

Growth performance of the early stages of broad-nosed pipefish, *Syngnathus typhle* (L.) fed different natural diets



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Introduction

Syngnathid fish, both seahorses and pipefish, attract economic interest for their value on the ornamental fish trade. The broad-nosed pipefish *Syngnathus typhle* is a new species with good market perspectives, however, no artificial diet has yet been tested to feed this species.



On hatch

Objective

To test the influence of different live and frozen natural diets on the growth performance of the early stages of *S. typhle* life cycle.



3 month old

Experiment I



10 day old F3 *S. typhle*
108 fish (18 per tank)



Experiment II



50 day old F3 *S. typhle*
60 fish (10 per tank)



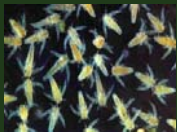
Flow through system
2x3, 10 litre tanks
18.5 ± 0.5 °C
36 ± 1 ‰
12L:12D
40 days experiment



Flow through system
2x3, 40 litre tanks
18.5 ± 0.5 °C
36 ± 1 ‰
12L:12D
60 days experiment

fed
(live)

5000 metanauplii l⁻¹ until day 20
1000 juvenile *Artemia* until day 40



20 *P. varians* larvae l⁻¹



Results

Experiment I

	<i>Artemia</i>	Shrimp
Initial weight (gr)	0.046±0.004	0.048±0.004
Final weight (gr)	0.38±0.08	0.47±0.15
Initial length (mm)	52.2±0.7	44.8±0.8
Final length (mm)	110.8±3.1	120.1±5.2
IGR	3.4±1.1	3.6±1.3
WG (%)	683.2±14.7	914.8±79.3

Experiment II

	Mysids	Shrimp
Initial weight (gr)	0.5±0.03	0.5±0.02
Final weight (gr)	3.1±0.1	3.2±0.1
Initial length (mm)	115.2±2.1	115.6±2.3
Final length (mm)	190.8±3.8	192.1±4.2
IGR	4.5±2.7	4.7±2.9
WG (%)	516.5±63.3	566±17.6
Feed Efficiency	30±1.5	28.2±1.2

fed 10% bw d⁻¹
(frozen)



Mysids
Mesopodopsis slabberi



Atlantic ditch shrimp
Palaemonetes varians

Conclusions

The adequateness of using *P. varians* larvae during the early life stages of *S. typhle* when compared with the *Artemia*.

S. typhle can be successfully weaned from live to frozen diets at 2 months of age, which result in a simplification of the species daily care.

The use of *P. varians* becomes more convenient than mysids as it has lower feeding demands, and can be successfully cultured in captivity feeding artificial diets since the early stages of its life cycle.



6 month old



6 month old