

century, is one of those legends which we can accept or reject: proof is wanting. The length of time such a journey would take in those days, and the liability of the eggs hatching out before they reached their destination, needs explanation.

Another story, and one which seems credible, is that the Crusaders introduced the rearing of the silkworms into Sicily in the twelfth century, the cultivation of the silkworm having spread from China eastward by slow degrees. The Saracens obtained a monopoly of the trade, and established it in the thriving cities of Asia Minor. Sicilian silks, with Saracen patterns, dating from the twelfth century, have come down to us. Silk has been an important industry in Italy and the South of France for the last three or four hundred years. Silk-weaving was introduced at Tours by Louis XI. in 1480, and Francis I. brought the industry of rearing silkworms to the Rhone Valley in 1520.

I daresay many of my readers either keep or have brothers who keep silkworms; such know what an insignificant insect this moth is compared to those I have been speaking about. It is whitish, with faint yellow-brown markings, which follow the same arrangement as those of its larger and more striking kinsfolk. It is a native of China, but has been so long domesticated that it is said to be no longer found wild. Domestication has produced varieties of it, and has also induced diseases of various kinds, which have played great havoc with the rearing of silkworms in Southern Europe. It only thrives on the mulberry, while atlas, polyphemus, and others feed on oak, willow, elm, and many other trees. This worm spins a cocoon of glossy soft silk, from white to yellow in colour, and unquestionably when woven yields the most beautiful textile known.

Several attempts have been made to introduce the rearing of silkworms into England. Henry VI. and James I. lent it their patronage, and tried hard to induce people to plant mulberry-trees to feed the worms upon. But, though no success attended the production of silk, the influx of weavers from the Low Countries in the sixteenth century, and of the refugees who came here after the Revocation of the Edict of Nantes in the seventeenth century, made silk-weaving an important industry.

A guild of silk throwsters was incorporated in Spitalfields in 1585.

Tusseh or Tussoire silk on the other hand is a coarser, heavier fibre, and as the cocoons are larger than the mulberry moth, the yield is greater and the price consequently much less. Its scientific name is *Antheraea mylitta*, and in India it is not domesticated, for the moths so soon as they emerge from the chrysalis take flight. The natives look under the trees upon which the larva feeds, and upon finding evidence of their presence cut down the branches upon which the caterpillars are feeding, and place them near their homes on Asseen trees. The hill people guard the insects night and day to preserve them from crows and other birds by day and bats by night.

To wind the cocoons, for the silk is glued together with a secretion which the worm emits, the natives steep them for about two hours into plantain ashes and water, afterwards placing them in an earthen vessel until soft enough. The implement used for taking off the thread is a reel of four bars which is turned by the right hand. The thread of four or five cocoons is made to pass over the left thigh of the spinner who gives the thread thus formed a twist with his left hand on his thigh.

The natives of Central Africa use the fibre spun by a colony of caterpillars, which is found in large branches on trees, for the production of a fibre; but this has to be spun like cotton into a thread whereas in the silkworm and Tusseh, the cocoon itself is unwound. The silk from Cynthia cannot be wound but has to be spun. The web of spiders has been used, but the difficulty of collecting the webs and the impossibility of breeding spiders in numbers, confines such efforts to the region of scientific playing. The silky beard of a large bivalve found in the Pacific has also been used for weaving and in the museum at Oxford is shown a pair of gloves of a soft, warm, green colour made of a fibre spun from this fish beard.

Trap-door spiders have several times been kept in the insect house. Their habit of travelling in the ground and covering the entrance with a lid composed of particles of earth and other matter glued together with

a secretion is well known. The spider itself is larger and of thicker build than any in this country, and somewhat resembles a small tarantula.

Tarantulas are found in many parts of the globe; those from South Africa and Texas have both been on view in the gardens. They are forbidding-looking creatures, and though their bite is rarely if ever fatal to an adult it produces severe illness which may last several days. Those in the Zoo are fed on small mice and cockroaches.

In the sketch I have enlarged one of the feet to show how the creature can cling to glass, as the feet act not unlike a sucker.

Among the interesting insects I have sketched in this house the "walking sticks" are certainly the most unique. These creatures, classed under the name of Phasma, so nearly resemble dry twigs that when clinging to a shrub they are hardly visible. A case in the Natural History Museum is mounted to show how these insects and their allies the "walking leaves" are so like their surroundings as to be seen only when carefully searched for. This "protective mimicry," as it is called, though strikingly manifested in these creatures, may be said to be shown by all living forms to a greater or less degree, from the bars of black on a tiger's skin like dark reeds in the jungle to the colouring of insects to resemble their surroundings. These stick insects and walking leaves have so imitated their environment that finding them in a wild state is a matter of considerable difficulty. The colouring too changes with their surroundings which is a further help to them. There are an enormous number of species, three of them are shown in sketches, and they are found in North America, South Africa while Central America gives us some of the largest and most grotesque varieties. Ugly as they look these Phasma are purely vegetable feeders.

The "walking leaves" from Seychelles imitate their surroundings in a still more striking way, the body of the insect being green and marked just like a leaf.

Numbers of British moths and butterflies are also reared in this insect house, and I shall have something more to say about the former in the subsequent articles on butterflies.

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## SOME AUSTRIAN RECIPES.

*Vanilla Sugar.*—Vanilla sugar so often finds a place in Austrian cookery that a recipe for it must preface the following directions for making some very delicious dishes often enjoyed in that country. The pod of vanilla bean can be had at most grocers, and the flavouring it gives is most delicate and preferable to any of the liquid essences. Take a piece of this vanilla bean and some sifted sugar and pound the two together until quite fine. You must judge of the quantity of both vanilla and sugar by adding the latter gradually until on tasting it, it is well-flavoured with vanilla. Pass this through a sieve and keep it in a tin. When required for use add it to other fine sugar according to taste.

*Vanilla Crescents.*—Ingredients: Eight ounces of best flour, six ounces of fresh butter, three ounces of peeled almonds chopped very finely indeed, and two yolks of egg. Mix all this up with a knife on your pastry board, and then roll it out with a rolling pin. Cut the paste thus formed into small pieces and form them into little crescents about two or three inches long and as thick as your thumb—if you have a small hand. Bake in a very moderate oven, and remember that they must

not brown. Cover with finest vanilla sugar powdered thickly over them. These biscuits, if properly made, should be very light and extremely brittle. They keep good and fresh if placed in an air-tight tin.

*Lemon Soufflé.*—The Austrian recipe for the above is as follows:—

Ingredients: Five tablespoonfuls of sifted sugar, five yolks of egg, the flavour of one rind of a lemon, and the juice of one lemon. This should all be stirred for half an hour, and then a hard snow-like mixture should be added, made of the five whites of egg whipped until quite consistent. Bake about fifteen minutes in a brisk oven, in an ordinary pie-dish in which the mixture has been heaped up. Serve immediately it is done.

*Apricot Soufflé.*—Take five tablespoonfuls of apricot jam, passed through a sieve. Two spoonfuls of fine sifted sugar. Stir this up well for half an hour. Make a stiff snow of five whites of egg, and add very lightly to the above. Heap this up lightly in any pie or soufflé-dish, and ornament with some sliced almonds on the top. Bake from fifteen to twenty minutes in a brisk oven. Serve immediately it is cooked.

*Chestnut Cream.*—Boil some large chestnuts, peel them and pass them through a sieve. Mix with a little cream and vanilla sugar to taste. Heap part of this paste in the middle of a dish. With a fancy forcing bag make part of it into balls the size of a chestnut, and glaze these balls with sugar. Surround the centre heap with whipped cream, flavoured with vanilla sugar, on which the glazed chestnuts are to be laid.

*Chocolate Pudding.*—Dissolve three ounces of the best chocolate in half a pint of single cream which is on the fire. Let this get cold and then gradually mix it with two spoonfuls of flour and two ounces of white sugar. This should be done while the mixture is on the fire until it is of the consistence of a thick batter. Let this cool in one basin, and in another stir well two ounces of fresh butter with five yolks of egg; then add the cold batter and mix it up well. Next beat up five whites of egg until they are in a stiff froth, and add slowly but lightly to the aforementioned mixture. Bake this in a soufflé dish for about twenty to twenty-five minutes. The same mixture can be made with essence of coffee instead of the chocolate.