

# JOURNAL OF CAMEL PRACTICE AND RESEARCH

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**Cover Design:** Dr. T.K. Gahlot

**Cover Photo:** A sarcocyst in the cardiac muscle (arrow) (Top Left). Inverted L plate on plantar surface of tarsus for fracture fixation (Bottom Left). Predicted three dimensional structure of single hump camel c-Met protein depending on amino acids. (Top Right). Gross appearance of fundic region of Compartment 3 showing congestion and haemorrhages (Bottom Right). The rear side of an adult female of Somali breed showing three body areas that need to be assessed during a camel breed evaluation: a; rump width; b, rear legs vertical conformation; c, fetlocks (Centre).

**Courtesy:** Dr. T.K. Gahlot

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## CAMELID IMMUNOLOGY AND OTHER RESEARCH ON CAMELIDS

The camelid functional immunoglobulin devoid of light chains is among the important discoveries made in the late 1980s by scientists at the "Vrije Universiteit Brussel" (Free University of Brussels). In 1989 a group of biologists led by Raymond Hamers at the Free University Brussels investigated the immune system of dromedaries. This discovery was published in Nature in 1993. Based on their structure, these peculiar camelid antibodies have been named Heavy Chain Antibodies (HCAb), as they are composed of heavy chains only and are devoid of light chains. HCABs are not found in other mammals except in pathological cases. This peculiarity of camelid antibodies generated interest of camelid scientists world over and large number of papers on this topic were published in the Journal of Camel Practice and Research (JCPR). Camel Publishing House took a lead to compile all these published papers in form of a book entitled, "Selected Research on Camelid Immunology". This book is a unique compilation of research papers based on "Camelid Immunology" and published in JCPR between 1994-2015. Research on this subject was done in 30 countries involving about 248 scientists. In terms of number of published papers in JCPR on the immunology the following countries remain in order of merit (in parenthesis), i.e. Iran (1), India and UAE (2), China and Saudi Arabia (3), Sudan (4), Kenya and Belgium (5), USA (6), Germany (7) and so on. The book contains 11 sections and is spread in 384 pages. The diverse sections are named as overview of camel immune system; determinates of innate immunity, cells, organs and tissues of immune system; antibodies; immunomodulation; histocompatibility; seroprevalence, diagnosis and immunity against bacteria, viruses, parasites and combination of other infections; application of camel immunoglobulins and applications of immune mechanisms in physiological processes. The camelid immunology has to go a long way in its future research, therefore, this reference book may prove quite useful for those interested in this subject. Thanks to Drs U. Wernery and Serge Muyldermans for joining me in the team of Editors.

The current volume of JCPR covers many topics of interesting research on camelids. This includes an outstanding manuscript on camel breed judging by M.Dioli. Camel milk also remained subject of choice for researchers. It included papers on effect on drug metabolising cytochrome P450 enzymes, enzymatic hydrolysis of proteins and hepato-renal protection. Many diverse topics also found space in the current volume, i.e. muscle- effects of breed and type, mitochondrial genes, adjuvant role on safety and antibody modulation, SACASG and SACALG, GFP-labelled camel skin and lung fibroblast cell lines, *Staphylococcus aureus*- capsular typing isolates, udder stimulation-effect on milk, *Eimeria leuckarti*, Sarcocystosis, propofol-ketamine for total intravenous anaesthesia, histological and histochemical study- small intestine, tear fluid secretion rate, bulbourethral glands in bactrians, applied anatomy of the maxillofacial and mandibular regions, osteometric evaluation of the metapodial bones, ultrasonographic applications- review, bladder stones, inflammatory conditions- upper gastro-intestinal tract, subclinical mastitis, vaginal and cervical adhesions and stenosis, dystocia, fractures and luxations of the tarsus and book review. Additionally manuscripts describing tumours of camelids, i.e. Choroid plexus papilloma, multinodular thyroid gland hypertrophy and sweat-gland-tumour with osseous metaplasia "chondroid syringoma" also marked the current issue which comprised 33 papers.

Camel Publishing House is thankful to its members of editorial board for screening the manuscripts submitted and to the authors for extending their support to this exclusive journal on camelids.



(Dr. T.K. Gahlot)  
Editor

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