

1 STRIPED TRUMPETER RESPONSE TO THE INFECTION WITH CHONDRACANTHID COPEPOD

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14 The chondracanthid copepod, *Chondracanthus goldsmidi* Tang, Andrews & Cobcroft, 2007,  
15 was recently identified as an ectoparasite on gills, inner opercula and in nasal cavities of cultured  
16 striped trumpeter, *Latris lineata* (Forster), and is the first member of this genus known to parasitise a  
17 cultured host. While often present in high numbers (up to 60 parasites per host), little is known about  
18 its effect on striped trumpeter. Adult *C. goldsmidi* was associated with extensive epithelial hyperplasia  
19 and necrosis. Pathological changes were most pronounced near the parasite's attachment site, with  
20 papilloma-like growths surrounding the entire parasite resulting in deformation of the filament. Mast  
21 cells were absent in healthy gills, in contrast numerous mast cells were identified in the papilloma-like  
22 growths. The number of mucous cells increased near the parasite attachment sites on both the  
23 opercula and gills. A significant up-regulation of three pro-inflammatory cytokines, TNF- $\alpha$ ,  
24 IL-1 $\beta$  and IL-8 was found in the gills. Examination of head kidney cells revealed a  
25 significant up-regulation of TNF- $\alpha$ , but not IL-1 $\beta$  or IL-8. Conversely, the spleen cells  
26 showed significant up-regulation of both IL-1 $\beta$  and IL-8, but not TNF- $\alpha$ . These findings  
27 allow for more detailed investigation of the striped trumpeter immune response, in addition to  
28 providing insight into possible mitigation strategies for large scale infestation of *C. goldsmidi*  
29 on commercially cultured striped trumpeter.

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