



Kumamoto oyster (*Crassostrea sikamea*) - above

EUROPEAN FLAT OYSTER (*Ostrea edulis*) – Also called edible oyster and Belon. This oyster occurs from Norway to Morocco and into the Mediterranean and Black seas, and is also being cultured in the American Pacific Northwest. It is generally rounded in shape, has a very pale muscle scar, and is usually about 3 inches (76 mm) in length or less.



European flat oyster (*Ostrea edulis*) - above

OLYMPIA OYSTER (*Ostrea conchaphila*) – Often called *O. lurida*. This is the native oyster of the Pacific coast of North America. It is a small species, usually less than 2 inches (51 mm) in length, certainly not over 3 inches (76 mm). Though still produced and sold commercially in the Pacific Northwest, the conservation status of wild populations is rapidly declining.



Olympia oyster (*Ostrea conchaphila*) - above



Pacific oyster (*Crassostrea gigas*) - above

OYSTER IDENTIFICATION: Unfortunately, oysters are extremely variable. Often the variation within a species is greater than between two different species. Shown above is a Pacific oyster that is relatively smooth, with little suggestion of shingling. Below is an eastern oysters with growth checks in its shell that resemble the shingle patterns and two with rather bold ridge patterns. Given that oyster shipments to wholesale and retail outlets may contain mixed species, atypical growth patterns can occur among cultivated oysters, and the possibility of hybridization, genetic analysis may be necessary to confirm identity.



Eastern oyster (*Crassostrea virginica*) - above

EXOTIC SPECIES ALERT: NATIVE AND EXOTIC OYSTERS

OVERVIEW – Oysters have been subjects of harvest and human consumption for hundreds, even thousands, of years. The demand for them continues and tons are sent to market annually around the world. In Texas, native oysters are the second most valuable commercial fishery in the Gulf of Mexico behind edible shrimp. Edible or true oysters (Family Ostreidae) include flat oysters (*Ostrea*), cupped oysters (*Crassostrea*), and several other minor forms like frond (*Dendroostrea*) and cocks-comb oysters (*Lopha*). Other marine bivalve families called oysters include pearl oysters (Pteriidae), hammer oysters (Malleidae), thorny oysters (Spondylidae), and others. However, no others are as important to the seafood industry as the edible oysters. Because of the culinary and economic interest in oysters, a number of species have been introduced into foreign waters. In some situations, new fisheries have developed, but in other instances, introduced exotic oysters have displaced native oysters or brought with them predators, diseases, and parasites that have proven harmful to native species. Texas Parks and Wildlife Department (TPWD) moved to prohibit Pacific oyster (*Crassostrea gigas*) in 1992 due to ecological problems it created at some introduction sites. This species has been seized in Texas markets on a number of occasions since. A number of other oyster species are now actively being cultured in the American Pacific Northwest for distribution to U.S. markets, including those in Texas. Because oysters are extremely variable in appearance and commercial oysters are sometimes given a wide array of different names, correct identification can be difficult and may require genetic analysis to confirm species identity. Shown here are some of the more common native and exotic oysters in U.S. markets.



**Pacific oyster (*Crassostrea gigas*) - left
Eastern oyster (*Crassostrea virginica*) - right**

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Eastern oyster (*Crassostrea virginica*) - above

EASTERN OYSTER (*Crassostrea virginica*) – Also called Atlantic oyster and by a variety of names reflecting harvest location. This is the native commercial oyster found from the St. Lawrence to the West Indies, including the northern Gulf of Mexico. It reaches about 10 inches (254 mm) in length and usually lacks bold ribs or ridges, and wavy margins. Internally the muscle scar is often deep blue-black and externally the shell is typically smoother than in Pacific oyster. Eastern oyster has been introduced in the American Pacific Northwest and can appear in mixed shipments with Pacific oysters from that area. Hybrids with Pacific oysters have reportedly been produced, but remain poorly understood.

NOTE: PACIFIC OYSTER IS LISTED AS A HARMFUL EXOTIC SHELLFISH IN TEXAS. LIVING SPECIMENS CANNOT BE LEGALLY IMPORTED, SOLD, OR POSSESSED. AT THIS TIME (MARCH 2004), THIS IS THE ONLY EXOTIC OYSTER SPECIES PROHIBITED IN TEXAS.

Shown here are six species currently being produced commercially in U.S. waters and which could be expected in seafood markets and restaurants in Texas and elsewhere in the U.S.



Pacific oyster (*Crassostrea gigas*) - above

PACIFIC OYSTER (*Crassostrea gigas*) – Also called giant, Japanese, Kumamoto (small specimens), and Portuguese oyster. Although native to Japan and eastern Asia, this species has been widely introduced around the world with mixed degrees of success, including into the American Pacific Northwest. Genetic studies indicate that *Crassostrea angulata* from Spain and Portugal is apparently a synonym. This is among the largest oysters, with some specimens reaching about 12 inches (305 mm) in length. The shell has a rough, shingled appearance, typically with heavy ridges, and a wavy margin. Many specimens show purple stripe patterns externally and internally the muscle scar is pale purple (not as dark as in eastern oyster).

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SUMINOE OYSTER (*Crassostrea ariakensis*) – Also known as Asian, Japanese, and Chinese river oyster; *C. rivularis* is considered to be a synonym. This species is native to Japan and eastern Asia, but is being cultured in the American Pacific Northwest. Since 1998, it has been the focus of introduction attempts in Chesapeake Bay where overharvest, pollution, habitat modification, and disease have devastated the native oyster population. Suminoe oyster is believed to be more tolerant of pollution and resistant to some exotic diseases. Small specimens are relatively round and smooth shelled. Larger adults may reach about 10.6 inches (270 mm) and have rough exteriors with some shingling. They often lack the heavy ridges seen in Pacific oyster and have a darker muscle scar.



Suminoe oyster (*Crassostrea ariakensis*) - above

KUMAMOTO OYSTER (*Crassostrea sikamea*) - This species from Japan and eastern Asia has also been cultured in the Pacific Northwest since at least the 1940s. It is generally round and similar in appearance to small Pacific oysters, but some may have a slightly thicker shell. Though not as large as eastern or Pacific oysters, Kumamoto oyster is considered by some to have a superior flavor and therefore commands a higher price. It reportedly has more meat for its size than other oysters. Small Pacific oysters are sometimes sold as Kumamoto oysters.

