Table S3. Sequence of records per site ordered from eastern to western Azores.

|  |  |
| --- | --- |
| Islands/Banks | Expedition |
| Formigas Bank | 1971: Biaçores expedition: First record of kelp in the Azores by divers on the east side of the Formigas islets at 35 m depth.1981: *CANCAP-V* expedition - *Laminaria* dredged on the east side of the Formigas islets from 45 m depth.1991: University of the Azores Biology Department Expedition – collection of young *Laminaria* by divers (illustrated and identified in Tittley et al. 2001).2002: BANCOS expedition - fully-grown *Laminaria* specimen by-caught by anchor from 55 m depth on the Intermediate Reef.2003: BANCOS expedition – fully-grown *Laminaria* specimen by-caught by anchor on the Intermediate Reef.2004: BANCOS/SWATHROV expedition – filming of kelp beds using remotely operated vehicle (ROV).2005: BANCOS/DRODOV expedition - kelp bed survey using drop-down camera; *Laminaria* specimen by-caught by anchor on the Intermediate Reef.2007: BANCOS expedition - sampling of *Laminaria* by SCUBA divers.2008: BANCOS expedition - kelp bed survey using remotely operated vehicle (ROV).2011: M@RBIS/BANCOS expedition - fully-grown *Laminaria* specimen by-caught by anchor on the Intermediate Reef; small *Phyllariopsis* *brevipes* specimen collected by divers on the eastern flank of the Formigas Islets.2014: GUI expedition – kelp surveying and sampling by technical divers using rebreathers. |
| Santa Maria island | 2016: ARQDAÇO 2016 fishery cruise – kelpspecimen by-caught by longline off the northern coast.2018: *Laminaria* specimen bycaught by longline on the NE sector; kelp survey using drop-down camera identifies several occurrence sites sampling by SCUBA divers. |
| São Miguel island | No surveys have targeted deep rocky infralittoral and upper circalittoral grounds around this island |
| Dom João de Castro Bank | No kelp recorded down to 60 m by any of the following expeditions: DOP/UAç 1996, ASIMOV 2000, Bancos 2002, Bancos 2004, GreenPeace 2006 ‘Defending our Oceans’, GUE 2014. |
| Terceira island | 2005: ARQDAÇO 2005 fishery cruise– fully-grown *Laminaria* specimen by-caught by handline on Baixa da Serreta (W coast).2008: ROV exploration of the reef flank where the 2005 specimen was collected found a single elongated unsplit robust kelp frond at 60 m depth, failing to locate any kelp beds. |
| Graciosa island | 2017: BALA expedition to Graciosa – reports from divers of occurrence on northern reef, specimen bycaught by longline on the NE sector during the ARQDAÇO 2017 fishery cruise; validation by drop-cam and sampling by divers2018: reports from divers of occurrence on eastern reef. |
| São Jorge island | 200X: Anecdotal kelp occurrence communicated to DOP/UAz researchers in the early 2000’s by a SCUBA diver regarding a potential kelp bed off São Jorge northern shore; no validation attempted |
| Pico and Faial islands | No kelp records despite the numerous SCUBA dives performed every year by the local marine research center (IMAR/DOP/UAz) and the local diving clubs down to 40 m depth. ROV and DDC deployments executed in 2004 and 2005 between 40 m and 80 m depth did not reveal any kelp occurrences on favorable substrate around Faial or in the Faial-Pico channel. No records collected from the professional or the recreational fishing community. |
| Princesa Alice Bank | No kelp recorded by SCUBA divers down to 45 m depth in the course of the regular Bancos expeditions or by diving clubs visiting the area. One dive with rebreathers down to 79 m depth during the 2014 GUE expedition did not reveal any occurrences either. |
| Flores and Corvo islands | 2016 BALA fieldwork and 2018 Blue Azores expedition: 15 drop-down camera deployments executed on on-shelf reefs shallower between 50 and 80 m depth did not reveal any kelp occurrences. |