Title : The Effects of Dietary Supplementation with Fan-shaped Jelly Fungus (*Dacryopinax spathularia*) on Color Intensity, Growth Performance and Reproductive Development of *Betta splendens*

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ABSTRACT

Siamese fighting fish (*Betta splendens*) is one of the most popular freshwater ornamental fish in the world, which is renowned for their vibrant colors, diverse tail shape and fighting ability. Fan-shaped jelly fungus (*Dacryopinax spathularia*), a significant edible source of protein, vitamins, and high levels of carotenoids, is commercially cultivated for usage as an additive in the food industry with potential applications in animal feed for color enhancement. This study aimed to investigate the effects of dietary supplementation with *D. spathularia* on coloration, growth performance and reproductive development of *B. splendens*. A total of 30 Siamese fighting fish (15 males and 15 females), divided into 3 groups (control group, 5% fungus diet group, and 10% fungus diet group), were reared and fed once a day with *D. spathularia* supplemented diets for 10 weeks. Body weight, body length, tail length, color intensity (RGB: Red, Green, Blue), visceral organ weight, ovary weight, and water quality were recorded and analyzed. According to results of this experiment, it revealed that tail length, body weight and visceral weight were increased significantly only in female with the highest number in 5% fungus fed group. While no significant differences were recognized in body length, visceral organ weight in the same sex of different groups. Regarding coloration, each group exhibited different levels of dominance in Red (R), Green (G), and Blue (B)

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intensities on both the body and tail. In body part, red color intensity has the highest number in 10% fungus fed males, while the blue and green color intensities have the highest number in control males. In caudal part, red and green color intensity are the highest in 10% fungus fed females, whereas Furthermore, blue color intensity is the highest in 5% fungus fed males. The addition of *D. spathularia* into the diets did not cause adverse effects on water quality. These findings suggest that supplementation of *Dacryopinax spathularia* influences the development of color intensity and growth performance in *Betta splendens*.

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