

Appendix C from R. Holzman et al., “Functional Complexity Can Mitigate Performance Trade-Offs”

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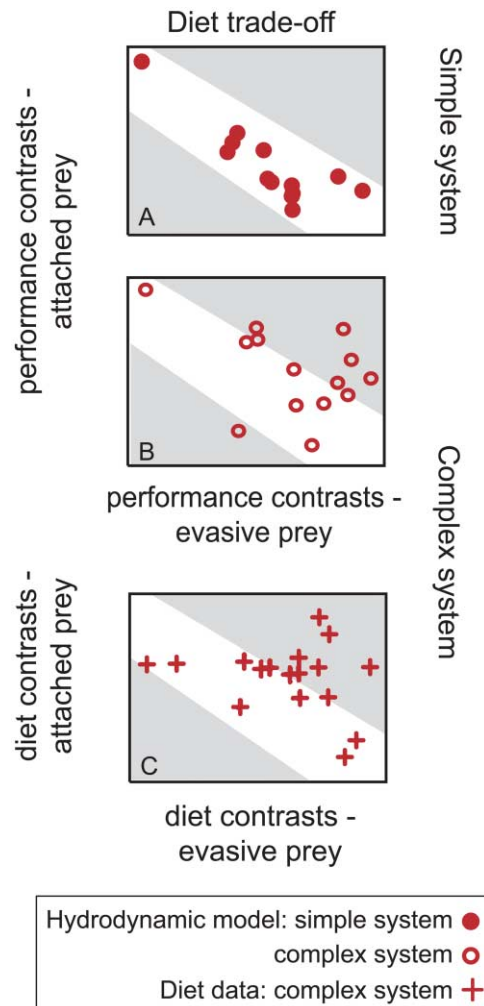


Figure C1: Patterns of performance space occupation in simple and complex systems. To illustrate performance space occupation, data were centered and scaled so that the points in each panel occupy the range of the entire performance space. Next, areas of performance space not occupied in the simple system (*gray areas*) were projected to the morphospace of the complex system (*B, C*). Compared to the simple system, there is a tendency to disproportionately invade areas of performance space that improve feeding on both attached and evasive prey (*upper right corner of performance space*). In our hydrodynamic model results (*B*), seven contrasts are found in novel regions of performance space that improve both performances (*upper right corner*) compared to one in areas that incur cost in both performances (*lower left corner*). This pattern is repeated in our diet data (*C*), where eight contrasts are found in novel regions of performance space that improve both performances (*upper right corner*) compared to one in areas that incur cost in both performances (*lower left corner*).

Table C1. Sampling of species included in diet synthesis, including numbers of individuals, localities, and seasons summed across localities

Species	No. individuals	No. local	No. seasons	References
<i>Acantharchus pomotis</i>	4	1	4	Pardue 1993
<i>Centrarchus macropterus</i>	4	1	2	McLane 1955
<i>Enneacanthus gloriosus</i>	43	2	YR	McLane 1955; Flemer and Woolcott 1966
<i>Enneacanthus obesus</i>	11	1	YR	McLane 1955
<i>Lepomis auritus</i>	2,106	4	YR	McLane 1955; Flemer and Woolcott 1966; Bass and Hitt 1974; Coomer et al. 1977
<i>Lepomis cyanellus</i>	115	5	5	Etnier 1971; Sadzikowski and Wallace 1976
<i>Lepomis gibbosus</i>	2,072	5	30	Flemer and Woolcott 1966; Keast 1978; Savitz 1981
<i>Lepomis gulosus</i>	501	4	10	Larimore 1957; Flemer and Woolcott 1966; Savitz 1981
<i>Lepomis humilis</i>	52	1	1	Clark 1940
<i>Lepomis macrochirus</i>	1,040	8	13	McLane 1955; Huish 1957; Flemer and Woolcott 1966; Sadzikowski and Wallace 1976; Savitz 1981; Angermeier 1985; VanderKooy et al. 2000
<i>Lepomis marginatus</i>	42	1	...	McLane 1955
<i>Lepomis megalotis</i>	156	1	4	Angermeier 1985
<i>Lepomis microlophus</i>	1,151	5	7	McLane 1955; Huish 1957; Wilbur 1969; VanderKooy et al. 2000
<i>Lepomis miniatus</i>	9	1	3	VanderKooy et al. 2000
<i>Lepomis punctatus</i>	67	1	...	McLane 1955
<i>Lepomis symmetricus</i>	11	1	YR	Burr 1977
<i>Micropterus coosae</i>	78	2	2	Gwinner et al. 1975
<i>Micropterus dolomieu</i>	211	2	2	Doan 1940; Angermeier 1985
<i>Micropterus floridanus</i>	429	2	13	McLane 1948, 1950
<i>Micropterus notius</i>	68	1	YR	Schramm and Maceina 1986
<i>Micropterus salmoides</i>	271	3	8	Keast 1965; Savitz 1981; Schramm and Maceina 1986
<i>Pomoxis annularis</i>	170	1	9	Mathur and Robbins 1971

Note: YR = year-round sampling.

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