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Evaluation of protein synthetases activity as a proxy for zooplankton biomass and production rate using cultured copepod population, *Pseudodiaptomus inopinus*

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Back ground

Contemporary methods

- Time consuming
- Inapplicable to wide taxonomic groups

Biochemical approaches

- ✓Simple and quick procedures
- ✓Wide application to various groups
- ✓Highly spatial and temporal resolutions

Comparisons and validation of the biochemical proxies to the estimates with the traditional methods are necessary.

Objectives

I. Compare protein synthetases activity (AARS: aminoacyl tRNA synthetases activity) to biomass and production rates using the cultured copepod population.

II. Evaluate the applicability of AARS activity to natural population and community.

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Results

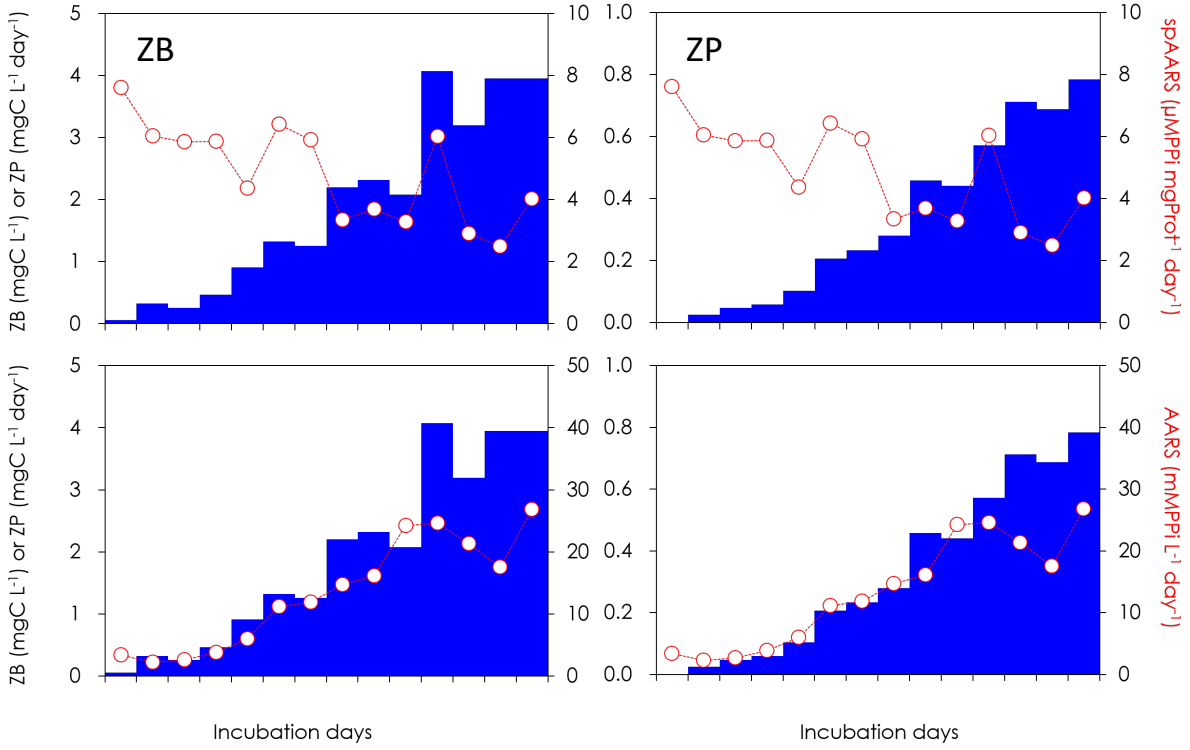

Fig. 3. Temporal changes of population production rates (ZP: column), protein-specific AARS (spAARS: circles in upper panels), and total AARS (circles in lower panels) for *P. inopinus* during the incubation days.

- Protein-specific AARS activity is likely representative to **growth potential** for zooplankton biomass and productivity.
- Total AARS activity can be a **proxy** for them and applicable to natural population and community.

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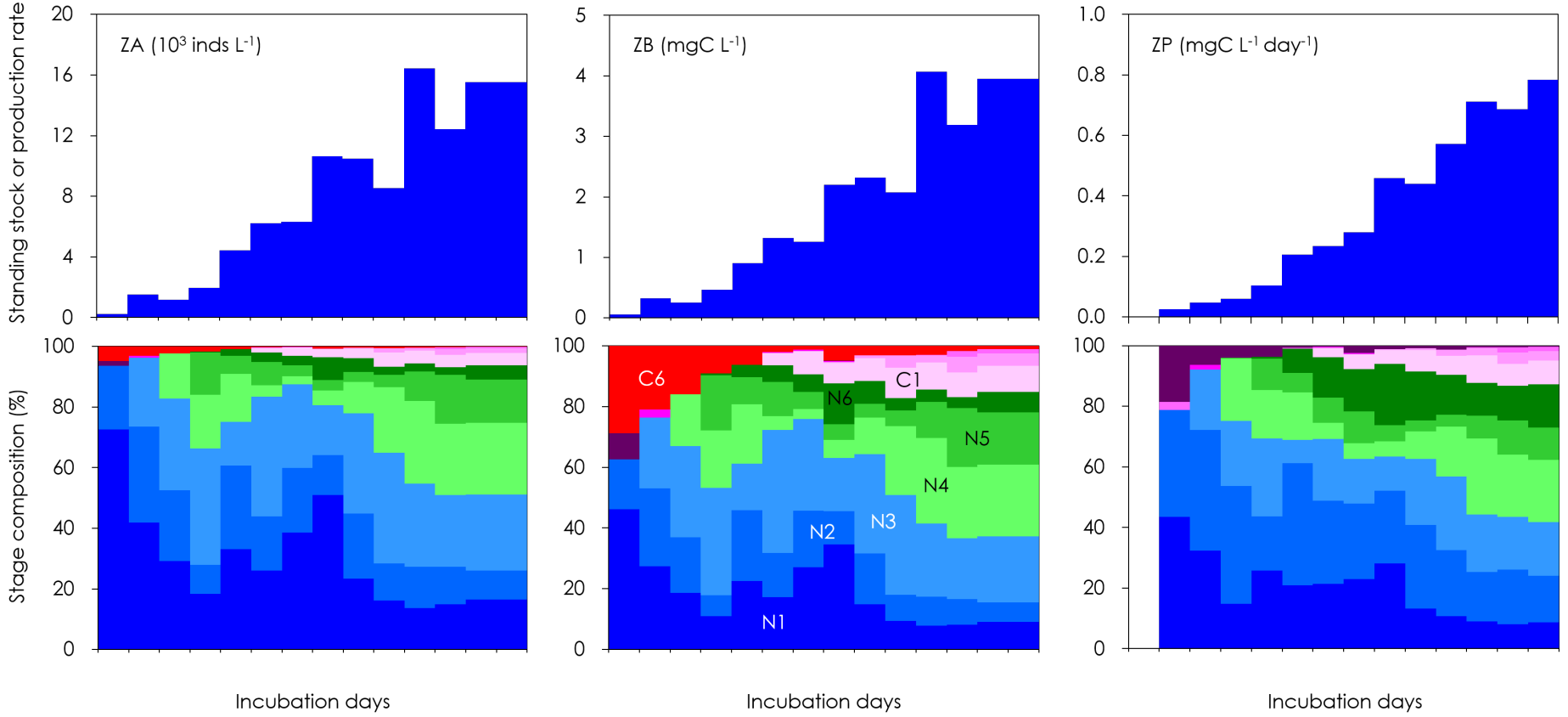

Fig. 2. Temporal changes of population abundance (ZA: left), biomass (ZB: middle), production rate (ZP: right) and their stage compositions for *P. inopinus* during the incubation days.