

Crustaceans as food: Classification and Nutritional Benefits

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Introduction

Marine foods are one of the important traded foods and it has been considered as a healthy food choice. It has been regarded as a good source of many nutritional compounds like vitamins, proteins, fats, calcium etc. These foods have high water content and neutral pH. Marine foods have been favorite foods for many people and it is usually loved by all. Worldwide consumption of seafoods is increasing because of its uses in marine resources and its nutritional benefits. Most of the harvesting of marine foods is consumed by humans, but an important proportion is used as a fish food. Most of the seafoods are used as a food for humans as well as fertilizers for plants. Historically, sea mammals like Dolphins and Whales have been consumed as food. Sea plants like seaweeds and microalgae are eaten as food around the world. It is predominantly including fish, shellfish and crustaceans. The harvesting of wild marine foods are usually called hunting and the cultivation of sea foods are known as Aquaculture. It is considered as a low calorie protein source. This review presents an overview on crustaceans and its classification and nutritional benefits.

Crustaceans as food

Crustaceans are one of the categories of marine foods. These are aquatic animals that have jointed legs, no back bone and hard shell. There are over 35000 known species of crustaceans which is divided into a number of major groups such as Maxillopods, Ostracods, Branchiopods and Malacostraca. The Malacostraca is eaten by humans which are classified as Crabs, shrimps, prawns, lobster and cray fish.

Crab

Crabs are decomposed Crustaceans of the infraorder Brachyura and they live in all the world's oceans and in land and fresh water. Crabs are delicious seafood choice that many people enjoy by themselves and made

into salads, cakes and many recipes. Crabs are prepared and eaten as many dishes in different ways all around the world. The meat found within a crab is known as Crab meat. These are used in many cuisines across the world and its taste also sweet. Crab meat is low in fat and it contains around 80 kcal per 90 grams of serving.

Commercially available species of Crab meat are

- i. Brown crab (*Cancer pagurus*)
- ii. Blue swimming crabs (*Portunus pelagicus*)
- iii. Blue crab (*Callinectes sapidus*)
- iv. Red swimming crabs (*Portunus haanii*)

Types of crab dishes

- * Boiled Dungeness crab
- * Crab Nachos, Deviled crab
- * Caribbean crab cakes Benedict
- * Cruising crab dip, Stuffed crab
- * Bite sized wasabi crab
- * Salads & Patties
- * Crab melts and cracked crabs.



Nutritional benefits of Crab:

- * Crab meat is high in omega 3 fatty acids, which can keep our cholesterol levels and lower blood pressure.
- * Due to the presence of Chromium, it is considered as low saturation fat, which helps to reduce the risk of strokes, circulatory and coronary heart disease.
- * It contains high content of phosphorus which is essential for the maintenance of teeth and bones and helps to prevent the chances of suffering Osteoporosis.

* It is rich in Vitamin B12, Copper and selenium which strengthens myelin and lowers inflammation and plague.

* It enhances the function of kidneys and eliminates toxins and enhances the metabolic efficiency.

Shrimps

These are abundant and widespread. Shrimp belongs to the suborders of Decapods. Compared with other foods, Shrimp has high in protein but low in food energy. It actually improves the ratio of LDL to HDL cholesterol and lower triglycerides. There are many cultures in which raw shrimp are considered as a delicacy. Food scientists do not recommended eating raw shrimp because of the risk of food poisoning.

Shrimps used in Foods such as Gulf Shrimp, Brown, White and Pink shrimp.

Types of Shrimp dishes

- * Shrimp Mozambique
- * Shrimp De Jonghe
- * Grilled spicy shrimp tacos
- * Keto shrimp scampi
- * Shrimp tempura



Nutritional benefits of Shrimps

* Most of the shrimp contains antioxidants which are known as Astaxanthin. It is a component of algae which is eaten by shrimp. It has many health benefits including against inflammation, increasing levels of good HDL cholesterol and strengthening arteries.

* Shrimp which live in salt water are called salt water fish. Salt water shrimp is a good source of copper. It is a major role in regulation of oxygen metabolism and the prevention of oxidative stress.

* It improves brain and heart health and it is a good source of Vitamin B12 and phosphorous.

* Compare to other seafoods, Shrimp contains zero mercury, making it a safer choice for women during the time of pregnancy.

Lobster

Lobster is commonly served as steamed or boiled in the shell which belongs to the family *Nephropidae*. It has a rigid, segmented body covering and five pairs of legs, single or more pairs of which are often modified into pincers with the chela on one side usually larger than that on other. These are economically important and are one of the most profitable commodities in coastal regions.

Varieties

- i. American lobster (Massachusetts lobster)
- ii. Spiny lobster
- iii. Canadian lobster

Types of Lobster dishes

- * Lobster Thermidor
- * Lobster Malay
- * Lobster Iguru
- * Maine lobster stew
- * Lobster newberg
- * Baked stuffed lobster



Nutritional benefits of Lobster

- * Lobsters are a good source of selenium and help to protect against depression, anemia, heart and thyroid diseases,
- * It helps to build strong bones, boost the brain, prevents heart health and promotes growth.
- * It possess adequate amount of sodium which helps to prevent inflammation and atherosclerosis and has high amount of minerals and Vitamin B12.
- * These are the good source of calcium and phosphorous that helps to increase the mineral density of bones and helps to prevent osteoporosis.

* Lobsters contain zinc and source of choline that supports a healthy pregnancy.

Cray fish

Compare to other crustaceans, Cray fishes are eaten by people all over the world. In the cray fish, only a small portion of the body of cray fish is edible. Cray fishes are also known as craylids, craw daddies, crawdads, crawfish, mudbugs and yabbies. It belongs to the family *Astacoidae*. It looks like tiny lobsters are they are typically between 2-6 inches long. Cray fish and lobsters look similar to one another, but the cray fishes are live in fresh water only whereas lobster are live in salt water. These are very important foods and are the primary food source for many animals including fish, birds and reptiles.

Types of Cray fish dishes

- * Tassie style cray fish rolls
- * Cray fish miso soup
- * Cray fish boil
- * Truffle and cray fish fava
- * Cray fish gratin
- * Cray fish sashimi
- * Manjimup salad



Nutritional benefits of Cray fish

- * Cray fish helps to maintain our weight and making a healthy nutritious diet.
- * It is the good source of minerals like Magnesium and Calcium that helps bones and teeth development and helps in minimizing the chances of developing bone related diseases.
- * It contains an omega 3 acid which helps to develop the functions of brain and to prevent the chance of Alzheimer's disease.
- * Eating cray fish often aid in promoting a healthy vision that helps in eye sight.

* Regular intake of cray fish helps to obtain the good health result and helps greatly in body cell restoration.

Prawn

Prawn is one of the important types of seafood that can be consumed all over the world. It is a common name for small aquatic crustaceans with exoskeleton and ten legs that belongs to the family *Penaeidae*.

Types of Prawn dishes

- * Prawn spaghetti
- * Prawn linguine
- * Baked orzo with harissa prawns
- * Prawn orecchiette
- * Nduja prawns with orzo and feta.
- * Prawn jambalaya
- * Prawn cardine

Nutritional benefits of Prawn

- * Prawns have healthy macronutrients and are high in protein, low in fats and carbohydrates.
- * In the year 2017, a detailed report named “Fishery Technology” showed that the prawns contains high amount of magnesium, calcium, phosphorous, potassium and copper.
- * These are the excellent source of poly unsaturated fatty acids.
- * It contains zinc which is important to develop a healthy immune system.
- * These are the good source of Vitamin B6, B12 and Niacin that helps the body to replenish Red blood cells.

SHRIMP Vs PRAWN

Shrimp	Prawn
Shrimps are relatively smaller	Compared to Prawns, these are larger.
These are decaped crustaceans belonging to the sub order Pleocyemata	These are decaped crustaceans which belongs to the sub order Dendrobranchiata
The first pincers of shrimp are typically largest	The second pincers of prawns are larger than first ones.
It have lamellar gills	It have branching gills

Conclusion

Sea foods are the best sources of excellent proteins, vitamins, minerals and fats. Crustaceans are one of the important categories of marine food products. Here, we have presented a review of Crustaceans as used as food dishes and its health benefits.

References

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