

**AN ENCOUNTER WITH THE PELAGIC NUDIBRANCH
PHYLLIROE BUCEPHALA OFF AKHZIV, ISRAEL
(MOLLUSCA, GASTROPODA, PHYLLIROIDAE)**

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Abstract: The cosmopolitan pelagic sea slug *Phylliroe bucephala* Péron & Lesueur, 1810 is here recorded for the first time from the Mediterranean waters of Israel.

Key words: Mollusca, Gastropoda, Phylliroidae, *Phylliroe bucephala*, distribution, Mediterranean Sea, Israel.

During a blue water dive in the Eastern Mediterranean off the coast of Akhziv, Israel, the senior author (AG) had an encounter with a tiny strange animal. This event took place on 25 February 2017 about 600 m from Akhziv in the direction of the offshore northern islands. This strange animal with a conspicuous pair of tentacles was seen swimming like a fish approximately 60 cm below the surface. A few photographs were taken of it, but unfortunately the animal was not collected for further investigation.

A study of the photographs showed that we were dealing with an odd nudibranch: *Phylliroe bucephala* Péron & Lesueur, 1810, Fam. Phylliroidae (Schmekel & Portmann, 1982: 169, Fig. 7.46). Most of the information provided here is taken from that work.



Fig. 1: *Phylliroe bucephala* off Akhziv
Photo Alex Geyzner

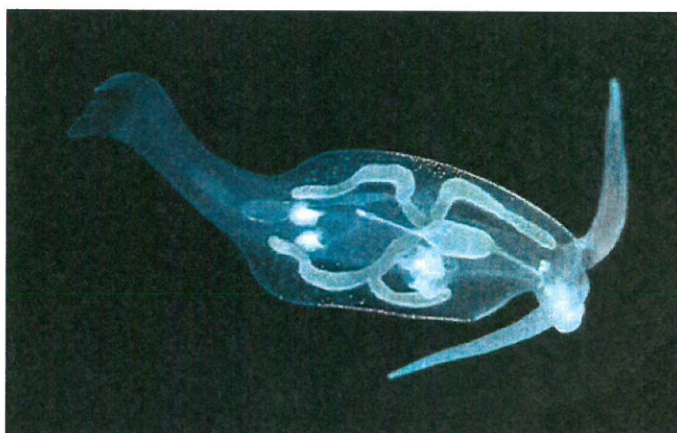


Fig. 2: *Phylliroe bucephala* off Hawaii
Source of photo: Sea Slugs of Hawaii

Specimens of this sea slug are not often encountered because of its pelagic way of life i.e. it is living in the open sea. The specimen seen off Akhziv was almost completely translucent except for some of the internal organs (Fig. 1). It had a length of about 25-30 mm, but may grow still slightly larger and may reach a size of 40 mm. For the sake of clearness we have added a perfect illustration of a specimen of *Phylliroe bucephala* seen off Hawaii (Fig. 2) (Pittman & Fiene, n.d.).

Phylliroe bucephala has a most interesting way of life. The free swimming veliger of it searches for the hydromedusa *Zanlea costata* and connects itself to the interior of the bell of the medusa by a rudimentary foot and starts to act as a parasite. As soon as it reaches the same size as the medusa and is able to swim, it starts to devour the tentacles and other parts of its host. The last part of the medusa remains often attached to the lower part of the slug till it has been completely absorbed. The adult slug has a rather compressed body and with its fish-like tail it swims freely in the upper layer of the sea. Under such condition it was encountered off Akhziv.

An amazing video film of the swimming capabilities of *Phylliroe bucephala* can be watched at the following internet site: www.deepseanews.com/2016/03/video-the-sea-slug-that-looks-and-swims-like-a-fish/

It is a cosmopolitan species occurring in all the oceans. The few records from the Mediterranean Sea are from its western and central part. We are not aware of any record before from the Eastern Mediterranean off Israel. Yonow (2008) fails to record it from the Red Sea, therefore we are possibly dealing with a specimen of a local Mediterranean population which may reach the coastal waters of Israel occasionally by means of sea currents and long events of western winds quite in the same way the pelagic *Janthina* snails reach the Mediterranean coastal waters of Israel (Mienis & Spanier, 1987; Mienis, 1994). However it is much rarer to come across *Phylliroe bucephala* than the conspicuously coloured shells of *Janthina* because after drying on the beach nothing remains as evidence that the shell-less *Phylliroe bucephala* had been washed ashore.

References

- Mienis, H.K., 1994. New information concerning *Janthina* in the Eastern Mediterranean (Mollusca, Gastropoda, Janthinidae). Plankton Newsletter, 19: 12-13.
- Mienis, H.K. & Spanier, E., 1987. A review of the family Janthinidae (Mollusca, Gastropoda) in connection with the Tekhelet Dye. In E. Spanier (Ed.): The Royal Purple and The Biblical Blue Argaman and Tekhelet. The study of Chief Rabbi Dr. Isaac Herzog on the dye industries in ancient Israel and recent scientific contributions, 197-205, Plt. H. Keter Publishing House Jerusalem Ltd.
- Pittman, C. & Fiene, P., n.d. Sea Slugs of Hawaii. www.seaslugsofhawaii.com
- Schmekel, L. & Portmann, A., 1982. Opisthobranchia des Mittelmeeres Nudibranchia und Sacoglossa. 410 pp. Springer-Verlag, Berlin, Heidelberg, New York.
- Yonow, N., 2008. Sea slugs of the Red Sea. Pensoft Series Faunistica, 74: 304 pp. Pensoft Publishers, Sofia & Moscow.

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