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Dynamics of pigment degradation by the copepodite stage of *Pseudodiaptomus euryhalinus* feeding of *Tetraselmis suecica*

José J. Bustillos Guzmán, D. Lopez Crotez, Eloisa Matus Nivón & F. Hernandez

Short-term (3 h) changes in concentration of chlorophylls and their derivatives in stage V *Pseudodiaptomus euryhalinus* and their fecal material were followed by HPLC during a 24 h experiment. Copepodites were fed with the prasinophyte *Tetraselmis suecica*. Intact chlorophyll a and b were found in animals and fecal material and had similar dynamics of accumulation over time. The extent of transformation of chlorophyll a and b to colorless compounds was different with chlorophyll a being more extensively degraded. Additionally, several chlorophyll derivatives (pheophytin and pyropheophytin-like pigments) were found. Pyropheophytin a was the most abundant followed by pheophytin b, pheophytin a, and pheophorbide a. Relative amounts of pheopigments were different in copepodites and fecal material, and pheophytin a, pheophorbide a, and pheophytin b concentrations were low and variable. The amount of ingested chlorophyll recovered as chlorophyll a and its derivatives in fecal and copepodite pools was generally low (<5%), with one exception occurring after 9 h, when it accounted for >70%. These data suggest individual pheopigments are produced at different rates and that chemical or enzymatic mechanisms in the gut of copepodites act on the two chlorophylls in different ways.

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