

Appendix. Suvi Aromaa, Jaakko J. Ilvonen and Jukka Suhonen 2019: Body mass and territorial defense strategy affect the territory size of odonate species. Proceedings of the Royal Society B, DOI: 10.1098/rspb.xxx.xxxx

Table 1. Data used in the study. Suborder (A = Anisoptera, Z = Zygoptera), territory size in square meters (Area), wing length in millimeters (Wing), estimated fresh body mass in milligrams (Mass), lotic or lentic breeding habitat (Hab), behavioral mode (F = flier, P = percher), presence of wing spots (Spot) and reference studies (Ref) for each odonate species used in the study.

Species	Suborder	Area	Wing	Mass	Hab	Beh	Spot	Ref
<i>Acisoma panorpoides</i>	A	1.3	22.0	99.65	Lotic	P	No	[1]
<i>Aeshna cyanea</i>	A	110.0	48.0	562.33	Lotic	F	No	[2]
<i>Aeshna mixta</i>	A	10.0	43.2	445.15	Lotic	F	No	[3]
<i>Agriocnemis femina</i>	Z	0.2	9.7	9.47	Lotic	P	No	[4]
<i>Anax papuensis</i>	A	1800.0	50.3	623.85	Lotic	F	No	[5]
<i>Anax parthenope</i>	A	1590.0	48.0	562.33	Lotic	F	No	[6]
<i>Anax walsinghami</i>	A	28.0	61.5	974.37	Lentic	F	No	[7]
<i>Argia chelata</i>	Z	2.5	22.7	45.86	Lentic	P	No	[8]
<i>Austrolestes colensonis</i>	Z	7.1	24.3	52.04	Lotic	P	No	[54]
<i>Brechmorhoga pertinax</i>	A	10.0	32.5	236.79	Lentic	F	No	[9]
<i>Brechmorhoga vivax</i>	A	42.8	35.0	279.09	Lentic	F	No	[10]
<i>Cacoides latro</i>	A	53.0	43.2	445.10	Lotic	P	No	[11]
<i>Calopteryx haemorrhoidalis</i>	Z	5.4	32.2	87.71	Lentic	P	Yes	[12]
<i>Calopteryx splendens</i>	Z	2.3	31.5	84.21	Lentic	P	Yes	[13]
<i>Calopteryx virgo</i>	Z	1.3	30.0	76.92	Lentic	P	Yes	[13]
<i>Chalcolestes viridis</i>	Z	6.0	25.9	58.57	Lotic	P	No	[14]
<i>Copera annulata</i>	Z	0.2	23.1	47.37	Lotic	P	No	[15]
<i>Copera marginipes</i>	Z	0.2	18.6	31.69	Lentic	P	No	[16]
<i>Copera vittata</i>	Z	0.2	17.0	26.80	Lentic	P	No	[16]
<i>Cordulia aenea</i>	A	30.0	36.6	308.18	Lotic	F	No	[17]
<i>Cordulia shurtleffi</i>	A	35.0	30.5	205.67	Lotic	F	No	[18]
<i>Coryphaeschna adnexa</i>	A	3.0	43.5	452.03	Lotic	F	No	[19]
<i>Coryphaeschna diapyra</i>	A	12.0	49.8	610.18	Lentic	F	No	[20]
<i>Crocothemis servilia</i>	A	4.3	35.6	289.81	Lotic	P	Yes	[21]
<i>Disparoneura quadrimaculata</i>	Z	1.0	21.7	42.18	Lentic	P	Yes	[14]
<i>Epithea cynosura</i>	A	12.0	26.9	155.66	Lentic	F	No	[22]
<i>Epithea princeps</i>	A	9.0	45.1	489.74	Lentic	F	Yes	[23]
<i>Erythemis simplicicollis</i>	A	13.0	30.9	211.70	Lotic	P	No	[24]
<i>Erythromma lindenii</i>	Z	0.5	21.1	40.04	Lotic	P	No	[14]
<i>Hemicordulia ogasawarensis</i>	A	37.5	32.5	236.79	Lotic	F	No	[6]
<i>Hetaerina americana</i>	Z	2.5	28.0	67.68	Lentic	P	Yes	[25]

<i>Hetaerina miniata</i>	Z	1.1	27.6	65.92	Lotic	P	Yes	[14]
<i>Ictinogomphus ferox</i>	A	50.0	41.5	407.22	Lotic	P	No	[26]
<i>Ladona julia</i>	A	35.0	31.0	213.23	Lotic	P	No	[27]
<i>Leucorrhinia caudalis</i>	A	13.0	32.0	228.78	Lotic	P	No	[28]
<i>Leucorrhinia frigida</i>	A	12.6	22.5	104.75	Lotic	P	No	[29]
<i>Leucorrhinia hudsonica</i>	A	1.0	24.5	126.52	Lotic	P	No	[30]
<i>Leucorrhinia intacta</i>	A	12.6	24.0	120.87	Lotic	P	No	[29]
<i>Leucorrhinia proxima</i>	A	12.6	25.5	138.26	Lotic	P	No	[29]
<i>Libellago aurantiaca</i>	Z	4.0	16.3	24.81	Lentic	P	Yes	[31]
<i>Libellago hyalina</i>	Z	5.0	17.0	26.82	Lentic	P	No	[31]
<i>Libellago semiopaca</i>	Z	4.9	17.3	27.71	Lentic	P	Yes	[31]
<i>Libellula pulchella</i>	A	100.0	43.4	449.73	Lotic	P	Yes	[32]
<i>Lindenia tetraphylla</i>	A	80.0	38.0	334.93	Lotic	P	No	[33]
<i>Macromia amphigena</i>	A	100.0	45.5	499.42	Lotic	F	No	[34]
<i>Microstigma rotundatum</i>	Z	28.0	65.2	324.66	Lotic	P	Yes	[35]
<i>Mnais pruinosa</i>	Z	154.0	41.4	139.81	Lentic	P	Yes	[36]
<i>Nannophya pygmaea</i>	A	0.3	13.3	32.64	Lotic	P	No	[37]
<i>Nannothemis bella</i>	A	1.2	15.3	44.53	Lotic	P	No	[38]
<i>Nesciothemis nigeriensis</i>	A	32.0	35.7	291.62	Lotic	P	No	[39]
<i>Nososticta kalumburu</i>	Z	0.5	19.8	35.60	Lentic	P	Yes	[40]
<i>Orthetrum caledonicum</i>	A	7.0	32.7	240.03	Lentic	P	No	[41]
<i>Orthetrum cancellatum</i>	A	60.0	38.0	334.93	Lentic	P	No	[42]
<i>Orthetrum chrysostigma</i>	A	1.6	31.0	213.23	Lentic	P	No	[43]
<i>Orthetrum coerulescens</i>	A	7.5	30.5	205.67	Lentic	P	No	[44]
<i>Orthetrum japonicum</i>	A	19.0	33.0	244.94	Lotic	P	No	[45]
<i>Orthetrum julia</i>	A	7.9	32.9	243.30	Lentic	P	No	[46]
<i>Orthetrum sabina</i>	A	13.0	36.6	308.18	Lentic	P	No	[21]
<i>Palpopleura sexmaculata</i>	A	1.8	18.0	63.85	Lentic	P	Yes	[47]
<i>Pantala flavescens</i>	A	364.0	42.2	422.61	Lotic	F	No	[48]
<i>Perithemis domitia</i>	A	2.5	19.5	76.26	Lotic	P	No	[49]
<i>Perithemis tenera</i>	A	19.6	17.5	59.99	Lotic	P	Yes	[50]
<i>Plathemis lydia</i>	A	44.0	33.8	258.31	Lotic	P	Yes	[51]
<i>Platycypha caligata</i>	Z	4.9	23.4	48.52	Lentic	P	No	[52]
<i>Prodasineura verticalis</i>	Z	1.3	21.2	40.40	Lentic	P	No	[53]
<i>Prodasineura collaris</i>	Z	0.8	17.5	28.30	Lotic	P	No	[53]
<i>Pseudagrion decorum</i>	Z	0.5	20.1	36.60	Lotic	P	No	[54]
<i>Pseudagrion hageni</i>	Z	0.8	23.6	49.29	Lotic	P	No	[55]
<i>Pseudagrion microcephalum</i>	Z	0.4	19.0	32.97	Lentic	P	No	[56]
<i>Pseudagrion perfuscatum</i>	Z	5.1	22.7	45.86	Lentic	P	No	[56]
<i>Rhinocypha biseriata</i>	Z	5.0	23.0	46.99	Lentic	P	Yes	[31]
<i>Rhinocypha humeralis</i>	Z	7.1	20.5	37.96	Lentic	P	Yes	[31]
<i>Rhinocypha stygia</i>	Z	9.2	19.3	33.90	Lentic	P	Yes	[57]
<i>Rhinocypha uenoi</i>	Z	4.8	24.7	53.64	Lentic	P	No	[58]
<i>Rhioneura villosipes</i>	Z	4.0	31.4	83.72	Lentic	P	Yes	[31]
<i>Somatochlora clavata</i>	A	9.0	41.5	407.22	Lentic	F	No	[59]
<i>Somatochlora flavomaculata</i>	A	13.0	38.5	344.79	Lotic	F	No	[60]

<i>Somatochlora viridiaenea</i>	A	20.0	34.2	265.14	Lotic	F	No	[61]
<i>Sympetrum parvulum</i>	A	2.0	34.3	266.86	Lotic	P	Yes	[62]
<i>Sympetrum rubicundulum</i>	A	3.1	27.0	156.95	Lotic	P	No	[63]
<i>Tetrathemis bifida</i>	A	7.1	26.3	148.07	Lotic	P	No	[64]
<i>Tetrathemis polleni</i>	A	0.3	29.7	193.90	Lotic	P	Yes	[65]
<i>Tholymis tillarga</i>	A	18.0	37.7	329.10	Lotic	F	Yes	[21]
<i>Tramea lacerata</i>	A	139.4	46.4	522.96	Lentic	F	Yes	[66]
<i>Tramea transmarina</i>	A	314.0	43.5	452.03	Lotic	P	No	[6]
<i>Zygonyx natalensis</i>	A	25.0	37.5	325.24	Lentic	F	No	[67]

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Table 2. Data used to create the regression equation between odonate species' fresh body mass and its hind wing length. Odonates are split into two suborders (Sub), dragonflies (A for Anisoptera) and damselflies (Z for Zygoptera). Published fresh body mass (Mass) and the sex (M = male, F = female, MF = both sexes) of individuals that were used to assess the species mass. For this study, male mass was chosen to represent species average, i.e. corrected male fresh body mass (Corr mass). To get the corrected male mass, we either multiplied female body mass by 0.804 or by 0.886 if both sexes were used. If multiple sources for body mass were available, we calculated the weighted mean value.

Species	Sub	Mass	Sex	Corr mass	Wing	Mass Ref	Wing Ref
<i>Aeshna eremita</i>	A	860.0	MF	761.9	46.5	[1]	[2]
<i>Aeshna grandis</i>	A	758.1	M	758.1	45.5	[3]	[3]
<i>Aeshna interrupta</i>	A	650.0	MF	575.9	43.5	[1]	[2]
<i>Aeshna juncea</i>	A	720.4	M	720.4	44.9	[3]	[3]
<i>Aeshna multicolor</i>	A	640.7	M	640.7	43.5	[4]	[2]
<i>Aeshna palmata</i>	A	640.0	MF	567.0	43.5	[1]	[2]
<i>Aeshna subarctica</i>	A	667.1	M	667.1	43.6	[3]	[3]
<i>Aeshna umbrosa</i>	A	620.0	MF	549.3	44.0	[5]	[2]
<i>Anax concolor</i>	A	914.0	MF	809.8	71.0	[6]	[2]
<i>Anax junius</i>	A	886.9	M	886.9	50.5	[4]	[2]
<i>Aphylla williamsoni</i>	A	735.0	MF	651.2	40.0	[6]	[2]
<i>Argia apicalis</i>	Z	37.9	M	37.9	22.5	[7]	[2]
<i>Argia tibialis</i>	Z	26.3	M	26.3	21.0	[7]	[2]
<i>Boyeria vinosa</i>	A	395.0	MF	349.9	42.5	[8]	[2]
<i>Brachymesia gravida</i>	A	344.0	MF	304.8	38.5	[9]	[2]
<i>Calopteryx aequabilis</i>	Z	72.3	M	72.3	32.0	[4]	[2]
<i>Calopteryx maculata</i>	Z	60.1	M	60.1	30.5	[4]	[2]
<i>Calopteryx splendens</i>	Z	126.2	M	126.2	29.9	[3]	[3]
<i>Calopteryx virgo</i>	Z	164.2	M	164.2	30.2	[3]	[3]
<i>Celithemis eponina</i>	A	135.3	M	135.3	33.0	[4]	[2]
<i>Celithemis fasciata</i>	A	123.1	M	123.1	28.5	[10]	[2]
<i>Coenagrion armatum</i>	Z	25.9	M	25.9	17.1	[3]	[3]
<i>Coenagrion hastulatum</i>	Z	28.0	M	28.0	18.0	[3]	[3]
<i>Coenagrion johanssoni</i>	Z	16.6	M	16.6	15.8	[3]	[3]
<i>Coenagrion pulchellum</i>	Z	29.7	M	29.7	19.5	[3]	[3]
<i>Cordulegaster sayi</i>	A	608.0	MF	538.7	39.5	[6]	[2]
<i>Cordulia aenea</i>	A	326.1	M	326.1	32.8	[3]	[3]
<i>Cordulia shurtleffii</i>	A	270.0	MF	239.2	30.5	[1]	[2]

<i>Coryphaeschna ingens</i>	A	1019.0	MF	902.8	56.5	[6]	[2]
<i>Coryphaeschna perrensi</i>	A	694.0	MF	614.8	48.0	[6]	[2]
<i>Didymops transversa</i>	A	356.0	MF	315.4	36.0	[6]	[2]
<i>Dromogomphus spinosus</i>	A	459.4	M	459.4	36.0	[7]	[2]
<i>Enallagma boreale</i>	Z	32.6	M	32.6	19.5	[11]	[2]
<i>Enallagma cyathigerum</i>	Z	33.1	M	33.1	18.7	[3]	[3]
<i>Enallagma exsulans</i>	Z	16.9	M	16.9	19.0	[4]	[2]
<i>Enallagma signatum</i>	Z	14.9	M	14.9	18.0	[7]	[2]
<i>Epiaescha heros</i>	A	944.0	MF	836.3	56.0	[6]	[2]
<i>Epicordulia regina</i>	A	586.0	F	519.2	45.1	[6]	[2]
<i>Epitheca cynosura</i>	A	215.0	M	215.0	26.9	[11]	[2]
<i>Erythemis plebeja</i>	A	219	MF	194.0	33.5	[6]	[2]
<i>Erythemis simplicicollis</i>	A	263.2	MF	233.2	31.5	[5.6.9.10]	[2]
<i>Erythrodiplax berenice</i>	A	125.0	MF	110.7	24.0	[9]	[2]
<i>Erythrodiplax connata</i>	A	50.5	M	50.5	22.3	[9]	[2]
<i>Erythrodiplax minuscula</i>	A	86.9	M	86.9	19.0	[7]	[2]
<i>Erythromma najas</i>	Z	52.5	M	52.5	20.5	[3]	[3]
<i>Gomphus externus</i>	A	354.2	M	354.2	31.5	[4]	[2]
<i>Gynacantha gracilis</i>	A	881.0	MF	780.5	59.5	[6]	[2]
<i>Gynacantha membranalis</i>	A	805.0	MF	713.2	57.5	[6]	[2]
<i>Gynacantha nervosa</i>	A	494.0	MF	437.7	51.5	[6]	[2]
<i>Gynacantha tibiata</i>	A	515.0	MF	456.3	45.5	[6]	[2]
<i>Hetaerina americana</i>	Z	86.9	M	86.9	28.0	[4]	[2]
<i>Ischnura elegans</i>	Z	35.5	M	35.5	17.8	[3]	[3]
<i>Ischnura ramburii</i>	Z	32.1	M	32.1	17.0	[7]	[2]
<i>Lestes disjunctus</i>	Z	62.0	M	62.0	20.5	[7]	[2]
<i>Lestes rectangularis</i>	Z	55.8	M	55.8	22.5	[7]	[2]
<i>Lestes sponsa</i>	Z	43.7	M	43.7	19.7	[3]	[3]
<i>Leucorrhinia dubia</i>	A	133.5	M	133.5	26.6	[3]	[3]
<i>Leucorrhinia hudsonica</i>	A	104.5	M	104.5	24.0	[11]	[2]
<i>Leucorrhinia intacta</i>	A	112.1	M	112.1	24.0	[4]	[2]
<i>Libellula auripennis</i>	A	437.0	M	437	41.0	[10]	[2]
<i>Libellula cyanea</i>	A	286.2	M	286.2	34.0	[10]	[2]
<i>Libellula incesta</i>	A	395.5	M	395.5	39.0	[7]	[2]
<i>Libellula luctuosa</i>	A	442.6	M	442.6	39.0	[10]	[2]
<i>Libellula needhami</i>	A	518.0	MF	458.9	41.5	[9]	[2]
<i>Libellula pulchella</i>	A	509.0	M	509.0	44.0	[11]	[2]
<i>Libellula quadrimaculata</i>	A	375.9	M	375.9	35.8	[3]	[3]
<i>Libellula vibrans</i>	A	623.3	M	623.3	49.5	[10]	[2]
<i>Macromia taeniolata</i>	A	1180.0	MF	1045.4	52.5	[6]	[2]
<i>Megaloprepus coerulatus</i>	Z	286.0	M	286.0	76.0	[11]	[2]
<i>Miathyria marcella</i>	A	170.5	MF	151.1	32.0	[6]	[2]
<i>Nasiaeschna pentacantha</i>	A	583.1	M	583.1	51.5	[4]	[2]
<i>Ophiogomphus severus</i>	A	364.6	M	364.6	31.0	[4]	[2]
<i>Pachydiplax longipennis</i>	A	197.1	M	197.1	36.5	[9.10]	[2]
<i>Pantala flavescens</i>	A	334.7	MF	296.5	38.5	[6.9]	[2]

<i>Perithemis tenera</i>	A	64.8	M	64.8	17.5	[9.10]	[2]
<i>Plathemis lydia</i>	A	362.4	M	362.4	32.5	[10.11]	[2]
<i>Platycnemis pennipes</i>	Z	40.4	M	40.4	20.1	[3]	[3]
<i>Pyrrhosoma nymphula</i>	Z	48.4	M	48.4	20.4	[3]	[3]
<i>Somatochlora ensigera</i>	A	291.8	M	291.8	34.0	[4]	[2]
<i>Somatochlora metallica</i>	A	364.4	M	364.4	34.2	[3]	[3]
<i>Stylurus plagiatus</i>	A	342.6	M	342.6	35.5	[4]	[2]
<i>Sympetrum danae</i>	A	118.5	M	118.5	24.1	[3]	[3]
<i>Sympetrum flaveolum</i>	A	140.6	M	140.6	27.0	[3]	[3]
<i>Sympetrum internum</i>	A	90.0	MF	79.7	25.5	[1]	[2]
<i>Sympetrum vicinum</i>	A	110.0	MF	97.5	22.0	[5]	[2]
<i>Sympetrum vulgatum</i>	A	198.7	M	198.7	53.9	[3]	[3]
<i>Tachopteryx thoreyi</i>	A	944.0	MF	836.3	50.5	[6]	[2]
<i>Tauriphila argo</i>	A	266.5	MF	236.1	37.0	[6]	[2]
<i>Tramea walkeri</i>	A	325.0	F	287.9	39.0	[6]	[2]
<i>Tramea carolina</i>	A	319.4	M	319.4	44.5	[7]	[2]
<i>Tramea cophysa</i>	A	350.0	MF	310.1	42.0	[6]	[2]
<i>Tramea lacerata</i>	A	440.0	MF	389.8	46.0	[5]	[2]
<i>Triacanthagyna septima</i>	A	252.0	MF	223.3	38.5	[6]	[2]
<i>Triacanthagyna trifida</i>	A	351.0	MF	311.0	43.5	[6]	[2]

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