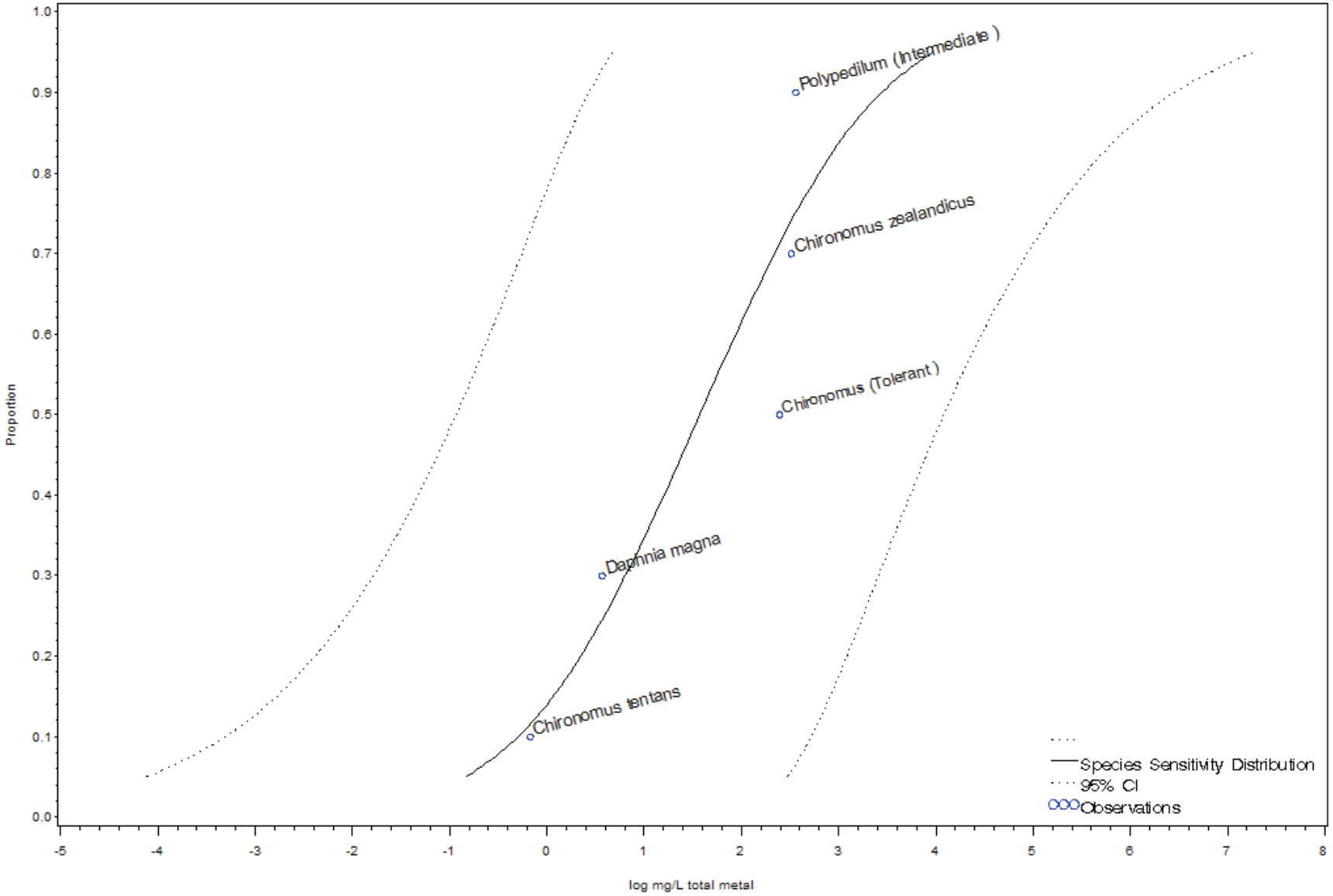
APPENDIX B
Arthropod Species Sensitivity Distributions


Arsenic SSD for Arthropods - in water at T<=15C over moderate (1-3 days) exposure
Proportion
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-5
-4
-3
-2
-1
0
1
2
3
4
5
6
7
8
log mg/L total metal
Polypedilum (Intermediate)
Chironomus zealandicus
Chironomus (Tolerant)
Daphnia magna
Chironomus tentans
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 1) data for arthropod species exposed to arsenic in water at T<=15C over moderate (1-3 days) exposure

Model Parameters

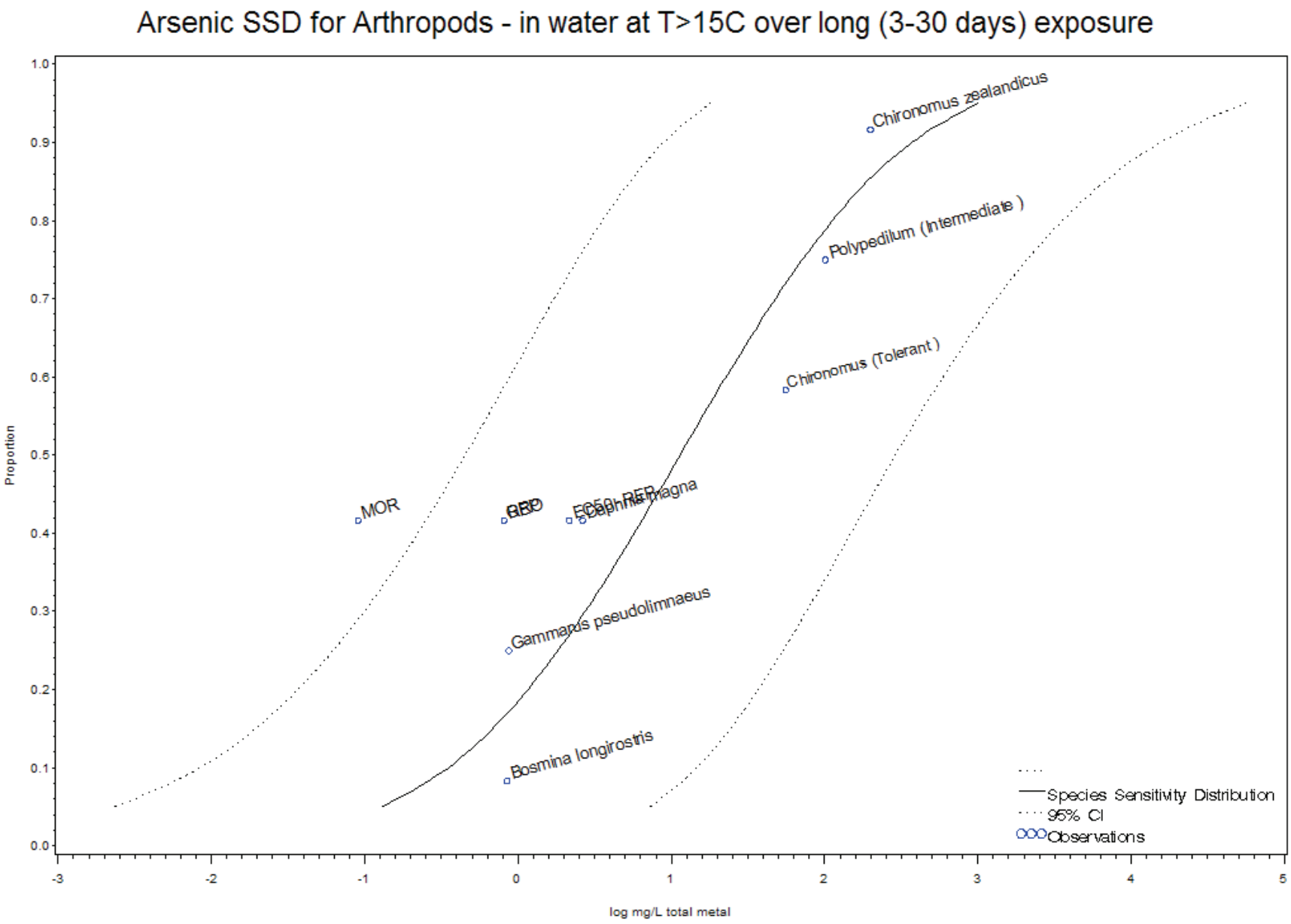
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
5	0.68679	3.91782	0.80909	1.57570	6.57784	3	0.24403

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.15	41.43	0.0006	-0.81928	1.61730	-3.25587	273.263
0.10	3.71845	0.51	86.24	0.0030	-0.29030	1.93571	-2.51631	168.265
0.20	4.15838	2.24	236.19	0.0212	0.35026	2.37326	-1.67274	105.428
0.25	4.32551	3.92	361.34	0.0426	0.59361	2.55792	-1.37070	92.100
0.30	4.47560	6.49	541.62	0.0777	0.81215	2.73369	-1.10940	83.461
0.50	5.00000	37.64	2691.44	0.5265	1.57570	3.42998	-0.27859	71.483
0.75	5.67449	361.23	33273.31	3.9217	2.55779	4.52210	0.59348	92.100
0.90	6.28155	2765.02	465270.61	16.4320	3.44170	5.66771	1.21569	168.265
0.95	6.64485	9347.21	2554279.72	34.2055	3.97068	6.40727	1.53410	273.263

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.5	5.00000	Chironomus (Tolerant)	249.334	2.39678	0.78324	0.32679
0.1	3.71845	Chironomus tentans	0.680	-0.16749	.	.
0.7	5.52440	Chironomus zealandicus	327.856	2.51568	1.09061	0.43353
0.3	4.47560	Daphnia magna	3.728	0.57147	0.33395	0.58438
0.9	6.28155	Polypedilum (Intermediate)	364.801	2.56206	0.66660	0.26018


Arsenic SSD for Arthropods - in water at T>15C over long (3-30 days) exposure
Proportion
log mg/L total metal
Chironomus zealandicus
Polypedilum (Intermediate)
Chironomus (Tolerant)
MOR
Gammarus pseudolimnaeus
Bosmina longirostris
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 2) data for arthropod species exposed to arsenic in water at T>15C over long (3-30 days) exposure

Model Parameters

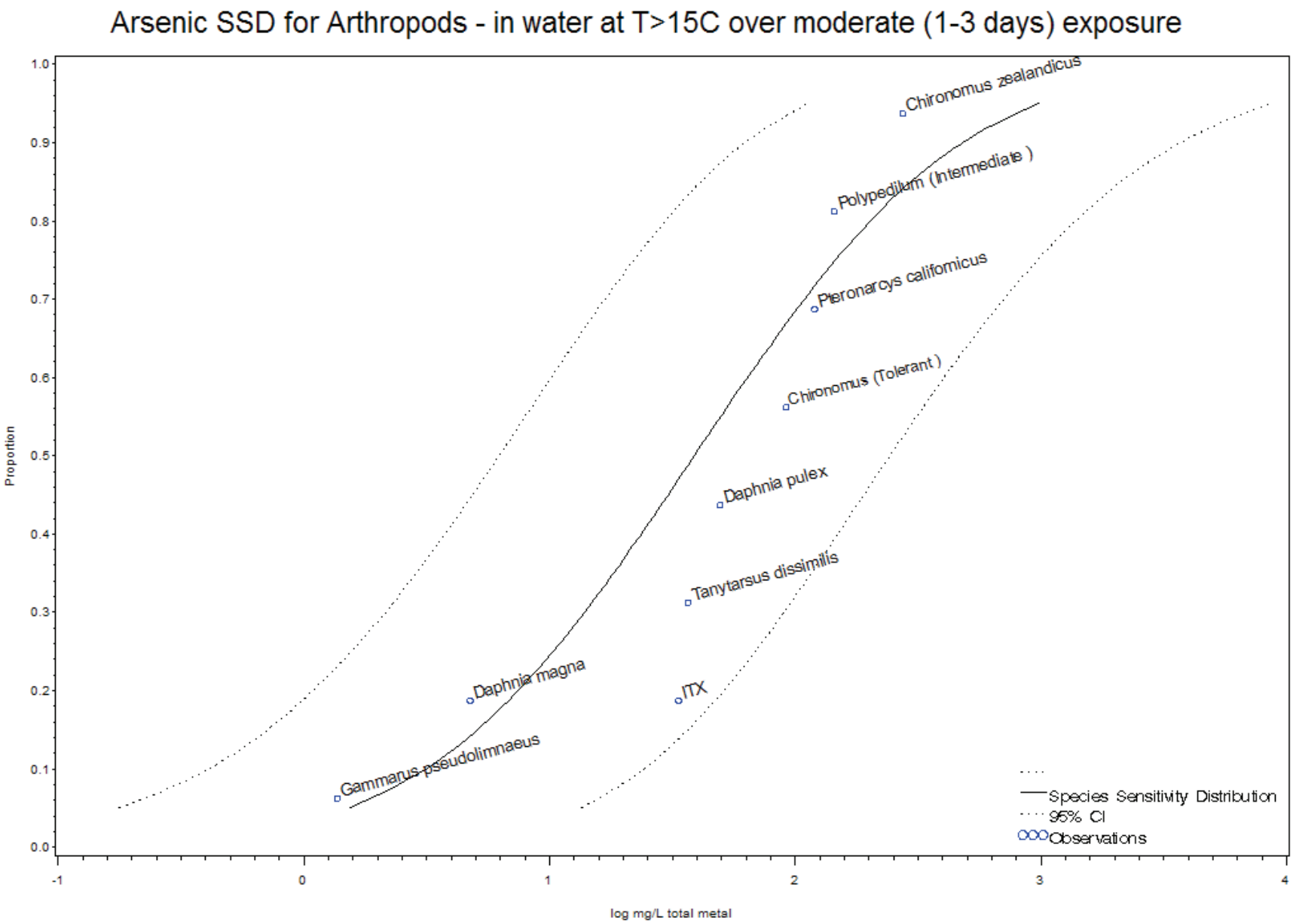
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
6	0.84736	4.10338	0.86964	1.05813	5.84238	4	0.15720

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.131	2.88	0.0059	-0.88302	0.45959	-2.22563	21.9642
0.10	3.71845	0.351	6.18	0.0200	-0.45427	0.79089	-1.69943	17.5289
0.20	4.15838	1.161	16.51	0.0817	0.06490	1.21767	-1.08787	14.1454
0.25	4.32551	1.829	24.46	0.1367	0.26214	1.38854	-0.86426	13.3035
0.30	4.47560	2.750	35.20	0.2148	0.43927	1.54656	-0.66803	12.7243
0.50	5.00000	11.432	136.63	0.9565	1.05813	2.13556	-0.01931	11.8682
0.75	5.67449	71.468	956.12	5.3421	1.85411	2.98051	0.72772	13.3035
0.90	6.28155	371.987	6541.68	21.1527	2.57053	3.81569	1.32537	17.5289
0.95	6.64485	998.325	21972.73	45.3586	2.99927	4.34188	1.65666	21.9642

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.08333	3.61701	Bosmina longirostris	0.850	-0.07058	.	.
0.58333	5.21043	Chironomus (Tolerant)	55.946	1.74777	0.73845	0.42251
0.91667	6.38299	Chironomus zealandicus	199.731	2.30045	0.81187	0.35292
0.41667	4.78957	Daphnia magna	2.647	0.42281	0.23236	0.54957
0.41667	.	-->EC50 -REP	.	0.33647	.	.
0.41667	.	-->GRO	.	-0.08983	0.51966	.
0.41667	.	-->MOR	.	-1.04157	.	.
0.41667	.	-->REP	.	-0.08983	0.51966	.
0.25000	4.32551	Gammarus pseudolimnaeus	0.874	-0.05824	0.00035	0.00603
0.75000	5.67449	Polypedilum (Intermediate)	101.523	2.00656	0.73402	0.36581


Arsenic SSD for Arthropods - in water at T>15C over moderate (1-3 days) exposure
Proportion
log mg/L total metal
Chironomus zealandicus
Polypedilum (Intermediate)
Pteronarcys californicus
Chironomus (Tolerant)
Daphnia pulex
Tanytarsus dissimilis
ITX
Daphnia magna
Gammarus pseudolimnaeus
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 3) data for arthropod species exposed to arsenic in water at T>15C over moderate (1-3 days) exposure

Model Parameters

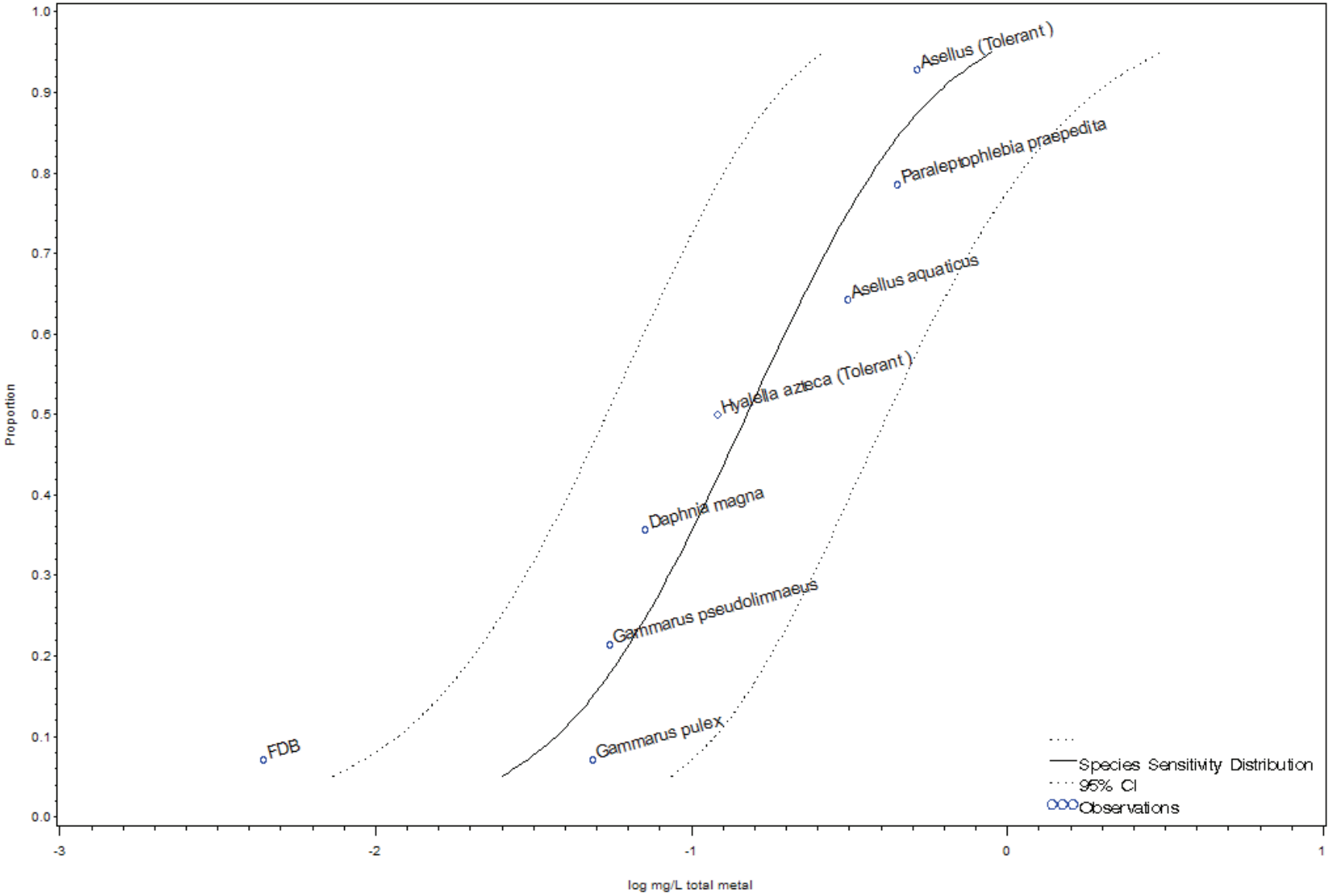
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
8	1.17350	3.13457	0.88601	1.58962	4.38040	6	0.12935

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	1.542	8.61	0.276	0.18796	0.93501	-0.55909	5.40625
0.10	3.71845	3.144	15.90	0.622	0.49755	1.20151	-0.20642	4.86014
0.20	4.15838	7.455	34.38	1.617	0.87243	1.53625	0.20862	4.39435
0.25	4.32551	10.348	46.49	2.303	1.01485	1.66735	0.36236	4.27001
0.30	4.47560	13.892	61.25	3.151	1.14275	1.78709	0.49841	4.18218
0.50	5.00000	38.870	166.45	9.077	1.58962	2.22129	0.95795	4.04869
0.75	5.67449	146.011	655.97	32.500	2.16438	2.81688	1.51189	4.27001
0.90	6.28155	480.497	2430.28	95.000	2.68169	3.38566	1.97772	4.86014
0.95	6.64485	980.117	5474.24	175.482	2.99128	3.73832	2.24423	5.40625

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.5625	5.15731	Chironomus (Tolerant)	92.075	1.96414	0.76599	0.38999
0.9375	6.53412	Chironomus zealandicus	274.916	2.43920	0.77694	0.31852
0.1875	4.11285	Daphnia magna	4.759	0.67750	0.47566	0.70209
0.4375	4.84269	Daphnia pulex	49.600	1.69548	.	.
0.0625	3.46588	Gammarus pseudolimnaeus	1.371	0.13708	0.18877	1.37709
0.8125	5.88715	Polypedilum (Intermediate)	144.447	2.15971	0.77644	0.35951
0.6875	5.48878	Pteronarcys californicus	120.000	2.07918	.	.
0.3125	4.51122	Tanytarsus dissimilis	36.700	1.56467	.	.


Cadmium SSD for Arthropods - in moderately hard water at T<=15C over long (3-30 days) exposure
Proportion
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-3
-2
-1
0
1
log mg/L total metal
Asellus (Tolerant)
Paraleptophlebia praepedita
Asellus aquaticus
Hyalella azteca (Tolerant)
Daphnia magna
Gammarus pseudolimnaeus
Gammarus pulex
FDB
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 11) data for arthropod species exposed to cadmium in moderately hard water at T<=15C over long (3-30 days) exposure

Model Parameters

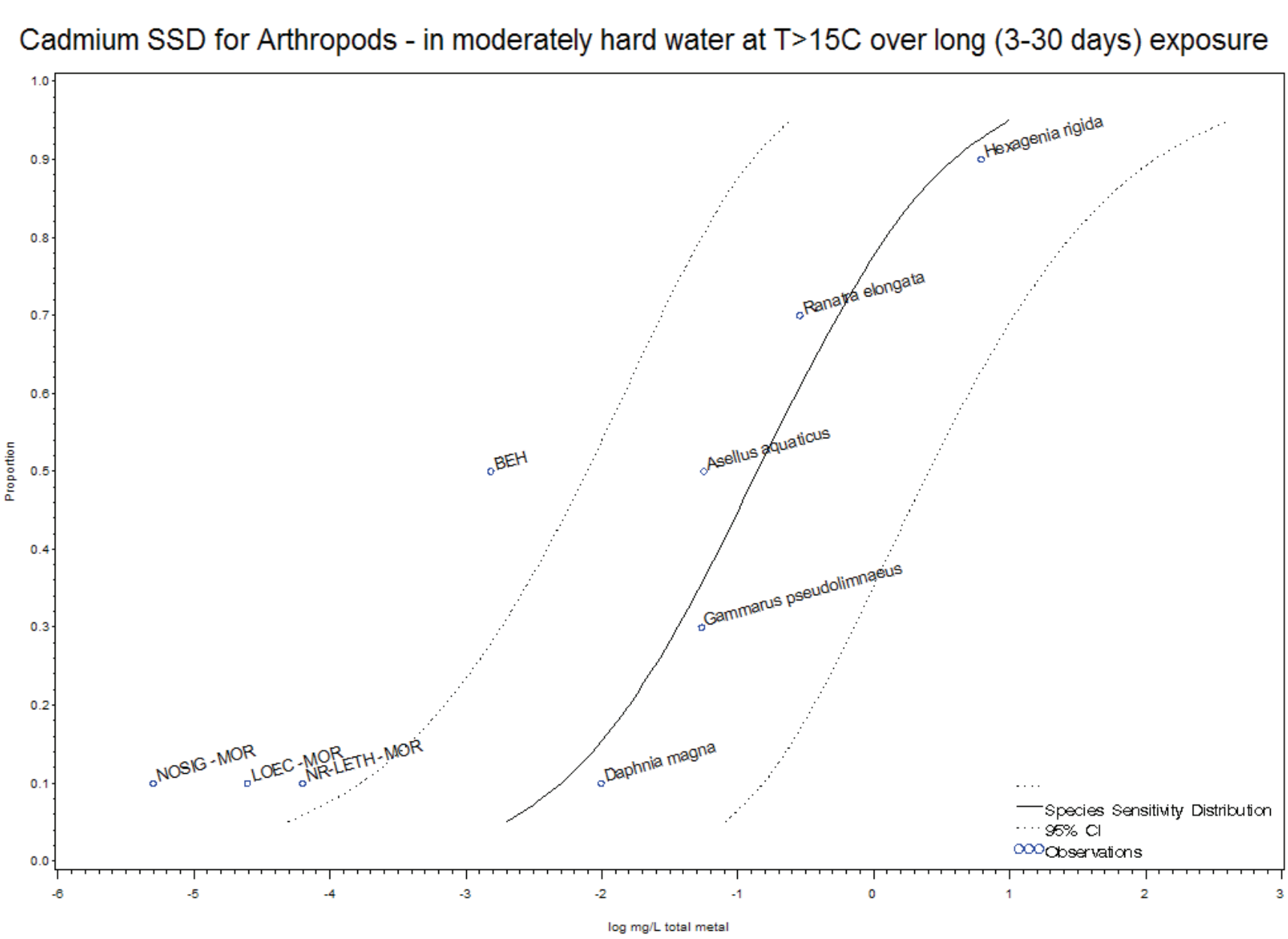
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
7	2.12225	6.74942	0.89866	-0.82432	1.16030	5	0.11787

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.02516	0.06617	0.00956	-1.59938	-1.17931	-2.01944	2.25052
0.10	3.71845	0.03731	0.09232	0.01508	-1.42819	-1.03470	-1.82168	2.07041
0.20	4.15838	0.06013	0.14050	0.02574	-1.22089	-0.85232	-1.58946	1.90854
0.25	4.32551	0.07209	0.16572	0.03136	-1.14214	-0.78063	-1.50365	1.86386
0.30	4.47560	0.08484	0.19275	0.03734	-1.07142	-0.71500	-1.42784	1.83191
0.50	5.00000	0.14986	0.33432	0.06717	-0.82432	-0.47584	-1.17281	1.78267
0.75	5.67449	0.31153	0.71616	0.13551	-0.50650	-0.14499	-0.86802	1.86386
0.90	6.28155	0.60192	1.48948	0.24325	-0.22046	0.17303	-0.61395	2.07041
0.95	6.64485	0.89275	2.34852	0.33936	-0.04927	0.37079	-0.46934	2.25052

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.92857	6.46523	Asellus (Tolerant)	0.51925	-0.28462	0.02842	0.09984
0.64286	5.36611	Asellus aquaticus	0.31348	-0.50379	0.44020	0.87379
0.35714	4.63389	Daphnia magna	0.07141	-1.14621	0.20678	0.18040
0.21429	4.20836	Gammarus pseudolimnaeus	0.05512	-1.25871	0.07226	0.05741
0.07143	3.53477	Gammarus pulex	0.04869	-1.31252	0.80181	0.61089
0.07143	.	-->FDB	.	-2.35527	1.62817	.
0.50000	5.00000	Hyalella azteca (Tolerant)	0.12116	-0.91666	0.36944	0.40303
0.78571	5.79164	Paraleptophlebia praepedita	0.44900	-0.34775	.	.


Cadmium SSD for Arthropods - in moderately hard water at T>15C over long (3-30 days) exposure
Proportion
log mg/L total metal
Hexagenia rigida
Ranatra elongata
Asellus aquaticus
Gammarus pseudolimnaeus
Daphnia magna
BEH
NOSIG-MOR
LOEC-MOR
NR-LETH-MOR
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 12) data for arthropod species exposed to cadmium in moderately hard water at T>15C over long (3-30 days) exposure

Model Parameters

Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
5	0.88991	5.75872	0.91943	-0.85258	4.45206	3	0.10299

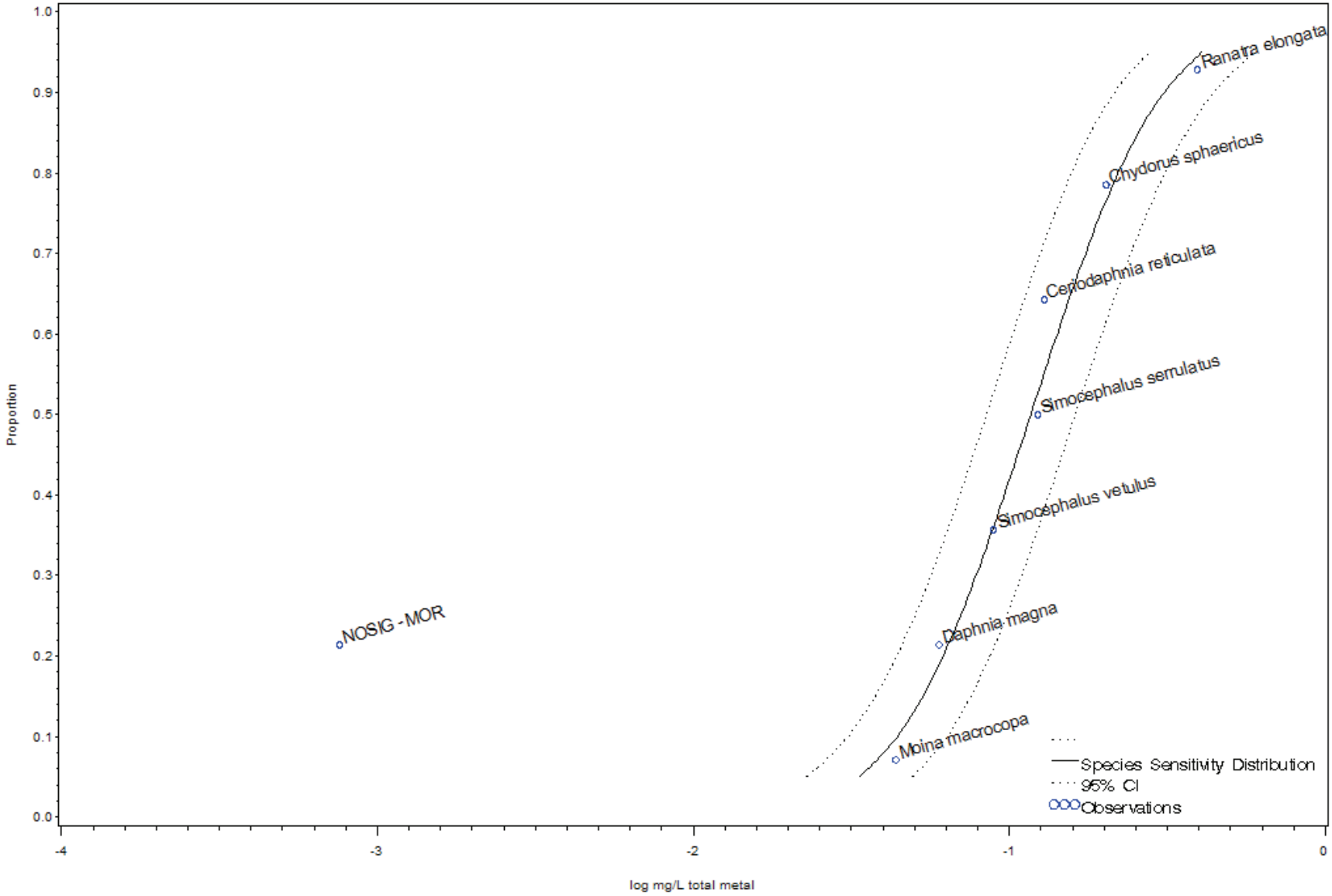
Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.00199	0.031	0.00013	-2.70092	-1.51056	-3.89127	15.4363
0.10	3.71845	0.00510	0.063	0.00041	-2.29267	-1.19733	-3.38801	12.3746
0.20	4.15838	0.01591	0.161	0.00157	-1.79832	-0.79385	-2.80279	10.0045
0.25	4.32551	0.02452	0.233	0.00258	-1.61051	-0.63214	-2.58888	9.4090
0.30	4.47560	0.03615	0.329	0.00397	-1.44186	-0.48246	-2.40125	8.9977
0.50	5.00000	0.14042	1.194	0.01651	-0.85258	0.07708	-1.78224	8.3872
0.75	5.67449	0.80417	7.651	0.08452	-0.09465	0.88371	-1.07302	9.4090
0.90	6.28155	3.86816	48.177	0.31057	0.58750	1.68284	-0.50783	12.3746
0.95	6.64485	9.90261	153.499	0.63884	0.99575	2.18610	-0.19461	15.4363

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.5	5.00000	Asellus aquaticus	0.05658	-1.24734	0.19990	0.16026
0.5	.	-->BEH	.	-2.81341	.	.
0.1	3.71845	Daphnia magna	0.00993	-2.00296	0.07559	0.03774
0.1	.	-->LOEC -MOR	.	-4.60517	0.00000	.
0.1	.	-->NOSIG -MOR	.	-5.29832	0.00000	.
0.1	.	-->NR-LETH -MOR	.	-4.19971	0.00000	.
0.3	4.47560	Gammarus pseudolimnaeus	0.05440	-1.26440	.	.
0.9	6.28155	Hexagenia rigida	6.20000	0.79239	.	.
0.7	5.52440	Ranatra elongata	0.28800	-0.54061	.	.

Cadmium SSD for Arthropods - in moderately hard water at T>15C over moderate (1-3 days) exposure



Species Sensitivity Distribution (SSD 13) data for arthropod species exposed to cadmium in moderately hard water at T>15C over moderate (1-3 days) exposure

Model Parameters

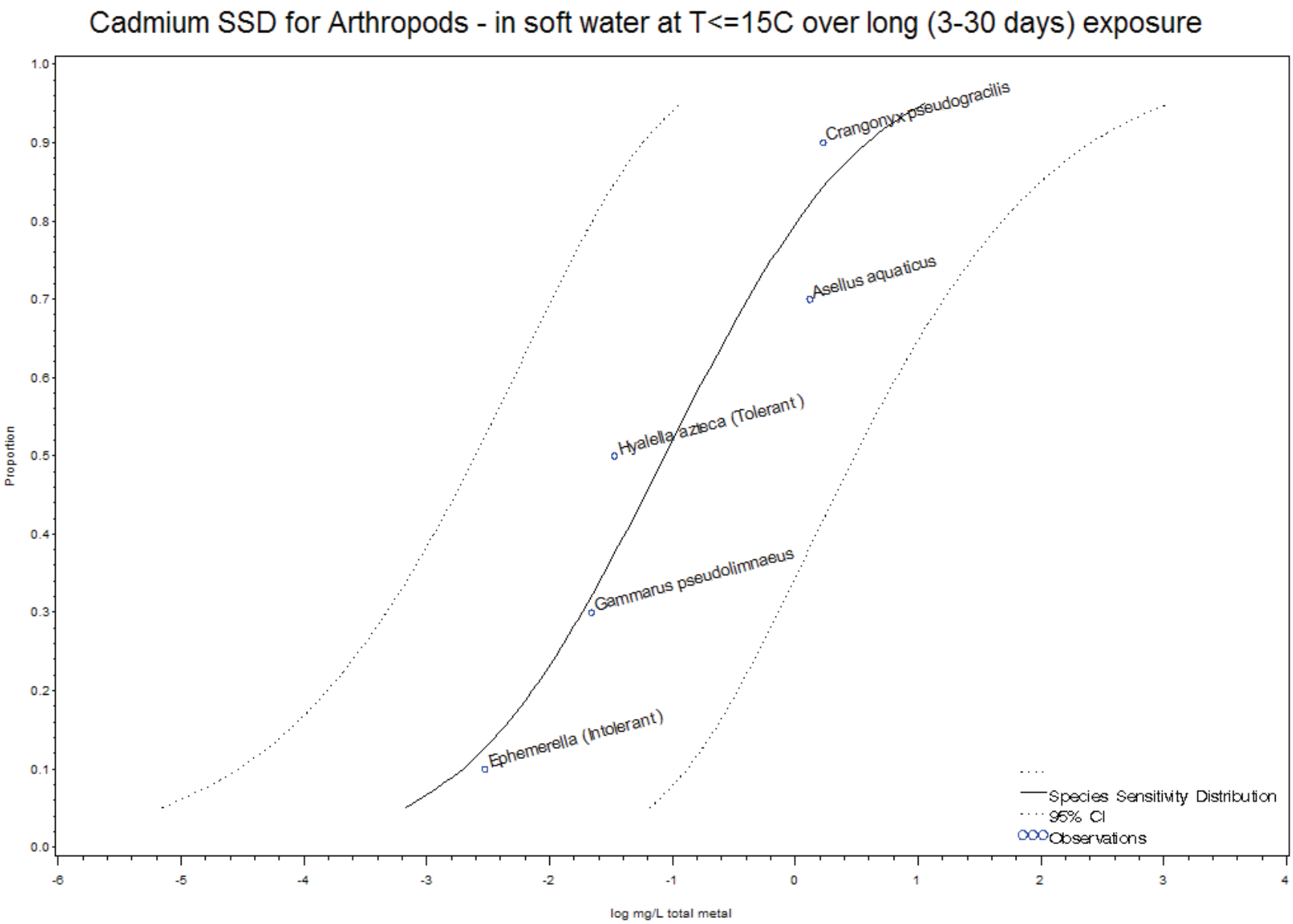
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
7	3.03624	7.83014	0.97931	-0.93212	0.61775	5	0.024065

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.03358	0.04540	0.02484	-1.47386	-1.34290	-1.60481	0.61225
0.10	3.71845	0.04424	0.05874	0.03331	-1.35420	-1.23104	-1.47737	0.57484
0.20	4.15838	0.06176	0.08065	0.04729	-1.20931	-1.09341	-1.32521	0.54008
0.25	4.32551	0.07010	0.09111	0.05394	-1.15427	-1.04042	-1.26811	0.53029
0.30	4.47560	0.07855	0.10175	0.06065	-1.10483	-0.99247	-1.21720	0.52324
0.50	5.00000	0.11692	0.15064	0.09074	-0.93212	-0.82206	-1.04218	0.51229
0.75	5.67449	0.19500	0.25344	0.15003	-0.70997	-0.59613	-0.82382	0.53029
0.90	6.28155	0.30900	0.41033	0.23270	-0.51003	-0.38687	-0.63320	0.57484
0.95	6.64485	0.40702	0.55027	0.30107	-0.39038	-0.25943	-0.52133	0.61225

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.64286	5.36611	Ceriodaphnia reticulata	0.12900	-0.88941	.	.
0.78571	5.79164	Chydorus sphaericus	0.20316	-0.69217	0.19042	0.27511
0.21429	4.20836	Daphnia magna	0.06004	-1.22152	0.42332	0.34655
0.21429	.	-->NOSIG -MOR	.	-3.11996	0.17569	.
0.07143	3.53477	Moina macrocopa	0.04382	-1.35834	0.22965	0.16907
0.92857	6.46523	Ranatra elongata	0.39432	-0.40415	0.06452	0.15965
0.50000	5.00000	Simocephalus serrulatus	0.12300	-0.91009	.	.
0.35714	4.63389	Simocephalus vetulus	0.08930	-1.04915	.	.


Cadmium SSD for Arthropods - in soft water at T<=15C over long (3-30 days) exposure
Proportion
log mg/L total metal
Crangonyx pseudogracilis
Asellus aquaticus
Hyalella azteca (Tolerant)
Gammarus pseudolimnaeus
Ephemerella (Intolerant)
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 14) data for arthropod species exposed to cadmium in soft water at T<=15C over long (3-30 days) exposure

Model Parameters

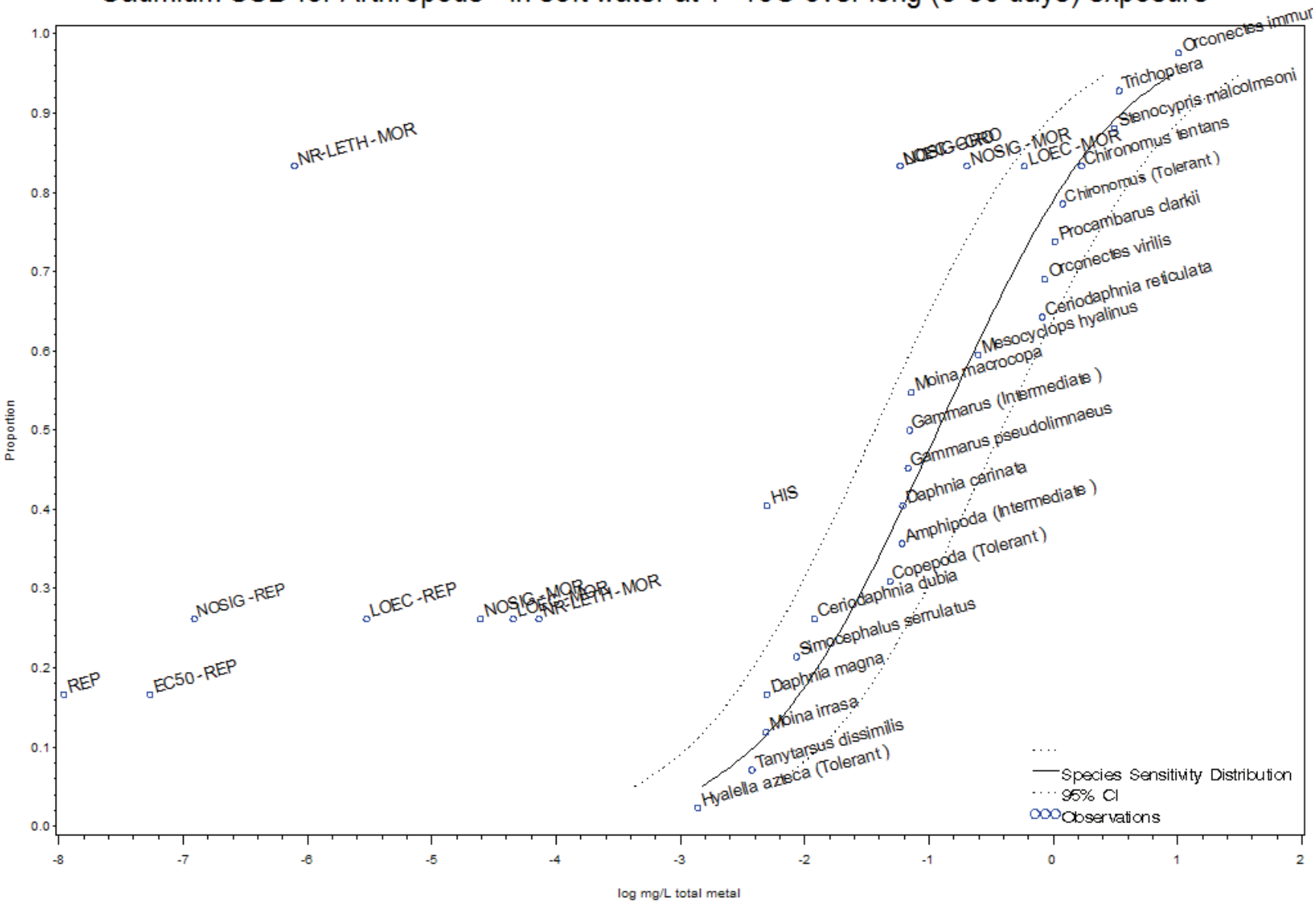
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
5	0.77936	5.82598	0.90663	-1.05982	5.72394	3	0.11934

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.0007	0.020	0.00002	-3.17034	-1.70315	-4.63753	29.2877
0.10	3.71845	0.0020	0.044	0.00009	-2.70419	-1.35516	-4.05322	22.2925
0.20	4.15838	0.0072	0.125	0.00042	-2.13971	-0.90378	-3.37564	17.1579
0.25	4.32551	0.0119	0.190	0.00074	-1.92526	-0.72184	-3.12868	15.9116
0.30	4.47560	0.0185	0.280	0.00122	-1.73268	-0.55289	-2.91247	15.0621
0.50	5.00000	0.0871	1.210	0.00627	-1.05982	0.08291	-2.20254	13.8188
0.75	5.67449	0.6392	10.210	0.04001	-0.19437	1.00905	-1.39779	15.9116
0.90	6.28155	3.8420	85.819	0.17200	0.58455	1.93358	-0.76448	22.2925
0.95	6.64485	11.2385	329.533	0.38328	1.05071	2.51790	-0.41648	29.2877

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.7	5.52440	Asellus aquaticus	1.32000	0.12057	.	.
0.9	6.28155	Crangonyx pseudogracilis	1.70000	0.23045	.	.
0.1	3.71845	Ephemerella (Intolerant)	0.00300	-2.52288	.	.
0.1	.	-->LOEC -ITX	.	-5.80914	.	.
0.3	4.47560	Gammarus pseudolimnaeus	0.02200	-1.65758	.	.
0.5	5.00000	Hyalella azteca (Tolerant)	0.03391	-1.46965	0.23847	0.16226


Cadmium SSD for Arthropods - in soft water at T>15C over long (3-30 days) exposure
Proportion
log mg/L total metal
NR-LETH-MOR
NOSIG-REP
LOEC-REP
NOSIG-MOR
LOEC-MOR
NR-LETH-MOR
REP
EC50-REP
HIS
Orconectes immun
Trichoptera
Stenocypris malcolmsoni
Chironomus tentans
Chironomus (Tolerant)
Procambarus clarkii
Orconectes virilis
Ceriodaphnia reticulata
Mesocyclops hyalinus
Moina macrocopa
Gammarus (Intermediate)
Gammarus pseudolimnaeus
Daphnia carinata
Amphipoda (Intermediate)
Copepoda (Tolerant)
Ceriodaphnia dubia
Simocephalus serrulatus
Daphnia magna
Moina irrasa
Tanytarsus dissimilis
Hyalella azteca (Tolerant)
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 15) data for arthropod species exposed to cadmium in soft water at T>15C over long (3-30 days) exposure

Model Parameters

Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
21	0.86774	5.80424	0.95895	-0.92681	25.1773	19	0.042709

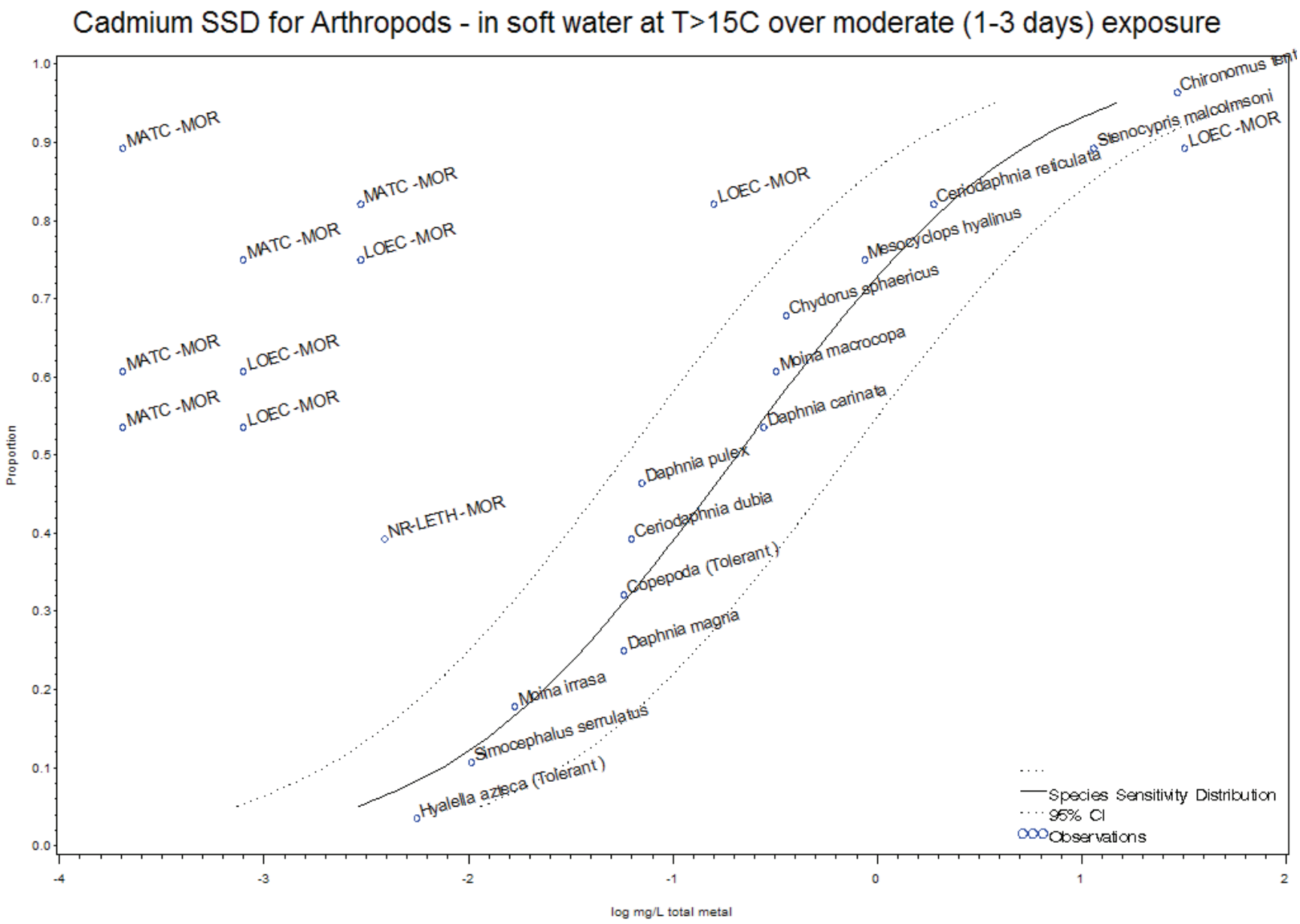
Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.00151	0.0042	0.00053	-2.82236	-2.37307	-3.27166	2.45840
0.10	3.71845	0.00395	0.0108	0.00144	-2.40369	-1.96511	-2.84227	2.38097
0.20	4.15838	0.01269	0.0341	0.00472	-1.89671	-1.46776	-2.32566	2.31259
0.25	4.32551	0.01976	0.0527	0.00741	-1.70410	-1.27781	-2.13040	2.29398
0.30	4.47560	0.02943	0.0782	0.01108	-1.53114	-1.10673	-1.95555	2.28074
0.50	5.00000	0.11835	0.3124	0.04484	-0.92681	-0.50532	-1.34831	2.26048
0.75	5.67449	0.70872	1.8914	0.26557	-0.14952	0.27677	-0.57582	2.29398
0.90	6.28155	3.54864	9.7419	1.29265	0.55006	0.98864	0.11148	2.38097
0.95	6.64485	9.30541	26.1835	3.30708	0.96874	1.41803	0.51944	2.45840

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.35714	4.63389	Amphipoda (Intermediate)	0.0610	-1.21467	.	.
0.26190	4.36252	Ceriodaphnia dubia	0.0120	-1.91951	0.10137	0.0528
0.26190	.	-->LOEC -MOR	.	-4.34281	0.00000	.
0.26190	.	-->LOEC -REP	.	-5.52146	0.00000	.
0.26190	.	-->NOSIG -MOR	.	-4.60517	0.00000	.
0.26190	.	-->NOSIG -REP	.	-6.90776	0.00000	.
0.26190	.	-->NR-LETH -MOR	.	-4.13517	.	.
0.64286	5.36611	Ceriodaphnia reticulata	0.8200	-0.08619	.	.
0.78571	5.79164	Chironomus (Tolerant)	1.2000	0.07918	.	.
0.83333	5.96742	Chironomus tentans	1.6982	0.22998	0.48176	2.0947
0.83333	.	-->LOEC -GRO	.	-1.22963	0.92921	.
0.83333	.	-->LOEC -MOR	.	-0.23105	0.40019	.
0.83333	.	-->NOSIG -GRO	.	-1.22963	0.92921	.
0.83333	.	-->NOSIG -MOR	.	-0.69315	0.00000	.

0.83333	.	-->NR-LETH -MOR	.	-6.10304	0.15779	.
0.30952	4.50280	Copepoda (Tolerant)	0.0490	-1.31017	0.02508	0.0191
0.30952	.	-->NR-LETH -MOR	.	-2.88240	.	.
0.30952	.	-->NoTrend -MOR	.	-4.60517	.	.
0.40476	4.75896	Daphnia carinata	0.0620	-1.20761	.	.
0.40476	.	-->HIS	.	-2.30259	.	.
0.16667	4.03258	Daphnia magna	0.0050	-2.30103	.	.
0.16667	.	-->EC50 -REP	.	-7.26443	.	.
0.16667	.	-->REP	.	-7.95758	.	.
0.50000	5.00000	Gammarus (Intermediate)	0.0700	-1.15490	.	.
0.45238	4.88035	Gammarus pseudolimnaeus	0.0683	-1.16558	.	.
0.02381	3.01925	Hyalella azteca (Tolerant)	0.0014	-2.85757	0.26658	0.0933
0.02381	.	-->LOEC -GRO	.	-6.21461	.	.
0.02381	.	-->LOEC -MOR	.	-6.90776	1.20057	.
0.02381	.	-->NOSIG -GRO	.	-6.21461	.	.
0.02381	.	-->NOSIG -MOR	.	-7.67528	1.32940	.
0.02381	.	-->NR-LETH -MOR	.	-5.38631	0.23410	.
0.59524	5.24104	Mesocyclops hyalinus	0.2500	-0.60206	.	.
0.11905	3.82024	Moina irrasa	0.0049	-2.30884	0.40978	0.1775
0.54762	5.11965	Moina macrocopa	0.0725	-1.13966	.	.
0.97619	6.98075	Orconectes immunis	10.2000	1.00860	.	.
0.69048	5.49720	Orconectes virilis	0.8566	-0.06723	0.73760	10.9714
0.73810	5.63748	Procambarus clarkii	1.0400	0.01703	.	.
0.21429	4.20836	Simocephalus serrulatus	0.0086	-2.06550	.	.
0.88095	6.17976	Stenocypris malcolmsoni	3.1000	0.49136	.	.
0.07143	3.53477	Tanytarsus dissimilis	0.0038	-2.42022	.	.
0.92857	6.46523	Trichoptera	3.4000	0.53148	.	.


Cadmium SSD for Arthropods - in soft water at T>15C over moderate (1-3 days) exposure
Proportion
log mg/L total metal
MATC -MOR
MATC -MOR
MATC -MOR
MATC -MOR
MATC -MOR
LOEC -MOR
LOEC -MOR
LOEC -MOR
LOEC -MOR
LOEC -MOR
NR-LETH-MOR
Daphnia pulex
Ceriodaphnia dubia
Copepoda (Tolerant)
Daphnia magna
Moina irrasa
Simocephalus serrulatus
Hyalella azteca (Tolerant)
Daphnia carinata
Moina macrocopa
Chydorus sphaericus
Mesocyclops hyalinus
Ceriodaphnia reticulata
Stenocypris malcolmsoni
Chironomus tent
LOEC -MOR
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 16) data for arthropod species exposed to cadmium in soft water at T>15C over moderate (1-3 days) exposure

Model Parameters

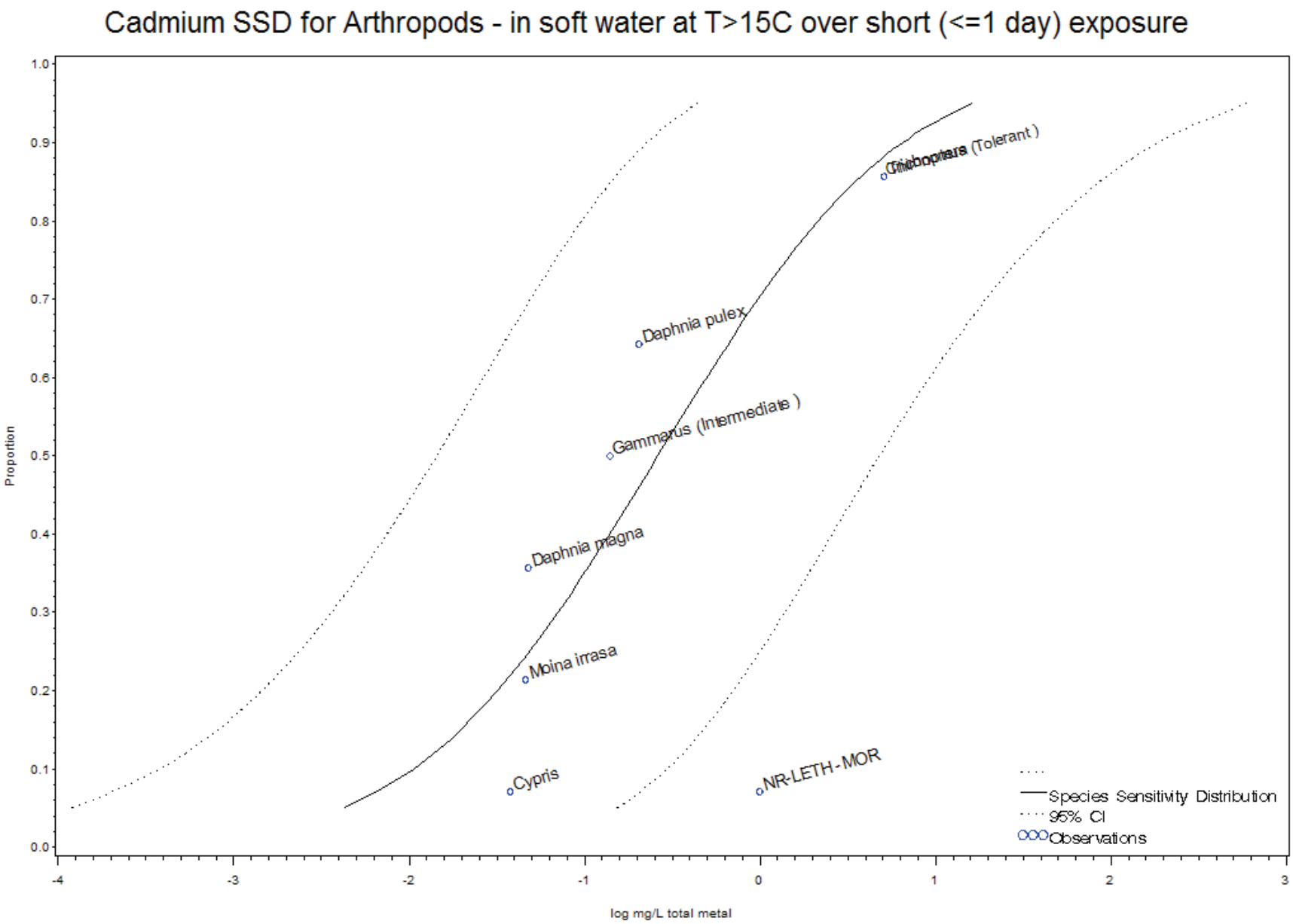
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
14	0.88717	5.60668	0.95696	-0.68384	15.5434	12	0.045848

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.0029	0.0089	0.00094	-2.53789	-2.04884	-3.02695	2.75930
0.10	3.71845	0.0074	0.0221	0.00251	-2.12839	-1.65605	-2.60072	2.63006
0.20	4.15838	0.0233	0.0668	0.00814	-1.63250	-1.17537	-2.08963	2.51601
0.25	4.32551	0.0360	0.1020	0.01268	-1.44412	-0.99120	-1.89704	2.48496
0.30	4.47560	0.0531	0.1496	0.01884	-1.27494	-0.82503	-1.72484	2.46288
0.50	5.00000	0.2071	0.5773	0.07428	-0.68384	-0.23858	-1.12910	2.42907
0.75	5.67449	1.1924	3.3834	0.42025	0.07643	0.52935	-0.37649	2.48496
0.90	6.28155	5.7637	17.1014	1.94254	0.76070	1.23303	0.28837	2.63006
0.95	6.64485	14.7982	45.6316	4.79900	1.17021	1.65927	0.68115	2.75930

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.39286	4.72812	Ceriodaphnia dubia	0.0631	-1.19997	.	.
0.39286	.	-->NR-LETH -MOR	.	-2.40795	.	.
0.82143	5.92082	Ceriodaphnia reticulata	1.9000	0.27875	.	.
0.82143	.	-->LOEC -MOR	.	-0.79851	.	.
0.82143	.	-->MATC -MOR	.	-2.52573	.	.
0.96429	6.80274	Chironomus tentans	29.5600	1.47070	.	.
0.67857	5.46371	Chydorus sphaericus	0.3609	-0.44264	0.16416	0.37088
0.32143	4.53629	Copepoda (Tolerant)	0.0580	-1.23657	.	.
0.53571	5.08964	Daphnia carinata	0.2800	-0.55284	.	.
0.53571	.	-->LOEC -MOR	.	-3.10109	.	.
0.53571	.	-->MATC -MOR	.	-3.68888	.	.
0.25000	4.32551	Daphnia magna	0.0576	-1.23922	0.33147	0.26748
0.46429	4.91036	Daphnia pulex	0.0710	-1.14874	.	.
0.03571	3.19726	Hyalella azteca (Tolerant)	0.0056	-2.25181	.	.
0.75000	5.67449	Mesocyclops hyalinus	0.8700	-0.06048	.	.
0.75000	.	-->LOEC -MOR	.	-2.52573	.	.
0.75000	.	-->MATC -MOR	.	-3.10109	.	.
0.17857	4.07918	Moina irrasa	0.0169	-1.77182	0.33824	0.19090
0.60714	5.27188	Moina macrocopa	0.3200	-0.49485	.	.
0.60714	.	-->LOEC -MOR	.	-3.10109	.	.
0.60714	.	-->MATC -MOR	.	-3.68888	.	.
0.10714	3.75813	Simocephalus serrulatus	0.0104	-1.98500	0.33006	0.16628
0.89286	6.24187	Stenocypris malcolmsoni	11.5000	1.06070	.	.
0.89286	.	-->LOEC -MOR	.	1.50408	.	.
0.89286	.	-->MATC -MOR	.	-3.68888	.	.


Cadmium SSD for Arthropods - in soft water at T>15C over short (<=1 day) exposure
Proportion
log mg/L total metal
Daphnia pulex
Gammarus (Intermediate)
Daphnia magna
Moina irrasa
Cypris
NR-LETH-MOR
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 17) data for arthropod species exposed to cadmium in soft water at T>15C over short (<=1 day) exposure

Model Parameters

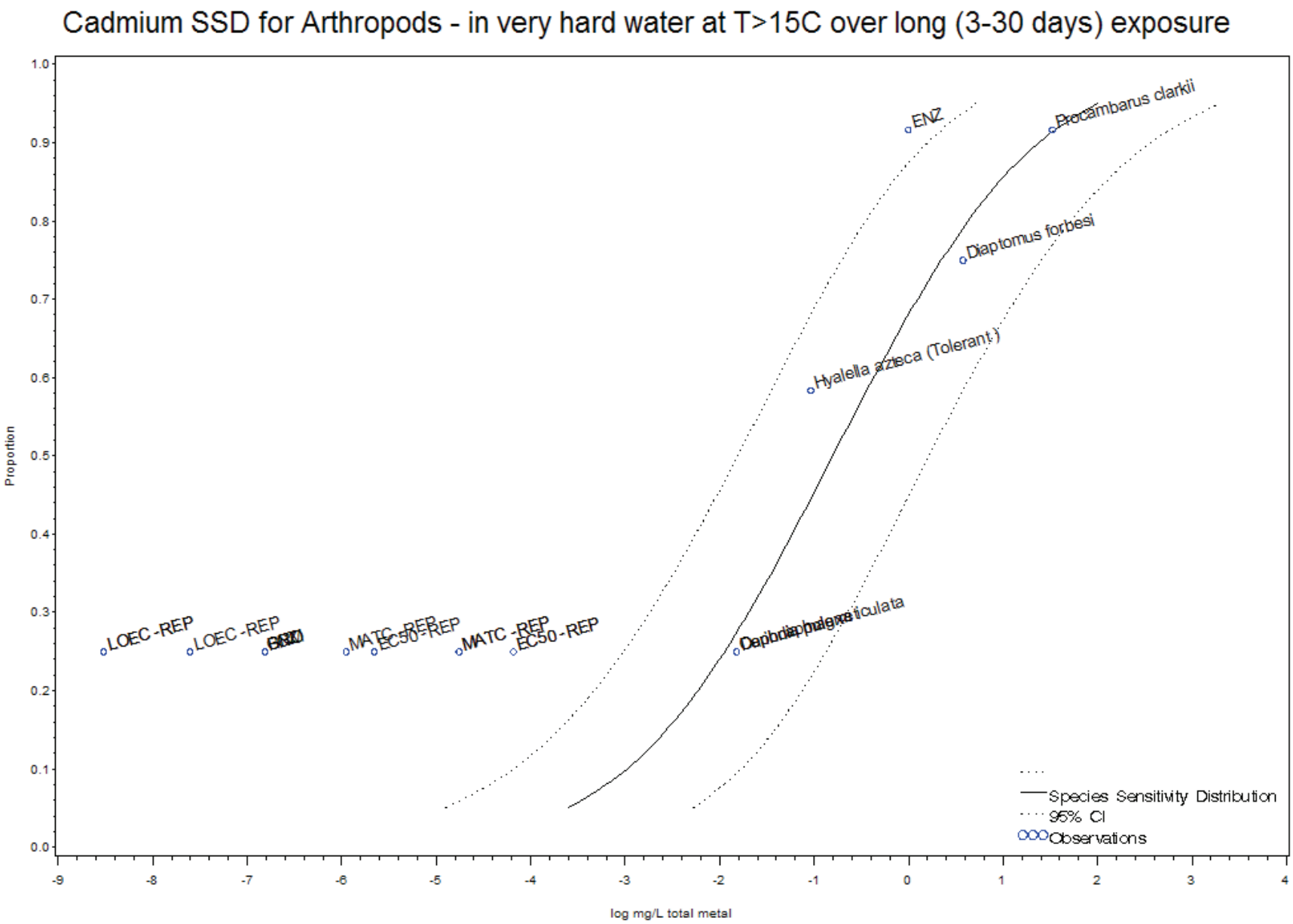
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
7	0.92033	5.53544	0.83241	-0.60069	5.22724	5	0.17829

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.0043	0.071	0.00026	-2.36903	-1.14918	-3.58889	16.5301
0.10	3.71845	0.0106	0.144	0.00078	-1.97428	-0.84059	-3.10797	13.5313
0.20	4.15838	0.0319	0.360	0.00283	-1.49627	-0.44370	-2.54884	11.1982
0.25	4.32551	0.0485	0.519	0.00453	-1.31467	-0.28505	-2.34429	10.6124
0.30	4.47560	0.0705	0.727	0.00684	-1.15159	-0.13848	-2.16470	10.2094
0.50	5.00000	0.2619	2.550	0.02691	-0.58179	0.40655	-1.57014	9.6325
0.75	5.67449	1.4161	15.314	0.13094	0.15108	1.18509	-0.88292	10.7221
0.90	6.28155	6.4669	89.527	0.46713	0.81070	1.95195	-0.33056	13.7716
0.95	6.64485	16.0489	271.845	0.94748	1.20545	2.43432	-0.02343	16.8795

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.85714	6.06757	Chironomus (Tolerant)	5.10000	0.70757	.	.
0.07143	3.53477	Cypris	0.03779	-1.42264	0.06489	0.04561
0.07143	.	-->NR-LETH -MOR	.	0.00000	.	.
0.35714	4.63389	Daphnia magna	0.04800	-1.31876	.	.
0.64286	5.36611	Daphnia pulex	0.20494	-0.68838	0.23405	0.34000
0.50000	5.00000	Gammarus (Intermediate)	0.14000	-0.85387	.	.
0.21429	4.20836	Moina irrasa	0.04610	-1.33632	0.24426	0.18278
0.85714	6.06757	Trichoptera	5.10000	0.70757	.	.


Cadmium SSD for Arthropods - in very hard water at T>15C over long (3-30 days) exposure
Proportion
log mg/L total metal
ENZ
Procambarus clarkii
Diaptomus forbesi
Hyalella azteca (Tolerant)
LOEC -REP
LOEC -REP
MATC -REP
EC50 -REP
MATC -REP
EC50 -REP
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 18) data for arthropod species exposed to cadmium in very hard water at T>15C over long (3-30 days) exposure

Model Parameters

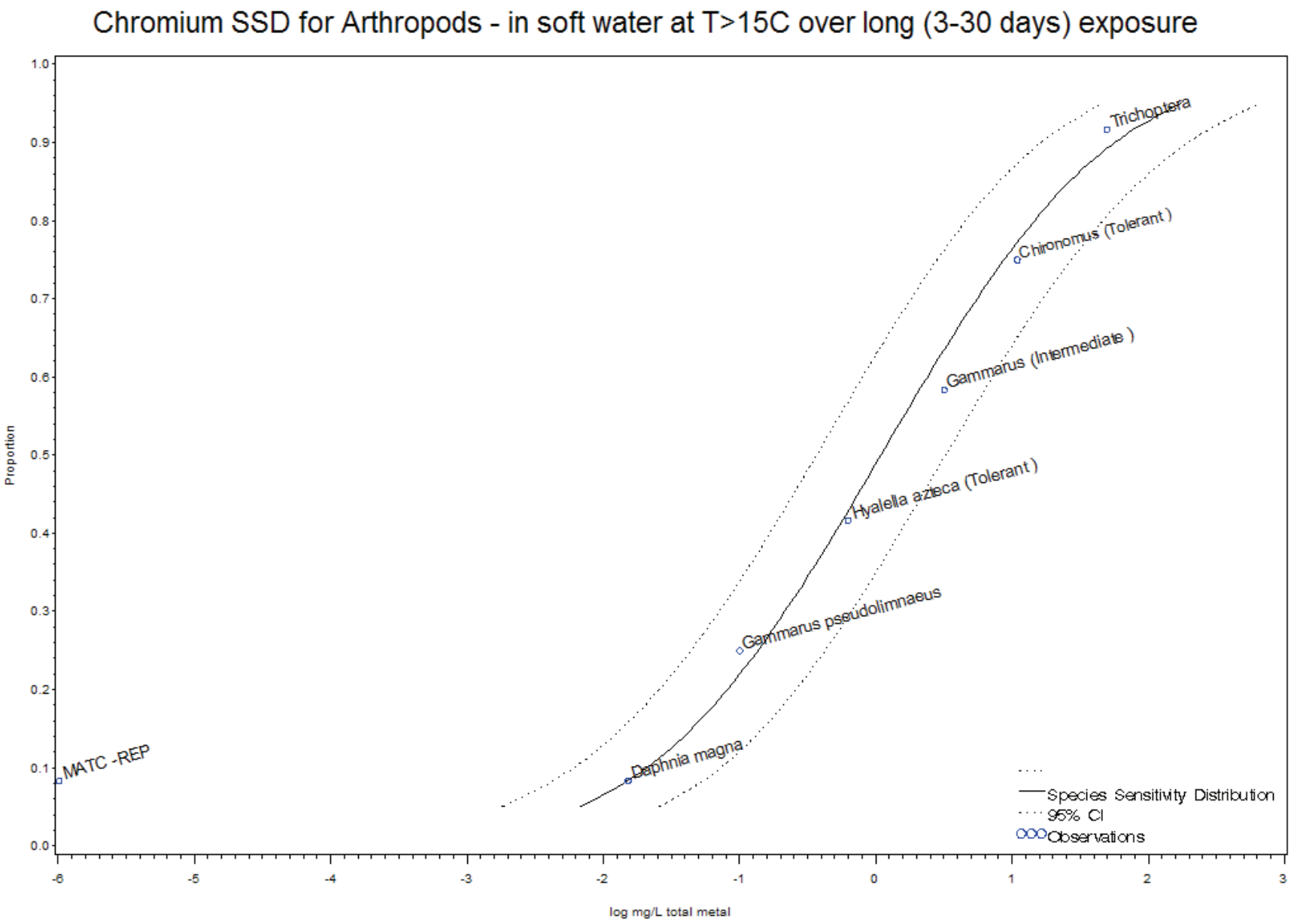
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
6	0.58842	5.46977	0.95813	-0.72913	10.4236	4	0.039427

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.0003	0.003	0.0000	-3.59375	-2.58817	-4.59934	10.0307
0.10	3.71845	0.0011	0.009	0.0001	-2.97633	-2.05194	-3.90072	8.2832
0.20	4.15838	0.0059	0.041	0.0008	-2.22868	-1.38286	-3.07451	6.8691
0.25	4.32551	0.0114	0.076	0.0017	-1.94465	-1.12176	-2.76753	6.5006
0.30	4.47560	0.0204	0.131	0.0032	-1.68957	-0.88361	-2.49554	6.2405
0.50	5.00000	0.1591	0.952	0.0266	-0.79837	-0.02118	-1.57555	5.8196
0.75	5.67449	2.2280	14.493	0.3425	0.34791	1.16116	-0.46534	6.3513
0.90	6.28155	23.9660	193.930	2.9617	1.37960	2.28764	0.47155	7.9683
0.95	6.64485	99.3156	962.288	10.2501	1.99702	2.98330	1.01073	9.5860

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.25000	4.32551	Ceriodaphnia reticulata	0.0153	-1.81531	.	.
0.25000	.	-->EC50 -REP	.	-4.17990	.	.
0.25000	.	-->LOEC -REP	.	-8.51719	.	.
0.25000	.	-->MATC -REP	.	-4.75599	.	.
0.25000	4.32551	Daphnia magna	0.0153	-1.81531	.	.
0.25000	.	-->BCM	.	-6.81245	.	.
0.25000	.	-->EC50 -REP	.	-5.65499	.	.
0.25000	.	-->ENZ	.	-6.81245	.	.
0.25000	.	-->GRO	.	-6.81245	.	.
0.25000	.	-->LOEC -REP	.	-7.60090	.	.
0.25000	.	-->MATC -REP	.	-5.95224	.	.
0.25000	4.32551	Daphnia pulex	0.0153	-1.81531	.	.
0.25000	.	-->EC50 -REP	.	-4.17990	.	.
0.25000	.	-->LOEC -REP	.	-8.51719	.	.
0.25000	.	-->MATC -REP	.	-4.75599	.	.
0.75000	5.67449	Diaptomus forbesi	3.7991	0.57968	0.11160	0.19252
0.58333	5.21043	Hyalella azteca (Tolerant)	0.0927	-1.03306	0.40679	0.39378
0.91667	6.38299	Procambarus clarkii	33.4594	1.52452	0.25160	0.16504
0.91667	.	-->ENZ	.	0.00000	.	.


Chromium SSD for Arthropods - in soft water at T>15C over long (3-30 days) exposure
Proportion
log mg/L total metal
MATC -REP
Daphnia magna
Gammarus pseudolimnaeus
Hyalella azteca (Tolerant)
Gammarus (Intermediate)
Chironomus (Tolerant)
Trichoptera
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 50) data for arthropod species exposed to Chromium in soft water at T>15C over long (3-30 days) exposure

Model Parameters

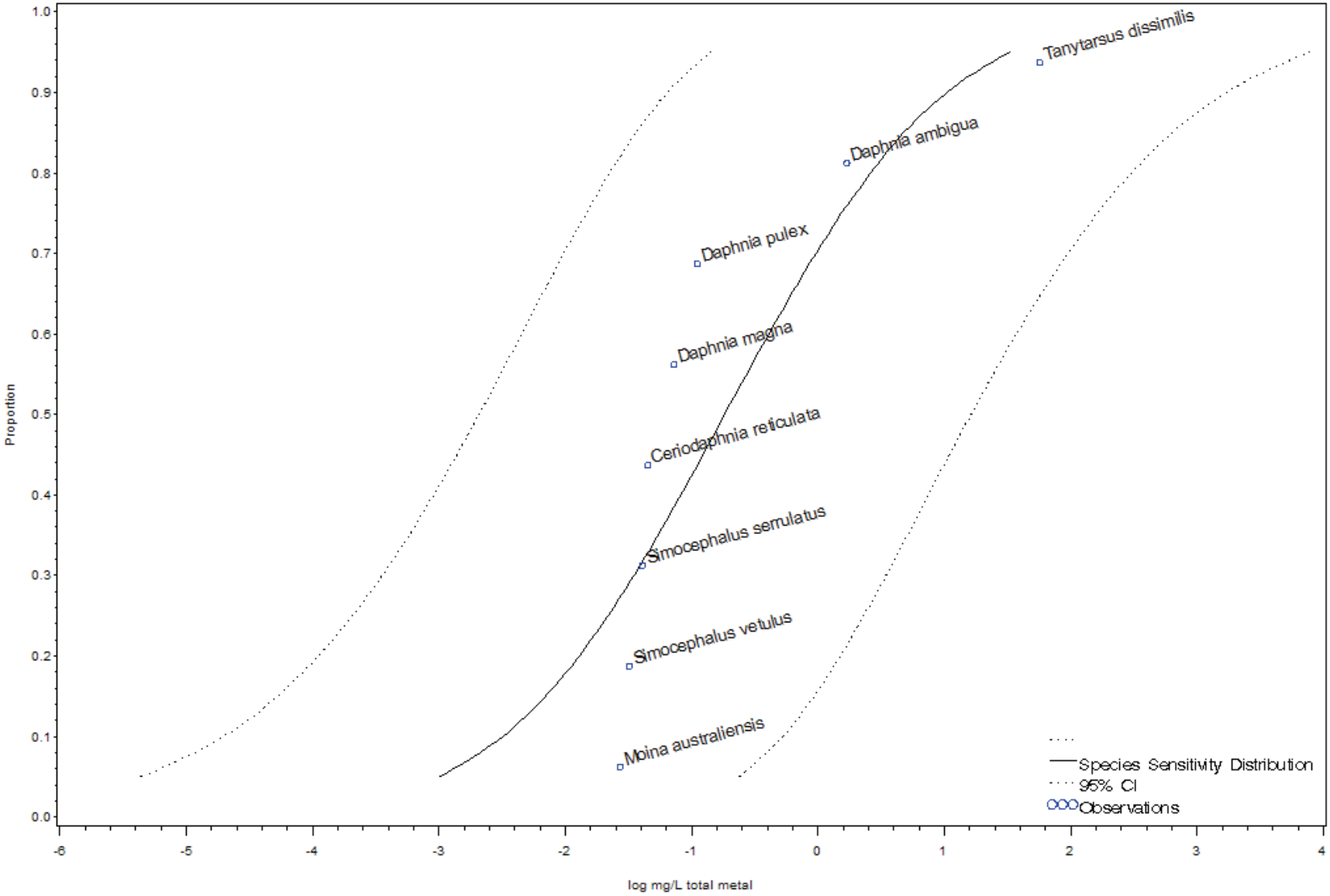
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
6	0.74693	4.97097	0.98847	0.038867	8.54650	4	0.013908

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.007	0.019	0.0025	-2.16328	-1.72004	-2.60652	2.41450
0.10	3.71845	0.021	0.055	0.0081	-1.67689	-1.26312	-2.09065	2.20710
0.20	4.15838	0.082	0.199	0.0336	-1.08790	-0.70189	-1.47392	2.02116
0.25	4.32551	0.137	0.327	0.0572	-0.86415	-0.48601	-1.24228	1.96991
0.30	4.47560	0.217	0.512	0.0921	-0.66321	-0.29076	-1.03565	1.93325
0.50	5.00000	1.094	2.526	0.4735	0.03887	0.40243	-0.32470	1.87679
0.75	5.67449	8.747	20.894	3.6622	0.94188	1.32002	0.56374	1.96991
0.90	6.28155	56.836	147.363	21.9208	1.75462	2.16839	1.34086	2.20710
0.95	6.64485	174.187	483.347	62.7730	2.24102	2.68426	1.79777	2.41450

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.75000	5.67449	Chironomus (Tolerant)	11.0000	1.04139	.	.
0.08333	3.61701	Daphnia magna	0.0153	-1.81597	0.22202	0.12226
0.08333	.	-->MATC -REP	.	-5.99146	.	.
0.58333	5.21043	Gammarus (Intermediate)	3.2000	0.50515	.	.
0.25000	4.32551	Gammarus pseudolimnaeus	0.1010	-0.99568	.	.
0.41667	4.78957	Hyalella azteca (Tolerant)	0.6300	-0.20066	.	.
0.91667	6.38299	Trichoptera	50.0000	1.69897	.	.


Chromium SSD for Arthropods - in soft water at T>15C over moderate (1-3 days) exposure
Proportion
log mg/L total metal
Tanytarsus dissimilis
Daphnia ambigua
Daphnia pulex
Daphnia magna
Ceriodaphnia reticulata
Simocephalus serrulatus
Simocephalus vetulus
Moina australiensis
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 51) data for arthropod species exposed to Chromium in soft water at T>15C over moderate (1-3 days) exposure

Model Parameters

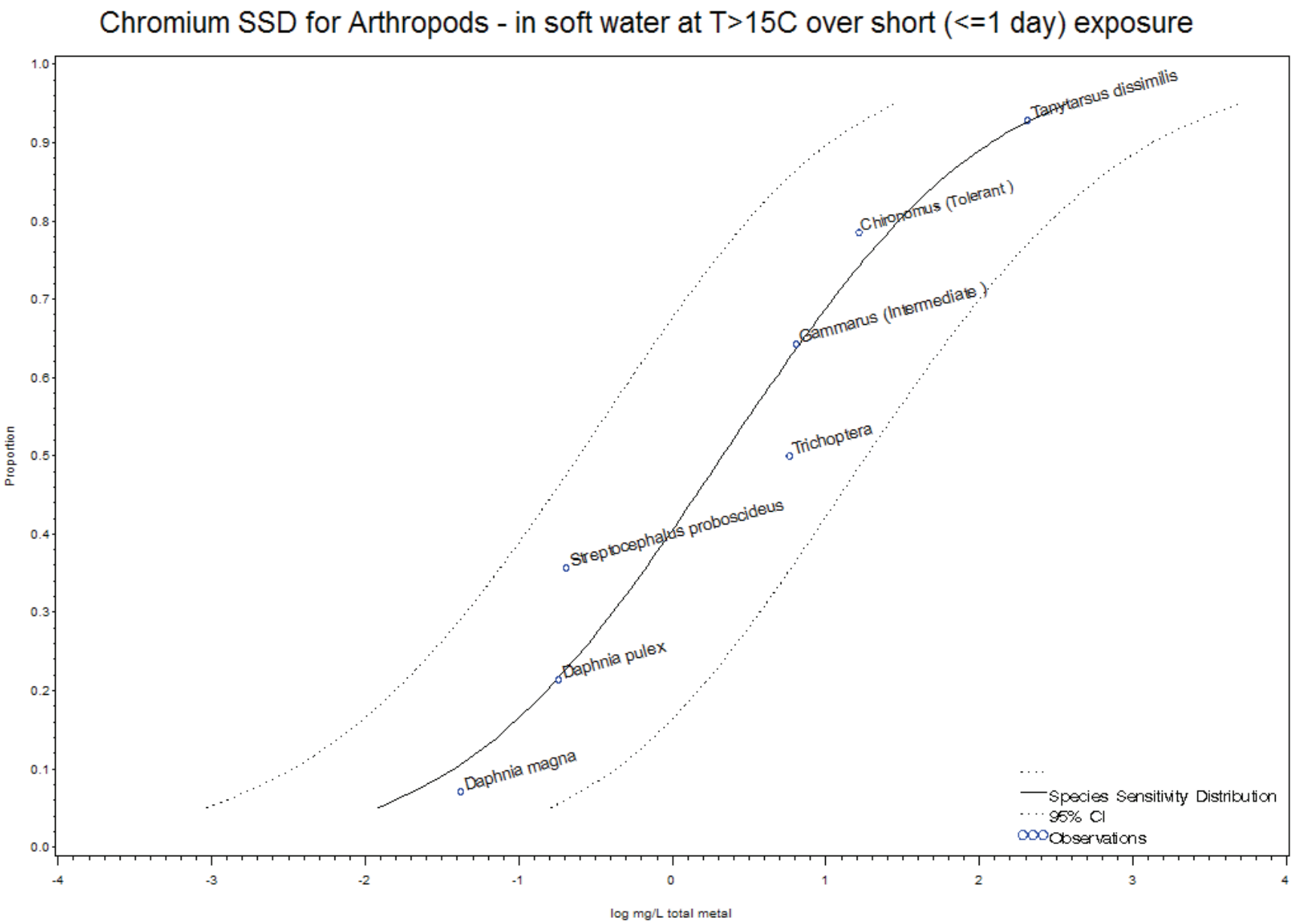
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
8	0.72953	5.53725	0.73605	-0.73643	9.41596	6	0.29951

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.0010	0.08	0.00001	-2.99110	-1.11020	-4.87200	76.0025
0.10	3.71845	0.0032	0.18	0.00006	-2.49311	-0.73613	-4.25009	57.1279
0.20	4.15838	0.0129	0.56	0.00029	-1.89008	-0.24968	-3.53048	43.6692
0.25	4.32551	0.0218	0.88	0.00054	-1.66098	-0.05366	-3.26830	40.4627
0.30	4.47560	0.0351	1.34	0.00091	-1.45525	0.12816	-3.03866	38.2922
0.50	5.00000	0.1835	6.45	0.00522	-0.73643	0.80971	-2.28258	35.1395
0.75	5.67449	1.5421	62.44	0.03809	0.18812	1.79544	-1.41920	40.4627
0.90	6.28155	10.4771	598.72	0.18334	1.02024	2.77722	-0.73674	57.1279
0.95	6.64485	32.9786	2506.89	0.43384	1.51823	3.39914	-0.36267	76.0025

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.4375	4.84269	Ceriodaphnia reticulata	0.0452	-1.34486	.	.
0.8125	5.88715	Daphnia ambigua	1.7000	0.23045	.	.
0.5625	5.15731	Daphnia magna	0.0729	-1.13738	0.96863	0.85163
0.6875	5.48878	Daphnia pulex	0.1111	-0.95420	0.44431	0.46563
0.0625	3.46588	Moina australiensis	0.0273	-1.56456	0.09959	0.06366
0.3125	4.51122	Simocephalus serrulatus	0.0409	-1.38828	.	.
0.1875	4.11285	Simocephalus vetulus	0.0323	-1.49080	.	.
0.9375	6.53412	Tanytarsus dissimilis	57.3000	1.75815	.	.


Chromium SSD for Arthropods - in soft water at T>15C over short (<=1 day) exposure
Proportion
log mg/L total metal
Tanytarsus dissimilis
Chironomus (Tolerant)
Gammarus (Intermediate)
Trichoptera
Streptocephalus proboscideus
Daphnia pulex
Daphnia magna
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 52) data for arthropod species exposed to Chromium in soft water at T>15C over short (<=1 day) exposure

Model Parameters

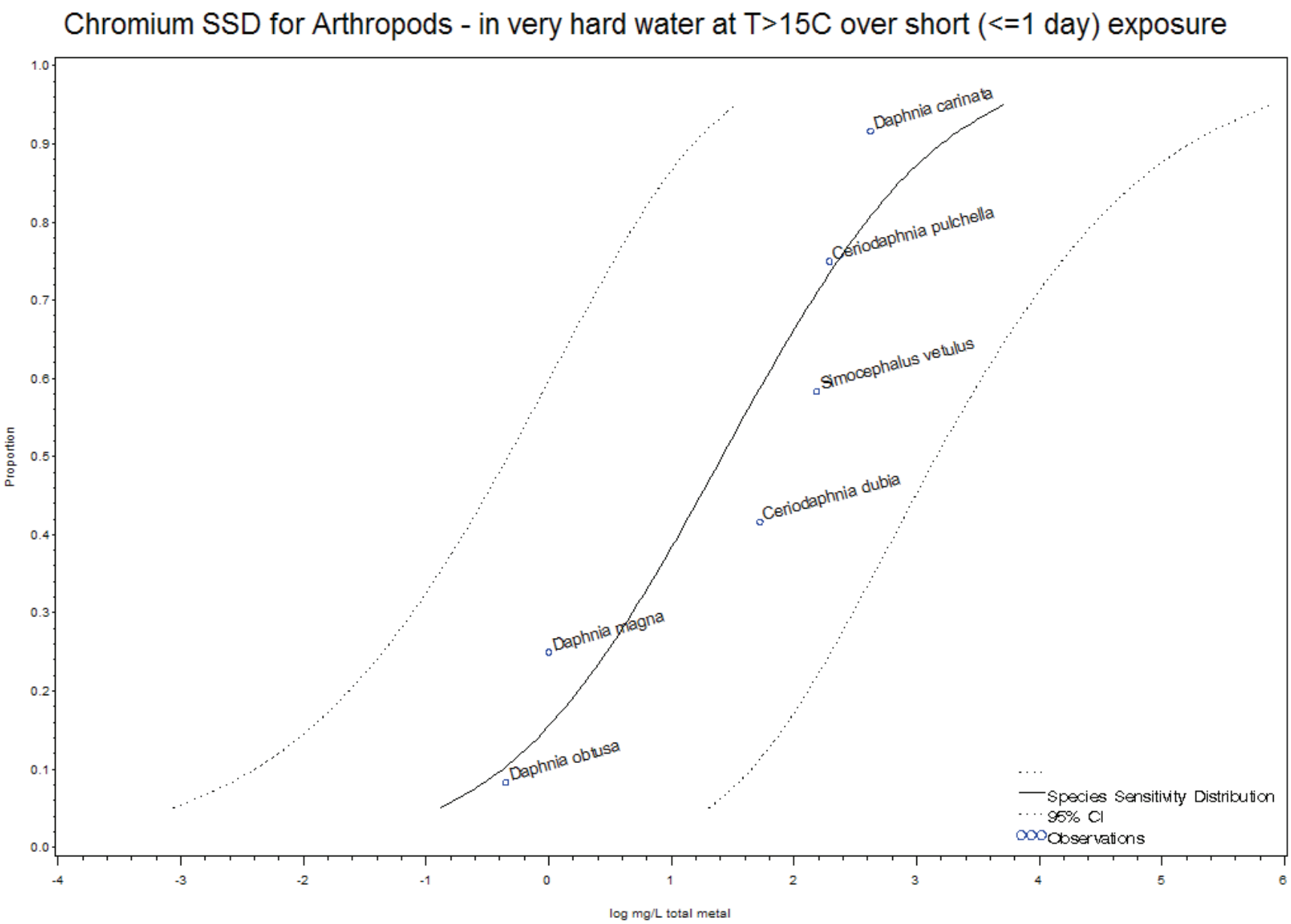
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
7	0.73325	4.75964	0.94634	0.32780	10.2356	5	0.062415

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.012	0.09	0.0016	-1.91545	-1.03770	-2.79320	7.41410
0.10	3.71845	0.038	0.25	0.0057	-1.41998	-0.59573	-2.24422	6.52199
0.20	4.15838	0.151	0.90	0.0255	-0.82000	-0.04581	-1.59420	5.77741
0.25	4.32551	0.256	1.47	0.0445	-0.59207	0.16798	-1.35212	5.58130
0.30	4.47560	0.410	2.30	0.0729	-0.38738	0.36247	-1.13722	5.44347
0.50	5.00000	2.127	11.53	0.3925	0.32780	1.06177	-0.40617	5.23509
0.75	5.67449	17.688	101.79	3.0734	1.24767	2.00772	0.48762	5.58130
0.90	6.28155	119.009	794.01	17.8374	2.07558	2.89983	1.25133	6.52199
0.95	6.64485	372.434	2810.62	49.3512	2.57105	3.44880	1.69330	7.41410

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.78571	5.79164	Chironomus (Tolerant)	16.500	1.21748	.	.
0.07143	3.53477	Daphnia magna	0.042	-1.37687	0.30378	0.22063
0.21429	4.20836	Daphnia pulex	0.182	-0.74062	0.24127	0.32577
0.64286	5.36611	Gammarus (Intermediate)	6.400	0.80618	.	.
0.35714	4.63389	Streptocephalus proboscideus	0.205	-0.68886	0.32720	0.47498
0.92857	6.46523	Tanytarsus dissimilis	206.000	2.31387	.	.
0.50000	5.00000	Trichoptera	5.800	0.76343	.	.


Chromium SSD for Arthropods - in very hard water at T>15C over short (<=1 day) exposure
Proportion
log mg/L total metal
Daphnia carinata
Ceriodaphnia pulchella
Simocephalus vetulus
Ceriodaphnia dubia
Daphnia magna
Daphnia obtusa
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 53) data for arthropod species exposed to Chromium in very hard water at T>15C over short (<=1 day) exposure

Model Parameters

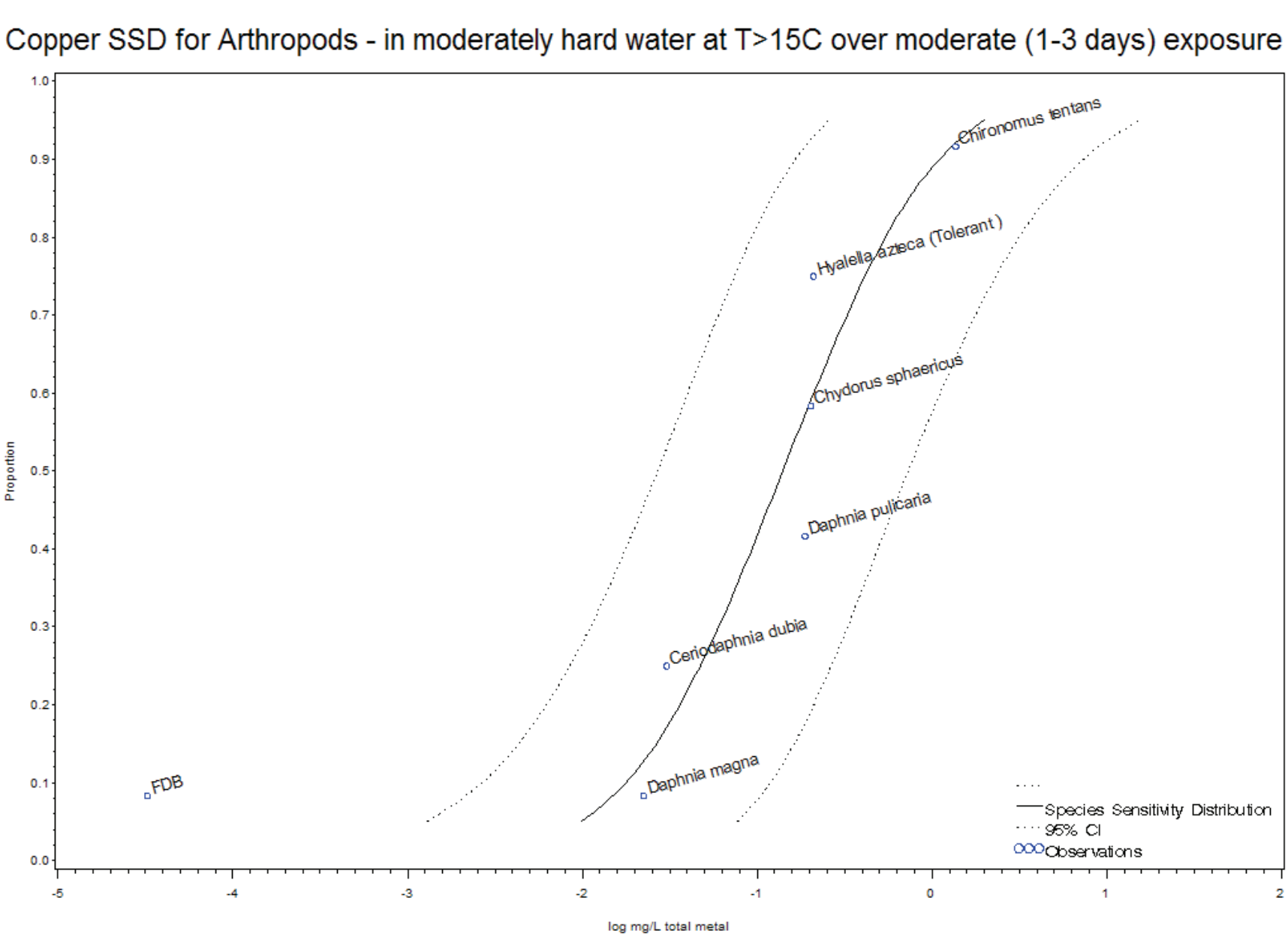
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
6	0.71719	3.98528	0.85514	1.41486	8.01973	4	0.17470

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.13	6.29	0.003	-0.87862	0.79866	-2.55590	47.5430
0.10	3.71845	0.42	15.21	0.012	-0.37205	1.18211	-1.92622	35.7952
0.20	4.15838	1.74	47.72	0.064	0.24136	1.67868	-1.19596	27.3366
0.25	4.32551	2.98	75.57	0.118	0.47440	1.87835	-0.92956	25.3091
0.30	4.47560	4.83	115.73	0.201	0.68367	2.06344	-0.69609	23.9336
0.50	5.00000	25.99	571.24	1.183	1.41486	2.75682	0.07291	21.9308
0.75	5.67449	226.64	5744.91	8.941	2.35533	3.75928	0.95138	25.3091
0.90	6.28155	1591.40	57008.98	44.424	3.20178	4.75594	1.64762	35.7952
0.95	6.64485	5109.11	243010.07	107.415	3.70835	5.38562	2.03107	47.5430

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.41667	4.78957	Ceriodaphnia dubia	53.000	1.72428	.	.
0.75000	5.67449	Ceriodaphnia pulchella	196.000	2.29226	.	.
0.91667	6.38299	Daphnia carinata	423.000	2.62634	.	.
0.25000	4.32551	Daphnia magna	1.013	0.00558	0.60242	107.983
0.08333	3.61701	Daphnia obtusa	0.450	-0.34679	.	.
0.58333	5.21043	Simocephalus vetulus	154.000	2.18752	.	.


Copper SSD for Arthropods - in moderately hard water at T>15C over moderate (1-3 days) exposure
Proportion
log mg/L total metal
Chironomus tentans
Hyalella azteca (Tolerant)
Chydorus sphaericus
Daphnia pulicaria
Ceriodaphnia dubia
Daphnia magna
FDB
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 72) data for arthropod species exposed to copper in moderately hard water at T>15C over moderate (1-3 days) exposure

Model Parameters

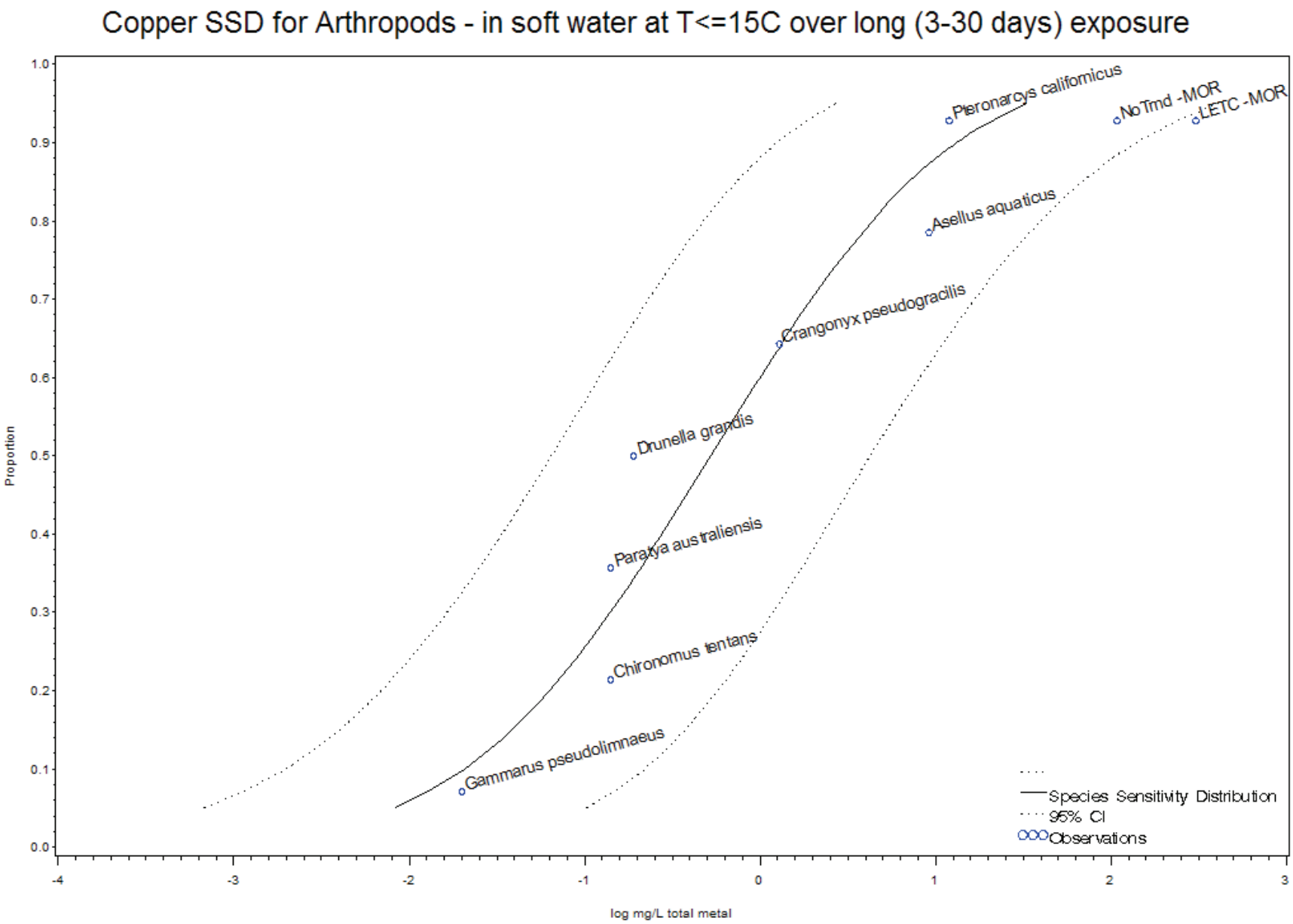
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
6	1.43112	6.22092	0.90295	-0.85312	2.12665	4	0.11704

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.00994	0.04775	0.00207	-2.00246	-1.32106	-2.68387	4.59355
0.10	3.71845	0.01784	0.07666	0.00415	-1.74861	-1.11542	-2.38179	4.06446
0.20	4.15838	0.03621	0.14007	0.00936	-1.44120	-0.85364	-2.02876	3.61017
0.25	4.32551	0.04738	0.17788	0.01262	-1.32442	-0.74986	-1.89898	3.48822
0.30	4.47560	0.06032	0.22162	0.01642	-1.21955	-0.65440	-1.78469	3.40187
0.50	5.00000	0.14024	0.49811	0.03949	-0.85312	-0.30267	-1.40357	3.27024
0.75	5.67449	0.41513	1.55862	0.11057	-0.38182	0.19274	-0.95638	3.48822
0.90	6.28155	1.10247	4.73751	0.25656	0.04237	0.67555	-0.59082	4.06446
0.95	6.64485	1.97800	9.49796	0.41193	0.29623	0.97763	-0.38518	4.59355

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.25000	4.32551	Ceriodaphnia dubia	0.03054	-1.51519	0.44633	0.29457
0.91667	6.38299	Chironomus tentans	1.37108	0.13706	0.88793	6.47826
0.58333	5.21043	Chydorus sphaericus	0.20375	-0.69089	0.03013	0.04361
0.08333	3.61701	Daphnia magna	0.02243	-1.64913	0.74840	0.45381
0.08333	.	-->FDB	.	-4.48739	.	.
0.41667	4.78957	Daphnia pulicaria	0.18850	-0.72468	0.26558	0.36647
0.75000	5.67449	Hyalella azteca (Tolerant)	0.21092	-0.67589	0.78243	1.15763


Copper SSD for Arthropods - in soft water at T<=15C over long (3-30 days) exposure
Proportion
log mg/L total metal
Pteronarcys californicus
NoTmd -MOR
LETC -MOR
Asellus aquaticus
Crangonyx pseudogracilis
Drunella grandis
Paraleptophlebia australiensis
Chironomus tentans
Gammarus pseudolimnaeus
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 73) data for arthropod species exposed to copper in soft water at T<=15C over long (3-30 days) exposure

Model Parameters

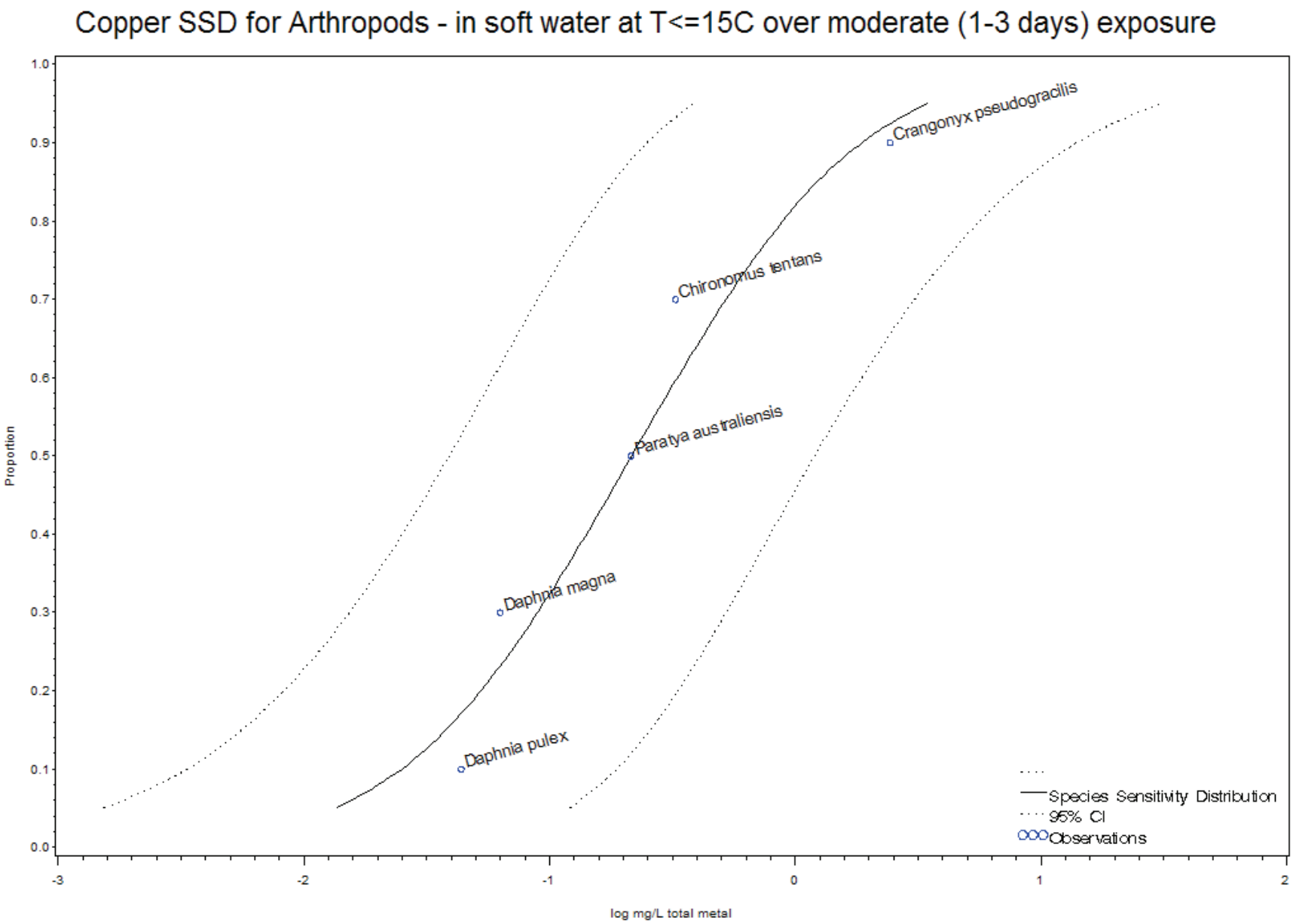
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
7	0.91454	5.25692	0.92142	-0.28093	6.40643	5	0.091398

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.0083	0.060	0.00116	-2.07948	-1.22441	-2.93454	7.02290
0.10	3.71845	0.0208	0.132	0.00328	-1.68223	-0.88029	-2.48416	6.17995
0.20	4.15838	0.0629	0.356	0.01113	-1.20119	-0.44902	-1.95335	5.47457
0.25	4.32551	0.0958	0.524	0.01752	-1.01844	-0.28036	-1.75653	5.28845
0.30	4.47560	0.1399	0.747	0.02617	-0.85433	-0.12641	-1.58225	5.15756
0.50	5.00000	0.5237	2.699	0.10162	-0.28093	0.43118	-0.99303	4.95952
0.75	5.67449	2.8615	15.656	0.52300	0.45659	1.19467	-0.28150	5.28845
0.90	6.28155	13.1939	83.620	2.08180	1.12037	1.92231	0.31844	6.17995
0.95	6.64485	32.9324	235.879	4.59788	1.51762	2.37269	0.66256	7.02290

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.78571	5.79164	Asellus aquaticus	9.2100	0.96426	.	.
0.21429	4.20836	Chironomus tentans	0.1410	-0.85069	0.45034	0.52938
0.64286	5.36611	Crangonyx pseudogracilis	1.2900	0.11059	.	.
0.50000	5.00000	Drunella grandis	0.1900	-0.72125	.	.
0.07143	3.53477	Gammarus pseudolimnaeus	0.0200	-1.69897	.	.
0.35714	4.63389	Paratya australiensis	0.1414	-0.84961	0.16495	0.19415
0.92857	6.46523	Pteronarcys californicus	12.0000	1.07918	0.00000	0.00000
0.92857	.	-->LETC -MOR	.	2.48491	.	.
0.92857	.	-->NoTrend -MOR	.	2.03584	0.43269	.


Copper SSD for Arthropods - in soft water at T<=15C over moderate (1-3 days) exposure
Proportion
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-3
-2
-1
0
1
2
log mg/L total metal
Crangonyx pseudogracilis
Chironomus tentans
Paratya australiensis
Daphnia magna
Daphnia pulex
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 74) data for arthropod species exposed to copper in soft water at T<=15C over moderate (1-3 days) exposure

Model Parameters

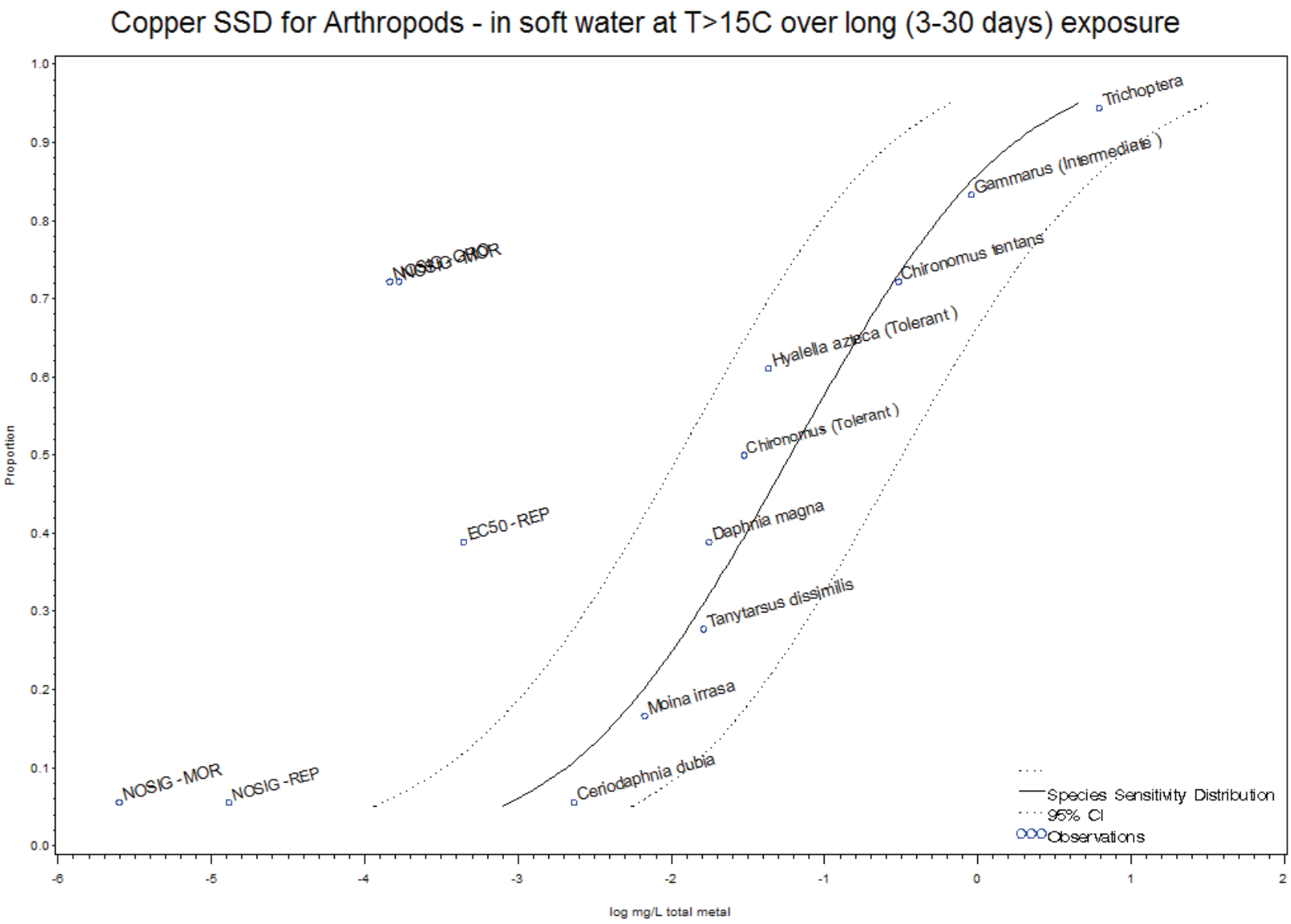
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
5	1.37003	5.91056	0.93318	-0.66463	1.90653	3	0.085406

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.01364	0.0687	0.00271	-1.86523	-1.16314	-2.56732	4.83750
0.10	3.71845	0.02512	0.1113	0.00567	-1.60005	-0.95347	-2.24663	4.20614
0.20	4.15838	0.05261	0.2063	0.01341	-1.27894	-0.68540	-1.87248	3.66731
0.25	4.32551	0.06967	0.2639	0.01840	-1.15695	-0.57864	-1.73526	3.52307
0.30	4.47560	0.08966	0.3310	0.02429	-1.04740	-0.48015	-1.61464	3.42102
0.50	5.00000	0.21646	0.7679	0.06102	-0.66463	-0.11472	-1.21454	3.26553
0.75	5.67449	0.67249	2.5468	0.17757	-0.17231	0.40600	-0.75062	3.52307
0.90	6.28155	1.86548	8.2674	0.42093	0.27079	0.91737	-0.37579	4.20614
0.95	6.64485	3.43533	17.3006	0.68214	0.53597	1.23806	-0.16612	4.83750

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.7	5.52440	Chironomus tentans	0.32700	-0.48545	.	.
0.9	6.28155	Crangonyx pseudogracilis	2.44000	0.38739	.	.
0.3	4.47560	Daphnia magna	0.06316	-1.19953	0.18028	0.15029
0.1	3.71845	Daphnia pulex	0.04380	-1.35857	0.29669	0.21838
0.5	5.00000	Paratya australiensis	0.21529	-0.66698	0.11971	0.17948


Copper SSD for Arthropods - in soft water at T>15C over long (3-30 days) exposure
Proportion
log mg/L total metal
Trichoptera
Gammarus (Intermediate)
Chironomus tentans
Hyalella azteca (Tolerant)
Chironomus (Tolerant)
Daphnia magna
Tanytarsus dissimilis
Moina irrasa
Ceriodaphnia dubia
EC50 - REP
NOSIG - MOR
NOSIG - REP
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 75) data for arthropod species exposed to copper in soft water at T>15C over long (3-30 days) exposure

Model Parameters

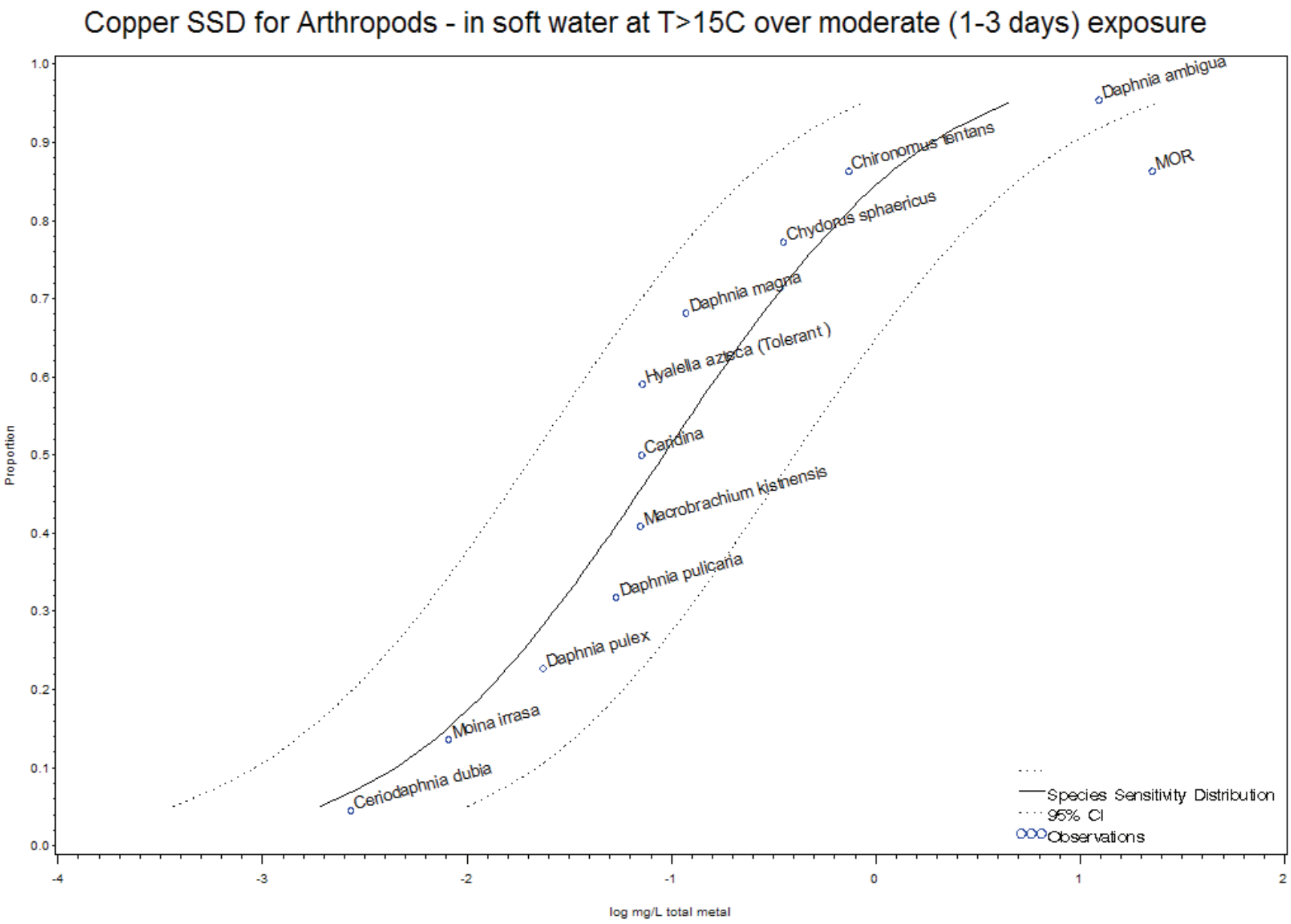
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
9	0.87676	6.07138	0.94116	-1.22198	9.55323	7	0.065589

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.00080	0.0038	0.00017	-3.09805	-2.42490	-3.77119	4.49913
0.10	3.71845	0.00207	0.0090	0.00048	-2.68367	-2.04431	-3.32304	4.12937
0.20	4.15838	0.00658	0.0267	0.00162	-2.18190	-1.57376	-2.79004	3.80987
0.25	4.32551	0.01020	0.0406	0.00257	-1.99128	-1.39189	-2.59067	3.72393
0.30	4.47560	0.01513	0.0593	0.00386	-1.82009	-1.22700	-2.41319	3.66307
0.50	5.00000	0.05998	0.2298	0.01566	-1.22198	-0.63863	-1.80533	3.57030
0.75	5.67449	0.35263	1.4019	0.08870	-0.45268	0.14671	-1.05207	3.72393
0.90	6.28155	1.73667	7.5698	0.39843	0.23972	0.87908	-0.39965	4.12937
0.95	6.64485	4.50908	21.2440	0.95706	0.65409	1.32724	-0.01906	4.49913

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.05556	3.40678	Ceriodaphnia dubia	0.00233	-2.63221	0.29541	0.11223
0.05556	.	-->NOSIG -MOR	.	-5.59942	0.00000	.
0.05556	.	-->NOSIG -REP	.	-4.88406	0.76964	.
0.50000	5.00000	Chironomus (Tolerant)	0.03000	-1.52288	.	.
0.72222	5.58946	Chironomus tentans	0.30430	-0.51669	0.68374	1.32331
0.72222	.	-->NOSIG -GRO	.	-3.83506	.	.
0.72222	.	-->NOSIG -MOR	.	-3.77662	.	.
0.38889	4.71778	Daphnia magna	0.01770	-1.75206	0.39923	0.22786
0.38889	.	-->EC50 -REP	.	-3.35241	.	.
0.83333	5.96742	Gammarus (Intermediate)	0.91000	-0.04096	.	.
0.61111	5.28222	Hyalella azteca (Tolerant)	0.04308	-1.36577	0.16027	0.11735
0.61111	.	-->MOR	.	-4.96185	.	.
0.16667	4.03258	Moina irrasa	0.00673	-2.17181	0.06465	0.02977
0.27778	4.41054	Tanytarsus dissimilis	0.01630	-1.78781	.	.
0.94444	6.59322	Trichoptera	6.20000	0.79239	.	.


Copper SSD for Arthropods - in soft water at T>15C over moderate (1-3 days) exposure
Proportion
log mg/L total metal
Daphnia ambigua
MOR
Chironomus tentans
Chydorus sphaericus
Daphnia magna
Hyalella azteca (Tolerant)
Caridina
Macrobrachium kistnensis
Daphnia pulicaria
Daphnia pulex
Moina irrasa
Ceriodaphnia dubia
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 76) data for arthropod species exposed to copper in soft water at T>15C over moderate (1-3 days) exposure

Model Parameters

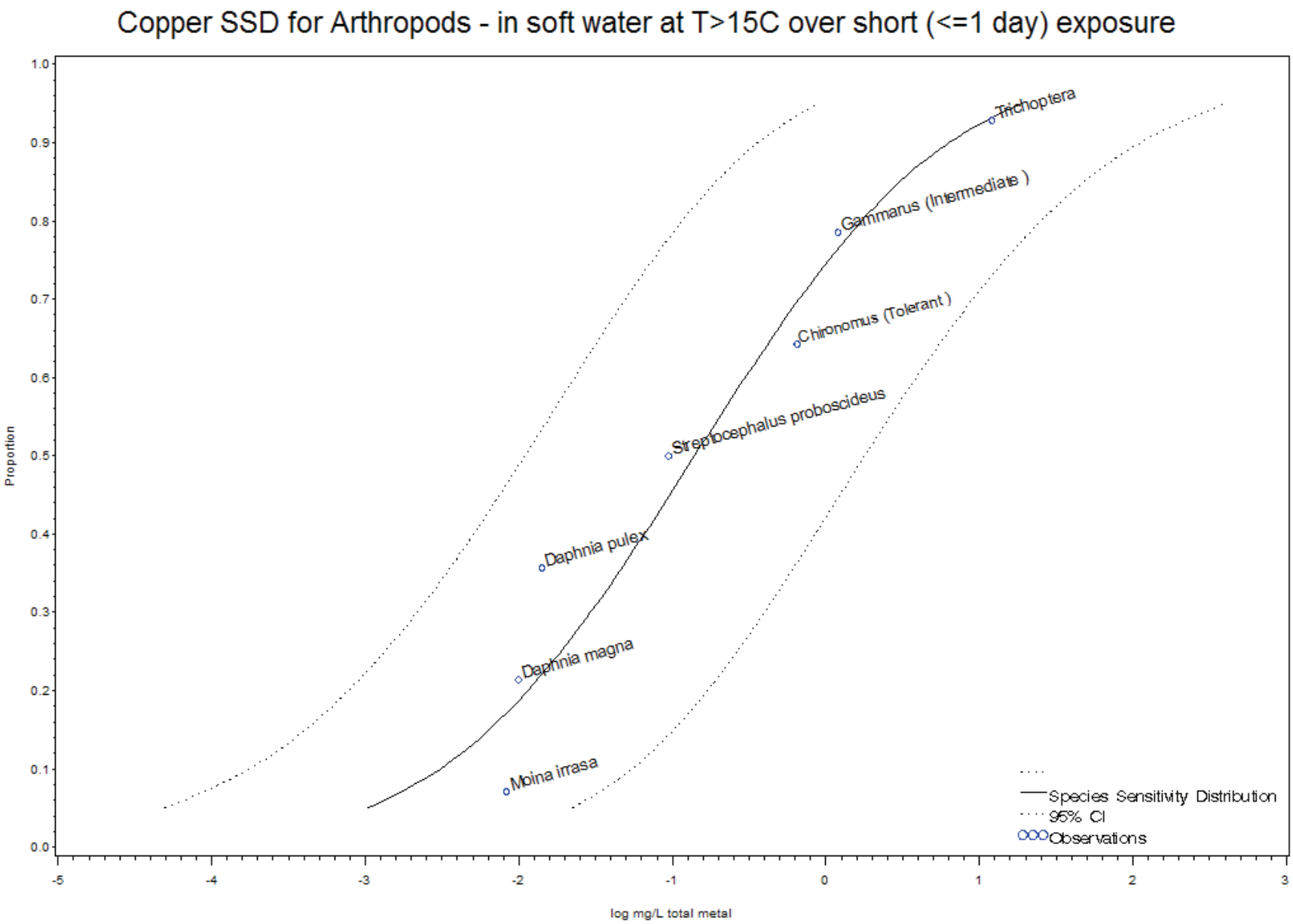
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
11	0.97740	6.01262	0.93572	-1.03604	9.59289	9	0.069944

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.00191	0.0073	0.00050	-2.71892	-2.13495	-3.30290	3.57623
0.10	3.71845	0.00450	0.0163	0.00124	-2.34722	-1.78822	-2.90622	3.34640
0.20	4.15838	0.01267	0.0436	0.00369	-1.89712	-1.36101	-2.43322	3.14541
0.25	4.32551	0.01879	0.0636	0.00555	-1.72612	-1.19640	-2.25584	3.09097
0.30	4.47560	0.02676	0.0897	0.00799	-1.57256	-1.04742	-2.09770	3.05232
0.50	5.00000	0.09204	0.3034	0.02792	-1.03604	-0.51797	-1.55410	2.99326
0.75	5.67449	0.45087	1.5268	0.13315	-0.34595	0.18377	-0.87567	3.09097
0.90	6.28155	1.88429	6.8258	0.52017	0.27515	0.83415	-0.28386	3.34640
0.95	6.64485	4.43456	17.0148	1.15578	0.64685	1.23083	0.06288	3.57623

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.50000	5.00000	Caridina	0.0720	-1.14267	.	.
0.04545	3.30938	Ceriodaphnia dubia	0.0027	-2.56543	.	.
0.86364	6.09680	Chironomus tentans	0.7412	-0.13007	0.20361	1.56539
0.86364	.	-->MOR	.	1.35403	0.36121	.
0.77273	5.74786	Chydorus sphaericus	0.3540	-0.45102	0.13284	0.29453
0.95455	6.69062	Daphnia ambigua	12.4000	1.09342	.	.
0.68182	5.47279	Daphnia magna	0.1185	-0.92611	1.56310	1.68782
0.22727	4.25214	Daphnia pulex	0.0237	-1.62591	0.52905	0.32539
0.31818	4.52721	Daphnia pulicaria	0.0536	-1.27074	0.11844	0.09320
0.59091	5.22988	Hyalella azteca (Tolerant)	0.0722	-1.14146	.	.
0.40909	4.77012	Macrobrachium kistnensis	0.0710	-1.14874	.	.
0.13636	3.90320	Moina irrasa	0.0082	-2.08767	0.21064	0.10090


Copper SSD for Arthropods - in soft water at T>15C over short (<=1 day) exposure
Proportion
log mg/L total metal
Trichoptera
Gammarus (Intermediate)
Chironomus (Tolerant)
Streptocephalus proboscideus
Daphnia pulex
Daphnia magna
Moina irrasa
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 77) data for arthropod species exposed to copper in soft water at T>15C over short (<=1 day) exposure

Model Parameters

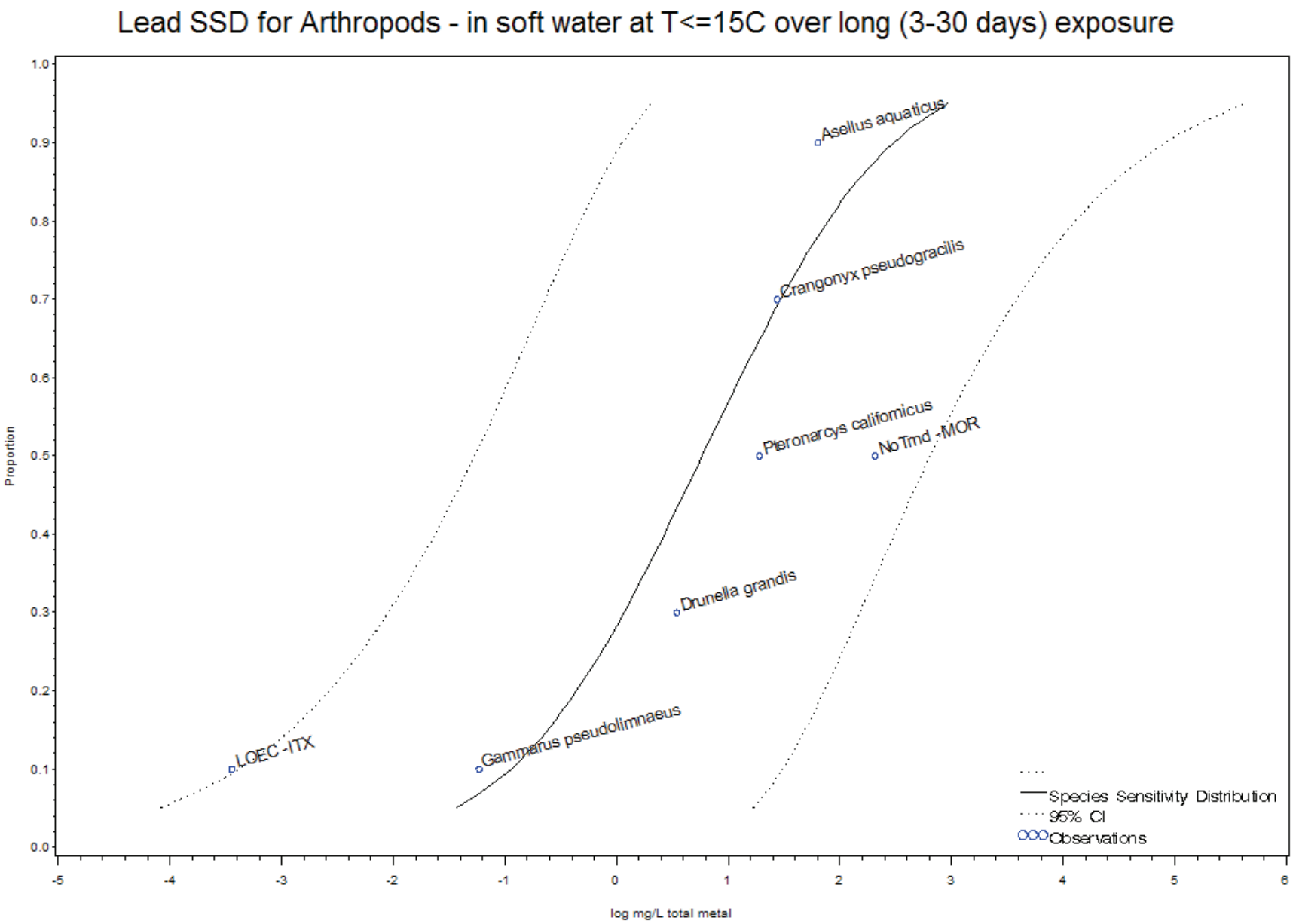
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
7	0.77379	5.66077	0.91659	-0.85394	8.90219	5	0.097005

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.0010	0.012	0.00010	-2.97964	-1.93767	-4.02161	10.9240
0.10	3.71845	0.0031	0.029	0.00033	-2.51013	-1.53315	-3.48712	9.3784
0.20	4.15838	0.0114	0.094	0.00139	-1.94160	-1.02550	-2.85769	8.1218
0.25	4.32551	0.0188	0.149	0.00237	-1.72561	-0.82674	-2.62447	7.7963
0.30	4.47560	0.0294	0.226	0.00382	-1.53164	-0.64522	-2.41806	7.5689
0.50	5.00000	0.1400	1.031	0.01901	-0.85394	0.01313	-1.72101	7.2274
0.75	5.67449	1.0417	8.253	0.13148	0.01773	0.91659	-0.88114	7.7963
0.90	6.28155	6.3424	60.150	0.66875	0.80225	1.77924	-0.17473	9.3784
0.95	6.64485	18.6965	205.937	1.69740	1.27176	2.31373	0.22979	10.9240

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.64286	5.36611	Chironomus (Tolerant)	0.6500	-0.18709	.	.
0.21429	4.20836	Daphnia magna	0.0100	-2.00000	0.00000	0.00000
0.35714	4.63389	Daphnia pulex	0.0141	-1.84949	0.21286	0.11509
0.78571	5.79164	Gammarus (Intermediate)	1.2000	0.07918	.	.
0.07143	3.53477	Moina irrasa	0.0083	-2.07977	0.27702	0.13320
0.50000	5.00000	Streptocephalus proboscideus	0.0948	-1.02321	0.16968	0.16583
0.92857	6.46523	Trichoptera	12.1000	1.08279	.	.


Lead SSD for Arthropods - in soft water at T<=15C over long (3-30 days) exposure
Proportion
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-5
-4
-3
-2
-1
0
1
2
3
4
5
6
log mg/L total metal
Asellus aquaticus
Crangonyx pseudogracilis
Pteronarcys californicus
NoTmd -MOR
Drunella grandis
Gammarus pseudolimnaeus
LOEC -ITX
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 118) data for arthropod species exposed to lead in soft water at T<=15C over long (3-30 days) exposure

Model Parameters

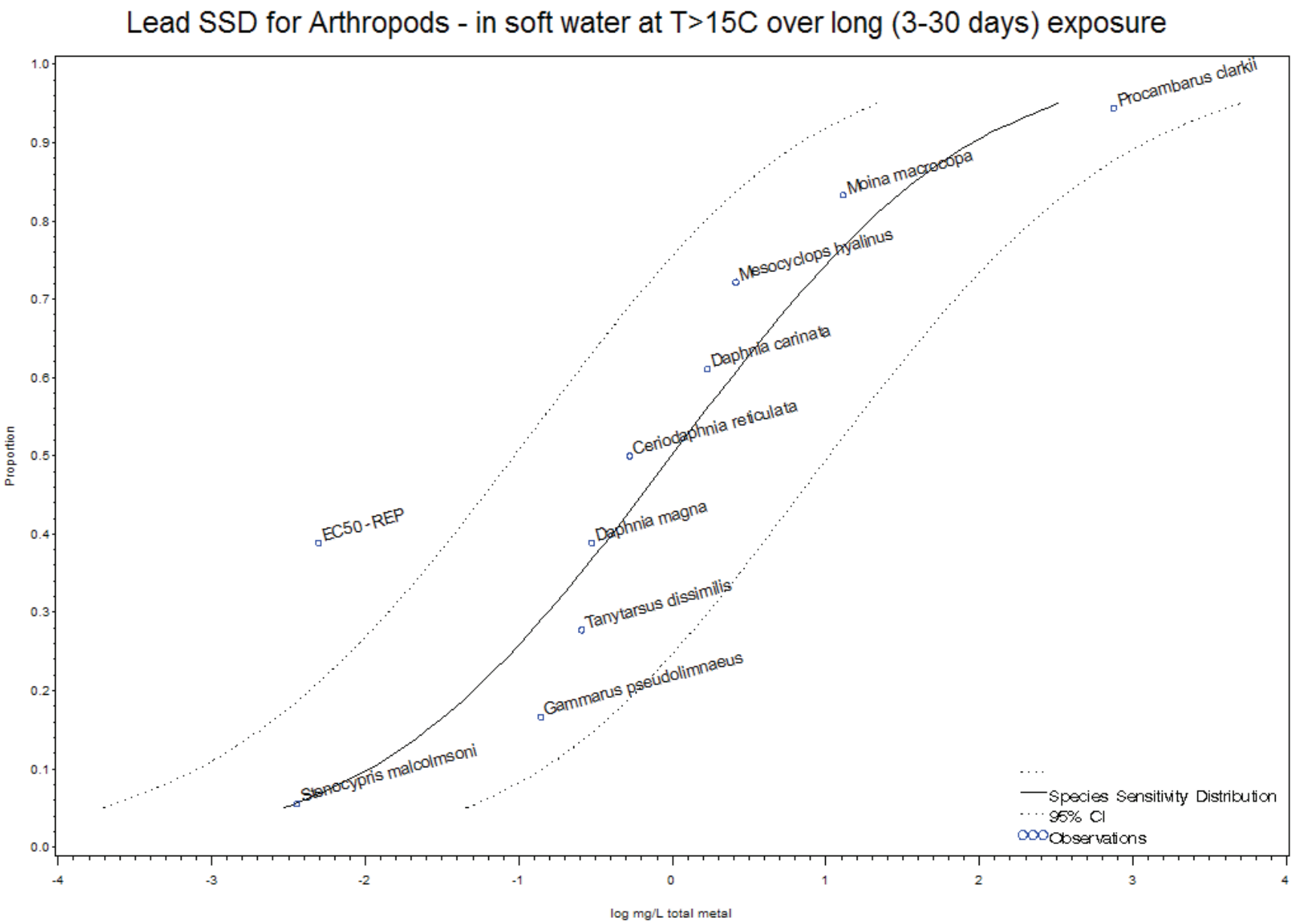
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
5	0.74797	4.42428	0.85001	0.76970	5.82625	3	0.19172

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.037	3.42	0.0004	-1.42938	0.53349	-3.39225	91.7946
0.10	3.71845	0.114	7.16	0.0018	-0.94367	0.85461	-2.74194	62.8304
0.20	4.15838	0.441	19.26	0.0101	-0.35550	1.28460	-1.99561	43.6393
0.25	4.32551	0.738	29.00	0.0188	-0.13206	1.46244	-1.72655	39.2836
0.30	4.47560	1.171	42.65	0.0322	0.06861	1.62990	-1.49269	36.3886
0.50	5.00000	5.884	190.04	0.1822	0.76970	2.27885	-0.73944	32.2647
0.75	5.67449	46.931	1844.81	1.1939	1.67146	3.26595	0.07697	39.2836
0.90	6.28155	304.136	19113.81	4.8394	2.48307	4.28135	0.68479	62.8304
0.95	6.64485	930.643	85438.17	10.1371	2.96878	4.93165	1.00591	91.7946

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.9	6.28155	Asellus aquaticus	64.1000	1.80686	.	.
0.7	5.52440	Crangonyx pseudogracilis	27.6000	1.44091	.	.
0.3	4.47560	Drunella grandis	3.5000	0.54407	.	.
0.1	3.71845	Gammarus pseudolimnaeus	0.0593	-1.22663	0.45262	0.36900
0.1	.	-->LOEC -ITX	.	-3.44202	.	.
0.5	5.00000	Pteronarcys californicus	19.2000	1.28330	.	.
0.5	.	-->NoTrend -MOR	.	2.31649	.	.


Lead SSD for Arthropods - in soft water at T>15C over long (3-30 days) exposure
Proportion
log mg/L total metal
Procambarus clarkii
Moina macrocopa
Mesocyclops hyalinus
Daphnia carinata
Ceriodaphnia reticulata
EC50 - REP
Daphnia magna
Tanytarsus dissimilis
Gammarus pseudolimnaeus
Stenocypris malcolmsoni
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 119) data for arthropod species exposed to lead in soft water at T>15C over long (3-30 days) exposure

Model Parameters

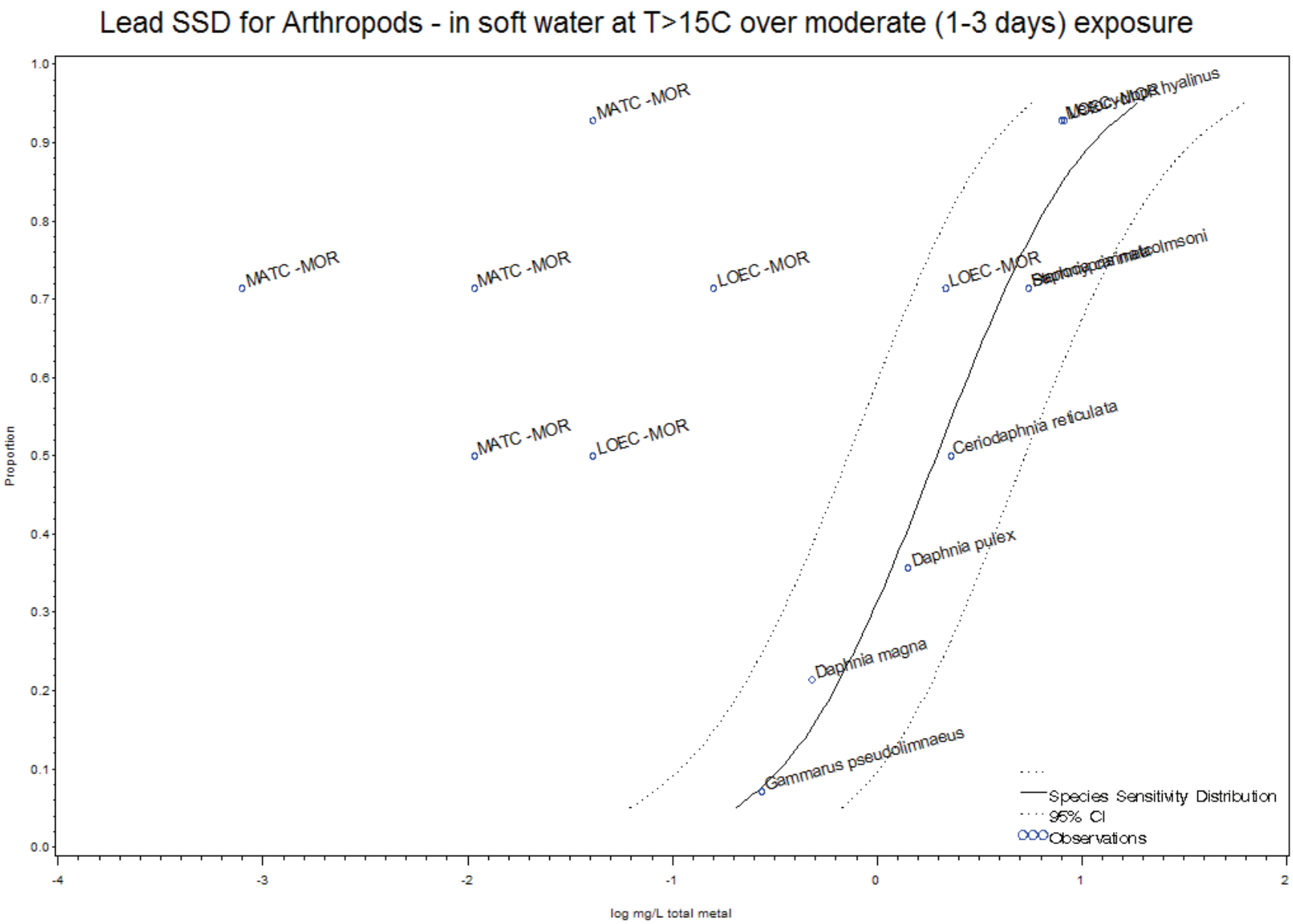
Num Species	Slope	Intercept	R_squared	GrandMean	CorrSSQ	DF	MSE
9	0.65271	5.00357	0.93548	-.005468619	17.1335	7	0.071915

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.003	0.03	0.0003	-2.52552	-1.57799	-3.47305	8.74922
0.10	3.71845	0.011	0.09	0.0014	-1.96891	-1.06915	-2.86867	7.81294
0.20	4.15838	0.051	0.36	0.0071	-1.29490	-0.43931	-2.15049	7.03172
0.25	4.32551	0.091	0.64	0.0131	-1.03884	-0.19563	-1.88205	6.82612
0.30	4.47560	0.155	1.06	0.0227	-0.80889	0.02541	-1.64320	6.68171
0.50	5.00000	0.987	6.53	0.1493	-0.00547	0.81504	-0.82598	6.46351
0.75	5.67449	10.664	74.32	1.5300	1.02791	1.87111	0.18470	6.82612
0.90	6.28155	90.777	720.67	11.4344	1.95797	2.85773	1.05821	7.81294
0.95	6.64485	327.026	2898.13	36.9018	2.51458	3.46212	1.56705	8.74922

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.50000	5.00000	Ceriodaphnia reticulata	0.530	-0.27572	.	.
0.61111	5.28222	Daphnia carinata	1.700	0.23045	.	.
0.38889	4.71778	Daphnia magna	0.300	-0.52288	.	.
0.38889	.	-->EC50 -REP	.	-2.30259	.	.
0.16667	4.03258	Gammarus pseudolimnaeus	0.140	-0.85387	.	.
0.72222	5.58946	Mesocyclops hyalinus	2.600	0.41497	.	.
0.83333	5.96742	Moina macrocopa	13.000	1.11394	.	.
0.94444	6.59322	Procambarus clarkii	751.570	2.87597	.	.
0.05556	3.40678	Stenocypris malcolmsoni	0.004	-2.44370	.	.
0.27778	4.41054	Tanytarsus dissimilis	0.258	-0.58838	.	.


Lead SSD for Arthropods - in soft water at T>15C over moderate (1-3 days) exposure
Proportion
log mg/L total metal
MATC -MOR
MATC -MOR
MATC -MOR
MATC -MOR
LOEC -MOR
LOEC -MOR
LOEC -MOR
Ceriodaphnia reticulata
Daphnia pulex
Daphnia magna
Gammarus pseudolimnaeus
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 120) data for arthropod species exposed to lead in soft water at T>15C over moderate (1-3 days) exposure

Model Parameters

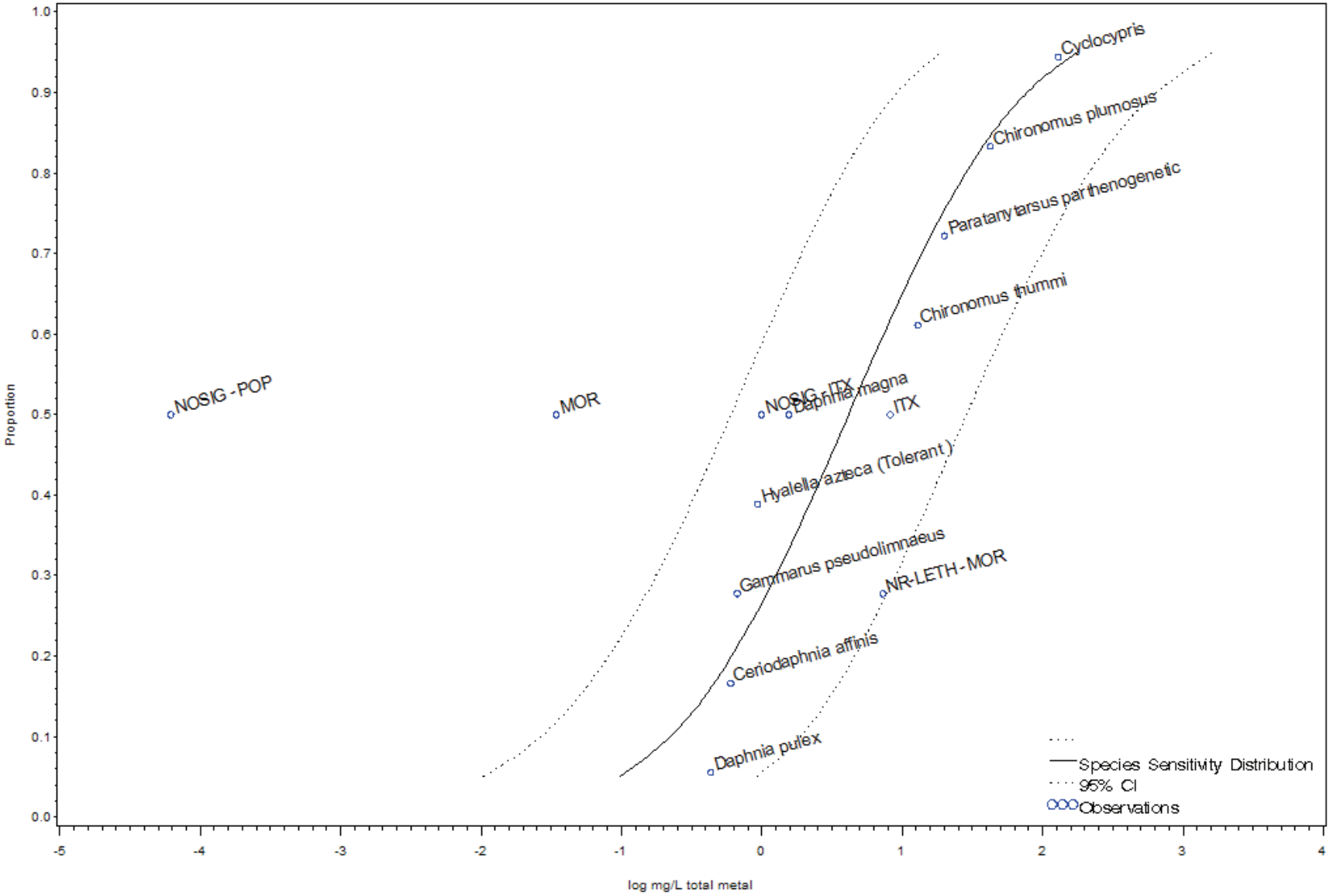
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
7	1.67885	4.51142	0.93882	0.28882	1.89695	5	0.069687

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.2048	0.5222	0.08030	-0.68873	-0.28215	-1.09531	2.15812
0.10	3.71845	0.3370	0.8109	0.14008	-0.47233	-0.09102	-0.85364	1.99045
0.20	4.15838	0.6162	1.4040	0.27043	-0.21029	0.14737	-0.56794	1.83966
0.25	4.32551	0.7749	1.7388	0.34537	-0.11073	0.24024	-0.46171	1.79807
0.30	4.47560	0.9521	2.1126	0.42905	-0.02133	0.32482	-0.36749	1.76835
0.50	5.00000	1.9544	4.2633	0.89598	0.29102	0.62975	-0.04770	1.72292
0.75	5.67449	4.9292	11.0668	2.19552	0.69278	1.04402	0.34154	1.79972
0.90	6.28155	11.3338	27.2991	4.70544	1.05437	1.43615	0.67260	1.99348
0.95	6.64485	18.6541	47.6338	7.30519	1.27077	1.67792	0.86363	2.16192

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.50000	5.00000	Ceriodaphnia reticulata	2.30000	0.36173	.	.
0.50000	.	-->LOEC -MOR	.	-1.38629	.	.
0.50000	.	-->MATC -MOR	.	-1.96611	.	.
0.71429	5.56595	Daphnia carinata	5.50000	0.74036	.	.
0.71429	.	-->LOEC -MOR	.	-0.79851	.	.
0.71429	.	-->MATC -MOR	.	-3.10109	.	.
0.21429	4.20836	Daphnia magna	0.48234	-0.31665	0.04262	0.13461
0.35714	4.63389	Daphnia pulex	1.42408	0.15353	0.61876	4.03013
0.07143	3.53477	Gammarus pseudolimnaeus	0.27500	-0.56067	.	.
0.92857	6.46523	Mesocyclops hyalinus	8.00000	0.90309	.	.
0.92857	.	-->LOEC -MOR	.	0.91629	.	.
0.92857	.	-->MATC -MOR	.	-1.38629	.	.
0.71429	5.56595	Stenocypris malcolmsoni	5.50000	0.74036	.	.
0.71429	.	-->LOEC -MOR	.	0.33647	.	.
0.71429	.	-->MATC -MOR	.	-1.96611	.	.


Selenium SSD for Arthropods - in water at T>15C over moderate (1-3 days) exposure
Proportion
log mg/L total metal
NOSIG - POP
MOR
NOSIG - ITX
Daphnia magna
ITX
Hyalella azteca (Tolerant)
Gammarus pseudolimnaeus
NR-LETH - MOR
Ceriodaphnia affinis
Daphnia pulex
Chironomus thummi
Paratanytarsus parthenogenetic
Chironomus plumosus
Cyclocypris
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 157) data for arthropod species exposed to selenium in water at T>15C over moderate (1-3 days) exposure

Model Parameters

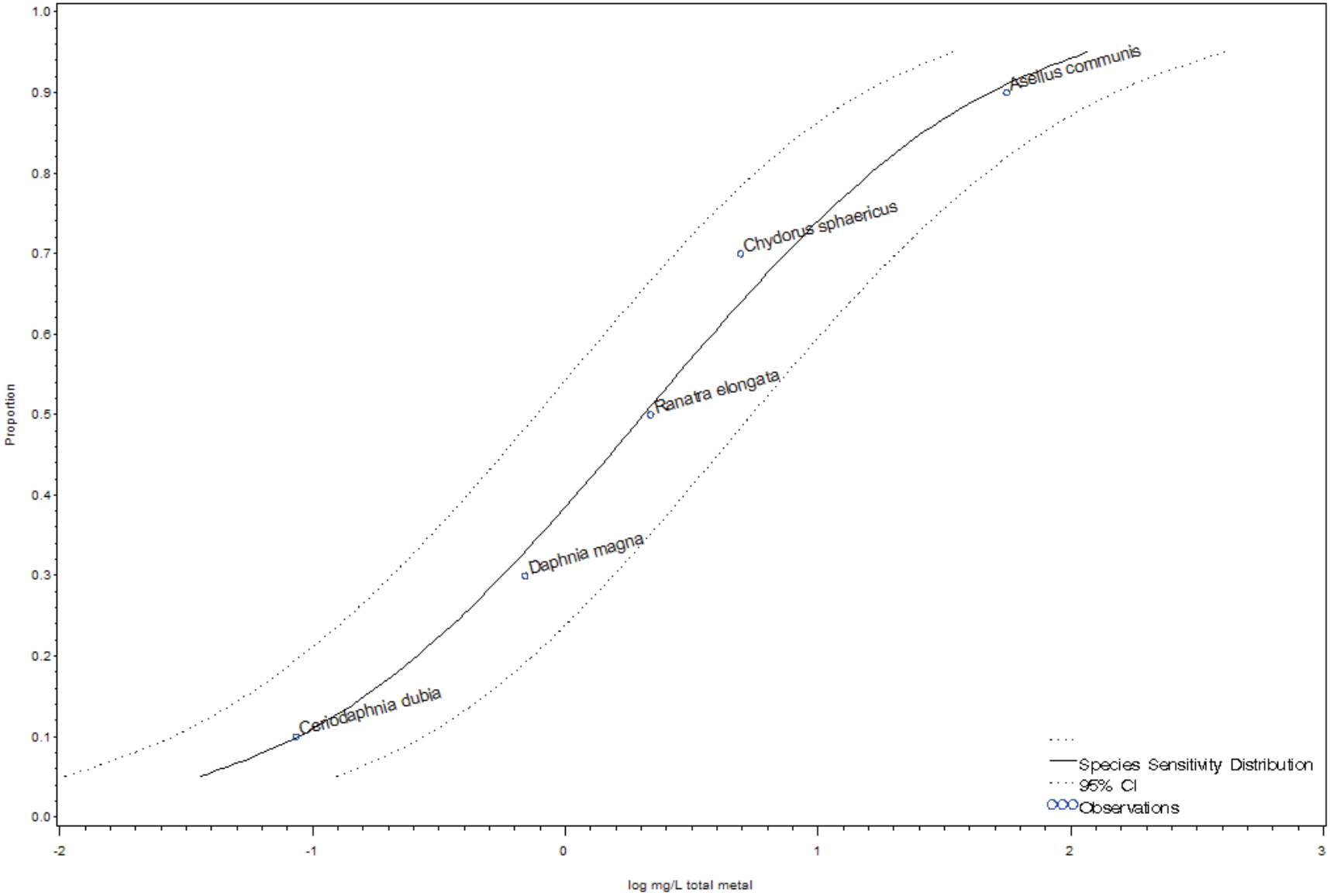
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
9	1.01004	4.37437	0.89638	0.61942	6.85591	7	0.11550

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.098	0.59	0.0162	-1.00909	-0.22889	-1.78930	5.86257
0.10	3.71845	0.224	1.23	0.0408	-0.64940	0.09016	-1.38896	5.30769
0.20	4.15838	0.611	3.08	0.1214	-0.21384	0.48807	-0.91575	4.83533
0.25	4.32551	0.895	4.40	0.1821	-0.04837	0.64297	-0.73972	4.70944
0.30	4.47560	1.260	6.08	0.2609	0.10023	0.78397	-0.58352	4.62058
0.50	5.00000	4.163	19.56	0.8861	0.61942	1.29137	-0.05254	4.48563
0.75	5.67449	19.373	95.18	3.9433	1.28720	1.97855	0.59586	4.70944
0.90	6.28155	77.309	424.42	14.0822	1.88823	2.62779	1.14867	5.30769
0.95	6.64485	176.980	1066.91	29.3575	2.24792	3.02813	1.46772	5.86257

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.16667	4.03258	Ceriodaphnia affinis	0.602	-0.22013	0.05732	0.26040
0.83333	5.96742	Chironomus plumosus	42.720	1.63063	0.09665	0.05927
0.61111	5.28222	Chironomus thummi	12.991	1.11363	0.08018	0.07200
0.94444	6.59322	Cyclocypris	130.000	2.11394	.	.
0.50000	5.00000	Daphnia magna	1.574	0.19698	0.49977	2.53717
0.50000	.	-->MOR	.	-1.51413	.	.
0.50000	.	-->NOSIG -ITX	.	0.00000	.	.
0.05556	3.40678	Daphnia pulex	0.435	-0.36111	0.58764	1.62732
0.27778	4.41054	Gammarus pseudolimnaeus	0.671	-0.17336	0.86959	5.01619
0.27778	.	-->NR-LETH -MOR	.	0.86273	2.06916	.
0.38889	4.71778	Hyalella azteca (Tolerant)	0.940	-0.02687	.	.
0.72222	5.58946	Paratanytarsus parthenogenetic	20.000	1.30103	.	.


Zinc SSD for Arthropods - in moderately hard water at T>15C over moderate (1-3 days) exposure
Proportion
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-2
-1
0
1
2
3
log mg/L total metal
Asellus communis
Chydorus sphaericus
Ranatra elongata
Daphnia magna
Ceriodaphnia dubia
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 165) data for arthropod species exposed to zinc in moderately hard water at T>15C over moderate (1-3 days) exposure

Model Parameters

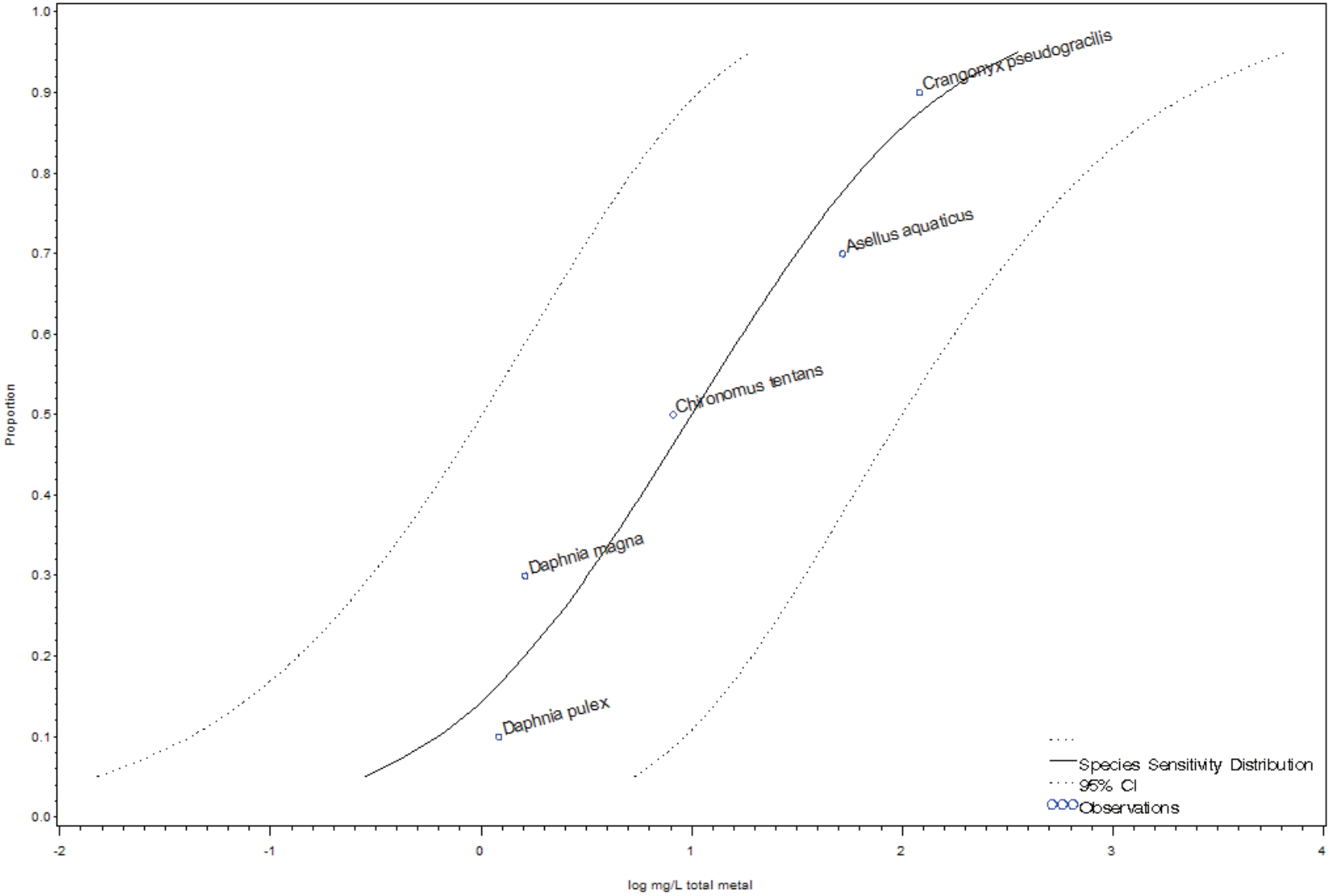
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
5	0.93669	4.70756	0.98977	0.31220	4.32585	3	0.013082

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.036	0.090	0.0144	-1.44382	-1.04638	-1.84126	2.09666
0.10	3.71845	0.088	0.205	0.0377	-1.05596	-0.68877	-1.42315	1.89975
0.20	4.15838	0.259	0.565	0.1189	-0.58630	-0.24791	-0.92468	1.72086
0.25	4.32551	0.391	0.836	0.1828	-0.40787	-0.07773	-0.73801	1.67106
0.30	4.47560	0.565	1.193	0.2680	-0.24764	0.07652	-0.57180	1.63531
0.50	5.00000	2.052	4.236	0.9941	0.31220	0.62699	-0.00259	1.57999
0.75	5.67449	10.771	23.036	5.0366	1.03228	1.36242	0.70214	1.67106
0.90	6.28155	47.903	111.572	20.5673	1.68037	2.04755	1.31318	1.89975
0.95	6.64485	117.009	292.187	46.8577	2.06822	2.46566	1.67078	2.09666

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.9	6.28155	Asellus communis	56.0000	1.74819	0.00000	0.00000
0.1	3.71845	Ceriodaphnia dubia	0.0862	-1.06462	0.12725	0.11953
0.7	5.52440	Chydorus sphaericus	4.9600	0.69548	.	.
0.3	4.47560	Daphnia magna	0.6960	-0.15739	0.25837	1.64160
0.5	5.00000	Ranatra elongata	2.1845	0.33935	0.07195	0.21203


Zinc SSD for Arthropods - in soft water at T<=15C over moderate (1-3 days) exposure
Proportion
log mg/L total metal
Crangonyx pseudogracilis
Asellus aquaticus
Chironomus tentans
Daphnia magna
Daphnia pulex
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 166) data for arthropod species exposed to zinc in soft water at T<=15C over moderate (1-3 days) exposure

Model Parameters

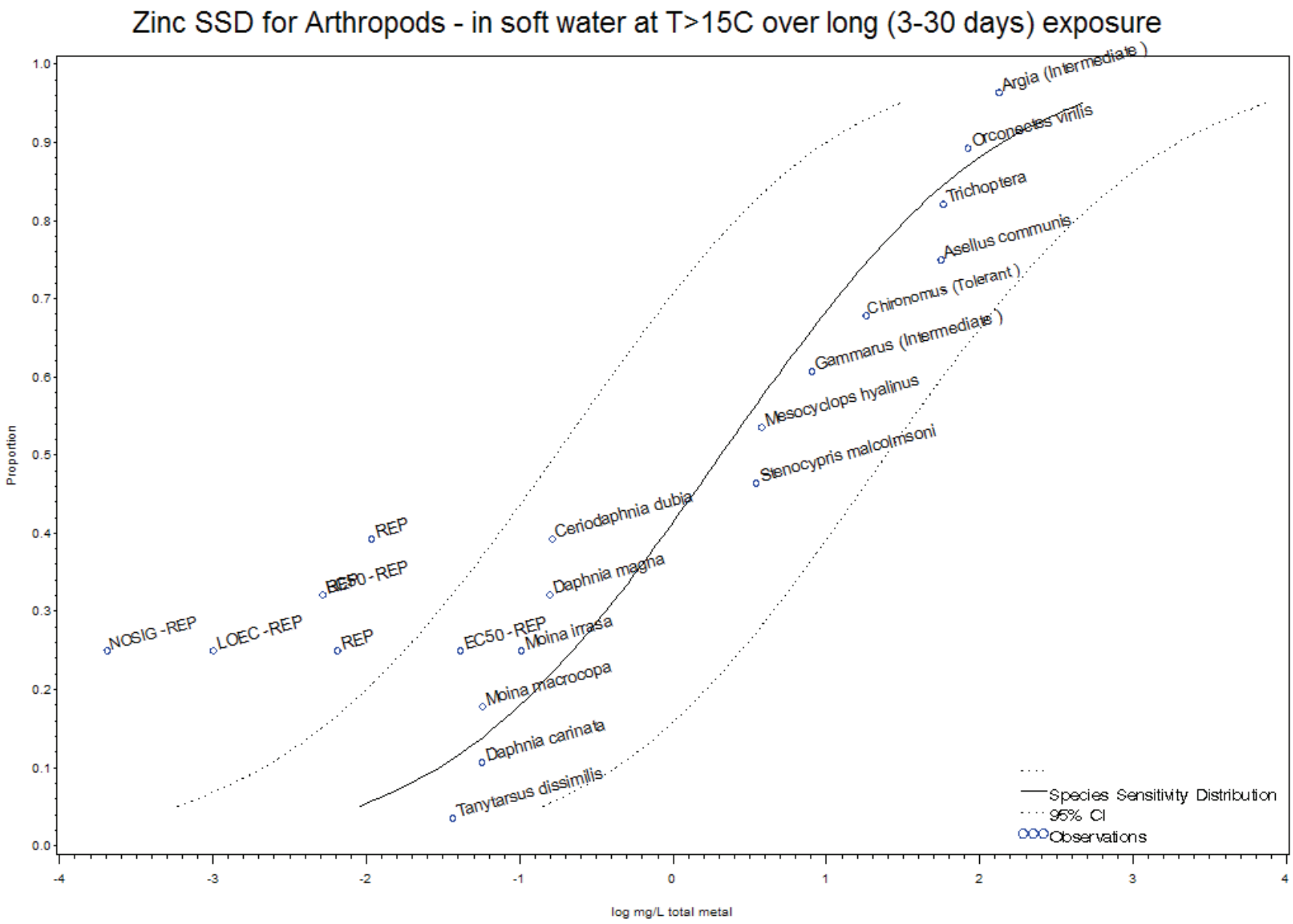
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
5	1.06195	3.93555	0.92774	1.00235	3.15464	3	0.092366

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.284	2.49	0.0324	-0.54654	0.39648	-1.48956	8.65636
0.10	3.71845	0.625	4.61	0.0846	-0.20443	0.66374	-1.07261	7.24656
0.20	4.15838	1.621	10.15	0.2589	0.20983	1.00647	-0.58681	6.10124
0.25	4.32551	2.329	13.91	0.3900	0.36721	1.14331	-0.40888	5.80425
0.30	4.47560	3.225	18.61	0.5589	0.50855	1.26972	-0.25263	5.59667
0.50	5.00000	10.054	54.97	1.8390	1.00235	1.74014	0.26457	5.28453
0.75	5.67449	43.400	259.17	7.2677	1.63749	2.41359	0.86139	5.80425
0.90	6.28155	161.860	1194.85	21.9262	2.20914	3.07731	1.34096	7.24656
0.95	6.64485	355.833	3120.79	40.5721	2.55125	3.49426	1.60823	8.65636

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.7	5.52440	Asellus aquaticus	52.300	1.71850	.	.
0.5	5.00000	Chironomus tentans	8.200	0.91381	.	.
0.9	6.28155	Crangonyx pseudogracilis	121.000	2.08279	.	.
0.3	4.47560	Daphnia magna	1.626	0.21119	0.16103	0.76251
0.1	3.71845	Daphnia pulex	1.218	0.08548	0.11562	1.35271


Zinc SSD for Arthropods - in soft water at T>15C over long (3-30 days) exposure
Proportion
log mg/L total metal
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
-4
-3
-2
-1
0
1
2
3
4
Argia (Intermediate)
Orconectes virilis
Trichoptera
Asellus communis
Chironomus (Tolerant)
Gammarus (Intermediate)
Mesocyclops hyalinus
Stenocypris malcolmsoni
Ceriodaphnia dubia
Daphnia magna
Moina irrasa
Moina macrocopa
Daphnia carinata
Tanytarsus dissimilis
REP
EC50 - REP
REP
NOSIG - REP
LOEC - REP
REP
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 167) data for arthropod species exposed to zinc in soft water at T>15C over long (3-30 days) exposure

Model Parameters

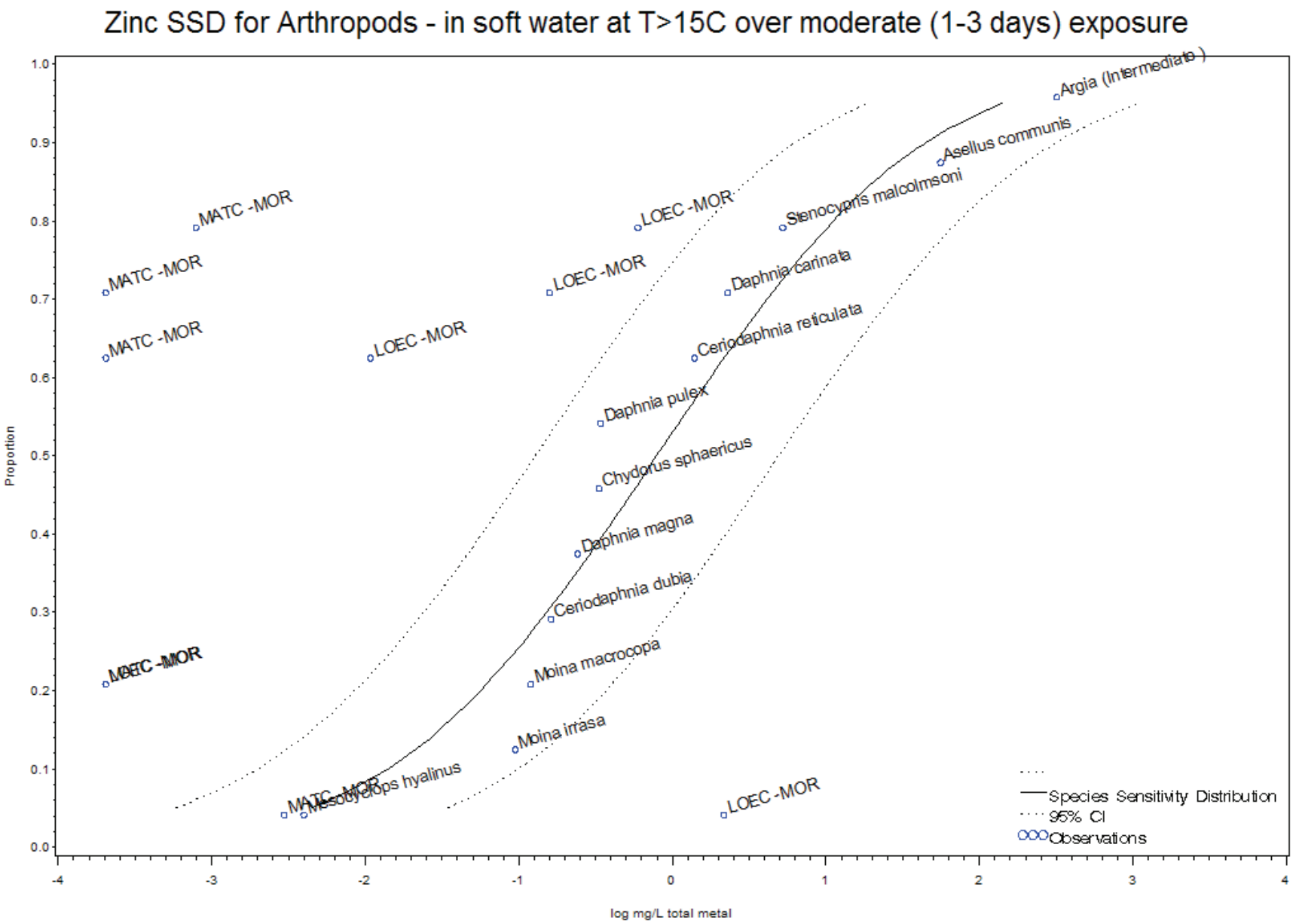
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
14	0.69848	4.78230	0.89537	0.31168	23.4614	12	0.11147

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.009	0.09	0.0010	-2.04322	-1.06898	-3.01746	9.31803
0.10	3.71845	0.030	0.26	0.0035	-1.52309	-0.58408	-2.46210	8.57468
0.20	4.15838	0.128	1.03	0.0158	-0.89325	0.01367	-1.80018	7.94704
0.25	4.32551	0.222	1.75	0.0281	-0.65397	0.24405	-1.55200	7.78074
0.30	4.47560	0.364	2.83	0.0467	-0.43910	0.45255	-1.33074	7.66365
0.50	5.00000	2.050	15.61	0.2691	0.31168	1.19349	-0.57014	7.48629
0.75	5.67449	18.938	149.74	2.3950	1.27733	2.17535	0.37930	7.78074
0.90	6.28155	140.101	1217.44	16.1225	2.14644	3.08545	1.20743	8.57468
0.95	6.64485	464.057	4373.34	49.2413	2.66657	3.64081	1.69233	9.31803

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.96429	6.80274	Argia (Intermediate)	134.164	2.12764	0.18050	0.084838
0.75000	5.67449	Asellus communis	56.000	1.74819	.	.
0.39286	4.72812	Ceriodaphnia dubia	0.164	-0.78557	0.04104	0.052249
0.39286	.	-->REP	.	-1.96611	.	.
0.67857	5.46371	Chironomus (Tolerant)	18.200	1.26007	.	.
0.10714	3.75813	Daphnia carinata	0.057	-1.24413	.	.
0.32143	4.53629	Daphnia magna	0.158	-0.80134	.	.
0.32143	.	-->EC50 -REP	.	-2.28278	.	.
0.32143	.	-->REP	.	-2.28383	0.45235	.
0.60714	5.27188	Gammarus (Intermediate)	8.100	0.90849	.	.
0.53571	5.08964	Mesocyclops hyalinus	3.800	0.57978	.	.
0.25000	4.32551	Moina irrasa	0.103	-0.98771	.	.
0.25000	.	-->EC50 -REP	.	-1.38709	.	.
0.25000	.	-->LOEC -REP	.	-2.99573	.	.
0.25000	.	-->NOSIG -REP	.	-3.68888	.	.
0.25000	.	-->REP	.	-2.18480	.	.
0.17857	4.07918	Moina macrocopa	0.058	-1.24033	.	.
0.89286	6.24187	Orconectes virilis	84.000	1.92428	.	.
0.46429	4.91036	Stenocypris malcolmsoni	3.500	0.54407	.	.
0.03571	3.19726	Tanytarsus dissimilis	0.037	-1.43415	.	.
0.82143	5.92082	Trichoptera	58.100	1.76418	.	.


Zinc SSD for Arthropods - in soft water at T>15C over moderate (1-3 days) exposure
Proportion
log mg/L total metal
MATC -MOR
LOEC -MOR
Argia (intermediate)
Asellus communis
Stenocypris malcolmsoni
Daphnia carinata
Ceriodaphnia reticulata
Daphnia pulex
Chydorus sphaericus
Daphnia magna
Ceriodaphnia dubia
Moina macrocopa
Moina irrasa
Mesocyclops hyalinus
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 168) data for arthropod species exposed to zinc in soft water at T>15C over moderate (1-3 days) exposure

Model Parameters

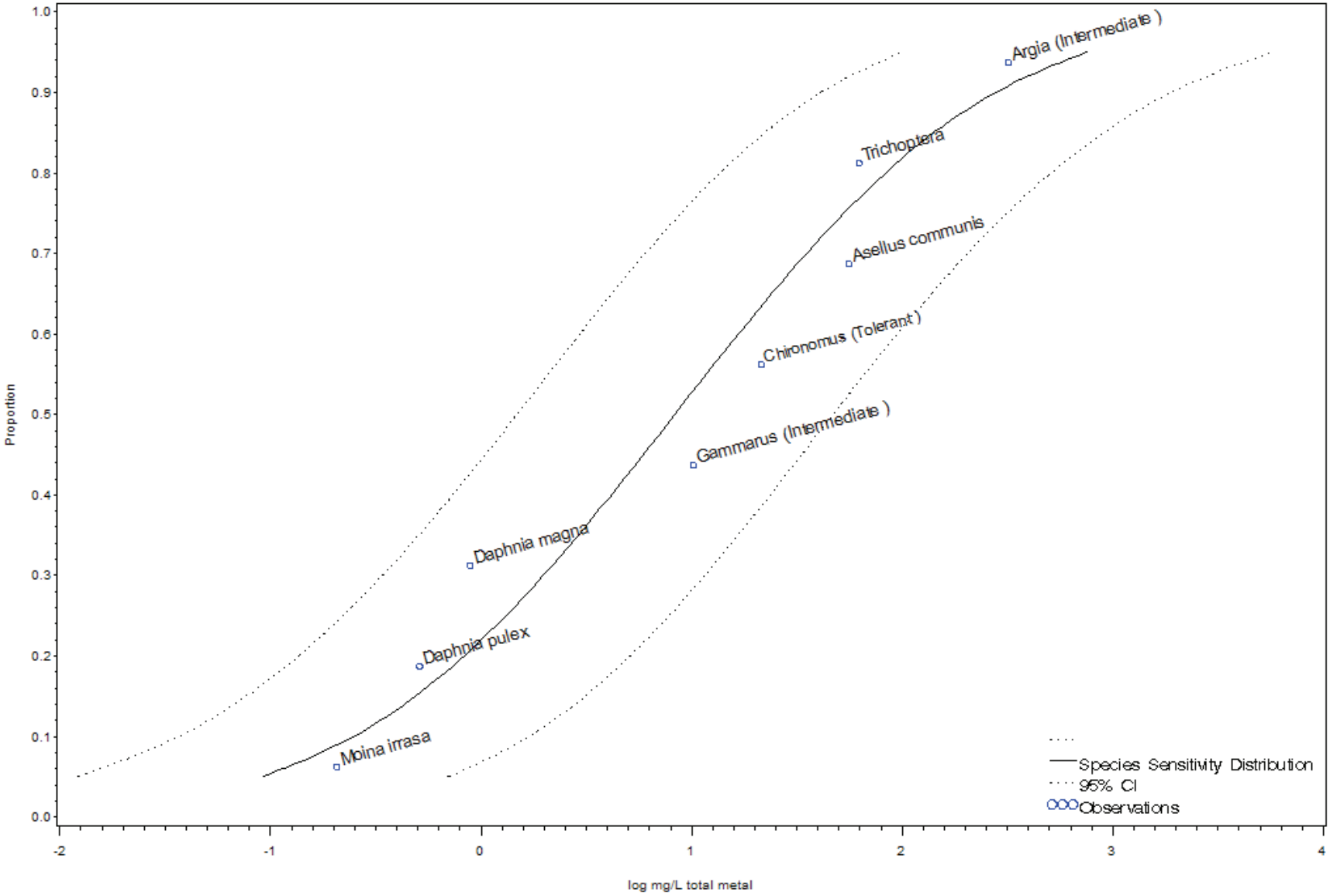
Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
12	0.73203	5.07349	0.94205	-0.10039	18.9687	10	0.062527

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.004	0.024	0.0009	-2.34736	-1.62815	-3.06658	5.04772
0.10	3.71845	0.014	0.069	0.0029	-1.85107	-1.16029	-2.54185	4.70282
0.20	4.15838	0.056	0.260	0.0122	-1.25010	-0.58530	-1.91490	4.40530
0.25	4.32551	0.095	0.432	0.0209	-1.02179	-0.36421	-1.67936	4.32542
0.30	4.47560	0.152	0.685	0.0340	-0.81675	-0.16436	-1.46915	4.26888
0.50	5.00000	0.794	3.499	0.1800	-0.10039	0.54401	-0.74479	4.18280
0.75	5.67449	6.622	30.101	1.4569	0.82100	1.47858	0.16343	4.32542
0.90	6.28155	44.698	219.315	9.1097	1.65029	2.34107	0.95950	4.70282
0.95	6.64485	140.146	734.169	26.7524	2.14658	2.86580	1.42736	5.04772

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.95833	6.73166	Argia (Intermediate)	320.000	2.50515	0.00000	0.00000
0.87500	6.15035	Asellus communis	56.000	1.74819	0.00000	0.00000
0.29167	4.45148	Ceriodaphnia dubia	0.163	-0.78781	.	.
0.62500	5.31864	Ceriodaphnia reticulata	1.400	0.14613	.	.
0.62500	.	-->LOEC -MOR	.	-1.96611	.	.
0.62500	.	-->MATC -MOR	.	-3.68888	.	.
0.45833	4.89537	Chydorus sphaericus	0.334	-0.47671	0.16994	0.35648
0.70833	5.54852	Daphnia carinata	2.300	0.36173	.	.
0.70833	.	-->LOEC -MOR	.	-0.79851	.	.
0.70833	.	-->MATC -MOR	.	-3.68888	.	.
0.37500	4.68136	Daphnia magna	0.243	-0.61474	0.25152	0.40916
0.54167	5.10463	Daphnia pulex	0.343	-0.46478	0.13040	0.28057
0.04167	3.26834	Mesocyclops hyalinus	0.004	-2.39794	.	.
0.04167	.	-->LOEC -MOR	.	0.33647	.	.
0.04167	.	-->MATC -MOR	.	-2.52573	.	.
0.12500	3.84965	Moina irrasa	0.095	-1.02325	0.28700	0.28048
0.20833	4.18778	Moina macrocopa	0.120	-0.92082	.	.
0.20833	.	-->LOEC -MOR	.	-3.68888	.	.
0.20833	.	-->MATC -MOR	.	-3.68888	.	.
0.79167	5.81222	Stenocypris malcolmsoni	5.250	0.72016	.	.
0.79167	.	-->LOEC -MOR	.	-0.22314	.	.
0.79167	.	-->MATC -MOR	.	-3.10109	.	.


Zinc SSD for Arthropods - in soft water at T>15C over short (<=1 day) exposure
Proportion
log mg/L total metal
Argia (Intermediate)
Trichoptera
Asellus communis
Chironomus (Tolerant)
Gammarus (Intermediate)
Daphnia magna
Daphnia pulex
Moina irrasa
Species Sensitivity Distribution
95% CI
Observations

Species Sensitivity Distribution (SSD 169) data for arthropod species exposed to zinc in soft water at T>15C over short (<=1 day) exposure

Model Parameters

Num Species	Slope	Intercept	R_squared	Grand Mean	CorrSSQ	DF	MSE
8	0.84084	4.22595	0.94790	0.92057	9.12820	6	0.059115

Predicted Values

Proportion Species	Probt	Central Tendency	UpperCI	LowerCI	log Central Tendency	log UpperCI	log LowerCI	Relative CIBreadth
0.05	3.35515	0.092	0.46	0.018	-1.03564	-0.33740	-1.73387	4.79122
0.10	3.71845	0.249	1.14	0.055	-0.60356	0.05638	-1.26351	4.35147
0.20	4.15838	0.831	3.50	0.197	-0.08036	0.54400	-0.70472	3.97331
0.25	4.32551	1.313	5.40	0.319	0.11841	0.73276	-0.49595	3.87186
0.30	4.47560	1.981	8.02	0.490	0.29691	0.90406	-0.31024	3.80008
0.50	5.00000	8.329	32.85	2.112	0.92057	1.51654	0.32460	3.69076
0.75	5.67449	52.812	217.32	12.834	1.72273	2.33709	1.10838	3.87186
0.90	6.28155	278.424	1272.47	60.921	2.44471	3.10465	1.78476	4.35147
0.95	6.64485	752.969	3758.49	150.848	2.87678	3.57501	2.17854	4.79122

Data Summary

Proportion Species	PR0BIT	taxa	Geometric Mean	LogMean	Standard Deviation	CV
0.9375	6.53412	Argia (Intermediate)	320.000	2.50515	.	.
0.6875	5.48878	Asellus communis	56.000	1.74819	.	.
0.5625	5.15731	Chironomus (Tolerant)	21.500	1.33244	.	.
0.3125	4.51122	Daphnia magna	0.889	-0.05119	0.07239	1.41421
0.1875	4.11285	Daphnia pulex	0.512	-0.29088	0.13249	0.45550
0.4375	4.84269	Gammarus (Intermediate)	10.200	1.00860	.	.
0.0625	3.46588	Moina irrasa	0.207	-0.68432	0.24731	0.36140
0.8125	5.88715	Trichoptera	62.600	1.79657	.	.