



Dynamic of Nematode parasite populations in Catfish *Clarias anguillaris* (Clariidae) from N'Denou-Bandama river, Côte d'Ivoire

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ABSTRACT

Objective: The African catfish *Clarias anguillaris* is a strategic species for aquaculture due to its rapid growth, tolerance to harsh environmental conditions, and socio-economic importance in food security. However, its performance can be affected by Nematode parasite infestations. In the Bandama River at N'Denou, where water quality is severely degraded by anthropogenic activities, no parasitological study had previously been conducted. The objective of this study was to inventory the Nematode parasites of *C. anguillaris*, identify their attachment sites, and assess the influence of season and host sex on infestation levels.

Methodology and Results: From April 2024 to March 2025, a total of 560 specimens were collected using gill nets. Parasites were identified following standard procedures, and statistical analyses (Chi-square (X^2), Mann-Whitney (U) and Kruskal-Wallis (K) tests) were performed to compare infestation levels. Nine (9) Nematode species were recorded : *Paracamallanus cyathopharynx*, *Procamallanus laeviconchus*, *Contracaecum* sp., *Falcaustra petrei*, *Rhabdochona congolensis*, *Spirocamallanus spiralis*, *Brevimulticaecum heterotis*, *Camallanus polypteri*, and *Anisakis* sp. The highest prevalence (P) and mean intensity (MI) values were observed in the intestine, particularly for *P. cyathopharynx* (P = 78.04% ; MI = 16.17±1.02) and *P. laeviconchus* (P = 74.11% ; MI = 14.25±1.01). During the dry season, maximum values were recorded for *P. cyathopharynx* (P = 97.92% ; MI = 23.32± 2.2), *P. laeviconchus* (P = 91.84% ; MI = 23.38±2.1), and *F. petrei* (P = 85.11% ; MI = 19.39±1.7). Females were generally more heavily infested, whereas certain species were more prevalent in males.

Conclusion and Application of results: These findings provide a scientific basis for implementing seasonal parasite monitoring programs, improving water quality management, and adopting prophylactic measures in aquaculture, thereby contributing to the sustainable management of the species.

Keywords : *Clarias anguillaris*, Nematode, Parasite, Infestation, Bandama river, Côte d'Ivoire