HW-34. Parasite burden in dolphins: insights into Anisakis prevalence and egg output in the marine environment – a study from Galicia

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Nematodes of the genus *Anisakis* pose a significant hazard to human health and also impact marine ecosystems through their complex life cycle, which involves the transfer of eggs and larvae via the marine food web. This study, based on samples provided by the Galician stranding network (CEMMA), examined the digestive tract of twenty six common dolphins (*Delphinus delphis*) and four bottlenose dolphins (*Tursiops truncatus*) in 2024 to collect data on the abundance of larval, adult *Anisakis* numbers, and the concentration of *Anisakis* eggs along the intestinal tract, including in the final segment, which represents fecal output into the marine environment. Our findings revealed a high prevalence of *Anisakis*, with 86.7% of dolphins infested (24/26 common dolphins and 2/4 bottlenose dolphins). Most parasites were larvae, with an average of 1,553 larvae and 244 adults per stomach. There was a weak positive correlation between common dolphins length and number of *Anisakis* found in the digestive tract (Pearson's linear correlation: r = 0.52), which may be due to the limited sample size (n = 26). Adult nematodes were predominantly female, with a female-to-male ratio of 1.8:1. Egg concentration, per gram, increased progressively along the intestinal tract towards the colon, peaking in the final portion (p = 0.0048). Based on the egg concentration and the likely rate of throughput of faeces, we estimated that a single common dolphin can release up to 40,453,662 eggs per day into the marine environment. Considering the high fecal output of *Anisakis* eggs observed in this study, and the potential for these eggs to survive a few months in marine environments, our results underscore the critical need for further research into the ecological impacts of this parasite on marine biodiversity and its implications for human health.