

## **GREEN FLUORESCENCE PROTEIN (GFP) FIRSTLY DETECTED IN AN IMMATURE MEDUSA OF *NAUSITHOE* SP. FROM JAPAN**

By

**Shin KUBOTA<sup>1</sup>**

### **Abstract**

Green fluorescence protein (GFP) is firstly detected in whole body of an immature medusa of *Nausithoe* sp. collected from Tanabe Bay, Wakayama Prefecture, Japan in 2011.

### **Introduction**

By epi-fluorescence microscopic observations of immature individuals of any species of scyphomedusae and scyphopolyps do not demonstrate distribution of green fluorescence protein (GFP) as is rare in hydro-polyps (Kubota 2011; Kubota & Gravili 2011; unpublished data). In the present study, however apparent GFP distribution in this taxonomic group is firstly reported among scyphomedusae collected in Japan.

### **Materials and methods**

By towing a small plankton net vertically and/or horizontally in Tanabe Bay, a young individual of scyphomedusa belonging to the genus *Nausithoe* was collected at Shirahama, Wakayama Prefecture, Japan on September 1, 2011. This sole living specimen was placed in a depression slide glass soon after collection and its fluorescence distribution pattern was observed under an epi-fluorescence microscope (Nikon ECLIPSE 80i, Japan) with blue light excitation (using the B-2A filter set), and photographed.

### **Results and Discussion**

Presence of green fluorescence protein (GFP) is detected in whole body of a young medusa of *Nausithoe* sp. (2.2 mm in diameter) with an eye on each rhopalia and round lappets, as shown in Plate 1, A-B. In the present study, apparent GFP distribution in this taxonomic

---

1. Seto Marine Biological Laboratory, Field Science Education and Research Center, Kyoto University, 459 Shirahama, Nishimuro, Wakayama 649-2211 Japan  
e-mail: shkubota@medusanpolyp.mbox.media.kyoto-u.ac.jp

group is firstly reported among scyphomedusae collected in Japan.

### References

- Kubota, S. 2011. Green fluorescence in young individual(s) of Cubomedusa, Scyphomedusa and Ctenophora. *Kuroshio Biosphere*, 7: 45-46+1Pl.
- Kubota, S. and Gravili, C. 2011. Rare distribution of green fluorescent protein (GFP) in hydroids from Porto Cesareo, Lecce, Italy, with reference to biological meaning of this rarity. *Biogeography*, 13: 9-11.

### Explanation of plate 1

Figures A-B: Transmission and green fluorescence images of the same individual of a young individual of *Nausithoe* sp. (2.2 mm in diameter) collected from Shirahama, Tanabe Bay, Wakayama Prefecture, Japan.