



Feeding selection of Metazoan zooplankton by *Protosalanx chinensis* in Dalong Lake in spring



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Introduction

In the spring of 2021 (April to June), this study analyzed the feeding habits of *Protosalanx chinensis* in Dalong Lake, Heilongjiang Province. This paper reveals several interesting trends in the feeding of *Protosalanx chinensis* in spring, and discusses for the first time the selectivity of the diet for zooplankton before the change of the feeding habits of *Protosalanx chinensis*, which provides important basic data for the feeding demand of *Protosalanx chinensis* population at the critical stage, and provides a theoretical basis for the stability of *Protosalanx chinensis* population and the sustained high yield.

Materials and methods

Zooplankton collection



Fishing



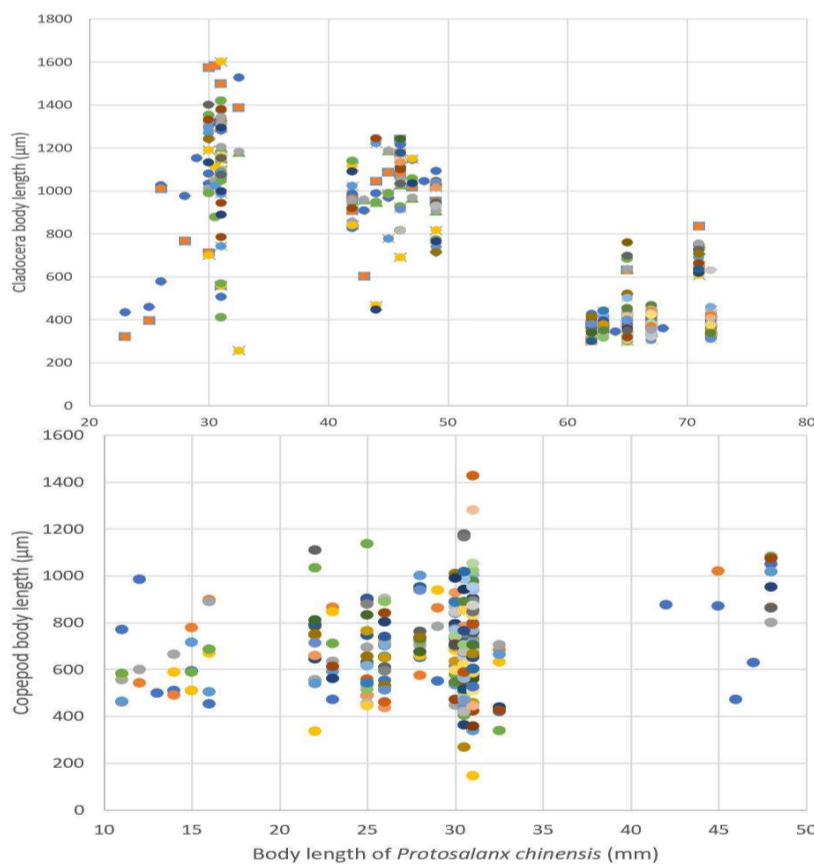
Food habit identification



Food selection analysis



Results and Summary



		Ivlev Index						
Quantity angle		200-400	400-600	600-800	800-1000	1000-1200	1200-1400	> 1400
Copepoda	Apr.	0.00	0.62	-0.25	-0.45	0.00	0.00	0.00
	May	-0.62	-0.06	0.34	0.81	0.44	-0.62	-0.62
	Early June	-1.00	-0.86	-0.24	-0.13	0.30	0.00	0.00
	Late June	-1.00	0.00	0.00	-1.00	-1.00	-1.00	0.00
Cladocera	Apr.	0.00	0.00	0.00	0.00	0.00	-1.00	-1.00
	May	-0.76	-0.04	-0.84	-0.51	0.30	0.35	0.24
	Early June	-1.00	-0.66	0.04	0.23	0.65	0.21	0.00
	Late June	0.25	0.83	0.29	-0.63	0.00	0.00	0.00
Quality angle		200-400	400-600	600-800	800-1000	1000-1200	1200-1400	> 1400
Copepoda	Apr.	0.00	0.84	0.19	0.00	0.00	0.00	0.00
	May	-0.63	-0.15	0.21	0.78	0.36	-0.68	-0.68
	Early June	-1.00	-0.90	-0.10	-0.33	0.10	0.00	0.00
	Late June	-1.00	0.00	0.00	-1.00	-1.00	-1.00	0.00
Cladocera	Apr.	0.00	0.00	0.00	0.00	0.00	-1.00	-1.00
	May	-0.79	-0.13	-0.85	-0.58	0.21	0.43	0.14
	Early June	-1.00	-0.76	-0.20	0.03	0.51	0.01	0.00
	Late June	0.37	0.87	0.23	-0.55	0.00	0.00	0.00

The results showed that *Protosalanx chinensis* mainly fed on Cladocera and copepods in spring. With the growth of *Protosalanx chinensis* in early April and June, the length of the zooplankton that preferred to feed on *Protosalanx chinensis* also increased. From April to May, *Protosalanx chinensis* mainly feeds on copepods, early June mainly feeds on Cladocera, and late June only finds Cladocera; The preference of feeding copepods to Cladocera was changed.

Discussion

- At the juvenile stage, *Protosalanx chinensis* mainly feeds on Cladocera and copepods, and the net energy income of feeding on Cladocera and copepods is relatively greater.
- Protosalanx chinensis* can feed on all large Cladocera and copepods when its body length is more than 40mm, but it can also feed on small Cladocera and copepods.
- In a period of time around June, there will be a bottleneck stage in which the growth of bait organisms cannot meet the feeding needs of *Protosalanx chinensis*, and it is necessary to catch and adjust the density of *Protosalanx chinensis* in time.