

Supplemental Table I List of 'polychaete-echinoderm' associations. Literature and present data.

Polychaete Family	Polychaete species	Host group	Host species	Area	Depth	Polychaete position on the host			Interpretation of the association and peculiarities	Biblio. Ref.
						O	OC	GB		
Polynoidea	<i>Gorekia crassicirris</i> (Willey, 1902)	ES	<i>Abatus nimrodi</i> (Koehler, 1911)	SOR	80 m			x	Inquilinism	Present data
			<i>Brachysternaster chesheri</i> Larrain, 1985	SOW	1353 m	x				Neumann pers. comm. 2007
	<i>Eunoe opalina</i> McIntosh, 1885	H	<i>Bathyploetes bongraini</i> Vaney, 1914	SO	348-531 m	x			Parasitism/Commensalism	Schiaparelli <i>et al.</i> 2010
	Undet. Polynoid		<i>Laetmogone</i> sp.	SO	2202 m		x		Kleptocommensalism?	Schiaparelli <i>et al.</i> 2010, cf. fig. 8
	<i>Eunoe laetmogonensis</i> Kirkegaard & Billett, 1980	H	<i>Laetmogone violacea</i> Théel, 1879	NEA	800-1400 m		x		Phoresy/Protective association/Kleptocommensalism	Kirkegaard & Billett 1980
	<i>Harmothoe bathydomus</i> Ditlevsen, 1917	H	<i>Bathyploetes natans</i> Östergren, 1896	NEA	1220-3200 m	x			Phoresy	Wesenberg-Lund 1941
	<i>Gastrolepidia clavigera</i> Schmarda, 1861	H	<i>Stichopus chloronotus</i> Brandt, 1835	IP	1-15 m		x		Commensalism/parasitism. Cryptic coloration	Britayev & Zamishliak 1996, Britayev <i>et al.</i> 1999, Britayev & Lyskin 2002, Martin & Britayev 1998, Lyskin & Britayev 2005
			<i>Stichopus horrens</i> Selenka, 1867							
			<i>Holothuria (Halodeima) atra</i> Jaeger, 1833							
			<i>Holothuria (Mertensiothuria) leucospilota</i> (Brandt, 1835)							
			<i>Actinopyga echinites</i> (Jaeger, 1833)							
			<i>Thelenota anax</i> H.L. Clark, 1921							
			<i>Holothuria edulis</i> Lesson, 1830							
			<i>Pearsonothuria graeffei</i> (Semper, 1868)							
			<i>Bohadschia tenuissima</i> (Semper, 1868)							
<i>Holothuria (Acanthotrapeza) coluber</i> Semper, 1868										
<i>Subadyte pellucida</i> (Ehlers, 1864)	O	<i>Ophiothrix fragilis</i> (Abildgaard, 1789)	M		x			Commensalism. Cryptic coloration	Koehler 1894	
	A	<i>Astropecten irregularis</i> (Pennant, 1777)	EA		x				Barel & Kramers 1977 and ref. therein	
<i>Asterophilia carlae</i> Hanley, 1989	A	<i>Linckia laevigata</i> (Linnaeus, 1758)	PO	5 m	x			Commensalism. Excellent mimicry	Hanley 1989	

Polynoidae	<i>Asterophilia culcitae</i> Britayev & Fauchald, 2005	A	<i>Culcita novaeguineae</i> Müller & Troschel, 1842	PO	2-10 m	x		Commensalism. Excellent mimicry	Britayev & Fauchald 2005	
			<i>Linckia laevigata</i> (Linnaeus, 1758)		2-10 m	x				
			<i>Protoreaster nodosus</i> (Linnaeus, 1758)		2-10 m	x				
		C	unstalked crinoids		2-10 m	x				Commensalism
	<i>Bylgides sarsi</i> (Kinberg in Malmgren, 1866)	ES	<i>Spatangus purpureus</i> (O.F. Müller, 1776)	EA			x		Barel & Kramers 1977 and ref. therein	
	<i>Lepidonopsis humilis</i> (Augener, 1922)	ES	<i>Mellita quinquesperforata</i> (Leske, 1778)	WA	Intertidal	x			Free living/commensalism	Pettibone 1993
	<i>Acholoe astericola</i> (Delle Chiaje, 1841)	A	<i>Astropecten irregularis</i> (Pennant, 1777)	EA	15-180 m	x	x			Freeman <i>et al.</i> 1998 (cited as <i>A. squamosa</i> Delle Chiaje, 1828)
					sublittoral to more than 200 m		x			Davenport 1953
	<i>Bathynoe cascadiensis</i> Ruff, 1991	A	<i>Astrocles actinodetus</i> Fisher, 1917	NEP	2519-3021 m	x			Commensalism. Large elytra mimicking spines and tube feet of the host	Ruff 1991
			<i>Astrolirus panamensis</i> (Ludwig, 1905)			x				
<i>Bathynoe tuberculata</i> (Treadwell, 1906)	A	<i>Brisinga alberti</i> Fisher, 1907	PO	823 m		x		Commensalism	Treadwell 1906	
<i>Eumida ophiuricola</i> Britayev, Doignon & Eeckhaut, 1999	O	<i>Ophiothrix (Acanthophiothrix)</i> <i>purpurea</i> von Martens, 1867	IP	15 m			x	Endocommensalism	Britayev <i>et al.</i> 1999	
<i>Hololepidella laingensis</i> Britayev, Doignon & Eeckhaut, 1999	C	<i>Capillaster multiradiatus</i> (Linnaeus, 1758)	IP	10 m	x			Ectocommensalism	Britayev <i>et al.</i> 1999	
		<i>Dichrometra flagellata</i> (Müller, 1841)		15 m	x					
		<i>Lamprometra palmata</i> (Müller, 1841)		15 m	x					
		<i>Himerometra robustipinna</i> (Carpenter, 1881)			x					
		<i>Oxycomanthus bennetti</i> (Müller, 1841)		15 m	x					
		<i>Comaster multifidus</i> (Müller, 1841)		15 m	x					

Polynoidae	<i>Hololepidella millari</i> Britayev, Doignon & Eeckhaut, 1999	C	<i>Comanthus alternans</i> (Carpenter, 1881)	IP	20 m	x		Ectocommensalism	Britayev <i>et al.</i> 1999
		A	<i>Linckia laevigata</i> (Linnaeus, 1758)		10 m	x			
			<i>Linckia guildingi</i> Gray, 1840		15 m	x			
	<i>Hololepidella commensalis</i> Willey, 1905	O	<i>Macrophiothrix koehleri</i> A.M. Clark, 1968	PO		x		Commensalism. Cryptic coloration	Gibbs 1969
			<i>Ophiarthrum pictum</i> (Müller & Troschel, 1842)			x			
	<i>Hololepidella nigropunctata</i> (Horst, 1915)		echinoids, asteroids	IP/PO	intertidal to 57m.				Pettibone 1993
		O	<i>Ophiocoma dentata</i> Müller & Troschel, 1842	EP	shallow waters	x	x	Commensalism	Devaney 1967
	<i>Hololepidella minuta</i> (Potts, 1915)	O	<i>Ophiocoma brevipes</i> Peters, 1851	PO		x		Commensalism	Gibbs 1969
			<i>Ophiocoma dentata</i> Müller & Troschel, 1842			x			
			<i>Ophiarthrum elegans</i> Peters, 1851			x			
	<i>Polynoe minuta oculata</i> Potts, 1915	C	<i>Comanthus parvicirrus</i> (Müller, 1841)	PO				Commensalism?	Potts 1915
	<i>Harmothoe tenebricosa</i> Moore, 1910	A	<i>Crossaster borealis</i> Fisher, 1906	EP	301-1920 m; 457 m	x		Commensalism	Alton 1966, Pettibone 1969
			<i>Heterozonias alternatus</i> (Fisher, 1906)			x			
			<i>Hippasteria californica</i> Fisher, 1905			x			
	<i>Malmgreniella castanea</i> (McIntosh, 1876)	ES	<i>Spatangus purpureus</i> (O.F. Müller, 1776)	EAWA	0-200 m	x		Commensalism	Barel & Kramers 1977 and ref. therein, Pettibone 1993
A		<i>Astropecten irregularis</i> (Pennant, 1777)	EA		x			Barel & Kramers 1977 and ref. therein	
<i>Malmgreniella lunulata</i> Delle Chiaje, 1830)	H	<i>Leptosynapta inhaerens</i> (O.F. Müller, 1776)	NEA				Commensalism	Davenport 1950	
	O	<i>Acrocnida brachiata</i> (Montagu, 1804)	NEA		x		Commensalism	Davenport 1950, Barel & Kramers 1977 and ref. therein	
		<i>Ophionereis reticulata</i> (Say, 1825)	WA			x		Commensalism?	Millott 1953

Polynoidea	<i>Adyte assimilis</i> (McIntosh, 1874)	E	<i>Echinus esculentus</i> Linnaeus, 1758	NEA	0-40 m	x				Barel & Kramers 1977 and ref. therein
	<i>Arctonoe pulchra</i> (Johnson, 1897)	H	<i>Stichopus parvimensis</i> (H.L. Clark, 1913)	EP	subtidal	x	x		Protective association?	Dimock 1974
			<i>Stichopus californicus</i> (Stimpson, 1857)		0.3-73 m	x	x		Commensalism; ectocommensal guest.	Pettibone 1953
		A	<i>Luidia foliolata</i> (Grube, 1866)		36-109 m	x				Pettibone 1953
			<i>Solaster stimpsoni</i> Verrill, 1880		30-150 m	x				
	<i>Arctonoe fragilis</i> (Baird, 1863)	A	<i>Evasterias troscheli</i> (Stimpson 1862)	EP	Intertidal	x			Commensalism	Davenport 1950
	<i>Arctonoe vittata</i> (Grube, 1855)	A	<i>Dermasterias imbricata</i> (Grube, 1857)	EP	intertidal	x				Pettibone 1953
			<i>Asterias amurensis</i> Lutken, 1871	NP		x				Gogging & Bouland 1997
	<i>Harmothoe imbricata</i> (Linnaeus, 1767)	A	<i>Asterias amurensis</i> Lutken, 1871	J		x				Okuda 1936b
	<i>Malmgreniella hendleri</i> Pettibone, 1993	O	<i>Amphiura fibulata</i> Koehler, 1914	NWA	9 m		x		Commensalism	Pettibone 1993
	<i>Malmgreniella scriptoria</i> (Moore, 1910)	ES	<i>Brisaster latifrons</i> (A. Agassiz, 1898)	EP	101-305 m	x			Protective association?	Pettibone 1993
					254 m					
<i>Malmgreniella capensis</i> (McIntosh, 1885)	ES	<i>Spatangus capensis</i> Döderlein, 1905	SA	60-62 m				Commensalism. Polychaete colouration matching that of the host.	Pettibone 1993	
<i>Paradyte crinoidicola</i> (Potts, 1910)	C	undetermined	J		x				Okuda 1936b	
		<i>Capillaster multiradiatus</i> (Linnaeus, 1758)	IP	10 m	x			Commensalism	Britayev <i>et al.</i> 1999	
		<i>Oxycomanthus bennetti</i> (Müller, 1841)		15	x					
		<i>Comanthus alternans</i> (Carpenter, 1881)		20 m	x					
		<i>Comaster multifidus</i> (Müller, 1841)		20 m	x					
		<i>Dichrometra flagellata</i> (Müller, 1841)		10 m	x					
		<i>Himerometra robustipinna</i> (Carpenter, 1881)		PO		x				

Syllidae	<i>Exogone</i> sp.	H	<i>Ocnus planci</i> (Brandt, 1835)	M	0-200 m			x		Monticelli 1892	
	<i>Branchiosyllis exilis</i> (Gravier, 1900)	O	<i>Ophiocoma echinata</i> (Lamarck, 1816)	P	1-3 m.	x	x	x	Kleptocommensalism? Polychaete colouration matching that of the host.	Hendler & Meyer 1982	
Ctenodrilidae	<i>Ctenodrilus</i> sp.	H	<i>Leptosynapta inhaerens</i> (O.F. Müller, 1776)	M	Sublittoral			x		Monticelli 1892	
			<i>Labidoplax digitata</i> (Montagu, 1815)		Low intertidal-70 m		x				
			<i>Holothuria (Holothuria) tubulosa</i> Gmelin, 1790				x				
Eunicidae	<i>Ophryotrocha puerilis</i> Claparède & Metschnikow, 1869	H	<i>Ocnus planci</i> (Brandt, 1835)	M	0-200 m			x		Monticelli 1892	
Pilargidae	<i>Ancistrosyllis</i> sp.	H	<i>Molpadia</i> sp.	I				x	Inquilinism	Ganapati & Radhakrishna 1967	
Amphinomidae	<i>Benthoscolex cubanus</i> Hartman, 1942	ES	<i>Archeopneustes hystrix</i> (A. Agassiz, 1880)	WA	402-430 m			x	Commensalism/endoparasitism	Hartman 1942	
					430-616 m				Parasitism/Commensalism	Emson <i>et al.</i> 1993	
Hesionidae	<i>Ophiodromus</i> sp.	ES	<i>Linopneustes longispinus</i> Agassiz, 1878	B	430-616 m.	x				Emson <i>et al.</i> 1993	
	<i>Ophiodromus flexuosus</i> (Delle Chiaje, 1827)	A		<i>Astropecten aranciacus</i> (Linnaeus, 1758)	EA		x				Barel & Kramers 1977 and ref. therein
				<i>Astropecten bispinosus</i> (Otto, 1823)			x				
				<i>Astropecten platyacanthus</i> (Philippi, 1837)			x				
				<i>Astropecten irregularis</i> (Pennant, 1777)			x				
				<i>Luidia ciliaris</i> (Philippi, 1837)			x				
	<i>Podarke pugettensis</i> Johnson, 1901	A		<i>Patiria miniata</i> Verrill, 1913	EP	intertidal, subtidal	x		Free living/ facultative commensalism	Merz & Edwards 1998 and ref. therein	
<i>Podarke angustifrons</i> (Grube, 1878)	A		<i>Pentacaster multispinus</i> (von Martens, 1866)	IP		x		Protective association/commensalism?	Jones 1964		

Taxonomy follows WoRMS (World Register of Marine Species, www.marinespecies.org; last search 7 May 2010)

Depth: if not reported in the paper describing the association, depth refers to that of the host as reported in WoRMS (W)

Empty cell= no data available

Abbreviations:

Host Group

E= Echinoidea

ES= Echinoidea, Spatangoida

H= Holothuroidea

O= Ophiuroidea

C= Crinoidea

A= Asteroidea

Position on the host

O=oral side

PO = partial entrance in the oral cavity

GB= within the gut/body cavity

Area

PO= Pacific Ocean

EP= East Pacific Ocean

NP= Northern Pacific

NEP= North East Pacific

IP= Indopacific Ocean

EA= East Atlantic Ocean

WA= West Atlantic Ocean

NWA= North West Atlantic Ocean

M= Mediterranean

B= Bahamas Archipelago

I= India

SA= South Africa

P= Panama

NEA= North East Atlantic

J= Sea of Japan

SO= Southern Ocean

SOR=Southern Ocean (Ross Sea)

SOW= Southern Ocean (Weddell Sea)

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