Published Research and Related Internet Locations on the Asian Oyster, *Crassostrea ariakensis.*

This page with bibliography and Internet links has been compiled to enhance available information on *Crassostrea ariakensis* which is a nonindigenous species being considered for introduction to the Chesapeake Bay as a triploid oyster. *C. ariakensis* may also be referred to as Suminoe oyster. The following bibliography has been expanded to include *Ostrea rivularis* and *Crassostrea rivularis* which are found in the taxonomic history of *C. ariakensis*. A limited number of additional citations on related research has also been included.

Based on correspondence with Dr. Seki of the National Research Institute of Aquaculture in Japan and various Japanese reports the following taxonomic history has been used. *Crassostrea ariakensis* was first reported by Fujita (1913) as *Ostrea ariakensis*. In 1929 Wakiya supported this view. Lischke (1869) and Amemiya (1928) regarded *O. rivularis* as a young stage of *O. ariakensis*. Fujimori (1949) suggested that *O. ariakensis* is the synonym of *O. laperousei*. Whereas Taki (1933) disagreed with this view, and Wakiya (1915) regarded both as different species due to the difference in tentacle rows of the mantle edge. Dunker (1882) reported *O. rivularis* of Lischke (1869) as the synonym of *O. arborea* Dillwyn. Hirase (1930) supported this view. Kuroda (1931) disagreed. Since that time *C. rivularis* (Gould) has been noted as follows in the text:

> *Crassostrea rivularis* (Gould) [Suminoegaki in Japanese]
> *Ostrea rivularis* (Gould 1861), (Lischke 1869), (Wakiya 1915) and (Amemiya 1928)
> *Ostrea ariakensis* (Fujita 1913), (Wakiya 1929) and (Lischke 1871)

An explanation of the Japanese reports which are related to the above taxonomic history can be found In: Shun-ichi Takatsuki (1949) "Kaki," (Oyster), Giho-Do, Tokyo. 269 pp. +8p (index.) and In: Ken-ichi Numachi (1971) Distribution and Taxonomy of Oysters "Senkai Kanzen Youshoku." (Through Culture in Shallow Sea) Imai T. ed. Koseisha-Koseikaku Tokyo pp. 83-90. {In Japanese}

Correspondance with Dr. Hironori Usuki, Coastal Environment and Productivity Division, National Research Institute of Fisheries and Environment of Inland Sea, Fisheries Research Agency, Ohno, Saeki, Hiroshima 739-0452 Japan provides the following information:

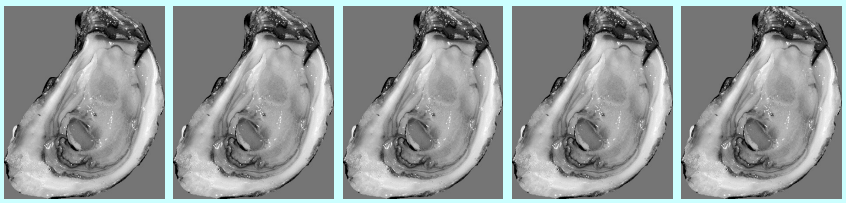
"... recognize that C. rivularis and C. ariakensis indicate identical oyster at the present time and that the confusion of nomenclature in the past made two species names. Dr. Inaba, who is the authority of classification of oysters in Japan, is writing his publication (in Japanese) mentioning origin of the species name rivularis and ariakensis for suminoe oyster (to be published in the coming year). Crassostrea ariakensis (suminoe oyster) inhabits Ariake bay in Japan. Between 1925 and 1940, mass

mortality of the oyster occurred frequently in Ariake bay and farming and culture declined during that time (Saga pref. 1951). There are little culture and research of suminoe oyster now in Japan and so there are few papers and reports mentioning suminoe oyster. In past, Amemiya (1928) showed salinity range for the development of larvae, habitats of oysters in relation to water-level, and salinity ranges in habitat. Tanaka (1954) studied spawning season of suminoe oyster in Ariake bay. "

Based on correspondance from Hironori Usuki, Coastal Environment and Productivity Division, National Research Institute of Fisheries and Environment of Inland Sea, Fisheries Research Agency Ohno, Saeki, Hiroshima 739-0452 Japan:

"The main reason for the mass mortality between 1925 and 1940 seems to be attributed to rapid rise of water temperature and salinity. Though there was not remarkable mortality during next ten years, the mass mortality appeared again in the autumn of 1950 among important shellfish like Pacific oyster and mogai cockle in addition to suminoe oyster. Saga prefectural fisheries station, Kyusyu University and Seikai national fisheries research institute started biological, chemical and bacteriological cooperative research in 1951 for four years to determine the reason for the mass mortality of suminoe oyster. Unfortunately (fortunately?), the mass mortality has not reappeared during the years....supposed that stirring up of hydrogen sulfide from the bottom mud by strong wind was the main reason of the mass mortality of suminoe oyster."

The Japanese Society of Fisheries Science has graciously allowed us to post the 1954 article by Jatarao Tanaka "Spawning season of important bivalves in Ariale Bay--II. Ostre rivularis Gould and O. gigas Tunberg." Please go to the Tanaka page <http://www.lib.noa.gov/docaqua/tanakapage.html> to read this.



Chesapeake Bay regional Internet sites, research organizations and other groups that regularly or irregularly report on oyster issues

Bay Journal <http://www.bayjournal.com/index.cfm>
Bay Weekly < http://www.bayweekly.com/>
Chesapeake Bay Commission Legislative site < http://www.chesbay.state.va.us/baybills.htm>
Cheseapeake Information Managment System <http://www.chesapeakebay.net/nonnativeoyster.htm>
Chesapeake Bay Program -- America's Premier Watershed Restoration Partnership <http://www.chesapeakebay.net/>

Chesapeake Bay Nonindigenous Species List

EPA Notice: Intent To Prepare a Programmatic Environmental Impact Statement for a Proposed Introduction of the Oyster Species, Crassostrea ariakensis, Into the Tidal Waters of Maryland and Virginia To Establish a Naturalized, Reproducing, and Self-Sustaining Population of This Oyster Species; Correction. **January 15, 2004** (http://www.epa.gov/fedrgstr/EPA-IMPACT/2004/January/Day-15/i884.htm)

Maryland Sea Grant -- Fisheries Research Publications

NOAA Chesapeake Bay Office <http://noaa.chesapeakebay.net/>

Oyster Recovery Project < http://www.oysterrecovery.org/>

Pacific Coast Shellfish Growers Association <http://www.pcsga.org/>

Sea Grant National Aquatic Nuisance Species Clearninghouse < http://www.aquaticinvaders.org/>

SeaLane Pacific [Canada] Shellfish disease information. < http://www.pac.dfo-mpo.gc.ca/sci/sealane/pacific.htm>

VIMS' Aquaculture Genetics and Breeding Technology Center and Monitoring site <http://www.vims.edu/vsc/>

Virginia Marine Resources Commission <http://www.mrc.state.va.us/index.htm>

To read more about the success of the Shellfish Culture Technology Transfer Program, which ran from1993 to1998 and which helped establish a thriving oyster culture industry in the state of Santa Catarina in southern Brazil go to this URL: http://communications.uvic.ca/Ring/02jul18/littlepage.html

Bibliography of Research on *Crassostrea ariakensis* and Related Species

Most recent entries to this page are marked with dates in red. (Generally does not include news articles from the links above.)

The following citations were taken from searches of various electronic databases and references from published materials. We welcome suggestions for any additional references to add to this list (Email the Center: Eileen.McVey@noaa.gov). The Center and the NOAA Central Library can provide

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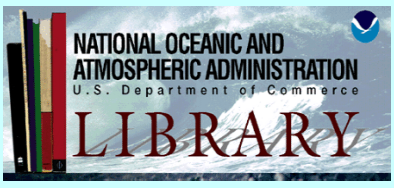

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