

Myanmar Gold-Lipped Cultured Pearls

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Abstract

Cultured pearls from Myanmar are famous for their silver and golden colour and also its valuable mother-of-pearl shells. An ideal place for pearl cultivation was found many years ago at Pa Lel Kyun island (formerly known as Sir J. Malcolm island) (Fig.1), Myeik (or Mergui) Archipelago in the Andaman Sea off southern Myanmar. The Myanmar pearl-farming industry started in 1954 as a joint venture between Burma Pearl Fishing and Culture Syndicate and the Japanese pearl farmer Kichiro Takashima, under the name South Sea Pearl Co. The industry has since expanded to about 14 jointventure companies with operations that spread across various islands off Myeik Archipelago. The estimated size of Myanmar Pearl Enterprise (MPE) company farming at the Pa Lel Kyun is about 8 km (5 miles) surrounding the island to about 13 km (~7.8 miles).



*Figure 1. The Pa Lel Kyun island (formerly known as Sir J. Malcolm island) is where Myanmar golden lipped cultured pearl began in 1954.
(Photo by Tay Thye Sun)*

The mollusc used for pearl cultivation is *Pinctada maxima*. Besides collecting wild spat from the surrounding islands, MPE has hatchery stations since 1980s. In 1998 they established a modern hatchery station on the island to supplement for the growing spat production which is in use until today. A temperature-controlled room kept at 20°C is used for cultivating phytoplankton to feed the spat. The spats grow in tanks where they hang on strings for about 28 days, with about 200 spats on each string and 96-160 strings in each tank. After the spat has grown to about 12 mm size (after about 60 days), they are transferred to small frames surrounded by netting, with each frame holding only 12 spats to encourage their growth. The frames are suspended in the ocean for approximately two months and then the spats are transferred to new frames. After 18 months, the oysters reach about 12 cm in size. At this age, a bead nucleus of 4.5-7.0 mm size is implanted in the gonads of each oyster. Afterwards, the oyster are placed in panel nets and returned to the ocean for two years.



Figure 2. The shape of Myanmar golden lipped cultured pearl from round to off rounded, size range from 14 mm to 9 mm (from left to right) with colours range from yellow to light yellow and slightly creamy. (photo by Michael Krzemnicki)

The author (TTS) bought seven cultured pearls (Fig.2) from a pearl supplier at Myeik for further research. The size of our samples ranges from 9 to 14 mm, and their colour from yellow, light yellow to slightly cream. Our analyses confirmed that they are beaded cultured pearls from the gold-lipped pearl oyster (*Pinctada maxima*). Chemical analyses (EDXRF) revealed a composition typical for saltwater (cultured) pearls with only low traces of manganese (Mn). In radiography and X-ray microtomography, all samples exhibit a spherical bead with a nacre overgrowth which varies considerably in thickness from 0.5 mm to 3 mm with an average of about 2 mm. UV-Vis-NIR reflectance spectra are similar to those described by Elen (2001) for untreated pearls from *Pinctada maxima*. More data about these attractive cultured pearls from Myanmar will be published soon by the authors.

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References:

- Domingo B.S., 2020. Myanmar eyes solid footing in global pearl market. Jewellery Net: Market Intelligence news 3th February 2020. <https://www.jewellerynet.com/en/jnanews/features/23683>
- Elen S., 2001. Spectral reflectance and fluorescence characteristics of natural-color and heat-treated "golden" South Sea cultured pearls. *Gems & Gemology*, Vol. 37, No. 2, 114-123.
- Strack, E., 2006. Pearls. Ruhle-Diebener Verlag, Germany, 707 pages.
- Sze Man Young, 2018. Myanmar pearl dealer eyes Asia. *JNA*, 46.
- Sze Man Young, 2019. Myanmar finds footing in global pearl sector. *Pearl Report*, 36.
- Tay Thye Sun, Thet Tin Nyunt, Myo Lwin, Tay Zar Linn, 2021. Visit to a gold-lipped cultured pearl farm in Myanmar. *Journal of Gemmology*, Vol.37, No.5, 463-464.
- Tint Tun, 1998. Myanmar Pearling: past, present and future. In: *SPC Pearl Oyster Information Bulletin*, No. 12, 3-7.