Rearing of some plankton species in laboratory conditions for fish larvae as lived feed

ABSTRACT

Rearing of some plankton species in laboratory conditions for utilization as live feed for fish larvae was conducted in 2019 at laboratory. Batch experiments were carried out in three consecutive phases. Phase I was the culture of Scenedesmus species by using Guillard's F/2 media and NPSZn fertilizer treatments. Phase II was the culture of Daphnia magna with the feed of the cultured Scenedesmus sp. and algae harvested from fishponds. Phase III was the development and survival of catfish larvae after feeding with cultured D. magna and artificial feed of boiled chicken yolk and soybean. The specific growth rate of the cultured Scenedesmus sp. was 0.28 and 0.31 per day in the experiments of NPSZn fertilizer and Guillard's F/2 media, respectively. The total biomass of the cultured algae was 144 µg/L. The abundance of cultured Daphnia sp. showed an increasing tendency with the number of days cultured. The survival rate of the African catfish larvae was 30.37%. However, the larva showed fast growth and good weight gain in a short time when fed with live Daphnia sp. compared to the artificial soybean feed. Thus, during the feeding time of Live D. magna in the laboratory, African catfish larvae grew quickly and gained a lot of weight.

Keywords:

INTRODUCTION

et al

Moina Daphnia

Ceriodaphnia
Daphnia

Moina

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Scenedesmus

Daphnia magna

MATERIALS AND METHODS

Phase I: Culture of species

Scenedesmus

Scenedesmus

Scenedesmus

Major nutrient	**Chemical formula**	**Concentration (gram/liter)**
Trace metals		

a

Phase II: Culture of *I*

D. magna

D. magna *D. magna*

Scenedesmus *D. magna*

Daphnia magna

Scenedesmus

et al

D. magna

D. magna

Phase III: Development and survival of catfish larvae

C. gariepinus

D. magna

Determination of the specific growth rate of phytoplankton

Survival and mortality rates of catfish larvae

Growth performance of fish larvae

RESULTS AND DISCUSSION

Phase I: Culture of species

et al *Scenedesmus*

D. magna

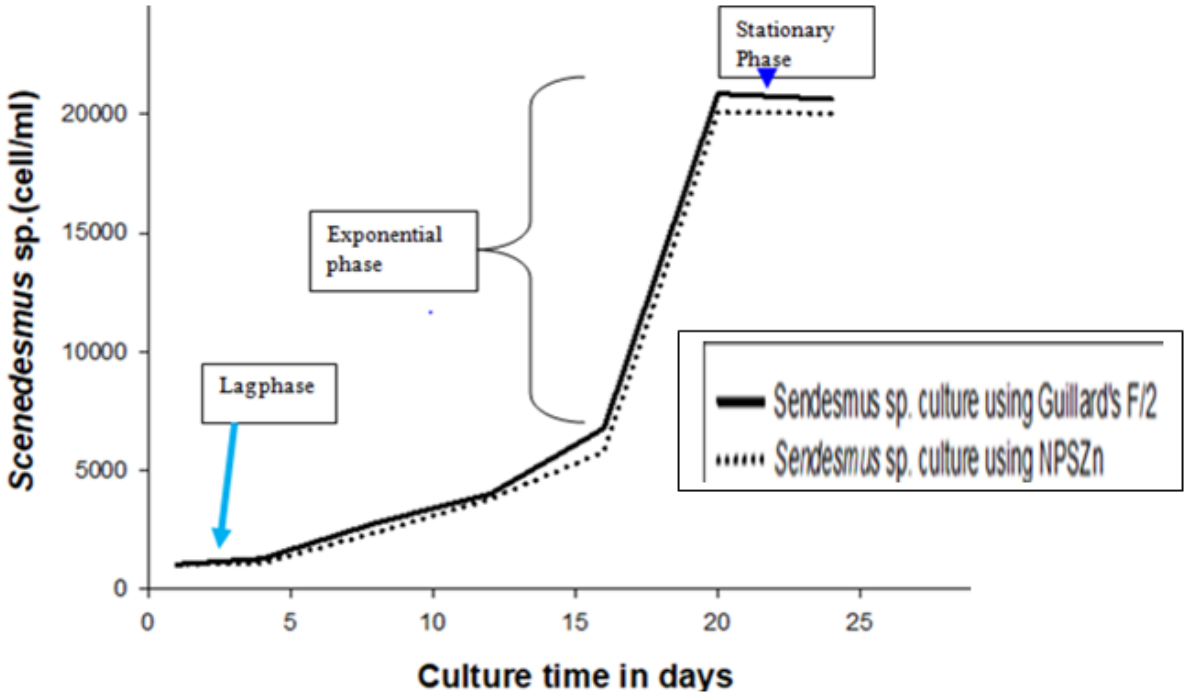
et al

Scenedesmus

et al *et al*

Scenedesmus

the D.magna



Scendesmus

Phase II: Culture of *I*

D. magna

Daphnia

magna

et al

Daphnia

Daphnia

D. magna

Daphnia

D. magna *Scendesmus*

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D. magna .

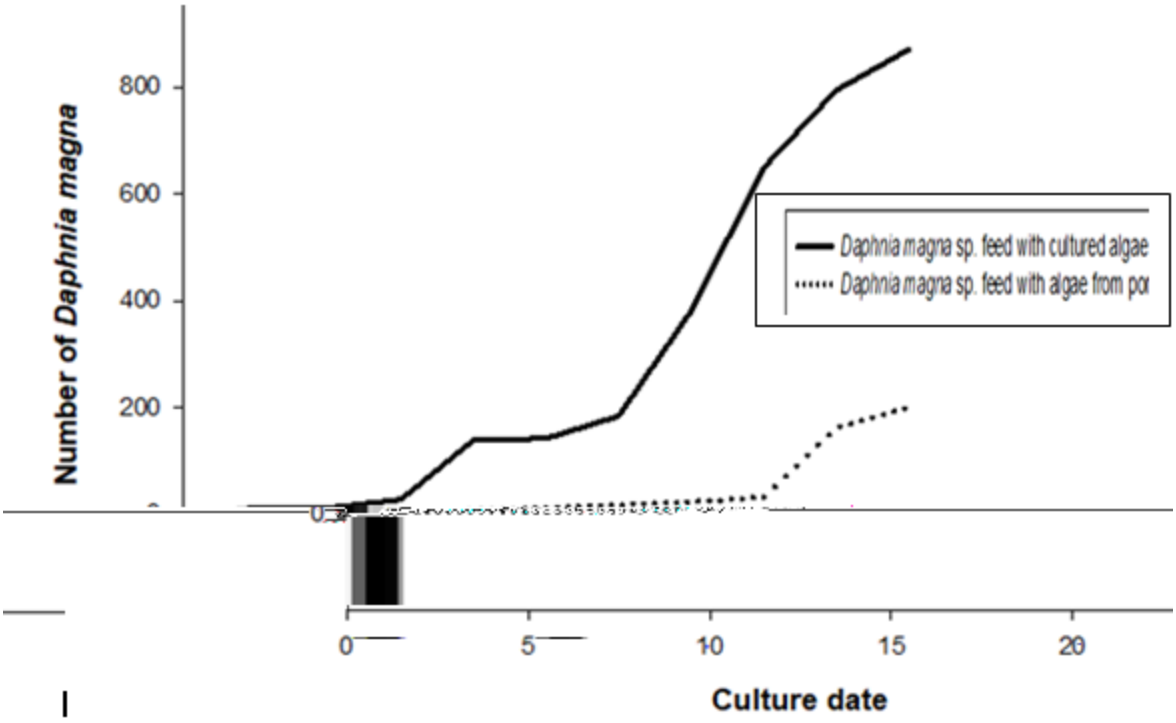
D. magna

D.

magna's

Microcystis *Anabaena*

Daphnia



Phase III: Development and survival of African catfish larvae

et al

D. magna						

D. magna *Daphnia magna*

D.
magna

D. magna *Daphnia magna*

D. magna

D.
magna

D. magna

D. magna

Clarias gariepinus

D. magna							

CONCLUSIONS AND RECOMMENDATIONS

Scenedesmus

Scenedesmus

Scenedesmus

D. magna *Daphnia*

Artemia

D. magna

D. magna

Moina

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