

浙江德清淡水珍珠复合养殖系统 (一)

Deqing Freshwater Pearl Mussels Composite Fishery System

系统概况

Summary

德清淡水珍珠复合养殖系统是以鱼、蚌之间基于自然的互利共生原理为基础，以发源于本地的附壳珍珠养殖技术为核心，逐渐演化并形成的涵盖蚌、鱼、浮游动物、底栖动物和水生植物等丰富的水生生物资源的复合养殖系统。

Building upon the nature-based co-cultivation of fish and mussels, the Deqing Freshwater Pearl Mussels Composite Fishery System is a composite fishery system covering various aquatic species (freshwater pearl mussels, freshwater fishes, planktonic animals, benthic organisms, and aquatic plants) with a core emphasis on the locally originated Shelled Pearl Mussel Cultivation Technique in Deqing County, Zhejiang Province, China.



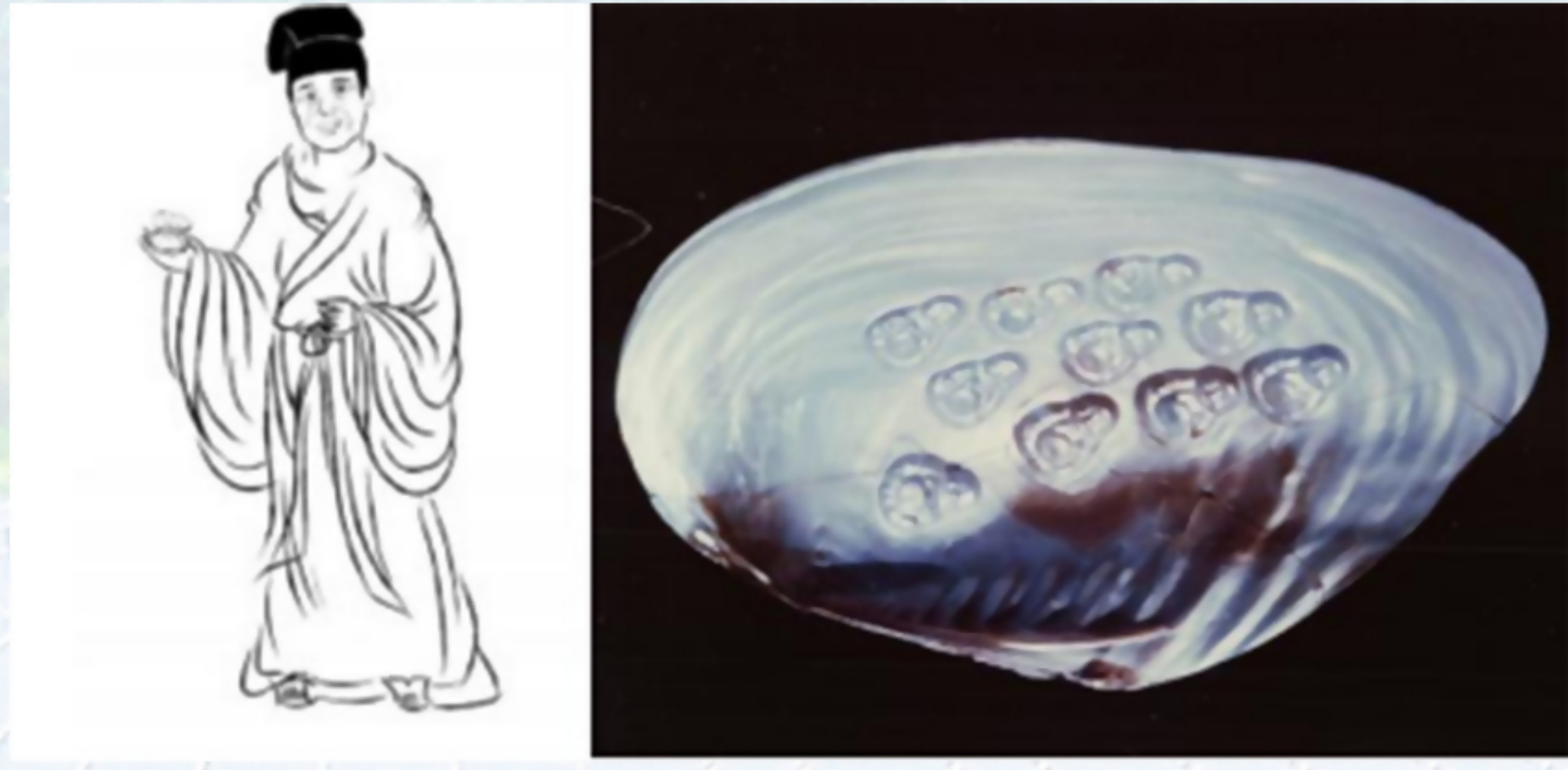
Picture of Deqing Freshwater Pearl Mussels Composite Fishery System

1 开创人类培育淡水珍珠的历史先河

The heritage system initially invented the Shelled Pearl Mussel Cultivation Technique worldwide

德清县自古水域面积广阔，水资源丰富，珍珠养殖历史悠久，是世界珍珠规模化养殖技术发源地。南宋叶金扬发明了附壳珍珠养殖方法，其方法是：“将锡和其他金属的、木制的、骨质的浮雕放在蚌的贝壳和外套膜之间，经2~3年的养殖，即成。”这种将自然界珍珠的偶然形成转化成有意识的自觉培育过程，是古人的一大创举，具有重要的意义。

Deqing, with vast water areas, abundant water resources and a long history of pearl farming, is the birthplace of large-scale pearl farming technique in the world. Ye Jinyang in the Southern Song Dynasty invented the shelled pearl farming method, which is putting tin and other metal, wooden and bone reliefs between the shell and the clam mantle to form pearls after 2 to 3 years. This process of transforming the accidental formation of natural pearls into conscious culture is a great innovation of ancient people, which is of great significance.



Portrait of Ye Jin-yang (left) and Chinese freshwater pearl of Buddha with shell (right)

2 推动珍珠文化在全球的兴起

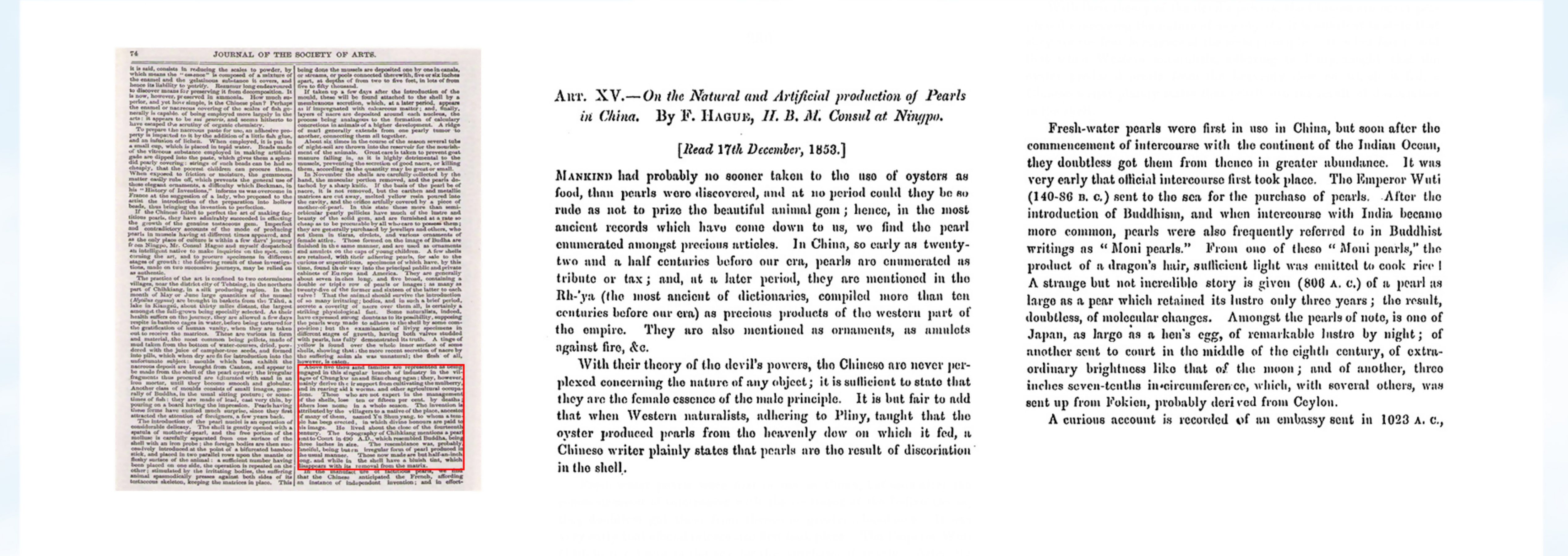
The heritage system introduced the Shelled Pearl Mussel Cultivation Technique to the world

叶金扬附壳珍珠养殖方法很早就传入了全球各国，对欧美、东亚的珍珠及珍珠文化产生了重要影响。1756年，瑞典博物学家林奈利用与佛像珍珠养殖技术相似的原理(即让珠贝分泌珍珠质附着在人造核上)培育有柄珍珠;1772年，瑞典科学家格瑞尔对叶金扬的育珠方法进行了详细的观察记录，并将这一技术带回了欧洲;1851-1852年冬天，英国领事海格(F.Hague)和美国的麦嘉湖博士亲自到德清钟管和十字港进行实地考察采访后写出的文章，详细介绍了钟管和十字港一带的珍珠养殖状况，并对叶金扬附壳佛像珍珠养殖的方法及规模进行了初步探究;1867年，查尔斯·狄更斯在其创办的期刊《一年四季》中详细描述了附壳(佛像)珍珠形成的过程;1908年昆茨和斯蒂文森所著书籍《珍珠之书》指出，几个世纪以来，中国附壳佛像珍珠的养殖方法已经成为其他国家尝试的起点，详细介绍了美国新泽西州、德国柏林等地区利用中国附壳珍珠养殖方法所做出的研究成果。

清末，中国的珍珠文化传入日本，受中国附壳珍珠养殖方法的启发，日本开始了人工珍珠培育技术的研究。

Ye Jinyang's shelled pearl farming method has been introduced to various countries around the world for a long time, exerting important effects on pearls and pearl culture in Europe, America, and East Asia. In 1756, Linne, a Swedish naturalist, used the similar principle to the Buddha statue pearl culture technique (e.g., making pearl shells to secrete nacreous substances and adhere to artificial nuclei) to cultivate handle pearls. In 1772, Greer, a Swedish scientist, observed and recorded Ye Jinyang's pearl culture method in details and brought it back to Europe. In the winter of 1851-1852, F. Hague, a British consul, and Dr. MacGowan from America wrote an article after field investigation and interviews in Zhongguan and Shizigang Port in Deqing, which introduced the pearl farming situations in Zhongguan and Shizigang Port in details and conducted initial study on Ye Jinyang's shelled Buddha statue pearl culture method and scale. In 1867, Charles Dickens described the forming process of Chinese shelled (Buddha statue) pearls in details on Seasons, a journal founded by him. In 1908, it was pointed out in, The Book of The Pearl, written by Kunz and Stevenson, that for centuries, the culture method of Chinese shelled Buddha statue pearls has become a starting point for other countries to make attempts and the research achievements in New Jersey in America, Burlin in Germany and other regions using the culture method of Chinese shelled Buddha statue pearls were introduced in details.

In the late Qing Dynasty, Chinese pearl culture was introduced to Japan. Enlightened by Chinese shelled pearl culture method, Japan started research on artificial pearl culture techniques.



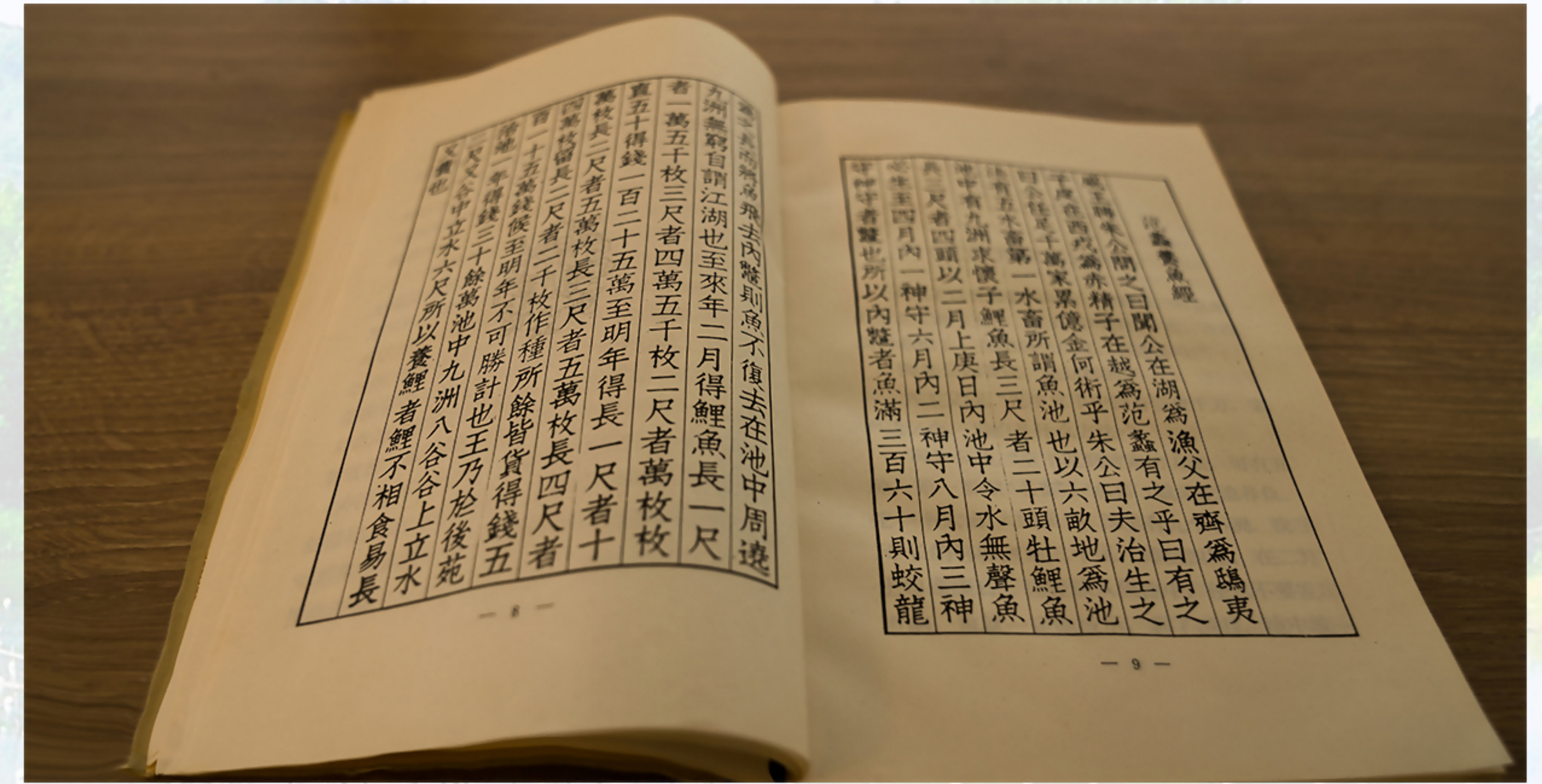
Dr. MacGowan from America and F. Hague, a British consul published research papers on pearl culture techniques in China

3 中国淡水渔业文化发源地之一

One of the birthplaces of freshwater aquaculture in China

中国淡水渔业养殖历史悠久、源远流长，也是全球最重要的淡水渔业养殖大国。位于浙江省北部的德清县，是春秋时期越国大夫范蠡寓居并写下世界上最早的养鱼著作——《陶朱公养鱼经》之处，是我国“渔文化”的发源地之一。“良渚文化”遗存和《德清县志》证明，德清先民早在4700年前便开始了鱼类捕捞，并早在2000年前开始利用水面养鱼。

China enjoys a long history of freshwater aquaculture, and is also the most important freshwater aquaculture country in the world. Deqing in the north of Zhejiang Province is the place where Fan Li, an official of Country Yue during the Spring and Autumn Period, lived and wrote the world's earliest work on fish farming, Mr. TaoZhuGong's Experience on Fish Farming, as well as one of the birthplaces of fishery culture in China. The ruins of LiangZhu Culture and Deqing County Annals prove that ancient Deqing locals began fishing 4,700 years ago and fish farming 2,000 years ago.



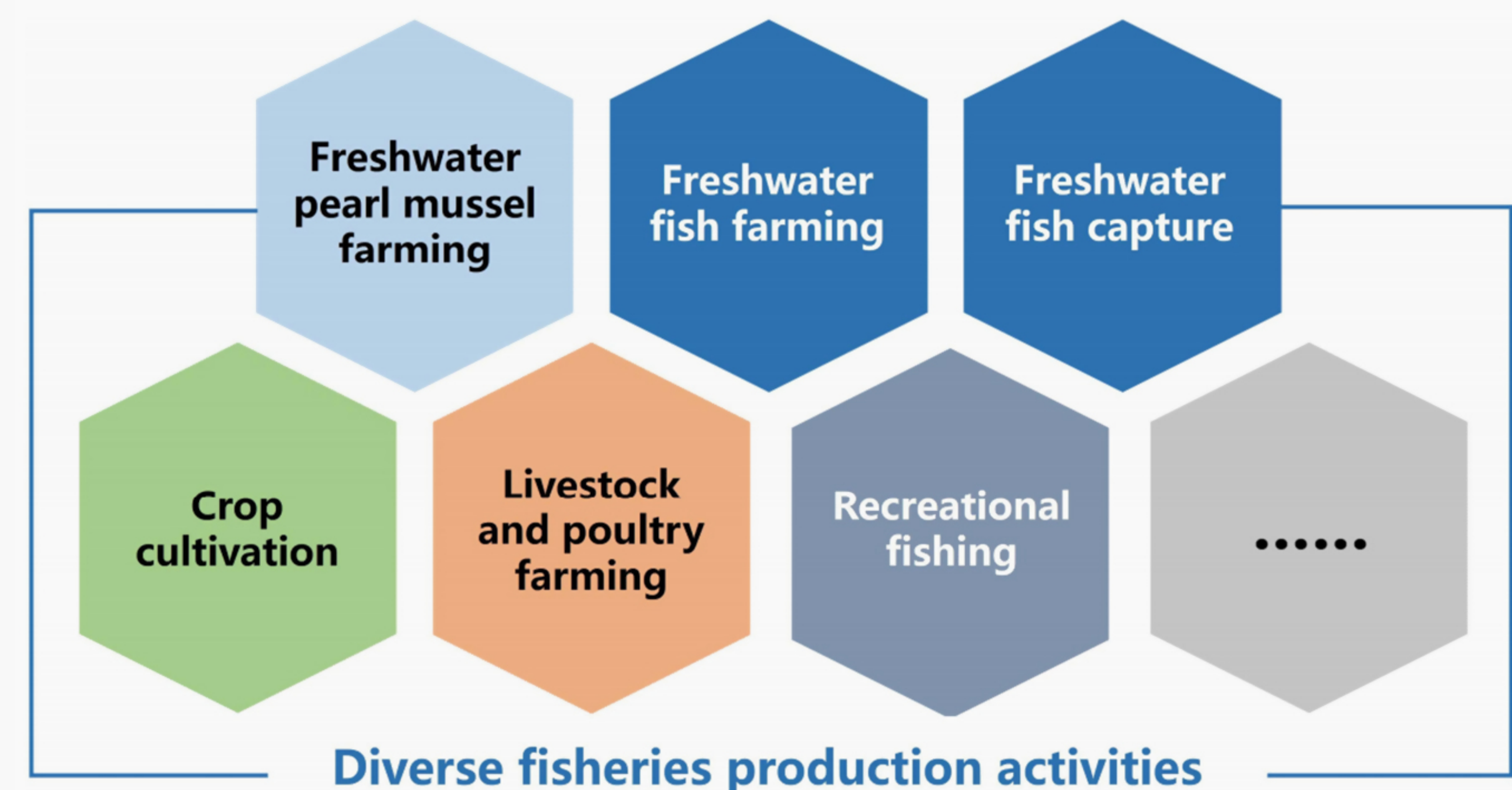
Fish Breeding by Tao Zhu Gong

4 淡水渔业复合养殖的“天然博物馆”

Natural museum of aquaculture models for freshwater fisheries

太湖及其滨湖地区自古便是我国著名淡水渔业生产基地之一，悠久的养鱼历史造就了丰富、多样的淡水渔业复合养殖模式。德清当地居民以蚌、鱼、粮、桑、畜等物种资源为核心，逐渐演化形成了淡水鱼类立体混养、稻渔综合种养等代表中国淡水渔业复合养殖的典型模式，是中国淡水渔业复合养殖的“天然博物馆”和低洼地区多种资源综合利用模式的“发源地”。

Lake Taihu and its surrounding areas have been one of the famous freshwater fishery production bases in China since ancient times, and the long fish farming history has created the rich and diverse mixed aquaculture model for freshwater fisheries. With the species resources, including clams, fish, crops, mulberries and livestock, as the core, Deqing locals have gradually formed the typical mode of composite aquaculture of freshwater fisheries in China, containing stereoscopic mixed fish farming and comprehensive farming of rice and fish, and Deqing is the natural museum of aquaculture models for freshwater fisheries in China as well as the birthplace of multiple comprehensive resource utilization modes in low-lying areas.



Industry types of Deqing Freshwater Pearl Mussels Composite Fishery System