

Supplementary Information

Title: Using Larval Barcoding to Estimate Stomatopod Species Richness at Lizard Island, Australia for Conservation Monitoring

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Table S1 Complete list of species genetically or morphologically identified from the Lizard Island reef platform. The number of COI sequences collected from each species as adults and as larvae are indicated. Each COI sequence represents one individual. (-) symbols represent species for which COI data is not available from any region but which have been morphologically identified from Lizard Island. Larval sequences were included if they fit within an OTU which contained an adult reference sequence from Lizard Island or elsewhere.

Species	Adult Sequences	Larval Sequences
GONODACTYLOIDEA		
<i>Chorisquilla hystrix</i>	1	2
<i>Chorisquilla tweediei</i>	1	6
<i>Gonodactylaceus falcatus</i>	1	70
<i>Gonodactylaceus ternatensis</i>	1	0
<i>Gonodactylellus affinis</i>	0	8
<i>Gonodactylellus annularis</i>	1	0
<i>Gonodactylellus erdmanni</i>	0	0
<i>Gonodactylellus kume</i>	-	-
<i>Gonodactylellus micronesicus</i>	-	-
<i>Gonodactylus caldwelli</i>	0	0
<i>Gonodactylus childi</i>	1	1
<i>Gonodactylus chiragra</i>	1	1
<i>Gonodactylus platysoma</i>	1	0
<i>Gonodactylus smithii</i>	1	7
<i>Haptosquilla glyptocercus</i>	1	6
<i>Haptosquilla trisponosa</i>	1	14
<i>Odontodactylus cultrifer</i>	1	4
<i>Odontodactylus latirostris</i>	1	0
<i>Odontodactylus scyllarus</i>	0	0
<i>Pseudosquilla ciliata</i>	2	3
<i>Pseudosquillana richeri</i>	0	1
<i>Taku spinosocarinatus</i>	1	0
LYSIOSQUILLOIDEA		
<i>Alachosquilla vicina</i>	2	19
<i>Acanthosquilla derijardi</i>	-	-
<i>Lysiosquilla suthersi</i>	-	-

<i>Lysiosquilla maculata</i>	0	11
<i>Lysiosquilla sulcata</i>	-	-
<i>Pullosquilla litoralis</i>	0	6
<i>Pullosquilla thomassini</i>	3	65
SQUILLOIDEA		
<i>Alima orientalis</i>	1	7
<i>Alima pacifica</i>	1	49
<i>Fallosquilla fallax</i>	1	0

Table S2 GenBank accession numbers for published COI sequences. Reference sequences found on NCBI are in bold. Reference sequences generated for this study are designated by a (*) symbol. Species which were divided into multiple putative species by PTP analysis are shown as such with the full species name written out for the first putative species and subsequent species designated by number. Larval sequences which formed a single sequence OTU are listed by superfamily.

Putative Species	GenBank COI accession numbers
GONODACTYLOIDEA	
<i>Chorisquilla hystrix</i>	HM138777 , MK397464, MK397458
<i>Chorisquilla spinosissima</i>	AF205254
<i>Chorisquilla tweediei</i>	HM138778 , MT188329, MT188330, MT188331, MT188332, MT188333, MT188334
<i>Gonodactylaceus falcatus</i> sp. 1	HM138786 , KM982437 , KM982433 , AF205230 , MT188224, MT188225, MT188226, MT188227, MT188228, MT188229, MT188230, MT188231, MT188232, MT188233, MT188234, MT188235, MT188236, MT188237, MT188238, MT188239, MT188240, MT188241, MT188242, MT188243, MT188244, MT188245, MT188246, MT188247, MT188248, MT188249, MT188250, MT188251, MT188252, MT188253, MT188254, MT188255, MT188256, MT188257, MT188258, MT188259, MT188260, MT188261, MT188262, MT188263, MT188264, MT188265, MT188266, MT188267, MT188268, MT188269, MT188270, MT188271, MT188272, MT188273, MT188274, MT188275, MT188276, MT188277, MT188278, MT188279, MT188280, MT188281, MT188282, MT188283, MT188284, MT188285, MT188286, MT188287, MT188288, MT188289, MT188290, MT188291
sp. 2	AF205232 , AF205251
<i>Gonodactylaceus ternatensis</i>	KT001540
<i>Gonodactylellus affinis</i> sp. 1	KM982428 , KM982428 , MK397449, MT188292, MT188293, MT188294, MT188295, MT188296
sp. 2	AF205228
<i>Gonodactylellus annularis</i> sp. 1	DQ440595 , HM138783
sp. 2	AF205226

<i>Gonodactylellus erdmanni</i>	GQ260981
<i>Gonodactylus caldwelli</i> sp. 1	AF205256
sp. 2	DQ440594
<i>Gonodactylus childi</i> sp. 1	AF205249, HM138784, MT188297
sp. 2	AF205246
sp. 3	AF205229
sp. 4	AF205227
<i>Gonodactylus chiragra</i> sp. 1	HM138785, MT188298
sp. 2	AF205250
<i>Gonodactylus platysoma</i>	AF205237, HM138787
<i>Gonodactylus smithii</i> sp. 1	AF205233, DQ440602, HM138788, MT188299, MT188300, MT188301, MT188302, MT188303, MT188304
sp. 2	DQ440603
sp. 3	MK397448
<i>Haptosquilla glyptocercus</i> sp. 1	HM138789, MT188305, MT188306, MT188307, MT188308, MT188309
sp. 2	AF205239
sp. 3	MT188310
<i>Haptosquilla trispinosa</i>	HM138790, MK397457, MT188311, MT188312, MT188313, MT188314, MT188315, MT188316, MT188317, MT188318, MT188319, MT188320, MT188321, MT188322, MT188323
<i>Odontodactylus cultrifer</i> sp. 1	KM982427, MT188324
sp. 2	KM982435
sp. 3	MK397466, MT188325
<i>Odontodactylus latirostris</i>	HM138797
<i>Odontodactylus scyllarus</i>	AF205234, HM138798
<i>Pseudosquilla ciliata</i>	AF205245, HM138800, HM138793, MT188326, MT188327, MT188328
<i>Pseudosquillana richeri</i> sp. 1	HM138802
sp. 2	KJ828804
<i>Taku spinosocarinatus</i>	AF205257, HM138811
Clade G1 sp. 1	MT188335
sp. 2	MT188336
Single Sequence OTUs	MT188337, MT188338
LYSIOSQUILLOIDEA	
<i>Alachosquilla vicina</i>	KM982440, MT169595*, MK397445, MT169596, MT169597, MT169598, MT169599, MT169600, MT169601, MT169602, MT169603, MT169604, MT169605, MT169606, MT169607, MT169608, MT169609, MT169610, MT169611, MT169612, MT169613
<i>Lysiosquillina maculata</i>	KM982436, KM982432, KM982431, MT169587, MT169588, MT169589, MT169590, MT169591, MT169592, MT169593, MT169594
<i>Pullosquilla litoralis</i>	MT169578*, MT169579*, MT169580*, MT169581, MT169582, MT169583, MT169584, MT169585, MT169586
<i>Pullosquilla thomassini</i>	HM138803, KJ828810, KJ828809, KJ828808, KJ828807, KJ828806, KJ828805, KM982439, KM982438, KM982425, MK397442, MK397451, MK397454, MK397461, MK397462, MT153071, MT153072, MT153073, MT153074, MT153202, MT154783, MT154784, MT154785, MT154786, MT154787, MT154788, MT154789, MT154790, MT154791, MT154792,

	MT154793, MT154794, MT154795, MT154796, MT154797, MT169545, MT169546, MT169547, MT169548, MT169549, MT169550, MT169551, MT169552, MT169553, MT169554, MT169555, MT169556, MT169557, MT169558, MT169559, MT169560, MT169561, MT169562, MT169563, MT169564, MT169565, MT169566, MT169567, MT169568, MT169569, MT169570, MT169571, MT169572, MT169573, MT169574, MT169575, MT169576, MT169577
Clade L1	MK397443, MK397444, MK397447, MK397450, MK397452, MK397459, MK397460, MK397465, MK397467, MK397468, MK397469, MK397470, MK397471, MK397472, MT169614, MT169615, MT169616, MT169617
Clade L2	MT169618, MT169619, MT169620
Clade L3	MK397453, KM982429, MT169621
Clade L4 sp. 1	MT169622
sp. 2	MT169623
Single Sequence OTU	MT169624
SQUILLOIDEA	
<i>Alima orientalis</i>	HM138773, KF214292, KF205337 , MT179622, MT179623, MT179624, MT179625, MT179626
<i>Alima pacifica</i>	HM138774, KM982434, KM982424, KM982422, KM982421, KM982420, KM982423, KF205340, KF205341, KF205338, KF205339 , MT179627, MT179628, MT179629, MT179630, MT179631, MT179632, MT179633, MT179634, MT179635, MT179636, MT179637, MT179638, MT179639, MT179640, MT179641, MT179642, MT179643, MT179644, MT179645, MT179646, MT179647, MT179648, MT179649, MT179650, MT179651, MT179652, MT179653, MT179654, MT179655, MT179656, MT179657, MT179658, MT179659, MT179660, MT179661, MT179662, MT179663, MT179664
<i>Busquilla plantei</i> sp. 1	HM138775
sp. 2	MT179665
<i>Fallosquilla fallax</i>	HM138781
Clade S1	MK397446, MK397456
Clade S2	KJ828811, MT179666, MT179667, MT179668, MT179669, MT179670, MT179671, MT179672, MT179673, MT179674, MT179675
Clade S3	KM982430, MT179676, MT179677
Clade S4	MT179678, MT179679, MT179680
Single Sequence OTUs	MT179681, MT179682, MT179683, MT179684

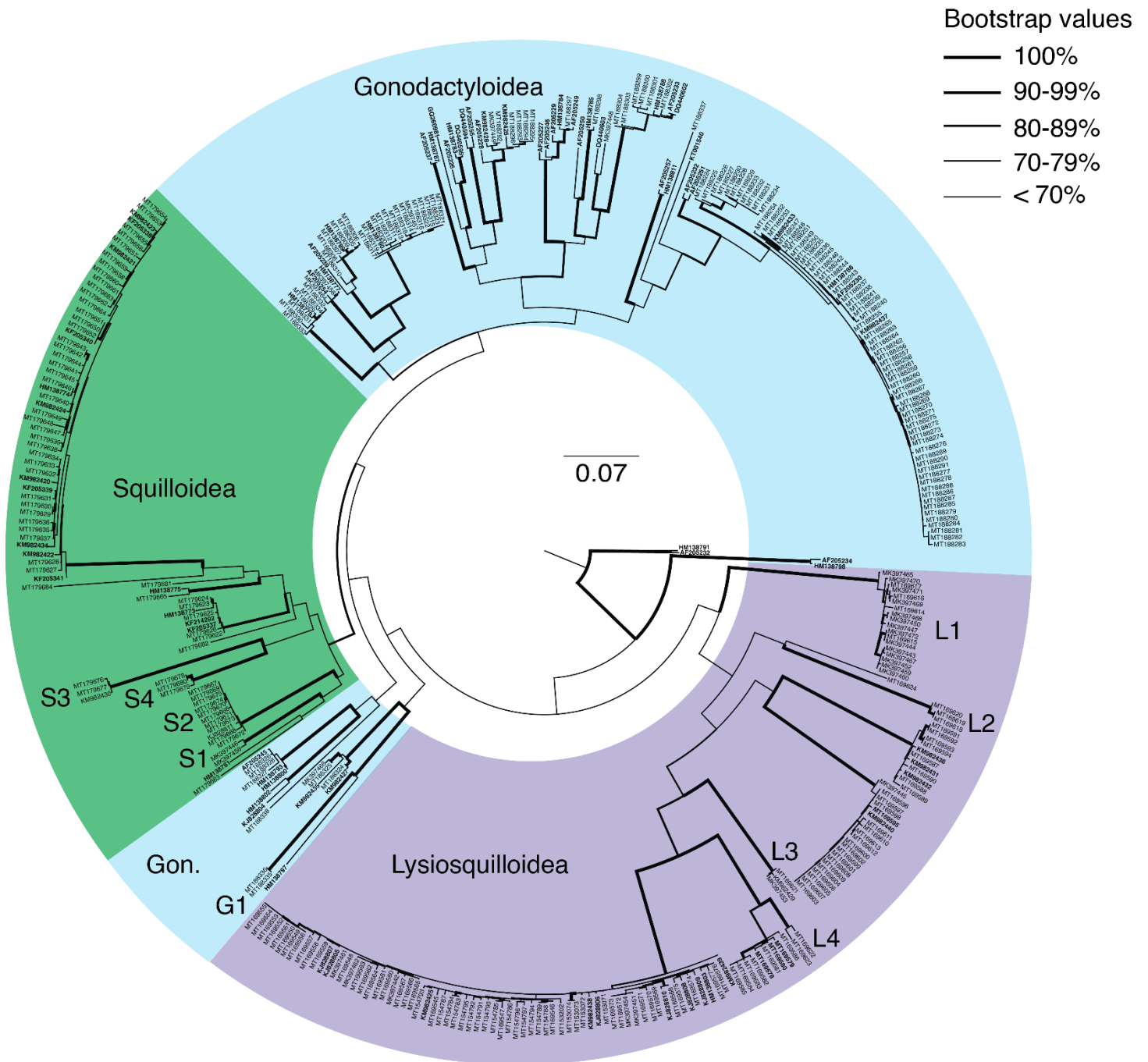


Figure S1 COI gene tree of stomatopod species from Lizard Island. The Gonodactyloidea are rendered paraphyletic. Accession numbers for each sequence are provided. Reference sequences are in bold. Clades containing only larval sequences are labeled by first letter of superfamily (e.g. G1, L1-4, and S1-4); all other clades contain a reference sequence. Branch thickness represents bootstrap value at each node.

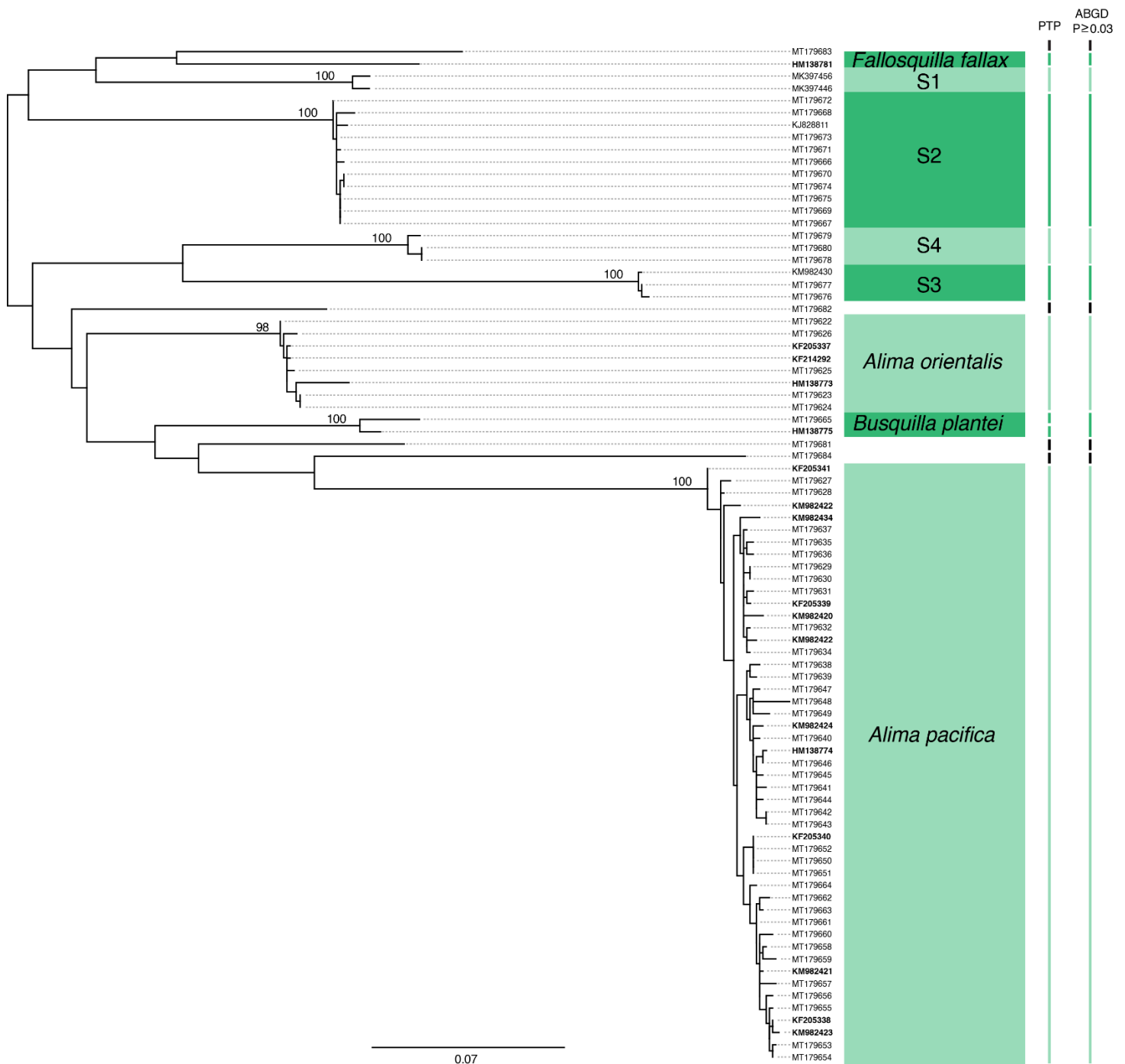


Figure S2 COI gene tree of species in the superfamily Squilloidea found at Lizard Island. Accession numbers for each sequence are provided. Reference sequences are in bold. Each clade is labeled based on reference sequences except for clades S1-S4, which contained only larval sequences. Bars to the right of the tree show the results of PTP and ABGD analysis with each bar indicating a putative species or species cluster. White spaces and black bars indicate single unknown larval sequences. Node values show bootstrap support for each clade.

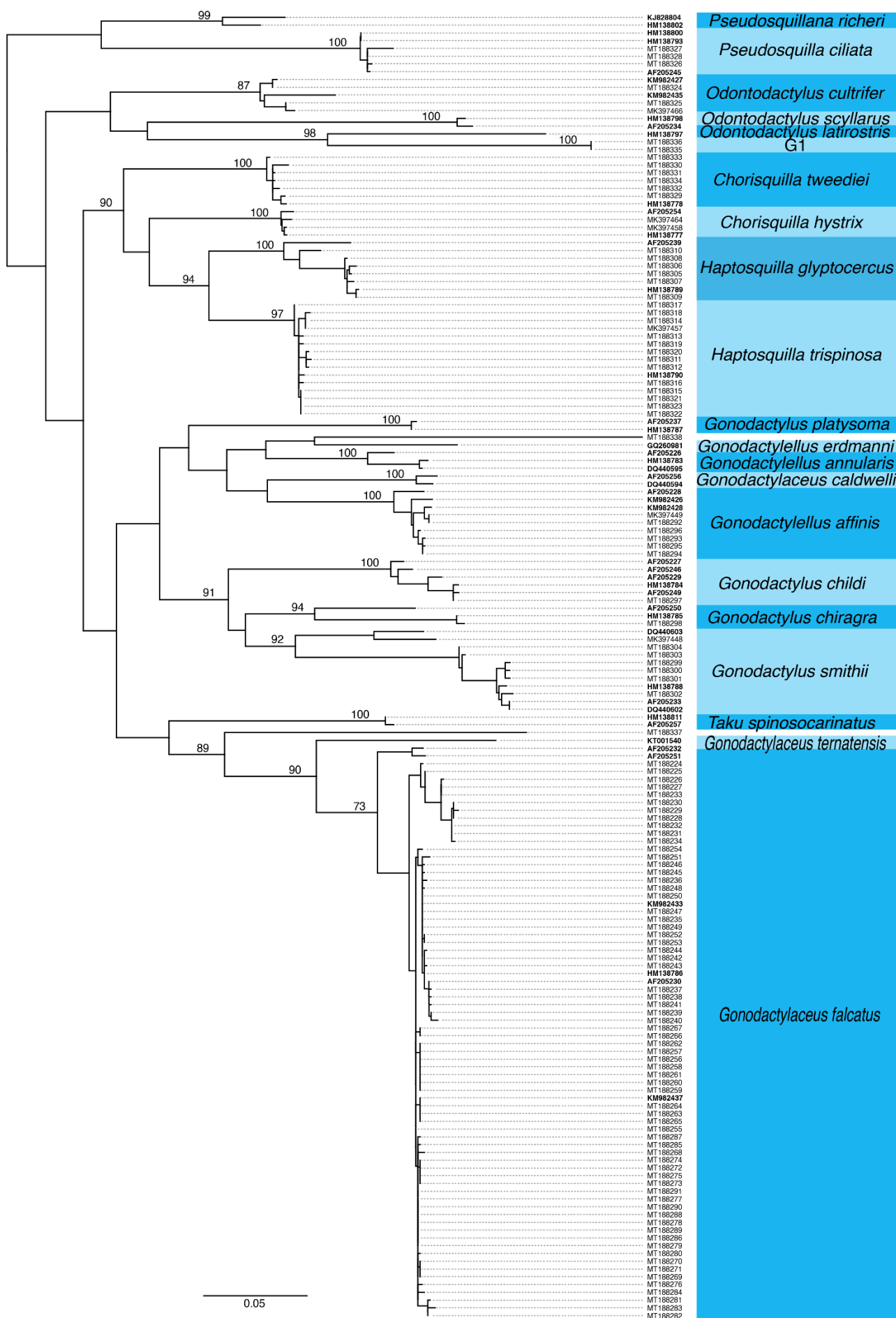


Figure S4 COI gene tree of species in the superfamily Gonodactyloidea found at Lizard Island. Accession numbers for each sequence are provided. Reference sequences are in bold. Each clade is labeled based on reference sequences except for clade G1 which contained two unknown larval sequences. Bars to the right of the tree show the results of PTP and ABGD analysis with each bar indicating a putative species or species cluster. White spaces and black bars indicate single unknown larval sequences. Dark grey bars indicate species clusters which contain more than one of our previously designated OTUs. Node values show bootstrap support for each clade.