

## CONTENTS

Volume 30 Number 3 2018

### Articles

- Effects of 17 $\beta$ -estradiol injection on the reproductive efficiency of freshwater crayfish, *Astacus leptodactylus* (Eschscholtz, 1823)  
*Muzaffer Mustafa Harlioğlu, Muhammet Enis Yonar, Ayşe Gül Harlioğlu, Serpil Mişe Yonar, and Ardavan Farhadi* 197
- Combined effect of dietary protein and phytase levels on growth performance, feed utilization, and nutrients digestibility of African catfish, *Clarias gariepinus* (B.), reared in earthen ponds  
*Chloe Kemigabo, Mohsen Abdel-Tawwab, Jere W. Lazaro, Daniel Sikawa, Charles Maseembe, and Jeremiah Kang'Ombe* 211
- Effects of supplementation of pineapple waste extract in diet of Nile tilapia (*Oreochromis niloticus*) on growth, feed utilization, and nitrogen excretion  
*Bundit Yuangsoi, Rungkan Klahan, Siripavee Charoenwattanasak, and Shi-Mei Lin* 227
- Dietary pyridoxine requirement of fingerling *Channa punctatus* (Bloch) based on growth performance, liver pyridoxine concentration, and carcass composition  
*Seemab Zehra and Mukhtar A. Khan* 238
- Preliminary evaluation of purified lignin and hemicellulose as prebiotics candidates for Atlantic Salmon, *Salmo salar* L.  
*Rodrigue Yossa, Sylvie Levesque, David B. Groman, and Jairo H. Lora* 256
- Mortality, hematology, and histopathology of common snook *Centropomus undecimalis* (Perciformes: Centropomidae) exposed to acute toxicity of ammonia  
*Fabiola Pedrotti, Maurício Laterça Martins, Manecas Baloi, Caio Magnotti, Fernanda Scheuer, Fabio Sterzelecki, and Vinícius Cerqueira* 272
- Note**
- Reproduction efficiency of the crayfish *Procambarus acanthophorus* in relation to size and diet  
*Lorenzo Díaz-Jiménez, Martha Patricia Hernández-Vergara, and Carlos I. Pérez-Rostro* 285