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**ABSTRACT
BOOK**



A retrospective histopathological study of disease in marine ornamental fish

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This retrospective histopathological study reviews diseases of marine ornamental fish submitted by clinicians from public aquaria or from private practices to the Veterinary Pathology laboratory at the University of Camerino between 2012 and 2024. A total of 416 fish belonging to 158 different species (381 teleosts and 35 elasmobranchs) were examined. *Hippocampus* was the most commonly submitted genus (29 cases). Case materials included formalin-fixed fish or tissues. Tissues were routinely processed, sectioned at 5 microns, and stained with hematoxylin and eosin (HE). Select tissues were stained with the following special stains: Ziehl-Neelsen (ZN), Fite's acid fast (AF), periodic acid-Schiff (PAS), Brown and Brenn (B&B), Giemsa and Gomori methenamine silver (GMS). Immunohistochemical staining or polymerase chain reaction testing was performed when attempting to identify infectious agents. Based on the morphological and etiological diagnoses obtained from case reports, the cases were classified into different disease groups as: inflammatory/infectious, inflammatory/non infectious, regressive (degenerative, metabolic), vascular and neoplastic. Inflammatory/infectious disease was the most frequently diagnosed pathological process (74%). The predominant etiological agents were bacteria, with a large prevalence of Gram-negative bacteria frequently causing sepsis, branchitis, enteritis and mycobacteria causing variably organized granulomas localized to one or more organs. Histological lesions consistent with megalocytivirus infection were pointed out in two cases of fish died during the quarantine period confirmed by real-time PCR analysis. The most commonly encountered parasitic diseases were cryptocaryoniasis and scuticociliatosis, both corresponding to 22% of the diagnosed parasitic diseases. In order of frequency, infectious diseases were followed by regressive/degenerative processes (17%) and noninfectious inflammatory processes (14%). Noteworthy was the presence of multiple pathological processes in the same case: in 12% of cases a condition of comorbidity was observed. In 52% of the cases in which the co-presence of more than one infection was observed, one of the etiological agents was *Mycobacterium* spp.

