Bubble Nesting Behavior Behind Local Wisdom of Rearing Siamese Fighting Fish by Utilizing Dry Leaves

Chintavalakorn, Touchakorn

Triamchanchai, Puvanat

Siamese fighting fish or Betta species is a splendidly colored fish commercially indigenous to Thailand. There are many betta species around the world, which results in great examples of biodiversity. Thai folk wisdom suggests using some kinds of dry leaves for fighting fish rearing for particular reasons. It has been told that such dry leaves combined with the water in which the fish lived can improve their health and coloration. However, scientific explanations of these practices are still missing. Therefore, this research investigates the effects of dry leaves on water quality, and thus the fish's coloration and the fish's ability to build bubble nests through experiments. Three kinds of dry leaves that are commonly used in betta rearing, such as Indian almond, banana, and teak have been chosen. Five species of Siamese fighting fish are B.splendens, B.smaragdina, B.mahachaiensis, B.siamorientalis, and B.imbelles. The investigations of the effects of each leaf lying in the water in which the fish lived on each species were conducted. Water quality was measured as the dissolved oxygen (DO) and the pH. Their correlations with the quantity and quality of the bubble nests were studied. The bubble nests' quantity was measured through the calculation of their area on the surface of the water, and their quality through their strength using our experimental setup. The investigation of their protein types also help explain these effects. It is expected that the knowledge derived from this research can explain Thai folk wisdom's practices on the siamese fighting fish rearing, their color changing and bubble nesting behavior.

Awards Won: