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<i>Ligophorus</i> species	Sample size before filtering (n=537)	Sample size after filtering (n=443)	Sample size for body size estimation (n=414)
<i>L. bantingensis</i>	31	17	17
<i>L. belanaki</i>	50	45	44
<i>L. careyensis</i>	10	8	8
<i>L. chelatus</i>	50	42	37
<i>L. fenestrum</i>	50	25	25
<i>L. funnelus</i>	50	48	48
<i>L. grandis</i>	22	15	15
<i>L. johorensis</i>	50	49	47
<i>L. kedahensis</i>	50	38	36
<i>L. kederai</i>	43	37	37
<i>L. liewi</i>	32	31	26
<i>L. navjotsodhii</i>	50	45	34
<i>L. parvicopulatrix</i>	49	43	40

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3 TABLE S1. Sample sizes of each of the 13 *Ligophorus* species before and after quality control filtering. Not all samples that passed quality  
4 control were usable for body size estimation (third column).

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<i>Ligophorus</i> species	Fish host	Mean PC1 of anchor size variables (µm)		Mean PC1 or anchor shape variables x 0.01		Median of Body size (µm)		Male copulatory organ	
		Ventral	Dorsal	Ventral	Dorsal	Length	Width	*Tube length (µm)	Morphological character states
<i>L. grandis</i>	<i>Moolgarda buchanani</i>	170	173	6.8	7.6	2023 (1355-2165)	325 (200-379)	59 (52-63)	100
<i>L. fenestrum</i>		170	170	7.8	6.4	1522 (898-2441)	270 (131-500)	86 (73-95)	114
<i>L. johorensis</i>		164	154	4.5	5.2	1102 (718-1311)	162 (113-239)	53 (46-60)	114
<i>L. kedahensis</i>		136	154	6.8	5.3	994 (694-1396)	175 (76-278)	65 (57-75)	114
<i>L. kederai</i>		166	148	2.8	4.2	746 (569-1006)	130 (80-223)	83 (79-87)	114
<i>L. liewi</i>		211	191	0.5	0.8	1055 (814-1270)	125 (90-166)	81 (71-88)	210
<i>L. chelatus</i>	<i>Liza subviridis</i>	164	159	-6.1	-6.7	610 (351-791)	94 (54-123)	69 (60-76)	001
<i>L. navjotsodhii</i>		160	157	-3.9	-4.1	570 (431-792)	97 (58-143)	71 (63-96)	000
<i>L. funnelus</i>		136	106	-3.8	-1.3	551 (342-874)	99 (55-147)	77 (64-85)	113
<i>L. belanaki</i>		163	144	-5.4	-6.1	597 (420-801)	106 (64-166)	95 (83-111)	113
<i>L. careyensis</i>		157	145	-4.3	-4.6	599 (488-825)	115 (83-191)	94 (78-111)	002
<i>L. bantingensis</i>		64	101	2.1	1.9	621 (335-804)	88 (55-148)	67 (59-79)	113
<i>L. parvicopulatrix</i>		135	122	-0.9	-2.3	1064 (639-1322)	140 (67-224)	48 (41-66)	014

8 TABLE S2. Summary statistics for anchor size, anchor shape, body size and size of the male copulatory organ, together with its morphological  
9 character states. The range of a variable is given in parentheses, and the species have been grouped by their fish host and ordered  
10 phylogenetically (see Fig. 3). \*Note: Tube length data were compiled from Soo and Lim (2012), Soo and Lim (2015), and Soo et al. (2015).

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<i>Ligophorus</i> species	Morphological characters																	
	1	2	3	4	5	6	7		8		9		10		11		12	
							A	B	A	B	A	B	A	B	A	B	A	B
<i>L. grandis</i>	1	0	0	1	4	1	3	1	2	1	1	0	1	1	2	1	1	0
<i>L. fenestrum</i>	1	1	4	1	4	1	2	1	2	1	1	0	1	1	2	1	1	1
<i>L. johorensis</i>	1	1	4	1	4	1	0	1	2	1	1	0	1	0	2	1	1	0
<i>L. kedahensis</i>	1	1	4	1	4	0	3	1	2	1	1	0	1	1	2	1	1	0
<i>L. kederai</i>	1	1	4	1	4	0	0	2	2	1	1	1	1	1	1	1	1	0
<i>L. liewi</i>	2	1	0	1	4	0	0	1	0	1	1	0	1	1	2	1	1	0
<i>L. chelatus</i>	0	0	1	0	2	0	0	1	0	1	0	0	0	1	1	1	0	2
<i>L. navjotsodhii</i>	0	0	0	1	4	0	0	1	0	1	0	0	0	1	1	1	0	2
<i>L. funnelus</i>	1	1	3	0	1	1	1	1	1	1	0	1	0	1	1	1	0	1
<i>L. belanaki</i>	1	1	3	0	0	2	1	1	0	1	1	0	0	1	1	1	0	1
<i>L. careyensis</i>	0	0	2	0	0	2	1	1	0	1	1	0	0	1	2	1	1	1
<i>L. bantingensis</i>	1	1	3	0	1	0	3	0	2	0	0	1	0	1	0	0	0	0
<i>L. parvicopulatrix</i>	0	1	4	1	3	1	3	1	1	1	0	1	0	1	1	1	0	2

26 TABLE S3. Matrix of morphological character states for 13 *Ligophorus* species. See Table 2 for descriptions of each character. Abbreviation: A  
27 for characters in Set A; B for characters in Set B.