



THE ELUSIVE ki shusui

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Above: Group shot of the Ki Shusui selected for next year's spawn. Photo by Maxine Paetro. Below: An autumn sunset from Broccoli Hall.

Placed articulately among the trees, along the row of roses that run just south of the path less traveled, there rests an English garden by the name of Broccoli Hall. There is a magical mystery unfolding here. This is not your average English garden in upstate New York. People come from all over the world to see something remarkable, a fish so rare that people have spent decades trying to do what Maxine Paetro did right out of the gate. This particularly charming garden is home to some of the world's best examples of this most elusive breed of Koi fish known by the name of Ki Shusui.

The magic of Koi fish breeding

When I think of Koi fish I think of pools at restaurants along Ka'anapali Beach or of huge vases in the hotel lobby. Koi in my mind is a luxury like an English garden, a Jaguar, or a painting. After spending some time talking and walking with Maxine in the garden, I have a fresh appreciation for Koi, especially the Ki Shusui, and I have learned that there is a strong element of magic and gut feeling involved in breeding them successfully. This is why they are a luxury, why they are valuable, and once you understand what makes this particular genetic combination possible, their exclusivity becomes apparent.

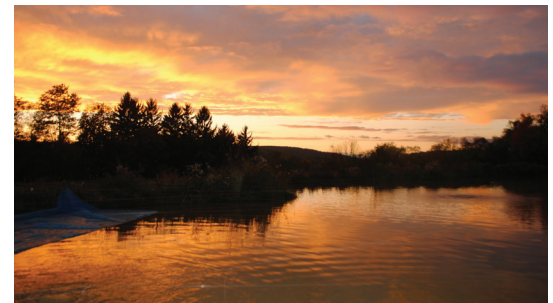
Maxine revealed to me a world of Koi beneath the surface. She explained how she became involved in breeding these special fish, which all have names and which she clearly has a personal connection with. Maxine is like the cat lady of Ki Shusui Koi, but cat is too common. She is more the Jaguar lady of Ki Shusui.

Shusui is a scaleless Koi. It has a white or pale blue body with red lateral markings on its side and a double row of bold blue scales along the dorsal ridge. Ki Shusui has yellow markings instead of red. Ki Shusui are exclusive precisely because they are so elusive in that the chances of putting a group of fish together and getting that one in a million with white skin, pure yellow and with blue zippers, no, more like one in five million, it is unfathomable. One breeder in Japan who published a book about this subject in 1965 spent many years trying to get this fish and never achieved it. As you read through you will come to understand the unlikelihood of the particularly spectacular traits of the Ki Shusui to ever come together in one fish at all. These fish are miracles.

A history lesson in Koi

Maxine met with a small house and a bare acre and a half, fell in love, bought it and named it Broccoli Hall in 1985. She has been sculpting it, with years of specialized attention, into garden rooms, with handmade benches, flowerbeds, pathways, and Koi ponds, set in a landscape of the tranquil rolling fields. The first pond was built as a garden element, but after some years Maxine decided there should be fish in it. Now there are three ponds and many fish, but only a select few make it to the spawning pond.

She began having Koi fish as pets in 2006. At first she had many varieties of Koi, but soon became quite besotted with the Shusui, which means autumn sunset or autumn sky, because the stomach is red and it comes up into the soft blue



field of skin. There is a double line of blue scales from the neck down the spine to the tail and those dorsal scales are virtually the only scales on this fish. Koi are a decorative carp. When they have scales, as most do, they are called Wagoi. Scaleless fish are known as Doitsu, and their skin is smooth, like the best leather. Doitsu Koi were originally bred to not have scales because the Germans wanted to be able to clean these fish more easily, to eat them. (Scaleless Doitsu is a carp. Asagi is the scaled version of this fish).

Over the last three hundred years, the Japanese breeders have created Koi carp in many colors and patterns. There are seemingly infinite combinations, subtleties and nuances of color that give these fish as many variations as there are of orchids. Maxine now raises specifically this rare breed of Doitsu Koi with white skin and bright yellow markings called the Ki Shusui. The gold ochre, more brilliant Indian yellow, which radiates pure and bright against the translucent white skin is surprisingly

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beautiful.

Ki is a recessive trait in the Shusui gene pool. Finding the right combination of genes can be challenging because their traits cannot always be seen, or, in some cases, can only be seen for a time, and then disappear as the fish gets older so spotting them, keeping track, and knowing your fish is part of the art.

Fish conformation

“I had fish in the spring with the most beautiful markings,” Maxine explained, “but, when I looked at them in the fall, their lateral yellow markings had just disappeared. I was really disappointed at first that they would change so much, lose their beautiful markings between April and October. I have since learned that it doesn’t matter. It has showed me its trait for lateral yellow markings and when crossed with its siblings, this trait will consolidate in future generations. These Ki Shusui are only first generation. By the third generation, I should have many very good quality babies of this variety.”

“Real Koi breeders will come in at this point and tell you that pattern is the third thing you look for. The first criteria you look for is conformation and then skin quality. Skin quality, whether it is clean or smudged, we can all see. Conformation is more difficult. I had a big jump in my learning curve when people were out here this week who are very experienced and who have been to lots of Koi shows, and who have been to Japan. To see them look at my fish was extremely instructive. I learned that many of my fish had very good conformation.”

I had to ask her for some clarification, “What do you mean by conformation?”

“It is about the proportion,” she says. “It is about the shape of the head, the width of the tail and the relationship between these features. It was exciting to have experts look at my fish and say ‘That is a male you will want to keep.’” Not having much breeding experience in the beginning may have helped. She relayed to me that she was quite naive in the beginning and that still, her passion and focus, led her to achieve Ki Shusui in a first generation.

Getting started in Koi breeding

“After five years of breeding Koi but not reaching my goal, I bought a new set of parents and put them in a quarantine tank in the basement until I could get the new pond ready. They weren’t expected to spawn in quarantine, but they did. And just then, the power went out. The amount of water necessary to rinse the eggs of the potentially deadly ammonia from the spawn was not available. I was in a panic. After two days when I had water, I gathered up the eggs up in a scarf and we took the eggs down to the fresh new mud pond and released them there. A female can have 200,000–500,000 eggs and the worst that can happen to you is that all of them hatch. Imagine. Only 350 eggs hatched and survived. So, in that way I was very fortunate



Clockwise from top left: The middle pond, a Doitsu Yellow Ogon, a young Ki Shusui male with big prospects, across the bottom is a picture of the original fish that led to the third generation photo in the lower right. Middle left is a photo of Mark Bruno, John Clark in white shirt and waders from Northeastern Aquatics, Debra Horowitz, David Farren, Russell Peters, Maxine Paetro in the water, Marilyn Burns in turquoise, and Fred Zimmer, deciding which fish will be selected for the next spawn. Photo by Maxine Paetro.

that circumstances culled these eggs for me. I would have still been down there going through little fish.”

“And then, out of all of these fish, I was so excited to see a fish that looks like this! It has the yellow markings that I was looking for! To get that in the first generation for a breeder is unheard of!”

It is interesting to consider how the genetics of the fish play a role, but also how she herself plays a substantial role in the selection process and by interacting in these animal’s affairs, she is compounding the already unfathomable odds with a slew of additional variables.

“I carefully chose the new parents using my gut and what fish were available. I chose the three female parent fish, the Shusui, for their white skin because Ki looks better on white skin and strong blue dorsal scales, and crossed the Shusui with two Doitsu Yamabuki Ogon males who have yellow metallic skin. Shusui crossed with Ogon often creates Midori, a green fish, and Midori crossed with Midori, does produce more Midori, but sometimes it produces Ki Shusui. I added in one Midori male parent on a hunch. Through subsequent trial spawns eliminating the Midori, I have learned that the Midori was actually the male fish that contributed to my first generation Ki Shusui.”

Just recently, along with experts in the Koi fish

world, a film crew and dedicated fish enthusiasts, Maxine collected the fish in her ponds and made the selection of her now, breeding age Ki Shusui. She picked the seven fish that will be involved in next year’s spawn.

“In this the first generation, we do not yet have seven perfect fish. But we take the ones with the best traits, conformation, good skin, and a lateral Ki pattern, and put these Koi (qualities) together in the spawn and hope that enough of the superior traits will be evident in the next generation. After the Koi spawn, we will have thousands of little babies to choose from. And four years from now, we will have a third generation, with the best traits in large numbers. As a friend said to me, ‘You will have Ki Shusui coming out of your ears!’ What a picture!”

Thanks to loads of preparation, a little magic and trusting the gut, the elusive and luxurious Ki Shusui can now be found at Broccoli Hall, an enchanted English garden in the hills of upstate New York, stocked with rare Japanese Koi fish. They are as pleasant as seeing a streak of yellow light across an autumn sunset, but much, much more elusive. ●

To see links to Maxine’s photos of her Koi fish project from egg one, go to www.kishusui.com. To see the garden at Broccoli Hall visit www.brocolihall.com. But note, Maxine does not sell Koi, or anything else.