

Original Research

Notes on the occurrence of *Porpita porpita* (Blue button)
from Pulicat Lagoon

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ABSTRACT:

We spotted the presence of blue buttons washed ashore during the month of December 2013 in Pulicat lagoon. These rare sited organisms were observed during our regular faunal field visit along the Pulicat lagoon.

Keywords:

Hydrozoans, *Porpita porpita*, Pulicat lagoon

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INTRODUCTION

Blue buttons were seen in Pulicat lagoon during the post-monsoon season of the year 2013. Attracted by their fabulous blue colour with various sizes while isolated first and then identified them as *Porpita porpita*, (Fredrick and Ravichandran, 2010). Blue buttons come under class Hydrozoa and possess colony polyps which act as their defence organ (Pandya et al., 2013).

In general few jellyfishes are considered as primitive organisms belonging to the phylum Cnidaria (Raskoff, 2003, Barzansky et al., 1975). They are known for producing toxic substances which leads to skin irritation (Garcia-Barrientos et al., 2009). At the time of our collection, we felt mild skin irritation. Very few informations about blue buttons are available in this lagoon.

Porpita porpita the blue button, is mainly found on the surface of the sea. Pandya et al. (2013) reported on customary sea currents and in the progress of air *P. porpita* shows its movement. The extracted blue carotene proteins of *Porpita* species are very sensitive to conditions of temperature and salt concentration, exhibiting reversible hypsochromic shifts in absorption maxima with increasing temperature and decreasing salt concentration (Herring, 1971). Deidun (2010) reported the epipelagic zone of oceanic surroundings which carry *P. porpita* to shore by the waves; polymorphic settlement awakening different personage zooids and each specialized for a different function such as eating and

reproduction *P. porpita* is hard, slightly convex disc, golden brown, gas-filled float in the centre, blue, yellow hydroids, which look like tentacles having stinging cells called nematocysts in it. The gas filled centre helps them to float on the surface (Pandya et al., 2013). In the present study, we have analysed the morphological features along with the brief descriptions of *P. porpita*.

Systematics of *Porpita porpita*

Kingdom	Animalia
Sub kingdom	Eumetazoa
Phylum	Cnidaria
Sub phylum	Medusozoa
Class	Hydrozoa
Order	Anthomedusae
Family	Porpitidae
Genus	<i>Porpita</i>
Species	<i>porpita</i>

MATERIALS AND METHODS

Collection of blue buttons

The organisms were observed and identified during a regular field visit at Pulicat lagoon in Tamilnadu. Blue buttons were collected during the month of December 2013 from the Pulicat lagoon, with the help of hand net (Figure 1) and transported to the laboratory and preserved in 4% formalin. The organisms were photographed with Sony Cyber shot camera.



Figure 1 Collection of blue button

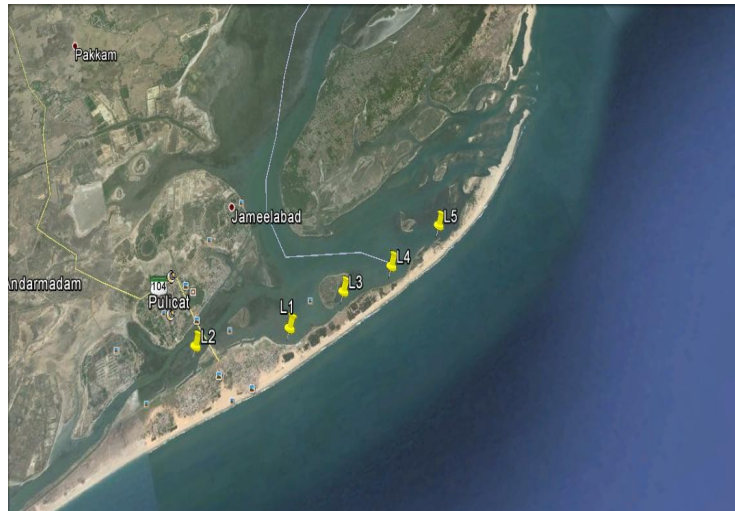


Figure 2 Satellite map of Pulicat (Source: Google Earth)

The Pulicat lagoon (Figure 2) extend between $13^{\circ} 66''$ N $80^{\circ}23'E$ and join with the back water area of Bay of Bengal. It is the second largest brackish water lagoon having an area of approximately 600 Km². The samples were collected from five different locations from Pulicat lagoon.

Based on the morphological features the collected organisms were identified as *Porpita porpita*, (Fredrick and Ravichandran, 2010).

RESULTS AND DISCUSSION

P. porpita watching was done throughout Dec-2013 at Pulicat lagoon. They were observed in large numbers and one of the reasons for their amount in plane maybe due to their reproductive period, ever since different colony of miniature and huge sizes were observed in all locations (Figure 3A).

Figure 3B shows the *P. porpita* photograph collected on the sites of Pulicat lagoon. Dorsal and Ventral view of *P. porpita* were shown in Figure 3C and

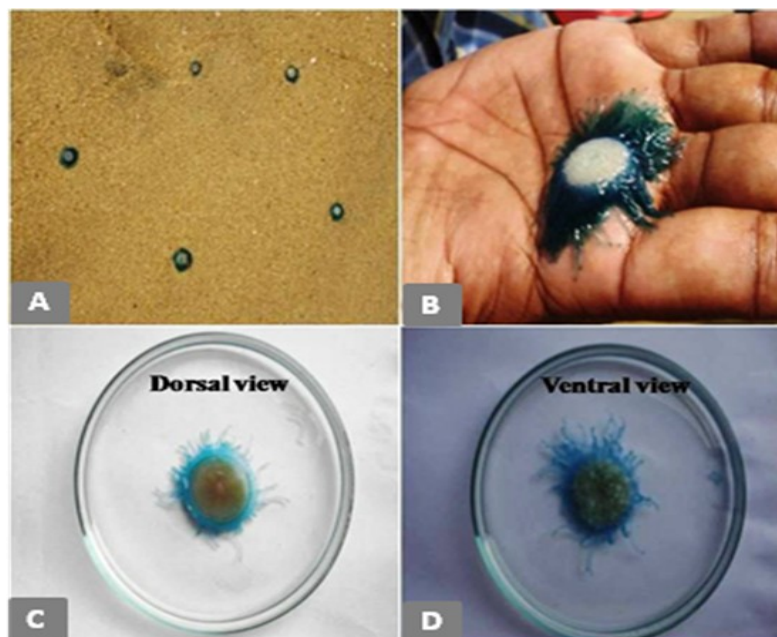


Figure 3 Photographs of *Porpita porpita*

3D which showed the presence of a disc in the middle of *P. porpita*; this helps the organism to float in the water and is golden brown in colour measuring around 1.5 inches width. The mouth present below the float is to engulf prey along with water and its ingredients. The second part is known as hydroid colony which possesses bright colour tentacles. With the help of tentacles and the float it moves along and across the water body. One can observe and admire blue buttons for their beautiful colour but better to avoid its contact which causes skin irritation; above all it is one of the good suppliers of bioactive compounds from the sea.

CONCLUSION

The suspended hydrozoan contains nematocyst in their tentacles that hideaway biochemical compounds. We suggest that it is a good source to work in the field of bioactive compounds active against human pathogens.

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REFERENCES

Barzansky BH, Lenhoff M and Bode H. 1975. Hydra mesoglea: similarity of its amino acid and neutral sugar composition to that of vertebrate basal lamina. *Comp. Biochem. Physiol. Part B: Comparative Biochemistry.* 50 (3): 419–424.

Deidun A. 2010. Notes on the recent occurrence of uncommon Pelagic “Jellyfish” species in Maltese Coastal waters. *Naturalista Sicil. S.* (3-4): 375-384.

Fredrick SW and Ravichandran S. 2010. Anti microbial activity of the Cnidarian Blue Button *Porpita porpita* (Linnaeus, 1758), Middle – east Journal of Scientific Research 5 (5) : 355-358.

Garcia-Barrientos R, Ramos-Puebla A, Hernandez-Samano A, Minor-Perez H and Legarreta GI. 2009.

Jellyfish (Stomolophus meleagris) tentacles proteins and their Proteolysis Endogenous World Academy of Science, Engineering and Technology. 3(6): 618-620.

Herring PJ. 1971. Stability of the blue pigment of *Verella* and *Porpita* (Coelenterata: Siphonophora), *Comp. Biochem. Physiol. Part B: Comp. Biochem.*, 39 (4): 1039–1043.

Pandya KM, Parikh KV, Dave CS and Mankodi PC. 2013. Occurrence of Hydrozoans from the saurashtra Coast of Gujarat, India. *Res. J. Mar. Sci.*, 1(4):1-3.

Raskoff KA, Sommer FA, Hamner WM and Cross KM. 2003. Collection and culture techniques for gelatinous zooplankton. *Biol. Bull.*, 204:68–80.

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