

## **Goldfish Varieties**

### **By Peter J. Ponzio**

Goldfish were originally bred in China sometime between 1,000 and 1,500 years ago, and were later exported to Japan and Korea, where further breeding led to an increase in the number of varieties available. To the beginning goldfish fancier, the body types, finnage, and unique characteristics of goldfish can seem to defy meaningful classification.

Several years ago, the Goldfish Society of America (GFSA) developed a classification system for goldfish. This system differentiates fish into three broad categories, based on tail-fin and dorsal type. These three categories include:

- Single tail fish with dorsal fin
- Double tail fish with dorsal fin
- Double tail fish without dorsal fin

From these 3 categories of fish, the GFSA recognized the following varieties of goldfish.

1. Single tail with dorsal fin
  - Common goldfish
  - Comet goldfish
  - Shubunkin
2. Double tail with dorsal fin
  - Fantail
  - Ryukin
  - Pearlscale
  - Veiltail
  - Telescope Eye
  - Oranda
3. Double tail without dorsal fin
  - Lionhead
  - Ranchu
  - Bubble Eye
  - Celestial

There are several additional fish which could fit into these categories, such as Tosakin and Wakin, but these were not considered plentiful enough to recognize as a separate breed at that time. The GFSA will most likely consider the addition of new varieties as their popularity increases.

Future articles will deal with each variety, and will present line drawings, commissioned by Merlin Cunliffe for the GFSA, to illustrate the breed characteristics. In addition, pictures of fish which have appeared at fish shows across the country will be used to illustrate breed characteristics.

A general understanding of goldfish characteristics is helpful, before a detailed discussion of breed varieties is started. Listed below are basic goldfish characteristics, along with a line drawing of goldfish anatomy provided by Merlin Cunliffe.

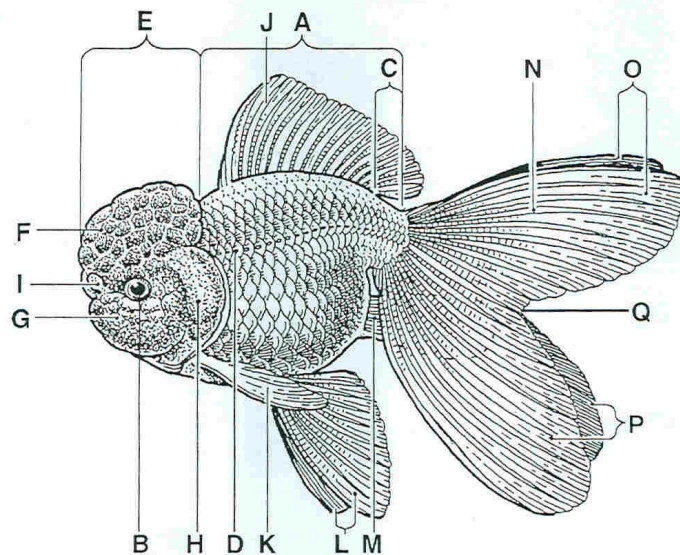
1. Scallation – Three basic types of scalation occur in goldfish: metallic, matte, and nacreous.
  - a. Metallic – Has a shiny, reflective appearance, much like a metal object, hence the name metallic. The shiny appearance is caused by the presence of guanine in the scale.
  - b. Matte – Scales which lack the reflective guanine layer, leading to a dull or non-reflective appearance.
  - c. Nacreous – A scale type which combines characteristics of the metallic and matte scale patterns, often in random proportions, causing a mixture of reflective and non-reflective scales on a fish.
2. Colors – Goldfish come in a number of distinct colors, including combinations of colors. Common goldfish colors include the following: red, orange, white, black, blue, chocolate brown, yellow, red and white, black and red, black red and white, calico (a combination of colors usually including red, white, black and blue).
3. Eyes – Goldfish have several different eye-types, as follows:
  - a. Normal eye types
  - b. Telescope eyes – eyes which are mounted atop a cone-shaped protrusion on either side of the head.
  - c. Celestial eyes – Similar to a telescope-eyed goldfish, but the eyes are pointing upward at the end of the “telescope” feature
  - d. Bubble Eyes – the eyes of a bubble-eyed goldfish are actually considered of the normal type. The distinguishing feature of this fish is the large, fluid-filled sack which forms on each side of the face, directly underneath the eye of the fish.
4. Tail types – Goldfish have a great deal of variation in the caudal or tail fin, as outlined below.

- a. Single tail – The most common form of tail type, which is moderately forked, and rounded at the edges.
  - b. Comet tail – longer than the single tail variety (about 2 – 3 times longer), with a marked forking, and pointed tail tips.
  - c. Shubunkin tail type (primarily in the Bristol Shubunkin) – a long tail, similar in size to the comet tail type, but having rounded tail edges, which tend to flare out the at tail edge, causing the tail to look more full than that of the comet.
  - d. Double tail – a tail which has two distinct components or lobes, and which is not joined along 2/3rds of its length, and which has rounded tail edges. The size of the double tail can range from 2/3rds the length of the body to double the length of the body, depending on the goldfish variety.
  - e. Lionhead or Ranchu tail – Similar to the double tail, but forking is permissible. Generally speaking the double tail of the Ranchu or Lionhead is ¼ to 3/8 the length of the body.
  - f. Tosakin tail a variation on the double tail, where the tail is not only joined, but is rounded at the edges, producing a curlicue-type appearance in the tail of the fish.
  - g. Jikin tail – Similar in appearance to the Rancho or Lionhead tail, but forming an “X” shape when looked at from behind, due to the angle at which the tail is joined to the caudal peduncle.
  - h. Veiltail – A modification of the double tail variety, whereby the tail is 2-1/2 to 3 times the body length of the fish, and where the forking is non-existent, producing a tail with a straight edge, hence the name “veil” tail.
5. Head Growth – Some varieties of goldfish, including the Oranda, Lionhead, and Ranchu have a growth on the head known as a “wen.” This growth looks like a raspberry, and causes a distinct appearance, similar to a lion’s mane, when viewed on the fish. Several varieties of head growth are recognized.
- a. Goose head – growth limited primarily to the top of the head, with little or no “wen” occurring on the cheeks or opercula.
  - b. Tiger head – head growth which appears on the top of the head and on the cheeks of the fish.
  - c. Lionhead – Full head growth, which appears on the top of the head, cheeks, and opercula.
6. Dorsal fin characteristics – the fin located on the back of the fish is known as the dorsal fin. In some varieties (Ranchu, Lionhead, Celestial, and Bubbleeye), the dorsal fin is not present. The dorsal-less varieties can be further sub-divided into the Ranchu and Lionhead type of back profile.

- a. In the Ranchu type back profile, the back is gently arched, until it reaches the caudal peduncle, when it sharply angles downward and meets the tail at a 45 degree angle.
  - b. In the Lionhead type back profile (which is also shared with the Celestial and Bubbleye), the back is much straighter than that of the Ranchu, and joins the tail at an angle that is much less severe than in the Ranchu-type tail.
7. Other growth characteristics of goldfish. Goldfish have been selectively bred for growth characteristics over the centuries. A partial listing of these characteristics appears below.
- a. Narial bouquets – a tuft-like series of growth appearing on the narial area (nose) of the fish, which in fully developed specimens resembles a cheerleader’s pom-pom.
  - b. Pearlscale – an encrustation on each scale of the fish, causing the scale to appear to have a miniature dome in the center. In the best specimens, the pearling occurs over the body of the fish, and wraps around the entire fish completely.
  - c. Out-turned operculum – a fish with the gill-plates turned-over, so that the gills are revealed.
8. Body shape characteristics – Body shape characteristics are varied among goldfish types, and are difficult to succinctly categorize, since body shapes can vary within the same variety (as an example, and Oranda may have a fantail or Veiltail body conformation).
- a. Streamlined body shape – this shape is found on the common goldfish, Shubunkin, and Comet varieties. It is the basic torpedo shape common to most types of fish.
  - b. Fantail shape – This body shape is more egg-like, and produces a rounded profile in the fish. This body type is commonly seen in the fantail, some varieties of telescope, some Oranda bodies (especially on the Red Cap), some Pearlscales, and on the celestial and bubble-eye.
  - c. Veiltail body type – this body type is similar to that of the Ryukin, without the hump on the back. It is more rounded than that of the fantail, and the body depth is approximately  $\frac{1}{4}$  to  $\frac{1}{3}$  deeper than that of the traditional fantail. This body type is found on some Telescopes, some Orandas, Pearlscale, Veiltails, and some ribbon tails.
  - d. Lionhead or Ranchu body type – A very rounded body type, with a depth that is  $\frac{1}{4}$  to  $\frac{1}{3}$  greater than that of the Veiltail variety. The

body appears chunky. Especially in the area of the caudal peduncle, which does not flare out to meet the tail as on most fish, but looks more like a part of the body.

## Goldfish Anatomy



- |                                  |                            |
|----------------------------------|----------------------------|
| A - Body                         | J - Dorsal Fin             |
| B - Eye                          | K - Pectoral Fins          |
| C - Caudal Peduncle              | L - Pelvic or Ventral Fins |
| D - Lateral Line                 | M - Anal Fins              |
| E - Head                         | N - Caudal Fins            |
| F - Cranial Region (of head)     | O - Upper Caudal Lobes     |
| G - Sub Orbital Region (of head) | P - Lower Caudal Lobes     |
| H - Operculum                    | Q - Fork                   |
| I - Nasal Septum                 |                            |