

**Potential use of the skin of *Canthidermis maculata* (Bloch, 1786) as a value added product — A preliminary investigation for a cheaper and greener method**

S.S.Williams, D.H.N. Munasinghe\*

*Department of Zoology, University of Ruhuna, Matara, Sri Lanka*

Trigger fish, *C. maculata* is available in markets as a result of by-catch of tuna fishery industry. It possesses a unique rough skin which is removed while processing the fish. The aim of the current study was to investigate a cheap and easy method to treat the skin of *C. maculata* in order to use as a value added product. Traditionally used solutions for depigmentation and removing scales (i.e. mixture of Na<sub>2</sub>S and Ca(OH)<sub>2</sub>) was used and was not able to treat *C. maculata* skin. Therefore, this procedure was modified to treat the skin with scales. Depigmentation was carried out using 4% (based on weight of the skin) Na<sub>2</sub>S and it was able to create the patchy appearance on the skin samples. Two treatments were conducted to improve the quality of the samples. For treatment I, samples were immersed (1g per 1ml) for 3 days separately in fat liquoring agents such as pure coconut oil, castor oil and two prepared fat liquoring agents based on coconut and castor oils (oil + H<sub>2</sub>SO<sub>4</sub>, H<sub>3</sub>PO<sub>4</sub> + NaCl + NaOH). As treatment II, samples were immersed in egg yolk (5g per 1ml) for 10 minutes. According to the results, egg yolk was identified as the more appropriate agent, which improves the flexibility of the skin samples within the minimum time duration of 10 minutes compared to others. A colorless varnish layer was applied on treated skin samples to improve the appearance and the water proofing ability. All treated skin samples were kept in the room temperature for six months to observe the changes occurred. It was observed that the skin samples treated with Na<sub>2</sub>S and egg yolk were able to maintain its improved quality compared to others. A sample with 50 g weight was produced at the rate of 5/= LKR and it was used to prepare products of wallets, folders, part of shoes etc. Further improvements of samples are suggested using advanced technology. This cheaper and greener method could be used as an additional income source by practicing as a house hold industry.

*Keywords: Canthidermis maculata, Skin, Texture, Value addition, Na<sub>2</sub> S, Egg Yolk*