



# VKR TEX - Tutorials

Manufacture of All Kinds of Auto loom Fabrics and Natural Dye Fabrics.

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## Hexaplex trunculus

### *Hexaplex trunculus*

#### Scientific classification

Kingdom: Animalia  
Phylum: Mollusca  
Class: Gastropoda  
Subclass: Orthogastropoda  
Order: Sorbeoconcha  
Family: Muricidae  
Genus: *Hexaplex*  
Species: *H. trunculus*

#### Binomial name

*Hexaplex trunculus*  
Linnaeus, 1758

#### Synonyms

*Murex trunculus*  
*Phyllanotus trunculus*  
*Truncullariopsis trunculus*

***Hexaplex trunculus*** (also known as ***Murex trunculus*** or the **banded dye-murex**) is a medium-sized species of sea snail, a marine gastropod mollusk in the family Muricidae, the murex shells or rock snails.

This species of sea snail is important historically because its hypobranchial gland secretes a mucus that the ancient Canaanites/Phoenicians used as a distinctive **purple-blue** indigo dye. One of the dye's main chemical ingredients is indigotin, and if left in the sun for a few minutes before becoming fast, its color turns to a **blue** indigo (like blue jeans).

Synonyms for this species include: *Murex trunculus*, L. 1758; *Phyllanotus trunculus*, *Truncullariopsis trunculus* L., 1758.

For more information please also see the related articles: Haustellum brandaris and Tyrian purple.

## Distribution

This species occurs in the Mediterranean Sea and the bordering parts of the western Atlantic Ocean.

## Habitat

This murex occurs in shallow, sublittoral waters.

## Shell description

*H. trunculus* has a broadly conical shell about 4 to 10 cm long. It has a rather high spire with seven angulated whorls. The shell is variable in sculpture and coloring with dark banding, in four varieties. The ribs sometimes develop thickenings or spines and give the shell a rough appearance.

## Ancient uses of the dye

The ancient method for mass-producing the **purple-blue** dye from *H. trunculus* has not yet been successfully reproduced (because the purplish hue degrades too quickly resulting in blue only), but the use of this species has been confirmed in the archeology of Phoenicia, where large quantities of this sea snail's shells have been recovered from inside ancient live storage chambers used for harvesting. Allegedly, 60,000 murex were needed to produce one pound of dye. The dye was highly prized in ancient times. Sometimes known as *royal blue*, it was prohibitively expensive and only afforded by the highest ranking aristocracy.

A similar dye, *Tyrian purple*, which is **purple-red** in color, was made from a related species of marine snail, *Murex brandaris*. This dye (alternatively known as *imperial purple*, see purple) was also prohibitively expensive.

## Use of the dye in Judaism



Some wool dipped in tekhelet solution, from the *Murex trunculus*, turning blue in the sunlight outside P'til Tekhelet in Israel.

The Hebrew Bible mentions a specific **blue** dye, called tekhelet (Hebrew: תְּכֵלֶת /*təxələθ*/) for use in tzitzit, the formal tassels or fringes of clothing, which some believe refers to the indigo dye from the *Hexaplex trunculus* when kept in the sun.

Similarly, the Hebrew Bible also mentions a specific **purple** dye, called argaman (Hebrew: אֲרָגָמָן /*ʔargomɔn*/), which refers to the purple color this same dye produces when kept in the shade.

Finally, the Hebrew Bible mentions a **red** dye, called shani, which refers to the red dye produced in the same manner from the *Murex brandaris*.

Those modern Ashkenazi Jews who still wear the traditional tzitzit consider the attribution of the word "tekhelet" to this particular dye as uncertain, and so some omit the blue threads altogether, to avoid mistakenly using a non-prescribed dye. Modern Ashkenazi tzitzit tassels are all-white. Sephardim, Falashas, Karaites, and Samaritans wear various types of blue thread in their tzitzit.