

Finnage in Goldfish

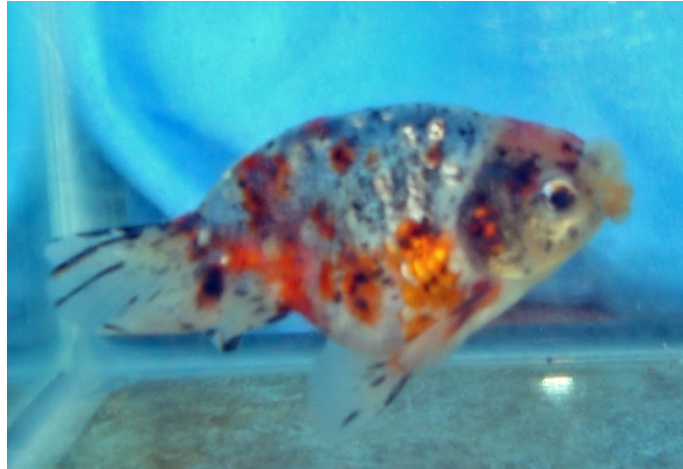
The primary purpose of fins in goldfish is for swimming and orientation in the water. The earliest goldfish, which were derived from the carp family, had fairly simple fins that were used primarily for mobility. The following pictures shows a common goldfish with simple fins, that are used for swimming motions associated with food capture, flight from predators and moving about in the water.



Photo courtesy of Chinese Goldfish by Tetra

The most obvious departure from this standard fin configuration is the absence of the dorsal fin in some fish varieties, which was almost certainly the result of a natural mutation. In his book, *The Goldfish Guide*, Dr. Matsui notes that natural mutations, such as the lack of a dorsal fin, can be found in nature, as well as in controlled spawns of fish.

The first dorsal-less fish that was selectively bred was the egg-fish. The egg fish lacked a dorsal fin, and a developed a modified body shape, which gave rise to its name. Initially, dorsal-less fish may have possessed a single tail fin, which would have impeded swimming motion. Gradually, these fish developed a split tail fin, which enabled them to swim better. Egg-fish are still seen, and the following picture shows an egg-fish with narial bouquets.



Egg-fish with narial bouquets

An early derivative of the egg-fish is the Phoenix. These fish also lack a dorsal fin, but the remaining fins are greatly elongated. As with the egg-fish, the Phoenix possesses a double tail fin. The following picture provides an illustration of a Phoenix.



Phoenix, showing elongated fins

At some point in time, dorsal-less fish were produced with head-growth. The head-growth was also likely a natural mutation, and Dr. Matsui gives examples of common goldfish which have produced the head-growth mutation. The fish dorsal-less fish with head-growth is the Lionhead, which was produced in China.

The Lionhead has a stout body, similar to that of a Phoenix, along with a characteristic head-growth, which resembles a raspberry. In well-developed specimens, the head-growth covers the top of

the head, the cheeks, and the gill plates. The following picture shows a well-developed Lionhead with a full head-growth.

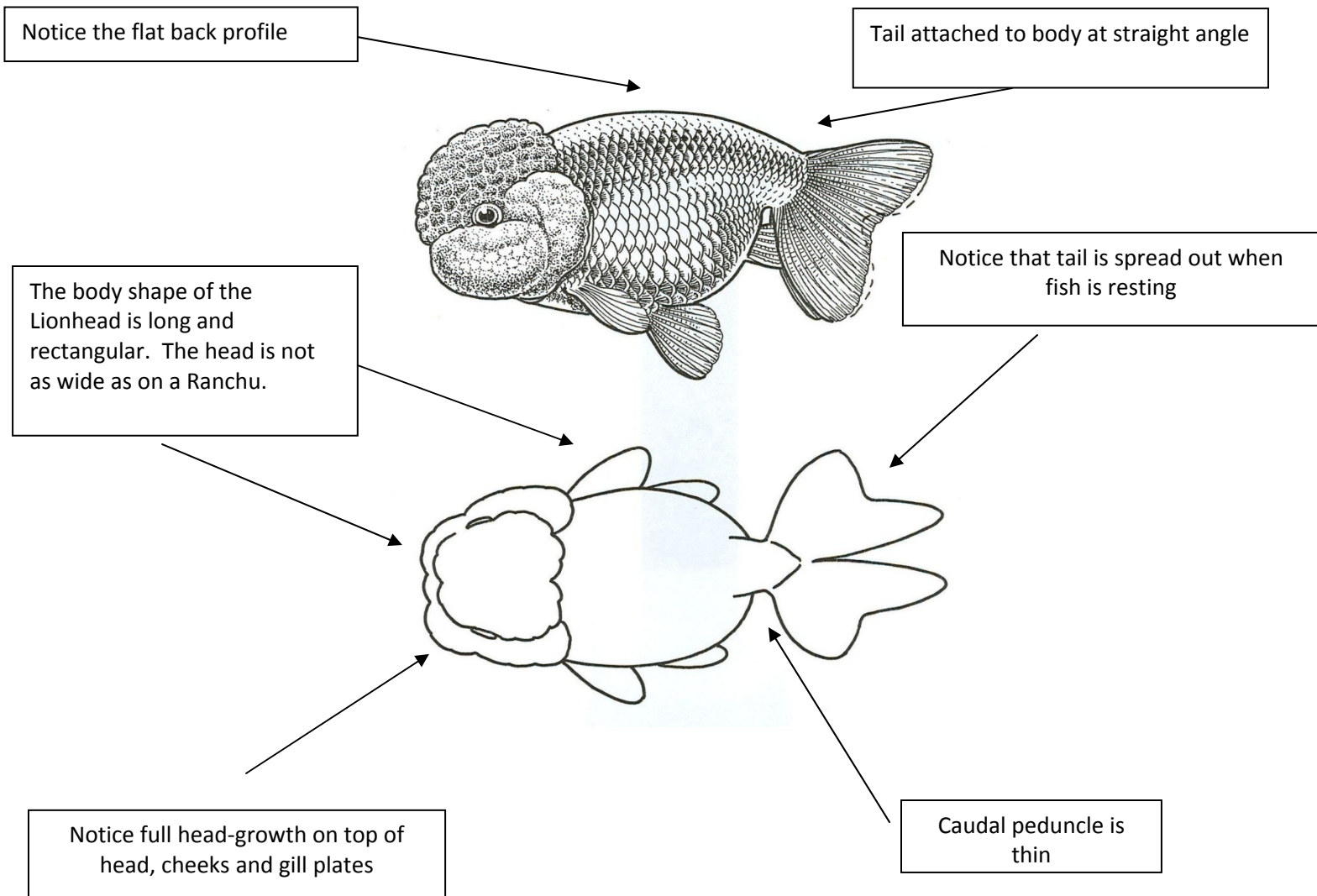


Red & Black Lionhead, from Goldfish in China

When Lionhead and Ranchu were first introduced into the U.S., they were identified as the same fish. This caused confusion in the goldfish hobby, since it is obvious that these fish are different. The differences in the two types of fish can be summarized as follows:

- Lionhead have a fuller head-growth than Ranchu
- The back profile of the Lionhead is straight, whereas the back profile of the Ranchu is curved
- The tail attaches to the Lionhead at a straight angle to the body, whereas the tail on the Ranchu attaches at a forty-five degree angle
- The body shape of the Lionhead is long and rectangular, whereas the body shape of the Ranchu is shorter and more compact
- The caudal peduncle (the area where the body meets the tail) is thinner in a Lionhead than in a Ranchu

The following drawing of a Lionhead, done by Merlin Cunliffe, shows the profile of a Lionhead from the side and top.

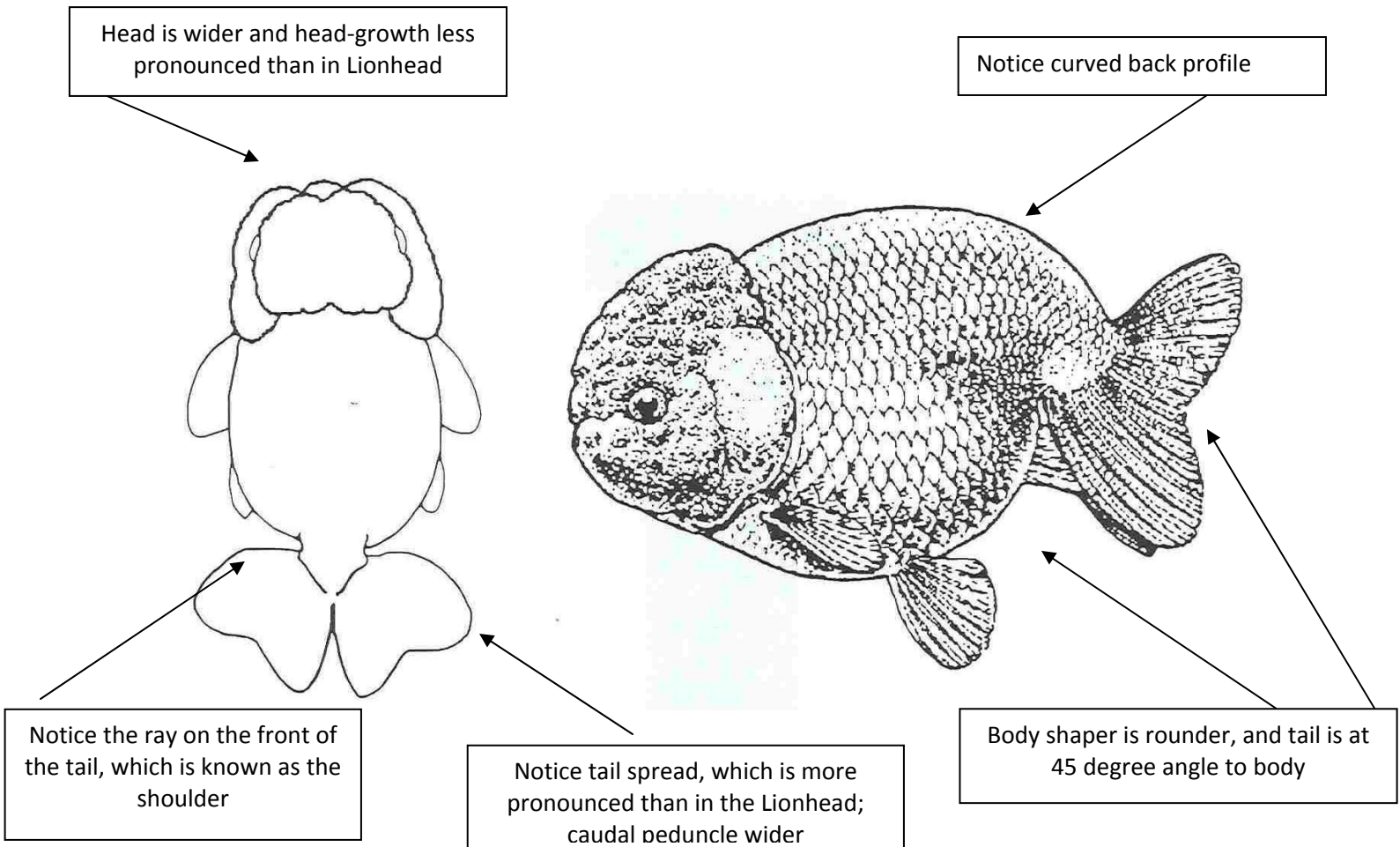


One of the common deficiencies in the Lionhead is the tail area. Since the caudal peduncle is so thin, there is a tendency for the peduncle to be either too long or too short. Either of these conditions can lead to the fish swimming in an unbalanced manner. A similar problem occurs when the tail is attached to the caudal peduncle in the wrong manner, causing the tail to collapse when the fish is swimming, and at rest. Note how the tail opens-up in the line drawing when the fish is at rest. In an improperly placed tail, the tail collapses, causing the fish to swim erratically. The following picture shows a Lionhead with a caudal peduncle that is too short, causing the fish to headstand.



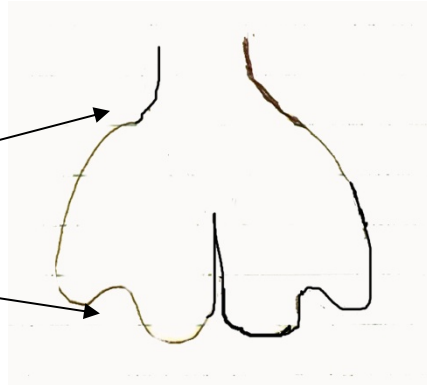
Lionhead with a caudal peduncle that is too short

The Ranchu is a modification of the Lionhead that occurred in Japan. The Japanese modified the Ranchu to emphasize the back profile and tail section. At the same time, they lessened the hood development, so that the head-growth would be less pronounced than on the Lionhead. The following line illustration by Merlin Cunliffe shows the side and top profile of the Ranchu.



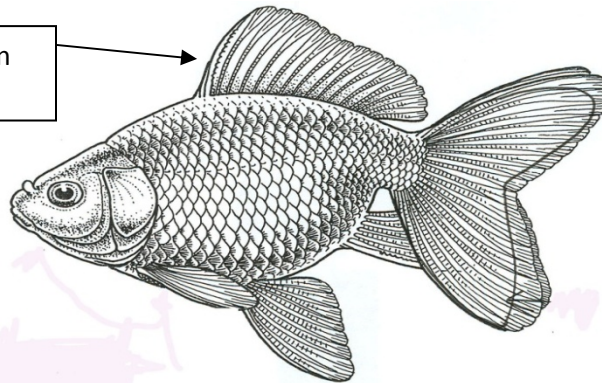
A poorly formed tail will lack a true “shoulder,” and will not be spread as wide as in a tail with a “shoulder” area. The line drawing shown below illustrates a poorly formed tail.

Notice that the tail does not have a shoulder, and that it is carried improperly. The caudal peduncle is also too thin.

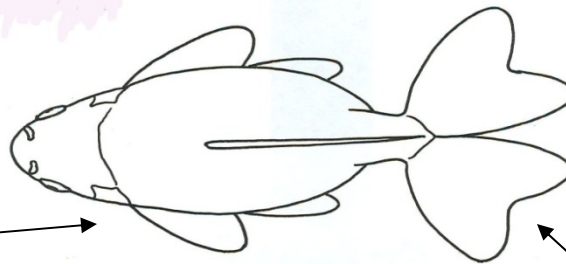


The next major variation in finnage was produced in the Fantail. The Fantail is the first fish with a dorsal fin that has a double tail fin. The double tail fin is probably the result of a natural mutation that was selectively bred for this attractive feature. Since the Fantail is an older variety, it may appear to be less-developed than some other double tail varieties. The following line drawing by Merlin Cunliffe shows the fin characteristics of the Fantail goldfish.

Notice relatively short dorsal fin

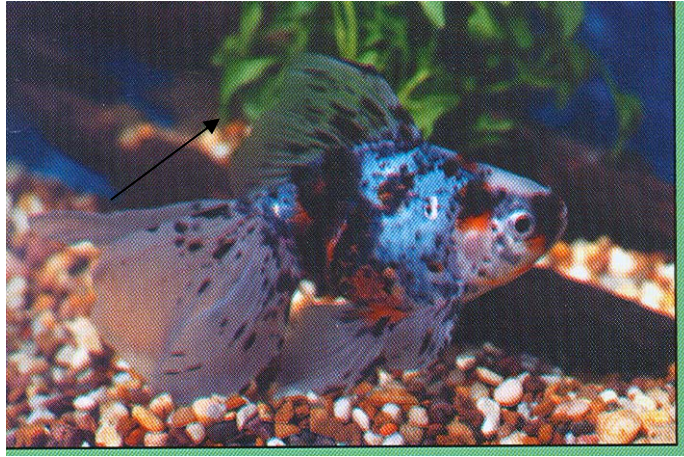


Notice relatively compact body of fish; much more chunky than “common” goldfish



Notice spread of tail fin and four distinct lobes

As mentioned, while these fish appear to be “simple,” good examples of Fantails can be quite striking, as the following picture shows.



Calico Fantail, photo courtesy of Fred Rosenzweig

The Ryukin was developed from the Fantail, and was originally developed to have fins that were longer than those of the Fantail. The following is an example of a Ryukin with moderate fin development.



Ryukin with moderate fin growth

Gradually, Ryukins were developed to exhibit greater (that is, more full) fin development. Somewhat later, Ryukins were developed to have less emphasis placed on fin development, and a short-fin variety was seen. The following picture shows a Ryukin with greater emphasis placed on fin development, resulting in a fish with very full finnage.



Ryukin with full fin development



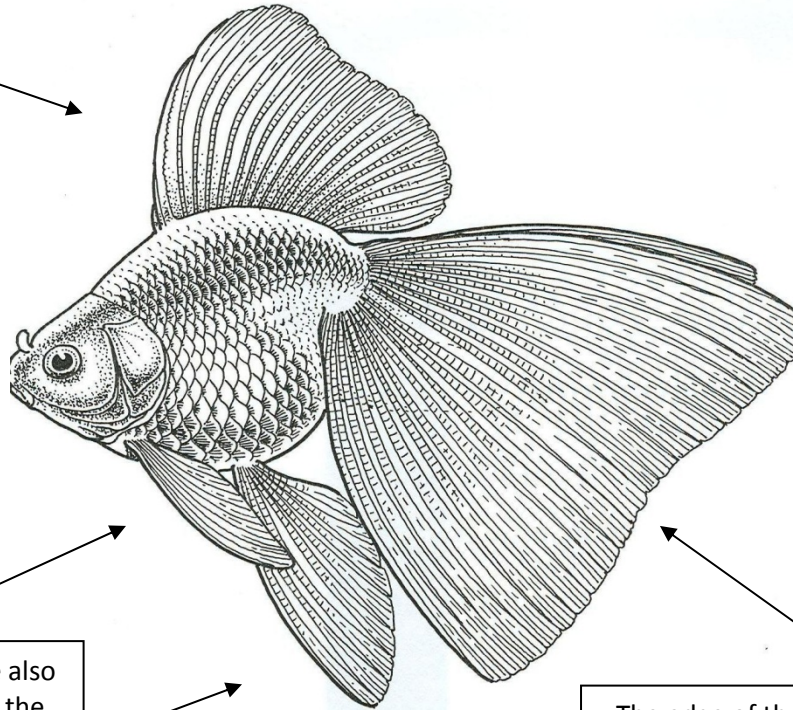
Ryukin with shorter fins

In every case of fin development in Ryukins, the key is for the fins to be proportional—that is, the caudal, dorsal, ventral and pectoral fins should all complement one another. If any of the fins appears to be more developed than the others, the fish will look somehow unbalanced. In extreme cases, Ryukins have been crossed with Veiltails to produce fish with large, flowing fins.



The Veiltail is generally considered to be the goldfish with the most fully developed fins. In the case of the Veiltail, the dorsal and tail fin are the most highly developed fins, with the height of the dorsal fin being up to twice the depth of the fish, and the tail fin being up to twice the length of the fish. The line drawing by Merlin Cunliffe emphasizes the fin development of the fish.

Notice the height of the dorsal fin in relation to the depth of the body



The pectoral and ventral fins are also long. The overall impression of the fins is that they are balanced and complimentary.

The edge of the tail is not indented, but is straight, which produces a veil-like effect; hence the name Veiltail.

There is often some confusion over the terms used to talk about tail types in fish. Since goldfish have so many different types of tails, it is easy to confuse some of the terms for tails. Here is a listing of the most common types of tails, along with synonyms for the most common types of tail fins.

Tail Type

Common Synonyms

Common

Common, single tail

Fantail

Ribbon tail, double tail

Veiltail

Petticoat, telescope-tail, chop-tail

Short form Ryukin tail

Chop-tail