

Supplementary Data 4.—See Appendix 3 for details on specimen housing and measurement. Stalked specimens were chosen that had mostly complete crowns, but little stalk. Crown WIW for stalked crinoids was measured by subtracting the WIW of the stalk, which was estimated by modeling the stalk as a cylinder of bulk density as the whole animal. Dashed entries indicate missing data for the specimen, due to incompleteness or taxon characteristics (e.g., no stalk in *Holopus rangii*). Isolated stalks were used to measure stalk density and are noted by their lack of arm length and crown WIW. HYO, Hyocrinidae; HOL, Holopidae; BOU, Bourgeuticrinidae; ISO, Isocrinidae. Density is in g cm⁻³, WIW is in g, other measurements are in mm.

USNM.No	Species	Family	Density	WIW	Arm Length	Stalk Width	Stalk Length	Crown WIW
E47881	<i>Calamocrinus Diomedae</i>	HYO	1.24	0.63	65.06	3.31	6.31	0.62
E47881	<i>Calamocrinus Diomedae</i>	HYO	1.62	0.77	-	2.70	221.68	-
E33383	<i>Holopus rangii</i>	HOL	1.27	1.91	-	-	-	1.91
E33380	<i>Holopus rangii</i>	HOL	1.37	1.68	-	-	-	1.68
E42724	<i>Phrynocrinus nudus</i>	BOU	1.07	0.81	-	-	-	0.81
35993	<i>Diplocrinus alternicirrus</i>	ISO	1.43	4.81	91.92	4.43	3.74	4.79
E21120	<i>Diplocrinus maclearanus</i>	ISO	1.52	9.73	91.78	4.23	8.17	9.67
5811	<i>Diplocrinus maclearanus</i>	ISO	1.52	9.53	91.25	4.69	57.20	9.04
E21094	<i>Diplocrinus maclearanus</i>	ISO	1.57	6.70	89.09	3.65	34.42	6.50
E17521	<i>Neocrinus decorus</i>	ISO	1.44	1.70	-	4.34	254.41	-
E18007	<i>Neocrinus decorus</i>	ISO	1.28	2.46	123.79	3.84	24.16	2.39
E47575	<i>Endoxocrinus parrae</i>	ISO	1.36	2.24	83.91	3.42	12.54	2.20
E1021237	<i>Endoxocrinus parrae</i>	ISO	1.3	6.99	135.66	4.84	5.25	6.96
36057	<i>Neocrinus blakei</i>	ISO	1.28	1.37	110.55	2.76	5.60	1.36
E18021	<i>Neocrinus blakei</i>	ISO	1.1	0.46	105.31	2.98	15.26	0.45
12355A	<i>Neocrinus blakei</i>	ISO	1.59	1.63	80.48	2.68	8.56	1.60
12355B	<i>Neocrinus blakei</i>	ISO	1.38	2.25	90.84	3.31	8.96	2.22
E26001	<i>Endoxocrinus parrae</i>	ISO	1.1	1.52	98.81	5.04	20.66	1.49
E32657	<i>Endoxocrinus parrae</i>	ISO	1.35	5.68	119.84	4.21	16.77	5.60
E42618	<i>Endoxocrinus parrae</i>	ISO	1.28	3.47	115.65	3.51	5.64	3.46
E45846	<i>Endoxocrinus parrae</i>	ISO	1.17	0.86	89.74	4.22	51.35	0.76
E17950	<i>Endoxocrinus parrae</i>	ISO	1.54	3.63	76.15	2.99	41.07	3.48
E17990	<i>Endoxocrinus parrae</i>	ISO	1.23	2.69	111.55	3.95	14.20	2.65
E17994	<i>Endoxocrinus parrae</i>	ISO	1.36	5.41	105.88	4.59	21.36	5.29
E18033	<i>Endoxocrinus parrae</i>	ISO	1.51	14.30	126.24	6.05	28.08	13.91
E19969	<i>Endoxocrinus parrae</i>	ISO	1.53	1.81	73.85	3.42	45.89	1.60
12549	<i>Endoxocrinus parrae</i>	ISO	1.25	2.63	93.11	3.61	54.47	2.50
E36338	<i>Metacrinus rotundus</i>	ISO	1.44	1.32	-	5.96	130.85	-
E36338	<i>Metacrinus rotundus</i>	ISO	1.41	7.06	113.27	4.94	13.55	6.96
17531	<i>Hypalocrinus naresianus</i>	ISO	1.33	0.56	-	3.18	19.05	-
17531	<i>Hypalocrinus naresianus</i>	ISO	1.23	1.44	113.94	3.23	8.28	1.43