

DAFTAR PUSTAKA

- Andy Omar, S. Bin. 2012. Dunia Ikan. Gadjah Mada University Press. Yogyakarta.
- Andy Omar, S. Bin. 2013. Biologi Perikanan. Jurusan Perikanan, Fakultas Ilmu Kelautan dan Perikanan, Universitas Hasanuddin. Makassar.
- Andy Omar, S. Bin, M.T. Umar, M.A. Dahlan, S. Kune, & M Nur. 2016. Hubungan panjang-bobot dan faktor kondisi nisbi ikan layang (*Decapterus macrosoma*) (Bleeker, 1851) di perairan Teluk Mandar dan Teluk Bone. Prosiding Seminar Nasional Ikan ke-9; 623–636.
- Andy Omar, S. Bin, D. Yanuarita, M.T. Umar, & A.A. Hidayani. 2020. Keragaman Ikan Endemik Kawasan Karst Maros Berdasarkan Karakter Bioekologi dan *Deoxyribo Nucleic Acid*. Laporan Hasil Penelitian Dasar Universitas Hasanuddin, Makassar.
- Anibeze, C.I.P. 2000. Length-weight relationship and relative condition of *Heterobranchus longifilis* (Valenciennes) from Idodo River, Nigeria. Naga, The ICLARM Quarterly, 23(2), 34-35.
- Arsal, D.S. 2021. Hubungan Panjang Bobot dan Faktor Kondisi Ikan Anculung, *Dermogenys orientalis* (Weber, 1894) di Perairan Sungai Batubassi, Kabupaten Maros. Skripsi. Program Studi Manajemen Sumberdaya Perairan, Departemen Perikanan, Fakultas Ilmu Kelautan dan Perikanan, Universitas Hasanuddin.
- Barnham, C. & A. Baxter. 1998. Condition factor, K, for salmonid fish. Fisheries Notes. State of Victoria, Department of Primary Industries 2003, FN005, ISSN 1440-2254.
- Blackwell, B.G., M.L. Brown., & D.W. Willis. 2000. Relative weight (Wr), status and current use in fisheries assessment and management. Reviews in Fisheries Science, 8(1), 1–44. <https://doi.org/10.1080/10641260091129161>
- Bluweiss, L., Fox, H., Kudzma, V., Nakashima, D., Peters, R. & Sams, S. 1978. Relationships between body size and some life history parameters. Oecologia. 37(2), 257–272
- Bostanci, D., Polat, N. & Akyürek, M. 2007. Some biological aspects of the crucian carp, *Carassius gibelio* Bloch, 1782 inhabiting in Eğirdir Lake. International Journal of Natural & Engineering Sciences. 1(3).
- Effendie, M.I. 2002. Biologi Perikanan (Edisi Revisi). vol. 163. cod. Penerbit Yayasan Pustaka Nusantara Yogyakarta.
- Fadhil, R., Z.A. Muchlisin, & W. Sari. 2016. Hubungan panjang-berat dan morfometrik ikan julung-julung (*Zenarchopterus dispar*) dari perairan pantai utara Aceh. Jurnal Ilmiah Mahasiswa Kelautan dan Perikanan Unsyiah, 1(1): 146–159.
- Fitria, Ibrohim, & D. Listyorini. 2013. Kajian genetik ikan julung-julung (*Dermogenys* sp.) berdasarkan DNA barcode *Cytochrome-c Oxidase subunit I* di perairan Kabupaten Pasuruan dan Malang. Jurnal Penelitian Universitas Negeri Malang, 1–14.
- Fowler, J. & L. Cohen. 1992. Practical Statistics for Field Biology. John Wiley & Sons, Chichester

- Froese, R. 2006. Cube law , condition factor and weight – length relationships : history , meta-analysis and recommendations. *Journal of Applied Ichthyology*, 22, 241–253. <https://doi.org/10.1111/j.1439-0426.2006.00805.x>
- Froese, R., & A. Torres. 1999. Fishes under threat: an analysis of the fishes in the 1996 IUCN Red List, pp. 131-144. *In* R.S.V. Pullin, D.M. Bartley dan J. Kooiman, eds. *Towards policies for conservation and sustainable use of aquatic genetic resources*. ICLARM Conference Proceeding 59.
- Froese, R & D. Pauly (eds.). 2021. *Dermogenys orientalis* in FishBase. World Wide Web electronic publication. (accessed on 18 September 2021) Available from: <http://www.fishbase.org>.
- Gani, A., A.A. Bakri., D.T. Adriany., N. Serdiati., Nurjirana, M. Herjayanto., M. Nur., D.H. Satria., C.J. Opi., Jusmanto, & M.I. Adam. 2020. Hubungan panjang bobot dan faktor kondisi ikan *Sicyopus zosterophorum* (Bleeker, 1856) di Sungai Bohi, Kabupaten Banggai, Sulawesi Tengah. *Prosiding Simposium Nasional VII Kelautan dan Perikanan Universitas Hasanuddin 2020*, hal. 85–92.
- Hadiaty, R.K. 2012. Ikan, hal 89–111. *Dalam* Y.R. Suhardjono & R. Ubaidillah (editor). *Fauna Karst Maros dan Gua Maros, Sulawesi Selatan*. Lembaga Ilmu Pengetahuan Indonesia, Jakarta.
- Hadiaty, R.K. 2018. Status taksonomi iktiofauna endemik perairan tawar Sulawesi. *Jurnal Iktiologi Indonesia* 18(2): 175-190.
- Hayati, N. & A.K. Wakka. 2016. Valuasi ekonomi manfaat air di Taman Nasional Bantimurung Bulusaraung, Sulawesi Selatan. *Jurnal Penelitian Sosial dan Ekonomi Kehutanan*, 13(1): 47–61. <https://doi.org/10.20886/jsek.2016.13.1.47-61>
- Hossain, M. Y., M. A. Hossen., M. N. U. Pramanik., K. Yahya., A. H. Bahkali and A. M. Elgorban. 2015. Length–weight relationships of *Dermogenys pusilla* Kuhl & van Hasselt, 1823 (Zenarchopteridae) and *Labeo bata* (Hamilton, 1822) (Cyprinidae) from the Ganges River (NW Bangladesh). *Journal of Applied Ichthyology*. 1–31
- Ilmi, M.Z., S. Bin Andy Omar, S.W. Rahim, D. Yanuarita., M.T. Umar, & A.A. Hidayani. 2021. Distribusi Ukuran dan Tipe Pertumbuhan Ikan Endemik (*Dermogenys orientalis* Weber, 1894) di Perairan Sungai Bantimurung, Kawasan Karst Maros. *Prosiding Simposium Nasional VIII Kelautan dan Perikanan Fakultas Ilmu Kelautan dan Perikanan, Universitas Hasanuddin, Makassar*. ISBN 978-602-71759-8-3.
- Iqbal, M. 2011. *Ikan-ikan di Hutan Rawa Gambut Merang-Kepayang dan Sekitarnya*. Palembang. ISBN. 978-602-99492-1-6.
- Kusumah, R.V., E. Kusrini, & M.R. Fahmi. 2014. Biologi, potensi, dan upaya budi daya julung-julung Zenarchopteridae sebagai ikan hias asli Indonesia. *Prosiding Seminar Nasional Ikan Ke VIII*. Balai Penelitian dan pengembangan Budidaya Ikan Hias. Hal. 303–313.
- Le Cren, E. D. 1951. The length-weight relationship and seasonal cycle in gonad weight and condition in the perch (*Perca fluviatilis*). *Journal of Animal Ecology*, 20(2), 201–219.1

- Merta, I.G.S. 1993. Hubungan panjang – berat dan faktor kondisi ikan lemuru, (*Sardinella lemuru*) Bleeker, 1853 dari perairan Selat Bali. *Jurnal Penelitian Perikanan Laut*, 73: 35-44.
- Muchlashin, A. 2019. Optimalisasi pemanfaatan bantaran sungai anak Brantas dalam upaya peningkatan ketahanan pangan di Sidoarjo. *Islamic Management and Empowerment Journal*, 1(1), 1. <https://doi.org/10.18326/imej.v1i1.1-20>
- Muchlisin, Z.A., M. Musman, M.N., & S. Azizah. 2010. Length-weight relationships and condition factors of two threatened fishes, *Rasbora tawarensis* and *Poropuntius tawarensis*, endemic to Lake Laut Tawar, Aceh Province, Indonesia. *Journal of Applied Ichthyology*, 26: 949-953.
- Nafisah, S. & R. Machrizal. 2021. Hubungan panjang berat dan faktor kondisi ikan gulamah (*Johnius trachycephalus*) di perairan sungai barumun kabupaten labuhanbatu. *Jurnal Ilmiah Biologi*. 9 (1): 63-71
- Nasution, S. H. 2008. Ekobiologi dan Dinamika Stok Sebagai Dasar Pengelolaan Ikan Endemik Bonti-bonti (*Paratherina sriata* Aurich) di Danau Towuti, Sulawesi Selatan. Disertasi. Program Pascasarjana Institut Pertanian Bogor, Bogor.
- Nelson, J.S. 2006. *Fishes of the World*. Fourth edition. John Wiley and Sons, Inc., New Jersey.
- Nur, M., M.F. Rahardjo, & C.P.H. Simanjuntak. 2019. Iktiofauna di Daerah Aliran Sungai Maros Provinsi Sulawesi Selatan. *SNIP2D Jambi*, hal. 41–51.
- Nurwahida. 2020. Hubungan Panjang Bobot dan Faktor Kondisi Ikan Julung-Julung Paruh Panjang, *Dermogenis orientalis* Weber, 1894, di Perairan Sungai Pattunuang, Kabupaten Maros. Skripsi. Fakultas Ilmu Kelautan dan Perikanan, Universitas Hasanuddin, Makassar.
- Roos, N., C. Chamnan, D. Loeung, J. Jakobsen, & S. H. Thilsted. 2007. Freshwater fish as a dietary source of vitamin A in Cambodia. *Food Chemistry* 103(4): 1104–1111.
- Okgermen, H. 2005. Seasonal variation of the length weight and condition factor of rudd (*Scardinius erythrophthalmus*) in Spanca Lake. *International Journal of Zoological Research*, 1(1): 6-10.
- Oktaviyani, S. , Boer, M. & Yonvitner, Y. 2016. Aspek Biologi Ikan Kurisi (*Nemipterus japonicus*) Di Perairan Teluk Banten. *BawaL Widya Riset Perikanan Tangkap*.
- Putri, I.A.S.L.P. 2016. Peran Sungai Pattunuang dalam pengembangan ekowisata di obyek Wisata Alam Pattunuang Assue, Taman Nasional Bantimurung Bulusaraung. *Prosiding Seminar Nasional Lahan Basah 2016 Jilid 1 Potensi, Peluang, dan Tantangan Pengelolaan*, 362–367. <http://eprints.ulm.ac.id/2768/1/SNLB-1605-362-367>
- Ricker, W.E. 1975. Computation and interpretation of biological statistics of fish population. *Bulletin of the Fisheries Research Board of Canada* 191: 1-382.
- Samsu, N. 2020. Peningkatan Produksi Ikan Nila Melalui Pemanfaatan Pekarangan Rumah Nonproduktif dan Penentuan Jenis Media Budidaya yang Sesuai. Deepublish, Yogyakarta.

- Usman, S., & Soemarlani. 1974. Pengamatan di laboratorium mengenai ikan-ikan pemakan jentik nyamuk. *Bulletin Penelitian Kesehatan*, 2(2): 1–3.
- Vari, R.P. & R.K. Hadiaty. 2012. The endemic Sulawesi fish genus *Lagusia* (Teleostei: Terapontidae). *Raffles Bulletin of Zoology*, 60(1): 157–162.
- Whitten, A.J., M. Mustafa & G.S. Henderson. 1987. *Ecology of Sulawesi*. Gadjah Mada University Press., 845 pp.
- Zuliani, Z., Z. A. Muchlisin, & N. Nurfadillah. 2016. Kebiasaan makanan dan hubungan panjang berat ikan *Dermogenys* sp. di Sungai Alur Hitam, Kecamatan Bendahara, Kabupaten Aceh Tamiang. *Jurnal Ilmiah Mahasiswa Kelautan dan Perikanan Unsyiah*, 1(1): 12-24.

LAMPIRAN

Lampiran 1. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina di Sungai Bantimurung, Kabupaten Maros

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,947317247
R Square	0,897409966
Adjusted R Square	0,896949921
Standard Error	0,076815189
Observations	225

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	11,5102508	11,5102508	1950,700416	3,0819E-112
Residual	223	1,315827847	0,005900573		
Total	224	12,82607865			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,250321785	0,122897269	-42,7212242	2,357E-109	5,49251039	5,008133181
X Variable 1	2,945883491	0,066699147	44,16673427	3,0819E-112	2,81444222	3,077324762

Lampiran 2. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan di Sungai Bantimurung, Kabupaten Maros

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,973160037
R Square	0,947040458
Adjusted R Square	0,946477059
Standard Error	0,047621099
Observations	96

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3,81198334	3,81198334	1680,93983	8,9364E-62
Residual	94	0,213170291	0,002267769		
Total	95	4,025153631			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	5,511495304	0,128179092	-42,99839573	1,2735E-63	-5,765997895	-5,256992713
X Variable 1	3,07008418	0,074881442	40,99926624	8,9364E-62	2,921405322	3,218763039

Lampiran 3. Hasil uji koefisien $b = 3$ atau $b \neq 3$, ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina dan jantan di Sungai Bantimurung, Kabupaten Maros

Ikan betina:

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-2,9459}{0.0667} = 0,8114$$

$$t_{0,05(225)} = 1,9706$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Isometrik

Ikan jantan:

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-3,0701}{0.0749} = 0,9360$$

$$t_{0,05(96)} = 1,9855$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Isometrik

Lampiran 4. Hasil uji koefisien regresi ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina dan jantan di Sungai Bantimurung, Kabupaten Maros

$$t_{hitung} = \frac{(b_1 - b_2)}{SE_{(b_1 - b_2)}}$$

$$SE(b_1 - b_2) = \sqrt{(SE_{b_1})^2 + (SE_{b_2})^2}$$

$$0,1003 = \sqrt{0,0044 + 0,0056}$$

$$t_{hitung} = \frac{(0,1242)}{0,1003}$$

$$t_{hitung} = 1,2385$$

$$t_{0,05(321)} = 1,9675$$

$$t_{hitung} < t_{tabel}$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina dan jantan di Sungai Bantimurung tidak berbeda nyata

Lampiran 5. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina di Sungai Pattunuang, Kabupaten Maros

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,936770727
R Square	0,877539395
Adjusted R Square	0,876749326
Standard Error	0,073077713
Observations	157

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	5,931599476	5,931599476	1110,713	1,42E-72
Residual	155	0,82775459	0,005340352		
Total	156	6,759354066			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,217858949	0,16079075	-32,4512382	5,29E-71	-5,53548	-4,90023497
X Variable 1	2,941088722	0,088248466	33,32736358	1,42E-72	2,766764	3,115413607

Lampiran 6. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan di Sungai Pattunuang, Kabupaten Maros

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,907581356
R Square	0,823703918
Adjusted R Square	0,821828428
Standard Error	0,086282157
Observations	96

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3,269627744	3,269627744	439,193926	3,37892E-37
Residual	94	0,699793394	0,007444611		
Total	95	3,969421137			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	4,980537166	0,226917946	-21,9486262	9,08531E-39	-5,431088067	-4,52998626
X Variable 1	2,776893572	0,132504636	20,95695412	3,37892E-37	2,513802512	3,039984633

Lampiran 7. Hasil uji koefisien $b = 3$ atau $b \neq 3$, ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894) betina dan jantan di Sungai Pattunuang, Kabupaten Maros

Ikan betina:

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-2,9411}{0.0882} = 0,6676$$

$$t_{0,05(157)} = 1,9754$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Isometrik

Ikan jantan:

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-2,7769}{0.01325} = 1,6838$$

$$t_{0,05(96)} = 1,9855$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Isometrik

Lampiran 8. Hasil uji koefisien regresi ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina dan jantan di Sungai Pattunuang, Kabupaten Maros

$$t_{hitung} = \frac{(b_1 - b_2)}{SE_{(b_1 - b_2)}}$$

$$SE(b_1 - b_2) = \sqrt{(SE_{b_1})^2 + (SE_{b_2})^2}$$

$$0,1592 = \sqrt{0,0079 + 0,0176}$$

$$t_{hitung} = \frac{(0,1642)}{0,1592}$$

$$t_{hitung} = 1,0314$$

$$t_{0,05(253)} = 1,9695$$

$$t_{hitung} < t_{tabel}$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina dan jantan di Sungai Pattunuang tidak berbeda nyata

Lampiran 9. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina November 2021 berdasarkan waktu di Sungai Bantimurung, Kabupaten Maros

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,880457225
R Square	0,775204925
Adjusted R Square	0,772167154
Standard Error	0,07601
Observations	76

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1,474358	1,474358	255,1887	1,09E-25
Residual	74	0,427536	0,005778		
Total	75	1,901894			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,51889951	0,360874	-15,2931	1,3E-24	-6,23796	-4,79984
X Variable 1	3,101963789	0,194181	15,97463	1,09E-25	2,71505	3,488877

Lampiran 10. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina Desember 2021 berdasarkan waktu di Sungai Bantimurung, Kabupaten Maros

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,980742375
R Square	0,961855606
Adjusted R Square	0,961250139
Standard Error	0,060484069
Observations	65

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	5,81168	5,81168	1588,619	2,11E-46
Residual	63	0,230474	0,003658		
Total	64	6,042155			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,426555679	0,13594	-39,9188	1,92E-46	-5,69821	-5,1549
X Variable 1	3,041828156	0,076318	39,85748	2,11E-46	2,88932	3,194337

Lampiran 11. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina Januari 2022 berdasarkan waktu di Sungai Bantimurung, Kabupaten Maros

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,8115567
R Square	0,658624277
Adjusted R Square	0,654461159
Standard Error	0,081466223
Observations	84

ANOVA

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1,0499633	1,0499633	158,2045444	7,83948E-21
Residual	82	0,544213132	0,006636746		
Total	83	1,594176432			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-4,290915369	0,361534457	-11,86862079	1,72618E-19	-5,010122573	-3,57170817
X Variable 1	2,425888005	0,192868485	12,5779388	7,83948E-21	2,042211148	2,809564862

Lampiran 12. Hasil uji koefisien $b = 3$ atau $b \neq 3$, ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina pada bulan November 2021, Desember 2021, dan Januari 2022, di Sungai Bantimurung, Kabupaten Maros

November 2021

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-3,1020}{0,1942} = 0,5251$$

$$t_{0,05(76)} = 1,9925$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Isometrik

Desember 2021

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-3,0418}{0,0763} = 0,5481$$

$$t_{0,05(65)} = 1,9983$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Isometrik

Januari 2022

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-2,4259}{0,1929} = 2,9767$$

$$t_{0,05(84)} = 1,9893$$

$$t_{\text{hitung}} > t_{\text{tabel}} \rightarrow b \neq 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Hipoalometrik

Lampiran 13. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan November 2021 berdasarkan waktu di Sungai Bantimurung, Kabupaten Maros

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,94009664
R Square	0,88378169
Adjusted R Square	0,87484182
Standard Error	0,05025186
Observations	15

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0,24964227	0,249642	98,85845	1,92309E-07
Residual	13	0,032828245	0,002525		
Total	14	0,282470515			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-7,0311997	0,703271245	-9,99785	1,8E-07	-8,55052486	5,511874551
X Variable 1	3,92319514	0,394578127	9,942759	1,92E-07	3,070760924	4,775629359

Lampiran 14. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan Desember 2021 berdasarkan waktu di Sungai Bantimurung, Kabupaten Maros

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,910226505
R Square	0,82851229
Adjusted R Square	0,825913991
Standard Error	0,045945094
Observations	68

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0,673113	0,673113296	318,8672298	5,7511E-27
Residual	66	0,139323	0,002110952		
Total	67	0,812436			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,357913224	0,279759	-19,15189948	1,18287E-28	-5,9164698	-4,79935667
X Variable 1	2,978931358	0,166823	17,85685386	5,75109E-27	2,64585878	3,31200394

Lampiran 15. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan Januari 2022 berdasarkan waktu di Sungai Bantimurung, Kabupaten Maros

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,965225367
R Square	0,931660009
Adjusted R Square	0,925447283
Standard Error	0,050693039
Observations	13

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0,38536465	0,38536465	149,9599276	9,44165E-08
Residual	11	0,028267626	0,002569784		
Total	12	0,413632276			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,509046626	0,45222825	-12,1820046	9,96374E-08	-6,504394294	-4,513698959
X Variable 1	3,066189149	0,250386743	12,24581265	9,44165E-08	2,515091643	3,617286655

Lampiran 16. Hasil uji koefisien $b = 3$ atau $b \neq 3$, ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan pada bulan November 2021, Desember 2021, dan Januari 2022, di Sungai Bantimurung, Kabupaten Maro

November 2021

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-3,9232}{0,3946} = 2,3397$$

$$t_{0,05(15)} = 2,1604$$

$$t_{\text{hitung}} > t_{\text{tabel}} \rightarrow b \neq 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang jantan bersifat Hiperallometrik

Desember 2021

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-2,9789}{0,1668} = 0,1263$$

$$t_{0,05(68)} = 1,9966$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang jantan bersifat Isometrik

Januari 2022

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-3,0662}{0,2509} = 0,2643$$

$$t_{0,05(13)} = 2,2010$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang jantan bersifat Isometrik

Lampiran 17. Analisis regresi hubungan panjang – bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina November 2021 berdasarkan waktu di Sungai Pattunuang, Kabupaten Maros

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,873918743
R Square	0,76373397
Adjusted R Square	0,757827319
Standard Error	0,106704449
Observations	42

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1,472197	1,472197	129,3007	4,18E-14
Residual	40	0,455434	0,011386		
Total	41	1,92763			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-4,60203467	0,415937	-11,0642	9,66E-14	-5,44268	-3,76139
X Variable 1	2,606376118	0,229212	11,37105	4,18E-14	2,143122	3,06963

Lampiran 18. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina Desember 2021 berdasarkan waktu di Sungai Pattunuang, Kabupaten Maros

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,983201655
R Square	0,966685494
Adjusted R Square	0,966148164
Standard Error	0,043573183
Observations	64

ANOVA

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3,415718705	3,4157187	1799,051184	1,63212E-47
Residual	62	0,117714583	0,00189862		
Total	63	3,533433287			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,622580342	0,134998309	-41,649265	4,86482E-47	-5,892438116	-5,352722568
X Variable 1	3,170042481	0,074738318	42,4152235	1,63212E-47	3,020642711	3,31944225

Lampiran 19. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina Januari 2022 berdasarkan waktu di Sungai Pattunuang, Kabupaten Maros

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,909355878
R Square	0,826928113
Adjusted R Square	0,823396034
Standard Error	0,059865077
Observations	51

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0,839043339	0,839043339	234,1193495	2,69574E-20
Residual	49	0,175607543	0,003583827		
Total	50	1,014650882			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,988053099	0,404304561	-14,81074832	1,00649E-19	-6,800533533	-5,175572665
X Variable 1	3,348297594	0,218829262	15,3009591	2,69574E-20	2,908543727	3,78805146

Lampiran 20. Hasil uji koefisien $b = 3$ atau $b \neq 3$, ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), betina pada bulan November 2021, Desember 2021, dan Januari 2022, di Sungai Pattunuang, Kabupaten Maros

November 2021

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-2,6064}{0,2292} = 21,7173$$

$$t_{0,05(42)} = 2,1604$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Isometrik

Desember 2021

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-3,1700}{0,0747} = 2,2752$$

$$t_{0,05(64)} = 1,9990$$

$$t_{\text{hitung}} > t_{\text{tabel}} \rightarrow b \neq 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Hiperallometrik

Januari 2022

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-3,3483}{0,2188} = 1,5916$$

$$t_{0,05(51)} = 2,2010$$

$$t_{\text{hitung}} < t_{\text{tabel}} \rightarrow b = 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Isometrik

Lampiran 21. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan November 2021 berdasarkan waktu di Sungai Pattunuang, Kabupaten Maros

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,77501301
R Square	0,600645165
Adjusted R Square	0,587333338
Standard Error	0,120459831
Observations	32

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0,654733846	0,654734	45,1212	1,9152E-07
Residual	30	0,435317126	0,014511		
Total	31	1,090050972			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-3,889209761	0,555663878	-6,99921	8,9E-08	-5,02402679	-2,75439
X Variable 1	2,14818769	0,319802664	6,717229	1,9E-07	1,49506352	2,801312

Lampiran 22. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan Desember 2021 berdasarkan waktu di Sungai Pattunuang, Kabupaten Maros

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,983780536
R Square	0,967824143
Adjusted R Square	0,967109124
Standard Error	0,034303102
Observations	47

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1,59274278	1,59274278	1353,564153	3,15605E-35
Residual	45	0,052951628	0,001176703		
Total	46	1,645694408			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,666593733	0,147006016	-38,54667924	4,12516E-36	-5,962679047	-5,370508419
X Variable 1	3,194668338	0,08683331	36,79081615	3,15605E-35	3,019777075	3,369559602

Lampiran 23. Analisis regresi hubungan panjang - bobot ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan Januari 2022 berdasarkan waktu di Sungai Pattunuang, Kabupaten Maros

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,987354104
R Square	0,974868126
Adjusted R Square	0,973192668
Standard Error	0,040999489
Observations	17

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0,978068211	0,978068211	581,8516289	2,05693E-13
Residual	15	0,025214372	0,001680958		
Total	16	1,003282583			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	-5,994051584	0,237567036	-25,23099031	1,06397E-13	-6,500413735	-5,487689433
X Variable 1	3,333820774	0,138208935	24,12160088	2,05693E-13	3,039235402	3,628406146

Lampiran 24. Hasil uji koefisien $b = 3$ atau $b \neq 3$, ikan julung-julung paruh panjang *Dermogenys orientalis* (Weber, 1894), jantan pada bulan November 2021, Desember 2021, dan Januari 2022, di Sungai Pattunuang, Kabupaten Maros

November 2021

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-2,1482}{0,3198} = 2,6636$$

$$t_{0,05(32)} = 2,0423$$

$$t_{\text{hitung}} > t_{\text{tabel}} \rightarrow b \neq 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang jantan bersifat Hipoalometrik

Desember 2021

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-3,1947}{0,0868} = 2,2419$$

$$t_{0,05(47)} = 2,0141$$

$$t_{\text{hitung}} > t_{\text{tabel}} \rightarrow b \neq 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang jantan bersifat Hiperallometrik

Januari 2022

$$t_{\text{hitung}} = \frac{3-b}{S_b}$$
$$= \frac{3-3,3338}{0,1382} = 2,4153$$

$$t_{0,05(17)} = 2,1314$$

$$t_{\text{hitung}} > t_{\text{tabel}} \rightarrow b \neq 3$$

Kesimpulan: pertumbuhan ikan julung-julung paruh panjang betina bersifat Hiperallometrik