



Peril on the Silk Road

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[stag_intro]Feeding frenzies, boiled alive, a royally guarded secret...

The very dark and dangerous story behind one of the most romantic fabrics[/stag_intro]

Valentine's day is on the horizon, and silk lingerie is being scouted out by women as the choice attire for the romantic evening ahead and by men as the most sensual gift for their beloveds. But as the stores are awash in silk, who has given a thought to just who or what is behind the making of this most exquisite and sensual of all fabrics? And what exactly is being done to assure that silk production is protected for all Valentine's days ahead?

Silk production has a colourful history that is virtually unknown to most people. In fact, for more than two thousand years the Chinese kept the production of silk, or sericulture, a secret, the punishment for revealing the industry's secrets or smuggling the silkworm eggs or cocoons outside of China being death. The fabric was for a long time reserved exclusively for royalty.

Since they discovered it in 2700 BC, the Chinese have perfected the art of rearing silkworms for the production of silk from the filaments of the silkworm's cocoon, and now sericulture has become one of the most important cottage industries in numerous countries, with China and India being its two main producers, followed by Brazil, France, Italy, Japan, Korea and Russia. Be warned, though, that unlike cotton, which is fairly easily extracted from the fibres of cotton shrubs, themselves quite hardy and found around the world, silk production is a bit more of a complicated and even deadly affair...

To start, the silk industry favours one particular silk moth for use, the desperately hopeless *Bombyx mori*. Blind and flightless, this moth is only really good for making silk, and that it does extremely well, producing a filament that is smoother, finer and rounder than that of other moths. Highly fertile, each silk moth lays thousands of eggs, which hatch larvae, the silkworms, emerging to feed on fresh mulberry leaves until they are very fat. In fact, they multiply their weight 10,000 times within one month in what can only be described as a salad feeding frenzy to put a shiver of ravenous sharks to shame.

At the same time, the worms are moulting, or shedding their skin, the silkworm having developed a veritable free body contouring surgery to coincide with its rapid weight increase. After shedding its skin four times, the silkworm weaves itself a cocoon, distributing a dense fluid secreted from its structural glands. Wildly propagating, gorging, shedding and spitting... exactly who is calling this romance?

Having done so very little to endear itself while alive, it is now while blissfully cocooned, the silkworm larvae meet their untimely demise. One might be comforted that at least they don't see it coming. The silk producer steams or bakes the cocoons in order to kill the worms inside, the cocoons are then dipped into hot water to loosen the filaments, and these are then unwound onto a spool.

If this process does not sound challenging enough, *Bombyx mori* are a delicate, highly sensitive

silkworm completely intolerant of fluctuating weather conditions, loud noises and strong smells. Really, the silkworm is the most finicky and intolerant of the luxe fashion trade, the insect world's version of Anna Wintour.

Is there a hope at all for the silk industry? Thankfully, yes. Because for all the environmental climatic conditions, where mother nature can wreak devastating havoc and technology can miserably fail, there is one answer to sericulture's precarious market needs: index-based weather insurance. It may sound equally as unromantic as the silkworm itself, but it is just as fecund.

China and India in particular may naturally enjoy the tropical conditions so beloved by silkworm, but take that temperature below 20 or above 30 degrees Celsius and the pernicky silkworm becomes too weak and susceptible to disease to be of much use at all. While such values may not mark good business for the silkworm, the sericulturalist may relax knowing that the adverse weather has triggered a payout anyway, as index-based weather insurance allows for contracts to settle based on values determined by the client, whether those are number of days a determined temperature has been reached, a threshold on the humidity index has been crossed, or any weather value determined by the farmer. There is no need to examine the ultimate yield of silk to determine damages as payment is automatic, without a field loss assessment.

It may not be of much relief to the ill-fated *Bombyx mori*, but for silk producers and really any industry susceptible to the whims of mother nature, this Valentine's Day, romance really is alive and well.