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Types of silk worm

***M. B. Soliyeva* [1], *M. A. Sirojiddinova* [2]**

Annotation: Six thousand years ago, the ancient ancestors of modern man, discovering the secrets of nature, paid attention to the fact that some butterfly worms weave cocoons from thin, delicate, shiny threads. Such a cocoon is like a house for a worm, which first turns into a mushroom and then a butterfly inside this house. Many insects also make nests similar to cocoons, but these nests are made of clay, leaves, and other materials rather than string. Silkworms differ from other worms in that they spin their cocoons from the silk they produce.

Keywords: Silk Thread, mushroom, butterfly, mulberry silkworm, synthetic fiber, wild silkworm, natural silk, egg, sesame silkworm, Assam silkworm, Chinese oak silkworm.

Introduction: At first, ancient explorers must have thought that it would be possible to pierce the silken shell of the cocoon, extract cotton from it, and use it for livelihood. But since it was difficult to pierce a dry cocoon, they first froze the cocoon and then boiled it in water, and only after that it was possible to get a large amount of silk cotton from the cocoon, spin yarn from it, and weave gauze from the yarn. This gas is very mature and beautiful. Even now, the cocoons of some wild silkworms, as well as the mulberry silkworm, from which the silk cannot be extracted, are boiled and first spun into silk cotton and then into yarn. This thread is used to weave gauze.

Homeland of modern silk industry is Southeast Asia. Before the discovery of the method of extracting silk from cocoons, it was common in China to raise silkworms and grow mulberry trees for these worms' food. According to Chinese legends, the method of extracting silk from cocoons was discovered approximately 2700 years before our era. The cocoon consists of a single long silk thread; by melting the cocoon in boiling water, we will be able to get a thread from it, just like pulling (pulling) a thread from a spool. It is true that the thread from a single cocoon is very thin, but when the thread of several cocoons is joined together in the process of silk drawing, the thread is strong enough to be woven into gauze. It was found that such a thread is thicker and thinner than the thread spun from silk cotton. These were very important discoveries that led to the use of silk gauze and other silk products thousands of years ago. Our ancestors were also very light, elegant and beautiful woven silk fabrics, which are not inferior to many modern inventions in terms of their importance; they can be painted with various natural dyes; clothes made of these gauzes are very durable, even passed down from father to son, and sometimes to grandson.

In our country, silk is not considered a decorative item, but a means to satisfy the demand of the population for good, beautiful and sophisticated fabrics.

In recent years, great success has been achieved in the production of synthetic fibers. For example, synthetic fiber materials such as capron, nylon, and lavsan are slightly stiffer than silk woven materials, but they differ in hygroscopicity, air permeability, and a number of other specific textile properties. Therefore, silk is still the best textile material today due to its purity, thinness, softness, elasticity and beauty.

The fact that the mulberry silkworm lives wild in trees where it spins cocoons was an early difficulty in using cocoon silk on a large scale. Picking cocoons from the trees was very difficult due to the

[1]Senior Teacher, Andijan institute of agriculture and agrotechnologies
[2] Student, Andijan institute of agriculture and agrotechnologies

climatic conditions. This made it necessary to try to feed the silkworm at home, and at the same time collect the cocoon from the same place. Such attempts were successful and the mulberry silkworm became domesticated. since then, sericulture has remained a branch of agriculture that provides raw material for textiles - valuable cocoons. Farmers who got cocoons by raising worms first washed the cocoons themselves, took textile yarn from it and wove gauze. Later, the work of spinning silk and weaving gauze was separated, these works were performed at first in individual workshops, and then in factories with the growth of technology. Mulberry made it possible to breed the silkworm at home, to engage in its selection, that is, breeds of silkworms that differ in the color, shape, technological characteristics and other characteristics of the cocoon were bred. There are breeds of mulberry silkworm that give one, two, and finally several generations in a year

Silk production began to spread from China to countries with different climate and soil conditions; Breeds of mulberry silkworms that fell into such conditions began to adapt to these conditions. These breeds began to develop characteristics that differed from the Chinese breeds. This is how the geographical group of Chinese, Asia Minor, European and other breeds was formed.

To obtain silk, not only the mulberry silkworm, which belongs to the mulberry silkworm family, but also the mulberry silkworm, does not use the cocoon. . It should be said that all attempts to feed the mulberry silkworm directly on the bush or mulberry tree, that is, to return it to the life it lived in the wild, have failed: it has lost its ability to adapt to "wild" conditions.

Most wild mulberry silkworm cocoons are poorly cocooned compared to domesticated silkworm cocoons, and others are not cocooned at all. It is necessary to make kalava silk from these. Their silk fiber is thick, uneven, poorly dyed, however, it is tougher, less damaged by moisture, chemicals and other harmful effects than the fiber of the mulberry silkworm cocoon. Suits, cotton and technical fabrics are mainly made from wild silkworm silk

Natural silk is obtained not only from the cocoons of mulberry silkworms, but also from the cocoons of wild silkworms. Their fiber is mature, naturally beautiful, colorful, resistant to moisture, chemicals and other harmful effects. However, the fiber is thick compared to the cocoon of the silkworm, it is poorly pulled out (some cannot be spun), it cannot be dyed in different colors, and the amount of silk is small. Silk cotton (fluff) is extracted from the cocoons of most wild silkworms, and these are raised in natural conditions, i.e. in trees or bushes.

Wild silkworms include Ailant, Canacjut, and Assam silkworms, and Chinese, Japanese, and Indian oak silkworms.

Aylant silkworm - Philosamiasynthiocanakjut or eri (Philosamiaresini) silkworms are of great importance in industry. These two closely related species give seven generations in one year. The first type of caterpillars feed on the leaves of amaranth, and the second type of caterpillars on the leaves of sesame, but both types of caterpillars can be fed on the leaves of lilac, apple and other plants. These silkworms are bred in China, Vietnam and India. Sesame silkworm - produces very valuable silk, but it is difficult to breed because it does not have a hibernation stage. Scientists of the Democratic People's Republic of Korea are currently working on the creation of a type of silkworm with a wintering stage, taking advantage of the opportunity to obtain hybrids of ailant and sesame silkworm, which feeds on the leaves of the siren and apple trees in addition to the leaves of the ailant tree. They are found in India, China and Java and give birth up to 4 times a year. Cocoon is gray-yellow, oblong. There is a hole in one box, the fiber cannot be pulled out.

The sesame silkworm is very close to the spinning silkworm Philosomiaresini, and gives birth up to 4-7 times. It feeds on the leaves of sesame, siren, and wild apple trees. The cocoons wrapped around them are white, brown-reddish in color, and the obtained silk fiber is shiny. Sesame silkworm is found in India, China and Vietnam

Assam silkworm (Anthereaassama) is an omnivorous insect. Semi-domesticated, gives up to 5 generations per year. The cocoon is different in color, about 5 cm long, one side is sharpened, it has a small hole. But the cocoon is spun.

Chinese oak silkworm - (AnthereaPergia) has large heads, wingspan reaches 15-18 cm, wings are beautiful, each has eye-shaped spots, flies well, lives up to 15 days. Winters during the mushroom season. The worms feed on the oak leaves and make a sheath from the leaves to wrap themselves in a cocoon. The cocoon is brown in color, egg-shaped, 4-6 cm long, with a stalk. It forms a ring on an oak branch with the help of its stalk and hangs its cocoon. It is important in industry.

Indian oak silkworm - (Anthereamylitta) tussor produces more silk products. Mulberry silkworms feed on the leaves of various species of oak and cannabut they can also be fed on the leaves of other trees. Their cocoons are much larger than those of the mulberry silkworm, up to 4-7 cm long, they have a "leg", they make a ring on the branch without wrapping around the leaf, but the silk yield is slightly less, approximately 12-13%. gives two to three generations per year; winters in the mushroom stage. Dub silkworm butterflies reach 15 cm in length, fly, and are distinguished by their beautiful wings and the presence of "spots" on each of them.

Japanese oak silkworm - (Anthereayamamai) or mountain silkworm originated in Northeast China; In Japan, Korea and the Far East, oak is raised wild in woodlands and semi-domesticated. They hibernate during the egg-laying period, the cocoons are 7-8 g and have good technological indicators. it is easier to spin than the cocoons of other wild silkworms. The silk is shiny, soft and shiny. Yellowish brown or green in color, female Wild Silkworm butterflies lay an average of 150-200 eggs. Eggs are gray-reddish in color and weigh 3-5 mg, sometimes 7-8 mg.

Butterflies lay their eggs mainly in the hollows or bark of trees. In Koklam, worms hatch from these eggs (under natural conditions).

The larval period of wild silkworms is 40-50, sometimes up to 60 days depending on the species (1, 2, 5).

In general, wild silkworms produce about 20% of the silk produced worldwide.

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