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Cover: The breathtakingly beautiful Silver Jubilee cover of JoTT is done in color pencils and ink by the 13-year old darling, Elakshi Mahika Molur.



Recent record of True Giant Clam *Tridacna gigas* from the Sulu Archipelago and insight into the giant clam fisheries and conservation in the southernmost islands of the Philippines

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The Philippines, being part of the Coral Triangle region, is known for its rich marine biodiversity. It is a global hotspot for giant clam diversity, where eight of the 12 species of living giant clams, including the largest, *Tridacna gigas*, have been documented. Studies from the 1980s indicated that the population of *T. gigas* had been significantly reduced to less than two individuals per hectare and became locally extinct in many of its natural reef habitats across the country (Juinio et al. 1989).

Responding to this alarming decline, the UP Marine Science Institute's initiatives in the late 1980s became instrumental in the recovery of *T. gigas* population. By developing hatchery-produced individuals from Solomon Islands broodstock, they have successfully restocked over 70,000 individuals of *T. gigas* and other giant clam species to more than 40 sites nationwide (Gomez & Mingoa-Licuanan 2006; Lebata-Ramos et al. 2010). This restoration effort has paved the way for the

establishment of several giant clam sanctuaries in places like Bolinao in Pangasinan and Samal Island in Davao del Norte, which contributed to the local economy through eco-tourism (Gomez & Mingoa-Licuanan 2006; Chavez 2019).

All species of giant clams are listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which means they are not necessarily threatened with extinction but may become so unless trade is closely controlled. In the Philippines, this classification means that the harvest and trade of these species are prohibited under Republic Act (RA) 9147, otherwise known as the Wildlife Act of the Philippines (<https://www.officialgazette.gov.ph/2001/07/30/republic-act-no-9417/>), and also under RA 10654 or An Act to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (<https://www.officialgazette.gov.ph/2015/02/27/republic-act-no-10654/>) that amended RA 8550 or The Philippine

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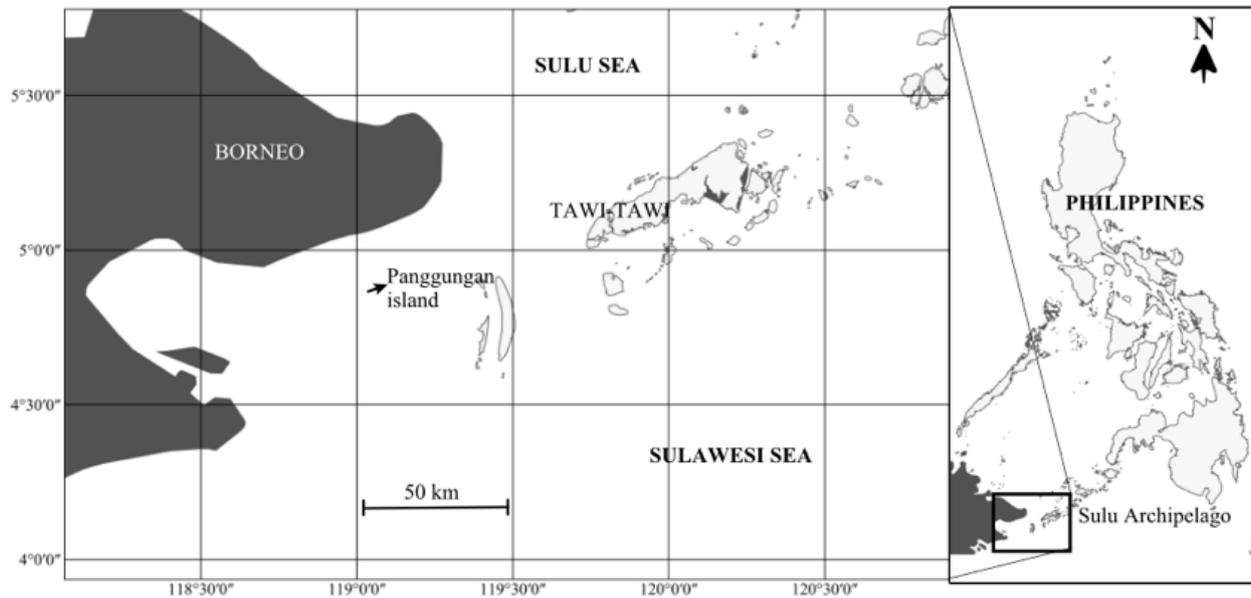


Figure 1. Geographic map highlighting the location of our study site in the Sulu Archipelago.

Fisheries Code of 1998 (<https://www.officialgazette.gov.ph/1998/02/25/republic-act-no-8550/>). Despite their protected status, we discovered prevalent harvesting of these species in the southernmost islands of the Philippines, posing both a conservation challenge and a unique opportunity for sustainable management.

The study aimed to provide a quick documentation of wild *T. gigas* and giant clam fishery in Panggungan island (also known as Mallamanuk island) in Barangay Datu Baguinda Puti, Sitangkai, Tawi-Tawi in the southernmost part of the Philippines (Figure 1). The island has a land area of about 0.06 km² (6 ha) and has a population of about 200 people, mostly composed of the Sama Dilaut or the Badjaos. There is also a military base in the area to fortify the country's border and mitigate maritime security threats. Our assessment was conducted on 4–5 January 2024, following a ship-grounding incident on the said island, and involved direct observation, interviews with local fishers, and the documentation of giant clam specimens and empty shells across the said island.

During the assessment, we encountered numerous empty shells of various giant clam species scattered across the area indicating active consumption by the community. (Image 1). We also discovered that locals were cultivating live giant clams close to shore, including the true giant clam species, *T. gigas* (Image 2). We identified two individuals as *T. gigas*, which is locally called 'antulang'. The larger individual had a shell length of approximately 60 cm, and the smaller measured 30 cm.

Through interviews with locals, we discovered that they harvest giant clams by handpicking or skin diving in the surrounding reefs, using both non-motorized and motorized boats that can accommodate 1–3 people. The presence of numerous empty clam shells across the island confirms that giant clams are the main species harvested by the locals. Giant clams are harvested for both subsistence and trade, with the flesh sold fresh or dried to the market in Sitangkai or directly to Sabah, Malaysia. Locals also collect and sell pearls from giant clams (Image 3). The largest pearl we recorded had a diameter of about 2 cm, which was sold for about US\$ 100.00 (PhP 5,000.00).

Our study provides the first documentation of wild adult *T. gigas* in the Sulu Archipelago, a region not included in the nationwide assessment conducted in the 1980s (Juinio et al. 1989). In the Philippines, the only other sightings of wild adult *T. gigas* have been in the nationally protected Tubbataha Reefs Natural Marine Park and at resorts in Palawan (Dolorosa et al. 2015; Mecha & Dolorosa 2020). However, it remains uncertain whether these clams are descendants of the restocking efforts in the province, or if they were introduced by tourists or others visiting the area. There was also recent sighting of a wild *T. gigas* juvenile near a giant clam sanctuary in Pangasinan, likely a descendant of restocked clams (Cabaitan & Conaco 2017). Furthermore, our study marks the first account of giant clam trade within the Philippines since the early 1980s. Villanoy et al. (1988) reported the export industry of *T. gigas* and other

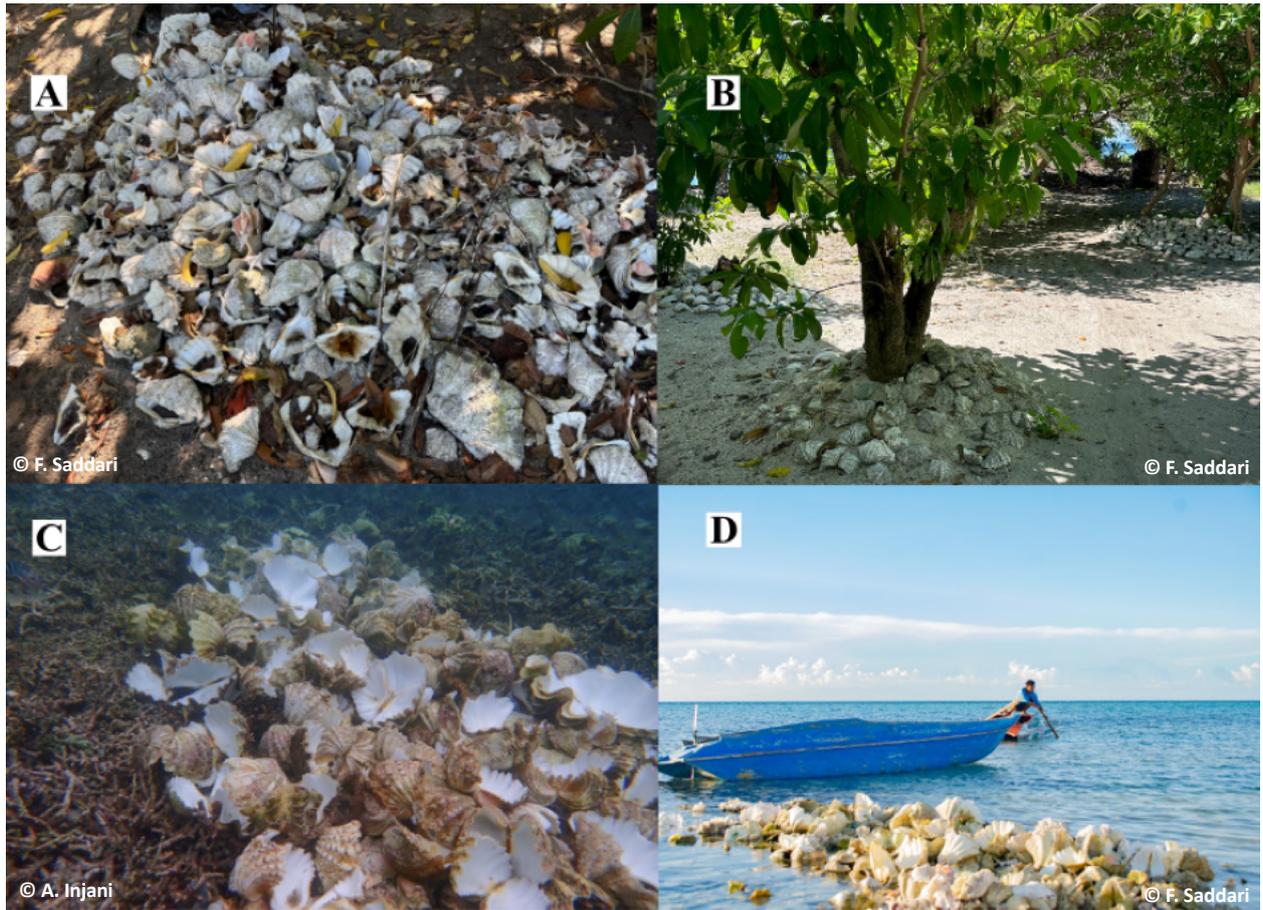


Image 1. Empty giant clam shells observed at various locations: A, B—land | C—submerged along the shoreline | D—at the shore.

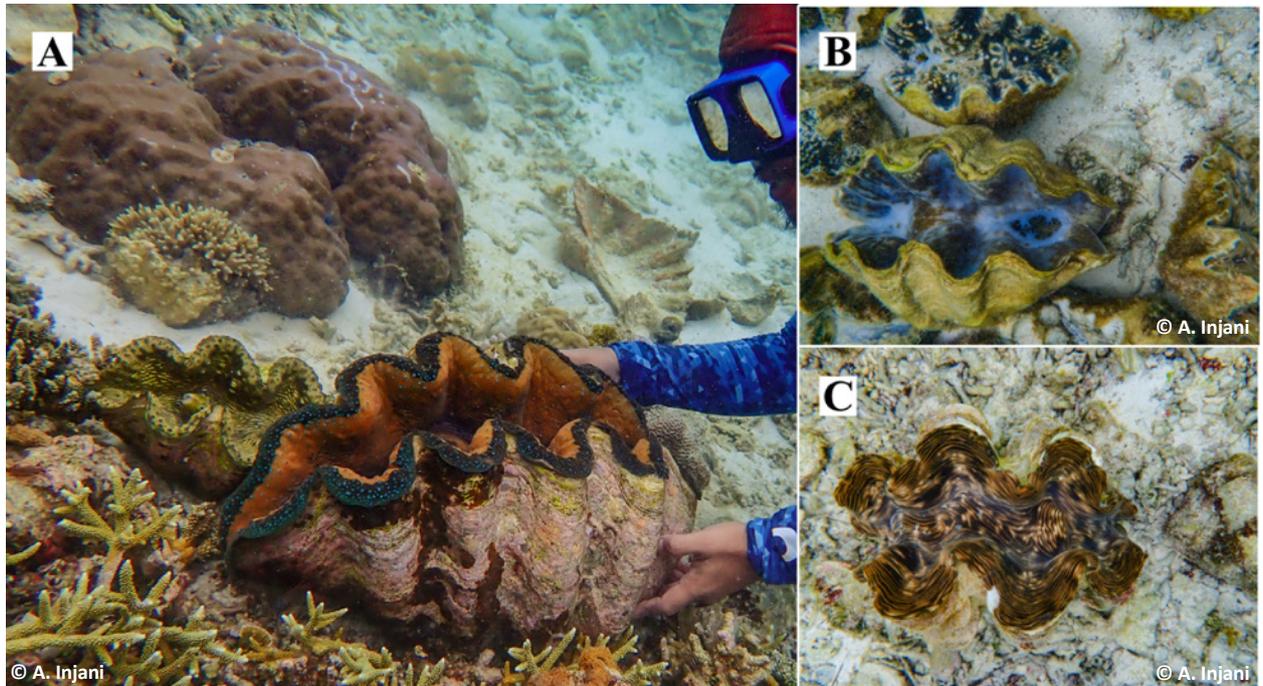


Image 2. Different species of giant clams being cultivated by the locals in shallow waters adjacent to their homes: A—adult and juvenile *Tridacna gigas* | B—*Hippopus porcelanus* | C—*Tridacna squamosa*.

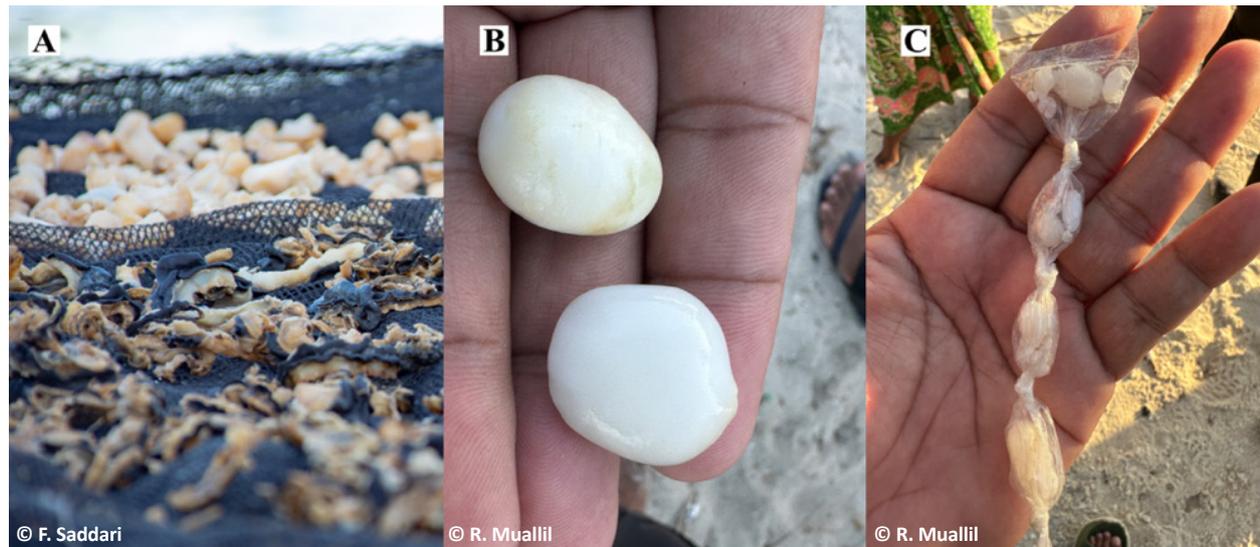


Image 3. Local economic uses of giant clams: **A**—Sun-dried giant clam meat prepared for sale | **B, C**—Pearls extracted from giant clams displayed by the locals.

clams from the Sulu Archipelago, but such activities ceased following the implementation of a total ban on the gathering and export of giant clams by the Bureau of Fisheries and Aquatic Resources in 1987.

The rediscovery of wild *T. gigas*, which was considered extinct in many areas in the Philippines as early as 1980s, underscores the importance of our study. Giant clams are vital to reef health, enhancing water quality and biodiversity (Neo et al. 2015). However, overfishing and destructive fishing methods threaten their survival and the reefs they inhabit (Amling et al. 2019). To bolster conservation, an extensive assessment of both the giant clam populations and the fisheries within the biodiversity-rich Sulu Archipelago is vital (Muallil & Hapid 2020; Muallil et al. 2020). Effective conservation of giant clams and the surrounding reefs will ensure the future of our marine ecosystems and the communities that rely on them.

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