

The Bay Scallop, *Argopecten irradians amplicostatus*, in Northeastern Mexico

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Introduction

The bay scallop, *Argopecten irradians amplicostatus*, has been present in low abundances in coastal lagoons in the northeastern Mexican States of Tamaulipas and Veracruz. Its distributional range extends from Laguna Madre, Tamaulipas, southward and ends in Tuxpan, Veracruz (Fay et al., 1983; Rodriguez-Castro, 2002). Rodriguez-Castro (2002) found shells of this species in six localities on the coast of Tamaulipas (Fig. 1), but no live scallops. This species was also present in Boca Tampachiche, a section of the Tamiahua Lagoon, Veracruz, before the mouth closed to the Gulf of Mexico (Roman Maya¹).

¹Roman Maya, Mauricio, Director of Ecology Department of Tampico Alto Municipality, Veracruz. Personal commun., 2005.

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ABSTRACT—The bay scallop, *Argopecten irradians amplicostatus*, has been present in the coastal lagoons of northeastern Mexico from Laguna Madre, Tamaulipas, to Tuxpan, Veracruz. But now, usually scarce in all lagoons, the scallop is harvested sporadically by fishermen who wade and collect them by hand and with tongs. Some are eaten by the fishermen and some are sold. They bring the fishermen about 60 pesos (5.88US\$)/kg. Only the adductor muscles are eaten; they are prepared in cocktails and in ceviche. Little evidence exists that this scallop species was used in the early Mexican cultures.

Bay scallop harvests have been light and sporadic, and most scallops were taken for personal consumption. Fishermen retained scallops when harvesting oysters. The scallops were harvested only in Laguna Madre, Tamaulipas.

The clam fishery in the Mexican Gulf Coast lagoons is small and is based on brackish water clams, *Rangia* spp., and *Polymesoda caroliniana* (Wakida-Kusunoki and MacKenzie, 2004). The clam stocks are small probably because the mouths of the lagoons are semi-closed and unstable. As a consequence, the salinity is highly variable and a high mortality of clams and probably the bay scallops results when the salinity becomes too high (in the high 30's and 40's in ppt) (Drexel²). In the 1960's, Laguna

²Drexel, A. Fish distributor. La Pesca, Tamaulipas.

Madre closed and its waters were hyperhaline (Garcia-Cubas, 1968).

Historical Uses

Mollusks were used by the pre-Columbian cultures in Mexico as food, trade goods (Jimenez-Badillo, 1991), personal adornment (Suarez-Diez, 2002), religious items (Houston³) (Jimenez Badillo, 1991), building construction (Mackenzie and Wakida-Kusunoki, 1997; Stark, 2001), and making

³Houston, S. D., H. Escobedo, P. Hardin, R. Ferry, D. Webster, M. Chile, C. Goleen, K. Emery, and D. Stuart. 1998. Investigaciones en Piedras Negras, Guatemala: Temporada de Campo 1998. Entre las Montañas y El Mar: Investigaciones en Piedras Negras, Guatemala. Fundacion para el avance de los estudios mesoamericanos. <http://www.famsi.org/reports/97006es/section03.htm> Access 10 Aug. 2006.

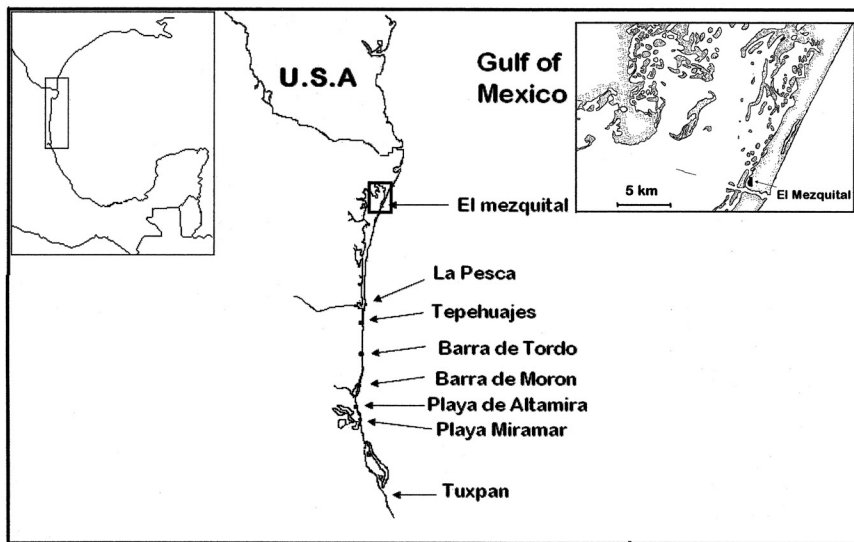


Figure 1.—Locations where bay scallops, *Argopecten irradians amplicostatus*, have been reported.



Figure 2.—Handcrafts made with a pectinid shells. The arrows show the shell of *Argopecten gibbus*. Photograph by Armando T. Wakida-Kusunoki and Ubaldo Roman Hernandez.

music (Clark⁴). Pectinid shells, but not shells of *A. i. ampliocostatus*, were represented in Aztec icons of liturgical scenes (Kubler⁵), and they have been found as Aztec tributes in the Templo Mayor in Mexico City (Jimenez Badillo, 1991), and as Mayan tributes in Tikal, Guatemala (Laporte⁶) (Borhegyi, 1966). Little evidence exists that *A. i. ampliocostatus* was used by the early cultures in Mexico.

Pectinid shells nowadays are used in handcrafts (Fig. 2). In Catholicism, the shells are a symbol of baptism and sometimes a shell is used to pour the baptismal water (Fig. 3).

Harvesting Methods

Bay scallops were harvested only in Mezquital and Carboneras, Tamaulipas,

but the scallop beds near Mezquital, Tamaulipas, were destroyed during the passage of Hurricane Emily in July 2005 (Rivera⁷). The fishermen, all of whom are males with low incomes, intersperse scallop and oyster harvests. Mezquital, in the northern part of the Mexican Laguna Madre, supports about 10 fishermen, who are from 16 to 60 years old. The fishermen get to the shellfish beds in fiberglass boats about 7.6 m long and propelled by 15 hp outboard motors. Each boat carries 2–3 fishermen who share the boat expenses. They harvest oysters and bay scallops while wading in shallow waters. They feel for the bay scallops with their feet and collect them with their hands or short oyster tongs (Rivera⁷, Garcia⁸) (MacKenzie and Wakida, 1997) (Fig. 4).

Bay scallop harvesting was done only in June and then only about once a week, the effort being governed by market demand. The harvesting days were only when the water was sufficiently warm to allow fishermen to wade. They usually harvested bay scallops for about 5 hours (9 a.m.–2 p.m.) each day, and each could harvest as many as 200 scallops/hour. No landing statistics of bay scallops in the Mexican coast of the Gulf exist be-



Figure 3.—Items used in Catholic baptisms. Photograph by Armando T. Wakida-Kusunoki.

cause there is no fisherman licensing or reporting requirement for bay scallops.

Markets and Marketing

Fishermen sold the adductor muscles of the bay scallops, which were obtained only after cooking the whole scallop. They were sold along with oysters to tourists and to small dealers who transport marine products to Matamoros, 70 km away, and to Reynosa, 270 km away. In 2005, the buyers paid fishermen 60 pesos (5.88US\$/kg) of bay scallop muscles. A kilogram con-

⁴Clark, M. 1996. Some basics on shell trumpets and some very basics on how to make them. <http://www.furious.com/perfect/shells.html>, accessed 10 Aug. 2006.

⁵Kubler, G. 1972. Jaguars in the Valley of Mexico. In E. P. Benson (Editor), *The cult of the feline, conference in pre-Columbian iconography*. Dumbarton Oaks Res. Library and Collections trustees for Harvard University, Wash., D.C., p. 19–50. Avail online at http://www.doaks.org/Feline_pgs.PDF, accessed 10 August 2006.

⁶Laporte, J. P. 2004. Exploración y restauración en la plataforma este del mundo perdido, Tikal (estructuras 5D-83 a 5D-89) XVIII. In J. P. LaPorte, B. Arroyo, and H. E. Mejía (Editors), *Simposio de investigaciones arqueológicas en Guatemala*. Museo Nacional de Historia y Etnografía. Guatemala. Avail online at <http://www.famsi.org/reports/03101es/131aporte/131aporte.pdf>, accessed 10 Aug. 2006.

⁷Rivera, Noe, Oyster and scallop fishermen. Mezquital, Tamaulipas. Personal commun., 2006.

⁸Garcia, Leobardo, biologist, Biology Research Station in Carboneras, Tamaulipas. Personal commun., Aug. 2006.



Figure 4.—Harvesting bay scallops in Laguna Madre. Photograph by Leobardo Garcia Solorio.

tains about 500 bay scallop muscles. Each fisherman earned 120–150 pesos (US\$11.76–\$14.70)/day.

Local consumption

Bay scallop muscles usually were prepared in cocktails: boiled scallops were combined in a glass with lemon juice, onion, chili, oil, salt, ketchup, hot pepper, and coriander. In ceviche, the scallops were cooked with lemon juice, onion, chili, oil, and salt (Hernandez Peña⁹).

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⁹Hernandez Peña, A. President of fishing cooperative “Boca Ciega” Matamoros, Tamaulipas. Personal commun., Nov. 2005.