First description of a digenean trematode associated with dusky grouper dermatitis (DGD) lesions in *Epinephelus marginatus* (Lowe) from Libyan waters

Jamila Rizgalla[1*], Andrew P. Shinn[1], Hugh W. Ferguson[2], Giuseppe Paladini[1], James E. Bron[1]

[1] Institute of Aquaculture, School of Natural Sciences University of Stirling, Stirling, FK9 4LA, United Kingdom; [2]Marine Medicine Programme, School of Veterinary Medicine, St. George's University, Grenada, West Indies.

*jamilarizgalla@gmail.com

Eggs and adults of a digenetic trematode were found in close association with "dusky grouper dermatitis (DGD)" lesions affecting the wild population of dusky grouper *Epinephelus marginatus* in the coastal waters of Libya. Histological evaluation of lesions found gravid hermaphroditic digeneans (ca. 1,500-2,000 µm long), within dermal blood vessels. The digeneans, based on their morphology, were subsequently assigned to the Aporocotylidae Odhner, 1912 (Platyhelminthes: Trematoda). Eggs (ca. 20-37 µm long), with embryos at various stages of development, from homogenous embryos *in utero* to fully developed miracidia, were found located within the dermis and epidermis. Evidence suggests their passage through host tissues is facilitated by the host's inflammatory response - migrating from the dermal blood vessels to the dermis and then the epidermis, whereon the miracidia hatch and are released into the external aquatic environment. Alternatively, eggs are conveyed with the natural turnover of epidermal cells. The host's inflammatory process involves the recruitment of eosinophils to the sites of infection and their degranulation in close proximity to eggs situated within blood vessels. Although blood flukes are recorded from the blood vascular system of serranids (Epinephelinae), this is the first record of a aporocotylid digenean occupying the cutaneous blood vessels of a piscine host.