A New Variety of Pelagic Janthinid-Gastropoda from Libyan Coast

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Abstract

This is the first record of the pelagic purple janthinid gastropoda from Libyan East coast, it is introduced herein as a new variety *Janthina janthina var. minuta*. It was found in two spots along Tolmeitha and Susa beaches. This occurrence confirms its Mediterranean affinity. The rarity of these snails along the Libyan coast is indicative to their pelagic mode of life which can be explained by the presence of the air bubbles for floating. However, the ink-like secretion is responsible to shell coloration and is used as a defense mechanism similar to that of *Octopus* and *Sepia* cephalopods.

Introduction

This study based on the collected sea shells from the Northeast coast of Libya in Cyrenaica region (Fig. 1). There are few studies on marine mollusks of Libya. So far the most important manual is that of Abdulsamad *et al*., (in press) on sea shells of Bengahzi beaches, it contains 103 color photographs accompanied with text in both Arabic and English. Others are unpublished student report. A study on Land snails from Northeast Libya in particular Cyrenaica, however, is published recently by Muftah and Al-Tarbagiah, (2013). These samples are measured by Caliper. The collected specimens are deposited in the paleontological collections of the Department of the Earth Sciences, in Benghazi University.

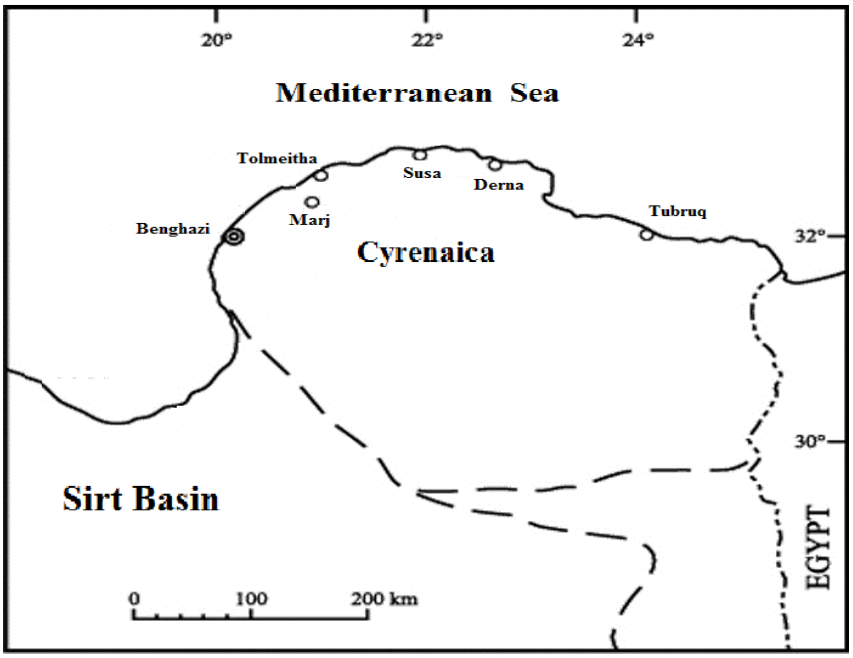

Fig. 1: Location map shows the collected sites of *Janthina*.

A single specimen of a recent marine snail *Janthina janthina var. minuta* was collected alive by the authors (Fig. 2). It is washed by waves to the beach close to the desalination station of Tolmeitha (N32° 39' 1.73"and E 20° 49' 39.77"), in addition to four empty shells at Susa harbor. The chief distinguishing character of Janthinidae is their purple color and hence the are commonly called purple snails. The characteristic thin-shell with float of jelly-like bubbles to which they remain attached and move where the winds and the currents take them (Oliver, 1981).

Fig. 2: *Janthina janthina var. minuta* shell shows the air bubbles.

Taxonomy

The classification of this species based on the adapted classification by the Macdonald Encyclopedia of Shells (1982)

Phylum: Mullusks Cuvier, 1795
Class: Gastropoda Cuvier, 1797
Subclass: Prosobranchia Milne-Edwards, 1848
Order: Mesogastropoda Thiele, 1925
Superfamily: Epitoniacea Berry, 1910
Family: Janthinidae Lamarck, 1822
Genus: *Janthina* Röding, 1798
Species: *janthina* var. *minuta*

Type species: *Helix janthina* Linnaeus, 1758

Diagnostic features: Shell of this variety is characterized by angulate whorl, the smaller size compared to the *J. janthina* (Linnaeus, 1758) and the bicolor as in *J. janthina bicolor* Menke 1828.

Description: The figured shell of the collected *Janthina janthina var. minuta* shows a characteristic color, (i.e. light violet dorsally view and deep violet ventrally), this color is due to the specialized ink-sac similar to that found in the pelagic cephalopods such as *Sepia* and *Octupus*. It is spherical - globular shaped, the spire is very minute compared to the body whorl, it attains 20mm maximum diameter by 15mm maximum height. Generally, shell consists of $3^1/_2$ angulate whorls. Shell is very thin to fragile. Umbilicus is very small to absent (Fig. 3). The shell sculpture consists of dense and numerous growth lines with spiral striation. The only part of the soft body described herein is the white foot which is responsible for the secretion of numerous of air bubbles which act as a floating mechanism to enhance the planktonic mode of life (passive drifter organism) (Fig. 2).

Holotype: UB-JJMT1. The collected specimens including the holotype are deposited in the paleontological collection of the Department of Earth Sciences, Faculty of Science, University of Benghazi.

Etymology: Named after the smaller size compared to the *Janthina janthina* (Linnaeus, 1758).

Fig. 3: Three views of the *Janthina janthina var. minuta* shell.

Geographical distribution:

This is the only species of *Janthina* found in Libyan beach along Tolmeitha and Susa (Apollonia) beaches Northeast Libya. The other species of *Janthina* are reported in other localities within the Mediterranean province such as *J. globosa* Swainson, 1822 reported from Spain; *J. nitens* Menke, 1828 and *J. janthina* (f) bicolor Menke, 1828 also reported from Spain; *J. exigua*, Lamarck, 1816 reported from Malta; *J. janthina* (Linneaues, 1758) from Cyprus and *J. pallida*, Thompson, 1848 from Malta. The *J. umbilica*, d'Orbigny 1840 however is reported from Hawaii.

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