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## *Vimba vimba*

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( / / : / / : )

### *Vimba vimba*

+

( $P \leq / /$ )      % / % /      % / % /

( $P > / /$ )

·

· / ± /      / ± /

( $P \leq / /$ )

*Vimba vimba* :

...

(Abbasi, 2001 Wajdowicz, 1974 Berg, 1949)

Abbasi Berg, 1949 Coad, 1980 Abdoli, 1999)

(Abbasi, 2001 *et al.*, 2004,

(Bagenal, 1978)

(Mann, 1973)

(Copp and Kovac, 1996)

( )

(Surre *et al.* 1986)

(*Vimba vimba*)

(Cyprinidae)

%

Abdoli and Naderi, ,Berg,1949 )

(2008

(Ghaninejad *et al.*, 2000)

(Back calculation)

(Johal *et al.*, 2001)

IUCN

Conservation )

Abdoli and Naderi, )

(Dependent

( 2008 , Kiabi, *et al.*, 1999

$$L_{(t)} = \frac{S_{(t)}}{S} (L - a) + a$$

)  $S_{(t)}$   $t$   $L_{(t)}$   
 $L$   $S t$   
 Ford- Walford (  $a$   
 . SPSS ( )  
 /

.(Bagenal, 1978)

$$W = aL^b$$

$$\ln W = \ln a + b \ln L$$

.(Backiel and Zawisza, 1998)

:L :W  
:b  
:a

) ( ) Weatherly  
 .(Backiel and Zawisza, 1998) (

$$K = \frac{W * 100}{L^b}$$

L W  
b

Zar, ) ANCOVA  
 Excel .(1984  
 . SPSS

Pauly )  
 .(and Munro, 1984

$$t = \frac{sd \ln L}{sd \ln W} * \frac{|b-3|}{\sqrt{1-r^2}} * \sqrt{n-2}$$

:Sdlnw :SdlnL

:b :r  
 :n  
 n-2 t t  
 t t

.( ) (  $P > /$  ) b

t . b  
 t

...

			( )	( )
			±	±
r	a	b		
/	/	/	/ ± /	/ ± /
/	/	/	±	/ ± /
/	/	/	/ ± /	/ ±
/	/	/	/ ± /	/ ± /

$( / )$   
 $t_0$   
 $( / )$                        $( / )$                        $( / )$   
 $( / )$                        $( / )$                        $( / )$   
 $( / )$                        $( / )$

$(t_0)$	(K)	$(L_{\infty})$
/	/	/
/	/	/
/	/	/
/	/	/

$( / ) (P \leq / )$

$( / )$

/
/
/
/

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$l$	$l$	$l$
$(p \leq l)$	$(P \leq l)$	$(P \leq l)$
$(\quad)$	$(P > l)$	$(P \leq l)$
$(p \leq l)$	$(P > l)$	$(P \leq l)$
$(\quad)(p \leq l)$	$l$	$l$
$(\quad)$	$(\quad)$	$(\quad)$

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$\pm$	$\pm$	$\pm$
$l \pm l$	$l \pm l$	$l \pm l$
$(\quad)$	$(\quad)$	$(\quad)$
$l \pm l$	$l \pm l$	$l \pm l$
$(\quad)$	$(\quad)$	$(\quad)$

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Abbasi *et al.*, 2005 Rahmani, 2000)

(Rahmani and Abdoli, 2008

(2000)Rahmani

(Carlander, 1987; Beamish and McFarlane, 1983)

( $p \leq l$ )

(Tarkan *et al.*, 2005)

Rahmani, Karimpour *et al.*, 1992)

(Rahmani and Abdoli, 2008 2000

(2000) Rahmani .

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Abbasi *et al.* (1992) Karimpour *et al.* (2005)

Rahmani (2000) Wajdowicz (1974)

Rahmani (2000) Czarna Orawa

)

(

(Bowen and Avise, 1990)

Tarkan *et al.*, )

(2005

Rahmani (2000)

(Weatherly, 1972)

Rahmani (2000)

(2000) Rahmani (p ≤ / )

Rahmani (2000)

(Nikolskii, 1969)

(Ricker, 1975)

(2000) Rahmani Wotton (2000)

(p ≤ / ) ( )

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/	/	/	( )	
/	/	/	( )	(2000)Rahmani
/	/	/		
/	/	/		
/	/	/		
/	/	/		
/	/	/		

( $p > /$  )

(Rahmani, 2000)

(Turkmen and Akyurt 2000)

Rahmani

(2000)

± ±

Patimar, 2004 ,Inversen, )

(1996; Potts and Wotton,1990; Nikolsii, 1963,

Hliwa and Mortyniak (2002)

Ostrowiecki

( $p \leq /$  )

(2000) Rahmani

(2000) Rahmani

( $p \leq /$  )

(2000) Rahmani

(Unlo and Balci, 1993)

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## A survey of Biological characteristics of *Vimba vimba* in Gorganrud River and coastal waters of the Caspian Sea in Mahmoudabad

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### Abstract

In this study, some of biological parameters of *Vimba vimba* from February 2009 to June 2010 were examined. In total, 281 fish samples were caught by gill- net. In two regions had of five age groups that, the most frequent age groups were related to 2<sup>+</sup>. Sex ratio of male to female were in Gorganrud population 67% ♂ to 33% ♀ and in Mahmoudabad population 57% ♂ to 43% ♀ ( $p \leq 0.05$ ). There was no significant differences ( $p > 0.05$ ) between the average length and weight of the two populations,. Growth pattern for populations of Gorganrud and Mahmoudabad were negative allometric and isometric, respectively. Within the two populations, the asymptotic length ( $L_{\infty}$ ) in males was higher than females, but the growth rates (K) in females were relatively higher. Mean absolute fecundity in Gorganrud and Mahmoudabad populations were  $11970.8 \pm 8381/03$  and  $6728.49 \pm 2488.5$  eggs per fish, respectively. There was significant difference between the two populations ( $p \leq 0.05$ ) in mean absolute fecundity, average egg diameter and condition factor. The results showed that, in many biological parameters, there were significant differences between the two populations due to environmental differences in two regions.

**Keywords:** *Vimba vimba*- Biology- Gorganrud- Mahmoudabad

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