	Character	Amphichondrius	Amphiodia	Amphiodia	Amphiodia	Dougaloplus
		granulatus	digitata	urtica	psara	amphacanthus
	Pattern of Aboral Disk	Lrg. Scales with	Sm. Scales	Sm. Scales	Rosette Scales	Very Spiny
ļ		thick scale margin	inflated disc	inflated disc	inflated disc	inflated disc
	Radial Shield Pattern	Wedge, 2-3 scales	Parallel bands	Parallel bands	Split Heart	Parallel bands
	Pattern of Oral Disk	Bumpy	Sm. Scales	Sm. Scales	Large Scales	Very Spiny
	Hyaline Forks	No	Many	Many	No	No
	Arm Insertion to Disk	Underneath	Underneath	Underneath	Underneath	Underneath
	Number of Oral Papillae	3	3	3	3	4
	Arrangement of Papillae	Distal, large	D & M tubular	D & M tubular	D, slightly Irger	Three lateral
ļ		M & A = equal	A = flat & wide	A = flat & wide	M, tubular	all tubular
	Infradental Papillae	2sm narrow	2Block-like	2Block-like	A, 2sm Blocklike	A, 2Blocklike
	Oral Shield Pattern	Diamond shaped	Pentagonal	Diamond	Triangle curvedup	Lrg. Teardrop
	Adoral Shield Spine	No	No	No	No	No
	Tooth Pattern	Wedge shaped	Wedge shaped	Wedge shaped	Wedge shaped	Wedge shaped
	Number of Tentacle Spines	3	3	3	3	4 to 5
	Pattern of Tentacle Spines	Sm, equal size	Sm, equal size	Sm, equal size	Sm, equal size	Mid flat,long,forkd
	Number of Tentacle Scales	2 sm, round flaps	2sm right angle	2sm right angle	2med right angle	2 sm, round flaps
	Pattern of Dorsal Tentacle	Oblong Oval	Rectangular	Rectangular	Oblong Oval	Oblong Oval
ſ	Pattern of Ventral Tentacle	Heart Shaped	Pentagonal	Square/Heart	Rectangular	Square/Heart
	Cushion btwn Tentacle Plates	Slightly	No	Yes	No	Yes
-1	Color of Animal Preserved	Cream	Cream/ long leg	Cream/ long leg	Brown/cream	Dark Cream
	Character	Amphioplus	Amphioplus	Amphipholis	Amphipholis	Amphiura
		sp. LA 1	strongyloplax	squamata	pugetana	arcystata
	Pattern of Aboral Disk	Sm. Scales	Sm. Scales	Lrg.S./Rosette	Lrg.S./Rosette	No disc c. scales
			inflated disc	inflated disc	inflated disc	الملمئما مائست بيا
-		inflated disc	milated disc			by radial shield
-	Radial Shield Pattern	inflated disc () Pattern	V Pattern	Split Heart	Split Heart	() Pattern
ı	Radial Shield Pattern Pattern of Oral Disk			Split Heart Sm. Scales	Split Heart Sm. Scales	
		() Pattern	V Pattern	·		() Pattern
	Pattern of Oral Disk	() Pattern Sm. Scales	V Pattern Sm. Scales	Sm. Scales	Sm. Scales	() Pattern Wrinkly
	Pattern of Oral Disk Hyaline Forks	() Pattern Sm. Scales No	V Pattern Sm. Scales No	Sm. Scales No	Sm. Scales No	() Pattern Wrinkly No
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk	() Pattern Sm. Scales No Underneath	V Pattern Sm. Scales No Underneath	Sm. Scales No Underneath	Sm. Scales No Underneath	() Pattern Wrinkly No Underneath
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae	() Pattern Sm. Scales No Underneath 5	V Pattern Sm. Scales No Underneath 5	Sm. Scales No Underneath	Sm. Scales No Underneath	() Pattern Wrinkly No Underneath
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae	() Pattern Sm. Scales No Underneath 5 Middle Irger than	V Pattern Sm. Scales No Underneath 5 Mid Irger than	Sm. Scales No Underneath 3 D= lrg, wide,flat M tubular	Sm. Scales No Underneath 3 D= lrg, wide,flat	() Pattern Wrinkly No Underneath 3 D= long, tubular
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae	() Pattern Sm. Scales No Underneath 5 Middle Irger than outside laterals	V Pattern Sm. Scales No Underneath 5 Mid Irger than outside laterals 2Lrg. Block-like	Sm. Scales No Underneath 3 D= lrg, wide,flat M tubular	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular	() Pattern Wrinkly No Underneath 3 D= long, tubular M=Flat short
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae	() Pattern Sm. Scales No Underneath 5 Middle Irger than outside laterals 2Lrg. Block-like	V Pattern Sm. Scales No Underneath 5 Mid Irger than outside laterals 2Lrg. Block-like	Sm. Scales No Underneath 3 D= lrg, wide,flat M tubular 2sm. Block-like	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like	() Pattern Wrinkly No Underneath 3 D= long, tubular M=Flat short 2lrg Block-like
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern	() Pattern Sm. Scales No Underneath 5 Middle Irger than outside laterals 2Lrg. Block-like Rnd Teardrop	V Pattern Sm. Scales No Underneath 5 Mid Irger than outside laterals 2Lrg. Block-like Rnd Arrowhead	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Shrp Arrowhead No	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Sm. Triangle	() Pattern Wrinkly No Underneath 3 D= long, tubular M=Flat short 2lrg Block-like Triangular
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine	() Pattern Sm. Scales No Underneath 5 Middle Irger than outside laterals 2Lrg. Block-like Rnd Teardrop No	V Pattern Sm. Scales No Underneath 5 Mid Irger than outside laterals 2Lrg. Block-like Rnd Arrowhead No	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Shrp Arrowhead No	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Sm. Triangle No	() Pattern Wrinkly No Underneath 3 D= long, tubular M=Flat short 2lrg Block-like Triangular No
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern	() Pattern Sm. Scales No Underneath 5 Middle Irger than outside laterals 2Lrg. Block-like Rnd Teardrop No Wedge shaped	V Pattern Sm. Scales No Underneath 5 Mid Irger than outside laterals 2Lrg. Block-like Rnd Arrowhead No Wedge shaped 4 to 5	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Shrp Arrowhead No Wedge shaped 3	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Sm. Triangle No Wedge shaped	() Pattern Wrinkly No Underneath 3 D= long, tubular M=Flat short 2lrg Block-like Triangular No Wedge shaped
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines	() Pattern Sm. Scales No Underneath 5 Middle Irger than outside laterals 2Lrg. Block-like Rnd Teardrop No Wedge shaped 4 to 5	V Pattern Sm. Scales No Underneath 5 Mid Irger than outside laterals 2Lrg. Block-like Rnd Arrowhead No Wedge shaped 4 to 5	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Shrp Arrowhead No Wedge shaped 3	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Sm. Triangle No Wedge shaped 3 to 4	() Pattern Wrinkly No Underneath 3 D= long, tubular M=Flat short 2lrg Block-like Triangular No Wedge shaped 5 to 8
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines Pattern of Tentacle Spines	() Pattern Sm. Scales No Underneath 5 Middle Irger than outside laterals 2Lrg. Block-like Rnd Teardrop No Wedge shaped 4 to 5 Mid flat,short,forkd	V Pattern Sm. Scales No Underneath 5 Mid Irger than outside laterals 2Lrg. Block-like Rnd Arrowhead No Wedge shaped 4 to 5 Mid flat,shrt,frkd	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Shrp Arrowhead No Wedge shaped 3 Equal	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Sm. Triangle No Wedge shaped 3 to 4 Equal	() Pattern Wrinkly No Underneath 3 D= long, tubular M=Flat short 2lrg Block-like Triangular No Wedge shaped 5 to 8 Equal
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines Pattern of Tentacle Scales	() Pattern Sm. Scales No Underneath 5 Middle Irger than outside laterals 2Lrg. Block-like Rnd Teardrop No Wedge shaped 4 to 5 Mid flat,short,forkd 1 sm flap	V Pattern Sm. Scales No Underneath 5 Mid Irger than outside laterals 2Lrg. Block-like Rnd Arrowhead No Wedge shaped 4 to 5 Mid flat,shrt,frkd 1 sm flap	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Shrp Arrowhead No Wedge shaped 3 Equal 2med flaps	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Sm. Triangle No Wedge shaped 3 to 4 Equal 2 med flaps	() Pattern Wrinkly No Underneath 3 D= long, tubular M=Flat short 2lrg Block-like Triangular No Wedge shaped 5 to 8 Equal 2 smal flaps
	Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines Pattern of Tentacle Scales Pattern of Dorsal Tentacle	() Pattern Sm. Scales No Underneath 5 Middle Irger than outside laterals 2Lrg. Block-like Rnd Teardrop No Wedge shaped 4 to 5 Mid flat,short,forkd 1 sm flap Oval	V Pattern Sm. Scales No Underneath 5 Mid Irger than outside laterals 2Lrg. Block-like Rnd Arrowhead No Wedge shaped 4 to 5 Mid flat,shrt,frkd 1 sm flap Oval	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Shrp Arrowhead No Wedge shaped 3 Equal 2med flaps Oval	Sm. Scales No Underneath 3 D= Irg, wide,flat M tubular 2sm. Block-like Sm. Triangle No Wedge shaped 3 to 4 Equal 2 med flaps Oblong Oval	() Pattern Wrinkly No Underneath 3 D= long, tubular M=Flat short 2lrg Block-like Triangular No Wedge shaped 5 to 8 Equal 2 smal flaps Oval

Character	Ophiuroconis	Ophiothrix	Ophiura	Ophiacantha	Ophiopholis
	bispinosa	spiculata	luetkenii	diplasia	bakeri
Pattern of Aboral Disk	Many papillae	Multifid spines	Lrg. Scales w/	Many papillae	Multifid spines
	Disk inflated	color spots	flattened disc	flattened disc	flattened disc
Radial Shield Pattern	Tiny split heart	2 wedges	2 leaf blades	cvd w/scales	() cvd w/ spines
Pattern of Oral Disk	Many papillae	Multifid spines	Fused w/scales	Sm. Scales	Multifid spines
Hyaline Forks	No	Yes	Yes	No	Yes
Arm Insertion to Disk	Underneath	Into disk, under	Inserted to disc	Inserted to disc	Inserted to disc
Number of Oral Papillae	4	0	4	5 to 7	4 to 6
Arrangement of Papillae	D-pair flat&broad	N/A	All flattened	All tubular	All flattened
	Lateral 2 small	N/A	and equal	and equal	and equal
Infradental Papillae	3 spikes	0	5 + spikes	3 tubules	0
Oral Shield Pattern	papillae, arrowhead	Jellyfish shaped	Shrp Arrowhead	Shrp Arrowhead	Bat-ray shaped
Adoral Shield Spine	No	No	No	No	No
Tooth Pattern	Serrated spines	Many Lobes	Row of Spines	Many lobes	Many small lobes
Number of Tentacle Spines	2	Whorls of 8	3	4 to 7	4 to 7
Pattern of Tentacle Spines	Distal longer	Serrated combs	shrt, med, tall	Distal very lrg.	p,hook, outter,lng
Number of Tentacle Scales	1Large cup shaped	1 sm flap	1round disc	2 long scales	1, flat elongate
Pattern of Dorsal Tentacle	Tall Rnd Squares	Diamond	Wide,Flare,Oval	Diamond	Oval, sur w/spine
Pattern of Ventral Tentacle	Sm Rnd rectangle	Square/Heart	Triangular	Oval	Cup
Cushion btwn Tentacle Plates	No	Slightly	No	Slightly	No
Color of Animal Preserved	Cream	Cream - Gray	Cream	Dark Cream	Reddish/Pink
Character	Ophiopsila				
	californica				
Character Pattern of Aboral Disk	californica Rosette Irg scale				
	Rosette Irg scale disc inflated				
Pattern of Aboral Disk Radial Shield Pattern	californica Rosette Irg scale disc inflated Not visible				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk	californica Rosette Irg scale disc inflated Not visible Small scales				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks	californica Rosette Irg scale disc inflated Not visible Small scales No				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes Laterally				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes Laterally 1 lobe center Brown cushions Yes				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes Laterally 1 lobe center Brown cushions Yes Row of Lobes				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes Laterally 1 lobe center Brown cushions Yes Row of Lobes 3 to 4				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines Pattern of Tentacle Spines	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes Laterally 1 lobe center Brown cushions Yes Row of Lobes 3 to 4 Middle ones longer				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines Pattern of Tentacle Scales	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes Laterally 1 lobe center Brown cushions Yes Row of Lobes 3 to 4 Middle ones longer Long tube flaps				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines Pattern of Tentacle Scales Pattern of Dorsal Tentacle	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes Laterally 1 lobe center Brown cushions Yes Row of Lobes 3 to 4 Middle ones longer Long tube flaps Teardrop				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines Pattern of Tentacle Scales Pattern of Dorsal Tentacle Pattern of Ventral Tentacle	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes Laterally 1 lobe center Brown cushions Yes Row of Lobes 3 to 4 Middle ones longer Long tube flaps Teardrop Square				
Pattern of Aboral Disk Radial Shield Pattern Pattern of Oral Disk Hyaline Forks Arm Insertion to Disk Number of Oral Papillae Arrangement of Papillae Infradental Papillae Oral Shield Pattern Adoral Shield Spine Tooth Pattern Number of Tentacle Spines Pattern of Tentacle Scales Pattern of Dorsal Tentacle	californica Rosette Irg scale disc inflated Not visible Small scales No Underneath 2 2 paired lobes Laterally 1 lobe center Brown cushions Yes Row of Lobes 3 to 4 Middle ones longer Long tube flaps Teardrop				