

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : JURNAL ILMIAH

Judul karya ilmiah (artikel) : Fishermen behavior in the use of information and communication technologies (ICTs) in Central Java Province, Indonesia: Comparative study in Pati and Pemalang regencies;
Nugroho SBM, Indah Susilowati, Mudjahirin Thohir, Made I. Prastyadewi, Ika Suciati

Jumlah Penulis : 5 orang
Status Pengusul : Penulis ke 1
Nama Penulis : **Dr.Drs. Nugroho Sumarjiyanto Benedictus Maria, M.Si.**

Identitas Jurnal : a. Nama Jurnal : Aquaculture, Aquarium, Conservation & Legislation - International Journal of the Bioflux Society
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: f. Alamat web jurnal : <http://www.bioflux.com.ro/home/volume-14-5-2021/>
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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi artikel(10%)	2.7	2.5	2.6
b. Ruang lingkup dan kedalaman pembahasan (30%)	8.1	8.3	8.2
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	8.1	8,5	8.3
d. Kelengkapan unsur dan kualitas terbitan (30%)	8.1	8.2	8.15
Total = (100%)	27	27,5	27,25
Nilai Pengusul =	16.20	16.5	16.35

Reviewer 2



Prof.Dr.Drs. Purbayu Budi Santosa, M.S.
NIP. 195809271986031019
Departemen IESP FEB Undip
Jabatan Fungsional : Guru Besar

Semarang, Oktober 2021

Reviewer 1



Prof. Drs. Waridin, M.S., Ph.D.
NIP. 196202121987031024
Departemen IESP FEB Undip
Jabatan Fungsional : Guru Besar

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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah					Nilai Akhir Yang Diperoleh
	Internasional bereputasi (maks. 40)	Internasional	Nasional Terakreditasi	Nasional Tidak Terakreditasi	Nasional Terindeks DOAJ dll.	
a. Kelengkapan unsur isi artikel (10%)	4					2.7
b. Ruang lingkup dan kedalaman pembahasan (30%)	12					8.1
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	12					8.1
d. Kelengkapan unsur dan kualitas penerbit (30%)	12					8.1
Total = (100%)	40					27
Kontribusi Pengusul (Penulis Pertama / Anggota Utama) 60 % x 27 = 16.20						16.20
KOMENTAR / ULASAN PEER REVIEW						
• Kelengkapan dan kesesuaian unsur	Unsur artikel sesuai ketentuan jurnal, terdiri atas: Title, Abstract, Introduction, Material and Method, Results and Discussion, Conclusion dan References. Unsur artikel sudah lengkap. Ruang lingkup sudah mengikuti substansi jurnal. Cakupan dan kedalaman pembahasan artikel sudah menjawab permasalahan penelitian, yaitu untuk menganalisis kepedulian nelayan dalam pemanfaatan teknologi informasi (ICTs), dan faktor-faktor yang mendukung optimasi pemanfaatannya. Artikel sudah didukung referensi yang baik dan relevan.					
• Ruang lingkup dan kedalaman pembahasan	Kecukupan dan kemutakhiran data/ informasi sudah baik. Metodologi sesuai tujuan bahasan dan sudah diuraikan jelas. Data berasal dari survei selama Nov 2019 sd Juli 2021. Alat analisis menggunakan pendekatan kuantitatif dan kualitatif (mix-method), sudah sesuai tujuan riset.					
• Kecukupan dan Kemutakhiran Data & Metodologi	Hasil riset sudah memberikan penjelasan yang baik sesuai tujuan.					
• Kelengkapan unsur dan kualitas penerbit	Jurnal ini terindeks di Scopus Q3 sejak 2009 on going dengan SJR 0,277 (2020). Penerbit Bioflux Publishing House (Romania) baik. Subject area (agricultural, environmental, management, policy) relevan dengan bidang ilmu pengusul.					
Indikasi plagiasi	Tidak ditemukan adanya indikasi plagiasi. Dengan Turnitin, similarity indeks artikel 20%(internet sources 18%, publications 14%, students papers 4%), exclude matches off.					
• Kesesuaian bidang ilmu	Substansi artikel dan subject area jurnal sudah sesuai dengan bidang ilmu pengusul, yaitu ilmu ekonomi.					

Nilai PAK Universtas sejumlah 27 ak

Semarang, 27 Oktober 2021

Reviewer 1



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c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	12					8,5
d. Kelengkapan unsur dan kualitas penerbit (30%)	12					8.2
Total = (100%)	40					27,5
Kontribusi Pengusul (Penulis Pertama / Anggota Utama) 60 % x 27,5 = 16.5						16.5
KOMENTAR / ULASAN PEER REVIEW						
• Kelengkapan dan kesesuaian unsur	Kelengkapan dan kesesuai unsur jurnal sudah sangat baik terdiri atas: Title, Abstract, Introduction, Material and Method, Results and Discussion, Conclusion dan References.					
• Ruang lingkup dan kedalaman pembahasan	Ruang lingkup dan kedalaman pembahasan sudah sangat memadai					
• Kecukupan dan Kemutakhiran Data & Metodologi	Informasi yang disajikan cukup baru dan hasil yang diperoleh memuat substansi aplikasi yang penting					
• Kelengkapan unsur dan kualitas penerbit	Kelengkapan unsur dan kualitas penerbit sangat baik, Artikel memenuhi standard penulisan dan isi untuk jurnal internasional					
Indikasi plagiasi	Tidak terdapat indikasi plagiasi					
• Kesesuaian bidang ilmu	Sesuai dengan bidang studi yang didalami (IESP)					

Nilai PAK Universitas sejumlah 27ak

Semarang, 25 Oktober 2021

Reviewer 2


Prof.Dr.Drs. Purbayu Budi Santosa, M.S.
NIP. 195809271986031019
Departemen IESP FEB Undip
Jabatan Fungsional : Guru Besar

Documents

Nugroho, S.B.M., Susilowati, I., Thohir, M., Prastyadewi, M.I., Suciati, I.

Fishermen behavior in the use of information and communication technologies (Icits) in central java province, indonesia: Comparative study in pati and pemalang regencies
(2021) *AACL Bioflux*, 14 (5), pp. 2698-2707.

Abstract

The fourth industrial revolution requires the readiness in the use of information and communication technologies (ICTs) for fisheries and farming in addition to the industrial sector. Moreover, climate change in the last decade leads to the development of new technologies that create tools in facilitating fishing activities. The tools do not rely on natural cues of fishing locations at sea, because fishermen awareness in using technologies should help improve fisheries products. This research combined a quantitative and qualitative approach (mixed methods), as the research purpose was to compare fisheries awareness level in the use of ICTs in two potential fishing locations in the northern coastal area of Central Java, namely Pati and Pemalang regencies. The results showed that fishermen awareness was high in the use of ICTs in the two fishing locations. The fishermen awareness in Pati regency was higher than in Pemalang regency based on age, while fishermen awareness in Pemalang regency was higher than in Pati regency based on the level of education. Uncertainty of income, the difficulty of internet coverage on the water, and the level of education become constraints in the use of ICTs in the fisheries sector. Accompaniment and modifications in the application features could help improve the use of ICTs in the fisheries sector. © 2021, BIOFLUX SRL. All rights reserved.

Author Keywords

climate change; Fisher; ICTs; Pati; Pemalang; Small scale

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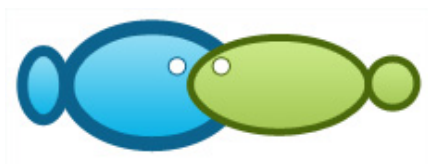
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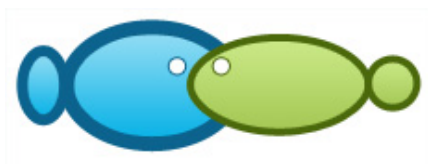
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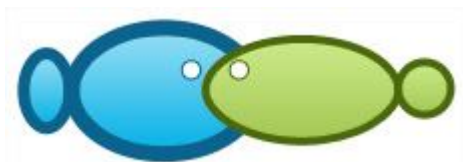
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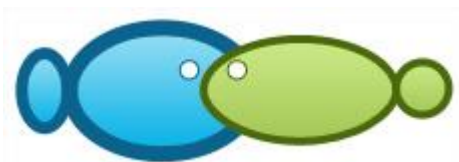
¹ College of Agriculture and Fisheries, Cantho University, Cantho City, Vietnam; ² Tokyo University of Marine Science and Technology, Etchujima Campus, Koto-ku, Tokyo, Japan.
Corresponding author: N. V. Hoa, nvhoa@ctu.edu.vn

Abstract. This study involves a research conducted in hatcheries concerning the impact of feed reduction on the survival, productivity and growth of the larvae and postlarvae (PL) of freshwater prawn (*Macrobrachium rosenbergii*). The experiment included cohorts with different daily feeding schedules, i.e., (i) *Artemia* twice + artificial feed thrice (control); (ii) *Artemia* twice + artificial feed twice; (iii) *Artemia* twice + artificial feed once; (iv) *Artemia* once + artificial feed thrice; (v) *Artemia* once + artificial feed twice; (vi) *Artemia* once + artificial feed once. Refined sugar was supplied as a carbon source to create biofloc from larval stage-4, and the C/N ratio was maintained at 17.5. A 250-L tank was used for larval rearing, stocking density was 60 ind L⁻¹, and salinity of 12 ‰. The results obtained imply that environmental factors, bacterial factors, and biofloc parameters were in a suitable range for PL to develop; the greatest PL15 length (10.03±0.51 mm) followed treatment (i), with significant differences ($p < 0.05$) observed for treatments (v) and (vi) but no significant differences ($p > 0.05$) observed for any of the remaining treatments. The highest survival rate and productivity were observed for PL15 under treatment (i) (56.8% and 27±1.05 ind L⁻¹ respectively); although no significant differences ($p > 0.05$) were observed for treatment (ii), significant differences ($p < 0.05$) were observed for the remaining treatments. Towards the end of the experiment, the feeding regime was modified by removing one artificial feed instance; this did not negatively impact growth, survival, or productivity compared to the conventional feeding regime.

Key Words: *Artemia*, artificial feed, freshwater prawn larvae, biofloc.

Introduction. Freshwater prawn (*Macrobrachium rosenbergii*) is a heavily targeted species with a high value and an important role in world aquaculture. The global production of freshwater prawn reached 234,000 tons in 2018, with India, Thailand, Bangladesh, Indonesia, and Vietnam among the biggest contributors (FAO 2020). Economically, freshwater prawn has become the most important species for Vietnam's Mekong Delta. A common candidate for culturing in either fresh- or brackish-water ecosystems, target to 2025 of the productivity of freshwater prawn in the region is estimated to reach 50,000 tons, demanding the seeding of up to 2-3 billion postlarvae (PL) for commercial production (MARD 2020). However, freshwater prawn culture development has recently arrived at a bottleneck due to problems with PL quantity and quality.

To develop a proper biosecurity solution in the context of viable hatchery protocol, applying biofloc technology (BFT) is considered the most promising approach to ensuring PL quality. This technology is considered a friendly technique that can not only improve water quality but also provide floc particles as extra food for aquatic animals (Avnimelech & Kochba 2009; Ahmad et al 2017; Emerenciano et al 2017; Fischer et al 2020). Floc particles contain protein, lipids, minerals, vitamins, amino acids, fatty acids, as well as enzymes, stimulants, and probiotics, and most crustaceans, including freshwater prawn, can easily digest floc particles (Crab et al 2010; Emerenciano et al 2013).



Effects of combined temperature and salinity on growth and digestive enzymes of mud crab (*Scylla paramamosain*) from larvae to juvenile

Aung M. Win, Ha T. K. Nguyen, Em T. Nguyen, Huong T. T. Do, Phuong T. Nguyen

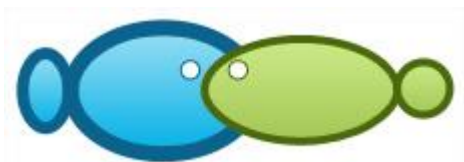
College of Aquaculture and Fisheries, Can Tho University, Campus 2, 3/2 street, Can Tho city, Viet Nam. Corresponding author: Nguyen Thanh Phuong, ntphuong@ctu.edu.vn

Abstract. The present study evaluated the growth performance, survival rate, and digestive enzyme activities of mud crabs, *Scylla paramamosain* from larvae to juvenile stages in high temperatures and at different salinities. The study comprises three experiments that include three temperature levels (27°C, 30°C, and 33°C) and two salinity levels (25‰ and 30‰). The mud crabs were fed according to their developmental stage. Thus, *Artemia* (umbrella stage) was used for zoeal stages, Lansy PL and *Artemia* for crablet 1 to crablet 5, and *Artemia* biomass for crablet 5 to the juvenile stage. In the nursing of mud crab, the survival rate was influenced by the temperature and salinity combinations. The survival rate was higher at the salinity of 25‰ as it follows: from zoea to megalopa (8.50%) and megalopa to crablet 1 (25.5%) in 30°C, crablet 1 to crablet 5 (27.3%) in 33°C, and crablet 5 to the juvenile (31.3%) in 27°C. As the temperature increased, the survival rate decreased in zoea and crablet 5, however it was the opposite in megalopa and crablet 1 (survival decreased as temperature decreased). The highest growth of mud crab was observed for 33°C temperature and 25‰ salinity in all the developmental stages. Digestive enzyme activities such as trypsin, chymotrypsin, and amylase were highly active in crablet 5 and juvenile in the salinity 30‰ at temperatures 30°C and 33°C, respectively. The findings of this study indicated that the combination of the temperature and salinity does not affect significantly the digestive enzyme activities of crablet 5 and juvenile stages; and the 33°C temperatures and 25‰ salinity are suitable for nursing mud crab from megalopa to juvenile stages.

Key Words: *Scylla paramamosain*, temperature, salinity, growth, enzyme.

Introduction. *Scylla paramamosain* is a large portunid crab found along the coasts of southern China and many countries in the Indo-Pacific. The species is considered an important species for both fisheries and aquaculture in China, due to its abundance, rapid growth rate, and high market acceptance (Ye et al 2011; Dewantara & Sulistiono 2017). In Vietnam, the most prevalent species used in mud crab aquaculture farms is *S. paramamosain* (Christensen et al 2004). Research on mud crab breeding has been extensively carried out in Hawaii, Africa, Australia, Japan, Indian, Malaysia, Philippines, Indonesia, Thailand, and Vietnam (Ong 2018). However, there is currently unmet demand for seed supply (crablets) for mud crab culture on a mass scale (Petersen et al 2013). The majority of mud crab farmers rely on wild seed collection that has declined due to over-exploitation, decreasing mangrove habitats (Le Vay et al 2001), and pollution (Ma et al 2006). Meanwhile, the hatchery-reared seed is limited due to low success rates in first-stage crablet hatchery production (around 10%) (Hamasaki et al 2011). The erratic larvae survival rate and unsatisfactory crablet development can be caused by sub-optimal conditions of any of the following interrelated factors including diets, diseases, and conditions of rearing (Waiho et al 2018).

Temperature is one of the most important environmental factors influencing marine organism physiological behavior, and distribution (Ruscoe et al 2004). Temperature is also known to exert a strong influence on the molting frequency, which is controlled by the ecdysteroid and its receptors (Bortolin et al 2011). The average larval growth period from zoea 1 to zoea 5 at 30°C in the *S. paramamosain* was reportedly shortened by 7 days compared to 25°C when the larvae zoea 1 failed to molt at a lower temperature 15°C (Zeng & Li 1992). Shelley & Lovatelli (2011) reported that the



Length-weight relationship of the endemic dwarf carp (*Cyprinus carpio* L., 1758) living in thermal Lake Hévíz, Hungary

¹Dániel Varga, ²Tamás Müller, ³Balázs Tóth, ¹Csaba Hancz

¹ Hungarian University of Agriculture and Life Sciences, Institute of Aquaculture and Environmental Safety, Department of Applied Fish Biology, Kaposvár, Hungary;

² Hungarian University of Agriculture and Life Sciences, Institute of Aquaculture and Environmental Safety, Department of Aquaculture, Gödöllő, Hungary; ³ Duna-Ipoly National Park, Budapest, Hungary. Corresponding author: D. Varga, varga.daniel@uni-mate.hu

Abstract. In this study, the length-weight relationships of an endemic common carp ecomorph in Lake Hévíz, Hungary, were determined. A slight negative allometric growth pattern was obtained, where the length (L) ranged from 9.3 cm to 26.3 cm, and weight (W) ranged from 24 g to 385 g. The growth of fish is linear, the condition decreasing with the increase of length. The b value proves that Lake Hévíz can provide a sufficient trophic basis for a moderate growth of the inhabitant carp population.

Key Words: *Cyprinus carpio*, LWR, growth, condition factor.

Introduction. Lake Hévíz (Hungary) is recognized as a nature conservation region covering an area of 4.44 ha containing hydrogen-carbonated water. During summer periods, the temperature of lake Hévíz waters may reach 35-39°C near the surface and does not fall below 26-29°C even in the coldest winter (Molnár et al 2019). The high temperature and the special chemical composition of the water resulted a particular fish fauna, with stable population of four species: *Gambusia holbrooki*, *Lepomis gibbosus*, *Herotilapia multispinosa* and an endemic carp (*Cyprinus carpio*, Lake Hévíz eco-morph), isolated from nearby populations (Bíró et al 2002; Specziár 2004). Specimens of this carp strain are slowly growing: 8-9-year-old carps had achieved a 23-29-cm body size and 400-450 g maximum live weight (Varga et al 2013). The dwarfish build may be a consequence of the adaptation to the extreme environment.

The main factors that influence the growth of fish are food availability, fish biomass, water temperature, oxygen level and water quality in general. In addition, the size, age and sexual maturity of the fish are important factors also affecting growth performance (Kuriakose 2017). Biomass production in Lake Hévíz is low (Ponyi 1995) and it was previously proven that fish can utilize the detritus as feed, the high environmental temperature producing a special fatty acid metabolism (Varga et al 2013).

The aim of this study was to investigate the growth pattern (length-weight relationship) and condition of the endemic carp population.

Material and Method. The study was based on measurements of 92 individuals of carp from lake Hévíz (Figure 1). Fish were collected between April 2007 and April 2018 by gill nets, during 5 periods of time. The total length (ruler, 1 mm accuracy) and the weight (digital scale 1 g accuracy) of the fish were determined. The nonlinear equation in the form of $W=aL^b$ (Le Cren 1951), which explains the length and weight relationship of the fish, was used in the present study. The linear transformation was made using a natural logarithm for the observed lengths and weights according to Zar (1974) as follows: Log