International Journal of Fisheries and Aquatic Research
www.fishjournals.com
ISSN: 2456-7248
Received: 25-01-2026, Accepted: 24-02-2026, Published: 11-03-2026
Volume 11, Issue 1, 2026, Page No. 74-75

An overview on freshwater black crab *Barytelphusa cunicularis*: Nutritional aspects on food security

***Sharda N Padghane, Rahul R Kajalkar**
Assistant Professor, Department of Zoology, M. S. P. Arts, Science & K. P. T. Commerce College, Manora, Washim, Maharashtra, India
Corresponding Author: Sharda N Padghane

Abstract
Introduction: Human consumption on freshwater crab has increased day by day in world wide. As a whole, seafood products, freshwater fishery products like fishes, prawns, and crustaceans are commonly used. The nutritive value of crustacean's meat has been extensively investigated in various parts of country. Chemical composition like proteins, fats, carbohydrates, minerals, vitamins etc. has great importance due to their nutritive role in human health. Freshwater crab is well known for having antioxidants, which reduces risk of chronic diseases including cancer and heart diseases. Crab meat consists of Omega 3 fatty acids, selenium, riboflavin, copper and phosphate that are useful for storage and absorption of iron.
Materials and Methods: In the present review the crab byproducts useful in regular diet of fisher tribes are highlighted. Our aim was to review on how to increase the population of black crab species through captive breeding and to determine the chemical composition and their current applications.
Results: The suggested captive breeding technique is one successful step towards captive rearing as backyard crab hatchery as nutritional security, instead of time spending hunting of this crab resulting in to its ecological vulnerability.

Keywords: *Barytelphusa cunicularis*, captive breeding, by-products, nutrition

Introduction

Crab (Crustaceans) is one of the ancient aqua-food for mankind next to fish, prawns and lobsters. From 6,700 species of crabs distributed globally 1,306 species found in freshwater (Darren, *et al*. 2008) [7]. Crabs mostly inhibit in rivers where they prefer stagnant, muddy water with vegetation and secured hiding places. *Barytelphusa cunicularis* (Westwood, 1836) is black colored crab of average maximum body w eight 500-800 gm. The Nomedic tribe (NT) Bhoi, Koli, having inland fishers at their livelihood depend on *Barytelphusa cunicularis* collected from natural habitats. *Barytelphusa cunicularis* a nutrition rich source of proteins and calcium. Micronutrients were also detected in this crab species including vitamin A and vitamin B complex, selenium and trace elements. Tribal use this in their routine diet in all seasons as nutraceutical to cure cold, cough, erectile deficiency, joint pain, vision problems, skeletal disorders etc. Formal structured and semi structured interview of fisher tribes in Godavari river basin in parts of Maharashtra were used as a tool to collect data, for increasing demand in fish markets results in indiscriminate hunting of this crab species. Ultimate results into decreasing population of this crab from natural sources. To conserve this species a backyard concrete tank model hatchery cum maintenance pond was designed to investigate the culture possibilities of this species. The culture technology is planned to transfer to the tribes.

Table 1: The different types of crab by-products generated with their valuable components for potential areas of application

Crab by-products	Functional ingredients	Suggested application areas	References
Crab Shell (carapace)	Chitin, Chitosan	Agriculture, anti-microbial property	Athira, *et al*., 2017
Crab meat	Lipids	Food Industries, oil	Ghorpade, 2018, Moghal et.al, 2017 [8].
Hepatopancreas	Lipids	Food,	Sayyed, 2017
Hemolymph	Protein	Biological Processes	Sakhare & Kamble, 2014; Martin (2010) [2]
Crab curry	Na+, K+ Zinc, Selenium	For fever,	Chavan *at.el.*2016

The roll of crab fishery in food security

Crab as food is acceptable in local markets of Nanded after fish. Crabs are eaten in regular diet of tribal people, but mostly preference of 'crab curry' given to the fever patient in this area. According to local market survey by (Padghane *et al*, 2016) [9], there is no any crab culture practices in Marathwada region. Fisherman collects crab from Godavari river basin and its tributaries. Major hunting of crab takes place October, November and December, because more crab population is found and it attain full of meat in this months.

Crab culture is promising Solution to conserver population and food security

There are two species mostly found in Nanded region of Maharashtra, *Barytelphusa cunicularis* and *B guerini.* In local market, people purchase black crab for consumption. For captive breeding of this species, small scale pond construction has been done in University campus. Crab purchase from local markets as well as brought from river. Appropriate maintenance has been taken place.

Crab processing by-products containing several valuable components

Protein:

Protein percentage and body meat of freshwater crabs was studied by (Manhas, *et al*. 2013) [11], maximum in body meat (62.16 ± 0.30 followed by claw 57.39 ±0.35 %. Similar study has been carried out by (Islam *et.al*.2017) [1] claw meat 49.06± 1.01 while minimum in body meat 35.01±1.03 g/100g. It is major concentration in body.

Lipid

Lipids are major source of energy in marine as well as freshwater crustacean for their essential processes like growth, molting and reproduction.

Hepatopancreas as a source of Fatty acids

Hepatopancreas of crustaceans is generally regarded as a major lipid storage organ. The importance of crabs as a source of protein rich food.

Chitin as Fertilizer

Chitin from crabs exoskeleton used as fertilizers for plant growth as promoter (Surva and Giri, 2014). Also, Chitin is reported to be active against viruses, bacteria and other pests.

Conclusion:

In this area, *Barytelphusa cunicularis* was highly commercialized and consumed. But, in our state these crabs utilization is limited due to lack of knowledge. The present review has shown that crab meat is good source of protein and minerals especially Calcium, Potassium and Sodium. This study reveals that the crab is ideal diet food and consumption of crab may help to prevent nutrition deficiency in the future.

References

1. Islam MDB, Sarkar MDM, Rahman MDR, Khan M, Afroze M. Fatty Acid Profile of Freshwater Crab (*Paratelphusha lamellifrons*) from Padma River of Rajshahi City. Bangladesh. J Nutr Food Sci,2017:7(641):2.
2. Martin ER. Functional properties of hemolymph protein from freshwater crab, *Barytelphusa cunicularis*. World Journal of Dairy & Food Sciences,2010:5(2):134-139.
3. Sakhare SS, Kamble NA. comparative study of hemolymph protein profile in *Baritelphusa cunicularis* and *parreysia corrugata.*
4. Islam MB, Mia MB, Razzaque MA, Sarker MM, Rahman MR, Jalil MA. Investigation on mineral composition of freshwater crab (*Paratelphusa lamellifrons*) of Padma River near Rajshahi City, Bangladesh. International Journal of Fisheries and Aquatic Studies,2016:4:236-240.
5. Grinang J, Tyan PS, Tuen AA, Das I. Nutrient Contents of the Freshwater Crab, *Isolapotamon bauense* from Sarawak, Malaysia (Borneo). Tropical life sciences research,2017:28(2):75.
6. Das M, Kundu JK, Misra KK. Nutritional aspect of crustaceans especially freshwater crabs of India. International Journal of Advanced Research in Biological Sciences,2015:2:7-19.
7. Darren CJ Yeo, Peter KL Ng, Neil Cumberlidge, Celio Magalhães, Savel Daniels R, Martha R. Campos. Global diversity of crabs (Crustacea: Decapoda: Brachyura) in freshwater. Hydrobiologia,2008:595:275-286.
8. Moghal MM, Ladniya V, Pradhan V. Characterization of oil extracted from freshwater edible crab (*Barytelphusa cunicularis*). International Journal of Fauna and Biological Studies,2017:4(2):88-90.
9. Padghane S, Chavan SP, Dudhmal D. Fresh water crab *Barytelphusa cunicularis* as a food commodity: Weekly crab market study of Nanded city, Maharashtra, India. International Journal of Fisheries and Aquatic Studies,2016:4(4):14-18.
10. Sarva SAK, Giri A. Effect of Freshwater Crab shell Fog as Organic Fertilizers. International Journal of Agriculture and Food Science Technology,2014:4:307-314.
11. Manhas P, Langer S, Singh GD. Preliminary studies on Water and Protein distribution pattern in *Paratelphusa masoniana* (Henderson) (female), a local Freshwater Crab from Jammu region of J&K state, India,2013:1(5):5-9