

Table S2: Classification of the unique sponge barcoded morphologies (BM) identified based on taxonomy and 28S rRNA barcoding. GenBank accession numbers for the COI and 28S rRNA barcodes are listed.

BM	COI	28S	Class	Order	Family	Species
BM_42	MW059040	MW016372	Demospongiae	Tetractinellida	Ancorinidae	Ancorinidae sp. 1
BM_44	MW144971	MW016038	Demospongiae	Tetractinellida	Ancorinidae	Ancorinidae sp. 3
BM_49	*KU533857.2	MW016050	Demospongiae	Dendroceratida	Darwinellidae	<i>Aplysilla rosea</i>
BM_25	MW059045	MW016061	Demospongiae	Haplosclerida	Chalinidae	Chalinidae sp. 1
BM_56	MW143252	MW016069	Demospongiae	Dendroceratida	Darwinellidae	<i>Chelonaphysilla</i> sp. 1
BM_58	MW144969	MW016072	Demospongiae	Chondrillida		Chondrillida sp. 1
BM_97	MW059048	MW016079	Demospongiae	Haplosclerida	Chalinidae	<i>Cladocroce</i> sp.1
BM_50	MW059051	MW016106	Demospongiae	Dendroceratida		Dendroceratida sp. 3
BM_90	MW059053	MW016118	Demospongiae	Dictyoceratida	Dysideidae	<i>Dysidea</i> sp. 3
BM_78	MW059056	MW016126	Demospongiae	Suberitida	Halichondriidae	<i>Halichondria</i> sp. 1
BM_27	MW059059	MW016133	Demospongiae	Haplosclerida	Chalinidae	<i>Haliclona</i> sp. 1
BM_28	MW059060	MW016137	Demospongiae	Haplosclerida	Chalinidae	<i>Haliclona</i> sp. 2
BM_26	MW059067	MW016143	Demospongiae	Haplosclerida	Chalinidae	<i>Haliclona</i> sp. 24
BM_32	MW059062	MW016146	Demospongiae	Haplosclerida	Chalinidae	<i>Haliclona</i> sp. 4
BM_29	MW144972	MW016148	Demospongiae	Haplosclerida		Haplosclerida sp. 1
BM_30	MW059068	MW016161	Demospongiae	Haplosclerida		Haplosclerida sp. 2
BM_37	MW059073	MW016167	Demospongiae	Haplosclerida		Haplosclerida sp. 7
BM_38	MW059074	MW016168	Demospongiae	Haplosclerida		Haplosclerida sp. 8
BM_73	MW059077	MW016172	Demospongiae	Suberitida	Halichondriidae	<i>Hymeniacidon</i> sp. 1
BM_74	MW059078	MW016174	Demospongiae	Suberitida	Halichondriidae	<i>Hymeniacidon</i> sp. 2
BM_94	MW059080	MW016184	Demospongiae	Dictyoceratida	Irciniidae	<i>Ircinia</i> sp. 2
BM_109	MW144975	MW016228	Demospongiae	Poecilosclerida	Coelosphaeridae	<i>Lissodendoryx</i> sp. 2
BM_84	MW059082	MW016250	Homoscleromorpha	Homosclerophorida	Oscarellidae	<i>Oscarella</i> sp. 3
BM_86	MW059085	MW016256	Homoscleromorpha	Homosclerophorida	Oscarellidae	<i>Oscarella</i> sp. 5
BM_104	MW059088	MW016259	Homoscleromorpha	Homosclerophorida	Oscarellidae	<i>Oscarella</i> sp. 6
BM_87	MW059089	MW016262	Homoscleromorpha	Homosclerophorida	Plakinidae	<i>Plakina</i> sp. 1
BM_88	MW059091	MW016270	Homoscleromorpha	Homosclerophorida	Plakinidae	<i>Plakortis</i> sp. 1
BM_66	MW059093	MW016272	Demospongiae	Poecilosclerida		Poecilosclerida sp. 1
BM_68	MW059095	MW016296	Demospongiae	Suberitida	Suberitidae	<i>Protosuberites</i> sp. 1
BM_69	MW144976	MW016300	Demospongiae	Suberitida	Suberitidae	<i>Protosuberites</i> sp. 2
BM_70	MW059096	MW016304	Demospongiae	Suberitida	Suberitidae	<i>Protosuberites</i> sp. 3
BM_65	MW059100	MW016326	Demospongiae	Poecilosclerida	Tedanidae	<i>Tedania cf. klausii</i>
BM_80	MW059101	MW016330	Demospongiae	Suberitida	Suberitidae	<i>Terpios</i> sp. 1
BM_51	MW059104	MW016335	Demospongiae	Tethyida	Tethyidae	<i>Tethya</i> sp. 2
BM_52	MW059105	MW016338	Demospongiae	Tethyida	Tethyidae	<i>Tethya</i> sp. 3
BM_53	MW059107	MW016341	Demospongiae	Tethyida	Tethyidae	<i>Tethya</i> sp. 4
BM_54	MW059108	MW016342	Demospongiae	Tethyida	Tethyidae	<i>Tethya</i> sp. 5
BM_55	MW144986	MW016346	Demospongiae	Tethyida	Tethyidae	<i>Tethya</i> sp. 6
BM_93	MW144987	MW016349	Demospongiae	Tethyida	Tethyidae	Tethyidae sp. 1
BM_89	MW144983	MW016352	Demospongiae			Verongimorpha sp. 1
BM_85		MW016253	Homoscleromorpha	Homosclerophorida	Oscarellidae	<i>Oscarella</i> sp. 4
BM_43		MW016037	Demospongiae	Tetractinellida		Ancorinidae sp. 2
BM_46		MW016042	Demospongiae	Tetractinellida		Ancorinidae sp. 5
BM_48		MW016045	Demospongiae	Tetractinellida		Ancorinidae sp. 7
BM_57		MW016119	Demospongiae	Dictyoceratida	Dysideidae	<i>Dysidea</i> sp. 5
BM_41		MW016151	Demospongiae	Haplosclerida		Haplosclerida sp. 10
BM_111		MW016156	Demospongiae	Haplosclerida		Haplosclerida sp. 13
BM_103		MW016169	Demospongiae			Heteroscleromorpha sp. 3
BM_77		MW016179	Demospongiae	Suberitida	Halichondriidae	<i>Hymeniacidon</i> sp. 5
BM_60		MW016232	Demospongiae	Poecilosclerida	Mycalidae	<i>Mycale</i> sp. 10
BM_59		MW016241	Demospongiae	Poecilosclerida	Mycalidae	<i>Mycale</i> sp. 9
BM_67		MW016275	Demospongiae	Poecilosclerida		Poecilosclerida sp. 2
BM_101		MW016286	Demospongiae	Poecilosclerida		Poecilosclerida sp. 4
BM_62		MW016292	Demospongiae	Poecilosclerida		Poecilosclerida sp. 7
BM_23		MW016080	Calcarea	Clathrinida		Clathrinida sp. 1
BM_7		MW016085	Calcarea	Clathrinida	Clathrinidae	Clathrinidae sp. 1
BM_8		MW016089	Calcarea	Clathrinida	Clathrinidae	Clathrinidae sp. 2
BM_9		MW016092	Calcarea	Clathrinida	Clathrinidae	Clathrinidae sp. 3
BM_10		MW016094	Calcarea	Clathrinida	Clathrinidae	Clathrinidae sp. 4
BM_11		MW016097	Calcarea	Clathrinida	Clathrinidae	Clathrinidae sp. 5
BM_15		MW016191	Calcarea	Leucosolenida		Leucosolenida sp. 1
BM_14		MW016194	Calcarea	Leucosolenida		Leucosolenida sp. 10
BM_1		MW016197	Calcarea	Leucosolenida		Leucosolenida sp. 11
BM_2		MW016201	Calcarea	Leucosolenida		Leucosolenida sp. 13
BM_98		MW016207	Calcarea	Leucosolenida		Leucosolenida sp. 18
BM_17		MW016216	Calcarea	Leucosolenida		Leucosolenida sp. 3
BM_19		MW016217	Calcarea	Leucosolenida		Leucosolenida sp. 5
BM_21		MW016221	Calcarea	Leucosolenida		Leucosolenida sp. 7
BM_91		MW016224	Calcarea	Leucosolenida		Leucosolenida sp. 9

*The spicules from these sponges were examined in an attempt to obtain a species name from sponges previously encountered in Kāneʻohe Bay. Sequence was compared to the existing voucher for this species.