S1 Table. *Aurelia* spp. COI and ITS sequences analyzed in this study.

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| --- | --- |
| COI | ITS |
| Accession | Species | Accession | Species |
| AY903117 |  Aurelia aurita clone Bosporus2  | AY319848 |  Aurelia aurita strain Bjornsund |
| AY903118 |  Aurelia aurita clone Gullmar15  | AY319849 |  Aurelia aurita strain Charlestown |
| AY903093 |  Aurelia aurita clone BostonHbr1  | FR851959 |  Aurelia aurita 7\_1E |
| AY903094 |  Aurelia aurita clone BostonHbr2  | FR851960 |  Aurelia aurita 7\_3E |
| AY903095 |  Aurelia aurita clone BostonHbr3  | FR851961 |  Aurelia aurita bBosphorus |
| AY903208 |  Aurelia aurita clone Anglesey01  | FR851962 |  Aurelia aurita cBosphorus |
| AY903209 |  Aurelia aurita clone Anglesey02  | FR851963 |  Aurelia aurita 1WhiteSea |
| AY903210 |  Aurelia aurita clone Anglesey03  | FR851964 |  Aurelia aurita 6WhiteSea |
| AY903211 |  Aurelia aurita clone Anglesey04  | FR851965 |  Aurelia aurita 16Gullmar |
| AY903212 |  Aurelia aurita clone Anglesey05  | FR851966 |  Aurelia aurita 17Gullmar |
| AY903068 |  Aurelia labiata clone Sooke1  | FR851967 |  Aurelia aurita 30Greenwich |
| AY903069 |  Aurelia labiata clone Sooke2  | FR851968 |  Aurelia aurita 8EBlackSea |
| AY903070 |  Aurelia labiata clone Sooke3  | FR851969 |  Aurelia aurita dBosphorus1 |
| AY903071 |  Aurelia labiata clone Sooke5  | FR851970 |  Aurelia aurita 5WhiteSea |
| AY903072 |  Aurelia labiata clone Todd2  | AY935205 |  Aurelia aurita clone RhodeIsland\_Charlestown25 |
| AY903073 |  Aurelia labiata clone Todd4  | AY935206 |  Aurelia aurita clone Bjornsund20 |
| AY903074 |  Aurelia labiata clone NewportBay3  | AY319842 |  Aurelia labiata strain Monterey |
| AY903075 |  Aurelia labiata clone TomalesBay2  | AY319843 |  Aurelia labiata strain Sooke1 |
| AY903076 |  Aurelia labiata clone TomalesBay3  | AY319844 |  Aurelia labiata strain Sooke2 |
| AY903077 |  Aurelia labiata clone TomalesBay4  | AY935202 |  Aurelia labiata clone Alaska4 |
| AY903189 |  Aurelia limbata clone A. limbata  | AY935215 |  Aurelia limbata clone AJ13h |
| AY903078 |  Aurelia sp. 1 clone MarinaDelRey2  | AY935203 |  Aurelia sp. 1 clone California\_MdR4 |
| AY903079 |  Aurelia sp. 1 clone MarinaDelRey3  | AY935214 |  Aurelia sp. 1 clone #1 MiyazuBay |
| AY903080 |  Aurelia sp. 1 clone MarinaDelRey4  | AY319845 |  Aurelia sp. 1 strain SanDiego1 |
| AY903081 |  Aurelia sp. 1 clone MarinaDelRey5  | AY319846 |  Aurelia sp. 1 strain NewportBeach |
| AY903082 |  Aurelia sp. 1 clone LongBeach\_2  | AY319850 |  Aurelia sp. 2 strain Brazil9 |
| AY903083 |  Aurelia sp. 1 clone LongBeach\_3  | AY319851 |  Aurelia sp. 2 strain Brazil |
| AY903084 |  Aurelia sp. 1 clone LongBeach\_4  | AY935204 |  Aurelia sp. 2 clone Brazil9 |
| AY903085 |  Aurelia sp. 1 clone LongBeach\_5  | AY319836 |  Aurelia sp. 3 strain CRRF48 |
| AY903086 |  Aurelia sp. 1 clone NewportBeach1  | AY319837 |  Aurelia sp. 3 strain TKCU13B |
| AY903087 |  Aurelia sp. 1 clone NewportBeach3  | AY935209 |  Aurelia sp. 3 clone CRRF48 |
| AY903088 |  Aurelia sp. 1 clone NewportBeach4  | AY319834 |  Aurelia sp. 4 strain OLO30 |
| AY903089 |  Aurelia sp. 1 clone SanDiego1  | AY319835 |  Aurelia sp. 4 strain OLO31 |
| AY903090 |  Aurelia sp. 1 clone SanDiego2  | AY935208 |  Aurelia sp. 4 clone 2\_OLO31 |
| AY903091 |  Aurelia sp. 1 clone SanDiego3  | AY319840 |  Aurelia sp. 5 strain Mljet4 |
| AY903092 |  Aurelia sp. 1 clone SanDiego4  | AY319841 |  Aurelia sp. 5 strain Mljet3 |
| AY903116 |  Aurelia sp. 1 clone TokyoBay  | AY935210 |  Aurelia sp. 5 clone Croatia\_Mljet4 |
| AY903127 |  Aurelia sp. 1 clone Perth2  | AY319838 |  Aurelia sp. 6 strain Helen3 |
| AY903128 |  Aurelia sp. 1 clone Mooloolaba1  | AY319839 |  Aurelia sp. 6 strain Helen5 |
| AY903130 |  Aurelia sp. 1 clone Sydney\_1  | AY935207 |  Aurelia sp. 6 clone HelenReef#5-2 |
| AY903131 |  Aurelia sp. 1 clone Sydney\_2  | AY935212 |  Aurelia sp. 7 clone North Adriatic2 |
| AY903142 |  Aurelia sp. 1 clone Port\_Hacking\_3  | AY935213 |  Aurelia sp. 7 clone BayofSton1 |
| AY903143 |  Aurelia sp. 1 clone Darling\_Harbour\_1  | AY935217 |  Aurelia sp. 8 clone MDJ17\_AH3 |
| AY903146 |  Aurelia sp. 1 clone Coila\_Lake\_1  | AY935218 |  Aurelia sp. 8 clone MDJ20\_ANZ2 |
| AY903147 |  Aurelia sp. 1 clone Coila\_Lake\_3  | AY935216 |  Aurelia sp. 9 clone MDJ12\_AM2a |
| AY903148 |  Aurelia sp. 1 clone Coila\_Lake\_4  | AY319847 |  Aurelia sp. 10 strain Kachemack |
| AY903149 |  Aurelia sp. 1 clone Coila\_Lake\_5  | AY935211 |  Aurelia sp. 10 clone limbata\_Alaska |
| AY903150 |  Aurelia sp. 1 clone Coila\_Lake\_6  | KF962383 |  Aurelia sp. 1 JRH-2014 voucher XMAS1 |
| AY903151 |  Aurelia sp. 1 clone Huon\_Estuary\_5  | KF962384 |  Aurelia sp. 1 JRH-2014 voucher XMAS2 |
| AY903152 |  Aurelia sp. 1 clone Lake\_Illawarra\_1  | KF962385 |  Aurelia sp. 1 JRH-2014 voucher XMAS3 |
| AY903153 |  Aurelia sp. 1 clone Lake\_Illawarra\_5  | KF962386 |  Aurelia sp. 1 JRH-2014 voucher XMAS4 |
| AY903154 |  Aurelia sp. 1 clone Lake\_Illawarra\_6  | KF962387 |  Aurelia sp. 1 JRH-2014 voucher XMAS5 |
| AY903155 |  Aurelia sp. 1 clone Tuggerah\_Lake\_1  | KF962388 |  Aurelia sp. 1 JRH-2014 voucher XMAS6 |
| AY903156 |  Aurelia sp. 1 clone Tuggerah\_Lake\_2  |  |  |
| AY903157 |  Aurelia sp. 1 clone Tuggerah\_Lake\_3  |  |  |
| AY903158 |  Aurelia sp. 1 clone Tuggerah\_Lake\_4  |  |  |
| AY903159 |  Aurelia sp. 1 clone Tuggerah\_Lake\_5  |  |  |
| AY903160 |  Aurelia sp. 1 clone Tuggerah\_Lake\_6  |  |  |
| AY903161 |  Aurelia sp. 1 clone Lake\_Macquarie\_1  |  |
| AY903162 |  Aurelia sp. 1 clone Lake\_Macquarie\_2  |  |
| AY903163 |  Aurelia sp. 1 clone Lake\_Macquarie\_3  |  |
| AY903164 |  Aurelia sp. 1 clone Lake\_Macquarie\_4  |  |
| AY903165 |  Aurelia sp. 1 clone Lake\_Macquarie\_5  |  |
| AY903166 |  Aurelia sp. 1 clone Lake\_Macquarie\_6  |  |
| AY903167 |  Aurelia sp. 1 clone Mooloolaba\_3  |  |  |
| AY903168 |  Aurelia sp. 1 clone Miyazu1  |  |  |
| AY903169 |  Aurelia sp. 1 clone Miyazu2  |  |  |
| AY903170 |  Aurelia sp. 1 clone Miyazu3  |  |  |
| AY903171 |  Aurelia sp. 1 clone Miyazu5  |  |  |
| AY903177 |  Aurelia sp. 1 clone Perth\_3  |  |  |
| AY903178 |  Aurelia sp. 1 clone Perth\_5  |  |  |
| AY903179 |  Aurelia sp. 1 clone Perth\_6  |  |  |
| AY903180 |  Aurelia sp. 1 clone Perth\_7  |  |  |
| AY903181 |  Aurelia sp. 1 clone Sydney\_3  |  |  |
| AY903182 |  Aurelia sp. 1 clone Sydney\_4  |  |  |
| AY903183 |  Aurelia sp. 1 clone Sydney\_5  |  |  |
| AY903184 |  Aurelia sp. 1 clone Sydney\_6  |  |  |
| AY903185 |  Aurelia sp. 1 clone Newport\_Beach\_5  |  |
| AY903186 |  Aurelia sp. 1 clone Sakata Bay 1  |  |  |
| AY903187 |  Aurelia sp. 1 clone Sakata Bay 3  |  |  |
| AY903188 |  Aurelia sp. 1 clone Sakata Bay 4  |  |  |
| AY903190 |  Aurelia sp. 1 clone Uwa1  |  |  |
| AY903191 |  Aurelia sp. 1 clone Uwa4  |  |  |
| AY903192 |  Aurelia sp. 1 clone Uwa6  |  |  |
| AY903193 |  Aurelia sp. 1 clone Uwa7  |  |  |
| AY903194 |  Aurelia sp. 1 clone Ondo1  |  |  |
| AY903195 |  Aurelia sp. 1 clone Ondo2  |  |  |
| AY903196 |  Aurelia sp. 1 clone Ondo3  |  |  |
| AY903197 |  Aurelia sp. 1 clone Ondo4  |  |  |
| AY903198 |  Aurelia sp. 1 clone Ondo5  |  |  |
| AY903199 |  Aurelia sp. 1 clone Ondo6  |  |  |
| AY903200 |  Aurelia sp. 1 clone Ondo7  |  |  |
| AY903201 |  Aurelia sp. 1 clone Ondo8  |  |  |
| AY903202 |  Aurelia sp. 1 clone Ondo9  |  |  |
| AY903203 |  Aurelia sp. 1 clone TokyoBay01  |  |  |
| AY903204 |  Aurelia sp. 1 clone TokyoBay02  |  |  |
| AY903205 |  Aurelia sp. 1 clone TokyoBay03  |  |  |
| AY903206 |  Aurelia sp. 1 clone TokyoBay04  |  |  |
| AY903207 |  Aurelia sp. 1 clone TokyoBay07  |  |  |
| AY903126 |  Aurelia sp. 1 clone Perth1a  |  |  |
| AY903119 |  Aurelia sp. 2 clone Morandini9  |  |  |
| AY903120 |  Aurelia sp. 2 clone Morandini10  |  |  |
| AY903121 |  Aurelia sp. 2 clone Morandini11  |  |  |
| AY903122 |  Aurelia sp. 2 clone Morandini12  |  |  |
| AY903096 |  Aurelia sp. 3 clone Malakal48  |  |  |
| AY903112 |  Aurelia sp. 3 clone TKCU12  |  |  |
| AY903113 |  Aurelia sp. 3 clone TKCU13  |  |  |
| AY903114 |  Aurelia sp. 3 clone TketauLM36  |  |  |
| AY903115 |  Aurelia sp. 3 clone 41Risong  |  |  |
| AY903097 |  Aurelia sp. 4 clone HLM7  |  |  |
| AY903098 |  Aurelia sp. 4 clone HLM26  |  |  |
| AY903101 |  Aurelia sp. 4 clone OTM4  |  |  |
| AY903102 |  Aurelia sp. 4 clone OTM2  |  |  |
| AY903107 |  Aurelia sp. 4 clone OngaelLO29  |  |  |
| AY903108 |  Aurelia sp. 4 clone OngaelLO28  |  |  |
| AY903109 |  Aurelia sp. 4 clone OngaelLO31  |  |  |
| AY903110 |  Aurelia sp. 4 clone BJLK1  |  |  |
| AY903111 |  Aurelia sp. 4 clone BJLK5  |  |  |
| AY903136 |  Aurelia sp. 4 clone AlaWaiOahu1  |  |  |
| AY903137 |  Aurelia sp. 4 clone AlaWaiOahu2  |  |  |
| AY903144 |  Aurelia sp. 4 clone Kkbn2  |  |  |
| AY903145 |  Aurelia sp. 4 clone Kkbn3  |  |  |
| AY903123 |  Aurelia sp. 5 clone Benovic2  |  |  |
| AY903124 |  Aurelia sp. 5 clone Benovic4  |  |  |
| AY903125 |  Aurelia sp. 5 clone Benovic6  |  |  |
| AY903103 |  Aurelia sp. 6 clone HelenReef1  |  |  |
| AY903104 |  Aurelia sp. 6 clone HelenReef4  |  |  |
| AY903105 |  Aurelia sp. 6 clone HelenReef5  |  |  |
| AY903106 |  Aurelia sp. 6 clone HelenReef6  |  |  |
| AY903099 |  Aurelia sp. 6 clone NgellChannel45  |  |  |
| AY903100 |  Aurelia sp. 6 clone NgellChannel46  |  |  |
| AY903129 |  Aurelia sp. 6 clone NewBritain2  |  |  |
| AY903138 |  Aurelia sp. 7 clone Tasmania1  |  |  |
| AY903139 |  Aurelia sp. 7 clone Tasmania4  |  |  |
| AY903140 |  Aurelia sp. 7 clone Tasmania12  |  |  |
| AY903141 |  Aurelia sp. 7 clone Tasmania15  |  |  |
| AY903132 |  Aurelia sp. 8 clone NorthAdriatic1  |  |  |
| AY903133 |  Aurelia sp. 8 clone NorthAdriatic2  |  |  |
| AY903134 |  Aurelia sp. 8 clone BayofSton1  |  |  |
| AY903135 |  Aurelia sp. 8 clone BayofSton2  |  |  |
| AY903172 |  Aurelia sp. 9 clone Gulf\_of\_Mexico\_A\_1  |  |
| AY903173 |  Aurelia sp. 9 clone Gulf\_of\_Mexico\_A\_2  |  |
| AY903174 |  Aurelia sp. 9 clone Gulf\_of\_Mexico\_B\_3  |  |
| AY903175 |  Aurelia sp. 9 clone Gulf\_of\_Mexico\_B\_4  |  |
| AY903176 |  Aurelia sp. 9 clone Gulf\_of\_Mexico\_C\_5  |  |
| AY903067 |  Aurelia sp. 10 clone limbata  |  |  |
| AY903213 |  Aurelia sp. 11 clone Kwajalein1  |  |  |
| KF962060 |  Aurelia sp. 1 JRH-2014 voucher XMAS1 |  |
| KF962061 |  Aurelia sp. 1 JRH-2014 voucher XMAS2  |  |
| KF962062 |  Aurelia sp. 1 JRH-2014 voucher XMAS3  |  |
| KF962063 |  Aurelia sp. 1 JRH-2014 voucher XMAS4  |  |
| KF962064 |  Aurelia sp. 1 JRH-2014 voucher XMAS5  |  |
| KF962065 |  Aurelia sp. 1 JRH-2014 voucher XMAS6  |  |
| KJ733900 |  Aurelia sp. 1 JRH-2014 voucher XMAuS1  |  |
| KJ733901 |  Aurelia sp. 1 JRH-2014 voucher XMAuS2  |  |
| KJ733902 |  Aurelia sp. 1 JRH-2014 voucher XMAuS3  |  |