

showed no significant difference between the survival rate of male and female *Oryzias javanicus* ( $P < 0,01$ ). Then,  $LT_{50-96}$  hours for both male and female *Oryzias javanicus* was 30 hours and showed no significant difference.

## Conclusion

The results of this study concluded that:

1. There was a difference in oxygen consumption between male and female *Oryzias javanicus*. The average oxygen consumption of female *Oryzias javanicus* was  $0.752 \text{ mgO}_2 \text{ g}^{-1} \text{ body weight h}^{-1}$ , while the average consumption of male *Oryzias javanicus* was  $0.474 \text{ mgO}_2 \text{ g}^{-1} \text{ body weight h}^{-1}$ . The results depicted that the oxygen consumption of females was greater than that of male fish.
2. There was no correlation between oxygen consumption and weight of male fish ( $p=0.3860$  and length ( $p=0.2746$ ) and there was no correlation between oxygen consumption and weight of female fish ( $p=0.6377$ ) and length ( $p=0,5559$ ). This means that oxygen consumption for adult fish with length of 3-3.5 cm is not affected by weight and total length.
3. There is no difference in the sensitivity of male and female *Oryzias javanicus* to erythromycin based on the survival rate and  $LT_{50-96}$  hours.

## Acknowledgment

We gratefully acknowledge Prof.Dr. Ir. Joeharnani Tresnati, DEA and Prof. Yushinta Fujaya for providing a laboratory for the experiment. The authors also express their gratitude to The Ministry of Education, Culture, Research, and Technology of Indonesia for supporting this study.

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## LAMPIRAN

### Lampiran 1. Dokumentasi Penelitian



Pengambilan ikan sampel



Pembuatan bahan pencemar ERY



Pengukuran konsumsi oksigen



Pemaparan



Titrasi



Pengamatan pemaparan

**Lampiran 2.** Data panjang bobot ikan *Oryzias javanicus*

TOPLES	PANJANG	BOBOT	TOPLES	PANJANG	BOBOT
J1	3,2	0,3	B1	3,4	0,36
	3	0,3		3,2	0,35
	3	0,28		3,1	0,35
	3	0,28		3,2	0,34
	3,4	0,39		3,5	0,34
J2	3	0,29	B2	3,2	0,38
	3,4	0,39		3,2	0,33
	3,2	0,39		3,2	0,34
	3,4	0,41		3,2	0,33
	2,9	0,27		3,5	0,39
J3	3,4	0,45	B3	3	0,29
	3,3	0,39		3,4	0,36
	3,2	0,3		3,5	0,38
	3,4	0,4		3,4	0,38
	3,4	0,4		3	0,31
J4	3,5	0,46	B4	3,2	0,3
	3,4	0,43		3	0,26
	3	0,3		3,1	0,27
	3,3	0,37		3	0,26
	3,2	0,3		3,3	0,41
J5	3,5	0,39	B5	3	0,32
	3,4	0,37		3	0,32
	3	0,29		3,5	0,37
	3,4	0,38		3,2	0,3
	3,1	0,3		3,4	0,41

TOPLES	PANJANG RATA-RATA	BOBOT RATA-RATA
J1	3,12	0,31
J2	3,18	0,35
J3	3,34	0,39
J4	3,28	0,37
J5	3,28	0,35
B1	3,28	0,35
B2	3,26	0,35
B3	3,26	0,34
B4	3,12	0,30
B5	3,22	0,34

**Lampiran 3.** Data hasil titrasi

TOPLES	VOLUME TITRASI AWAL	VOLUME TITRASI AKHIR	DO AWAL	DO AKHIR
J1	2,3	1,2	7,36	3,84
J2	2,1	1,3	6,72	4,16
J3	2,2	1,5	7,04	4,8
J4	2,1	0,9	6,72	2,88
J5	1,9	1,4	6,08	4,48
B1	1,7	0,7	5,44	2,24
B2	2	0,7	6,40	2,24
B3	2,1	0,6	6,72	1,92
B4	2,1	0,9	6,72	2,88
B5	2,2	0,6	7,04	1,92

**Lampiran 4.** Data tingkat konsumsi oksigen ikan *Oryzias javanicus* sebelum pemaparan Eritromisin

TOPLES	TKO
J1	0,68
J2	0,44
J3	0,35
J4	0,62
J5	0,28
B1	0,55
B2	0,71
B3	0,84
B4	0,77
B5	0,89

**Lampiran 5.** Data tingkat konsumsi oksige ikan *Oryzias javanicus* jantan setelah pemaparan Eritromisin

Toples	DO awal	Do akhir	TKO
J2	6,4	6,08	0,353

## Lampiran 6. Data Ikan hidup selama periode pemaparan

TOPLES	PERIODE (JAM)															
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
J1	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0
J2	5	5	5	5	4	4	4	4	4	4	2	2	2	2	2	2
J3	5	5	4	3	2	2	2	2	2	2	1	1	0	0	0	0
J4	5	4	4	4	3	3	3	3	2	2	2	2	0	0	0	0
J5	4	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
B1	5	5	2	2	2	1	1	0	0	0	0	0	0	0	0	0
B2	5	5	1	1	1	0	0	0	0	0	0	0	0	0	0	0
B3	5	4	4	4	4	4	4	4	4	4	1	0	0	0	0	0
B4	5	5	4	2	1	1	1	0	0	0	0	0	0	0	0	0
B5	5	4	4	4	4	4	4	4	3	2	1	0	0	0	0	0

## Lampiran 7. Data survival rate

TOPLES	SURVIVAL RATE (%)															
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
J1	80	40	20	20	20	20	20	20	20	20	20	20	20	20	20	20
J2	100	100	100	100	80	80	80	80	80	80	40	40	40	40	40	40
J3	100	100	80	60	40	40	40	40	40	40	20	20				
J4	100	80	80	80	60	60	60	60	40	40	40	40				
J5	80	40	40													
B1	100	100	40	40	40	20	20									
B2	100	100	20	20	20											
B3	100	80	80	80	80	80	80	80	80	80	20					
B4	100	100	80	40	20	20	20									
B5	100	80	80	80	80	80	80	80	60	40	20					

## Lampiran 8. Hasil uji normalitas dan homogenitas

### 1. Panjang ikan

Test for normal distribution

Shapiro-Wilk test

W	0,9578
P value	0,7609
Passed normality test (alpha=0.05)?	Yes
P value summary	Ns
Number of values	10

### Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Panjang	Based on Mean	1.192	1	8	.307
	Based on Median	.356	1	8	.567
	Based on Median and with adjusted df	.356	1	7.804	.567
	Based on trimmed mean	1.176	1	8	.310

### 2. Bobot ikan

Test for normal distribution

Shapiro-Wilk test

W	0,9234
P value	0,3863
Passed normality test (alpha=0.05)?	Yes
P value summary	Ns
Number of values	10

### Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Bobot	Based on Mean	.402	1	8	.544
	Based on Median	.478	1	8	.509
	Based on Median and with adjusted df	.478	1	7.710	.510
	Based on trimmed mean	.489	1	8	.504

### 3. Konsumsi Oksigen Ikan jantan dan betina

Test for normal distribution

Shapiro-Wilk test

W	0,9578
P value	0,7609
Passed normality test (alpha=0.05)?	Yes
P value summary	Ns
Number of values	10

### Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Hasil Konsumsi Oksigen	Based on Mean	.914	1	8	.367
	Based on Median	.524	1	8	.490
	Based on Median and with adjusted df	.524	1	7.902	.490
	Based on trimmed mean	.917	1	8	.366



## Lampiran 9. Hasil uji T students

### 1. Panjang ikan *O. javanicus* jantan dan ikan betina

Table Analyzed	Data Panjang
Column B	Female
vs.	vs,
Column A	Male
Unpaired t test with Welch's correction	
P value	0,8126
P value summary	Ns
Significantly different (P < 0.05)?	No
One- or two-tailed P value?	Two-tailed
Welch-corrected t, df	t=0,2458, df=7,304
How big is the difference?	
Mean of column A	3,240
Mean of column B	3,228
Difference between means (B - A) ± SEM	-0,01200 ± 0,04883
95% confidence interval	-0,1265 to 0,1025
R squared (eta squared)	0,008202

### 2. Bobot ikan *O. javanicus* jantan dan betina

Table Analyzed	Data bobot
Column B	Female
vs.	vs,
Column A	Male
Unpaired t test with Welch's correction	
P value	0,3021
P value summary	ns
Significantly different (P < 0.05)?	No
One- or two-tailed P value?	Two-tailed
Welch-corrected t, df	t=1,112, df=7,156
How big is the difference?	
Mean of column A	0,3540
Mean of column B	0,3360
Difference between means (B - A) ± SEM	-0,01800 ± 0,01619
95% confidence interval	-0,05611 to 0,02011
R squared (eta squared)	0,1474

### 3. Konsumsi oksigen awal ikan *O. javanicus* jantan dan betina

Table Analyzed	Data 1
Column B	Male
vs.	vs,
Column A	Female
Unpaired t test with Welch's correction	
P value	0,0223
P value summary	*
Significantly different (P < 0.05)?	Yes
One- or two-tailed P value?	Two-tailed
Welch-corrected t, df	t=2,870, df=7,504
How big is the difference?	
Mean of column A	0,7520
Mean of column B	0,4740
Difference between means (B - A) ± SEM	-0,2780 ± 0,09685
95% confidence interval	-0,5039 to -0,05207
R squared (eta squared)	0,5234

### 4. Survival rate dan mortalitas ikan

Table Analyzed	survival rate
Column B	Female
vs.	vs,
Column A	Male
Unpaired t test	
P value	0,6196
P value summary	ns
Significantly different (P < 0.01)?	No
One- or two-tailed P value?	Two-tailed
t, df	t=0,5016, df=30

Table Analyzed	percent mortality
Column B	Female
vs.	vs,
Column A	Male
Unpaired t test	
P value	0,3466
P value summary	ns
Significantly different (P < 0.01)?	No
One- or two-tailed P value?	Two-tailed
t, df	t=1,000, df=8

**Lampiran 10.** Korelasi panjang bobot dan konsumsi oksigen

1. *Oryzias javanicus* jantan

	oc vs. weight	oc vs. length
Pearson r		
R	-0,5046	-0,6100
99% confidence interval	-0,9829 to 0,8527	-0,9874 to 0,8049
R squared	0,2546	0,3721
P value		
P (two-tailed)	0,3860	0,2746
P value summary	ns	ns
Significant? (alpha = 0.01)	No	No
Number of XY Pairs	5	5

2. *Oryzias javanicus* betina

	oc vs. weight	oc vs. length
Pearson r		
R	-0,2886	-0,3565
95% confidence interval	-0,9332 to 0,7964	-0,9424 to 0,7670
R squared	0,08332	0,1271
P value		
P (two-tailed)	0,6377	0,5559
P value summary	ns	ns
Significant? (alpha = 0.05)	No	No
Number of XY Pairs	5	5

**Lampiran 11.** LT50 96 jam ikan *Oryzias javanicus* setelah pemaparan ERY

Comparison of Survival Curves

Log-rank (Mantel-Cox) test

Chi square	1,475	
Df	1	
P value	0,2245	
P value summary	ns	
Are the survival curves sig different?	No	
Gehan-Breslow-Wilcoxon test		
Chi square	0,01158	
Df	1	
P value	0,9143	
P value summary	ns	
Are the survival curves sig different?	No	
Median survival		
Male	30,00	
Female	30,00	
Ratio (and its reciprocal)	1,000	1,000
95% CI of ratio	0,5676 to 1,762	0,5676 to 1,762