General recommendations for Porifera Phyllum

The phylum **Porifera**, commonly known as sponges, is a group of simple, multicellular, aquatic animals that are among the oldest and most primitive forms of animal life. The phylum Porifera comprises about 9,000 described species. These species are classified into four main classes:

- Class **Calcarea**: This class includes sponges with spicules made of calcium carbonate. They are generally small and found in shallow waters.
- Class **Demospongiae**: The majority of sponge species belong to this class. They have siliceous spicules or spongin fibers, or both. They are found in a wide range of marine environments.
- Class **Hexactinellida**: Also known as glass sponges, they have siliceous spicules with a unique six-rayed symmetrical structure. They are typically found in deep ocean waters.
- Class **Homoscleromorpha**: This class was once considered a subclass within Demospongiae but has since been recognized as a separate class. They are small sponges with a simple body structure and a combination of both calcareous and siliceous spicules.

Sampling

After collection (manually, dredge/trawl, brushing), specimens are maintained in ambient seawater containers. At this step, specimens are identified with:

- sampling date
- station number
- name species / taxon
- “GENOME” label (to indicate that this specimen will follow the ATLASea cold chain).

Photography

Ideally, images should be taken in the highest quality resolution (macro lens recommended) and where no voucher specimen parts are retained the pictures will serve as voucher and should include identifying features.
Specimen will be photographed in a glass container with sea water.
Water should be clean and changed between each specimen.
If possible, discuss with the taxonomist to find out the important morphological elements to see, and therefore to photograph.

Take a general photo and closer look of the specimen.

With the specimen, one picture is taken with a **scale**, the **code identifier** (e.g. ATLASea QR code, specimen **MNHN-IP** barcode) and the station label.

Dissection for DNA barcoding and Genome Sequencing

1. Surface contamination (including remains of substrate) and attached epibiotic organisms must be removed from the sample surface using fine forceps and brushes.

2. Dissect at least **10 pieces** (approx. **300-500 mg** each). Before putting them in separate tubes (with unique identification labels), slice each piece into smaller fragments.
3. Ensure all tissues from the same individual are correctly identified on the log sheet.
4. Weight the tubes and scan the barcode on the log sheet.
5. Tubes should be **flash-freeze** with liquid nitrogen.

Backup/Biobanking:

1. Dissect at least 1 and up to 10 pieces in separate tubes (with unique identification labels).
2. 10 tubes by specimen.
3. Tubes should be flash-frozen in a liquid nitrogen.

Voucher & Taxonomic Assignation samples:

Voucher will be storage at MNHN.

1. Keep the leftover organism, as many parts/tissues as possible or another individual from the same population and checked by a taxonomist as belonging to the same species.
2. Place the barcode **MNHN-IP** identifier and the station label with the organism in tube/container.
3. Put 75-80% ethanol in the tube/container. There must be 10 times the volumes of specimen in alcohol.
4. Put the tube/container with the others specimens in the ATLASea barrels for shipment to the MNHN.