

*Barbus*

*Cyprinus carpio*

*sharpeyi*

\*

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*Barbus sharpeyi*

*Cyprinus carpio*

*B.sharpeyi*

56		60	% 72
	% 84		<i>C.carpio</i>
	% 57		
	<i>B. sharpeyi</i>	65	
% 81		<i>C. carpio</i>	
			62
% 90			

.(1990 )

.(2000 )

)

.(1990

(Taylar and Freebery,1984)

.(Liu *et al.*, 2000)

.(2002 )

---

Stripping

/ 120000

Zoug jars

/ 2-1

.(2000 )

.(Woynarovich and Horvath, 1980)

.(2002 )

.(Rathbard and Hulata, 1980)

Holland and Libey (1980)

Blue gill

Rothbard and Pruginin .

(1975)

(2002)

(2006)

-:

2005

*B. sharpeyi*

*C. carpio*

20000

6 - 4

100

$$100 \times \frac{\text{Mean}}{\text{Standard Deviation}} \quad \text{.(2002)}$$

$$= \%$$

Statistical

(SPSS) pakage for social science

.0.05

L.S.D

:

-:

(1)

*C. carpio*

*B. sharpeyi*

( )

(Ali *et al.*, 2005)

◦25.0 ◦ 24.8

/ 9.7 11.7

/ 0.3

1.4 1.2

/

*B. sharpeyi*

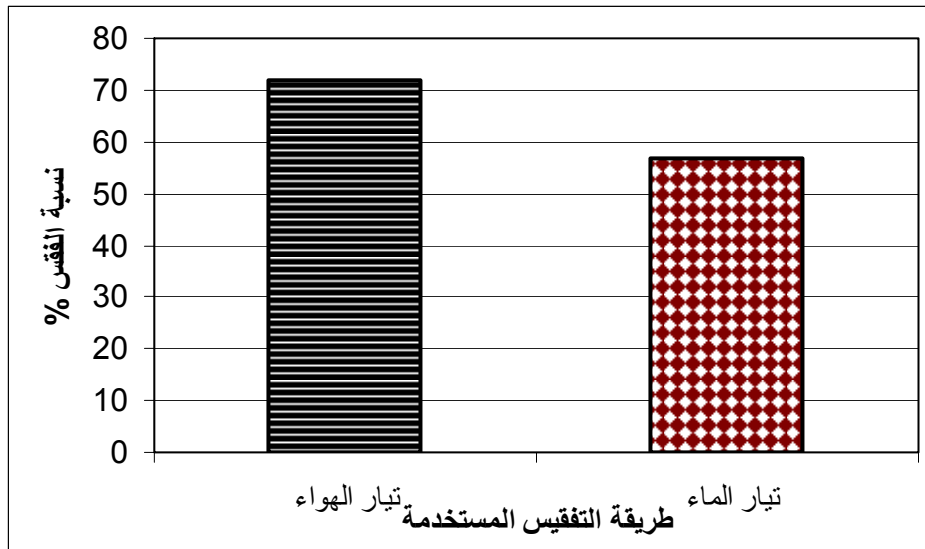
(1)

*C. carpio*

الملوحة (ملغم/ لتر)	الامونيا (ملغم/ لتر)	الأس الهيدروجيني	الأوكسجين المذاب (ملغم/ لتر)	درجة الحرارة م°	نوع المعاملة
0.4 ± 1.2	0.3 ± 0.3	0.2 ± 7.5	1.6 ± 11.7	0.5± 24.8	تيار الهواء
0.2 ± 1.4	أقل من 0.1	0.3 ± 7.6	0.4± 9.7	1 ± 25.0	نظام الماء الدوار

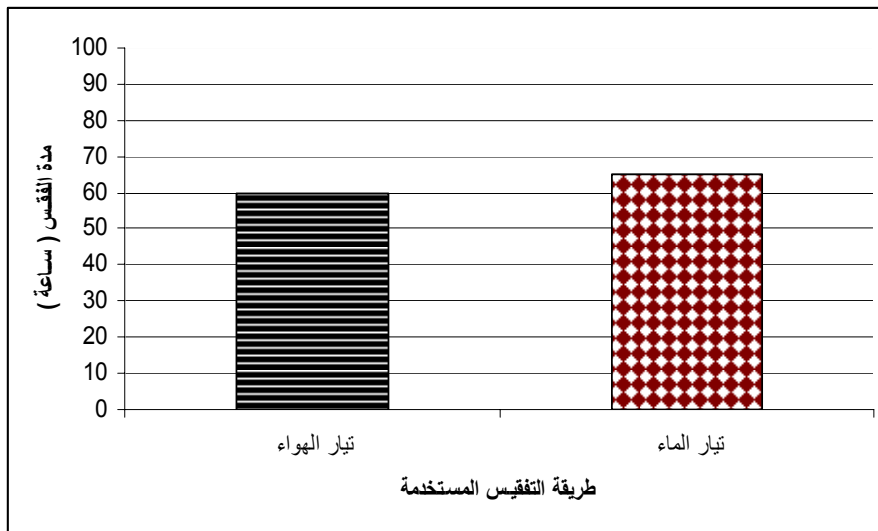
% 72	<i>B. sharpeyi</i>	
%84		60
		56
65		% 57
% 81		62
	( 4 3 2 1 )	
	(%)	( ) (2)
	<i>C. carpio</i>	<i>B.sharpeyi</i>

( )	%	( )	%	
5 ± 56 A	5 ± 84 A	4 ± 60 A	8 ± 72 A	
5 ± 62 B	6 ± 81 a	5 ± 65 B	10 ± 57 b	



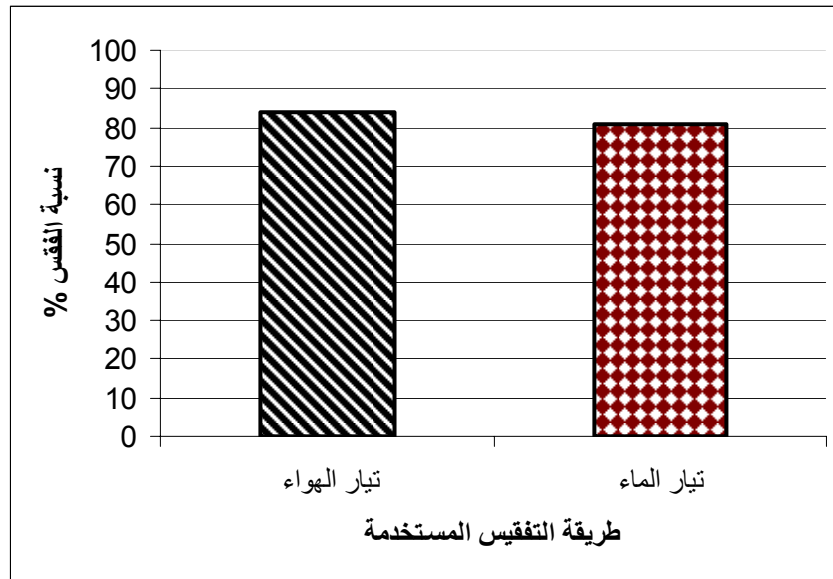
(%) *Barbus sharpeyi*

(1)



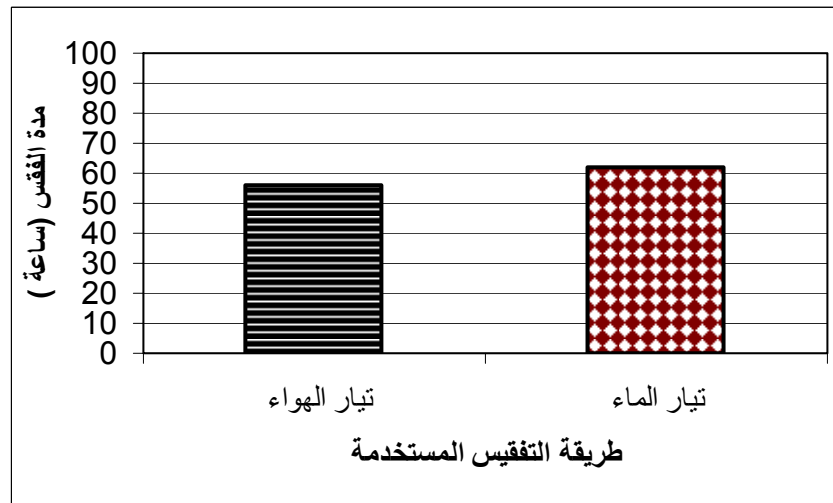
( ) *Barbus sharpeyi*

(2)



(%) *Cyprinus carpio*

(3)



( ) *Cyprinus carpio*

(4)



*B. sharpeyi*

*C. carpio*

Ali *et al.*, (2005)

600

◦ 24 – 22

(P<0.05)

*B. sharpeyi*

*C. carpio*

(P>0.05)

( P<0.05)

(Holland and Libey, 1980)

(1)

(FAO, 1985)

.(1990 )

(P>0.05)

(1998 )

.(Hussein *et al.*, 2001)

(2000 )

Ciliata

Copepods

Fungi

.(Woynarovich and Horvath, 1980)

- 
- .1990  
481
- .1990
- 391  
.2000
- 189
- .2002  
*Cyprinus carpio*  
.158 –155 :(1)7
- .1998
- Cyprinus carpio*  
.388 – 377 :(2)25  
.2006
- 88
- Ali, M.H, Al Noor, S.S. and Al Mukhtar, M.A. 2005. Enhancement of Bunnei (*Barbus sharpeyi*) stocks. Marshland restoration programs, Marine Science Center, Final report: 28 pp.
- FAO, 1985. Common carp 1- mass production of eggs and early fry. FAO training series 8, pp.87.
- Holland, L.E. and Libey, G.S. 1980. Inexpensive egg- hatching jar the progressive fish culturist, 42(2): 112.
- Hussein, S.A., Al-Daham, N.K. and Al-Dubaikal, A.Y. 2001. Oxygen consumption and ammonia excretion of fingerlings of native *Cyprinus* (*Barbus sharpeyi* and *B. xanthopterus*) compared to common carp (*Cyprinus carpio*) Marine Mesopotamica, 16(1): 115-12.
- Rothbard, S. and Hulata, G. 1980. Closed system in incubator for Cichlid eggs. The progressive Fish-cultureist, 42(4): 203 – 204.

- 
- Rothbard, S. and Pruginina, Y. 1975. Induced spawning and artificial incubation of Tilapia. *Aquaculture*. 5: 315 – 321.
- Liu, F.G., Lin, T.S., Hung, D.U., Pering, M.L. and Liao, I.C. 2000. On automated system for eggs collection, hatching and transfer of larvae in a fresh water finfish hatchery. *Aquaculture*, 182: 137 – 148.
- Taylor, W.W. and Freebery, M.H. 1984. Effect of abundance on larvae lack white fish coregonus Clupeid from is mitebill growth and survival. *J. Fish Biol.* 25: 733 – 740.
- Woyanovich, E. and Horvath, L. 1980. The artificial propagation of warm – water Finfish – A manual for extension. FAO Fisheries technical paper, 201: 183.

## THE USE OF AIR FLOW FOR HATCHINGS OF THE EGGS OF BUNNI (*Barbus sharpeyi*) AND COMMON CARP (*Cyprinus carpio*)

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### **Abstract**

Air flow and circulating water system were used in hatching eggs of Bunni (*B. sharpeyi*) and common carp (*Cyprinus carpio*). The eggs were placed in a funnel with the air and water underneath. present study showed the efficiency of this method which is better than classic method (circulation water system). The hatching percentage and hatching period of *B. sharpeyi* by using air flow were 72 % and 60 hr., respectively, while in *C. carpio* they were 84% and 56 hr. respectively. Whereas the hatchery percentage and hatching period with the use of circulating water system for *B. sharpeyi* were 57% and 65 hr., respectively, and 80 % and 62 hr. for *C. carpio*. The air flow method is characterized by reduced amount water used, lower of energy and better protection of eggs from disease, especially Fungi.