**Table S1.** Campanulariids and outgroups used in this study, with GenBank accession numbers and references

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Species** | **COI** | **16S** | **18S** | **Reference** |
| *Campanularia hincksii* | AY789882 | AY789794 | AY789729 | Govindarajan *et al*., 2006 |
| *Campanularia volubilis* | AY789889 | AY789804 | AY789739 | Govindarajan *et al*., 2006 |
| *Clytia elsaeoswaldae* | DQ064800 | DQ064793 | DQ064796 | Lindner *et al*., 2011 |
| *Clytia elsaeoswaldae* |  | DQ068064 |  | Lindner *et al*., 2011 |
| *Clytia folleata* | KF962081-85 | JQ716051-55 | KF962213-17 | Present study |
| *Clytia gracilis* | AY789898 | AY346364 | AY789749 | Govindarajan *et al*., 2006 |
| *Clytia* cf. *gracilis* sp. A | AY789900 | AY789812 | AY789751 | Lindner *et al*., 2011 |
| *Clytia* cf. *gracilis* sp. A | DQ068054 | DQ068061 | DQ068051 | Lindner *et al*., 2011 |
| *Clytia* cf. *gracilis* sp. B | AY789901 | AY789813 | AY789752 | Lindner *et al*., 2011 |
| *Clytia* cf. *gracilis* sp. B | DQ068055 | DQ068062 | DQ068052 | Lindner *et al*., 2011 |
| *Clytia* cf. *gracilis* sp. C | DQ068056 | DQ068063 | DQ068053 | Lindner *et al*., 2011 |
| *Clytia* cf. *gracilis* sp. D | AY789899 | AY789811 | AY789750 | Lindner *et al*., 2011 |
| *Clytia gulangensis* sp. nov. | KF962086-00 | KF962425-39 | KF962218-32 | Present study |
| *Clytia hemisphaerica* | AY789902 | AY789814 | AY789753 | Govindarajan *et al*., 2006 |
| *Clytia hemisphaerica* |  | EU999221 |  | Licandro *et al*., 2010 |
| *Clytia hemisphaerica* | HM053515 |  |  | Cheng *et al*., 2012 |
| *Clytia hemisphaerica* | HM053516 | HM053545 |  | Cheng *et al*., 2012 |
| *Clytia hemisphaerica* | HM053517 |  |  | Cheng *et al*., 2012 |
| *Clytia hemisphaerica* | JQ353729 |  |  | Cheng *et al*., 2012 |
| *Clytia hemisphaerica* | JQ353730 |  |  | Cheng *et al*., 2012 |
| *Clytia hummelincki* | AY789894 | AY346363 | AY789745 | Govindarajan *et al*., 2006 |
| *Clytia hummelincki* | AY789895 | AY789809 | AY789744 | Govindarajan *et al*., 2006 |
| *Clytia languida* | GQ120064 |  |  | Ortman *et al*., 2010 |
| *Clytia languida* | GQ120065 |  |  | Ortman *et al*., 2010 |
| *Clytia linearis* |  | AY346362 | AY789747 | Govindarajan *et al*., 2006 |
| *Clytia linearis* | AY789897 | AY789810 | AY789748 | Govindarajan *et al*., 2006 |
| *Clytia linearis* |  | DQ064791 | DQ064794 | Lindner *et al*., 2011 |
| *Clytia noliformis* |  | DQ064792 | DQ064795 | Lindner *et al*., 2011 |
| *Clytia paulensis* | AY789896 | AY346361 | AY789746 | Govindarajan *et al*., 2006 |
| *Clytia* sp. | KF962101-03 | KF962440-42 | KF962233-35 | Present study |
| *Clytia* sp. 1 | KC439960-74 |  |  |  |
| *Clytia* sp. 2 | KC439975-78 |  |  |  |
| *Clytia* sp. 701AC | AY789903 | AY800195 | AF358074 | Govindarajan *et al*., 2006 |
| *Clytia* sp. AGC-2001 |  | AY512519 |  | Collins *et al*., 2005 |
| *Clytia* sp. KC | JQ716206-10 | JQ716046-50 | KF962238-47 | Present study |
| *Clytia viridicans* |  | AY346365 |  | Govindarajan, UNPUBLISHED |
| *Clytia* *xiamenensis* | JQ716198-05 | JQ716037-45 | KF962248-52 | Zhou *et al*., 2013; Present study |
| *Gonothyraea loveni* |  | AY789826 | AY789765 | Govindarajan *et al*., 2006 |
| *Laomedea calceolifera* | AY789914 | AY789829 | AY789768 | Govindarajan *et al*., 2006 |
| *Laomedea flexuosa* | AY789910 | AY789823 | AY789762 | Govindarajan *et al*., 2006 |
| *Laomedea inornata* |  | AY789822 | AY789761 | Govindarajan *et al*., 2006 |
| *Obelia bidentata* | AY789904 | AY789815 | AY789754 | Govindarajan *et al*., 2006 |
| *Obelia dichotoma* | AY789913 | AY789828 | AY789767 | Govindarajan *et al*., 2006 |
| *Obelia longissima* | AY789906 | AY789817 | AY789756 | Govindarajan *et al*., 2006 |
| *Orthopyxis everta* | AY789881 | AY789793 | AY789728 | Govindarajan *et al*., 2006 |
| *Orthopyxis integra* | AY789884 | AY789799 | AY789734 | Govindarajan *et al*., 2006 |
| *Orthopyxis sargassicola* | AY789883 | AY789795 | AY789730 | Govindarajan *et al*., 2006 |
| *Rhizocaulus verticillatus* | AY789888 | AY789803 | AY789738 | Govindarajan *et al*., 2006 |
| *Silicularia rosea* |  | AY789792 | AY789727 | Govindarajan *et al*., 2006 |
| *Aequorea conica* | JQ716175 | JQ715988 |  | Zhou *et al*., 2013 |
| *Gangliostoma guangdongensis* | JQ716189 | JQ716023 |  | Zhou *et al*., 2013 |
| *Calycella syringa* |  | AY789833 | AY789776 | Govindarajan *et al*., 2006 |
| *Opercularella pumila* |  | AY789834 | AY789777 | Govindarajan *et al*., 2006 |