NOTES
· AND ·
NEW TECHNIQUES

CULTURED 3/4 BLISTER PEARLS

By Robert Crowningshield

More information is now available on the cultured 3/4 blister pearls that were recently introduced into the marketplace. Cultivated with both salt water and fresh-water nuclei, the material is attractive and durable. This article describes the method of culturing these "pearls" as well as the differences between this material and 3/4 South Sea cultured pearls or assembled cultured blister pearls (Mabe pearls).

Gerald V. Rogers, the precious-stone specialist who introduced the cultured 3/4 blister pearls mentioned in the Summer 1981 issue of this journal (p. 104) to the trade, has provided additional information on this material and given us the opportunity to examine several hundred of these "pearls" in the New York Gem Trade Laboratory. The following description is based on the information given by Mr. Rogers and on the observations of the author and his colleagues in the laboratory.

The cultured 3/4 blister pearls are cultivated with both large salt-water nuclei and smaller fresh-water nuclei. They appear in a wide range of subtly attractive colors and various degrees of luster (figure 1), and average 8 mm (fresh water) to 15 mm (salt water) in size. Mr. Rogers describes these as cultured 3/4 pearls. Indeed, they do look like large, slightly baroque 3/4 South Sea cultured pearls. The difference is evident, though, in the exposed mother-of-pearl nucleus at the base of the blister pearl (figure 2), which reveals its formation on the shell of its host. We also observed that the blister pearl had been worked (polished to preserve roundness) and not sawed as is the case with the 3/4 South Sea cultured pearls. The line drawn on the stone in figure 3 marks the area from the widest part to the base where most cultured 3/4 blister pearls are worked.

According to Mr. Rogers, the large nuclei in the cultured 3/4 blister pearls are made of salt-water pearl shell (probably *Pinctada maxima*). There is usually very little conchiolin around the bead if it is salt water in origin, which suggests a compatibility not shown when the bead is of fresh-water pearl shell.

The fisheries for this new material are in the Philippines. The product is the result of experiments forced on the fishery owner when his Japanese cultured-pearl technicians were recalled to Japan. Without these technicians, sac pearl culturing was not feasible. Experiments were conducted to find the location within the large shells in which the rejection rate would be minimal and nacre thickness acceptable after two years. That

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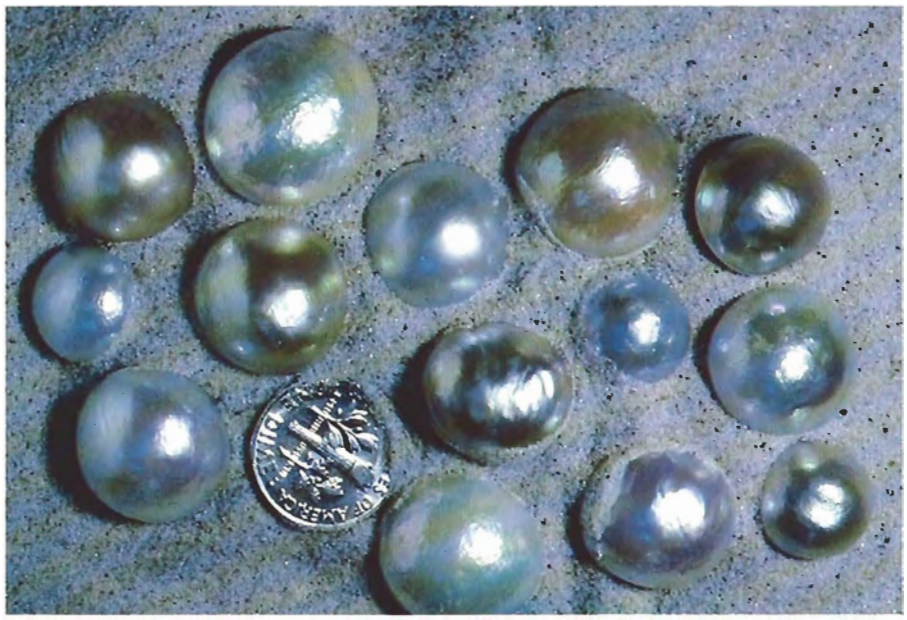

Figure 1. Cultured 3/4 blister pearls appear in assorted hues, as illustrated here.

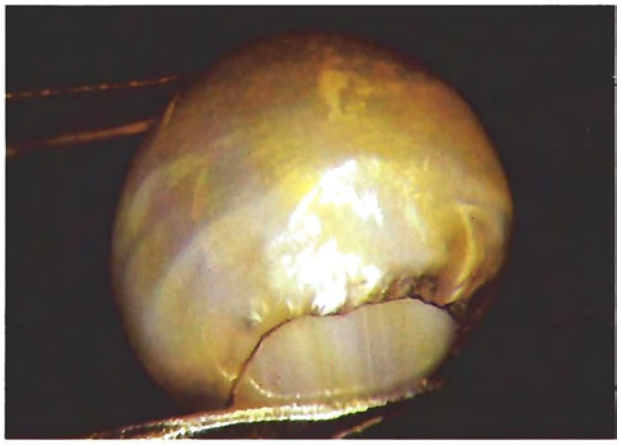

Figure 2. A cultured 3/4 blister pearl. Note the exposed nucleus at the base.

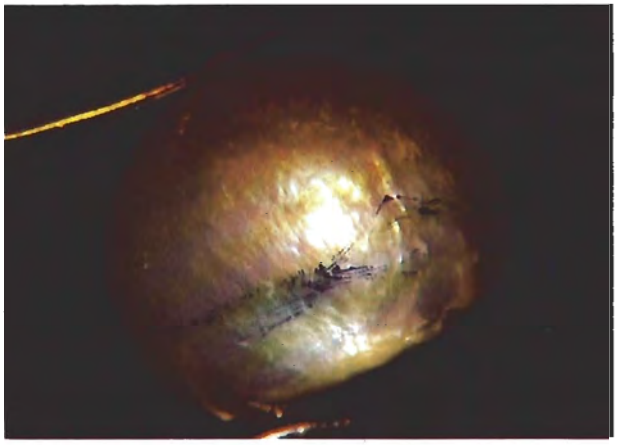

Figure 3. This line delineates the area where most cultured 3/4 blister pearls are worked.

area within the shell has been found and has led to visible characteristics that are very useful in identifying this material when the mother-of-pearl is hidden by a setting (figure 4). Figure 5 shows a large cultured blister pearl with typical grooves that appear to merge near the girdle. This is seen in a high percentage of the new pearls, but rarely in a full cultured pearl.

The differences between the cultured 3/4 blister pearl and assembled cultured blister pearls (known as Mabe pearls) are easily detected. The X-radiograph of a 3/4 blister in figure 6 clearly shows the solid nucleus and relatively heavy nacre of this product. The Mabe, on the other hand, has four parts (see figure 7): an egg-shell-thin nacre, a bead of mother-of-pearl, a filler of some-

Figure 4. A cultured 3/4 blister pearl set so that the nucleus is hidden.

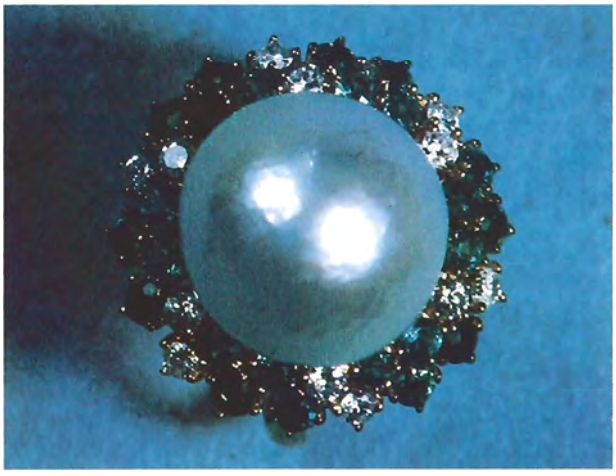

Figure 5. These grooves, which appear to merge near the girdle, are typical of a cultured 3/4 blister pearl.

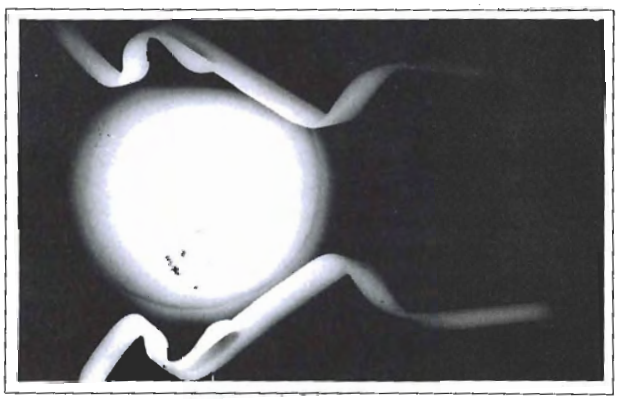

Figure 6. X-radiograph of a cultured 3/4 blister pearl.

Figure 7. This section of an assembled cultured blister pearl (called a Mabe) clearly shows the four parts of which this product is composed.

Figure 8. A damaged Mabe pearl.

thing that looks like Canada balsam, and a base of mother-of-pearl. It may also have a colored lacquer coating inside the dome. For the most part, Mabes are cultivated in Japan in a mollusc that is not used for culturing pearls and is known scientifically as *Pteria penguin.* They have also been cultivated in *Pinctada maxima* in Australia. The fragility of Mabe pearls, especially in rings, is known to most jewelers (figure 8). This is because the balsam-like filler offers little support to the nacre, a failing the solid nucleus of the cultured 3/4 blister pearl should avoid.

The resurgence of interest in pearls and cultured pearls, together with the increasing scarcity of fine cultured pearls, would appear to be happy circumstances to welcome into the trade this attractive and durable product, which is now readily available in the marketplace.