



## Supporting Information Part 1

### **A new species of baleen whale (*Balaenoptera*) from the Gulf of Mexico, with a review of its geographic distribution**

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\*Sasaki et al., 2006 sequences considered to represent each species based on morphological data.

†Penry et al., 2018 sequence information was received via pers comm. with G. Penry. Sequences for Haplotypes 1 and 5 are in GenBank but follow accession numbers and haplotype names from Penry 2010. Haplotypes 7 and 8 have not been entered in GenBank. Haplotype 6 has partial sequence and was not used in this study.

| 305 bp Control Region Alignment          |   |   |   |   |                        |
|--|---|---|---|---|------------------------|
| Accession number [matching sequence(s)]  | References  | Sample location for each accession number: data collected from GenBank (GB), reference (ref), or Stranding Level A Data (Level A) | Summary of geographic areas for all samples                             | Number of individuals by accession/reference (n=1 in red if data not available) | Total # of individuals |
| <i>Balaenoptera ricei</i>                |   |   |   |   | 36                     |
| KJ586818                                 | Rosel & Wilcox 2014 [this study]  | Gulf of Mexico and northwest Atlantic Ocean (ref) [Gulf of Mexico]  | Gulf of Mexico and western North Atlantic [Gulf of Mexico]              | n=21 [n=13]   | 34                     |
| KJ586819                                 | Rosel & Wilcox 2014   | Gulf of Mexico (ref)  | Gulf of Mexico  | n=2   | 2                      |
| <i>Balaenoptera e. edeni</i>             |   |   |   |   | 67                     |
| AB201258* [AF146378; MH844104; MH844105] | Sasaki et al., 2006 [Yoshida & Kato 1999; Li et al., 2019; Li et al., 2019] | Japan: Kumamoto, Minamata (GB) [off Kochi & Wakayama City, Japan (ref); Lvs, China (ref); Beihai, China (ref)]                    | East China Sea [western North Pacific; East China Sea; South China Sea] | n=1 [n=2; n=1; n=1]   | 5                      |
| AB116099                                 | Wada et al., 2003   | Pulu Sugi near Singapore (ref-Junge 1950)   | South China Sea   | n=1   | 1                      |
| AF146379 [KC561138; KY963283]            | Yoshida & Kato 1999 [Kershaw et al., 2013; Yusmalinda et al., 2017]         | off Goto Islands, Japan (ref) [Oman and Bangladesh (ref); Selemadeg Tabanan Bali, Indonesia (ref)]                                | East China Sea [northern Indian Ocean; eastern Indian Ocean]            | n=1 [n=45; n=1]   | 47                     |
| AF146380                                 | Yoshida & Kato 1999   | off Goto Islands, Japan (ref)   | East China Sea  | n=13  | 13                     |
| EF057443                                 | Jayasankar et al., 2009   | Mandapam, India (ref)   | northern Indian Ocean   | n=1   | 1                      |
| <i>Balaenoptera e. brydei</i>            |   |   |   |   | 629                    |
| AB201259* [EF068032]                     | Sasaki et al., 2006 [Kanda et al., 2007]                                    | Japan: Miyagi, Natori (GB) [western North Pacific (ref)]  | western North Pacific [western North Pacific]                           | n=1 [n=4]   | 5                      |

|   |  |  |  |   |     |
|---|--|--|--|---|-----|
| AB116098 [AF146388; DQ340979; EF068048; EU030282; KF916566; KF916567; LC361213; Haplotype 8: not in GenBank†] | Wada et al., 2003 [Yoshida & Kato 1999; S. Hilderbrandt et al., unpubl.; Kanda et al., 2007 and Pastene et al., 2015; Alves et al., 2010; Luksenburg et al., 2015; Luksenburg et al., 2015; Murakami et al., 2018; Penry et al., 2018] | central South Pacific 28° 32'S 179° 41'W (ref-Omura et al., 1981) [eastern Indian Ocean 10°09'S 116°23'E (ref); Atlantic Ocean: Canary Islands (GB); western North Pacific, Fiji, Peru, Chile, Brazil (ref); Madeira Island (ref); Daimari, Aruba (ref); Boca Calcof, Aruba (ref); western North Pacific (ref); off Africa coast west of The Gambia (ref)] | central South Pacific [eastern Indian Ocean; eastern North Atlantic; western North Pacific, western South Pacific, eastern South Pacific, and eastern South Atlantic; eastern North Atlantic; Caribbean Sea; Caribbean Sea; western North Pacific; eastern North Atlantic] | n=1 [n=1; <b>n=1</b> ; n=14; n=1; n=1; n=1; n=1; n=1] | 22  |
| AF146386  | Yoshida & Kato 1999  | collected in the western North Pacific (GB) 30°30" 137°14'E (ref)  | western North Pacific  | n=1   | 1   |
| AP006469 [EF068017]   | Sasaki et al., 2005 [Kanda et al., 2007]   | Northwest Pacific Ocean (ref) [western North Pacific (ref)]  | western North Pacific [western North Pacific]  | n=1 [n=1]   | 2   |
| DQ231170  | Herath 2007  | Columbo, Sri Lanka (ref)   | northern Indian Ocean  | n=1   | 1   |
| EF068013  | Kanda et al., 2007   | western North Pacific (ref)  | western North Pacific  | n=14  | 14  |
| EF068014  | Kanda et al., 2007   | western North Pacific (ref)  | western North Pacific  | n=4   | 4   |
| EF068015  | Kanda et al., 2007   | western North Pacific (ref)  | western North Pacific  | n=5   | 5   |
| EF068016 [AF146385; MG877684]   | Kanda et al., 2007 [Yoshida & Kato 1999; Kim et al., 2018]   | western North Pacific and Peru (ref) [collected in the western North Pacific (GB) 23°12'N 168°53'E (ref); Wando, South Korea (ref)]  | western North Pacific and eastern South Pacific [western North Pacific; East China Sea]  | n=36 [n=2; n=1]                                       | 39  |
| EF068018 [AF146382; LC361212]   | Kanda et al., 2007 [Yoshida & Kato 1999; Murakami et al., 2018]  | western North Pacific and Fiji (ref) [collected in the western North Pacific (GB) 28°54" 136°55'E (ref); western North Pacific (ref)]  | western North Pacific and western South Pacific [western North Pacific; western North Pacific]   | n=65 [n=1; n=1]                                       | 67  |
| EF068019  | Kanda et al., 2007   | western North Pacific (ref)  | western North Pacific  | n=2   | 2   |
| EF068020 [AF146384]   | Kanda et al., 2007 [Yoshida & Kato 1999]   | western North Pacific (ref) [collected in the western North Pacific (GB) 24°30" 159°51'E (ref)]  | western North Pacific [western North Pacific]  | n=8 [n=1]   | 9   |
| EF068021  | Kanda et al., 2007   | western North Pacific (ref)  | western North Pacific  | n=3   | 3   |
| EF068022 [AF146381; LC361211; LC361214]   | Kanda et al., 2007 [Yoshida & Kato 1999; Murakami et al., 2018; Murakami et al., 2018]   | western North Pacific, Fiji, and Peru (ref) [collected in the western North Pacific (GB) 29°14'N 136°40'E]   | western North Pacific, western South Pacific, and eastern South Pacific [western North Pacific; western North Pacific]   | n=160 [n=6; n=1; n=1]                                 | 168 |

|                     |  |   |   |           |    |
|---------------------|--|---|---|-----------|----|
|                     |  | (ref); western North Pacific (ref); western North Pacific (ref)]                                | western North Pacific; western North Pacific]   |           |    |
| EF068023 [AF146383] | Kanda et al., 2007 [Yoshida & Kato 1999]   | western North Pacific (ref) [collected in the western North Pacific (GB) 25°23' 144°28'E (ref)] | western North Pacific [western North Pacific]   | n=6 [n=1] | 7  |
| EF068024            | Kanda et al., 2007                         | western North Pacific and Peru (ref)  | western North Pacific and eastern South Pacific | n=15      | 15 |
| EF068025            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=3       | 3  |
| EF068026            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=5       | 5  |
| EF068027            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=8       | 8  |
| EF068028            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=6       | 6  |
| EF068029            | Kanda et al., 2007                         | western North Pacific and Peru (ref)  | western North Pacific and eastern South Pacific | n=3       | 3  |
| EF068030            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=14      | 14 |
| EF068031            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=8       | 8  |
| EF068033 [LC361210] | Kanda et al., 2007 [Murakami et al., 2018] | western North Pacific (ref) [western North Pacific (ref)]                                       | western North Pacific [western North Pacific]   | n=3 [n=1] | 4  |
| EF068034            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=5       | 5  |
| EF068035            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=2       | 2  |
| EF068036            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=2       | 2  |
| EF068037            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=7       | 7  |
| EF068038            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=7       | 7  |
| EF068040            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=6       | 6  |
| EF068041            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=8       | 8  |
| EF068042            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=2       | 2  |
| EF068043            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=1       | 1  |
| EF068044            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=1       | 1  |
| EF068045            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=3       | 3  |
| EF068046            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=2       | 2  |
| EF068047            | Kanda et al., 2007                         | western North Pacific (ref)   | western North Pacific                           | n=1       | 1  |
| EF068049            | Kanda et al., 2007                         | Fiji (ref)  | western South Pacific                           | n=2       | 2  |

|   |  |   |   |                      |    |
|---|--|---|---|----------------------|----|
| EF068050  | Kanda et al., 2007   | Fiji (ref)  | western South Pacific   | n=1                  | 1  |
| EF068051  | Kanda et al., 2007   | Peru (ref)  | eastern South Pacific   | n=1                  | 1  |
| EF068052  | Kanda et al., 2007   | Peru (ref)  | eastern South Pacific   | n=1                  | 1  |
| EF068053  | Kanda et al., 2007   | Peru (ref)  | eastern South Pacific   | n=1                  | 1  |
| EF068054  | Kanda et al., 2007 and Pastene et al., 2015  | Peru and Chile (ref)  | eastern South Pacific   | n=8                  | 8  |
| EF068055  | Kanda et al., 2007   | Peru (ref)  | eastern South Pacific   | n=1                  | 1  |
| EF068056 [KY938508]   | Kanda et al., 2007 and Pastene et al., 2015 [Flannery & Sellas unpubl.]                                    | Peru and Chile (ref) [San Pablo Bay, Sears Point, Sonoma, CA (Level A)]   | eastern South Pacific [eastern North Pacific]   | n=5 [n=1]            | 6  |
| EF068057  | Kanda et al., 2007 and Pastene et al., 2015  | Peru and Chile (ref)  | eastern South Pacific   | n=6                  | 6  |
| EF068058  | Kanda et al., 2007   | Peru (ref)  | eastern South Pacific   | n=1                  | 1  |
| EF068059  | Kanda et al., 2007   | Peru (ref)  | eastern South Pacific   | n=1                  | 1  |
| EF068060 [AF146387]   | Kanda et al., 2007 [Yoshida & Kato 1999]   | south of Java, eastern Indian Ocean (ref) [collected in the eastern Indian Ocean (GB) 10°05'S 116°25'E (ref)]   | eastern Indian Ocean [eastern Indian Ocean]   | n=19 [n=3]           | 22 |
| EF068061 [Haplotype 1: same as GU085094†; Haplotype 4: same as GU085098†; X72196] | Kanda et al., 2007 and Kershaw et al., 2013 [Penry et al., 2018; Penry et al., 2018; Árnason et al., 1993] | south of Java and Oman and Maldives (ref) [S. Africa inshore and east of Madagascar Plateau, 28.4°S 48.2°E and Walvis Bay, Namibia (ref); S. Africa inshore (ref); Aasfontein, S. Africa (ref-Arnason & Best 1991)] | eastern Indian Ocean and northern Indian Ocean [eastern South Atlantic and western Indian Ocean; eastern South Atlantic and western Indian Ocean; eastern South Atlantic Ocean/western Indian Ocean border] | n=4 [n=86; n=1; n=1] | 92 |
| EF068062  | Kanda et al., 2007   | south of Java, eastern Indian Ocean (ref)   | eastern Indian Ocean  | n=1                  | 1  |
| EF068063  | Kanda et al., 2007   | south of Java, eastern Indian Ocean (ref)   | eastern Indian Ocean  | n=1                  | 1  |
| Haplotype 2: same as GU085096†  | Penry et al., 2018   | S. Africa, east coast inshore (ref)   | western Indian Ocean  | n=4                  | 4  |
| Haplotype 5: same as GU085097†  | Penry et al., 2018   | St. Helena Bay, S. Africa, offshore (ref)   | eastern South Atlantic  | n=1                  | 1  |
| Haplotype 3: same as GU085099†  | Penry et al., 2018   | S. Africa, inshore, west coast (ref)  | eastern South Atlantic  | n=1                  | 1  |
| Haplotype 7: not in GenBank†  | Penry et al., 2018   | Walvis Bay, Namibia (ref)   | eastern South Atlantic  | n=1                  | 1  |

|   |   |   |   |  |    |
|---|---|---|---|--|----|
| JX090150  | Kershaw et al., 2013  | Maldives and Bangladesh (ref)   | northern Indian Ocean   | n=5  | 5  |
| JX090151  | Kershaw et al., 2013  | Maldives (ref)  | northern Indian Ocean   | n=1  | 1  |
| JX090152  | Kershaw et al., 2013  | Maldives (ref)  | northern Indian Ocean   | n=2  | 2  |
| KC261305  | Kershaw et al., 2013  | Oman (ref)  | northern Indian Ocean   | n=1  | 1  |
| KF916568  | Luksenburg et al., 2015   | Barcadera, Aruba (ref)  | Caribbean Sea   | n=1  | 1  |
| KT191131  | Pastene et al., 2015  | Chile (ref)   | eastern South Pacific   | n=1  | 1  |
| KT191132  | Pastene et al., 2015  | Chile (ref)   | eastern South Pacific   | n=1  | 1  |
| KT191133  | Pastene et al., 2015  | Chile (ref)   | eastern South Pacific   | n=1  | 1  |
| KT191134  | Pastene et al., 2015  | Brazil (ref)  | western South Atlantic  | n=1  | 1  |
| LC361215  | Murakami et al., 2018   | W North Pacific (ref)   | western North Pacific   | n=1  | 1  |
| <b><i>Balaenoptera omurai</i></b>   |   |   |   |  |    |
|   |   |   |   |  | 41 |
| AB201256* [AB116095; AB201257*; AF398372; KM233838; KT582064; KT757371; KX254408; KY963289; MG877682; MG877683] | Sasaki et al., 2006 [Wada et al., 2003; Sasaki et al., 2006; Yang et al., 2002; Jung et al., 2016; Cerchio et al., 2015; Ottewell et al., 2016; Cypriano-Souza et al., 2017; Yusmalinda et al., 2017; Kim et al., 2018; Kim et al., 2018] | Japan: Yamaguchi, Toyoura, Tsunoshima Island (GB) [Sea of Japan, Tsunoshima Island (ref); Japan: Kagawa, Takuma-cho, Awashima Island (GB); Ruian City, Zhejiang Province, China (ref); Mauritania, West Africa (ref); northwest Madagascar (ref); Exmouth, Australia (ref); Pecem Beach, Brazil (ref); Pulau Banyak, Aceh, Indonesia (ref); Geoje, South Korea (ref); Goheung, South Korea (ref)] | Sea of Japan [Sea of Japan; Sea of Japan; East China Sea; eastern North Atlantic; western Indian Ocean; eastern Indian Ocean; western South Atlantic; eastern Indian Ocean; eastern Indian Ocean; East China Sea; East China Sea] | n=1 [AB116095 same animal as AB201256; n=1; n=1; n=1; n=23; n=1; n=1; n=1; n=1; n=1] | 32 |
| AB116096  | Wada et al., 2003   | Solomon Sea (ref)   | western South Pacific   | n=1  | 1  |
| AB116097  | Wada et al., 2003   | eastern Indian Ocean (ref)  | eastern Indian Ocean  | n=1  | 1  |
| AF146389  | Yoshida & Kato 1999   | off the Solomon Islands (ref)   | western South Pacific   | n=5  | 5  |
| MH844102 [MH844103]   | Li et al., 2019 [Li et al., 2019]   | Ningbo, China (ref) [Ningbo, China (ref)]   | East China Sea [East China Sea]   | n=1 [n=1]  | 2  |
| <b><i>Balaenoptera borealis</i></b>   |   |   |   |  |    |
|   |   |   |   |  | 90 |
| X72195 [MH035691]   | Árnason et al., 1993 [Huijser et al., 2018]   | Icelandic waters (ref) [North Atlantic: Azores, Gulf of Maine, Iceland (ref)]   | North Atlantic [eastern North Atlantic and western North Atlantic]  | n=1 [n=43]   | 44 |
| AP006470  | Sasaki et al., 2005   | Antarctic ocean (ref)   | Southern Ocean  | n=1  | 1  |

|   |   |  |   |                      |    |
|---|---|--|---|----------------------|----|
| DQ145042                                | C. Baker unpubl.  | New Zealand? (GB: specimen name contains NZ and C. Baker submitted from University of Auckland)        | South Pacific?  | n=1                  | 1  |
| KJ586813 [MF409248; MF409249; MH035692] | Rosel and Wilcox 2014<br>[Árnason et al., 2018; Árnason et al., 2018; Huijser et al., 2018] | North Carolina stranding (Level A)<br>[unk; unk; North Atlantic: Azores, Gulf of Maine, Iceland (ref)] | western North Atlantic<br>[unk; unk; eastern North Atlantic and western North Atlantic] | n=1 [n=1; n=1; n=16] | 19 |
| MH035689                                | Huijser et al., 2018  | North Atlantic: Azores, Gulf of Maine, Iceland (ref)   | eastern North Atlantic and western North Atlantic                                       | n=9                  | 9  |
| MH035690                                | Huijser et al., 2018  | North Atlantic: Azores, Gulf of Maine, Iceland (ref)   | eastern North Atlantic and western North Atlantic                                       | n=10                 | 10 |
| MH035693                                | Huijser et al., 2018  | North Atlantic: Gulf of Maine, Iceland (ref)   | eastern North Atlantic and western North Atlantic                                       | n=2                  | 2  |
| MH035694                                | Huijser et al., 2018  | North Atlantic: Azores (ref)   | eastern North Atlantic  | n=1                  | 1  |
| MH035695                                | Huijser et al., 2018  | North Atlantic: Iceland (ref)  | eastern North Atlantic  | n=3                  | 3  |
| <b>Other Baleen Whales (species)</b>    |   |  |   |                      |    |
| AP006468 ( <i>B. acutorostrata</i> )    | Sasaki et al., 2005   | North Atlantic Ocean (ref)   | North Atlantic Ocean  | n=1                  | 1  |
| KJ586812 ( <i>B. acutorostrata</i> )    | Rosel and Wilcox 2014   | New York stranding (Level A)   | western North Atlantic  | n=1                  | 1  |
| AP006466 ( <i>B. bonaerensis</i> )      | Sasaki et al., 2005   | Antarctic sea ocean (ref)  | Southern Ocean  | n=1                  | 1  |
| X72204 ( <i>B. musculus</i> )           | Árnason et al., 1993  | Icelandic waters (ref)   | North Atlantic Ocean  | n=1                  | 1  |
| KJ586814 ( <i>B. musculus</i> )         | Rosel and Wilcox 2014   | Northwest Atlantic biopsy  | western North Atlantic  | n=1                  | 1  |
| X61145 ( <i>B. physalus</i> )           | Árnason et al., 1991  | Icelandic waters (ref)   | North Atlantic Ocean  | n=1                  | 1  |
| KJ586815 ( <i>B. physalus</i> )         | Rosel and Wilcox 2014   | New Jersey stranding (Level A)   | western North Atlantic  | n=1                  | 1  |
| AP006473 ( <i>E. australis</i> )        | Sasaki et al., 2005   | Antarctic ocean (ref)  | Southern Ocean  | n=1                  | 1  |
| KJ586817 ( <i>E. glacialis</i> )        | Rosel and Wilcox 2014   | Maine stranding (Level A)  | western North Atlantic  | n=1                  | 1  |
| AP006467 ( <i>M. novaeangliae</i> )     | Sasaki et al., 2005   | Antarctic ocean (ref)  | Southern Ocean  | n=1                  | 1  |
| KJ586816 ( <i>M. novaeangliae</i> )     | Rosel and Wilcox 2014   | Maryland stranding (Level A)   | western North Atlantic  | n=1                  | 1  |

Note: Kanda et al. (2007) Haplotype 27 (accession number EF068039) was not included in the alignment due to a sequencing error reported by L. Pastene, Institute of Cetacean Research, Tokyo, Japan. February 2020.

Supporting Information Table S1b. Table indicating the mtDNA control region sequences used in the phylogenetic analyses of the 375 bp control region alignment. Information is provided for matching sequences in brackets and separated by semi-colons following the order of accession numbers in the first column. If the number of individuals for a given haplotype was not specified in the publication, we used n=1 and identified those using red font.

\*Sasaki *et al.* 2006 sequences considered to represent each species based on morphological data.

| 375 bp Control Region Alignment          |   |   |   |   |                             |
|--|---|---|---|---|-----------------------------|
| Accession number [matching sequence(s)]  | References  | Sample location for each accession number: data collected from GenBank (GB), reference (ref), or Stranding Level A Data (Level A) | Summary of geographic areas for all samples                             | Number of individuals by accession/reference (n=1 in red if data not available) | Total number of individuals |
| <b><i>Balaenoptera ricei</i></b>         |   |   |   |   | 36                          |
| KJ586818                                 | Rosel & Wilcox 2014 [this study]  | Gulf of Mexico and northwest Atlantic Ocean (ref) [Gulf of Mexico]  | Gulf of Mexico and western North Atlantic [Gulf of Mexico]              | n=21 [n=13]   | 34                          |
| KJ586819                                 | Rosel & Wilcox 2014   | Gulf of Mexico (ref)  | Gulf of Mexico  | n=2   | 2                           |
| <b><i>Balaenoptera e. edeni</i></b>      |   |   |   |   | 22                          |
| AB201258* [AF146378; MH844104; MH844105] | Sasaki et al., 2006 [Yoshida & Kato 1999; Li et al., 2019; Li et al., 2019] | Japan: Kumamoto, Minamata (GB) [off Kochi and Wakayama City, Japan (ref); Lysi, China (ref); Beihai, China (ref)]                 | East China Sea [western North Pacific; East China Sea; South China Sea] | n=1 [n=2; n=1; n=1]   | 5                           |
| AB116099                                 | Wada et al., 2003   | Pulu Sugi near Singapore (ref-Junge 1950)   | South China Sea   | n=1   | 1                           |
| AF146379 [KY963283]                      | Yoshida & Kato 1999 [Yusmalinda et al., 2017]                               | off Goto Islands, Japan (ref) [Selemadeg Tabanan Bali, Indonesia (ref)]   | East China Sea [eastern Indian Ocean]                                   | n=1 [n=1]   | 2                           |
| AF146380                                 | Yoshida & Kato 1999   | off Goto Islands, Japan (ref)   | East China Sea  | n=13  | 13                          |
| EF057443                                 | Jayasankar et al., 2009   | Mandapam, India (ref)   | northern Indian Ocean   | n=1   | 1                           |
| <b><i>Balaenoptera e. brydei</i></b>     |   |   |   |   | 27                          |
| AB201259*                                | Sasaki et al., 2006   | Japan: Miyagi, Natori (GB)  | western North Pacific   | n=1   | 1                           |
| X72196                                   | Árnason et al., 1993  | Aasfontein, S. Africa (ref-Arnason & Best 1991)   | eastern South Atlantic/western Indian Ocean border                      | n=1   | 1                           |
| AB116098                                 | Wada et al., 2003   | central South Pacific 28° 32'S 179° 41'W (ref-Omura <i>et al.</i> 1981)   | central South Pacific   | n=1   | 1                           |

|   |  |   |   |   |   |
|---|--|---|---|---|---|
| AP006469  | Sasaki et al., 2005  | Northwest Pacific Ocean (ref)   | western North Pacific   | n=1   | 1 |
| DQ231170  | Herath 2007  | Columbo, Sri Lanka (ref)  | northern Indian Ocean   | n=1   | 1 |
| DQ340979 [AF146388; KF916566; KF916567]   | S. Hilderbrandt et al., unpubl. [Yoshida & Kato 1999; Luksenburg et al., 2015; Luksenburg et al., 2015]  | Atlantic Ocean: Canary Islands (GB) [eastern Indian Ocean 10°09'S 116°23'E (ref); Daimari, Aruba (ref); Boca Calcof, Aruba (ref)]   | eastern North Atlantic [eastern Indian Ocean; Caribbean Sea; Caribbean Sea]   | n=1 [n=1; n=1; n=1]   | 4 |
| AF146381  | Yoshida & Kato 1999  | collected in the western North Pacific (GB) 29°14'N 136°40'E (ref)  | western North Pacific   | n=6   | 6 |
| AF146382  | Yoshida & Kato 1999  | collected in the western North Pacific (GB) 28°54" 136°55'E (ref)   | western North Pacific   | n=1   | 1 |
| AF146383  | Yoshida & Kato 1999  | collected in the western North Pacific (GB) 25°23" 144°28'E (ref)   | western North Pacific   | n=1   | 1 |
| AF146384  | Yoshida & Kato 1999  | collected in the western North Pacific (GB) 24°30" 159°51'E (ref)   | western North Pacific   | n=1   | 1 |
| AF146385 [MG877684]   | Yoshida & Kato 1999 [Kim et al., 2018]   | collected in the western North Pacific (GB) 23°12'N 168°53'E (ref) [Wando, South Korea (ref)]   | western North Pacific [East China Sea]  | n=2 [n=1]   | 3 |
| AF146386  | Yoshida & Kato 1999  | collected in the western North Pacific (GB) 30°30" 137°14'E (ref)   | western North Pacific   | n=1   | 1 |
| AF146387  | Yoshida & Kato 1999  | collected in the eastern Indian Ocean (GB) 10°05'S 116°25'E (ref)   | eastern Indian Ocean  | n=3   | 3 |
| KF916568  | Luksenburg et al., 2015  | Barcadera, Aruba (ref)  | Caribbean Sea   | n=1   | 1 |
| KY938508  | Flannery & Sellas unpubl.  | San Pablo Bay, Sears Point, Sonoma, CA (Level A)  | eastern North Pacific   | n=1   | 1 |
| <b><i>Balaenoptera omurai</i></b>   |  |   |   |   |   |
| AB201256* [AB116095; AB201257*; AF398372; KM233838; KT757371; KY963289; MG877682; MG877683] | Sasaki et al., 2006 [Wada et al., 2003; Sasaki et al., 2006; Yang et al., 2002; Jung et al., 2016; Ottewell et al., 2016; Yusmalinda et al., 2017; Kim et al., 2018; Kim et al., 2018] | Japan: Yamaguchi, Toyoura, Tsunoshima Island (GB) [Sea of Japan, Tsunoshima Island (ref); Japan: Kagawa, Takuma-cho, Awashima Island (GB); Ruian City, Zhejiang Province, China (ref); Mauritania, West Africa (ref); Exmouth, Australia (ref); Pulau Banyak, Aceh, Indonesia | Sea of Japan [Sea of Japan; Sea of Japan; East China Sea; eastern North Atlantic; eastern Indian Ocean; eastern Indian Ocean; East China Sea; East China Sea] | n=1 [AB116095 same animal as AB201256; n=1; n=1; n=1; n=1; n=1; n=1; n=1] | 8 |

|   |  |   |  |                      |    |
|---|--|---|--|----------------------|----|
|   |  | (ref); Geoje, South Korea (ref); Goheung, South Korea (ref)]  |  |                      |    |
| AB116096                                | Wada et al., 2003  | Solomon Sea (ref)   | western South Pacific  | n=1                  | 1  |
| AB116097                                | Wada et al., 2003  | eastern Indian Ocean (ref)  | eastern Indian Ocean   | n=1                  | 1  |
| AF146389                                | Yoshida & Kato 1999  | off the Solomon Islands (ref)   | western South Pacific  | n=5                  | 5  |
| MH844102 [MH844103]                     | Li et al., 2019 [Li et al., 2019]  | Ningbo, China (ref) [Ningbo, China (ref)]   | East China Sea [East China Sea]  | n=1 [n=1]            | 2  |
| <b><i>Balaenoptera borealis</i></b> 90  |  |   |  |                      |    |
| X72195                                  | Árnason et al., 1993   | Icelandic waters (ref)  | North Atlantic   | n=1                  | 1  |
| AP006470                                | Sasaki et al., 2005  | Antarctic ocean (ref)   | Southern Ocean   | n=1                  | 1  |
| DQ145042                                | C. Baker unpubl.   | New Zealand? (GB: specimen name contains NZ and C. Baker submitted from University of Auckland)     | South Pacific?   | <b>n=1</b>           | 1  |
| KJ586813 [MF409248; MF409249; MH035692] | Rosel and Wilcox 2014 [Árnason et al., 2018; Árnason et al., 2018; Huijser et al., 2018] | North Carolina stranding (Level A) [unk; unk; North Atlantic: Azores, Gulf of Maine, Iceland (ref)] | western North Atlantic [unk; unk; eastern North Atlantic and western North Atlantic] | n=1 [n=1; n=1; n=16] | 19 |
| MH035689                                | Huijser et al., 2018   | North Atlantic: Azores, Gulf of Maine, Iceland (ref)  | eastern North Atlantic and western North Atlantic                                    | n=9                  | 9  |
| MH035690                                | Huijser et al., 2018   | North Atlantic: Azores, Gulf of Maine, Iceland (ref)  | eastern North Atlantic and western North Atlantic                                    | n=10                 | 10 |
| MH035691                                | Huijser et al., 2018   | North Atlantic: Azores, Gulf of Maine, Iceland (ref)  | eastern North Atlantic and western North Atlantic                                    | n=43                 | 43 |
| MH035693                                | Huijser et al., 2018   | North Atlantic: Gulf of Maine, Iceland (ref)  | eastern North Atlantic and western North Atlantic                                    | n=2                  | 2  |
| MH035694                                | Huijser et al., 2018   | North Atlantic: Azores (ref)  | eastern North Atlantic   | n=1                  | 1  |
| MH035695                                | Huijser et al., 2018   | North Atlantic: Iceland (ref)   | eastern North Atlantic   | n=3                  | 3  |
| <b>Other Baleen Whales [species]</b> 11 |  |   |  |                      |    |
| AP006468 [B. acutorostrata]             | Sasaki et al., 2005  | North Atlantic Ocean (ref)  | North Atlantic Ocean   | n=1                  | 1  |
| KJ586812 [B. acutorostrata]             | Rosel and Wilcox 2014  | New York stranding (Level A)  | western North Atlantic   | n=1                  | 1  |
| AP006466 [B. bonaerensis]               | Sasaki et al., 2005  | Antarctic sea ocean (ref)   | Southern Ocean   | n=1                  | 1  |

|                            |                       |                                |                        |     |   |
|----------------------------|-----------------------|--------------------------------|------------------------|-----|---|
| X72204 [B. musculus]       | Árnason et al., 1993  | Icelandic waters (ref)         | North Atlantic Ocean   | n=1 | 1 |
| KJ586814 [B. musculus]     | Rosel and Wilcox 2014 | Northwest Atlantic biopsy      | western North Atlantic | n=1 | 1 |
| X61145 [B. physalus]       | Árnason et al., 1991  | Icelandic waters (ref)         | North Atlantic Ocean   | n=1 | 1 |
| KJ586815 [B. physalus]     | Rosel and Wilcox 2014 | New Jersey stranding (Level A) | western North Atlantic | n=1 | 1 |
| AP006473 [E. australis]    | Sasaki et al., 2005   | Antarctic ocean (ref)          | Southern Ocean         | n=1 | 1 |
| KJ586817 [E. glacialis]    | Rosel and Wilcox 2014 | Maine stranding (Level A)      | western North Atlantic | n=1 | 1 |
| AP006467 [M. novaeangliae] | Sasaki et al., 2005   | Antarctic ocean (ref)          | Southern Ocean         | n=1 | 1 |
| KJ586816 [M. novaeangliae] | Rosel and Wilcox 2014 | Maryland stranding (Level A)   | western North Atlantic | n=1 | 1 |

Supporting Information Table S1c. Table indicating the mtDNA control region sequences used in the phylogenetic analyses of the 721 bp control region alignment. Information is provided for matching sequences in brackets and separated by semi-colons following the order of accession numbers in the first column. If the number of individuals for a given haplotype was not specified in the publication, we used n=1 and identified those using red font.

\*Sasaki *et al.* 2006 sequences considered to represent each species based on morphological data.

| 721 bp Control Region Alignment         |  |   |  |   |                             |
|---|--|---|--|---|-----------------------------|
| Accession number [matching sequence(s)] | References   | Sample location for each accession number: data collected from GenBank (GB), reference (ref), or Stranding Level A Data (Level A) | Summary of geographic areas for all samples                | Number of individuals by accession/reference (n=1 in red if data not available) | Total number of individuals |
| <b><i>Balaenoptera ricei</i></b>        |  |   |  |   | 35                          |
| KJ586818 [this study]                   | Rosel & Wilcox 2014 [this study]                       | Gulf of Mexico and northwest Atlantic Ocean (ref) [Gulf of Mexico]  | Gulf of Mexico and western North Atlantic [Gulf of Mexico] | n=21 [n=12]   | 33                          |
| KJ586819                                | Rosel & Wilcox 2014                                    | Gulf of Mexico (ref)  | Gulf of Mexico   | n=2   | 2                           |
| <b><i>Balaenoptera e. edeni</i></b>     |  |   |  |   | 4                           |
| AB201258* [MH844104; MH844105]          | Sasaki et al., 2006 [Li et al., 2019; Li et al., 2019] | Japan: Kumamoto, Minamata (GB) [Lvs, China (ref); Beihai, China (ref)]  | East China Sea [East China Sea; South China Sea]           | n=1 [n=1; n=1]  | 3                           |
| AB116099                                | Wada et al., 2003                                      | Pulu Sugi near Singapore (ref-Junge 1950)   | South China Sea  | n=1   | 1                           |
| <b><i>Balaenoptera e. brydei</i></b>    |  |   |  |   | 7                           |
| AB201259*                               | Sasaki et al., 2006                                    | Japan: Miyagi, Natori (GB)  | western North Pacific                                      | n=1   | 1                           |
| X72196                                  | Árnason et al., 1993                                   | Aasfontein, S. Africa (ref-Arnason & Best 1991)   | eastern South Atlantic/western Indian Ocean border         | n=1   | 1                           |
| AB116098                                | Wada et al., 2003                                      | central South Pacific 28° 32'S 179° 41'W (ref-Omura <i>et al.</i> 1981)   | central South Pacific                                      | n=1   | 1                           |
| AP006469                                | Sasaki et al., 2005                                    | Northwest Pacific Ocean (ref)   | western North Pacific                                      | n=1   | 1                           |
| KF916566                                | Luksenburg et al., 2015                                | Daimari, Aruba (ref)  | Caribbean Sea  | n=1   | 1                           |
| KF916567                                | Luksenburg et al., 2015                                | Boca Calcof, Aruba (ref)  | Caribbean Sea  | n=1   | 1                           |
| KF916568                                | Luksenburg et al., 2015                                | Barcadera, Aruba (ref)  | Caribbean Sea  | n=1   | 1                           |
| <b><i>Balaenoptera omurai</i></b>       |  |   |  |   | 8                           |

|   |  |   |   |   |   |
|---|--|---|---|---|---|
| AB201256* [AB116095; AB201257*; KM233838; KT757371] | Sasaki et al., 2006 [Wada et al., 2003; Sasaki et al., 2006; Jung et al., 2016; Ottewell et al., 2016] | Japan: Yamaguchi, Toyoura, Tsunoshima Island (GB) [Sea of Japan, Tsunoshima Island (ref); Japan: Kagawa, Takuma-cho, Awashima Island (GB); Mauritania, West Africa (ref); Exmouth, Australia (ref)] | Sea of Japan [Sea of Japan; Sea of Japan; eastern North Atlantic; eastern Indian Ocean] | n=1 [AB116095 same animal as AB201256; n=1; n=1; n=1] | 4 |
| AB116096  | Wada et al., 2003  | Solomon Sea (ref)   | western South Pacific   | n=1   | 1 |
| AB116097  | Wada et al., 2003  | eastern Indian Ocean (ref)  | eastern Indian Ocean  | n=1   | 1 |
| MH844102 [MH844103]                                 | Li et al., 2019 [Li et al., 2019]  | Ningbo, China (ref) [Ningbo, China (ref)]   | East China Sea [East China Sea]   | n=1 [n=1]   | 2 |
| <b><i>Balaenoptera borealis</i></b>                 |  |   |   |   |   |
| X72195  | Árnason et al., 1993   | Icelandic waters (ref)  | North Atlantic  | n=1   | 1 |
| AP006470  | Sasaki et al., 2005  | Antarctic ocean (ref)   | Southern Ocean  | n=1   | 1 |
| KJ586813 [MF409248; MF409249]                       | Rosel and Wilcox 2014 [Árnason et al., 2018; Árnason et al., 2018]                                     | North Carolina stranding (Level A) [unk; unk]   | western North Atlantic [unk, unk]   | n=1 [n=1; n=1]  | 3 |
| <b>Other Baleen Whales (species)</b>                |  |   |   |   |   |
| AP006468 ( <i>B. acutorostrata</i> )                | Sasaki et al., 2005  | North Atlantic Ocean (ref)  | North Atlantic Ocean  | n=1   | 1 |
| KJ586812 ( <i>B. acutorostrata</i> )                | Rosel and Wilcox 2014  | New York stranding (Level A)  | western North Atlantic  | n=1   | 1 |
| AP006466 ( <i>B. bonaerensis</i> )                  | Sasaki et al., 2005  | Antarctic sea ocean (ref)   | Southern Ocean  | n=1   | 1 |
| X72204 ( <i>B. musculus</i> )                       | Árnason et al., 1993   | Icelandic waters (ref)  | North Atlantic Ocean  | n=1   | 1 |
| KJ586814 ( <i>B. musculus</i> )                     | Rosel and Wilcox 2014  | Northwest Atlantic biopsy   | western North Atlantic  | n=1   | 1 |
| X61145 ( <i>B. physalus</i> )                       | Árnason et al., 1991   | Icelandic waters (ref)  | North Atlantic Ocean  | n=1   | 1 |
| KJ586815 ( <i>B. physalus</i> )                     | Rosel and Wilcox 2014  | New Jersey stranding (Level A)  | western North Atlantic  | n=1   | 1 |
| AP006473 ( <i>E. australis</i> )                    | Sasaki et al., 2005  | Antarctic ocean (ref)   | Southern Ocean  | n=1   | 1 |
| KJ586817 ( <i>E. glacialis</i> )                    | Rosel and Wilcox 2014  | Maine stranding (Level A)   | western North Atlantic  | n=1   | 1 |
| AP006467 ( <i>M. novaeangliae</i> )                 | Sasaki et al., 2005  | Antarctic ocean (ref)   | Southern Ocean  | n=1   | 1 |
| KJ586816 ( <i>M. novaeangliae</i> )                 | Rosel and Wilcox 2014  | Maryland stranding (Level A)  | western North Atlantic  | n=1   | 1 |

Supporting Information Table S2. Final multiplexes, PCR conditions, and heterozygosities for 17 polymorphic microsatellite loci used to genotype whale samples.  $T_a$ : annealing temperature;  $H_o$ : observed heterozygosity;  $H_e$ : expected heterozygosity.

| Locus     | Reference                   | Repeat type | Multiplex set | $T_a$ (°C) | Final primer concentration (μM) | # alleles | $H_o$   | $H_e$   |
|-----------|-----------------------------|-------------|---------------|------------|---------------------------------|-----------|---------|---------|
| GM199/200 | Amos <i>et al.</i> 1993     | Di          | 1             | 50         | 0.075                           | 3         | 0.28571 | 0.31925 |
| GM417/418 | Amos <i>et al.</i> 1993     | Di          | 1             | 50         | 0.30                            | 2         | 0.25714 | 0.26874 |
| AC137     | Bérubé <i>et al.</i> 2005   | Di          | 1             | 50         | 0.10                            | 3         | 0.48571 | 0.47702 |
| CA234     | Bérubé <i>et al.</i> 2005   | Di          | 1             | 50         | 0.10                            | 2         | 0.08571 | 0.08323 |
| GT307     | Bérubé <i>et al.</i> 2000   | Di          | 1             | 50         | 0.30                            | 2         | 0.17143 | 0.15901 |
| Ppho137   | Rosel <i>et al.</i> 1999    | Di          | 1             | 50         | 0.05                            | 2         | 0.22857 | 0.24845 |
| SW13      | Richard <i>et al.</i> 1996  | Di          | 1             | 50         | 0.05                            | 2         | 0.22857 | 0.20538 |
| GATA053   | Palsbøll <i>et al.</i> 1997 | Tetra       | 2             | 50         | 0.0375                          | 3         | 0.05714 | 0.05673 |
| GATA098   | Palsbøll <i>et al.</i> 1997 | Tetra       | 2             | 50         | 0.15                            | 4         | 0.37143 | 0.34286 |
| GATA417   | Palsbøll <i>et al.</i> 1997 | Tetra       | 2             | 50         | 0.05                            | 2         | 0.05714 | 0.05631 |
| GGAA520   | Palsbøll <i>et al.</i> 1997 | Tetra       | 2             | 50         | 0.30                            | 4         | 0.60000 | 0.54369 |
| GT122     | Bérubé <i>et al.</i> 2005   | Di          | 2             | 50         | 0.05                            | 2         | 0.11429 | 0.10932 |
| Ppho130   | Rosel <i>et al.</i> 1999    | Di          | 2             | 50         | 0.20                            | 2         | 0.05714 | 0.05631 |
| EV104     | Valeccchi & Amos 1996       | Di          | 3             | 58         | 0.15                            | 2         | 0.02857 | 0.02857 |
| GATA028   | Palsbøll <i>et al.</i> 1997 | Tetra       | 3             | 58         | 0.15                            | 3         | 0.51429 | 0.50849 |
| GT023     | Bérubé <i>et al.</i> 2000   | Di          | 3             | 58         | 0.025                           | 2         | 0.08571 | 0.08323 |
| GT541     | Bérubé <i>et al.</i> 2005   | Di          | 3             | 58         | 0.30                            | 3         | 0.60000 | 0.56936 |
| Mean      |                             |             |               |            |                                 |           | 0.24874 | 0.24211 |
| s.d.      |                             |             |               |            |                                 |           | 0.19789 | 0.18815 |

PCR reactions were completed in 10 μL volumes and contained 1x Type-it Multiplex PCR Master Mix and 10 ng of DNA.

PCR profiles : 95°C for 5 min; 27 cycles of 95°C for 30 sec, 50 or 58°C for 90 sec, and 72°C for 30 sec; final extension 60°C for 30 min.

Supporting Information Table S3. Summary of stranding records of Bryde's-like whales in the Gulf of Mexico identified as duplicate records or mis-identified species.

| Type                             | Catalog Number | Additional Identifiers | Date    | State     | Location   | Latitude | Longitude | Length (cm) | Sex | Stranding Condition | Comment  |
|----------------------------------|----------------|------------------------|---------|-----------|--|----------|-----------|-------------|-----|---------------------|--|
| Duplicate                        | STR 2507       |                        | 1/11/75 | Louisiana | Venice, West Bay<br>Near Tiger Pass, LA                        | 29.12    | -89.4     | 840         | M   | dead, fresh         | Original database entry error that duplicated the stranding with a new catalog number and a date of February 11, 1975 rather than January 11, 1975. Now corrected in Smithsonian USNM Mammals Collections database. STR 1923 is the correct catalog number.  |
|                                  | STR 1923       |                        | 2/11/75 | Louisiana | Venice, LA   | na       | na        | 841         | M   | na                  |  |
| Mis-Identification               | MME3255        | SE3744; C598           | 3/27/88 | Texas     | Matagorda peninsula, TX  | 28.57    | -96.05    | 553         | F   | live stranding      | Initially identified as a Bryde's whale and some literature refers to it as such. Photos and data from Tarpley, R. J. and Marwitz S. (1993) indicate minke whale. Now corrected in Smithsonian USNM Mammals Collections database   |
| Mis-Identification and Duplicate | MME8185        | SE6675; FLPP21292-2    | 2/12/92 | Florida   | Pensacola Pass, Spoil Island, 200 Yd E of Admiral's Island, FL | 30.32    | -87.32    | 1478        | F   | live stranding      | On February 12, 1992 a large female whale stranded alive at Pensacola Pass, FL and was towed to Grand Pass, LA (30° 07.5', -89° 14.5') by the US Coast Guard. It was identified as a Bryde's whale (MME8185; FLPP21292-2). However, examination of video collected during the event shows no evidence for rostral ridges on the whale. At 1478 cm, the whale is very large for a Rice's whale. On March 25, 1992 a 1480 cm sei whale stranded alive in Terrebonne Parish, LA (STR10270). The Stranding network notes from the February stranding in FL suggest this LA stranding may be the same whale. Given the lack of evidence for ridges and the nearly matching total length of the two records, this seems a valid conclusion and MME8185 / FLPP21292-2 was more than likely a sei whale. |
|                                  | STR10270       |                        | 3/25/92 | Louisiana | Lake Peltot, Terrebonne Bay, LA                                | na       | na        | 1480        | na  | live stranding      |  |

Supporting Information Table S4. Information available from Level A data for seven stranded Bryde's-like whales from the Gulf of Mexico and U.S. east coast. Field ID and USNM accession numbers provided where available. \* = specimens confirmed by genetics to have the mitochondrial DNA control region haplotype diagnostic of Rice's whale. na = information not available

|                                   | FMMSN1908*<br>USNM 594665 <sup>2</sup> | SC92-01*                | WAM587*<br>USNM 572922 | FLGM110206-32*<br>USNM 593537 | MMPL0906*<br>USNM 593536 | BAP001<br>USNM 504074     | MME1486                         |
|-----------------------------------|--|-------------------------|------------------------|-------------------------------|--------------------------|---------------------------|---------------------------------|
| Total length (cm) <sup>1</sup>    | 1126                                   | 790                     | 1105                   | 470                           | 1265                     | 1001                      | 1040                            |
| Sex                               | M                                      | M                       | F                      | F                             | F                        | M                         | M                               |
| No. of ventral grooves/pleats     | 54                                     | 44                      | na                     | 53 grooves                    | ~50 pleats               | ~ 60 grooves              | ~52 grooves                     |
| Location of end of grooves/pleats | to and beyond umbilicus                | to and beyond umbilicus | na                     | na                            | na                       | na                        | to umbilicus                    |
| Baleen count                      |  | 288 (right)             | na                     | 230 (right)                   | 290 (right)              | 255+ <sup>3</sup> (right) | na                              |
| Length longest plate              | 44.2                                   | 42                      | na                     | na                            | na                       |                           | na                              |
| Dorsal fin height                 | 37.8 <sup>2</sup>                      | 24                      | 28                     | 16                            | 29                       | 23.5                      |                                 |
| Anterior flipper length           | 157.2                                  | 110                     | 146                    | 71                            | 165                      | 121                       | 98                              |
| Posterior flipper length          | 110.2                                  | 68                      | 109                    | 47                            | na                       | 108                       | 130                             |
| Maximum flipper width             | 32.4                                   | 22                      | 31                     | 16                            | 34                       | 26                        | na                              |
| Width of flukes                   | 286                                    | 52                      | 282                    | 117                           | 316                      | 221                       | 320                             |
| Depth fluke notch                 | 17                                     | 10                      | 11                     | 7                             | na                       | 7.6                       | 10                              |
| Cause of death                    | plastic ingestion                      | unknown                 | gear entanglement      | unknown (calf)                | ship strike              | gear entanglement         | unknown; just after a hurricane |

<sup>1</sup> All measurements are in centimeters

<sup>2</sup> All measurements of holotype USNM 594665 taken after towing the carcass except for dorsal fin height which was measured after towing carcass

<sup>3</sup> The stranding record states the upper right plate count was "255+" suggesting this is an incomplete count. It does not indicate why a full count is not provided.

## Supporting Information Figure S1. Bayesian reconstruction of phylogenetic relationships among members of the Bryde's whale complex based on 305 bp control region alignment.

Posterior probabilities  $> 0.90$  are shown at all major nodes. Haplotypes with a \* indicate individuals morphologically identified to species by Sasaki et al. (2006) and used to identify the species clades. Length of scale bar is proportional to the number of nucleotide substitutions per site. GenBank accession numbers as well as geographic localities where the haplotype has been recorded are included in haplotype labels (Atlantic Ocean: WNA = western North Atlantic, ENA = eastern North Atlantic, WSA = western South Atlantic, ESA = eastern South Atlantic, GOMex = Gulf of Mexico, CAR = Caribbean Sea; Pacific Ocean: WNP = western North Pacific, ENP = eastern North Pacific, WSP = western South Pacific, ESP = eastern South Pacific, CSP = central South Pacific, ECS = East China Sea, SCS = South China Sea, SOJ = Sea of Japan; Indian Ocean: NIO = northern Indian Ocean, WIO = western Indian Ocean, EIO = eastern Indian Ocean; Southern Ocean: SO).



Supporting Information Figure S2. Bayesian reconstruction of phylogenetic relationships among members of the Bryde's whale complex based on 721 bp control region alignment. Posterior probabilities  $> 0.90$  are shown at all major nodes. Haplotypes with a \* indicate individuals morphologically identified to species by Sasaki et al. (2006) and used to identify the species clades. Length of scale bar is proportional to the number of nucleotide substitutions per site. GenBank accession numbers as well as geographic localities where the haplotype has been recorded are included in haplotype labels (Atlantic Ocean: WNA = western North Atlantic, ENA = eastern North Atlantic, ESA = eastern South Atlantic, GOMex = Gulf of Mexico, CAR = Caribbean Sea; Pacific Ocean: WNP = western North Pacific, WSP = western South Pacific, CSP = central South Pacific, ECS = East China Sea, SCS = South China Sea, SOJ = Sea of Japan; Indian Ocean: WIO = western Indian Ocean, EIO = eastern Indian Ocean; Southern Ocean: SO).

