

Quelle: <http://de.wikipedia.org/wiki/Byssus>

Byssus

aus Wikipedia, der freien Enzyklopädie

Wechseln zu: [Navigation](#), [Suche](#)

Byssus, **Byssos** oder **Muschelseide** ist eine Bezeichnung für das [Sekret](#) aus den Fußdrüsen verschiedener Arten der [Muscheln](#). Dabei bilden die einzelnen Sekrete mehrerer Drüsen im Fuß der Muscheln vor allem [phenolische Proteide](#), die gemeinsam zu [Haftfäden](#) vereinigt werden und erhärten. Während viele Muschelarten nur als Jungmuscheln Byssus produzieren, kann diese Sekretion bei anderen zeitlebens andauern. Bekannte Beispiele für Muscheln mit Byssusfäden sind die [Miesmuscheln](#), die sich mit den Byssusfäden an Strukturen der [Brandungszone](#) festsetzen und diese bei schlechten Umweltbedingungen auch wieder lösen können, sowie die [Feigenmuscheln](#), die ganze Netze aus Byssosfäden spinnen und damit Fremdkörper fixieren.

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Byssus der Steckmuschel im Altertum [\[Bearbeiten\]](#)



 Schleier von Manoppello

Seit dem Altertum werden die Fasern der im [Mittelmeer](#) lebenden [Edlen Steckmuschel](#) (*Pinna nobilis* L.) gewonnen und auch die aus diesen hergestellte Gewebe als Byssus bezeichnet. Die Faser ist goldglänzend, sehr dünn und extrem fest und haltbar, insofern mit modernen [Nylonfäden](#)

vergleichbar. Die Steckmuschel ist die weitaus größte Muschel des Mittelmeers. Sie kann bis zu einen Meter lang werden. Heute ist die Steckmuschel geschützt, das Handwerk nahezu ausgestorben.

In der Antike war der aus Byssus oder *Steckmuschelwolle* gewebte Stoff, die sogenannte *Muschelseide* oder *Meerseide*, ein sehr kostbarer textiler Werkstoff, der um ein vielfaches feiner als Seide ist, wegen seiner Haltbarkeit und der aufwändigen Gewinnung sehr begehrt und wertvoll. Textilien aus Muschelseide waren vor allem im Mittelalter unter hohen kirchlichen Würdenträgern und im Hochadel sehr begehrt. Eines der bekanntesten Erzeugnisse aus Byssos ist der [Schleier von Manoppello](#).

Zitate [\[Bearbeiten\]](#)

Byssus wird vielfach in der Bibel erwähnt:

- 1 Mos 41:42 *Und der Pharao nahm seinen Siegelring von seiner Hand und tat ihn an die Hand Josephs, und er kleidete ihn in Kleider von **Byssus** und legte die goldene Kette um seinen Hals.*
- 2 Mos 25:4 ... *und blauer und roter Purpur und Karmesin und **Byssus** und Ziegenhaar ...*
- 2 Mos 26:1 *Und die Wohnung sollst du aus zehn Teppichen machen; von gezwirntem **Byssus** und blauem und rotem Purpur und Karmesin, mit Cherubim in Kunstweberarbeit sollst du sie machen.*

Quelle: <http://www.designboom.com/eng/education/byssus.html>

history of sea byssus cloth

- august 2002

not only were molluscs used to dye cloth, they were also used to manufacture cloth. ancient artisans used the fine strong byssus threads of the noble pen shell to manufacture the legendary sea silk.

fine white linen

very little attention to detail and non consideration of the full context of all of the uses of the word 'byssus' has led to the fact that 'byssus' cloth has become a legend, a tale... we cannot be certain about the material described with this term in so many historic texts. the words used in the originals are often greatly obscured through the inconsistent variations of the translators.

two qualities of the 'byssus' are specially marked as characteristic in 'exodus' (old testament) :... 'clothed in pure and shining linen.'

... 'she should be arrayed in byssus vestments, shining and pure; for the byssus vestment is the righteousness of the saints.'

in the bible the term 'byssus' is used for the fine white egyptian linen - a plant filament and not obtained from mollusks filaments !! - called in the earlier writings 'shesh'; 'pesheth', 'flax', 'cadhin'; 'othonion', 'linon', 'sindon'.

sea byssus silk

it is called 'bus' in the aramaic, from which the greek name 'bussos' originated. like literature or a work of art, a myth is subject to interpretation, whose meaning is malleable through time as context changes, cultures evolve and writers get more clever. :

'byssus' translated by the latin word 'sericum' (silk), means the fine sea silk. 'byssus' is - a tuft of long, tough filaments with a deep bronze gold coloring, which are formed between the valves of certain bivalve mollusks, by which they attach themselves to rocks.

- a cloth of exceedingly fine texture made of byssal fibers obtained from the 'pinna nobilis' or pen shell.

historic background

egypt, chaldaea, minor asia, persia, china were the cradle of mankind's first civilisation and their highly refined textiles. very long, fine, strong byssal fibers have been used to weave cloth by these ancient cultures.

egypt

egyptians have known the sea silk. only royalty were allowed to wear the cloth made from byssus. in a magical egyptian text there is a passage that describes a deity who appears in the likeness of a priest dressed in byssus

*... 'a gauzelike cloth of a golden hue, which is silky,
like the fine threads of many molluscs.'*

herodotus, the greek hystorian, who personally visited egypt and the pyramids in 500 b.C. speaks of a tunic found in a sarcophagus at thebes and seen by him, tells us that it is

*'made of a loose fabric of exceedingly fine thread,
as thin as that used in the manufacture of lace.*

*it is finer than a hair, twisted and made of two strands,
implying either an unheard of skill in hand-spinning,
or else machinery of great perfection.'*

the egyptologist sir john gardner wilkinson found byssus in the tombs of the pharaohs and counted the threads in order to ascertain the fineness of the weave. he found along a 25.4 mm length (1 inch) 152 threads the warp and 71 threads in the woof - -

the finest cotton produced today with the best technical methods contains in comparison only about 88 threads.

greek

it's thought that the 'golden fleece', sought by the legendary greek hero jason, was woven from the pen shell's threads.

(in greek mythology's most famous legend of gallantry and heroism jason sets sail in the argo in search of the 'golden fleece' to avenge his father's death and to claim his legitimate birthright to the throne as king)

the fine, diaphanous fabrics were commonly used in making the apparel of the queen and the princesses and the wives and daughters of rich men and high officials. also, as mentioned by homer hair-nets were frequently made of the golden elean byssus. females with this kind of head-dress frequently occur in paintings found at pompeii.

roman

200 a. C. tertullian has written about the legendary byssus in a short humorous speech on why he has stopped wearing the roman 'toga' and started instead to wear the 'pallium'.

*'nec fuit satis tunicam pangere et serere,
ni etiam piscari uestitum contigisset; nam et de mari uellera,
qua muscosae lanositatis lautiores conchae comant.*

*/ nor was it enough to plant and sow your tunic,
unless it had likewise fallen to your lot to fish for raiment.
for the sea withal yields fleeces, inasmuch as the more
brilliant shells of a mossy wooliness furnish a hairy stuff.'*

indian and mediterranean cultures

until the middle ages these fibers were used to weave a strong but supple fabric called 'cloth of gold'. some places in italy (golfodi taranto/calabria, sardinia, sycily), francia (corsica), greece, turkey (smyrna/today izmir), manufactured byssus textiles as stockings and gloves. byssus is a very light and transparent material, this cloth was so fine that a pair of gloves made from it could be

folded and packed inside a walnut shell.

18. sec.

the eighteenth century has seen a revival of byssus manufacture in the south of france and in south italy. in 1870 the french novelist jules verne published his novel '20,000 leagues under the sea', he writes

... 'I felt so great a heat that I was obliged to take off my coat of byssus !'

(a pen shell produces ca. 1-2 g. of raw byssus threads. 1.000 mussels were needed for 200-300g of fine byssus silk.)

today

the art of making cloth of gold has been lost to time, and the pen shell is now much less common. there are still a few examples (ca. 30) of the cloth in european museums. as far as we know there are only a few women in sardinia who spin and weave these fine linen until today. their extremely ancient tradition dates back to the era of the phoenicians.



[the pen shell \(pinna nobilis\)](#)



chiara vigo in sant'antioco, sardinia is one of the few women today, who are still manufacturing byssus cloth.

[see more](#)



it must be spun according to the moon
[see how to manufacture byssus threads](#)



sea byssus manufacture in sardinia (sant'antioco), 1920 ca. courtesy museo etnografico, sant'antioco



raw sea byssus threads and byssus filaments



sea byssus spindles





tie made of sea byssus cloth
courtesy museo etnografico sant'antioco

detail of byssus tie (see right)



byssus art work by chiara vigo

the pen shell (*pinna nobilis*)

- august 2002 -

the swedish naturalist carl linnaeus, also known as carl von linné or carolus linnaeus (1707-1778) first described the species in 1758. it is an endemic species of the mediterranean, belonging to the family of pinnidae. this large, brown fan-shaped bivalve shellfish, one of the largest in the world, can reach a breadth of 1,2 metres. its habitat is in the coastal region, on the shoals that are either sandy or overgrown by sea-flowering plants. it is found mainly in south italy /sardinia, but also in france /around the mediterranean islands (corsica ...), on the coasts of yugoslavia, in north-africa, etc.

byssus threads

the pen shell has a byssus gland that secretes byssus, an organic maner that hardens in contact with water and forms threads that help fasten the valves to the base. the fan mussel lives half buried in the sediment where it finds nourishment and shelter. like many other organisms it remains anached to the same substratum in the same place, almost stationary, to the end of its life. it can, however, use its foot to move slowly and in limited fashion. this means that the fan mussel can be found at different depths depending on age. during the larva stadium it spends its life swimming freely. the young individuals being found near the surface, while the older individuals live at a depth of approximately 40 metres.

the decline in populations

threatened with extinction for some forty years - it is partly due to the decline in the *Posidonia oceanica* seagrass meadows.

trawling, anchoring of yachts, various pollutants, sea resort and other developments, as well as unauthorized fishing by certain divers, have all contributed to accelerating the decline of this species.

the decline in the seagrass has serious implications for the fan mussel whose highly specific ecology and metabolism renders its reproduction difficult.

reproduction

the eggs mature and the larvae develop in the open seas. then, made heavy by a thin calcitic shell following its planktonic phase, the larva falls to the bottom where it attaches itself.

at this stage it measures approximately 2 cm and has a transparent and fragile shell, which leaves the animal prey to numerous predators, such as octopus, sea bream, etc. the mortality rate at this stage is therefore high.



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fishing of the pinna nobilis (left)

the pen shell is dug into the oozy-sandy base with a third of its valve by its sharp pointed end (right)



pinna nobilis, linné, 1758

the pen shell (pinna nobilis) with tuft of silky byssus threads

