

VOL 95 No. 07 JULY, 2018

Print ISSN 0019 - 6479

E - ISSN 0974 - 9365

₹. 80

# THE INDIAN VETERINARY JOURNAL

SINCE - 1924

Journal of the  
**INDIAN VETERINARY ASSOCIATION**

ESTD - 1922

Regd. No. Sl. No. 96/1967



No. 11, Muthuramalinga Thevar Salai (Chamiers Road),  
Nandanam, Chennai - 600 035, Tamil Nadu, India  
Tel. : +91 44 2435 1006  
Email : [ivj83@yahoo.com](mailto:ivj83@yahoo.com)  
ONLINE : [www.ivj.org.in](http://www.ivj.org.in)

**CONTENTS**

**GENERAL ARTICLES :**

<b>A Study on Knowledge Attitude and Practice on Zoonoses in a Rural Area of West Bengal</b>	...	09
Satyanarayan Prusti, Utpal Kumar Chattopadhyay and Swapan Kumar Sur		
<b>Haemato-Biochemical Alterations of Pre and Post Treatment with Ceftiofur Hydrochloride Alone and in Combination with Ceftiofur Sodium in Subclinical and Clinical Mastitis in Cattle</b>	...	14
Kausar Qadri, H.K. Mehta, Nidhi Singh and Kamlesh Choudhary		
<b>The Influence of Gender on Haemato-Biochemical Parameters of Thoroughbred Horses</b>	...	17
U. Naseema, S. Vairamuthu, C. Balachandran and G. Ravikumar		
<b>Fracture Repair by Static and Dynamic Intramedullary Interlocking Nailing in Goats – A Comparative Study</b>	...	19
Deepak Singh, Randhir Singh, Rakhi Vaish, Apra Shahi, Shobha Jawre and Babita Das		
<b>Supplementation of Herbal Blend Significantly Increased Immune Response to Newcastle Disease Vaccine</b>	...	23
M.Sakthi Priya, T.R.Gopala Krishna Murthy and T.Vijayanand		
<b>Improvement of an Oil Adjuvant Vaccine Against Chlamydia for Cattle in Kazan City Russia</b>	...	26
Vitaly V.Evstifeev, Andrey I. Nikitin, Albert N. Chernov, Haris N. Makaev, Fidail M. Khusainov, Gennady N. Spiridonov and Ilgizar R. Akbashev		
<b>Comparative Evaluation of Agents for Preventive Therapy for Combined Intoxications with Xenobiotics in Poultry</b>	...	29
Ilnur R. Kadikov, Konstantin Kh. Papunidi, Andrey A. Korchemkin, Iskander F. Vafin, Eduard I. Semenov, Ilgiz I. Idiatov and Gulnaz Sh. Zakirova		
<b>Parenteral Use of a Novel Drug “Yantavit” to Treat Ketosis in Cows</b>	...	33
Sergey Yu. Smolentsev, Andrey V. Onegov, Alexey L. Rozhentsov, Lyudmila V. Holodova, Evgeny V. Mikhalev, Asiya M. Yamalieva and Oleg Yu. Petrov		
<b>Estimation of Copper, Zinc and Chromium in Dung Samples of Dairy Cows</b>	...	36
A.Yasotha and T.Sivakumar		
<b>Characteristics of Chitosan from Comb Pen Shell with Different Concentration of Sodium Hydroxide in Deproteinization Process</b>	...	38
AnggiSetiyaAji, Kismiyati and Kustiawan Tri Pursetyo		
<b>Use of Herbal Solution Mixtures to Improve the Hatchability and Reduce the Fungal Infection of Catfish Eggs (<i>Clarias Batrachus</i>)</b>	...	40
Asri Irmayanti, Endang Dewi Masithah and Juni Triastuti		
<b>Anthelmintic Effect of Red Ginger to control Myxobolus-Infected in Koi Fish</b>	...	43
Wahyuhana Chrisna Dewi, Gunanti Mahasri and Sri Subekti		
<b>Immuno Reactive Recombinant ESAT 6 Like Protein Expressed by ESXO Gene of <i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i> in <i>E.coli</i></b>	...	45
C. Padmavathy, K. Vijayarani, K. Kumanan, A. Thangavelu and A. Srithar		
<b>Post-treatment Withdrawal Effect of Methyl Mercuric Chloride in Rat Testis</b>	...	50
Y. Nagamalleswari, V. Karunasri and I.Vasanth Seshu Kumari		

## CLINICAL ARTICLES :

<b>Surgical Management of Canine Oral Malignant Melanoma – A Case Report</b>	...	53
P. Sankar and T.S. Premavathy		
<b>Successful Surgical Management of Fracture in Indian Monitor Lizard (<i>Varanus bengalensis</i>)</b>	...	55
A.G. Dubey, G.D.Pardeshi, N.K.Nighot and A.A. Sanghai		
<b>Pesticide Poisoning in a Dog- A Case Report</b>	...	57
Y.Kumbhkar, H.K.Mehta, R.K.Bagherwal and Badsar, Pooja		
<b>Photosensitization in a Crossbred Heifer – A Case Report</b>	...	59
K.Mohanambal, G.Vijayakumar, S.Sivaraman, R.Ravi and B. Sudhakara Reddy		
<b>LC-DCP Plating for the Internal Fixation of Transverse Femur Fracture in a Year Old Doberman</b>	...	61
M. Madeena Begum and V. Bhuvaneshwari		
<b>Unusual Occurance of Dermoid Cyst on The Forehead of a Dog</b>	...	63
M. Madeena Begum and V. Bhuvaneshwari		
<b>Partial Percutaneous Fetotomy in Jersey Cross Bred Heifer - A Case Report</b>	...	65
S. Raja, V. Jayasri, M. Palanisamy, A. Vijayarajan, V. Prabakaran, R. Rajkumar and P. Jayaganthan		
<b>Vertical Transmission of Ascarids and Threadworms in a Neonatal Buffalo Calf</b>	...	66
S. Saravanan and K.M. Palanivel		

## SHORT COMMUNICATIONS :

<b>Anamnesis and Clinical Signs of Gastrointestinal Tract Obstruction in Cattle</b>	...	68
S.Dharmaceelan, N.Rajendran, K.Nanjappan, M.Subramanian and G.A.Balasubramaniam		
<b>Biochemical Changes in Dairy Cattle with Downer's Cow Syndrome in Odisha</b>	...	69
P.R.Sahoo, R.Pandey, S.Panda, S.N.Nayak and S.Mohapatra		
<b>Epinetics of Infectious Diseases of Desi Chicken in Tiruvannamalai District</b>	...	71
R. Durairajan, C. Theophilus Anand Kumar and C.M. Jaikanth		
<b>Endoscopic Retrieval of Chicken Bone from Oesophagus in a Spitz – A Case Report</b>	...	73
G.Vijayakumar, B.Sudakara Reddy, S.Sivaraman and P.Sankar		
<b>Endoscopic Retrieval of Linear Foreign Body in Oesophagus of Kid – A Case Report</b>	...	75
K. Mohanambal, G. Vijayakumar, R.Ravi, S.Sivaraman and B. Sudhakara Reddy		
<b>Assessment of Vertebral Heart Score Using Thoracic Radiographs in Ten Different Dog Breeds</b>	...	76
M. Madeena Begum and V. Bhuvaneshwari		
<b>Generalized Tetanus in a Non-Descriptive Bitch Due to Caesarean</b>	...	79
S. Saravanan and K.M. Palanivel		
<b>Successful Surgical Management of Extensive Vaginal Tumour by Vulvo-Vaginectomy and Neo-Urethrostomy in a 5 Year Old Bitch</b>	...	80
M. Madeena Begum and V. Bhuvaneshwari		
<b>Occurrence of Mareks Disease in Vaccinated Desi Chicken</b>	...	82
R. Durairajan, C. Theophilus Anand Kumar, S. Jaisree and C.M.Jaikanth		
<b>Author and Subject Index</b>		85 & 86

## Anthelmintic Effect of Red Ginger to control *Myxobolus*-Infected in Koi Fish

Wahyuhana Chrisna Dewi, Gunanti Mahasri<sup>1</sup> and Sri Subekti

Department of Health Management of Fish and Aquaculture, Faculty of Fisheries and Marine, Universitas Airlangga, Indonesia.

(Received : 11-12-2017 398/17 Accepted : 19-02-2018)

### Abstract

This study aims to determine the effect of red ginger (*Zingiberofficinale*Rosc.) juice on the blood glucose level and assess the correct red ginger juice dose for koi fish (*Cyprinus carpio koi*) infected with *Myxobolus*. The average results of blood glucose examination with different doses were negative control (61,50 mg/dl), positive control (119,25 mg/dl), dose 0,1% (95,75 mg/dl) 0.2% (87.75 mg/dl), 0.3% (79.50 mg/dl) and 0.4% (63.75 mg/dl). This study concludes that the juice of red ginger can affect the blood glucose level in koi fish (*Cyprinus carpio koi*) infected with *Myxobolus koi*.

**Key words:** *Zingiberofficinale*Rosc, *Myxobolus koi*, Blood glucose, Koi fish

Koi fish (*Cyprinus carpio koi*) is an ornamental fish with attractive colours. Marine ornamentals are mainly collected from the Indo-Pacific and Caribbean waters and supplied worldwide (Rhyne *et al.*, 2012). *Myxobolus* is one of the most dangerous parasites, because it can cause death in 80% of its host (Mahasri and Kismiyati, 2011). Fish infected by *Myxobolus* has difficulty to breathe, as oxygen is blocked by nodules. This causes stress, even death, in fish (Isfandi, 2011). Currently, there are many traditional plants that have been found to contain anti-parasite for fish. One of the medicinal plants is red ginger (*Zingiberofficinale*Rosc.) Ginger grows in areas with humidity up to 80%, pH 5.5-7.0 and high nutrients (Agoes, 2010). Red ginger has a red colour and coarse fibre, while other types of ginger have a white colour (Latief, 2012). This article presents the results of research on the effect of red ginger (*Zingiberofficinale*Rosc.) juice on the blood glucose level and the exact dose of red ginger juice for koi fish (*Cyprinus carpio koi*) infected with *Myxobolus koi*.

### Materials and Methods

The main materials used in this study were red ginger rhizome (*Zingiberofficinale*Rosc.), 240 koi fish (*Cyprinus carpio koi*) originated from Blitar Regency infected with *Myxobolus koi* parasite with the same size and infection (medium infection) were used in the study. Moderate infection happens if there are 1-4 nodules (Titis *et al.*, 2009). Before treatment, koi fish seeds were acclimatised for 24 hours. Red ginger juice was prepared by washing and cleaning the ginger rhizomes and draining. The ginger rhizome (100 grams) was cut into small bits and mixed with 100 ml of distilled water to get 1:1 ratio for weight and volume, both of which were then blended smoothly was filtered with gauze (Mujim, 2010). The koi fish seeds were then put into aquariums with 10 fish each. Immersion was conducted for three hours followed by blood glucose level examination. Measurement of blood glucose level was performed using Glucosure Star. The data was analysed using Analysis of Variance (ANOVA) to know the differences between treatment groups. This was followed with Duncan Multiple Range Test with 95% confidence level to know the best treatment among all treatments (Kusriningrum, 2015).

### Results and Discussion

Analysis of variance on different treatments showed significantly different results ( $p < 0.05$ ) in each treatment. T1 showed significant difference from T2, T3 and T4, but not significantly different from T5 and T6. T2 showed significant difference from T1, T5 and T6, but not significantly different from T3 and T4. T3 showed significant difference from T1 and T6, but not significantly different from T2, T4 and T5. T4 showed significant difference from T1, but not significantly different from T2, T3, T5 and T6. T5 showed significant difference from T2, but not significantly different from T1, T3, T4 and

<sup>1</sup>Corresponding author : Email : gunantimahasri@gmail.com

Table I. The average results of blood glucose levels

Treatment	Blood Glucose Level (mg/dl)
T1	61,5 <sup>d</sup> ±10.47
T2	119,25 <sup>a</sup> ±13.64
T3	95,75 <sup>ab</sup> ±13.93
T4	87,75 <sup>abc</sup> ±34.30
T5	79,5 <sup>bcd</sup> ±9.28
T6	63,75 <sup>cd</sup> ±15.92

Means bearing different superscripts in a row differ significantly ( $p < 0.05$ ).

T6. T6 showed significant difference from T2 and T3, but not significantly different from T1, T4, and T5. The highest blood glucose level was in the second treatment with an average value of 119.25 mg/dl and the lowest was in the first treatment with an average value of 61.50 mg/dl. Both treatments were positive and negative controls respectively. Treatment with ginger immersion of 0.4% dose had the lowest average value of blood glucose compared to other doses of 63.75 mg/dl. The average results of blood glucose levels is shown in Table I.

The decrease in blood glucose level is influenced by the decrease in the number of *Myxobolus* spores in koi fish seeds which is caused by the destruction of cell membranes due to protein denaturation and fat dissolution by phenol component in the red ginger (Purwanti *et al.*, 2012). *Myxobolus* is one of the biological stressors that often infect fish. Stressed fish will have a higher blood glucose level. Reduced number of *Myxobolus* spores will affect blood glucose level of koi fish. This is in line with Mutiasari's (2013) statement that a higher level of blood glucose in fish can be interpreted that the stress level of the fish is getting worse.

Water quality in this study was normal with an average temperature of 29°C, pH of 6.5 and dissolved oxygen (DO) of 6 ppm. This is consistent with Soeprijanto and Noviati's (2008) statement that the optimum koi fish growth is at dissolved oxygen level between 5-7 mg/L, temperature of 15-32°C, and water acidity (pH) between 6.5 to 8.5. The results of water quality measurement during the research can be interpreted that red ginger juice can be used as herbal medicine to control the parasite

*Myxobolus koi* in koi fish seeds, because the juice does not negatively affect the water quality.

### Summary

Red ginger juice can be used as herbal medicine to control the parasite *Myxobolus* in koi fish seeds, and red ginger juice affects to reduce the blood glucose level in koi fish with the appropriate dose according to the body size.

### References

- Agoes, A. (2010) Medicinal Plants of Indonesia. Salemba Medika. Jakarta. pp. 35-37.
- Isfandi, T.A. (2011) Utilization of Chinese *Ketepeng* Leaf (*Cassia alata* L) for Treating *Myxobolus* in Goldfish (*Cyprinus carpio*). Thesis. Fisheries and Marine Faculty. Universitas Airlangga. Surabaya. pp. 82.
- Kusriningrum (2015) Textbook Experimental Book. Dani Abadi. Surabaya. pp. 31-40.
- Latief, A. (2012) Traditional Medicine. EGCMedical Book Publisher. Jakarta. pp. 78-79.
- Mahasri, G., and Kismiyati. (2011) Textbook of Fish Parasites and Diseases, Book I, Science of Protozoa Diseases on Fish and Shrimps. Global Persada Press. Surabaya. pp. 3-11.
- Mujim, S. (2010) The Effect of Ginger Rhizome (*Zingiber officinale* Rosc.) Extract on *Pythium* sp. which causes Damping-off on Cucumber Sprouts In Vitro. *J. HPT Tropika*, **10**(1): 59-63.
- Mutiasari, P.Y. (2013) Hematology Parameters (Blood Glucose, Hematocrit, Hemoglobin and Leucocytes) of the Humpback Grouper (*Cromileptes altivelis*) after Microcapsule Vaccine of *Vibrio alginolyticus*. Thesis. Fisheries and Marine Faculty. Universitas Airlangga. Surabaya pp. 24-25.
- Purwanti, R., R. Susantidan N. K. T. Martuti. (2012) The Effect of Ginger Extract in Decreasing Total Ectoparasites Protozoa on Tiger Grouper Seeds. *Unnes J Life Sci*, **1**(2): 1-8.
- Rhyne, A.L., Tlusty, M.F., Schofield, P.J., Kaufman, L., Morris, J.A., Bruckner Jr, A.W. (2012) Revealing the appetite of the marine aquarium fish trade: the volume and biodiversity of fish imported into the United States. *PLoS One* **7**(5), e35808.
- Soeprijanto, A., and Noviati. (2008) The Effect of Temperature Differences in Thermal Shock Treatment (TS) on the Growth Rate of Koi Fish (*Cyprinus carpio*) Seeds. *Fisheries Research Journal* **2**(2): 192-197
- Titis, C.D., W. S. D. Nugroho, D. Daenuri, and Sumayanidan H. Nurul, (2009) Experiment Report on Identification and Determination of Degradation Levels Due to *Myxobolus* sp. Infection on Goldfish (*Cyprinus carpio*). Class II Fish Quarantine Agency, Tanjung Emas, Semarang. pp. 66.