



Identification Guidelines for Shahtoosh & Pashmina



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Shahtoosh

Shahtoosh (aka Shah tush) is the trade name for woolen garments, usually shawls, made from the hair of the Tibetan antelope (*Pantholops hodgsonii*). Also called a chiru, it is considered an endangered species, and the **importation of any part or product of *Pantholops* is prohibited by U.S. law.**

Chiru originate in the high Himalaya Mountains of Tibet, western China, and far northern India where they are killed for their parts. Their pelts are converted into shahtoosh, and **horns** of the males are taken as trophies. No chirus are kept in captivity, and it reportedly takes three to five individuals to make a single shawl (Wright & Kumar 1997).



Trophy Head with Horns of male *Pantholops hodgsonii*



SHAWL COLORS

Off-white and brownish beige are the natural colors of the chiru's pelage. Shahtoosh shawls in these natural colors are the most traditional. However, shahtoosh can be dyed almost any color of the spectrum. Unless the fibers are dyed opaque black, most dyed fibers allow the transmission of light so that the internal characteristics are visible under a compound microscope. (See "Microscopic Characteristics" in Hints for Visual Identification.)

SIZES

- Standard shawl 36" x 81"
- Muffler 12" x 60"
- Man-size, Blanket 108" x 54"
- Couturier length (4' x 18' +)

DIFFERENT PATTERNS AND/OR DECORATION

- Solid color
- Plaid
- Stripes
- Edged in wispy fringe
- Double color (each side of shawl is a different color)
- All-over embroidery

APPROXIMATE PRICE RANGES

	Cost	Wholesale	Retail
Plain	\$550-\$1,000	\$700-\$2,500	\$1,500-\$2,450
Pastels	\$700-\$850	\$1,300-\$2,600	\$1,800-\$3,000
Checks/Plaids	\$600-\$1,500	\$800-\$1,180	\$1,300-\$2,450
Stripe	\$600-\$800	\$1,300-\$1,800	\$2,450-\$3,200
Double color	\$800-\$1,000	\$1,380-\$2,800	\$2,100-\$3,200
Border embroidery	\$850-\$3,050	\$1,080-\$1,600	\$1,500-\$3,200
All-over embroidery	\$800-\$5,000	\$1,380-\$5,500	\$3,000-\$6,500
White	\$1,800	\$2,300	\$4,600

Above prices are for standard size shawls in year 2000.

One price encountered for an 18' X 4' shahtoosh was \$4,000 wholesale.

Laws & Regulations Protecting The Tibetan Antelope

U.S. Laws:

16 U.S.C. 1531 et. seq. The Endangered Species Act (ESA)

50 C.F.R. Part 23 The Convention on International Trade in Endangered Species (CITES)

Misdemeanor - up to 1 year imprisonment

- \$100,000 fine per individual

- \$200,000 fine per organization

16 U.S.C. 3371 et. seq. The Lacey Act

Felony - up to 5 years imprisonment

- \$250,000 fine per individual

- \$500,000 fine per organization

Misdemeanor - up to 1 year imprisonment

- \$100,000 fine per individual

- \$200,000 fine per organization



Foreign Laws:

India's Wildlife Protection Act

China's Wildlife Protection Law

Nepal's National Parks & Wildlife Conservation Act

To date, 151 countries worldwide have signed the CITES Treaty. It is illegal to import a shahtoosh shawl into the United States or export one from any CITES country.

SOURCE COUNTRIES

The Tibetan antelope lives almost exclusively on the Tibetan Plateau in Tibet (China). Small populations may exist in India. All of the world's shahtoosh is woven in India (Kashmir) and initially exported from India. As it is distributed to other countries to be resold, you may encounter it being re-exported from any country.

All source countries prohibit the killing of the Tibetan antelope and trade in shahtoosh.

For additional information, see Schaller 1998⁵.

Pashmina

Pashmina is another type of shawl (usually a blend, such as 70% cashmere / 30% silk), which has become extremely popular in the fashion world since publicity about the illegality of shahtoosh ended most overt shahtoosh sales.

Pashmina is the local name in India for the cashmere goat. Recently, this name is now attributed to not only the source animal, but to the fiber and the actual shawl itself.



PASHMINA (self fringe)



PASHMINA

Some pashmina may appear similar to shahtoosh: light weight, soft, with or without a diamond weave pattern. Recently, loosely woven pashminas have been encountered that can pass the ring test, but it is because they consist of less fabric by weight, and will compress enough to pass completely through a large-size ring (e.g., size 8).

The traditional pashmina fringe is longer than that of shahtoosh and twisted instead of wispy. Be aware that pashmina is occasionally adorned with the self- or crew-cut fringe, which can look wispy like that commonly seen on shahtoosh shawls. These shawls should probably be detained for microscopic examination.

Pashmina does not have to be declared to the FWS, as it is made from cashmere, which comes from a species of goat that is considered to be domestic (*Capra hircus*).

SAMPLE PASHMINA PRICES

Department stores (Macy's, Lord & Taylor, Bloomingdale's) = \$180-\$450

Boutiques = \$200-\$600

Land's End catalog (80" X 36") = \$298

Land's End catalog (87" X 17") = \$138

Lew Magram catalog (78" X 39") = \$180

City Spirit catalog (80" X 36") = \$239

Smithsonian catalog (78" X 22") = \$145

On average, importers can land standard size pashmina shawls in the U.S. for approximately \$75 to \$125, although this price can go as high as \$250.



PASHMINA (twisted fringe)

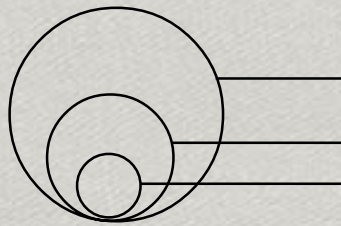
NAMES AND FINE FIBER DIAMETERS OF SOME SELECTED WOOLEN PRODUCTS

- shahtoosh** = Tibetan antelope (or chiru) (*Pantholops hodgsonii*); between 10 and 12 microns
cashmere = fiber from goats (*Capra hircus*); between 12 and 21 microns in diameter
pashmina = Indian cashmere or cashmere/silk blend; between 12 and 16 microns
shamina = softer form of pashmina (more expensive); may be less than 14 microns
mohair = Angora goat (*Capra hircus*); kid fleece is 22 to 27 microns; adults, over 40 microns ⁷
angora = Angora rabbit (*Oryctolagus cuniculus*); 10 to 20 microns
merino = a breed of sheep (*Ovis aries*) famed for fine fleece; between 18 and 24 microns
karakul = broadtail or Persian lamb (*Ovis aries* var. *platyura*); over 29 microns ¹
alpaca = (*Lama pacos*) cousin of the llama; 22 +/- 6.6 microns⁶
qiviut = fleece of muskox (*Ovibos moschatus*); 11.4 to 15.3 microns³
Fashmira = acrylic imitation of pashmina



Photo: Amit Pasricha

Cashmere goat (*Capra hircus*) from Kashmir



Shahtoosh coarse fiber
 Human hair medium
 Shahtoosh fine fiber



Photo: Amit Pasricha

ibex goat (*Capra ibex*) erroneously labelled as "Shah Tush Goat" in promotional literature

COMPARISON OF OTHER WOOL PRODUCTS TO SHAHTOOSH

Description/Sample Source of Garment	Retail Price
lamb's wool throw (Armand Diradourian/Richmond Hill)	\$ 180
cashmere blanket (Malo/NYC)	\$2,550
cashmere & wool baby blanket (Ariel Lawrence)	\$ 300
pashmina & silk throw (Richmond Hill)	\$ 380
cashmere knit throw (Garnet Hill)	\$1,245
angora, mohair & wool throw (Garnet Hill)	\$ 98
angora, wool & cashmere throw (Bergdorf Goodman)	\$ 500
cashmere blanket (Meg Cohen/Aspen Collection)	\$1,300
cashmere throw (Hermes)	\$1,495
mohair throw (Richmond Hill)	\$ 298
alpaca blanket	\$ 315
camel hair blanket (E.Braun & Co./NYC)	\$ 950
lamb's wool blanket (Holland & Holland)	\$ 225
lambswool shawl 29" X 73" (Land's End)	\$ 72
Fashmira shawl 86" X 28" (Lerner catalog)	\$ 30



MOHAIR

Hints For Visual Identification



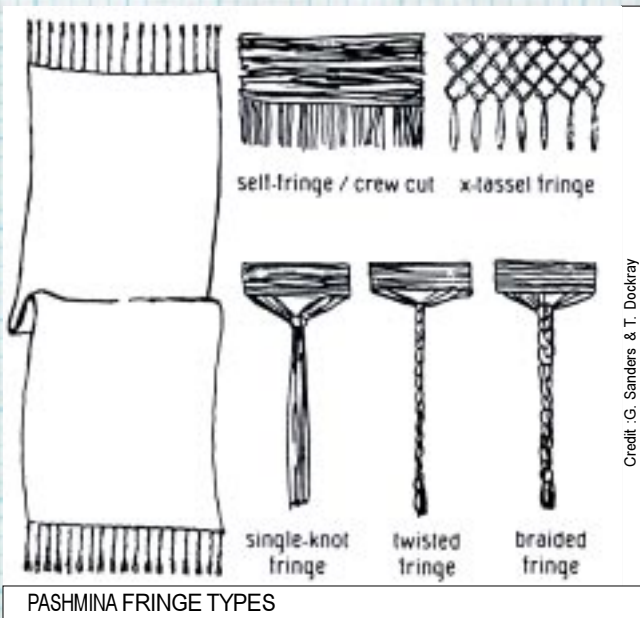
SHAHTOOSH (self fringe)

Diamond Weave: A distinct, but very fine diamond weave pattern is sometimes visible, particularly with a magnifying lens. Some pashmina have a diamond weave pattern, but it is much larger in scale.



SHAHTOOSH

Fringe: most, if not all shahtoosh has a short self-fringe, or crew-cut fringe. Pashmina, on the other hand usually has a longer fringe, either tassel fringe, twisted fringe, braided fringe or single-knot fringe. Be careful, as a few pashminas have the self-fringe/crew-cut fringe that looks very much like a shahtoosh fringe, but a bit longer.



PASHMINA (twisted fringe)

Hints For Visual Identification - continued

Thickness/Density/Softness: Shahtoosh is softer, thinner and less dense than other shawls made of pashmina, mohair, angora or lamb's wool. You will not see very long hairs protruding from shahtoosh, as you might in mohair, angora or lamb's wool products. You may, however, see a few short, light colored "guard hairs" visible in the shawl. Guard hairs (kemp fibers) are coarser than human hair and appear to be crimped or crinkled.



SHAHTOOSH



PASHMINA WITH SHAHTOOSH TYPE FRINGE

Other Markings: Sometimes, the weaver will sew his/her initials on one corner of the shawl. This is usually very easily identified and is very crudely done.



INITIALS ON SHAHTOOSH

Embroidery: shahtoosh has a very delicate embroidery, which can be all over the shawl or just along the edge. Most pashmina does not have embroidery in this fashion; however, note the exception illustrated above.

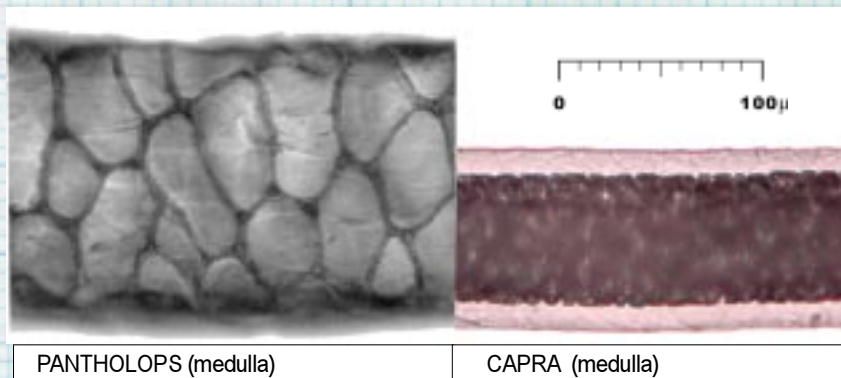


SHAHTOOSH (embroidered edge)

Microscopic Characteristics of Pashmina & Shahtoosh

Transmitted light micrographs at 200x

Figure A

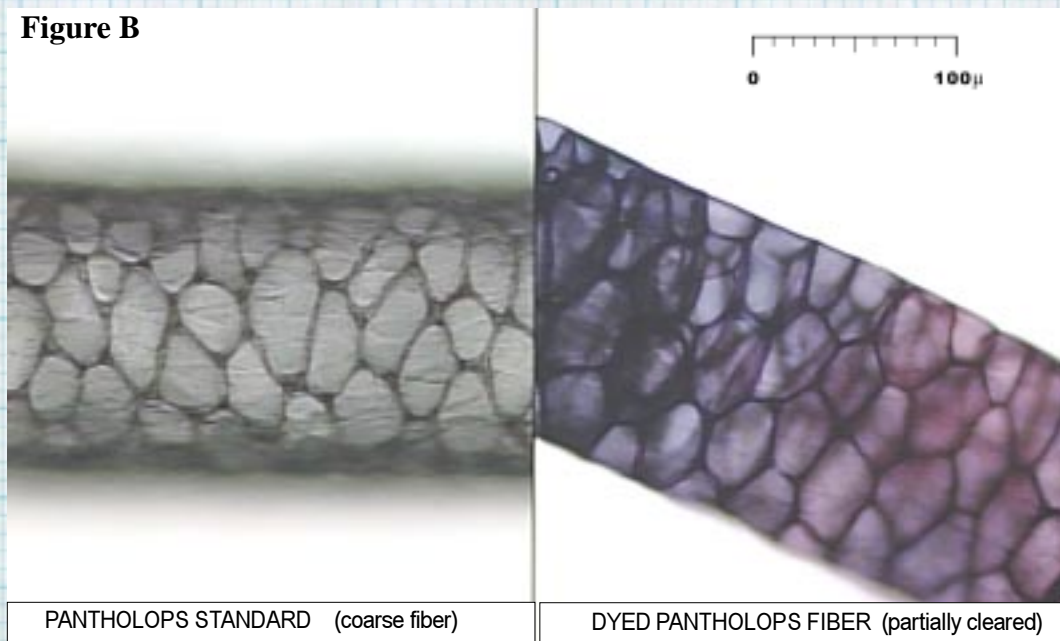


Coarse fibers – internal structure of medulla

The **medulla** of the coarse (kemp) fibers from the body of *Pantholops* provide the most distinctive identification features: (1) a continuous lattice medulla that completely fills the diameter of the shaft, and (2) the rounded shape of the large medullar cells. These whitish, crinkled kemp fibers are readily found incorporated into the weave of shahtoosh shawls, can be selected by hand or forceps, mounted in a medium with a refractive index of 1.52, and then easily identified under transmitted light microscopy. The suspected fibers should always be compared directly to a known standard from the species.

Standards are available from the U.S. Fish & Wildlife Forensics Laboratory upon request. Likewise, any coarse fibers from cashmere goats may be viewed under transmitted light, but unlike those of *Pantholops*, the medullar cells of *Capra* do not fill the diameter, and the overall diameter is much smaller. When air filled, as in the uncleared, whole mounted hairs from both species compared in the dual micrograph seen above (Figure A), the medulla appears dark in the kemp fiber of cashmere goat (*Capra*), but is composed of large, irregular cells in the Tibetan antelope (*Pantholops*). Even when dyed, unless an opaque black dye is used, the large cells of *Pantholops* are visible (Figure B).

Figure B



Microscopic Characteristics of Pashmina & Shahtoosh

Cuticles of coarse fibers at 200x

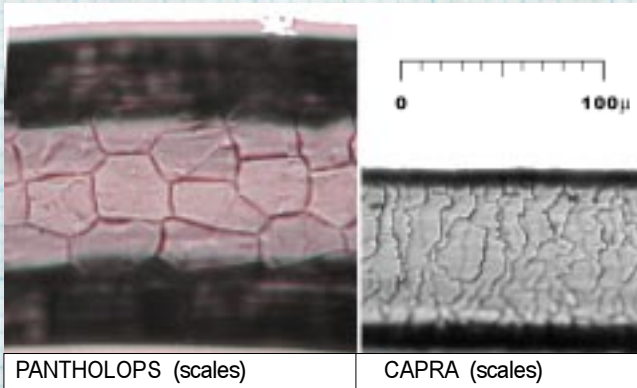


Figure C

Coarse fibers – external cuticular scales

Distinctions in the **cuticular scales** of the kemp fibers of *Pantholops* can also be viewed using either a transmitted light microscope or a scanning electron microscope. The scales of kemp fibers of *Pantholops* mimic the shape of the cells as in the medulla, whereas scales of kemp fibers of *Capra* and *Saiga* are the typical transversely elongated mosaic shape with undulating, serrated edges (Figure C).

Fine fibers – internal features

The fine, woolly fibers that form the undercoat of many wild and domesticated ungulates can be less than 10 microns in diameter, depending on age, breed, and position on the fiber shaft. Most are **unmedullated**, appearing featureless, although in the fine fibers of *Pantholops*, patches of diffuse minuscule pigment grains are scattered along the shaft.

Fine fibers – external cuticular scales

Under transmitted light microscopy, the **scale** patterns in ungulate woolly fibers are usually simple coronal shapes and vary in distance along the shaft. Scale features are especially well viewed using a scanning electron microscope (Figures D, E). Some scales in the fine fibers of *Pantholops* taper to a point (Figure D). Even though this distinctive feature in the scales of the fine fibers of *Pantholops* has been found using scanning electron microscopy, it is subject to sampling and mounting position, and is not always detected. By contrast, the scales of *Capra* are blocky in appearance and are closer together (Figure E).

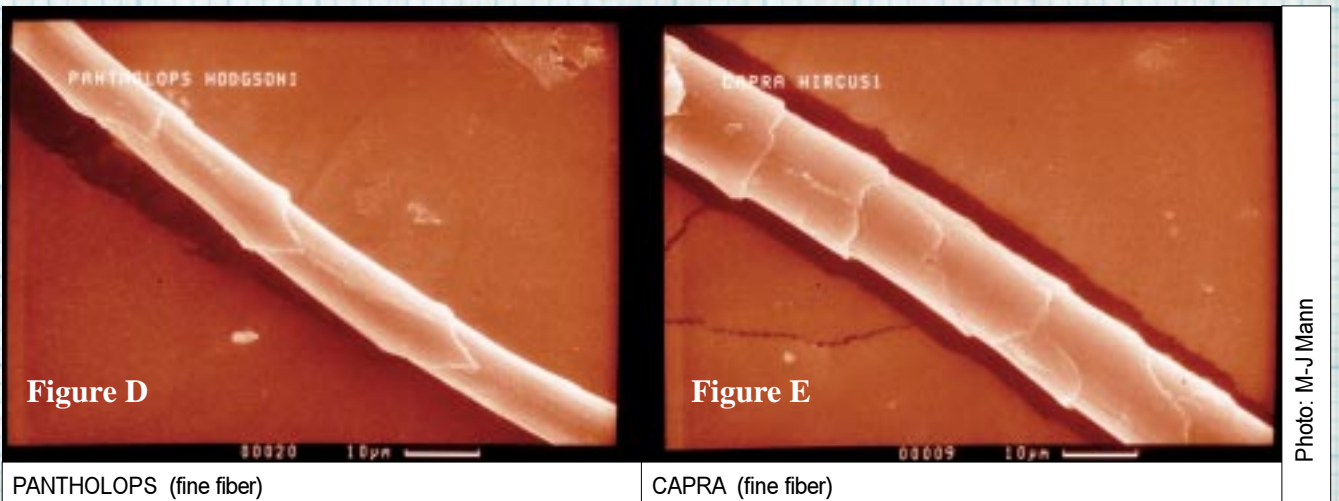


Photo: M-J Mann

Useful Questions To Ask Importers

USEFUL QUESTIONS TO ASK IMPORTERS

What kind of shawl is this?

What species is it made from?

Where did you buy the shawl?

When did you buy the shawl?

How much did you pay for it? Receipt or invoice?

Did this vendor have other such shawls for sale?

Obtain as much identifying information on the source as possible.

If subject knows the shawl is a shahtoosh shawl, ask the following:

Have they read any of the news articles about shahtoosh shawls or seen any news clips on TV?

Do they know the shawl is made from an endangered or protected species?

Do they know it is illegal to possess, import, buy and or sell shahtoosh shawls?

NOTES:

Detain the Shawl(s) for Microscopic Examination !

DETAIN THE SHAWL(S) FOR MICROSCOPIC EXAMINATION !

CUSTOMS DUTY ON WOOLEN/ANIMAL HAIR SHAWLS

Shahtoosh shawls have been smuggled into the U.S. and declared as “woolen shawls.” In the brokerage business, this term is synonymous with cashmere. As such, you may see shahtoosh or pashmina entered under the following harmonized tariff heading: 6214.20.0000 at 13.3% duty

POSSIBLE PRE-ACT EXEMPTION

The Tibetan antelope has been listed as an Appendix I species in CITES since 1979. It originally was listed as Appendix II on July 1, 1975. It is illegal to import an Appendix I species for personal or commercial purposes. To import an Appendix II species, a declaration must be made to the FWS, and an Appendix II export permit issued from the country of origin, or the country of re-export must also be presented to the FWS. Either way, there would be a record of this importation in the FWS Law Enforcement Management Information System (LEMIS). LEMIS contains no such record of anyone importing Appendix II shahtoosh shawls prior to 1979. Therefore, there are no properly imported Appendix II shahtoosh shawls in the U.S.

To be eligible for an Appendix II exemption, the importer would have to prove two things: 1) they purchased the shawl prior to July 1, 1975 and 2) that shawl had previously been imported into the U.S. prior to July 1, 1975.

Be very skeptical of anyone claiming to have a pre-act shawl. These shawls do not wear as well as mixed blends. If you see a shahtoosh shawl in good condition it is unlikely that it was produced prior to July 1, 1975.

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