



SİVAS KANGAL THERMAL SPRING AND ENVIRONMENTAL FUNCTIONS

(Sivas, Turkey)

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INTRODUCTION

Balıkli Thermal Spring is located in the Hamam Creek valley, 90 km away from Sivas City, and 13 km from the Kangal district. Pools were built on the thermal spring water coming from underground. The pH of the spring water is about 7.2 and has isothermal characteristics and its temperature changes between 35°C and 37°C throughout the year. Thousands of fish living where the water of Balıklı Thermal Spring and Topardıç Creek mix, are also known as doctor fish. These thousands of fish, living in water increase the contact of the skin with the spa water by eating acne and scabs. It is known that the spa, which has positive effects on rheumatism, fractures, and dislocations, and nerve, skin, and kidney diseases, is especially good for psoriasis. In order to obtain positive results from these treatments, it is necessary to enter the pool for eight hours, two sessions a day, for three weeks, and also drinking a few glasses of healing water on an empty stomach in the morning. The treatments applied have no side effects and no medication is used.

DISCOVERY OF THE THERMAL SPRING

Balıkli Thermal Spring was a reed area until 1917. When a shepherd with a wound on his foot was grazing animals, his feet healed if he came into contact with the water in that area. This situation attracted the attention of the people living in the region. The water of this hot stream, where fish lived, was used and primitive pools were first built. In 1960, Sivas Special Provincial Administration built facilities by the conditions of that period. In 1983, a journalist reported that it was good for psoriasis, and after this news, the spa became world-famous.

TREATMENT METHOD

Patients coming from many parts of the world for the treatment of their illnesses are cured by the treatment of fish and spa water. *Cyprinion macrostomus* and *Garra rufa* from the Cyprinidae family, known as Doctor Fishes which have a size of 2-10 cm in length, can examine the patient as a doctor as soon as the patient enters the water, and after diagnosing the disease, they start treatment and the traces after the treatment disappear (Ergüven et al., 2017). Before the fish start treatment, selenium, which is one gram per liter in the water of the spa, softens the skin. Doctor fish treat the areas with this softening skin disease by throwing tiny bumps. The wounds softened by these tiny movements of the fish start with a slight tickling effect and provide treatment with a cure for 21 days after getting used to. It has been found that hot spring water is beneficial in psoriasis, rheumatic diseases, neurological, orthopedic, and traumatological sequelae, gynecological problems, skin diseases, kidney stones (by drinking), and psychosomatic disorders. During the treatment, there are open and closed pools for women and men at the spa. Studies conducted on the subject for 20 years show that patients who use a 21-day cure have clinically improved.



The Doctor Fish



Treatment Process of Doctor Fish



Examinations of Fish for Diagnosis to Treat the Sick Areas



Using the Doctor Fish for Treatment of Psoriasis

SOME FEATURES OF DOCTOR FISH

- Doctor fish have poikilothermic creatures whose hematological parameters are observed to change as a result of environmental factors such as bacteria, parasites, water temperature, oxygen content, pH, and they also change with the effect of climatic-seasonal changes.
- The length and weight of the fish vary.
- When comparing the fish in the pool in summer and winter seasons there are no statistical differences in RBC, Hb, Hct, MCV, MCH, MCHC, WBC, lymphocyte, monocyte, neutrophil, eosinophil and phagocytic activity levels (Duman and Şahan, 2014).

CONCLUSION

In conclusion, investigations on the treatment effects of doctor fish should be deepened, deficiencies identified, addressed in detail, and doctor fish should be brought to their deserved place as a source of alternative medicine.

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