

Blue crab connections from Maryland to NE Aegean

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My experience of living in Greece led me to an unexpected discovery. Greeks are not very familiar with blue crabs! It is a relatively new, invasive species in the Mediterranean. These colorful creatures are still a culinary novelty in Greece and often their handling process a challenge. Coming from Maryland in the United States of America to Greece and finding out there is an abundance of blue crabs in the country and no market for them was very surprising. Back home, they are considered to be a luxury food item and they are highly valued. In Greece, fishers struggle to sell them.

I lived in Greece for six months and got involved in research on the fishing cultural heritage in northeastern Aegean Sea and the challenges faced by fishers in view of the rapidly changing circumstances (environmental, economic, social etc). This is the topic of an EU funded project with the strange name PERICLES.¹ Extensive field work has been conducted by PERICLES team of researchers on the coasts of the case region. Interviews with fishers and fishmongers highlight the ambiguous condition of the blue crabs, which are both a threat and an opportunity for fisheries these days. People in Greece are very proud of their fishing culture and traditions and this sort of enthusiasm certainly rewards visitors with superb culinary

¹PERICLES PrEseRvIng and sustainably governing Cultural heritage and Landscapes in European coastal and maritime regions (<https://www.pericles-heritage.eu/>).

experiences and fishing vistas! Greeks, however, seem to be, at the moment, little interested in breaking tradition and trying the blue crab. The Maryland girl in me puzzled over this and I decided to dig a little deeper and compare the two cases, NE Aegean and Maryland.



A catch of blue crabs from Vistonis Lagoon (photograph by D. Mylona, PERICLES Photographic Archive)

Blue crab's scientific name is *Callinectes sapidus*, which loosely translates as “the beautiful tasty swimmer”. It invaded the Mediterranean Sea in the late 1930's. The manner of their introduction is shrouded with mystery, but it is hypothesized that they were transported here, first in Egypt and later elsewhere in eastern Mediterranean, in ship's ballast water. Since then, blue crabs have been one of the most problematic invasive species in Europe. In Greece, they are nicknamed “Italians” since they were thought to have been introduced by the Italians during World War II. Despite finding themselves away from their home region, the west coast of America, the blue crabs persisted and learned to adapt. They have no predators here, which allows for their population to blossom. Their rate of survival and fertility is high. They are voracious

creatures, feeding on plants, fish eggs and fry. Their increased presence has been a major disruption to ecological balance and to the fishing industry, especially in lagoons and river estuaries. Climate change has allowed the species to thrive, as the warm weather encourages production.

Generally, blue crabs tend to stay in brackish water. They can grow as wide as 23 cm. Blue crabs are sexually dimorphic, which means that males and females differ in appearance. Females' abdomen pattern differs from the males'.



A female and a male blue crab (photograph by F.R.I.)

The tips of male claws are tinted red, whereas females have purple claw tips. The average life span on a blue crab is around two years. Females move to the sea to lay their eggs during summer. Eggs require some salinity to hatch. In the early autumn, females migrate back to brackish and fresh waters of lagoons and river estuaries.

Blue crabs have been a threat to the fishing industry in certain regions. When crabs are caught in nets, they cut through the rope and damage whatever other fish are caught. Blue crabs are an aggressive species. They try to pinch those who threaten them and workmen who attempt to bind their claws with rubber bands during packaging often fall victims to their claws. In the areas they occupy, they deplete fish resources eating up eggs and fry causing long term damage to local fisheries, reducing production and profits.

Fishers are struggling to find a way to profit off blue crabs and to turn a menace into an opportunity. However, in Thessaloniki, a major harbor city in northern Greece, reports show that marketing blue crabs has only a small positive financial impact. Due to their abundance and low demand for them, the market price for blue crabs is around €2 per kilogram (end of 2019). Still, in Thessaloniki and elsewhere, most consumers are uncertain of how to include them in their daily menu, how to cook and eat them.

The situation in my hometown is entirely different! The blue crab is a native species to the western Atlantic Ocean and is especially abundant in the Chesapeake Bay area in Maryland. People in Maryland have a special connection to the Chesapeake Bay and its blue crabs. I grew up going camping every year at the bay. I was often catching crabs on my fishing line. Recreational fishing is as important as commercial fishing in the region. The crab is emblematic to Maryland. Not only do people love eating blue crabs, but they love fishing for them as well. Crabbing is a part of Maryland's culture.



5 Places to Eat As Many Crabs As You Can

The blue crab is an important element of Chesapeake Bay gastronomy
(photograph from article at SJMAC - <https://sjmagazine.net/food-drink/5-places-eat-many-crabs-can>)



The blue crab is a source of inspiration at Maryland. A stained glass blue crab sculpture at Baltimore International Airport by Jackie Leatherbury Douglass and husband John in 1984.
(photograph from <https://twistedsifter.com/2013/05/500-pound-stained-glass-blue-crab-bwi-douglass/>)

In the United States, in 2019, the average price of a dozen large blue crabs (about 4 kg) was \$60-70. While smaller crabs are considerably cheaper, they still cost a lot. The Chesapeake Bay has supported an abundant blue crab population with an intense fishery, which currently supplies over one-third of all US commercial blue crab landings. Demand for blue crabs is high as they are loved by most. They are considered a substitute to other types of meat. The list of crab meat recipes is a very long one. Crab cakes are perhaps the most favored dish. Crab meat is added to salads, pasta, soups, etc. Steaming them in their shell is a common way to prepare crabs, and celebrate their sweet, clean taste. Soft shelled blue crabs caught at the

moment they molt their carapace are deep fried and eaten whole. Blue crabs even have their special seasoning products, created for this very purpose!



Crab cakes are in the menu of most restaurants in Maryland

(photograph from <http://www.chesapeakecrabcakes.com/shop/eight-crab-cakes>)

High market demand for blue crabs, combined with habitat loss and pollution pose considerable pressure on the blue crabs of Chesapeake Bay. Issues of conservation and protection are fiercely debated. There are strict fishing laws in the United States when it comes to crabbing. Blue crabs under 13 cm wide must be released. Crabbing season is from April to October. Depending on where one is crabbing and the time of year, a license may be required. If one is fishing from the shore, there is a daily limit of 10 crabs per person. Crabbing from a boat increases the daily limit to 20 crabs per boat. It is illegal to keep a crab bearing eggs or a crab that is molting (the process of shedding its old carapace). Crabbing cages may only be left in the water for a maximum of 7 hours. This is because blue crabs will get territorial and start fighting each other.

Northeast Aegean and its numerous lagoons form one of the largest fishing areas for blue crabs in Greece. One of these locations, the Vistonis lagoon, home to a large population of blue crabs is fished by a fishermen's co-operation. Crabs are caught there in the same way as the fish are. Fishermen take advantage of their seasonal reproduction movement in and out of the lagoon and they catch them in specially constructed channels and traps. The crabs are sent to the market either unprocessed or with their claws tied up. Removal of the crabs is carefully paced to ensure that they reach the market alive.



Blue crabs are caught at Vistonis Lagoons as they move to the sea to spawn (photograph by Dimitra Mylona, PERICLES photographic Archive)

I interviewed Dr. Manos Koutrakis, a senior researcher at the Fisheries Research Institute in Kavala who works closely with the fishers in the area. He and colleagues from other research institutes in Greece, are launching a new research initiative to study the invasive blue crabs. As of now, there is not an abundant amount

of information on the life cycle of blue crabs in Greece. They hope to monitor their movement and study the differences in behavior between males and females.

“My main goal is to help the fishers and also work towards the survival of traditional fisheries in Northern Greece,” says Dr. Koutrakis. “Fisheries in the lagoons follow a tradition that goes back to the years of the Byzantine Empire, over a millennium ago. We would like to keep the tradition going.” Blue crabs are not part of that tradition, but they are definitely here to stay, so they need to find their place in fisheries. Dr. Koutrakis and his team are working to influence the public to know the blue crab and to include it in their diet. They propose to set fair prices for the selling of blue crabs. They believe that in blue crabs there are opportunities for both the fishers and the consumers. The task they set to themselves is a difficult one, as there are so many factors to improve on. I truly wish they will succeed and hope the Greeks will discover the joys offered by blue crabs!

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