

Supplementary material

**Combining morphological and molecular data resolves the phylogeny of Squilloidea
(Crustacea : Malacostraca)**

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Table S1. Morphological data matrix used in this study, with character numbers and states following Ahyong (2005).

Taxa	Characters													
	0	1	2	3	4	5	6	7	8	9	10	11	12	13
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Alima maxima</i>	1	0	0	0	0	0	0	0	0	1	0	1	0	1
<i>Alima orientalis</i>	1	0	0	0	0	0	0	0	0	1	0	1	0	1
<i>Alima pacifica</i>	1	0	0	0	0	0	0	0	0	1	0	1	0	1
<i>Alima pacifica</i>	1	0	0	0	0	0	0	0	0	1	0	1	0	1
<i>Anchisquilla fasciata</i>	0	2	1	0	0	0	0	1	0	0	1	0	0	0
<i>Anchisquilloides mcneilli</i>	0	2	0	0	0	0	0	0	0	1	0	0	0	0
<i>Belosquilla laevis</i>	1	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Busquilla plantei</i>	1	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Busquilla quadraticauda</i>	1	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Carinosquilla multicarinata</i>	1	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Clorida decorata</i>	0	2	0	0	0	0	0	0	0	1	0	0	0	0
<i>Cloridina moluccensis</i>	0	2	0	0	0	0	0	0	0	1	0	0	0	0
<i>Cloridopsis scorpio</i>	0	2	0	0	0	0	0	0	0	1	0	0	0	0
<i>Dictyosquilla foveolata</i>	1	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Erugosquilla grahami</i>	1	0	0	0	0	0	0	0	0	1	0	0	0	0
<i>Erugosquilla woodmasoni</i>	1	0	0	0	0	0	0	0	0	1	0	0	0	0

<i>Fallosquilla fallax</i>	020000110?11102012000031100000011010101010001101021001011100011000020210111
<i>Faughnia formosae</i>	030001010?11102012000001110000011012000010010000001210001500011010001100?00
<i>Faughnia profunda</i>	030001010?11102012000001110000011012000110010000001210001500011010001100?00
<i>Faughnia serenei</i>	030001010?11102012000001110000011012000110010000001210001500011010001100?00
<i>Harpiosquilla annandalei</i>	010000100?00012012012031000000001000101110001010010300001410000000000100000
<i>Harpiosquilla harpax</i>	010000100?00012012012031100000001000101110001010010300001410000000000100000
<i>Harpiosquilla japonica</i>	010000100?00012012012031100000001000101110001010010300001410000000000100000
<i>Harpiosquilla melanoura</i>	010000110?00012012012031100000001000101110001010010300001410000000000100000
<i>Kempella mikado</i>	100000001100032010011101001000001000101110001010000100010210011000200100000
<i>Kempella stridulans</i>	100000001100032010011101001000001000101110001010000100010210011000200100000
<i>Lenisquilla lata</i>	020010110?01102012000031100000101000101110001101001000011200011100020200110
<i>Leptosquilla schmeltzii</i>	020000010?11102012000031100000111010101110010101001001111300011000020210111
<i>Levisquilla jurichi</i>	020000110?11102012000031100000011000101110001101021001011200011000020210111
<i>Lophosquilla costata</i>	100000001000001101111120001010001001101010001000000101010210111010100101000
<i>Meiosquilla dawsoni</i>	011001010?11102012000031100000010010001111010010020301011000011000000200000
<i>Meiosquilla swetti</i>	011001010?11102012000031100000010010001011010010020301011000011000000200000
<i>Miyakea holoschista</i>	100000001200002001111101000000001001101110001010000100010211021011100100000
<i>Miyakea nepa</i>	100000001200002001111101000000001001101110001010000100010211021011100100000
<i>Oratosquilla fabricii</i>	100000001100002001111101000000001001101110001000000100010211021010100100000

<i>Oratosquilla oratoria</i>	100000001100002001111101000000001001101110001000000100010211021010100100 000
<i>Oratosquillina anomala</i>	100000001000002001111101000000001001101110001000000100010211011010100100 000
<i>Oratosquillina asiatica</i>	100000001000002001111101000000001001101110001000000100010211021010100100 000
<i>Oratosquillina inornata</i>	100000001000002001111101000000001001101110001000000100010211011010100100 000
<i>Oratosquillina interrupta</i>	100000001000002001111101000000001001101110001000000100010211031010100100 000
<i>Oratosquillina nordica</i>	100000001000002001111101000000001001101110001000000100010111011010100100 000
<i>Oratosquillina perpensa</i>	100000001000002001111101000000001001101110001000000100010211011010100100 000
<i>Pterygosquilla schizodontia</i>	021000010?11102012000031100000011010?01111111000000301011400011000000100 000
<i>Quollaestia gonypetes</i>	100000001000002001111101000000001001111110001000000100010110011010100100 000
<i>Quollaestia imperialis</i>	100000001000002001111101000000001001111110001000000100010210011010100100 000
<i>Rissoides barnardi</i>	011001010?11102012000031100000010010001111011010020301011100011000000100 000
<i>Squilla chydæa</i>	100000001100032012011201000000001001101110001000000100000210021000000100 000
<i>Squilla edentata</i>	100000001100032012012001000000001001101110001000000100000210021000000100 000
<i>Squilla empusa</i>	100000001100032012012201000000001001101110001000000100000210021000000100 000
<i>Squilla rugosa</i>	100000001100032012012001000000001001101010001000000100000210021000000200 000
<i>Squilloides leptosquilla</i>	011000000?01102012010031000000000110001112011000000301011000011000000100 000
<i>Triasquilla profunda</i>	011001010?11102012010031100000010110001112011000020301111000011000000100 000
<i>Vossquilla parva</i>	100000001100002001111001000000001001101110001000000100010210011010100100 000

Table S2. Results of Xia's saturation test in DAMBE6 for each of the markers analysed in this study. Values are based on random 32-taxon subsamples of the complete data set.

Gene	P-value (symmetrical tree)	P-value (asymmetrical tree)
<i>28S</i> D1 expansion region	<0.0005	<0.0005
<i>12S</i>	<0.0005	0.039
<i>16S</i>	<0.0005	<0.0005
<i>COI</i> (codon position 1)	<0.0005	<0.0005
<i>COI</i> (codon position 2)	<0.0005	<0.0005
<i>COI</i> (codon position 3)	0.0017	<0.0005