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Ultrastructure of Coccidian *Eimeria isabellae* Lom and Dyková (Eimeriidae, Protozoa) in *Conger conger* L.

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Abstract: Life cycle stages of *Eimeria isabellae* in the naturally-infected teleost fish, *Conger conger* L., from the French Mediterranean coastal region of Languedoc-Roussillon (Banyuls-sur-mer, Grau du Roi and Sète) was studied by light and electron microscopy. Eighteen infected individual fish were examined and found with developmental stages of the parasite in the intestine epithelium. Merogonial, gamogonial and sporogonial stages were found both localized intracellularly and epicellulary in the microvillus region of enterocytes. They were separated from the intestinal lumen by closely spaced enterocyte and parasitophore vacuole membranes with several zones of attachment to the host cell. First generation merozoites were formed by ectomerogony. Macrogamonts contained lipid inclusions, amylopectin and dense granules. The study revealed the presence of *Eimeria isabellae* coccidia in the epithelium of the midgut with an infestation rate of 18 European conger (*Conger conger*) out of 31 fish sampled. Ultrastructure study of *Eimeria isabellae* has demonstrated the intra-cytoplasmic nature of the infestation and confirmed the coccidia belonged to the Eimeriidae group. Of particular interest were the relationships between the different intracellular stages and their host cell. Formation of a parasitophorous vacuole and various histopathological and biological aspects are discussed in this study.

Keywords: *Eimeria isabellae,* Coccidian, Parasite, Ultrastructure, Life cycle