfully to the well-being of animals, people and the environment.

Message from the Dean, Faculty of Veterinary Medicine and Animal Science



Dr. A.W. Kalupahana

Dean

Faculty of Veterinary Medicine and Animal Science
University of Peradeniya

It is with great pleasure and pride that I extend my warmest felicitations to the Sri Lanka Veterinary Association on the occasion of the 77th Annual Scientific Sessions. As the Dean of the one and only Veterinary Medicine and Animal Science faculty in Sri Lanka, I recognize the profound significance of this gathering in advancing our shared commitment to veterinary excellence and animal welfare.

The SLVA's Annual Scientific Sessions represent far more than a professional gathering - they embody the collective dedication of Sri Lanka's veterinary community to continuous learning, scientific advancement, and the betterment of animal health across our nation. These sessions serve as a vital bridge between academic research and practical application, ensuring that the latest scientific discoveries translate into improved veterinary care for animals throughout Sri Lanka. Our Faculty at Peradeniya takes immense pride in contributing to the veterinary profession that the SLVA so admirably represents. As the sole institution responsible for training the nation's veterinarians, we understand our unique responsibility to produce graduates who are not only technically competent but also ethically grounded and committed to lifelong learning. The success of our annual scientific sessions reflects the caliber of professionals we collectively nurture individuals who understand that veterinary medicine extends far beyond clinical practice to encompass public health, food security, wildlife conservation, and the human-animal bond that enriches Sri Lankan society.

The theme of this year's session is "Driving National Progress Through Veterinary Science: Collaboration, Innovation, and Sustainability". Over the years, veterinarians have played a crucial role in driving national progress via their involvement in the poultry, dairy, companion animal health and public health sectors of Sri Lanka. These sectors have a direct correlation to the development of a country by assuring nutrition, economic and health security. The knowledge shared during these sessions directly benefits not only practicing veterinarians but also influences our public policy implementation domains, educational curriculum and research which will promote the modernization of our nations vibrant socio-economic and political landscape whilst ensuring that future graduates are prepared for the dynamic landscape of modern veterinary practice.

I commend the SLVA's unwavering commitment to professional excellence and its role in maintaining the highest standards of veterinary practice in Sri Lanka. Your advocacy for the profession, promotion of ethical practice, and dedication to animal welfare align perfectly with the values we instill in our students. The collaborative relationship between our Faculty and the SLVA strengthens both institutions and ultimately serves the greater good of animal health and welfare in our country. I extend my sincere appreciation to all the organizing committee members, speakers, and participants who make these scientific sessions possible. Your dedication to advancing veterinary knowledge and practice honors the noble tradition of our profession and ensures that veterinary medicine in Sri Lanka continues to evolve and excel.

May this year's Scientific Sessions be productive, inspiring, and instrumental in advancing the veterinary profession in Sri Lanka. I wish the Sri Lanka Veterinary Association continued success in its mission to serve veterinarians and promote animal welfare throughout our beautiful nation.

With warm regards and best wishes.

Message from the Director General, Department of Animal Production & Health



Dr. (Mrs) K.A.C.H.A. Kothalawala
Director General
Department of Animal Production & Health

It is with sincere appreciation that I congratulate the Sri Lanka Veterinary Association on the occasion of its 77th Annual Scientific Sessions. The chosen theme, “*Driving National Progress Through Veterinary Science: Collaboration, Innovation, and Sustainability,*” truly reflects the Association’s vision and its enduring role in shaping the future of animal health and production in Sri Lanka.

For over seven decades, the SLVA has demonstrated unwavering dedication to advancing veterinary science in Sri Lanka. Through its tireless efforts, the Association has nurtured professional excellence, fostered collaboration, and contributed immensely to the nation’s agricultural, animal and public health sectors.

This year’s sessions beautifully showcase SLVA’s steadfast commitment to embracing emerging challenges, nurturing innovation, and building meaningful collaborations for a sustainable tomorrow. Heartfelt appreciation goes to the organizers and members for their tireless devotion to advancing the profession and serving the nation with excellence.

As the SLVA continues its journey, I am confident that its vision, commitment, and leadership will inspire future generations of veterinarians, strengthen national progress, and uphold the highest standards of the profession.

I convey my sincere appreciation for the invaluable service rendered and wish the 77th Annual Scientific Sessions every success in achieving its objectives and paving the way for a more sustainable and healthy future.



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Keynote Speech

Publicly Funded Veterinary Diagnostic Labs: A Catalyst for Sri Lanka's Animal Production and Health Future



Dr. Y. Reddi Bommineni

Director, Bureau Chief
Bronson Animal Disease Diagnostics Laboratory
Florida Department of Agriculture and Consumer Services, USA

Publicly funded veterinary diagnostic labs are a cornerstone of a nation's food security and public health infrastructure. These labs are crucial for a country like Sri Lanka, which has significant opportunities to expand its animal products industry for both domestic consumption and international trade. By providing reliable, quality-assured testing, these labs can unlock a new era of growth for Sri Lankan animal production sector.

The Indispensable Role of Veterinary Diagnostic Labs

These labs serve as the first line of defense for animal health and public well-being by:

- **Protecting the Global Food Supply:** They provide early detection and rapid response to animal diseases, preventing outbreaks that could decimate livestock populations and disrupt food production.
- **Safeguarding Public Health:** They play a critical role in controlling zoonotic diseases those transmissible from animals to humans thereby protecting the public.
- **Promoting International Trade:** Accreditation by international standards like ISO 17025 ensures that test results are accepted globally. This is vital for exporting animal products, as it guarantees that they meet the stringent health and safety requirements of other countries.
- **Supporting Animal Health:** They are essential for the health of both food and companion animals, fostering healthy human-animal interaction.

Key Features for Successful Labs

To be effective, these labs need to operate with a specific framework:

- **Clear Governance:** A well-defined organizational structure and governance provide a stable foundation.
- **Government Partnership with Autonomy:** A clear relationship with the government for funding and oversight is necessary, but the lab must retain independence to communicate test results and address issues quickly.
- **University Affiliation:** An affiliation with a university, particularly one with a veterinary college, provides access to cutting-edge research and expertise.
- **Financial Control:** The ability to manage its own budget and reinvest earnings allows the lab to acquire new technologies and stay current with evolving diagnostic methods.

- **Stakeholder Involvement:** An advisory committee with representatives from the agriculture industry, government, and other key stakeholders is essential to ensure the lab's services align with the needs of the community.

The Opportunity for Sri Lanka

Sri Lanka's animal production sector is poised for growth, with significant potential in areas like meat, milk, and aquaculture. However, to compete on the global stage, a robust veterinary diagnostic system is non-negotiable.

- **Enhancing Export Potential:** A dependable, internationally accredited lab is the key to unlocking new markets. Currently, Sri Lanka's animal product exports, while growing, are limited by the need for quality assurance that meets global standards. A certified lab would provide the necessary credibility to expand trade in processed meats, milk, and seafood.
- **Increasing Domestic Production:** By protecting animal health, these labs can help local farmers increase productivity and reduce losses from disease. This is critical for increasing the domestic animal protein supply and addressing the current gap in consumption, which is significantly lower than in developed countries.
- **Strengthening Public Health:** With improved diagnostic capabilities, Sri Lanka can better monitor and control animal diseases, which has a direct positive impact on the health of its citizens.

By investing in and strategically developing its public veterinary diagnostic lab infrastructure, Sri Lanka can not only protect its public and animal health but also transform its animal production sector, increasing both food security and economic prosperity.

The first step is to create laboratories capable of testing for foodborne pathogens commonly found in animal products. These laboratories provide the scientific evidence needed to demonstrate a product's safety and compliance with international standards.

Animal disease diagnostic labs are critical to this entire process. Their work provides a critical layer of assurance by identifying and controlling diseases at the source. This is not just about testing the final product but also about ensuring the health of the animals from which the products are derived. Each country has its own set of rules for importing animal products. For example, if a company wants to export to the United States, it must comply with the guidelines set by several key organizations:

- **Food and Drug Administration (FDA):** The FDA oversees the safety, wholesomeness, and proper labeling of most foods, including those containing small amounts of meat, poultry, or egg products.
- **Centers for Disease Control and Prevention (CDC):** The CDC focuses on preventing the introduction of infectious diseases into the U.S. and may have specific restrictions on certain animal products that pose a public health risk.
- **U.S. Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS):** The FSIS has primary responsibility for ensuring that meat, poultry, and egg products for human consumption are safe, wholesome, unadulterated, and properly labeled.

These agencies have specific testing guidelines for pathogens of animal origin, which exporters must follow precisely. Companies must often work with their importers to confirm these requirements before shipping. The export process often involves obtaining certifications and permits, and the product may be subject to further inspection upon arrival at the U.S. port of entry.

Technical Sessions: 77th Annual Scientific Sessions of SLVA

Clinical Session – I (11.30 a.m. – 1.00 p.m.)		
Session Chair – Dr. Eranda Rajapaksha		Page No.
11:30 a.m.	Sertoli Cell Tumours in Four Cryptorchid Male Dogs Presented to the Veterinary Teaching Hospital, Peradeniya: Diagnosis, Treatment and Clinical Outcome <i><u>W.A.P.M. Dewasmika</u>, K.P.R.I. Kahatapitiya and H.M.H.S. Ariyaratna</i>	1
11:42 a.m.	Presumptive Diagnosis, Treatment Barriers, and Clinical Outcomes of Feline Infectious Peritonitis (FIP) in Sri Lanka: A Retrospective Case Series <i>H.K.U.S. Hemachandra, G.K.M.C. Ranasinghe, J. Collure, R.M.A.N. Senevirathne, D.S.S. Rathnaweera and <u>S.K.A.S. Fernando</u></i>	2
11:54 a.m.	Successful Surgical Management of Low-Grade Fibro Sarcoma of the Ear Pinna in a Jamnapari Goat: A Case Report <i><u>S.M.D.S.K. Nayakarathna</u>, Y.K. Jayawardana, A.G.V.P. Jayamali, H.M.H.S. Ariyaratne, G.D.R.K. Perera and W.M.D. Karunarathna</i>	3
12:06 p.m.	Diagnostic Accuracy of Atypical Canine Mast Cell Tumours with Telecytology <i>K.V. Keerthisinghe, P.R. Danthanarayana, H.M.H.S. Ariyaratna, <u>H.E.M.K. Bandaranayake</u> and D.M. Dhanasekara</i>	4
12:18 p.m.	Theophylline-Responsive Second-Degree AV Block Mimicking Heart Failure in a Young Dalmatian <i><u>K.A.R.K. Perera</u>, D.G.L.E. Dolapihilla, T. Mathota and K.A.N. Wijayawaedhane</i>	5
12:30 p.m.	Canine Mediastinal Lymphoma: Clinical Case Presentation, Diagnosis, Treatment and Outcome <i><u>S.U. Samarasingha</u>, B.M.M.W. Manchanayake, C. Gunarathna, and B.I.U. Perera</i>	6
12:42 p.m.	Surgical correction of Cervico-vaginal Prolapse Complicated by Suspected peripheral Nerve Sheath tumor in a Jersey Cow <i><u>M.D.S.K. Nayakarathna</u>, K. Nizanantha, B.P. Waidyaratna, H.M.H.M. Rupathunga and H.M.H.S. Ariyaratne</i>	7

Animal Health Session (11.30 a.m. – 1.00 p.m.)		
Session Chair – Dr. Thilini Anupama		Page No.
11:30 a.m.	A Combined Morphological and Molecular Approach to Flea Species Identification in Domestic Dogs and Cats Submitted to Veterinary Teaching Hospital, Peradeniya <i>H.M.H.J. De Silva, I.U. Dahanayaka and D.S. Thilakarathne</i>	8
11:42 a.m.	An Investigation for Leptospirosis in Livestock Following Recent Incidence of Human Leptospirosis in Jaffna District <i>P. Amutha, A. Briyangari, T. Prabakaran, G.D.N. Kumarasinghe, P.L. Kumarawadu, M.A.R. Priyantha, G. Weerasooriya and H.M.T. Dulakshi</i>	9
11:54 a.m.	Mass Mortality in a Population of Ducks Associated with <i>Pasteurella multocida</i> Serotype A in Sri Lanka <i>J.K.H. Ubeyratne, A.A.T. Amaya, W.M.P. Bandara, G.I.S. Perera, S.K.S. Rathnasiri, M. Ijas, S.K. Gunathilaka and C.T. Ambepitiya</i>	10
12:06 p.m.	Macrophage-Mediated Collagenolysis as a Mode of Tumor Metastasis in Squamous Cell Carcinoma in Cats <i>L.G.P. Thushara, M.G.T.M. Prasadini, T.A. Gunawardena, S.A.S. Indunika, W.R. Jayaweera and R.R.M.K.K. Wijesundera</i>	11
12:18 p.m.	Isolation of <i>Avibacterium paragallinarum</i> Causing Infectious Coryza in Backyard Poultry from Selected Veterinary Ranges in Monaragala District, Sri Lanka <i>R.M.R.P. Wickramasinghe and D.P.H. Wijesekera</i>	12
12:30 p.m.	Acidic pH Enhances Cinnamon (<i>Cinnamomum zeylanicum</i>) Bark Oil Activity of <i>Prototheca zopfii</i> Isolated from Canine Disseminated Infections <i>S. Jayasinghe, L. Kumari, H. Geethadeva, N. Bandaranayaka, H.N.R. Jinadasa and H.M.H.S. Ariyaratna</i>	13
12:42 p.m.	Seroprevalence of Bluetongue Virus Antibodies Among Small Ruminants in the Anuradhapura District, Sri Lanka <i>P.N.C. Fernando, S. Puvanendiran, D.M.N.R.N.A. Kumarasinghe, and V.W. Liyanarachchi</i>	14

Veterinary Public Health Session (11.30 a.m. – 1.00 p.m.)		
Session Chair – Dr. Kamalika Ubeyratne		Page No.
11:30 a.m.	Establishment of a Multiplex Colony PCR (mC-PCR) and Detection and Profiling of Antimicrobial Resistance (AMR) of <i>E. coli</i> and <i>E. coli</i> O157:H7 in Cattle Farms in Kandy District, Sri Lanka <i>N.W.H.C.R. Nanayakkara, K.S.A. Kottawatta, W.M.D.H. Suranimala, S.P. Keerthani, R.S. Kalupahana, W.A.B. Wanasinghe and H.M.T.K. Karunarathna</i>	15
11:42 a.m.	Occurrence of Zoonotic Bacterial Pathogens in Village Chickens in the Western Province of Sri Lanka <i>K.K.M.G. Kavindya, P.N.S. Athukoralage, P.A.U Sewwandi, H.M.M. Thilakshika, K.G.R. Abayawansa, K.S.A. Kottawatta and R.S. Kalupahana</i>	16
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12:15 p.m.	Cutaneous Lesions Suggestive of Feline Leprosy in an Eight-Year-Old Crossbred Cat <i>R.S.F. Hardi, H.M.H.S. Ariyaratna and D.R.A. Dissanayake</i>	25
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Sertoli Cell Tumours in Four Cryptorchid Male Dogs Presented to the Veterinary Teaching Hospital, Peradeniya: Diagnosis, Treatment and Clinical Outcome

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Sertoli cell tumours (SCTs) are among the three most common primary testicular neoplasms in dogs, with cryptorchidism being a major predisposing factor. Studies show that up to 60% of cryptorchid dogs develop SCTs, with German Shepherds particularly predisposed to both cryptorchidism and testicular neoplasia. Despite this well-established link, detailed reports on the clinical management and outcomes of SCTs in cryptorchid dogs remain limited. This case series describes the clinical presentation, diagnostic approach, treatment, and outcomes of four cryptorchid male dogs diagnosed with SCTs. The dogs, aged 6 to 10 years (German Shepherds, n=3; crossbred, n=1), presented with fever, anorexia, and lethargy. Physical examinations revealed pale mucous membranes, abdominal pain, splenomegaly, alopecia, and a pendulous prepuce. Diagnostic workup included abdominal ultrasonography, complete blood count (CBC), serum biochemistry, fine-needle aspiration cytology (FNAC), and histopathology. Ultrasonography confirmed the presence of retained abdominal testicles in all cases. CBC and blood smear analysis revealed mild (n=1) to severe (n=3) non-regenerative anaemia. FNAC of the retained testicles identified neoplastic cells characterized by indistinct cytoplasmic borders, vacuolated cytoplasm, and occasional “Call-Exner bodies.” All dogs underwent surgical removal of the intra-abdominal testicular tumours. Histopathological analysis confirmed the diagnosis of SCT in all cases, with one dog also exhibiting a concurrent seminoma. Post-surgical follow-up at two weeks showed complete resolution of fever and splenomegaly in three of the four dogs. Non-regenerative anaemia was managed with multiple doses of erythropoietin (50 IU/kg, S.C. 3 times/week), leading to recovery within 2–3 months in three dogs. The fourth dog, which had the largest tumour and the most delayed diagnosis, developed persistent intermittent anemia only partially responsive to erythropoietin. This dog also showed marked splenomegaly, attributed to extramedullary haematopoiesis confirmed via splenic FNAC. This case series highlights the potential for favourable outcomes with early diagnosis and surgical treatment of SCTs in cryptorchid dogs and highlights the complications associated with delayed intervention.

Keywords: Sertoli cell tumours, Surgical treatment, Clinical outcome, Cytology, Histopathology, Anaemia

Presumptive Diagnosis, Treatment Barriers, and Clinical Outcomes of Feline Infectious Peritonitis (FIP) in Sri Lanka: A Retrospective Case Series

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Feline Infectious Peritonitis (FIP), caused by a mutated feline coronavirus (FCoV), is a progressive and often fatal disease that predominantly affects young (less than 12 months) and immunocompromised cats. The disease occurs in two forms: effusive (wet) and non-effusive (dry), with the wet form being more acute, commonly seen in multi-cat households, and characterized by the accumulation of protein-rich effusions in body cavities. Although FIP is fatal, studies have demonstrated the high efficacy of GS-441524 in its treatment, leading to prolonged survival and clinical remission (>85%). This study aims to evaluate the impact of early diagnosis and treatment on FIP. This retrospective study presents 19 suspected cases of wet FIP presented to PetVet Clinic between 2019 and 2025, focusing on diagnostic methods, treatment accessibility, and clinical outcomes. Tentative diagnosis was obtained based on signalment, history and clinical signs such as persistent fever, weight loss, abdominal distension, dyspnea, anorexia, lethargy, vomiting, and diarrhoea. Confirmation relied on serum biochemistry (low albumin-to-globulin ratio and hyperbilirubinemia), presence of effusions in body cavities, with the help of imaging, analysis of effusions, including cytology (biochemical and cytological features including high protein content and low cellularity). Cases were categorized into four groups: Group 1 (21%) included cats diagnosed and successfully treated with GS-441524 capsules orally at dose rate of 15mg/kg, q24hrs for 12 weeks; showing marked clinical improvement and surviving up to date with no relapses; Group 2 (47%) comprised cats diagnosed but who died before receiving treatment due to unavailability of the medicine; Group 3 (21%) included cats that died before diagnosis, with FIP suspected post-mortem based on fluid analysis and biochemical profiles; and Group 4 (11%) included cats that began treatment but died after only receiving a few doses. This study emphasizes the diagnostic dependency on fluid analysis in resource-limited settings, where confirmatory tests like RT-PCR or immunohistochemistry are often unavailable. It also underscores the critical treatment gap in Sri Lanka, where GS-441524 is not legally approved. The positive outcomes in treated cases highlight the urgent need for legal antiviral access and locally available diagnostic and treatment protocols to improve prognosis in FIP-affected cats.

Keywords: FIP, Feline Infectious Peritonitis, Abdominal effusions, GS-441524

Successful Surgical Management of Low-Grade Fibro Sarcoma of the Ear Pinna in a Jamnapari Goat: A Case Report

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Fibro sarcoma is a malignant mesenchymal neoplasm that is infrequently reported in the external ear pinna of goats. This case report describes the clinical presentation, diagnostic evaluation, surgical management, and prognosis of a four-year-old Jamnapari doe presented to the Farm Animal Teaching Hospital, University of Peradeniya, with a firm, non-ulcerative mass measuring approximately 6 × 4 cm on the left external ear pinna, occupying the central region and extending toward the base of the ear. The owner reported a progressive enlargement over a period of six weeks. Clinical examination revealed a localized lesion without systemic involvement. Fine needle aspiration cytology demonstrated pleomorphic mesenchymal cells, suggestive of a neoplasm of mesenchymal origin. Surgical excision was elected as the treatment of choice. Preoperative management included tetanus prophylaxis and antibiotic administration (LA procaine Benzyl penicillin, 20 mg/kg IM). The animal was sedated with 2% xylazine hydrochloride, 0.2ml, IM) and anesthetized with 10% ketamine (5 mg/kg, IV). Aseptic preparation of the surgical field was performed, and a T- shape skin incision was made to over the mass to access the mass. Blunt dissection allowed complete excision of the tumour. Haemostasis was achieved using electrocautery, and the wound was closed with button sutures to facilitate optimal healing and drainage. Postoperative management included analgesia (Ketoprofen, 2 mg/kg IM), antibiotic therapy, and routine wound care. The animal was monitored in-hospital for three days and exhibited uneventful recovery. Histopathological analysis confirmed a diagnosis of low-grade fibro sarcoma, characterized by interlacing bundles of spindle-shaped cells within a dense collagenous stroma, with a characteristic herringbone pattern, low mitotic index, and mild perivascular inflammation. The animal was followed up in two, weeks one month and one and half month. At follow-up, the surgical site healed well, and no recurrence was observed. This report underscores the importance of early recognition and prompt surgical intervention for favourable outcomes in rare neoplastic conditions such as fibro sarcoma in goats.

Keywords: Goat, Fibrosarcoma, Ear pinna, Mesenchymal cell tumour, Surgical excision

Diagnostic Accuracy of Atypical Canine Mast Cell Tumours with Telecytology

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Canine mast cell tumours (MCTs) are one of the most common types of skin cancer in dogs. These tumours can vary in appearance, ranging from small, firm lumps to larger, ulcerated masses. MCTs can be benign or malignant and may spread to other organs, making early detection and treatment essential. Cytological diagnosis of canine mast cell tumours involves evaluating the characteristic granules, cell morphology, and the degree of pleomorphism. Typically, benign (low grade) mast cell tumours contain well granulated mast cells easier to identify than the poorly granulated mast cells found in more malignant or high-grade mast cell tumours. Telecytology involves capturing images of cytology using a camera and then transferring the images to a pathologist at a different location facilitating distant diagnosis. Previous literature suggests that telecytology is a good method to diagnose well differentiated MCTs with high accuracy. The present study is conducted to determine whether diagnostic accuracy of telecytology is similarly high with atypical MCTs. Twenty-five MCTs (Grade I = 10, Grade II = 8, Grade III = 7) were diagnosed by cytopathology and confirmed by histopathology were used for the study. The cytology smears were photographed at 10x and 40x objectives by three clinicians and two laboratory assistants using a smart phone camera [Samsung Galaxy A12, Camera: Autofocus quad lens: 48 MP, f/2.0, 26mm (wide), 5 MP, f/2.2, 123° (ultra wide), 2 MP, f/2.4, (macro), 2 MP, f/2.4, (depth)]. The images were sent to two pathologists for telecytology. The clinicians and laboratory assistants were blind to the cases. The diagnostic accuracy was determined by comparing the cytological grades of MCTs provided by the two pathologists with the histopathological grade (Fleiss kappa test). Except for one tumour, all other tumours were identified as MCTs by both the pathologists. The agreement regarding the cytological tumour grade did not significantly vary between the pathologists but between the operators of the smart phone cameras. The agreement between the cytopathology and histopathology grading was good when the images obtained by the clinicians were used (Pathologist 1: $\kappa=0.88$, $p=0.03$, Pathologist 2: $\kappa=0.80$, $p=0.04$) than the laboratory assistants. (Pathologist 1: $\kappa=0.58$, $p=0.05$, Pathologist 2: $\kappa=0.65$, $p=0.04$). The inter-pathologist agreement was excellent when the images taken by the clinicians were used ($\kappa=0.88$, $p=0.05$) compared to laboratory assistants ($\kappa=0.66$, $p=0.15$).

Keywords: Telecytology, Canine Mast Cell Tumour

Theophylline-Responsive Second-Degree AV Block Mimicking Heart Failure in a Young Dalmatian

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A 2.5-year-old male Dalmatian was referred to the Veterinary Teaching Hospital at Peradeniya for lethargy, abdominal distension (3 days), and coughing (2 weeks). The referring veterinarian had started furosemide (2 mg/kg BID) after noting severe ascites and bradycardia (30 bpm). History revealed exercise intolerance and episodic syncope since 1 year of age. Littermates had died suddenly within six months of age, showing respiratory distress. At presentation, the heart and pulse rate were 32 bpm. Echocardiography revealed hyperdynamic systolic function (FS: 67%, EF: 94%), mild left atrial enlargement (LA/Ao:1.74), and no structural abnormalities, excluding primary cardiomyopathy. Electrolytes were within the normal range. Abdominal ultrasound confirmed ascites, and thoracic radiographs revealed mild cardiomegaly (VHS 11.5) and pulmonary congestion. Electrocardiography showed persistent second-degree atrioventricular block (Mobitz type II) with frequent non-conducted P waves. As initial treatment, atropine (0.02 mg/kg IV) was administered, which increased the heart rate from 32 bpm to 35 bpm. A second dose (0.04 mg/kg IV) further increased the rate only to 48 bpm, suggesting a non-vagal etiology. Therefore, oral prolonged-release theophylline (10 mg/kg BID) was initiated the next day, and the heart rate improved from 35 bpm to 70 bpm within two days. It was continued as a maintenance dose, and furosemide was discontinued after one week as signs resolved. Lethargy, abdominal distension, and coughing subsided within a week. At 2-month follow-up, the dog remained asymptomatic with sustained sinus rhythm and no adverse effects. This case highlights three key insights: (1) Severe AV block can mimic heart failure even with preserved myocardial contractility; (2) echocardiography is essential in bradycardic dogs to guide therapy; and (3) theophylline may be effective for adenosine-sensitive AV block, resembling human adenosine-mediated arrhythmias. To our knowledge, this is the first documented case of theophylline-responsive Mobitz II AV block in Sri Lanka, challenging the need for pacemakers in Mobitz II AV block. Although 24-hour Holter monitoring and cardiac biomarkers were unavailable, this case supports reconsideration of AV block pathophysiology in young dogs with bradycardia and normal echocardiograms and electrolytes. It also opens paths for research on adenosine hypersensitivity and theophylline use in canine bradyarrhythmias.

Keywords: AV block, Theophylline, Adenosine hypersensitivity, Bradycardia

Canine Mediastinal Lymphoma: Clinical Case Presentation, Diagnosis, Treatment and Outcome

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Lymphoma is a cancer of the lymph nodes and lymphatic system that may be localized or disseminated. Mediastinal lymphoma is a rare but aggressive form affecting the cranial mediastinal lymph nodes, thymus, or both. A 4-year-old, 18 kg, intact female crossbreed dog was presented with a nonproductive cough, tachypnea, and dyspnea, while appetite and other clinical parameters remained normal. Clinical examination revealed abnormal lung sounds in the cranial thoracic region. Diagnostic procedures included hematology, thoracic radiography, and ultrasonography. Thoracic radiographs showed a soft tissue opacity in the cranial thoracic area, and ultrasonography confirmed enlargement of the mediastinal lymph node. Ultrasound-guided thoracocentesis and fluid analysis were performed, and cytological evaluation of the pleural fluid revealed lymphoblasts. Further diagnostic tests were not conducted due to financial constraints. Based on these findings, a presumptive diagnosis of thoracic mediastinal lymphoma was made. Treatment involved a high-dose COP (Cyclophosphamide, Vincristine, and Prednisolone) chemotherapy regimen combined with supportive and nutritional care. Clinical signs improved within 10 days. Follow-up radiographs were taken every three weeks, and by the seventh week, the dog was clinically normal, with no radiographic evidence of a mediastinal mass. Although cytology and histopathology remain the gold standards for a definitive diagnosis, this case demonstrates that clinical signs, imaging, and pleural fluid analysis can strongly support a presumptive diagnosis of mediastinal lymphoma in dogs. The treatment plan based on this presumptive diagnosis resulted in successful clinical remission and a favorable short-term prognosis.

Keywords: Lymphoma, Chemotherapy, Thoracocentesis

Surgical correction of Cervico-vaginal Prolapse Complicated by Suspected peripheral Nerve Sheath tumor in a Jersey Cow

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A 20-year-old, 12th-parity Jersey cow was presented to the Veterinary Teaching Hospital with a cervico-vaginal prolapse that had persisted for three days following parturition. Initial attempts at manual repositioning by a regional veterinarian were unsuccessful. Multiple attempts at manual repositioning, including a laparotomy-assisted technique, failed to correct this condition. Further examination revealed approximately 12cmx9cm, firm, and highly vascularized mass originating from the vaginal wall and partially embedded within the prolapsed tissues. Transvaginal surgical excision was subsequently planned to remove the mass. The cow was restrained in a standing position, and posterior epidural anesthesia was used (2% lignocaine HCl) to achieve perineal desensitization. Standard aseptic procedures were followed. Surgical excision of the mass was performed by isolating its base, by careful blunt and sharp dissection. Significant intraoperative hemorrhage was controlled via stepwise ligation using absorbable suture material (vicril 3-0). Following complete excision, the vaginal wall was assessed for tissue viability. Vaginal wall reconstruction was performed using a Cushing suture pattern with absorbable suture material (vicril 2-0) ensuring maintenance of the natural lumen and reproductive anatomy. After successful vaginal reconstruction, the prolapsed cervico-vaginal part was thoroughly washed with normal saline and repositioned into the pelvic cavity. A modified Buhner's suture was placed to prevent recurrence. Postoperative treatment included long-acting oxytetracycline (20mg/kg, IM), ketoprofen (2mg/kg, IM), and B complex (10ml, IM). The cow recovered uneventful and was discharged after 7 days of hospitalization. The animal was examined one and half months following discharge and no significant abnormality were observed during follow up. The histopathological examination of excised mass revealed a densely cellular, unencapsulated neoplasm composed of spindle cells arranged in interlacing bundles, exhibiting both Antoni A and Antoni B patterns, with frequent Verocay bodies. Mitotic activity was moderate with mild anisocytosis and anisokaryosis were observed. These histopathological features are consistent with a malignant peripheral nerve sheath tumor (MPNST), a type of soft tissue sarcoma. The diagnosis was based on the characteristic histomorphology; however, immunohistochemical (IHC) staining is required to differentiate MPNST from other spindle cell tumors and to confirm its peripheral nerve sheath origin.

Keywords: Cervicovaginal prolapse, Vaginal neoplasia, Peripheral nerve sheath tumor

A Combined Morphological and Molecular Approach to Flea Species Identification in Domestic Dogs and Cats Submitted to Veterinary Teaching Hospital, Peradeniya

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Fleas are highly mobile, obligatory haematophagous ectoparasites with high fecundity. They infect many hosts, causing irritation and blood loss. Different flea species transmit various pathogens, including zoonoses such as Yersiniosis, Rickettsiosis, and Bartonellosis highlighting the need for accurate identification of flea species. It is believed that *Ctenocephalides canis* and *Ctenocephalides felis* are the most common in Sri Lanka, infesting domestic dogs and cats; however, supporting literature is lacking. This study aimed to identify flea species in companion animals submitted to Veterinary Teaching Hospital, Peradeniya, since Rickettsioses are frequently reported in Kandy area. A morphological flea identification key was developed through a thorough literature review. Fleas (up to 10 from each animal, when available) were collected from 32 dogs and 6 cats presented to the Veterinary Teaching Hospital, Peradeniya. In total, 211 individual fleas were morphologically identified using a stereomicroscope. Morphometric measurements including the length and width of the head, length of the whole flea, the 1st and 2nd spines of genal comb, were collected using ZEN 2012 Software. Selected morphologically identified fleas underwent genomic DNA extraction, mitochondrial cytochrome c oxidase subunit I (COX1 gene) amplification (~600 bp), and sequencing. Of the morphologically identified fleas, 144 (68.24%) were *Ctenocephalides orientis* and 65 (30.80%) were *Ctenocephalides felis*. 90.56% of the fleas collected from dogs were *C. orientis*, while *C. felis* accounted for 96.36% of the fleas collected from cats. Mixed flea infestations were observed in 38.7% of dogs and 3.33% of cats. BLAST analysis revealed that the local *C. orientis* shared 98.82%–98.17% similarity with a *C. orientis* identified from Thailand and Malaysia while the local *C. felis* shared 100%–99.14% similarity with *C. felis* identified from the Thailand and America. According to the morphological key, 12 fleas were having hybrid characteristics; however, sequencing revealed these had 98.68%–98.52% similarity to *C. orientis*. Thus, results suggest that *C. orientis* is the most common flea species in dogs in the studied area, followed by *C. felis*. A larger-scale study including stray animals and multiple geographic locations is recommended to gain a comprehensive understanding of flea species infesting companion animals in Sri Lanka.

Key Words: Ctenocephalides, C. orientis, C. felis, Dogs, Sri Lanka

An Investigation for Leptospirosis in Livestock Following Recent Incidence of Human Leptospirosis in Jaffna District

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Leptospirosis is a significant zoonotic disease that affects both human and animals. The animals including dogs, livestock, rodents and wild animals act as reservoirs. They shed the bacteria into the environment through infected urine. This study investigates the potential role of cattle, goats and sheep in recent incidences of human leptospirosis reported in the Jaffna District in November 2024, following heavy rain falls. Four veterinary ranges namely, Pointpedro, Karaveddy, Chavakachcheri and Maruthankeney are the areas reported a total of 96 human leptospirosis cases, including eight deaths. Serum samples (n=384) were collected from cattle (n=221), goat (n=149) and sheep (n=14) in those areas. A questionnaire was used to gather information of the livestock and local residents. Seropositive were detected by Micro Agglutination test (MAT) at the division of Bacteriology, VRI using a panel of 12 *Leptospira* serovars. The first screening was followed by a second MAT screening one month later on the animals that tested positive in first screening. The results revealed that eleven animals including 9 cattle and 2 goats were serologically positive for leptospirosis (MAT Titre >1:400). The serovars detected in cattle were *L. Canicola*, *L. Hardjo* and *L. Autumnalis*, whereas *L. Canicola* and *L. Javanica* were observed in goats. However, none of the seropositive animals had clinical signs of leptospirosis. The absence of rising antibody titres in the second set of samples indicated a previous exposure to *Leptospira* in the study animals. Questionnaire based study revealed only, 0.5% of the residents involved in livestock farming. A clear history of exposure to flood and paddy fields with wounds on limbs was evident in the victims. Considering the low percentage of sero-positivity, lack of reported clinical signs in animals, and history of the human victims clearly indicated a minimal risk from livestock for causing the current outbreak of human Leptospirosis in study area. Further investigations including comparative typing of human and animal serovars is recommended to determine the source of outbreak. However, the detection of *Leptospira* in livestock underscores their role as potential reservoirs, posing a significant threat to public health through zoonotic transmission. Therefore, a coordinated, one health strategy integrating veterinary, public health and environmental sectors should be adopted to control leptospirosis in animals, reduce human exposure and prevent future outbreaks.

Keywords: Acute, Exposure, *Leptospira*, Public Health, Serology

Mass Mortality in a Population of Ducks Associated with *Pasteurella multocida* Serotype A in Sri Lanka

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Pasteurellosis is a highly contagious and fatal bacterial disease that affects a wide range of animal species. It is caused by *Pasteurella multocida*, a Gram-negative, non-motile, encapsulated, non-spore forming coccobacillus that comprises of five commonly isolated sero-groups; A, B, D, E and F based on capsular composition and 16 somatic serovars. This is a case report of an outbreak of pasteurellosis in a flock of ducks residing around Beira Lake in Colombo, Sri Lanka in January 2025. Within five days, approximately 50 out of 150–200 ducks died, roughly four days after a water treatment intervention aimed at controlling lake odor using “EM 1 Eco-Pro” microorganism technology. No clinical signs were observed prior to the sudden deaths. Postmortem examinations were conducted on 25 carcasses and samples were submitted to the Central Veterinary Investigation Centre (CVIC), Gannoruwa, for disease diagnosis. Gross pathological examination revealed extensive hemorrhages in multiple organs. Histopathological analysis demonstrated acute, moderate fibrinous and haemorrhagic pneumonia with pleuritis and intra-lesional Gram-negative bacterial colonies. Similar bacterial colonies were also present in the liver, kidney and heart, associated with inflammation, haemorrhage and occasional thrombosis. These histopathological features were indicative of fibrinous pneumonia/ pleuropneumonia of bacterial origin, leading to systemic bacterial infection and septicemia. Bacterial cultures on blood agar yielded smooth, convex, mucoid colonies, and Gram staining revealed Gram-negative coccobacilli. Biochemical testing and mouse pathogenicity test supported the identification of *P. multocida*. The confirmation was achieved through polymerase chain reaction (PCR), which identified the organism as *Pasteurella multocida* type A using the type A specific primers, forward 5’AATGTTTGCGATAGTCCGTTAGA3’ and reverse 5’ATTTGGCGCCATATCACA GTC3’. This was the first confirmed isolation of *P. multocida* serotype A from submitted duck samples in CVIC. Prompt diagnosis, treatment and preventive measures are crucial in minimizing the impacts of pasteurellosis in avian species.

Keywords – *Pasteurella multocida*, Avian pasteurellosis, Ducks, Septicemia

Macrophage-Mediated Collagenolysis as a Mode of Tumor Metastasis in Squamous Cell Carcinoma in Cats

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Feline Squamous cell carcinoma (SCC) is a malignant tumour arising from epidermal keratinocytes, predominantly affecting the skin of cats exposed to chronic ultraviolet radiation, particularly on sparsely haired or depigmented areas. Despite its prevalence, the exact mechanisms by which SCC metastasizes remain poorly understood. Macrophages, specifically tumour-associated macrophages (TAMs), are known to play a crucial role in the tumour microenvironment by facilitating tumour growth, angiogenesis, and metastasis by releasing growth factors, proteolytic enzymes, cytokines, and inflammatory mediators. TAMs are morphologically similar to other macrophages, are primarily found in the tumour stroma, especially at perivascular sites, where they display abundant vacuolated eosinophilic cytoplasm, irregular-shaped hyperchromatic nuclei, and are larger in size compared to epithelial cells and lymphocytes. However, the precise role of TAMs in promoting metastasis of SCC remains unclear. This study investigates the involvement of TAMs in collagen degradation (collagenolysis) within SCC lesions in cats, with the goal of understanding their role in tumour invasion. Exploring this, twenty skin biopsy samples (n=20) were collected from the ears and noses of cats diagnosed with SCC, constituting the test group. Ten additional skin biopsies (n=10) from the ears and noses of apparently normal cats, obtained during routine necropsies, served as the control group. All samples were fixed in 10% neutral buffered formalin, processed, embedded in paraffin, sectioned at 3µm, and stained with hematoxylin and eosin(H&E) for histopathology and Masson's trichrome(MTS) for evaluating collagen content and collagenolysis. Using ImageJ software, the extent of collagenolysis was measured on MTS sections, while macrophage density in the collagenolytic areas was quantified under high-power fields. Statistical analysis with a sample t-test revealed that the test group exhibited a significantly greater area of collagenolysis (p<0.05) than normal tissue, and the number of macrophages within these regions was markedly higher in the test group (p<0.05). This increased macrophage density in collagenolytic zones suggests that TAMs may facilitate collagen breakdown, promoting tumour cell invasion and metastasis. These findings implicate TAM-induced collagenolysis as a potential pathway for metastasis in feline SCC and highlight the therapeutic potential. Further research into TAM activity in SCC could enhance understanding of metastatic mechanisms and control strategies.

Keywords: Squamous cell carcinoma (SCC), Tumour-associated macrophages, Collagenolysis, Metastasis, Cats

Isolation of *Avibacterium paragallinarum* Causing Infectious Coryza in Backyard Poultry from Selected Veterinary Ranges in Monaragala District, Sri Lanka

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Infectious coryza (IC), an acute and highly contagious respiratory disease of poultry, is caused by a bacterium called *Avibacterium paragallinarum*. It can significantly impact commercial and backyard poultry operations, especially in developing countries where poultry farming is vital for food security and as an extra income source. However, despite its occurrence in the country and neighboring countries, there is a dearth of recorded information on the isolation and characterization of the organism in Sri Lanka. Hence, the current study was conducted to investigate the prevalence and impact of infectious coryza in backyard poultry in Monaragala District, Sri Lanka, a region known for its small-scale poultry farms. The research involved random sampling of 23 farms to assess the disease's occurrence in the Monaragala district. Accordingly, nasal and tracheal swabs from birds with infraorbital swelling, oculo-nasal discharge or swelling of wattles suspected of having IC were sampled to isolate the causative organism using bacteriological culture methods. The chocolate agar in anaerobic conditions was used to culture and confirm the growth of *A. paragallinarum*. Five nasal and tracheal swabs (n=5) from five dead chickens and forty (n=40) swabs from forty live chickens were collected aseptically. Then they were cultured on chocolate blood agar according to published records. Results indicated a 4.4% (2/45) prevalence of *A. paragallinarum* among the collected samples. In addition, the antimicrobial susceptibility test (AST), was done according to the Clinical Laboratory Standard Institute. The antimicrobials Gentamicin, Oxytetracycline, Enrofloxacin and Cotrimoxazole were used in the AST and the results showed susceptibility to all the antimicrobials tested. In conclusion, our research tentatively confirms the presence of *A. paragallinarum* among backyard poultry farms in Monaragala district. This is the first recorded report on isolation of *A. paragallinarum* in Sri Lanka. Further, its molecular analysis and sequencing are being conducted. Hence, it may help in the molecular diagnosis of *A. paragallinarum* in the future.

Keywords: Infectious Coryza, *Avibacterium paragallinarum*, Backyard poultry

Acidic pH Enhances Cinnamon (*Cinnamomum zeylanicum*) Bark Oil Activity of *Prototheca zopfii* Isolated from Canine Disseminated Infections

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Protothecosis is a disease caused by the parasitic algal genus *Prototheca*, affecting various animal species. In dogs, it typically manifests as a disseminated and often fatal infection. The disease is believed to spread primarily through ingestion of contaminated food or water. *Prototheca zopfii*, the main causative agent in canine disseminated infections, can survive in environments with a pH of 5-12, whereas the canine stomach is highly acidic (pH 2.0–3.5). Current antifungal and antibiotic treatments have shown limited efficacy against *P. zopfii*, and no effective therapy is available. This study evaluated the *in vitro* effects of cinnamon bark oil (*Cinnamomum zeylanicum*, 1 µL/mL) on four *P. zopfii* isolates from dogs with disseminated protothecosis. Isolates were cultured in tryptic soy broth with cinnamon oil and incubated at 37°C for 24 h at neutral pH 7.4 and acidic pH 2.0 conditions, simulating normal canine gastric pH. 10 µL of samples from test and control groups were collected hourly for culture and cytological analysis. Cultures were streaked onto potato dextrose agar and incubated at 37°C for 24 h. Samples for cytology were smeared onto albumin-coated slides, stained with Diff-Quik, and examined microscopically. All the experiments were triplicated. Control samples showed dense *Prototheca* growth, with numerous intact and dividing cells. In contrast, the growth was completely inhibited in cinnamon oil-treated samples after 1 h at acidic pH and after 15 h at neutral pH. Cytological changes in cinnamon oil-treated *Prototheca* included loss or thinning of the outer capsule, cell shrinkage, degeneration of dividing cells and endospores, and loss of nuclear detail. These effects appeared earlier and were more severe at pH 2.0 than at neutral pH. The results indicate that cinnamon bark oil exhibits strong inhibitory activity against *P. zopfii*, especially under acidic conditions. Given the natural gastric acidity and transit time of 2–5 h in dogs, cinnamon bark oil may offer a promising therapeutic approach for treating canine protothecosis caused by *P. zopfii*.

Keywords: *Prototheca zopfii*, Canine gastric pH, Cinnamon bark oil

Seroprevalence of Bluetongue Virus Antibodies Among Small Ruminants in the Anuradhapura District, Sri Lanka

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Bluetongue viral infection (BTV) is one of the most clinically and economically significant arboviral diseases affecting small ruminants, primarily sheep, globally. This arthropod-borne virus is transmitted by *Culicoides* biting midges. However, prevalence data on asymptomatic infection in small ruminants are scarce, and the prevalence and clinical significance of bluetongue are poorly understood in Sri Lanka. Although classical bluetongue viral infection in sheep is often characterized by high morbidity and mortality, the epidemiological pattern in endemic areas usually reveals contrasting observations compared to established paradigms. This study was conducted to determine the seroprevalence of BTV among small ruminant populations in the Anuradhapura district. A cross-sectional sero-surveillance was conducted from February 2024 to May 2025 across 22 Veterinary ranges in the Anuradhapura district, where *Culicoides* vector species are present. Serum samples were collected from 158 animals (143 goats and 15 sheep) representing various farms, and the presence of antibodies against BTV was tested using a competitive ELISA (IDEXX Bluetongue Virus VP7 Antibody test kit) with plates coated with recombinant VP7 protein at the Animal Virology Laboratory, Polgolla. Clinical monitoring was performed concurrently with serological sampling to assess the occurrence of clinical disease. Overall seroprevalence was 53.80% (85/158; 95% CI: 45.8-61.6%), and individual farm prevalence ranged from 0% to 100%. Among the goat population (n=143), seroprevalence was 53.8% (77/143; 95% CI: 45.2-62.2%) with farm-level prevalence ranging from 0% to 91.43% across the surveyed farms. In the Anuradhapura district, with 3,311 goat farms and a goat population of 58,346, this represents a significant exposure level. Sheep showed seropositivity of 53.33% (8/15; 95% CI: 26.6-78.7%). Remarkably, clinical disease was minimal, with only one goat and two sheep mortalities recorded, plus four abortions in the goat population. Since these findings are not pathognomonic, it was difficult to conclude active BTV infection. The distribution of age, sex, production stage, and management system did not vary significantly by geographical location. The study reveals widespread subclinical BTV circulation in Sri Lankan small ruminant populations, with high seroprevalence rates. Generally, BT is primarily a sheep disease, and seroprevalence in goats presents an alarming situation. Since the number of sheep farms are low, BTV infection in sheep was unnoticed. On the other hand, it could be due to a less virulent serotype. More than 26 serotypes of BTV have been identified. The findings challenge conventional understanding of BTV pathogenicity in small ruminants and highlight the critical need for serotype identification, which is essential for trade regulations, surveillance programs, and disease control policies. Furthermore, these results highlight the importance of implementing proper vector control programs on farms to prevent BTV infection.

Keywords: Bluetongue virus, Cross sectional study, Serological testing, Sri Lankan livestock Goats and Sheep

Establishment of a Multiplex Colony PCR (mC-PCR) and Detection and Profiling of Antimicrobial Resistance (AMR) of *E. coli* and *E. coli* O157:H7 in Cattle Farms in Kandy District, Sri Lanka

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Escherichia coli is usually a commensal bacterium in the gastrointestinal tract of warm-blooded animals. However, some strains have adapted to cause diarrhoea and various extra intestinal diseases. Enterohemorrhagic *E. coli* (EHEC) is significant because it makes Shiga toxin, which is called as Shiga toxin-producing *E. coli* (STEC). *E. coli* O157:H7, is a major public health concern as it causes haemorrhagic colitis and haemorrhagic uremic syndrome in humans while asymptotically colonizing in cattle. Among several diagnostic methods, PCR remains the gold standard molecular method to identify *E. coli* O157:H7. The main objective of this study was to establish a cost-effective, simplified PCR assay: colony PCR to identify *E. coli* and *E. coli* O157:H7 in cattle faecal and waste water samples originated from cattle farms in selected Veterinary Surgeon's Offices in Kandy District. In addition, we investigated the Antimicrobial Resistance profiles of the isolates. A previously characterised *E. coli* O157:H7 strain was streaked on a selective medium, CT-SMAC agar. A fresh single colourless colony was selected and directly subjected to colony PCR without DNA extraction. Specific genes were targeted; *eae* A gene for O157 O antigen and *fliC_{H7}* for H7 H antigen. PCR products of 450 bp (*eae* A) and 625 bp (*fliC_{H7}*) were successfully amplified in mC-PCR, confirming the successful establishment of the protocol. Using the protocol 27 samples (13 faecal and 14 waste water) which were collected from 14 cattle farms were tested. Sixteen isolates were phenotypically positive for *E. coli*, but two were genotypically confirmed by amplification of the *16srRNA* gene. Although *E. coli* O157:H7 was not detected, one isolate was positive for H7 antigen only. Literature suggests that *E. coli* bearing H7 antigen other than O157 are ancestors of O157:H7. Based on antimicrobial sensitivity testing of all 16 isolates were sensitive to amikacin (100%) and high sensitivity to ciprofloxacin (93.75%), gentamicin (93.75%) and ceftriaxone (87.5%). However, 50% of isolates showed resistance to ampicillin. These findings highlight the presence of *E. coli* and the potential emergence of *E. coli* O157:H7 and AMR among cattle industry and associated environmental sources.

Keywords: *E. coli*, *E. coli* O157:H7, Multiplex Colony PCR, AMR

Acknowledgement: URG/2023/36/V

Occurrence of Zoonotic Bacterial Pathogens in Village Chickens in the Western Province of Sri Lanka

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Village chicken farming is an essential component of rural agriculture in Sri Lanka, contributing significantly to household food security and income. These indigenous chickens are typically raised under extensive, low-input systems, which help conserve local genetic diversity and provide a sustainable livelihood option for low-income families. Despite their resilience to common poultry diseases and the increasing popularity of their meat and eggs, scientific studies addressing zoonotic foodborne pathogens in village chickens are scarce. This study aimed to investigate the occurrence of key zoonotic bacterial pathogens; *Campylobacter* spp., *Escherichia coli*, and non-typhoidal *Salmonella* spp.; in village chickens in the Western Province of Sri Lanka. Based on the 2022 Department of Animal Production and Health statistical bulletin, the Western Province; home to over 17,000 registered village chicken farms, was selected for the study. A total of 30 family farms were randomly selected: ten each from the Colombo, Gampaha, and Kalutara districts. Farm visits were conducted to collect demographic data and biological samples. From each farm, one chicken was randomly selected and slaughtered to obtain a caecal sample for *Campylobacter* isolation and a cloacal swab for *E. coli*. Environmental fecal samples were collected from poultry pens to detect non-typhoidal *Salmonella*. Standard microbiological methods were used for pathogen isolation and identification. *E. coli* was detected in 80% of farms (24/30). *Campylobacter* spp. were found in 13.3% (4/30) of farms, with varied detection sources: one farm tested positive in both caecal and environmental samples, two in environmental samples only, and one in caecal content only. Non-typhoidal *Salmonella* was identified in 20% (6/30) of farms from environmental samples. The findings reveal that village chickens in the Western Province harbor significant zoonotic bacterial pathogens, with widespread *E. coli* presence and notable occurrences of *Campylobacter* and non-typhoidal *Salmonella*. These results highlight the urgent need for enhanced biosecurity, farmer education, and routine pathogen surveillance to ensure safer family poultry production.

Keywords: Village chickens, Zoonoses, *Campylobacter*, *E. coli*, *Salmonella*, Food safety, Sri Lanka

Zoonotic and Antimicrobial Resistance Risks Associated with Poultry Slaughtered at Public Markets in Colombo Municipality Area, Sri Lanka

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Broiler chicken is the most widely consumed meat in Sri Lanka, favored over beef, mutton, and pork due to cultural and religious practices. However, poultry sold in public markets is often processed and retailed under unhygienic conditions, increasing the risk of zoonotic pathogen transmission. Despite this concern, limited data are available on microbial contamination and antimicrobial resistance (AMR) in poultry sold at the retail level in Sri Lanka. This study aimed to assess hygiene practices in poultry retail settings and determine the prevalence of key bacterial pathogens and antimicrobial-resistant *Staphylococcus aureus* in broiler chickens sold in the Colombo Municipality area. A cross-sectional study was conducted in public markets. An observational checklist was used to document hygiene practices related to the handling of live birds, meat, equipment, and money. From each outlet, a 250 g chicken meat sample was collected using the vendor's standard wrapping method to simulate consumer exposure. Standard bacteriological procedures were used to isolate and identify pathogens. In addition, nasal swabs of ten broiler birds were sampled immediately after slaughter for detection of *Staphylococcus* spp., and recovered isolates were tested for AMR. High levels of contamination were detected in meat samples collected in public markets: *Escherichia coli* was detected in 22/30 (73%) of meat samples, and *Salmonella* spp. in 19/30 (63%). Observations revealed consistently poor hygiene practices—22/26 (85%) of shops used the same equipment for meat and offal, 25/26 (96%) did not clean cutting boards with soap and water, and 23/26 (88%) displayed meat in open areas, often near busy streets. Stray animals, wild birds, and flies were frequently present, despite the absence of pest control measures. All ten broiler birds sampled post-slaughter were colonized with *Staphylococcus* spp. A total of 50 isolates were recovered; 35/50 (70%) were identified as *S. aureus*, and 17/50 (34%) of these were Methicillin-Resistant *S. aureus* (MRSA). The findings highlight serious hygiene lapses and the presence of AMR pathogens in retail poultry. Immediate interventions are needed to improve sanitation, enforce regulations, and reduce public health risks associated with zoonotic disease transmission.

Keywords: Foodborne pathogens, *Salmonella*, *Staphylococcus aureus*, Retail poultry hygiene

Acknowledge the award committee of Dr. S. B. Dhanapala Fund

Isolation and Molecular Characterization of Methicillin- Resistant *Staphylococcus aureus* (MRSA) in Kennel Dogs, Kandy

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Antimicrobial resistance (AMR) represents a growing one-health concern. Methicillin-resistant *Staphylococcus aureus* (MRSA) strains pose a particular threat due to their resistance to β -lactam antibiotics, primarily driven by the *mecA* gene, which encodes for an altered penicillin-binding protein (PBP2a). This study aimed to identify and characterize MRSA colonization in service dogs housed at the Police Kennel Division in Kandy, Sri Lanka. A total of 56 swab samples (28 nasal and 28 ear swabs) were collected from 28 service dogs between January and March 2025. Samples were cultured on Mannitol Salt Agar and subjected to standard biochemical identification, including Gram staining, catalase, coagulase, and beta-hemolysis testing. Molecular confirmation of *Staphylococcus aureus* was achieved by amplifying *nuc* gene using PCR. Isolates were further tested for methicillin resistance phenotypically and genetically by detecting ceftiofur resistance using disk diffusion assay and the *mecA* gene using PCR respectively. Out of 56 total samples, seven isolates (12.5%) were identified as *S. aureus* by testing *nuc* gene. Of those seven isolates, five isolates were confirmed as MRSA phenotypically and genotypically (5/56: 8.9%; Wilson score 95% CI: 2.8%–17%), with four originating from nasal swabs and one from an ear swab. In addition to the five MRSA species, there were 19 *Staphylococcus* species from 19 samples which carried *mecA* gene. However out of those 24 *mecA* positive isolates only 16 showed resistance against ceftiofur. Therefore, statistical analysis revealed that there is no significant association between anatomical swab site and phenotypic resistance ($p = 0.202$) but there was a significant correlation between presence of *mecA* gene in Staphylococci and swab site ($p = 0.007$), reinforcing the nasal cavity as a primary colonization site for genotypic methicillin resistance. The selection of nasal and ear swabs was based on accessibility and low invasiveness for field sampling, although future studies should consider additional sites such as the oral cavity, pharynx, and rectum for more comprehensive detection. The results underscore the presence of MRSA in a subset of service dogs, with potential implications for human-animal transmission. Future investigations involving kennel environments and personnel are warranted to explore the patterns and risks of MRSA dissemination, a process within the one-health framework.

Keywords: MRSA, Methicillin- resistance, One-health, *mecA* gene, Service dogs

Detecting the Presence of *Salmonella* and Its Antimicrobial Resistance Profile in Family Poultry Farms in Colombo and Kalutara Districts, Sri Lanka

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Backyard poultry farming in Sri Lanka, often characterized by free-ranging indigenous chickens plays a key role in rural food security and income generation. Products from family poultry farms are increasingly favored for being perceived as humane, healthy, and organic. However, this low-input production system may expose flocks to environmental pathogens, such as *Salmonella*, a globally concerned major foodborne zoonotic agent. This study aimed to detect the presence of *Salmonella* and also assess the antimicrobial resistance (AMR) profile of isolates recovered from selected family poultry farms in the Colombo and Kalutara districts of Sri Lanka. Pooled environmental fecal samples were collected from thirty randomly selected family poultry farms in two districts (n=30) from March 2024 to June 2024. The fecal samples were mixed with the transport media (1:9), labelled and stored in a cool box during the transportation. Isolation of *Salmonella* was conducted using two protocols: ISO 6579-1:2017 for general detection and a slightly modified protocol for motile (non-typhoidal) *Salmonella*. This modified protocol consists of modified semisolid Rappaport Vassiliadis agar instead of Rappaport Vassiliadis broth. Isolates were confirmed via standard biochemical tests (TSI, citrate, urease, indole) and colony PCR targeting the *invA* gene. Antimicrobials were used in all family poultry farms of this study. Antimicrobial susceptibility test was conducted for one positive isolate from each farm. Antimicrobial susceptibility testing was performed using the disk diffusion method, following CLSI guidelines. *Salmonella* was detected in 20% (6/30) of farms using the ISO method. Motile *Salmonella*, identified using the other protocol, was present in 10% (3/30) of farms, indicating zoonotic potential. Antimicrobial susceptibility profiles revealed 100% sensitivity to azithromycin, cefotaxime, gentamicin, and trimethoprim/sulfamethoxazole. Resistance was observed for ampicillin (44.44%), chloramphenicol (22.22%), and tetracycline (11.11%). 22.22% of isolates showed intermediate resistance to ciprofloxacin. This study confirms the presence of zoonotic *Salmonella* in family poultry environments in Sri Lanka and highlights concerning resistance patterns to commonly used antimicrobials. These findings underscore the need for strengthened food safety measures, targeted AMR surveillance, and farmer awareness programs to mitigate public health risks from family poultry production.

Keywords: Antimicrobial resistance, Family poultry, Food safety, *Salmonella*, Zoonotic

This research was funded by the UKRI GCFR One Health Poultry Hub, Sri Lanka

Detection and Evaluation of Ammonium Salt Adulteration in Raw Cow Milk Collected from Nuwara Eliya District: A Preliminary Study

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Ammonium salts, particularly ammonium sulphate, are commonly used as milk adulterants in many parts of the world. They are added to artificially increase the density of milk that has been diluted with water. Naturally, raw milk contains less than 5ppm of ammonium salts. However, elevated levels can negatively impact human health, causing gastrointestinal issues such as vomiting and diarrhea. Ammonium salts can also act as neurotoxins, leading to confusion and behavioral changes. Therefore, detecting ammonium salt adulteration is crucial for milk quality control, to prevent the sale of substandard milk and protect consumer health. The objectives of this preliminary study were to establish a colorimetric method for detecting ammonium salts in milk, to determine the sensitivity of the test, to assess the effect of ammonium salt adulteration on lactometer readings (LR) and to evaluate the presence of ammonium salt contamination in raw milk samples collected from milk chilling centers in the Nuwara Eliya district. The formation of yellowish-brown complex by the Nessler's reagent in the presence of ammonium ions was used to detect ammonium salt adulteration in raw milk. The method was found to be sensitive to contamination levels as low as 0.1%. A significant increase in the LR from 0.5 to 5.5 was observed with ammonium salt concentrations ranging from 0.1% to 1%, compared to the control. The LR exceeded 35 when adulteration surpassed 2%. The study also found that the ability to dilute milk with water while still achieving the LR of unadulterated milk increased with higher levels of ammonium salt. Specifically, adulteration with 0.1%, 0.5%, 1%, 2%, 3%, and 4% ammonium salt enabled the addition of 10%, 12.5%, 25%, 42%, 65%, and 81% water, respectively, to achieve a comparable LR. Raw milk samples collected from milk cans at chilling centers in the Nuwara Eliya district were also tested for ammonium salt contamination. Out of 30 samples tested, 13% were found to be positive for adulteration. Given the significant public health implications, further studies are recommended to establish comprehensive baseline data on ammonium salt adulteration in milk. Such data will be essential for developing robust milk quality standards.

Keywords: Milk adulteration, Ammonium salt, Raw milk

Phenotypic Profiles of Antimicrobial Resistance in *Salmonella*, *E. Coli*, and *Campylobacter* Isolated from Poultry Processing Establishments

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The persistence of poultry foodborne pathogens, such as *Salmonella*, *Campylobacter*, and *E. coli*, is significant in Sri Lanka. The emergence of multidrug-resistant (MDR) foodborne pathogens is a global public health threat which increases mortality due to MDR infections in human. Poultry pathogens play a major role in anti-microbial resistance (AMR) globally. Exploring the AMR profiles of these pathogens is important, to understand the development of cross-resistance to antimicrobials among *Salmonella*, *E. coli*, and *Campylobacter*. The objective of the present study was to determine the antimicrobial resistance in *Salmonella*, *E. coli*, and *Campylobacter* isolated from poultry processing establishments. Caecal samples, cloaca samples, and the environmental pooled samples were collected from a total of 24 slaughter batches from eight large-scale poultry processing plants in Sri Lanka. Biochemically, serologically and genetically confirmed *Salmonella* ($n = 42$), *E. coli* ($n = 57$), and *Campylobacter* ($n = 32$) were used to prepare an inoculum at 0.5 McFarland. In *Salmonella*, eleven antimicrobials were tested used, while ten commonly used antimicrobials were used in *E. coli*. Further four antimicrobials were tested against *Campylobacter*. The Disk diffusion test was conducted for *Salmonella* and *E. coli*, according to the EUCAST guidelines, and the micro broth dilution technique was used for *Campylobacter*, following the CLSI and EUCAST guidelines. The highest resistance in *Salmonella* was detected for tetracyclines, and it was 89.5%. Furthermore, 98.5% of *E. coli* were resistant to the penicillin group, with 98% highest resistance to ampicillin. Fluoroquinolone group was highly resistance to *Campylobacter*, where the resistant percentages were 100% and 97% for nalidixic acid and ciprofloxacin, respectively. Resistant to ciprofloxacin was significantly higher ($p < 0.05$) in *E. coli* and *Campylobacter* compared to *Salmonella*. Further significant resistance was observed for chloramphenicol and third-generation cephalosporins in *Salmonella*. The MDR of *Salmonella* was 71.4%, while in *E. coli* and *Campylobacter*, it was 100% and 93.75%, respectively. The observed higher multidrug resistance and increased resistance to fluoroquinolones and tetracyclines in poultry foodborne pathogens in poultry processing establishments pose an alarming public health risk. The prudent use of antibiotics in farming, along with reduced cross-contamination during processing, is crucial.

Keywords: AMR, MDR, *Campylobacter*, *Salmonella*

Malignant Progression of Dermal Melanoma in a Thoroughbred Stallion: A Necropsy Case Report

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A postmortem examination was conducted on a 23-year-old Thoroughbred gray stallion with a five-year history of dermal melanotic masses in the perineal region. The case was presented to the Farm Animal Teaching Hospital, University of Peradeniya. Over time, the perineal mass progressively enlarged, ultimately resulting in a significant mechanical obstruction of the rectum. A metastatic neoplastic condition was suspected due to the body condition score chronically declined (from 3 to 1). Gross necropsy revealed a large, firm, black-pigmented mass (12 × 8 × 6 cm) occupying the perineal area and extending cranially into the pelvic cavity, exerting pressure on the rectum. The rectal mucosa was diffusely infiltrated with black pigment. Additional black-colored nodular lesions were observed in the prepuce, perineum, and inguinal regions. The lungs exhibited signs of pneumonia, with a frothy exudate present in the bronchi and bronchioles. The spleen contained multiple black pigmented nodules (approximately 2 × 3 × 1 cm), while the liver appeared markedly enlarged and congested. Moderate myocardial hypertrophy was also noted. Histopathological examination of tissues from the spleen, lymph nodes, and perineal mass confirmed the diagnosis of malignant melanoma. The neoplasm was composed of densely packed, large polygonal to spindle-shaped melanocytes arranged in sheets and short bundles within a scant fibrous stroma. The tumor cells contained variable amounts of brown to black intracytoplasmic pigment. Amelanotic melanocytes were identified in some regions. Nodular lesions in the spleen and lymph nodes were infiltrated with heavily pigmented melanocytes. Lung tissue revealed characteristic features of pneumonia, including alveolar infiltration with inflammatory cells and interstitial edema. This case illustrates the malignant transformation and metastatic potential of chronic dermal melanomas in aging horses. Although such tumors typically exhibit slow initial growth, they may progress to malignancy over time, resulting in widespread metastasis. Early detection and surgical intervention could significantly contribute to prolonging the lifespan and improving the welfare of affected horses.

Keywords: Melanoma, Malignant, Metastasis, Horse

Open Reduction of Chronic Elbow Luxation in a Cat

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The elbow joint of the cat is a hinge-type joint connecting the humerus with the radius and ulna. It is stabilized by the medial and lateral collateral ligaments and the annular ligament. The triceps brachii muscle facilitates extension, while the biceps brachii and brachialis muscles are involved in flexion. This case report describes the surgical management of a one-year-old male cat presented to the Veterinary Teaching Hospital with a chronic (1.5-month-old) traumatic injury of the left forelimb. Clinical examination revealed joint instability without palpable fractures. Radiographic evaluation confirmed a cranioventral luxation of the radial head and ulna relative to the distal humerus. Closed reduction attempts were unsuccessful, and hematological analysis revealed no significant abnormalities. Based on these findings, open surgical correction was indicated. The cat was sedated with 2% Xylazine HCl (2mg/kg, IM) and anesthetized with propofol (2mg/kg for induction and 6mg/kg for maintenance, IV). After standard site preparation (from scapula to carpus), the cat was positioned in right lateral recumbency, and a lateral approach was made to the elbow. Dissection was carried out to access the joint, and the radial head was gently levered into position. The joint was flushed and assessed for stability. The torn lateral collateral ligament was repaired using two 1.5mm cortical screws and 26-gauge orthopedic stainless-steel wire in figure of eight fashion- one screw was inserted into the distal humerus (capitulum), and the second screw into the radial head. Range of motion was assessed after fixation, and normal joint movement was confirmed. Torn muscles were sutured with chromic catgut (3-0) using a simple interrupted pattern. Subcutaneous tissue was closed with chromic catgut (3-0) simple continuous suture pattern, and the skin was sutured with nylon (2-0) in a simple interrupted suture pattern. Postoperative radiographs were taken and confirmed proper reduction and implant positioning. The patient recovered uneventfully from anesthesia and was discharged with postoperative care instructions and oral medications, including Cephalexin (20mg/kg), Meloxicam(0.2mg/kg), Stress powder (a Calcium supplement), use of an Elizabethan collar, restricted activity, and proper wound management. After 2 weeks, prognosis was evaluated which was very good. Although the owners did not bring the cat for the final in-person check-up, a follow-up telephone call conducted four weeks after surgery confirmed that the cat had resumed normal ambulation without visible lameness. This case demonstrates the importance of early diagnosis and effective surgical intervention in restoring joint stability and limb function in elbow luxation cases.

Keywords: Elbow joint, Luxation, Screws, Cerclage wire

Surgical Correction of Male Pseudohermaphroditism in an American Pit Bull Dog

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This clinical case report describes the step-by-step surgical approach for correcting anatomical abnormalities associated with male pseudohermaphroditism, including clitorectomy and gonadectomy. Eight-month-old American Pitbull dog, 12.3 kg, considered female, was presented with abnormal structure in the vagina with urine dribbling. The diagnosis was based on clinical examination, routine hematology, and the animal was subsequently prepared for surgery. Anesthesia was induced via intramuscular injection using a ketamine-xylazine combination: ketamine at 10 mg/kg body weight and xylazine at 2 mg/kg body weight. Anesthesia was maintained using a combination of ketamine and diazepam, administered at dose rates of 5 mg/kg and 0.25 mg/kg body weight, respectively. Through a midline laparotomy, testicle-like structures were removed while the animal was positioned in ventral recumbency. While the animal was positioned in dorsal recumbency, a urethral catheter was placed to identify the urethral papilla, followed by an episiotomy and complete dissection and removal of the os clitoris from the surrounding clitoral tissue. The remaining clitoral tissue was sutured, and the vaginal floor was reconstructed. Clinical examination revealed a protruding, enlarged clitoris, extending approximately 2 cm in length and 0.5 cm in breadth from the vaginal opening. Hematology results were unremarkable. Post-surgery, after 24 hours, the animal showed bleeding, a swollen vulva, and urine dribbling due to rubbing the perineal region, which led to suture adhesion, which was corrected and a dog diaper applied to avoid consequences. Animal recovered after 48 hours with normal urine passing. The most common presenting complaints in dogs with an os clitoris include enlarged clitoral protrusion, vulvar licking, and urinary tract infections, with the exposed sensitive tissue often becoming inflamed or self-traumatized, occasionally leading to lymphoplasmacytic clitoritis. Clitorectomy and gonad removal successfully addressed the anatomical and functional abnormalities associated with pseudohermaphroditism, improving the dog's overall well-being. Awareness of potential post-operative issues is critical to ensuring animal welfare. This case emphasizes the importance of precise surgical intervention in managing rare congenital conditions in veterinary practice.

Keywords: Male pseudohermaphroditism, Clitorectomy, Rare congenital condition, American Pitbull

Cutaneous Lesions Suggestive of Feline Leprosy in an Eight-Year-Old Crossbred Cat

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Feline leprosy is a rare but clinically significant mycobacterial infection in cats, primarily caused by *Mycobacterium lepraemurium* and, less commonly, by other *Mycobacterium* species, such as *M. avium*, *M. microti*, and *Candidatus M. lepraefelis*. Although its true prevalence is unknown, the highest number of cases are reported in Australia and New Zealand. However, in Asia, Africa, and South America, reports of feline leprosy are extremely rare or nonexistent, and there are no reports from Sri Lanka to date. The disease is common in cats aged 1-3 years, with a predilection for male cats. Clinical signs include cutaneous and subcutaneous nodules, ulceration, draining tracts, and regional lymphadenopathy; most affected cats exhibit no systemic signs. An 8-year-old intact, male crossbred cat with outdoor access was presented for veterinary care due to anorexia and intermittent diarrhea from young age. The cat was depressed during the clinical examination and a soft ~0.5 cm diameter mass in the right supraorbital region which had first appeared several years prior, according to the owner. No other skin lesions were found. Fine needle aspiration cytology of the lesion revealed severe pyogranulomatous inflammation with non-staining, refractile bacterial rods within macrophages. The bacteria were positive and stained bright red with Ziehl-Neelsen staining, indicating a *Mycobacterium* spp. infection. The clinical presentation, gross lesions, cytology, and positive Ziehl-Neelsen staining taken together were compatible with a diagnosis of feline leprosy. The cat was treated with clarithromycin (62.5mg/cat PO q 12 hr) and rifampicin (10mg/kg PO q24hr) for 2 weeks. Other supportive treatments were also given. During the 2-week follow-up, the size of the skin lesion had markedly reduced, and diarrhea had ceased. In the subsequent follow-up, the size of the mass was partially reduced. Treatments were continued for another 2 weeks. At the next follow-up, the size of the mass was further reduced. After the second visit, the cat was lost for follow-up. The skin lesions considered together with the laboratory findings are suggestive of feline leprosy in this cat. However, molecular analysis is required for confirmatory diagnosis.

Keywords: Feline leprosy, *Mycobacterium leprosy*, Cutaneous and Subcutaneous Nodules, Acid-fast bacilli, Ziehl-Neelsen

Clinical Relevance of Magnitude and Morphology of Large Granular Lymphocytes (LGL) in Peripheral Blood of Dogs

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Large granular lymphocytes (LGLs) are a morphologically distinct subtype of lymphoid cells found in many animal species. In healthy dogs, LGLs comprise $\leq 10\%$ of the peripheral lymphocyte population. Only a limited studies have investigated the clinical relevance of increased LGLs in dogs. The aim of this study was to provide a comprehensive quantitative and qualitative analysis of LGL variations in both apparently healthy and diseased dogs, with particular focus on the magnitude, morphological diversity, and potential clinical relevance of these cells in dogs. The study was conducted at the Veterinary Teaching Hospital, University of Peradeniya for six months using samples collected from 165 sick dogs identified to have increased number of LGL in peripheral blood smears. Additionally, samples were collected from 16 apparently healthy dogs. The LGL percentages, absolute counts, and morphological features were determined through blood smears and complete blood counts (CBC). Medical records were reviewed to identify the affected body systems in diseased dogs. Dogs were categorized based on their LGL counts. Associations between LGL counts and signalment (age, sex, breed) and CBC parameters were analyzed using the Kruskal–Wallis H test and Spearman correlation test. The relationship between affected body systems and LGL counts was assessed using correspondence analysis. In apparently healthy dogs, LGL counts ranged from 1% -27% of the total lymphocyte count, while in diseased dogs, it was 2%-50%. No significant associations were found between LGL percentage and age, sex, or breed. Three morphologically distinct LGL types were identified, each differing in nuclear shape, granule shape and granule distribution within the cytoplasm. These variants showed preferential associations with specific organ systems, suggesting a potential link between LGL morphology and the nature of the disease. Strong positive correlations were observed between absolute LGL counts and both total WBC and absolute lymphocyte counts. Moderate to fair correlations were reported with neutrophil and monocyte counts. The key findings of the study suggest that both the morphological features and the magnitude of LGLs in diseased dogs reflect underlying immune responses across different organ systems, highlighting their potential utility as diagnostic or prognostic indicators in clinical practice.

Keywords: Large granular lymphocytes, Canine, Peripheral blood

Clinical Characteristics and Antimicrobial Resistance Patterns of Methicillin-Resistant *Staphylococcus aureus* (MRSA) Infections in Companion Animals: A Retrospective Study (2021–2025)

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Methicillin-resistant *Staphylococcus aureus* (MRSA) is an increasingly recognized multidrug-resistant pathogen in veterinary medicine, especially in companion animals, where it contributes to delayed wound healing, therapeutic failure, and zoonotic transmission. Despite its clinical importance, local surveillance data remain limited. Risk factors include immunosuppression, previous exposure to antimicrobials and recent hospitalization. The objective of this study was to characterize MRSA infections in companion animals within local clinical setting, focusing on antimicrobial resistance profiles and clinical outcomes. This retrospective study analyzed 52 confirmed MRSA-positive cases presented to PetVet Clinic, from 2021 to 2025. The study population included 24 canines and 28 felines presenting with 40 wound infections (14 surgical site infections, 21 infected wounds, and 5 recurrent wounds requiring surgical intervention), 5 cases of otitis externa, and 7 urinary tract infections (UTI). Diagnosis was confirmed through aerobic culture and antimicrobial susceptibility testing (AST) using the Kirby-Bauer disk diffusion method in collaboration with an accredited laboratory. Wound isolates showed high resistance to empirical first-line antimicrobials such as amoxicillin-clavulanate, cephalexin, and ciprofloxacin but were susceptible to fusidic acid (77.5%), cotrimoxazole (60%), gentamicin (55%), and clindamycin (30%). Extended AST revealed high sensitivity to mupirocin (80%), vancomycin, teicoplanin, and linezolid (100%), though these antibiotics were not utilized due to underlying conditions and adverse effects, including nephrotoxicity and bone marrow suppression. Co-pathogens were present in wounds, with organisms such as *Pseudomonas aeruginosa* (10%), *Klebsiella* (5%), β -hemolytic *Streptococcus* spp. (7.5%), and *Escherichia coli* (2.5%) complicating management. Otitis isolates were sensitive to chloramphenicol (80%), gentamicin (60%), and cotrimoxazole (40%). UTI isolates showed 100% sensitivity to nitrofurantoin, partial susceptibility to gentamicin (28.6%), cotrimoxazole (28.6%), and ciprofloxacin (14.3%). Prior antimicrobial use was common across all categories. Treatment was guided by AST results, with selection based on tissue penetration and patient condition. Clinical resolution was assessed by repeated AST and clinical improvement. Chronic infections required prolonged therapy. Hospitalized patients were managed under strict isolation. Outpatients were discharged with proper instructions. This study underscores the need for routine culture and AST, rational antimicrobial use, rigorous infection control, enhanced epidemiological surveillance, and integrated antimicrobial stewardship in veterinary practice.

Key words: MRSA, Antimicrobial susceptibility, Companion animals

Incidental Diagnosis of a Pulmonary Carcinoma in a Rottweiler: The Importance of a Complete Systemic Evaluation

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Pulmonary carcinoma is an uncommon primary lung tumor in dogs and is often diagnosed late due to vague or absent respiratory signs. This report describes the incidental diagnosis of a presumptive pulmonary carcinoma, likely adenocarcinoma, in a 6-year-old female Rottweiler presented primarily for infertility. The dog had regular estrous cycles and mating behavior but failed to conceive. The clinical history also included polydipsia and behavioral changes such as nesting and scavenging. On physical examination, the dog was mildly tachypneic and showed signs of pulmonary congestion, while vital parameters were normal. A complete diagnostic workup was conducted, including complete blood count, serum biochemistry, urinalysis, thoracic radiography, abdominal ultrasonography, and echocardiography. All hematological and biochemical values were within normal ranges. Thoracic radiographs revealed multiple soft tissue nodules of varying sizes across the lung fields and mild pleural effusion. Ultrasound-guided thoracocentesis was performed, and cytology of the pleural fluid revealed large, cohesive epithelial cells with prominent nucleoli, consistent with malignant epithelial neoplasia. Bacteria culture and fungal culture yielded no growth. Also, microscopic evaluation for fungal spores and filaments were negative. Abdominal ultrasonography revealed mild to moderate hepatomegaly with hyperechoic foci and gallbladder distension with echogenic contents. Although early mucocele was suspected, the typical kiwi-like appearance was absent. Differential diagnoses included sludge, biliary stasis, or early mucocele. A small cystic lesion was noted in the right renal cortex. No other masses or lesions suggestive of a primary tumor were observed. Supportive and symptomatic treatment was initiated, including diuretics for pulmonary congestion and pleural effusion, and ursodeoxycholic acid for biliary stasis. However, two days after presentation, the dog developed hemorrhagic diarrhea, which progressed to melena, followed by sudden clinical deterioration. Although there were no obvious respiratory signs at initial presentation, the dog developed progressive dyspnea and died within two weeks. Therefore, further gastrointestinal evaluation and chemotherapy could not be initiated. Post-mortem examination was not performed due to the owner's inability to return the dog to the hospital. This case illustrates how coexisting systemic signs may precede pulmonary findings, and highlights the value of a complete systemic diagnostic approach, especially in cases with atypical presentations.

Keywords: Canine pulmonary adenocarcinoma, Metastatic lung neoplasia, Incidental diagnosis, Diagnostic imaging

Successful Correction and Management of Feline Pyothorax by Thoracocentesis and Thoracotomy: Study on Series of Cases

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Pyothorax in cats is a life-threatening condition characterized by the accumulation of purulent exudates within the pleural cavity. From 2023 to 2025, seven cats (ten months to four years old, male and female) presented with chronic respiratory signs, lethargy, anorexia and inability to rest in lateral recumbency. FBC revealed leukocytosis, indicating an active infection. Renal and hepatic biochemical parameters were within normal limits, and no blood parasites were detected. Thoracic radiographs revealed marked bilateral pleural effusion, evidenced by radiopaque fluid in the pleural space, retraction of lung lobes from the thoracic walls, rounded lung margins and obscured cardiac silhouettes. Echocardiography revealed anechoic pleural fluid with floating lung lobes, and lung compression. No evidence of pericardial effusion or cardiac disease. These findings are consistent with pyothorax. Placed the animal in lateral recumbency and approached to the thoracic cavity from ventral one third of the 8th intercostal space, just cranial to the rib and performed thoracocentesis. Thoracocentesis method depends on various factors. Simple thoracocentesis was performed by positioning the more affected hemithorax downward to facilitate fluid drainage. Butterfly needle connected to a two-way catheter was used to aspirate the pleural exudates and lavage the thoracic cavity using normal saline. This simple, minimally invasive, and inexpensive technique was effective in mild to moderate cases and typically sedation is sufficient and don't require general anesthesia. In severe cases where the pleural fluid is thick, purulent, or compartmentalized and simple thoracocentesis is inadequate, sedate with xylazine HCl and anesthesia induced by ketamine and maintained by isoflurane. The patient was positioned with the more severely affected hemithorax facing upward, and performed thoracotomy under negative pressure ventilation with gas anesthesia. Purulent exudates was aspirate using a gauge 9 infant feeding tube, and the thoracic cavity was lavage with normal saline and closed the thoracotomy. Postoperative care included analgesia with ketoprofen and antimicrobial therapy with ceftriaxone and metronidazole along with supportive therapy. All cats recovered within one to two weeks following thoracocentesis. Compared to simple thoracocentesis, thoracotomy facilitated better prognosis. Limited facilities and lack of expertise are the major challenges to perform thoracotomy in Sri Lankan veterinary context.

Keywords: Pyothorax, Thoracocentesis, Thoracotomy, Pleural effusion, Negative pressure ventilation

A Retrospective Study of Total Splenectomy in 15 Dogs

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Total splenectomy is a common surgical procedure in dogs, performed for various conditions including neoplasia, torsion, trauma and immune mediated disease. This retrospective study analyzes clinical indications, histopathological findings, postoperative outcomes, and complications in 15 dogs that underwent total splenectomy between January 2023 and April 2025. Indications for splenectomy were splenic masses (7/15; 46.7%), torsion (3/15; 20%), splenic rupture (2/15; 13.3%) one secondary to trauma and one to ruptured mass), immune-mediated hemolytic anemia (IMHA)-associated splenomegaly (2/15; 13.3%), and necrotized spleen (1/15; 6.7%). Histopathology revealed hemangiosarcoma (2), hepatocellular carcinoma with splenic metastasis (1), histiocytic sarcoma (1), lymphoma (1), plasmacytoma (1). Malignant disease was associated with poorer outcomes, with four out of five dying within three months. All surgeries were performed via midline laparotomy. Among three dogs who had splenic torsion, two who had GDV and gastropexy were performed in both. Major perioperative complications included intraoperative hemorrhage (3/15; 20%), intraoperative ventricular arrhythmias (4/15; 26.7%), postoperative ventricular arrhythmias (3/15; 20%), and postoperative sepsis (1/15; 6.7%). Minor complications included transient pyrexia (2/15; 13.3%) and mild wound inflammation (2/15; 13.3%). Three dogs required blood transfusions. Preoperative thrombocytopenia (platelet count <180,000/ μ L) and PCV <30% recognized risk factors for perioperative mortality, were observed in four dogs, all of which had increased morbidity, Hemoabdomen was observed in two dogs. At three months post-surgery, 7/15 dogs (46.7%) were alive. Survival was significantly better in dogs with benign lesions or splenic torsion than in those with malignant neoplasia. Long-term complications included metastatic disease (4/15; 26.7%), thromboembolism (1/15; 6.7%), and chronic anemia in IMHA patients (1/15; 6.7%). This study highlights that splenectomy remains a life-saving procedure for dogs with torsion or rupture and is essential for diagnostic and prognostic purposes. Malignant splenic neoplasia, particularly hemangiosarcoma, carries a poor prognosis. Early recognition, correction of anemia and thrombocytopenia, aggressive perioperative monitoring, and rapid control of hemorrhage and arrhythmias are key to improving survival in dogs undergoing splenectomy.

Keywords: Splenectomy, Tumour, Torsion, Dog

A Case Report on Salmonellosis in a Pigeon Flock

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Pigeon rearing is an emerging trend in Sri Lanka, pursued as a source of income rather than merely a hobby. Informal groups involved in the rearing and sale of pigeons actively promote their marketing campaigns on social media platforms. Pigeon salmonellosis poses a significant threat for pigeon health and has zoonotic implications. Young birds are more susceptible primarily due to immature immune system and crop feeding. Neurological signs of paralysis, diarrhea, loss of appetite, swelling of joints, hanging wings, limping, weight loss and acute mortality in young birds (nestlings) are main clinical signs observed in diseased birds. In a case presented to veterinary investigation center, Welisara involving a flock of 65 pigeons, two had died and six exhibited clinical signs such as drooping wings, joint swelling, diarrhea, loss of appetite, and emaciation. The flock was of mixed age and included breeding birds imported from The Netherlands and Belgium. Enteritis and bronze colour liver were main post mortem findings. Heart and liver samples were inoculated onto Nutrient and MacConkey Agar and incubated overnight. The isolates were subjected to Gram staining and biochemical tests (Urease, Simmons Citrate, Indole, Oxidase, TSI and SIM) for identification and confirmation. Gram staining of the isolates revealed Gram-negative Coccobacilli. Morphological and biochemical characteristics confirmed the isolates as motile *Salmonella* spp. The Anti-microbial susceptibility test (AST) showed that the isolates were susceptible to Sulpha-Trimethoprim. Eggs of *Ascaridia* spp. found in fecal droppings indicated a concurrent nematode infestation, which may have further compromised the situation. Affected birds were isolated and the entire flock was treated with Sulpha-Trimethoprim for five days. The owner was advised to provide proper ventilation, ensure regular cleaning, implement deworming, reduce stocking density and introduce rodent and pest control methods to prevent further contamination. Affected birds recovered slowly and no additional mortalities were observed following treatment. The remainder of the flock showed no clinical signs. Recovered birds may continue to act as asymptomatic carriers of *Salmonella*. These carrier birds have the potential to transmit the pathogen vertically to their offspring. Strict sanitation measures are necessary when handling pigeons or their droppings since the disease is zoonotic.

Keywords: Pigeon, Salmonellosis, Zoonotic, Salmonella

Two Uncommon Canine Lymphomas in Mediastinal Lymph Nodes and Spleen

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Canine lymphoma is a common neoplasia, with most cases typically presenting with generalized lymphadenomegaly. However, extra-nodal forms can occur in atypical locations, posing diagnostic and therapeutic challenges. We report the clinical presentations, diagnosis of two cases of lymphoma in uncommon anatomical locations. The first case was a 3-year-old intact male German Shepherd referred for a 5-day history of progressive dyspnea, lethargy, and severe ascites. Physical examination revealed normal vital parameters, pale mucous membranes, and muffled heart sounds. Radiography and ultrasonography showed severe pericardial, pleural, and peritoneal effusions, along with a suspected soft tissue opacity in the cranial mediastinum. Complete hematology and serum biochemistry revealed no thrombocytopenia or coagulopathy, except for mild leukocytosis. Cytological evaluation of ultrasound-guided fine-needle aspirates (FNA) from the cranial mediastinum showed a neoplastic population of round cells, compatible with the cytomorphological features of lymphoma. Based on imaging and cytology, a diagnosis of mediastinal lymphoma was made. While therapeutic abdominocentesis and thoracocentesis provided palliative relief, the patient died before chemotherapy could be initiated. A postmortem was not conducted due to lack of owner consent. The second case was a 3.5-year-old female Labrador Retriever presented with chronic vomiting, tenesmus, and obstipation. Clinical examination revealed depressed mentation, marked abdominal distension with gas-filled intestines, reduced peristalsis, and 8% dehydration. Abdominal radiographs suggested intestinal obstruction or stenosis. Ultrasound confirmed this and also revealed a hyperechoic focal nodule in the spleen. An exploratory laparotomy identified ileocecal stenosis, which was surgically corrected. During surgery, FNA was taken from the splenic nodule. Cytology revealed a neoplastic lymphoid population consistent with splenic lymphoma. The cytomorphological features, including intermediate-sized cells and a single prominent nucleolus, were suggestive of marginal zone lymphoma. The indolent clinical course supported a tentative diagnosis of splenic marginal zone lymphoma, and elective splenectomy was recommended as an alternative to chemotherapy. However, the procedure has not yet been performed due to owner-related delays. The dog remains clinically stable, and histological confirmation is still pending. These cases highlight the importance of including lymphoma in the differential diagnosis of dogs presenting with unexplained thoracic effusions or incidental splenic lesions, even in the absence of generalized lymphadenomegaly.

Keywords: Canine lymphoma, Mediastinal lymphoma, Splenic lymphoma

Mitotic Rate and Nucleus to Cytoplasmic Ratio are Useful Cytological Prognostic Indicators for Stage III Canine Lymphoma

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Canine lymphoma is a common hematopoietic malignancy, and stage 3 multicentric lymphoma is among its most frequently diagnosed forms. Accurate prognostic assessment is critical for therapeutic planning and client communication. Although histopathology provides accurate prognostic information, it is costly and time consuming. Cytopathology is convenient and cost-effective method suitable for clinical set-ups. This study aimed to determine if there are any cytological features in dogs useful as prognostic indicators for stage 3 canine lymphoma treated with CHOP protocol. Six cytological features: cell size, number of mitotic figures, density of lymphoglandular bodies, nuclear-to-cytoplasmic (N:C) ratio, number of tingible body macrophages, and number of nucleoli per cell, were estimated in cytological smears of 27 dogs diagnosed with stage III lymphoma. The overall survival times were compared using Kaplan-Meier survival analysis. Among the six cytological features assessed, number of mitotic figures and N:C ratio was identified as potential prognostic indicators. Dogs with lymphomas exhibiting a low mitotic rate and low N:C ratio had significantly longer median survival times (307 and 305 days, respectively) compared to those with high mitotic activity and high N:C ratio (160 and 96 days, respectively). In contrast, cell size, lymphoglandular body density, number of tingible body macrophages, and nucleolar number did not show significant associations with survival times, possibly due to subjective variability or limited independent predictive value. German Shepherds and male dogs had shorter median survival times than other dogs. These results suggest that mitotic rate and N:C ratio as convenient and cost-effective cytological prognostic factors for stage III canine lymphoma, particularly in resource-limited veterinary settings. Limitations of this study include small sample size and single-observer bias in cytological evaluation.

Keywords: Lymphoma stage III, Cytology, Prognostic factors

A Rare Case of Double Intussusception in a Young Rottweiler Puppy

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A 3-month-old 4.6 kg female rescued Rottweiler puppy was presented with rectal prolapse, stunted growth, emaciation, abdominal distension, and absence of defecation, and was diagnosed with intussusception a week ago by another veterinary practice. There was history of chronic diarrhoea since birth. Physical examination revealed a large, painful abdominal mass and dilated intestines. Diagnostic imaging, including radiographs and ultrasonography, confirmed a mass consistent with intestinal intussusception. Blood work showed mild leukocytosis, anaemia, hypoproteinemia, hyponatremia and hyperkalemia. Exploratory laparotomy revealed a rare complete double intussusception involving the distal ileum invaginating into the ileocecal junction, which further invaginated into the proximal colon, causing telescoping of three intestinal segments. Approximately 400 mm of affected intestine was resected, and end-to-end anastomosis was performed. Postoperative pain management and antibiotic therapy were administered, alongside fasting for 12 hours and daily ultrasonographic monitoring. Two days postoperatively, the puppy developed abdominal complications characterized by free fluid accumulation and abnormal motility, with normal blood glucose and the absence of faecal output. Re-exploratory surgery revealed infection and leakage at the anastomosis site, necessitating removal of an additional 150 mm of nonviable ileum and placement of a sterile closed abdominal drain. The first abdominal culture grew *Proteus* (sensitive to Augmentin), and the second grew *E. coli* (sensitive to polymyxin B only). Lactated Ringer's solution with 5% dextrose CRI was administered during the perioperative period. Continued postoperative care led to the resolution of abdominal fluid and the restoration of normal intestinal motility, except in the colon. The puppy resumed defecation promptly after the second surgery and gradually improved faecal quality. Full recovery was achieved, with the dog returning to normal daily activities. This case highlights the rarity of double intussusception in young dogs and underscores the importance of timely diagnosis, thorough surgical intervention, and vigilant postoperative care. Imaging features such as the characteristic concentric "onion ring" sign on ultrasound are crucial for early identification. The complications observed emphasize the need for close monitoring after intestinal surgery due to the risk of anastomotic leakage. Successful management of this complex condition can lead to favourable outcomes despite the severity and rarity of the presentation.

Keywords: Double intussusception, Resection and anastomosis, Bowel obstruction, Post surgical complications, Abdominal culture

Day-One Hematological and Clinical Predictors of Mortality in Canine Parvovirus Infection

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Canine parvovirus (CPV) infection remains a leading cause of mortality in young dogs. Early identification of high-risk cases can improve clinical decision-making and optimize the use of supportive interventions. This study aimed to determine whether Day-1 white blood cell (WBC) count, platelet count, dehydration percentage, and diarrhea type at presentation predict mortality in CPV-infected dogs. A retrospective study was conducted in 43 PCR-confirmed CPV infected dogs presented within 24 hours of symptom onset to the Veterinary Teaching Hospital. Day-1 was defined as the first hospital presentation and clinical evaluation, including blood sampling. Signalment, vaccination status, clinical parameters, and laboratory data were recorded. Day-1 predictors were analyzed against in-hospital mortality outcomes. Age distribution of the studied dogs were, 0–1 year (n=36), 1–2 years (n=3), 2–3 years (n=2), 3–4 years (n=1), and 4–5 years (n=1). Dogs were grouped by their Day-1 WBC counts as severe leukopenia ($<3.0 \times 10^3/\mu\text{L}$), moderate leukopenia ($3.0\text{--}5.0 \times 10^3/\mu\text{L}$), normal ($5.0\text{--}21 \times 10^3/\mu\text{L}$), moderate leukocytosis ($21\text{--}40 \times 10^3/\mu\text{L}$), and severe leukocytosis ($>40 \times 10^3/\mu\text{L}$). Also, platelet counts ($<200 \times 10^3/\mu\text{L}$), age (<6 vs. ≥ 6 months), vaccination status, presence of hemorrhagic diarrhea, and dehydration percentage ($\geq 8\%$ vs. $<8\%$) were recorded. The overall mortality rate was 20.9% (9/43). All fatalities occurred in puppies <6 months old and unvaccinated, representing a 27.3% mortality rate among unvaccinated dogs. Severe leukopenia was associated with a 40% mortality rate (4/10), while thrombocytopenia carried a 27.8% mortality rate (5/18). Dogs exhibiting both severe leukopenia and thrombocytopenia had 100% mortality (3/3). Hemorrhagic diarrhea was associated with approximately a 2-fold increase in mortality compared to non-hemorrhagic diarrhea. Marked dehydration ($\geq 8\%$) was also more common among non-survivors. Notably, survivors with severe leukopenia consistently had $<8\%$ dehydration and non-hemorrhagic diarrhea, suggesting that clinical signs may modify hematological risk. Among survivors, median hospitalization was 5 days. These findings confirm leukopenia and thrombocytopenia as key prognostic indicators and provide practical framework for early risk classification. High-risk puppies should receive intensive monitoring and early therapy, including IV fluids and plasma transfusion where possible. This study establishes practical, evidence-based criteria for identifying high-risk CPV patients during presentation.

Keywords: Canine parvovirus, Leukopenia, Thrombocytopenia, Dehydration

Successful Surgical Management of Intestinal Obstruction Due to Jejunal Adenocarcinoma in a 16-Year-Old Cat

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Jejunal adenocarcinoma is a rare malignant epithelial neoplasia of the feline intestine representing a small subset of gastrointestinal neoplasms in cats. This case report describes the successful surgical management of a 16-year-old intact female domestic shorthair cat presenting with signs of chronic gastrointestinal disturbance and progressive weight loss. The cat initially presented with dehydration, diarrhoea, and azotaemia, consistent with chronic renal disease. Despite stabilization with fluid therapy and dietary support, the patient continued to deteriorate over six weeks, showing concurrent vomiting, diarrhoea, anorexia, and marked weight loss (from 3.5 kg to 2.2 kg). On re-evaluation, severe azotaemia, isosthenuria with hyaline and fat casts, and cachexia were noted. Radiography showed cranial small intestinal dilation, and abdominal ultrasonography revealed a hyperechoic, non-motile mass in the proximal small intestine with proximal to the lesion, duodenal dilation and absent peristalsis. The findings were suggestive of mechanical obstruction secondary to a mass. The patient was stabilized with intravenous fluids, antibiotics (cefuroxime and metronidazole), and pantoprazole before undergoing exploratory laparotomy. A firm, nodular mass was located in the proximal part of the ileum, caudal to the duodenum. The affected segment (approximately 60 mm) was resected, and end-to-end intestinal anastomosis was performed. Histopathological examination confirmed a well-differentiated adenocarcinoma infiltrating the intestinal wall and extending into the subserosa, with neoplastic involvement at the dilated resection margin. Postoperative care included a continuous rate infusion of ketamine for analgesia, continuation of antibiotics, and delayed reintroduction of oral intake. The cat recovered well, regaining appetite and normal faecal consistency within a week. Follow-up evaluations confirmed restoration of intestinal function without evidence of recurrence or complications. This case highlights the importance of considering jejunal adenocarcinoma as a differential diagnosis in geriatric cats with chronic vomiting, diarrhoea, and weight loss especially when conservative treatment fails. Early diagnostic imaging and timely surgical intervention, even in senior patients with comorbidities, can lead to a favourable outcome.

Keywords: Jejunal adenocarcinoma, Intestinal obstruction, Resection and anastomosis, Chronic vomiting and diarrhea, Geriatric cats, Weight loss

Correction and Post Operative Management of Jejunal Strangulation and Incarceration Associated with Unilateral Inguinal Hernia in a Male Dog

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Jejunal strangulation and incarceration due to unilateral inguinal hernia in male dogs represents a rare but life-threatening surgical emergency. This report describes clinical presentation, surgical correction, and postoperative management of such a case. An 11-year-old, 15 kg, male crossbreed dog was presented with vomiting and inappetence. A firm, palpable mass was detected in the inguinal region. Blood analysis revealed preoperative leukocytosis, thrombocytopenia, and low PCV, which were resolved postoperatively. Ultrasonography and radiographs confirmed herniation with vascular compromise of intestinal loops. Emergency surgery involved herniorrhaphy with resection and anastomosis of a 30 cm necrotic jejunal segment. Necrotized skin and subcutaneous tissue in the herniated area were excised, and a drain was placed for three days. Follow-up ultrasonography was conducted to monitor bowel leakage. One week later, an additional necrotic tissue was debrided under sedation. The wound was managed with tie-over dressings for two months, during which two reconstructive flank fold flap surgeries were performed. Postoperative management included intensive supportive care, fluid therapy, antibiotics, analgesics, and nutritional support. The patient was monitored for complications such as anastomotic leakage, infections, and recurrence. This case highlights the importance of timely surgical intervention, effective bowel resection and anastomosis, and coordinated wound management, all of which are critical for successful recovery in complex hernia cases involving intestinal and soft tissue necrosis.

Keywords: Strangulation, Inguinal hernia, Jejunum

Echocardiographic Evaluation of Cardiac Diseases in Dogs at PetsVcare Animal Hospitals: A Retrospective Study in Sri Lanka

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Echocardiography is a widely utilized, non-invasive imaging technique that plays a vital role in diagnosing and managing cardiac diseases in dogs. It allows real-time evaluation of cardiac anatomy and function, enabling precise assessment of chamber size, wall thickness, valve morphology, and blood flow using Doppler modalities. Echocardiography is particularly valuable for early disease detection, monitoring progression, and evaluating therapeutic response, making it a cornerstone of veterinary cardiology. This study was conducted to collect and analyze valuable data regarding canine cardiac health in Sri Lanka. All echocardiographic examinations were performed by a single experienced clinician to maintain consistency. This retrospective study aimed to evaluate the echocardiographic findings in dogs presented to PetsVcare Animal Hospitals between August 20, 2024, and April 8, 2025. A total of 300 dogs underwent complete transthoracic echocardiographic evaluations, including 2D, M-mode, and Doppler studies. Dogs were referred for assessment based on clinical signs such as coughing, syncope, exercise intolerance, tachypnea, heart murmurs, abdominal distension, unexplained fever, lethargy, and collapse. The 300 dogs represented 22 breeds. Labrador Retrievers (20.6%), German Shepherds (11%), Crossbreeds (11%), and Native breeds (8.6%) were the most common, comprising over 50% of the cases. Other frequently observed breeds included Terriers, Golden Retrievers, Shih Tzus, Rottweilers, Beagles, and Pugs. Less common breeds such as Boxers, Cocker Spaniels, and Dalmatians were also represented. Breed-specific variation in echocardiographic findings was noted. Cardiac abnormalities were categorized as acquired (85.6%), congenital (9%), and normal findings (5.33%). The most common diagnosis was Myxomatous Mitral Valve Disease (MMVD), identified in 177 dogs and staged as B1 (52), B2 (111), and C (14), with 8 cases complicated by endocarditis. Dilated Cardiomyopathy (DCM) was diagnosed in 27 dogs, predominantly Labradors (66%), and staged B1 (2), B2 (4), C (18), and D (3). Additional conditions included Right Ventricular Enlargement (13), Pericardial Effusion/Cardiac Tamponade (3), Right Atrial Dilation (3), Patent Ductus Arteriosus (3), Mitral Valve Dysplasia (23), Pulmonary Stenosis (1), Left Ventricular Hypertrophy (14), heart base tumors (3), atrial and mediastinal masses (9). Notably, 16 dogs (predominantly native breeds, 25%) exhibited no echocardiographic abnormalities. Of the total population, 181 were male and 177 females

Keywords: Echocardiography, Hypertrophic, Cardiomyopathy, Myxomatous

Successful Management of Severe Haematuria in a Pregnant Cow: A Case Report

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Haematuria in bovines is a significant diagnostic challenge due to its diverse aetiologies, including infectious, neoplastic, and traumatic causes. When it occurs during pregnancy, it requires a careful clinical approach to ensure the well-being of both the dam and the foetus. This report presents a rare case of persistent haematuria in a pregnant cow, likely linked to an intravesical blood clot, which was successfully managed with conservative treatment. A 10-year-old, second parity, five-month pregnant cow was referred to the Farm Animal Teaching Hospital due to persistent red-coloured urine, unresponsive to empirical babesiosis treatment. The cow appeared alert with a bounding pulse, pale mucous membranes, and normal hydration and appetite. A peripheral blood smear excluded hemoparasitic infections, and initial haematology revealed severe anaemia (PCV: 11.9%) and an elevated WBC count ($6.34 \times 10^9/L$), which increased to $10.79 \times 10^9/L$ within one week, suggesting an ongoing inflammatory response. Neutrophilia was confirmed (granulocytes: $8.8 \times 10^9/L$; neutrophils: 71.5%), indicating infection. Urine analysis showed agglutinated blood clots and intact RBCs, confirming haematuria and an intravesical blood clot. Transrectal ultrasonography revealed an irregular intravesical mass, identified as a large blood clot. Cytological evaluation ruled out transitional cell carcinoma. Given the cow's pregnancy, conservative treatment was chosen, including tranexamic acid (5 mg/kg IV for six days, then alternate days for six more), amoxicillin-clavulanate (20 mg/kg IM every other day for 8 days), and vitamin B complex (IM, every other day) to support erythropoiesis. Haematuria resolved by day three, with follow-up evaluations showing stabilization of PCV, neutrophil count, and no recurrence of clinical signs. This case underscores the importance of differentiating haematuria from haemoglobinuria and highlights the diagnostic value of ultrasonography and WBC count. It also demonstrates the potential of tranexamic acid as a conservative treatment for haemorrhagic episodes during pregnancy, especially when surgery is not an option in bovine practice.

Keywords: Hematuria in cattle, Tranexamic acid, Urine sediment, Transrectal ultrasonography, Intravesical mass.

Effect of COVID-19 and Economic Downturn on the Layer Sector in Western and North Western Provinces in Sri Lanka

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In Sri Lanka, the poultry industry comprises three main sectors: broiler, layer, and backyard. Among these, the broiler and the layer sectors operate at a commercial level and are highly organized. Prior to 2020, the layer sector demonstrated steady growth and has been instrumental in providing protein at an affordable price to the general public in Sri Lanka. However, the layer sector faced an unprecedented crisis with the onset of the COVID-19 pandemic followed by the economic downturn. The aim of the study was to analyze how the COVID-19 pandemic and the ensuing economic downturn affected the layer sector of the country from March 2020 to December 2023. This study followed a qualitative approach and semi-structured interviews were used to gather data. The participants which included farmers, feed manufacturers, retailers, veterinarians and consumers were selected through the convenience sampling method from the Western and North Western provinces that has the highest poultry densities in Sri Lanka. The responses of 44 participants were audio recorded, transcribed, tabulated and analyzed using critical content analysis. The major findings revealed that the layer industry was mostly affected by the economic downturn characterized by inflation, largely driven by the depreciation of the Sri Lankan rupee against the U.S. dollar. Prices of day-old chicks rose approximately by 72%, while feed ingredients increased by over 130%. In addition, fuel shortages led to continuous disruptions in electricity supply which severely hampered the hatchery operations. All these factors lead to a 22% approximate drop in egg production and increase of retail egg prices by over 210%. This condition was exacerbated due to the closure of layer farms. In conclusion, the study highlights the susceptibility of the layer industry to external shocks and emphasizes the need for well-planned policy interventions. Recommendations include the establishing and strengthening of cooperative societies for layer farmers, development of a sector-specific insurance scheme to cover operational losses during natural crises, and the integration of plans for disaster preparedness into national agricultural policy which will contribute to ensuring the long-term sustainability of the layer sector in Sri Lanka

Keywords: COVID-19, Economic Downturn, Layer Industry

Ultrasound-Aided Fixed-Time Artificial Insemination Protocols Suggest Potential to Enhance Breeding Efficiency in Cows Failing to Exhibit Oestrus on Up-Country Intensive Dairy Farms in Sri Lanka

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Cows failing to exhibit oestrus after the voluntary waiting period impair reproductive efficiency by delaying conception, prolonging calving intervals, and increasing the risk of culling. Fixed-time artificial insemination (FTAI) offers a strategic solution by eliminating the need for oestrus detection, though documented evidence from Sri Lankan dairy systems is scarce. This study aimed to evaluate the effectiveness of three FTAI protocols in Holstein Friesian (n = 242) and Ayrshire (n = 12) cows that had completed a voluntary waiting period of over 60 days without exhibiting signs of oestrus on a large-scale, up-country intensive dairy farm. Eligibility for FTAI was determined through transrectal ultrasonographic assessment of ovarian structures. The treatment groups included: (a) double-dose PGF_{2α} (PGF2X, n = 158) administered 13 days apart in cows with corpora lutea; (b) Ovsynch protocol in cows with follicles ≥ 1.5 cm (OVS, n = 44); and (c) Ovsynch combined with a progesterone-releasing intravaginal device (OVS+Cu-Mate, n = 52) in cows exhibiting moderate anoestrus. Additionally, pregnancy status was monitored in a control group of cows (n = 43) inseminated via conventional AI based on observed oestrus. Pregnancy was confirmed on day 45 post-AI. Pregnancy rates for the FTAI protocols were: PGF2X = 34.8%, OVS = 30.8%, and OVS+Cu-Mate = 38.6%, with no significant differences among protocols ($\chi^2 = 0.656$, $P = 0.720$). Similarly, no significant associations were found between pregnancy status and other variables that included parity, breed, uterine grading, body condition score ($\chi^2 \geq 0.448$, $P \geq 0.313$), age, or recent milk yield (coefficient = -0.013, $P \geq 0.130$). The pregnancy rate in the observed-heat group was 34.9%, consistent with the herd average, and did not differ significantly from the overall pregnancy rates of the tested FTAI protocols ($\chi^2 = 0.657$, $P = 0.883$). The results indicate that the FTAI protocols evaluated in this study are effective in achieving pregnancy rates comparable to herd targets and represent a practical reproductive management strategy for cows that fail to exhibit oestrus after the voluntary waiting period. To support evidence-based recommendations for broader adoption, further evaluation of economic benefits and performance across diverse regional farm settings is warranted.

Keywords: Cows, Dairy, Oestrus, Hormonal protocols, Pregnancy, Sri Lanka

Assessment of Prevalence, Somatic Cell Count Threshold and Milk Quality Parameters Associated with Subclinical Mastitis in Saanen Goats

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Subclinical mastitis (SCM) is a significant production disease in dairy goats, contributing to increased somatic cell counts (SCC) and reduced milk yield and quality. This study aimed to (i) determine the prevalence of SCM in Saanen goats in selected farms near the University of Peradeniya, (ii) establish a diagnostic SCC threshold for identifying SCM-positive does based on the CMT scores, and (iii) compare milk composition parameters between healthy and infected does. Composite milk samples were collected from 164 lactating Saanen does comprising both CMT-positive and CMT-negative animals, during the period from March 2024 to July 2025. The CMT was performed immediately after sample collection, and milk samples were transported to the laboratory under cool conditions. SCC were determined using a Lactoscan somatic cell counter, while milk quality parameters were assessed using a Lactoscan milk analyser. Bacterial isolation and enumeration were performed using standard microbiological techniques. The diagnostic SCC threshold was identified using sensitivity, specificity, and the Youden's index, while independent sample t-tests were applied to compare milk composition parameters between healthy and SCM-affected groups. Based on the CMT, the overall prevalence of SCM was 42.1%, with coagulase-positive Staphylococci identified as the most frequently isolated pathogens (55.1%). The SCC threshold yielding the highest Youden's index was 513,000 cells/mL, which was subsequently adopted as the diagnostic cut-off for SCM. No statistically significant differences were observed in fat, protein, lactose, or SNF content between healthy and SCM-affected milk samples. In conclusion, SCM is highly prevalent among Saanen goats in the studied farms with coagulase-positive Staphylococci as the predominant causative agents. A SCC threshold of 513,000 cells/ml is recommended for the identification of subclinical mastitis. Further research with larger sample sizes is warranted to elucidate potential alterations in milk composition associated with SCM.

Keywords: Dairy goats, Subclinical mastitis, Prevalence, Threshold somatic cell count, Milk quality parameters.

Effect of Artificial Insemination Techniques and Efficiency of Oestrus Synchronisation Methods on Reproductive Performance in Goats in Sri Lanka

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Assisted Reproductive Technologies (ARTs), particularly Artificial Insemination (AI) and oestrus synchronisation (OS), are widely used to enhance reproductive efficiency and genetic improvement in farm animals. However, application of these methods in goats under Sri Lankan field conditions remains limited, with minimal supporting research. This study aimed to assess reproductive performance in goats using modified AI methods and to evaluate the suitability of OS protocols originally developed for cattle. In the first experiment, non-pregnant, clinically healthy Saanen does (n=148) (2–4 months postpartum, BCS 2.5–3.0) were randomly assigned to four groups: conventional AI (CG, n=52), GnRH at AI (TG1, n=48), double AI (TG2, n=22), and a group using a makeshift AI gun (TG3, n=26). All underwent OS with CIDR devices and 400 IU PMSG at CIDR removal, followed by AI 48–56 hours later. TG1 received 100 µg GnRH at AI; TG2 was inseminated twice consecutively; TG3 used a makeshift AI gun with a single semen dose. In the second experiment, 52 does were assigned to five OS protocols: CIDR-long (n=10), CIDR-short (n=10), 2PG-GH (n=10), Ovsynch (n=11), and NCsynch (n=11). CIDR groups had devices inserted on Day 0 and removed on Day 18 (long) or 10 (short), followed by PMSG. Hormonal protocols were as follows: 2PG-GH (PGF_{2α} – PGF_{2α} + PMSG – GnRH) (Days 0 – 7 – 9), Ovsynch (GnRH – PGF_{2α} – GnRH) (Days 0 – 7 – 9), and NCsynch (PGF_{2α} – GnRH – PGF_{2α}) (Days 0 – 7 – 14). Fixed-time AI was conducted 48–56 hours (CIDR, 2PG-GH), 16–20 hours (Ovsynch), and 72 hours (NCsynch) post-treatment. Oestrous signs were visually monitored at AI, and pregnancy was confirmed by transrectal ultrasonography at Day 45. In Experiment 1, TG2 (81.8%) and TG1 (75.0%) achieved significantly higher pregnancy rates than CG (42.3%) (p<0.05) while GnRH also increased twinning rates. TG3 showed potential to be used in the field (50.0%) but did not show significant increment in pregnancy rate compared to CG. In Experiment 2, oestrous intensity and pregnancy rates were: CIDR-long (81.2%, 50.0%), CIDR-short (85.5%, 40.0%), 2PG-GH (18.8%, 10.0%), Ovsynch (67.3%, 42.8%), and NCsynch (82.4%, 63.6%). Ovsynch and NCsynch protocols showed similar success rates to CIDR-long protocol, although differences were statistically insignificant (p<0.05). Both were 66.67% more cost-effective and associated with a lower incidence of vaginal reactions/infections, potentially reducing the need for antibiotic treatment. These findings suggested that modified AI techniques and hormone-based OS protocols enhance reproductive outcomes in goats while offering practical solutions in Sri Lankan goat farms.

Key words: Goats, Reproduction, Artificial Insemination, Oestrus Synchronisation

This research was funded by University Research Grant - URG/2019/33/V

Comparison of Performance between Large-Scale Integrator-Owned Farms and Small-Scale Buy-Back Broiler Farms in Sri Lanka

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Broiler production is a well-developed livestock industry in Sri Lanka, contributing the highest gross domestic production (GDP) among all livestock sectors. The majority of production is highly integrated under a few large-scale producers. The "buy-back" farming system, managed by integrators, reduces investment costs and mitigates marketing risks for small-scale farmers. However, buy-back farmers frequently complain on low profit margins under this system. This study aimed to compare the performance of large-scale farms owned by integrator companies with that of buy-back farms. Data on management practices, input supply, and farm performance were collected from buy-back farms (n=29) and integrator-owned farms (n=14) in 2024 using a pre-tested structured questionnaire. The data were analyzed using Excel 2023. The main differences between the two categories are housing, management and flock size. All integrator-owned farms were environmental controlled (EC) houses with very good biosecurity, having more than 25,000 birds, multiage, automated feed and water supply. All buy-back farms were open sided houses with very low biosecurity, having less than 5000 birds, all in all out farms with manual feeding. In both groups, birds are reared for 35 – 44 days, in deep litter. Average mortality at the end was 5%. Thinning out at 25 – 38 days was practiced in all integrator-owned farms and 28% of the buy-back farms. FCR at final weight did not differ between the two groups and ranged from 1.45 – 1.8. Live weight at culling (2.2 kg) was significantly (p=0.02) higher in integrator-owned farms. The unique factor among all integrators was rearing of birds in EC houses under automation with high biosecurity. Feeding practices; types of feed, numbers and quantity in each types and form of feed differs between integrators. Growing heavier birds at the same FCR and high density rearing with thin-out at mid cycle increases the yield for integrators. Integrators may improve equity by supporting housing improvements and technology transfer to buy-back farmers.

Keywords: Broiler production, Integrator, Buy-back farming, Large-scale, Small-scale

Strategic Drift Undermines Food Security: Evidence from Sri Lanka's Livestock Sector Transformation Failures

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Strategic drift, the gradual misalignment of development policies from intended goals, poses a significant yet underexplored threat to food security in developing economies. This phenomenon undermines comprehensive sector transformation through incremental deviation from coherent policy frameworks. This study examines Sri Lanka's livestock sector as a representative case of how strategic drift compromises food security objectives, analyzing transformation failures across dairy, poultry, and small ruminant subsectors from 2015-2024. A longitudinal mixed-methods approach integrated quantitative and qualitative data collected at yearly intervals. Policy trajectory analysis which enabled critical examination of development programs from formulation through implementation to outcomes also deployed. Semi-structured interviews with 52 sector experts and stakeholders across livestock value chains were complemented by quantitative assessment of performance indicators including milk, red meat, egg, and chicken meat production from annual progress reports year on year basis. Findings reveal systematic strategic drift characterized by policy inconsistency, institutional fragmentation, and resource misallocation. Four primary drift mechanisms were identified: conflicting ministerial directives, inadequate inter-agency coordination, frequent strategic reversals following political transitions, and misalignment between national objectives and implementation capacity. These dynamics resulted in a 31% decline in livestock productivity growth rates compared to 2015, increased protein import dependency from 58% to 73%, and deteriorating rural livelihoods affecting approximately 180,000 farming households island wide. Strategic drift created cascading vulnerabilities across livestock value chains, undermining feed security, breeding programs, and market development initiatives. Economic analysis indicates strategic inconsistencies imposed opportunity costs exceeding 102,400 million LKR while compromising nutritional security for vulnerable populations dependent on affordable animal protein sources. This research advances theoretical understanding of strategic drift in livestock development contexts, providing empirical evidence of organizational and policy-level drift mechanisms across interconnected subsectors. The findings offer valuable insights for policymakers pursuing livestock sector modernization, emphasizing the critical importance of strategic coherence, institutional continuity, and adaptive governance frameworks. The study proposes a multi-level monitoring framework for detecting and preventing strategic drift in complex livestock transformation programs, with particular relevance for small island developing states facing similar structural challenges.

Keywords: Strategic drift, Food security, Livestock transformation, Policy coherence

A Comparison of Two Different Goat Rearing Systems in Sri Lanka

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Despite the longstanding tradition of goat rearing in Sri Lanka, the industry has not reached its full potential. As of 2023, the country still imports 279.07 metric tons of mutton annually and faces a rising demand for goat milk. This study compares goat management systems and their role in supporting livelihoods in two distinct regions: Batticaloa district in the Eastern Province and Kandy district in the Central Province. Using convenient sampling, 30 farms from Batticaloa and 26 from Kandy were selected, and data were collected through a structured questionnaire. The results highlight significant regional differences. In Batticaloa, goat rearing is primarily conducted by women (73%) and focuses on mutton production using traditional, low-input methods, while in Kandy, young male farmers are more involved (96%), producing both milk and meat and adopting some modern technologies. Key management aspects such as housing, feeding, veterinary care, and breeding vary notably between the two regions. Kandy farmers generally (58%) provide permanent housing and use concentrate feed (85%) in addition to roughages, whereas Batticaloa farmers depend on temporary housing (83%) and free grazing, with no use of concentrate feed. Veterinary care in Kandy is more organized, with 20% of breeding done through artificial insemination and treatments administered under supervision. In contrast, Batticaloa suffers from minimal veterinary involvement, common inbreeding, and unregulated antibiotic usage. These practices contribute to lower kid growth rates (averaging 0.5 to 1 kg per month) in Batticaloa, when compared to 2.7 to 2.8 kg per month in Kandy. While Batticaloa farmers benefit from lower input costs, their productivity is even lower, resulting in a higher cost per kilogram of mutton. Nevertheless, profitability appears relatively higher due to minimal investment. In Kandy, 44% of farmers consider goat rearing as their main source of income, compared to 23% in Batticaloa. However, Kandy farmers face marketing challenges for goat milk, while Batticaloa farmers have reliable demand for mutton. These findings underscore the need for region-specific development strategies to enhance the goat sector in Sri Lanka, addressing productivity, animal health services, breeding practices, and market accessibility based on local contexts.

Keywords: Goat rearing in Sri Lanka, Goat milk, Mutton production, Minimal investment

Evaluating the Performance of the Livestock Television YouTube Channel in Knowledge Dissemination (2021–2024)

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An effective extension service is crucial for the sustainable development of Sri Lanka's livestock sector. However, shortages of both personnel and resources have significantly hindered its progress. To address this, the Department of Animal Production and Health launched the Livestock Television YouTube channel in 2020 as an initiative aiming to provide continuous extension support to livestock farmers through digital means. This descriptive study evaluates the channel's performance from 2021 to 2024 using secondary data from YouTube Analytics. Key metrics analyzed included views, watch time, subscriber growth, viewer engagement, audience demographics, and device usage. The analysis involved year-wise comparisons to assess growth patterns and content performance over time. By 2024, a total of 52 videos had been uploaded, mainly in Sinhala. During the study period, the channel recorded over 180,000 views and 30,700 watch hours. The lowest number of views was recorded in 2024 (80,800), while the highest was in 2021 (137,800). The average impression click-through rate (CTR) during the study period was 6.1%, which is considered strong, given that the typical CTR on YouTube ranges between 2% and 10%. Results show that videos on livestock management attracted more viewers. Videos on backyard poultry farming, calf management, and goat farming each received over 50,000 views, along with over 2,500 likes, 111 shares, and 142 comments most praising the content and appreciating the effort. Each year, the channel recorded over 1,300 new subscribers, indicating consistent audience growth. By 2024, it had reached a total of 8,200 subscribers. The 25-34 and 35-44 age groups accounted for 37.5% and 32.4% of views respectively, indicating the channel's higher reach among younger and middle-aged audiences. Males accounted for 77.8% of total views, and 89.1% of viewers accessed the channel using mobile phones. Findings indicate that the channel has successfully reached its target audience as demonstrated by steady subscriber growth and high click-through rate. Continuous monitoring of analytics to identify trending topics for video development will further enhance the channel's effectiveness. Given YouTube's proven effectiveness in knowledge dissemination the Livestock Television channel remains a vital and cost-effective platform to strengthen extension services in Sri Lanka's livestock sector.

Keywords: Digital extension, YouTube analytics, Farmer education

Vulvovaginal Candidiasis in Sri Lankan Wild Elephants (*Elephas maximus maximus*): Clinical Case Report

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Vulvovaginal *Candida* infections is a common global concern in human medicine. Veterinary vulvovaginal candidiasis is rarely diagnosed. The study evaluates two orphan elephant calves presented at Elephant Transit Home, Udawalawa for rehabilitation with severe vulval ulceration. Case 01: ~4 weeks old, 68 kg, female calf from Ampara; exhibited, multifocal vulval ulceration, curd-like coagulated white vaginal discharge, bi lateral medial femora cutaneous abrasions and visibly altered gait. Case 02: ~3 weeks old, 53Kg, female calf from Udawalawa National Park; exhibited, severe hyperemia, ulcerations and erosions at the vulval mucosae, moderate to mild mucosanguineous vaginal exudate, scaly skin and severe diarrhea. Both calves were emaciated and exhibited classic symptoms of severe vulvovaginal irritation with vigorous scooting, object rubbing, kicking on genitalia, vocalization, and tail wagging at clean water showers. Diagnosis was produced by microscopic visualization of abundant budding yeast, pseudo-hyphae and arthro-spores from saline-wet mounts of vaginal swabs at 400x magnification. Effective treatment was achieved with topical human preparations of Clotrimazole 2% vaginal gel (30 g, per vagina once daily) and topical Clotrimazole absorbent dusting powder (1% w/w 15 g, twice daily) on perianal thrush. Antifungal treatment was supported with parenteral therapy of hydration, antibiotic and anti-pruritic medication. Vaginal burning was significantly relieved by managing the genitalia dry after shower and urination. Both patients were isolated, and fed with regular commercial infant human milk formula meals under optimum hygienic and nursery conditions. Complete relief from vulvovaginitis symptoms, were noted after 4-5 days of treatment. After 2-4 weeks from the vaginal swab sampling, results of the laboratory fungal culture were received and confirmed the infection by isolating *Candida glabrata*. To the best of authors' delving, the study stands for first documentation of Asian-elephant vulvovaginal candidiasis. Study concludes stating, Asian elephant's vulnerability to vulvovaginal candidiasis, and effective topical treatment with clotrimazole preparations.

Keywords: Candidiasis, Vulvovaginitis, Asian elephant

Clinical Management of Chronic Purulent Temporal Gland Adenitis in a Captive Female Asian Elephant in Sri Lanka

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Temporal gland adenitis is an inflammatory condition involving the specialized apocrine glands located between the eye and ear in elephants. These bilateral, multi-lobed glands are especially prominent in males, with increased activity during musth. In females, secretory activity is generally limited, although glandular inflammation may arise due to ductal obstruction and accumulation of secretions. This report outlines the clinical management of a chronic purulent temporal gland adenitis in a 35-year-old female Asian elephant held in captivity at Ridiyagama Safari Park, Sri Lanka. The animal presented with a chronic eight-year history of recurrent swelling in the left temporal gland. On clinical examination, the elephant was in good general health, weighing approximately 3000 kg and maintaining normal feeding behaviour. A firm, painful, indurated swelling was noted over the left temporal area, with malodorous, copious, purulent discharge occluding the glandular orifice. Pus was aseptically collected on a sterile swab for microscopic examination, microbiological culture and Antibiotic sensitivity testing. Microscopic examination of the purulent exudate obtained from the temporal gland revealed occasional polymorphonuclear leukocytes along with Gram-negative bacilli and subsequent microbial culture identified the causative agent as coliform bacteria. Antibiotic sensitivity testing performed using the Kirby-Bauer disk diffusion method revealed sensitivity to trimethoprim-sulfamethoxazole, cefuroxime and ciprofloxacin with resistance noted against ampicillin and amoxicillin. Based on clinical presentation, history and laboratory findings, a diagnosis of chronic purulent temporal gland adenitis was confirmed. Therapeutic management included daily intramuscular administration of trimethoprim-sulfamethoxazole (10 mg/kg IM) for five days, together with cleansing and debridement of the lesion with 5% povidone iodine solution, followed by the topical application of an injectable formulation of trimethoprim-sulfamethoxazole for three months. Progressive clinical improvement was observed, with marked reduction in swelling and wound depth over a three-month period. The conservative, non-surgical management strategy proved effective within the practical limitations of a field-based setting in Sri Lanka, emphasizing the importance of pragmatic and minimally invasive approaches for managing chronic temporal gland adenitis in Asian elephants.

Key words: Temporal gland adenitis, Chronic, Purulent, Asian elephants, Coliform bacteria

Concurrent Hepatozoonosis and Pulmonary Hookworm Larval Migration in a Fishing Cat (*Prionailurus viverrinus*)

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Feline *hepatozoon* is an apicomplexan parasite less frequently detected in wild and domestic felids and has potential for placental transmission. The infection of *hepatozoon* is considered as a subclinical disease in most of the other countries, which shows inconsiderable number of clinical significances. Besides that, hook worm (*Ancylostoma* spp.) infection is a very common disease among both wild and domestic young cats. A two months old wild fishing cat was presented to the Veterinary Teaching Hospital for treatments. At the time of presentation, animal was dyspneic, recumbent, and severely emaciated. Clinical examination revealed the presence of pale mucus membranes, hypothermia, 6-7% dehydration, sluggish reflexes and moderate generalized lymphadenomegaly. It was initially stabilized with emergency treatments and then a stained peripheral blood smear and fecal wet mount was examined. Despite the supportive care provided the animal died before the samples were evaluated. *Hepatozoon* spp. was detected with regenerative anemia in smear examination while 10-20 strongyle type eggs were detected microscopically in $\times 40$ magnification of wet mount. During postmortem examination, mesenteric lymphadenomegaly, severe pulmonary congestion, bullae formation and rib imprints were detected in the caudal lung lobes. Parasitic larvae were observed in stained impression smears of lung tissue. Worms were identified as hook worm larvae depending on the morphology. Accordingly, morphological diagnosis was parasitic pneumonia. The lung lesions observed may be due to pulmonary migration of hook worms. In conclusion, severe anemia and pneumonia caused by hook worm infection and larval migration was identified as the cause of death. Cachexia could mostly be due to prolonged period of parasitic infections. *Hepatozoon* infection was most likely an accidental finding of subclinical infection, depending on the age of the animal the transmission might have occurred through the placental route. Presence of hemoparasites in wild felids and the importance of controlling Gastrointestinal parasitism in young felids have been highlighted reporting this case.

Keywords: Fishing cat, *Hepatozoon*, Hook worms, *Ancylostoma*, Pulmonary migration

Hand-Rearing an Abandoned African Lion Cub Using Commercial Dog Milk and Early Meat Supplementation: A Novel Approach in Sri Lanka

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Hand-rearing lion cubs is a highly challenging process that requires specialized nutritional management to prevent complications such as septicemia, pneumonia, blindness, and skin rashes resulting lack of maternal care. This case report presents the first documented evidence on hand-rearing an African lion (*Panthera leo*) cub, in Sri Lanka following a successful nutrition management protocol up to four months of age. “Hero,” a male lion cub abandoned at birth by his mother Meera at Ridiyagama Safari Park was hand-reared. Beaphar Lactol Puppy Milk[®] commercial dog milk replacer was used due to the unavailability of lion-specific milk replacers in Sri Lanka at the time and as dog milk is more comparable to lion milk than kitten milk, as kitten milk contains significantly higher protein levels. The novel protocol started from day two of life, with colostrum replacer and 1:4 dilution of commercial dog milk and then an early introduction of meat. Feeding began with colostrum replacer for 24 hours on day two, followed by the novel feeding protocol: 1:4 milk-to-water dilution of commercial dog milk, administered progressively, with decreasing frequency from eight feedings per day to two feedings per day, by 14–16 weeks. Calcium, multivitamin and a taurine supplement was introduced. As the dogs can synthesize taurine from other amino acids, their milk contains a significantly low level of taurine. However, as the lions cannot synthesize taurine, to compensate the taurine deficiency in the lion cub fed with dog milk replacers, a taurine supplement was started at two weeks of age. At six weeks, blended meat (chicken and beef) was initiated. Body weight gain was initially slow with milk consumption alone, increasing from 1.3 kg at 1 week to 2.3 kg at 6 weeks, but increased rapidly following meat introduction, exceeding 8 kg by 16 weeks. Artificial heat was effectively used to maintain body temperature. Mild constipation was observed during the first month and treated with multiple enemas. Fecal quality improved significantly after one month. Compared to international protocols where specific milk dilution ratios were not stated, this case demonstrated the effectiveness of a 1:4 commercial dog milk replacer dilution and taurine supplementation combined with early meat introduction worked excellently for Sri Lankan conditions. This protocol addresses a critical gap in captive carnivore care where species-specific milk replacers are unavailable and provides a replicable model for successful lion cub hand-rearing.

Key words: Commercial milk replacer, Dilution factor, Taurine

Establishment and Cryopreservation of Primary Cultures of Wild Animals for Genomic Conservation: A Preliminary Study

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Biobanking of primary fibroblast cell cultures is a valuable tool for the long-term conservation of wild animal genomes. These cultures can be used as reference materials for species identification, facilitate research, and wild animal conservation method to prevent the extinction of wild animal genomes. This study aimed to establish and cryopreserve primary cell cultures of wild animals as a conservation strategy and check the viability and the re-growing capacity of the cryopreserved cells with the time. The experiment was carried out in reproduction and biotechnology laboratory, Department of Farm Animal Production and Health, Faculty of Veterinary Medicine and Animal sciences, University of Peradeniya. After recording the animal detail and taking the images for future reference, ear skin biopsies from ten wild mammalian species (giant squirrel, wild boar, barking deer, Indian palm civet, toque monkey, flying squirrel, flying fox, Indian brown mongoose, small civet, and black-naped hare) were used to establish primary fibroblast cultures. Cells were isolated using enzymatic digestion and cultured in DMEM media supplemented with 20% fetal bovine serum and antibiotics. The cultures were maintained at 37°C in 5% CO₂ and observed every 3–5 days for growth, morphology, adherence, and contamination by using inverted microscope. Initial cell growth was observed within 3–5 days in all samples; later, one sample was discarded due to contamination. There was no contamination observed in other samples. The remaining nine samples reached 80–90% confluency by days 12–14. These cultures were harvested and cryopreserved in liquid nitrogen (–196 °C) using DMSO as a cryoprotectant. Cryopreserved cells were re-cultured after 3 weeks to 6 months, and cell growth was observed 3–5 days after the re-culture. Again, the cryopreserved samples were re-cultured after 2 years of initial cryopreservation, and in that case, the cultures also started to grow within 6–7 days of the culture initiation. This study reveals the feasibility of establishing and long-term cryopreserving primary fibroblast cultures of wild mammals and this may be the first experiment in Sri Lanka which conducted using cell cultures derived from wild animals. These bio-banked cells provide a reliable biological resource for future genomic, reproductive, epidemiological, and toxicological studies.

Keywords: Primary cell culture, Wild mammal, Cryopreservation, Genome conservation, Biobanking

In Vitro Antimicrobial Susceptibility and Presence of Integrons in *Vibrio* spp. Isolated from *Enterocytozoon hepatopenaei*-Infected Whiteleg Shrimp (*Litopenaeus vannamei*) in the Northwestern Province of Sri Lanka

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Hepatopancreatic microsporidiosis (HPM), caused by the microsporidian parasite *Enterocytozoon hepatopenaei* (EHP), has emerged as a major threat to *Litopenaeus vannamei* aquaculture, causing significant economic losses due to growth retardation. EHP compromises the innate immunity and predisposes affected shrimp to secondary bacterial infections caused by *Vibrio* spp., exacerbating mortality. The present study aimed to characterize *Vibrio* spp. from EHP-infected *L. vannamei* and to determine their antimicrobial susceptibility and occurrence of integrons. *L. vannamei* showing clinical signs suggestive of HPM were collected from eight randomly selected farms located in the Northwestern Province. DNA extracted from pooled hepatopancreatic tissues of shrimp from each farm was subjected to qPCR targeting the polar tube protein 2 gene and conventional PCR targeting the spore wall protein gene for confirmation of EHP. Histopathological examination and modified trichrome staining of the hepatopancreas were also performed for further confirmation. *Vibrio* spp. were isolated from hemolymph and hepatopancreas using Thiosulfate Citrate Bile Salts Sucrose (TCBS) agar and Tryptic Soy Agar (TSA) supplemented with 2% NaCl. *Vibrio* spp. were presumptively identified using phenotypic and biochemical tests. Ten selected *Vibrio* isolates from EHP-infected shrimp were subjected to Antimicrobial Susceptibility Testing (AST) using the disc diffusion method, and PCR targeting the integrase gene to detect integrons. EHP infection was detected in 62.5% (5/8) of the investigated farms based on microscopy, histopathology, conventional PCR, and qPCR (Ct values ranging from 16.70 to 27.40). Recovery of *Vibrio* spp. (n = 16) was significantly higher from shrimp infected with EHP compared to those non-infected [p = 0.047]. AST revealed 100% sensitivity to chloramphenicol, ciprofloxacin, enrofloxacin, oxytetracycline, and sulfa-trimethoprim, and moderate susceptibility for gentamicin (60%) and nitrofurantoin (40%). Universal resistance was detected against ampicillin and erythromycin. Integrons were not detected in any of the isolates. This study confirmed the high occurrence of EHP in *L. vannamei* farms located in the Northwestern Province and indicated a possible link between EHP and *Vibrio* co-infection. Extensive resistance of *Vibrio* spp. to ampicillin and erythromycin could be due to intrinsic as well as acquired resistance. Although integrons were not detected in the isolates studied, their established role in antimicrobial resistance in aquaculture suggests broader significance. Further controlled studies are needed to better understand their contribution within these systems.

Keywords: *Enterocytozoon hepatopenaei*, *Litopenaeus vannamei*, *Vibrio* spp., Antimicrobial resistance, Integrons

This research was funded by the UK's Blue Planet Fund.

Occurrence of Helminths in Cervids from the National Zoological Gardens, Pinnawala and Urban Areas of Trincomalee, Sri Lanka

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Out of four cervids identified in Sri Lanka, all the species tend to have separate distributions, depending on altitude, forest type, temperature and rainfall. As a result of deforestation and urbanization, these wild populations tend to confine into forest fragments or into national parks. During our study we identified two deer populations that lives close proximity with humans. Those are the confined spotted deer population around municipal council area in Trincomalee, and cervids in the National Zoological Gardens (NZGs), Pinnawala. The main objective of this study was to assess the presence of gastrointestinal parasites of these two populations. Freshly voided fecal samples were collected from both locations. The samples from the NZGs were collected from four deer species; spotted deer (n=17), sambar deer (n=5), barking deer (n=5) and hog deer (n=4), while only spotted deer samples (n=30) were collected from Trincomalee area. The samples were tested for the presence of nematodes and trematode eggs using salt flotation, McMaster technique and sedimentation methods. Helminth infestation was identified in 86.67% (26/30) of spotted deer, Trincomalee and 56.67% (17/30) of captive deer in the NZGs, and strongyle type eggs were the most common in both groups. Eggs of strongyloid (13.33%), *Toxocara* spp. (10%), and *Trichuris* spp. (3.3%) were detected in spotted deer of Trincomalee. Trematode infection rate in spotted deer was 63.3% and it was 70% in NZGs samples. The egg per gram (EPG) counts ranged from 50 to 200 in Trincomalee spotted deer population and from 50 to 100 in captive cervids with the respective means were 55.7 EPG and 23.3 EPG. Both parasitic eggs detection rate and the mean EPG values were significantly different (P<0.05). These findings highlight a higher parasitic burden in Trincomalee spotted deer population and underline the importance of regular monitoring and strategic deworming. Captive cervids had only the strongyle type eggs. NZGs perform deworming for captive animals every six months. The presence of *Toxocara* eggs in Trincomalee suggests environmental contamination or accidental ingestion. Which is possible with close association and sharing the urban land with human and domesticated animals. Being both populations are intertwined with humans, the study highlights the needfulness of effective parasite control strategies for each location.

Keywords: Cervids, Deer, Parasitic eggs, Infections, Urban, Captive

Leptospira Surveillance in Captive Elephants (*Elephas maximus*) of the Kandy Esala Perahera, Sri Lanka

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Leptospirosis, caused by spirochetes of the genus *Leptospira*, is a widespread bacterial zoonotic disease affecting mammals, including humans, livestock, and wildlife, which is a notifiable disease in Sri Lanka. Despite its prevalence, there is limited information on leptospirosis in elephants in Sri Lanka (*Elephas maximus*). This study aimed to determine the seropositivity of leptospirosis and urine excretion of pathogenic leptospires in captive elephants participating in the Kandy Esala Perahera in August 2022, Sri Lanka, by analyzing blood and urine samples from a subset of elephants. Among thirteen conveniently selected elephants, 10 (76.9%) were found to harbor anti-leptospiral agglutination antibodies, indicating seroactivity at a titre of 1:100 Microscopic Agglutination Test. These antibodies reacted to various serogroups, including Terrasoui, Canicola, Panama, Javanica, Hebdomadis, Hardjo, Patoc, and Grippotyphosa, implying exposure to a diverse range of leptospirosis for domestic animals, either directly or indirectly. Further analysis revealed that 6 out of the 13 elephant serum samples (46.2%) were positive; with individual elephants showing higher titres (> 1:400) against specific serogroups including Canicola; 1/13 (7.7%), Panama; 2 /13 (15.4%), Grippotyphosa; 1/13 (7.7%) and Patoc 2/13 (15.4%). Urine samples were analysed using a previously validated PCR protocol. However, the urine samples yielded negative results for the detection of pathogenic leptospiral DNA. Nonetheless, it is essential to note that the intermittent excretion of pathogenic *Leptospira* via urine emphasizes the importance of continuous screening in elephants. These animals had agglutination antibodies against different serogroups implies that they have been exposed to many carriers in their living environment. Given that captive elephants in Sri Lanka are used for cultural events and tourism, closely interacting with the public, there is a high potential risk of transmitting leptospirosis to humans. Thus, this study underscores the need for ongoing surveillance of leptospirosis in elephants and highlights the significance of collaborative efforts between veterinary health specialists and public health agencies. Such endeavors are crucial to mitigate the risk of transmission and protect both animal and human populations from this zoonotic disease.

Key Words: Captive Elephants, Leptospirosis, Microscopic Agglutination Test, Agglutination antibodies, Serology, PCR, Zoonosis

Report on First African Swine Fever Outbreak in Sri Lanka

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This study documents the detection, spread, and response to the first outbreak of African Swine Fever (ASF) in Sri Lanka. ASF is a highly contagious and lethal viral disease belonging to the *Asfarviridae* family, affecting domestic pigs and wild boar, with case fatality rates approaching 100%. Over the past five years (2020–2024), ASF has spread rapidly across Asia, impacting countries such as India, Nepal, Bangladesh, China, Indonesia, and the Philippines. Sri Lanka confirmed its first laboratory-verified ASF case in September 2024 at a swine multiplier farm in Ja-Ela, located in the Gampaha District. Unusual pig mortalities had been reported since late August 2024 from major swine farming areas including Kosgama, Ja-Ela, Gampaha, and Kalutara. Initial investigations attributed these deaths to Porcine Reproductive and Respiratory Syndrome (PRRS), leading to the implementation of PRRS immunization programs in unaffected farms during September and October 2024. However, the evolving mortality pattern raised suspicions of a more severe underlying cause. Concurrently, wild boar deaths were reported in areas adjacent to infected domestic pig farms, further supporting the suspicion of ASF. Potential sources of infection include improper disposal of airline food waste and the smuggling of meat products. Notably, in late 2023, a consignment of illegally imported pork sausages samples of which tested positive for ASF was destroyed in an aviation incinerator at Katunayake Airport. Sri Lanka's swine population is estimated at approximately 200,000 animals, with the majority concentrated in the country's pig belt. The ASF outbreak resulted in the loss of approximately 90,000 pigs. Veterinary Investigation Officers from Colombo, Gampaha, and Kalutara districts conducted field necropsies and made preliminary clinical diagnoses based on gross pathology and epidemiological patterns suggestive of ASF. Samples were dispatched to the Central Veterinary Investigation Centre in Gannoruwa and confirmed via real-time PCR at the Animal Virology Laboratory in Polgolla. Biosecurity remains the primary tool for ASF prevention and control. However, this poses a significant challenge in Sri Lanka, where most swine farms operate with minimal biosecurity measures. Strengthening farm biosecurity, enhancing surveillance, ensuring early detection, and enabling rapid response are critical to halting the spread of ASF and supporting the long-term recovery of Sri Lanka's swine industry.

Keywords: African Swine Fever, ASF, Swine, Outbreak

Knowledge, Attitudes, and Practices on Biosecurity Measures of Pig Farmers to Prevent Future Outbreaks of African Swine Fever (ASF) in Sri Lanka

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African Swine Fever is a transboundary disease of pigs, associated with high mortality rates and no effective treatment or vaccine. The disease was first reported in Sri Lanka in 2024, resulting in devastating economic impacts on the local and export-oriented swine industry. Inadequate farmer knowledge of ASF transmission and prevention, negative attitudes, and inappropriate farming practices could be contributing to the difficulties in controlling the disease during the recent outbreak. Objective of this study is to assess the knowledge, attitudes and biosecurity practices of pig farmers to prevent future ASF outbreaks in Sri Lanka and to examine how the knowledge and attitude influence the biosecurity practices towards controlling ASF. This study thus focused on farmers who sell pigs for pork processing companies in Gampaha District, Sri Lanka. In total 39 pig farmers were identified using snowball sampling method to gather information. Face to face interviews using structured questionnaire were conducted with pig farmers from February to May 2025 to gather data. The questionnaire evaluates knowledge, attitude, and practices (KAP) related to ASF using mostly closed-ended questions administered through face-to-face interviews. Knowledge and attitude scores are calculated based on responses to specific questions, while biosecurity practices were assessed through both self-reporting and observation, and each participant's total score is converted to a percentage. Participants scoring 60% or above were categorized as knowledgeable, having good attitude or compliant. Data were analyzed using descriptive statistics, multiple regression. The findings indicate a marginally significant positive relationship between knowledge and practice as well as between attitude and practice in Pearson Correlation. In regression ANOVA result marginally significant as the P value of F test statistic is 0.104. It indicates that knowledge and attitude jointly influence practice, yet the impact is marginal. The study reveals that nearly 70% of pig farmers in Sri Lanka had not have any communication with government veterinary offices regarding ASF, leading to underreporting and misdiagnosis. Although 50% of farmers demonstrated improved knowledge after the first ASF outbreak, risk factors including swill feeding, improper disinfection, and inadequate disease control remain prevalent, partly due to poor communication with and inconsistent enforcement. While 88% of farmers show a positive attitude towards biosecurity, the study finds that knowledge and attitude must work together to drive effective behavioral change. Further, partial biosecurity compliance is insufficient to effectively prevent outbreaks thus farms must aim for 100% compliance of biosecurity measures. Therefore, integrated education, improved communication, and stronger collaboration between farmers and veterinary authorities are essential to enhance disease surveillance, ensure proper biosecurity, and prevent future ASF outbreaks.

Keywords: ASF, Pig Farmers, Knowledge, Attitude, Biosecurity

Occurrence of Gastro-Intestinal Helminth Infection in Captive Asian Elephants (*Elephas maximus maximus*) Gathered at Dalada Perahera

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Gastrointestinal parasites in captive elephants in Sri Lanka constitute of significant health challenges, impacting their overall well-being. This study assessed gastrointestinal (GI) parasite infections in captive elephants across different management settings considering the risk of cross infection during Dalada perahera. Fecal samples (n=44) were collected from captive elephants belongs to temples and/or private owners where elephants reared individually (Group 1; n=27), Temple of Tooth Relic (Group 2; n=9) and elephants at Millenium elephant foundation (MEF) in Kegalle (Group 3; n=8). Freshly voided samples were stored in 4°C and salt floatation, McMaster counting for eggs per gram (EPG) and sedimentation was performed to observe the presence of helminth eggs. Out of 44 samples collected, 12 (27.3%) were infected with one or more GI parasites. Strongylid nematodes and *Anoplocephala* spp. infections were equally occurred at 11.4% of frequencies, which were higher than *Schistosoma* spp. infection frequency of 6.8%. Analysis of different settings revealed variability in occurrences. In Group 1, the occurrence of *Anoplocephala* spp. and Strongylid nematodes were 7.4% (2/27) and 3.7% (1/27) respectively. Conversely, in Group 2 elephants, Strongylid nematodes were the most commonly detected parasite (33.3%; 3/9) while the frequency of occurrence of both *Anoplocephala* spp. and *Schistosoma* spp. were 11.1% (1/9). In Group 3, both *Anoplocephala* spp. and *Schistosoma* spp. frequency of occurrence was 25% (2/8) and Strongylid nematodes was 12.5% (1/8). These findings indicate differences in parasite occurrence among different management practices. The Group 2 showing a notably higher rate of strongylid infections, in elephants belonging to Group 1 had higher prevalence for *Anoplocephala* spp. infections and Group 3 demonstrating a higher occurrence rate for both *Anoplocephala* spp. and *Schistosoma* spp. infections. The mean EPG counts recorded were 100 in Temple of the Tooth Relic elephants, 75 in MEF elephants, and 50 in individually reared elephants, indicating variable parasite burdens across management groups. The gathering of elephants infected different levels and different GI parasitic species might increase the risk of cross infection, during the time of perahera. Findings emphasize variability in occurrence of GI parasites in captive elephants depending on their management method and risk of cross infection during perahera.

Keywords: Gastrointestinal parasites, Captive elephants, EPG, Occurrence

An Exploratory Assessment of Compliance with National Organic Standards among Selected Family Poultry Farms in Colombo and Kalutara Districts, Sri Lanka

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Organic poultry production is globally gaining recognition as a sustainable and welfare-conscious system that minimizes chemical inputs and prioritizes animal wellbeing and environmental health. In Sri Lanka, the Sri Lanka Standards Institution (SLSI) has provided SLS 1324:2018 which includes the requirements for organic poultry certification. Organic standards prioritize small flocks, organic feed, outdoor access, adaptable breeds, minimal chemicals and antibiotics, and strong welfare, while conventional commercial production system often conflict with these principles. Family poultry systems align well with organic farming due to minimal chemical use, outdoor rearing, and low stocking densities. The objective of this study to assess the compliance levels of selected family poultry farms with the SLS 1324:2018 organic standards. Based on the pre-evaluation checklist specified by SLSI for those who wish to apply for organic certification, a questionnaire containing 34 requirements was developed. Randomly selected 30 family poultry farms, 20 and 10 from Kaluthara and Colombo district respectively were visited. Researchers made direct observations and interviewed the farm owners to fill the questionnaires. All farms exceeded 70% compliance. In terms of animal welfare, nearly 100% farms met standards for maintaining natural behavior, minimizing stress, providing sufficient space, and ensuring adequate food, water, and shade. Ninety-three percent of farms allowed birds to access the outside the poultry house environment at least 1/3 of their life. For health practices, 57% used prophylactic antibiotics. Sixty-five percent of farms did not follow withdrawal period for antibiotics. Seventy percent of farms practiced vaccination. As results, management practices, feeding, housing and animal welfare showed high levels of compliance while health and biosecurity remained weak areas. In conclusion, family poultry farms in Sri Lanka exhibit strong potential for organic certification. Although certification may not be economically viable for individual small-scale farmers, collective certification through organized farmer groups presents a practical and cost-effective alternative that facilitates sustainable enhancement of family poultry production.

Keywords: Family poultry, Organic poultry production, Sri Lanka standards, SLS 1324:2018, Compliance, Sustainable agriculture

This research was funded by the UKRI GCFR One Health Poultry Hub, Sri Lanka.

Integrated Morphological and PCR-Based Identification of Chewing Lice in Raptors from Two Wildlife Rehabilitation Centres in Sri Lanka

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Chewing lice (*Phthiraptera*) are obligate ectoparasites known to affect avian health through irritation, feather damage, and potential disease transmission. Although raptor-associated lice have been well documented in parts of Asia, there is a lack of data from Sri Lanka. This study aimed to identify chewing lice genera in seven raptor species admitted to two wildlife rehabilitation centres including the Veterinary Teaching Hospital (VTH), University of Peradeniya, and the Randenigala Wildlife Rehabilitation Centre, using an integrative approach involving morphological identification and PCR based molecular confirmation targeting the ITS2 region. Lice were collected from 25 individual birds across seven species: *Bubo zeylonensis*, *Nisaetus cirrhatus*, *Spilornis cheela*, *Haliaeetus leucoryphus*, *Accipiter badius*, *Otus thilohoffmanni*, and *Strix leptogrammica*. Specimens were preserved in 70% ethanol and examined microscopically using standard morphological keys. DNA was extracted from representative specimens, and PCR amplification targeting the ITS2 region was performed using primers 28A and 3S, which have been previously validated for chewing lice identification. Three genera were identified: *Menopon*, *Lipeurus*, and *Strigiphilus*, with *Strigiphilus* reported for the first time in Sri Lanka. Lice were detected in 92% of raptor individuals, with *Menopon* being the most prevalent genus (found in 84%). *Strigiphilus* was exclusively associated with *B. zeylonensis* (Brown Fish Owl), while *Lipeurus* was found only in *N. cirrhatus* (Changeable Hawk Eagle). No lice were detected in *Strix leptogrammica* (Brown Wood Owl). Morphometric variation among lice suggested potential host-specific adaptations although the limited sample size restricted statistical validation. These findings indicate clear host preferences among lice genera and highlight *B. zeylonensis* as a key host species for lice diversity. This preliminary study provides baseline data on chewing lice in selected raptors in Sri Lanka and demonstrates the utility of combined morphological and molecular methods in parasite identification. The results are relevant for improving health assessments and ectoparasite management in raptor rehabilitation programs.

Keywords: Raptors, Chewing Lice, Host Specificity, Morphological Identification, PCR, ITS2, Sri Lanka, Wildlife Rehabilitation

Growth and Economic Evaluation of Coconut Poonac versus Commercial Calf Starters in Intensively Managed Pre-Weaned Dairy Calves

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A recent preliminary study demonstrated that coconut poonac can be fed to pre-weaned dairy calves under restricted milk feeding without compromising health or expected growth performance. Therefore, this study aimed to evaluate the growth performance and economic feasibility of feeding coconut poonac (CP) to intensively managed pre-weaned dairy calves under a conventional milk feeding programme (i.e., milk provided at 10% of body weight until weaning), compared to a commercial calf starter (CS). Eight crossbred Jersey-Friesian calves housed in individual pens were randomly assigned to either the CP or CS group (n = 2 females and 2 males per group). From four days of age, calves were offered either CP or CS ad libitum, along with free access to water and a small amount of chopped straw. Milk allowance was adjusted biweekly, and weaning commenced when calves consumed approximately 1 kg of CP or CS per day for three consecutive days. Daily concentrate intake and purchase costs of milk, CP, and CS were recorded. Calf performance parameters and feeding costs were compared between the two treatment groups using two-sample t-tests. There was no difference in total average concentrate intake between the CP (16.5 ± 2.21 kg/calf) and CS (19.9 ± 1.45 kg/calf) groups ($P = 0.243$). Similarly, total average milk intake did not differ between calves fed CP (288.7 ± 45.8 L/calf) and CS (262.7 ± 44.9 L/calf; $P = 0.700$). No differences were observed in mean average daily gain (CP = 0.580 ± 0.030 kg/day; CS = 0.609 ± 0.040 kg/day; $P = 0.604$), weaning age (CP = 72.8 ± 9.5 days; CS = 70.0 ± 8.0 days; $P = 0.832$), or weaning weight (CP = 71.8 ± 5.0 kg; CS = 70.8 ± 4.9 kg; $P = 0.890$). Weaning weights expressed as multiples of birth weight also did not differ (CP = 2.50 ± 0.23 ; CS = 2.54 ± 0.16 ; $P = 0.878$). The average concentrate feeding cost per calf was lower in the CP group (LKR 2,468 \pm 332) compared to the CS group (LKR 3,975 \pm 290; $P = 0.014$). However, total milk feeding costs were similar between treatments (CP = LKR 57,730 \pm 9,166; CS = LKR 52,545 \pm 6,021; $P = 0.700$). These results suggest that CP and CS provide comparable growth performance in intensively managed pre-weaned dairy calves under conventional milk feeding. Notably, CP provides a significantly lower feeding cost, making it a viable and cost-effective alternative to commercial starters in such feeding programmes.

Keywords: Dairy calves, Calf starter, Coconut poonac, Weaning, Feeding cost, Calf nutrition

Tick-Borne Haemoparasitism in the Dairy Cattle in Dry and Wet Zones of Sri Lanka

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The dairy industry, contributes immensely to alleviate pediatric nutritional poverty in the country in many ways in terms of milk, milk products, and meat. Also, for many rural smallholder farmers, cattle serve as a ‘living bank’, providing financial support during economic hardships. This study was carried out to assess tick-borne haemoparasitism in dairy cattle in the wet and dry zones of Sri Lanka. According to the literature, the last surveillance was conducted in 2019 on the low-country wet zone. The current study targeted both the wet zone and the dry zones of Sri Lanka. The most commonly reported haemoparasitic diseases in Sri Lankan cattle are babesiosis, anaplasmosis, and theileriosis. The tick vectors responsible for the transmission are, *Rhipicephalus (Boophilus)*, *Haemaphysalis*, and *Hyalomma*, which are abundant in the tropical environment, thus contributing to the disease progression. A total of 80 blood samples were collected, 40 from each zone, over a period of six months from November 2024 to April 2025. Approximately 3 ml of blood was gently collected from the jugular vein into EDTA tubes from randomly selected, healthy adult animals over one year of age. DNA was extracted from all blood samples using QIAamp DNA blood minikit (Qiagen), and PCR was performed using genus-specific (*Theileria*) and species-specific primers (*Babesia bovis*, *Babesia bigemina*, *Anaplasma marginale*, *Anaplasma centrale*) for all haemoparasites. As a whole, 72.5% of the total study population had at least one hemoparasitic infection with *B. bigemina* being the highest (52.5%), followed by *Theileria* (42.5%), *A. marginale* (42.5%), *A. centrale* (23.5%), and *B. bovis* (7.5%). However, the prevalence of different haemoparasites did not vary significantly across the geo-climatic zones. Even though, the hemoparasitism was as high as 72.5%, all the cattle selected for the study were apparently healthy, which brings about a research gap regarding the potential development of pre-immunity in cattle in or due to sub-clinical infection, that in turn gives a positive signal for the dairy industry in the country. However, immunological research has to be performed to verify this hypothesis.

Keywords: Haemoparasitism, Prevalence, Ticks

Acknowledgement: IAEA-CRP-32032

Establishment of a Method to Detect and Assess the Formalin Contamination in Buffalo Curd

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Formalin adulteration in milk and dairy products is an illegal practice in many countries, including Sri Lanka. Due to its preservative properties, formalin inhibits microbial growth and extends shelf life. However, its consumption poses significant health risks, including liver and kidney damage, depending on the concentration and duration of exposure. Of particular concern is the practice of covering buffalo curd with paper dipped in formalin to prevent fungal growth. This study aimed to determine the availability of buffalo curd that adulterated with formalin in Kandy district. Both Hehner and Leach test methods that have been developed to test formalin contamination particularly in milk were being tested against curd. The sensitivity of each test was assessed using laboratory-prepared curd adulterated with known concentrations of formalin (ranging from 0% to 12%). Further formalin diffusion from top to bottom when the surface is covered with formalin dipped paper was tested by covering the surface of the curd with paper dipped in varying concentrations of formalin (0% to 3%) and analyzing both the top and bottom layers of the curd separately. The time taken for visible mold growth on curd surfaces was also monitored under these conditions. Once the most suitable test method was selected, 30 market samples of curd were analyzed for formalin contamination. The Hehner method showed higher sensitivity (0.0005%) compared to Leach method in detecting formalin contamination in curd. However, no color change was observed when formalin concentrations in curd exceeded 0.5%. When top and bottom layers of curd that covered with formalin dipped paper were tested, positive reactions occurred in top layers exposed to paper soaked in 0.1% formalin or above. Positive reaction in the bottom layer could be seen when the formalin concentration in the paper increased to 0.3% and above. Growth of fungi on the surface was delayed with increasing formalin concentration in the paper. It took 11 days to appear fungi when the curd surface was covered with formalin dipped paper with 5% and above. Among 30 curd samples collected from the market, formalin contamination was detected in 17%, highlighting a potential public health concern. These findings underscore the need for comprehensive nationwide studies and the urgent implementation of stricter food safety regulations to address the risks associated with formaldehyde contamination in dairy products.

Keywords: Formalin adulteration, Curd, Milk preservation, Food safety, Public health

Evaluation of Hygienic Cow Milking Practices in Dairy Farms of Vavuniya Veterinary Range

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Hygienic milk production and handling practices on dairy farms are critical for minimizing contamination of raw milk. Proper on farm management at the farm and post-milking are essential to ensure the quality of raw milk. The objective of this study was to evaluate hygiene in milking practices of dairy farms and evaluate the knowledge and attitude of farmers regarding hygienic milk production. A questionnaire base survey was conducted in 2024 within the Vavuniya Veterinary Range involving 20 farmers. The questionnaire focused on milking practices, hygiene measures, and farmers' awareness of clean milk production. In addition, raw milk samples were collected from each farm for Total Plate Count (TPC) analysis, which was carried out at the Veterinary Investigation Centre, Vavuniya. The findings revealed that 90% of farmers practice hand milking, and 95% milked their cows only once daily. While all farmers washed teats before milking, none practiced teat wiping. Stainless steel buckets were used by 70% of farmers, and 65% reported washing their hands before milking. Although 80% considered utensil washing important, only 30% were aware of the role of milker hygiene, clean cows, and clean sheds in maintaining milk quality. Regarding milk handling, 70 % of farmers transport milk to collection centers within 1–2 hours of post-milking milking, but only 20% initiated chilling within 20 minutes to 1 hour of milking. The TPC results revealed a mean count of 7.36×10^7 CFU/mL and the median of 2.45×10^6 CFU/mL, indicating a high bacterial load at the farm levels. These results reflect a mix of traditional practices and some positive elements, such as the use of stainless-steel containers and the recognition of utensil hygiene. However, overall farmer knowledge on hygienic milk production was poor, contributing to the supply of low-quality raw milk and raising potential public health concerns for both consumers and dairy processors. This study underscores the need to reduce bacterial contamination at the farm level by improving farmer awareness and promoting behavioral changes in milking practices. Regular training and awareness programs are recommended to educate farmers on the importance of hygiene in milk production and handling to ensure milk safety and quality.

Keywords: Hygienic production, Raw milk, Dairy farms, Total Plate count

Multi-Site Study of Refractory Cattle Haemoparasitoses in Southern Province, Sri Lanka

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Although haemoparasitic infections have historically been rare in Sri Lanka's Southern Province, recent outbreaks in Matara, Galle, and Hambanthota districts have revealed persistent and clinically severe cases. Affected farms reported emaciated, anaemic cattle and unexplained calf deaths, raising concerns about diagnostic gaps and treatment failure. This study aimed to investigate whether co-infections involving multiple haemoparasites contribute to refractory parasitosis in cattle, and to characterize the molecular profiles of the pathogens involved. Ten farms with suspected cases were surveyed for management practices, case histories, and treatment records. Jugular blood samples from 48 cattle were analyzed using genus-level PCR assays targeting *Babesia*, *Theileria*, and *Anaplasma*, and species-level assays for *Babesia bovis*, *B. bigemina*, *B. divergens*, *Theileria annulata*, *T. orientalis*, and *Anaplasma marginale*. Genotyping of *T. orientalis* focused on types 1, 2, 3, and 5. *Babesia* DNA was detected in 52% of samples (25/48), with *B. bovis* (14/25), *B. bigemina* (13/25), and *B. divergens* (1/25). *Theileria* DNA was found in 31% (15/48), including *T. annulata* (6/15) and *T. orientalis* (15/15). Genotyping revealed equal representation of types 1, 3, and 5; type 2 was absent. *Anaplasma marginale* was not detected. Co-infections were present on all farms: 20.83% of cattle harbored *B. bigemina*, *B. bovis*, *T. orientalis*, and *T. annulata* concurrently. Other combinations included *Babesia* spp. with *T. orientalis* (6.25%), *Babesia* spp. alone (10.42%), and *Theileria* spp. alone (12.50%). Three samples amplified only genus-level DNA, suggesting novel or divergent organisms. Refractory haemoparasitosis in cattle may be driven by undetected co-infections and diagnostic limitations. Reliance on microscopy and monthly reporting may underestimate prevalence in low-incidence regions. Co-infections involving genetically diverse *T. orientalis*, *B. bovis*, *B. bigemina*, *T. annulata*, and emergent *B. divergens* may compromise treatment efficacy, contribute to dam emaciation, and reduce maternal immunity in calves. While calf mortality was observed, causality remains inconclusive. Enhanced molecular surveillance, combination-drug protocols, segregation of chronically parasitaemic animals, integrated tick management, and farmer education are essential to mitigate disease burden and improve therapeutic outcomes.

Keywords: Refractory Haemoparasitoses, Co-infections, Southern Province, Sri Lanka.

Notes

Notes



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ISSN 3021-6397



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