

Ming Pearls: A New Type of Cultured Pearl from China

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作者近期在香港與香港珍珠商會交流期間，發覺中國淡水珍珠養殖戶現已開始採用類似海水珍珠養殖法的有核淡水珍珠培植，其運作及養殖與日本霞浦(かすみがうら)的珍珠養殖有類同之處。而產出之珍珠被譽為“明珠”，直徑可達15mm至20mm之大，相信假以時日能與南洋養珠在市場上爭一日之長短。

When I visited Hong Kong recently, I received an e-mail from an Austrian gemmologist, Mr Georg Wiesauer, saying that gonad-grown and beaded cultured pearls from freshwater mussels were being produced in China, and that these would shortly reach the international market. These pearls represent an analogue to the Japanese cultured pearls, named after the lake in which they are produced: Kasumigaura. They are round, large in size and, due to the shell in which they are grown, which is a hybrid of *Hyriopsis schlegeli* and *Hyriopsis cumingii* shells, appear originally in pastel colours. (Fig. 1).



Fig. 1 Two representative strands of Ming Pearls; gonad-grown round bead nucleated freshwater cultured pearls. They reach diameters of over 15 mm.
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Some ten years ago Japanese cultured pearls reached the market that were special in three ways. First they were grown in freshwater mussels, second they contained a shell bead and third they were gonad grown. Prior to this we had only seen Biwa pearls that were mantle-grown and beadless. Kasumiga are gonad-grown and contain a bead. The Japanese Kasumigas remain rather rare despite their big sizes and lovely colours, most probably due to environmental problems in lake Kasumigaura. A further characteristic of these pearls is that there is a drill hole in the bead with which they are nucleated. The explanation given is that the tissue graft is partially plugged into that hole and locked with a needle that introduces bead and tissue in the same action. So the close contact to the bead is guaranteed when it is introduced into the gonad. Due to anatomical differences between saltwater shells and those of freshwater mussels the gonad is more difficult to access. The introduction of bead and graft in one intervention is therefore required.

Freshwater pearls are commonly cultured in China using the mantle-grown method without adding a bead. Tiny pieces of mantle tissue from young donor mussels are transplanted into the mantle of recipient mussels. The mantle of the recipient can take up to 25 tissue grafts into every wing of the shell, which is why mantle-grown freshwater pearls are so numerous and also so inexpensive. The culturing of pearls with round beads is usually done with saltwater shells, and the bead is placed into the gonad. A gonad can normally take one bead of 6 to 7 mm. The result is one cultured pearl after the growth period of 12 to 18 months (Tab.1). It is clear that the bead nucleated gonad-grown method produces fewer pearls and these are thus more expensive in the trade, although it takes a longer time to grow a larger pearl with the mantle grown process.



Tab.1 Schematic diagram showing the two locations where pieces of mantle tissue can be placed in order to produce cultured pearls successfully: into the mantle and into the gonad.

Diagram by Schoeffel, 1996.

I have been informed by Johnny Chan, president of the Hong Kong Pearl Association, that Chinese pearl farmers have recently started growing pearls similar to the Kasumigaura ones. These Chinese gonad-grown cultured pearls from freshwater mussels are called **Ming-pearls**, probably in allusion to the Chinese emperors of the Ming dynasty, due to their important size and beauty. The shell that is used for the new pearls is also a hybrid between *Hyriopsis schlegeli* and *Hyriopsis Cuningii*. The beads are drilled when introduced into the gonad, but the material may be different from the Japanese as it is said to be made from the *Tridacna* shell. The two drill holes are clearly visible in x-ray pictures, but the nature of the bead material cannot be identified by traditional x-radiography. After harvesting the pearls are drilled a second time, but as the first hole is not visible, it is mostly in a direction oblique to the initial core drilling (Fig. 2).



Fig. 2 An x-radiograph of the two strands of Ming pearls, showing a drilled bead nucleus and a second drill hole through the finished pearl. The nacre layers are between 1 and 2 mm in thickness.

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On June 1st the author was able to admire a number of Ming pearl strands and single pearls in Hong Kong. A close up view (Fig. 3) shows the colour, lustre and the surface of the pearls that may sometimes resemble a hammered texture. According to Johnny Chan, the production will be presented in upcoming trade shows and will form an interesting and enriching novelty in Chinese pearl production. With diameters from an impressive 15 to over 20 mm they will attract world-wide interest and admiration and are a serious alternative to South Sea cultured pearls.



Fig. 3 A close-up view of Ming pearls in different colours, sizes and shapes as seen in Hong Kong in June, 2011.
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Fig. 4 The surface may resemble a hammered texture



Fig. 5 Diameters can be over 20mm

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