

feed upon it, and because it is so often mistaken for the brown-tailed moth. Many cocoons of this insect have been sent to the Agricultural College under the impression that they were the nests of the brown-tailed moth, and yet the two insects are easily distinguished in this way: The brown-tailed moth spends the winter in the larval stage in nests, not cocoons, of about 300 caterpillars each, while the tussock moth passes the winter in the egg state. This is the time of year to look for the nests of the brown-tailed moth, and a good time to find the cocoons and eggs of the tussock moth. Most every reader of the REVIEW knows that the campaign against the brown-tailed and gypsy moths has cost millions of dollars in the New England States. The damage has not been to fruit-trees and ornamental trees alone. The brown-tailed moth is a menace to the health of the people. Hence, every effort should be made to check the spread as soon as it is found in the country.

A teacher who has been very successful in teaching the subject of insects has supplied me with the following information on the tussock moth:

The tussock moth furnishes good material for nature study work during the winter. The cocoons are attached to leaves and also to a twig or branch. They may be found on nearly all our common trees, including the evergreens. The cocoon occurs in a number of conditions:

1. The empty cocoon containing only one brown outer skin of the pupa. From this cocoon the male (winged) moth escaped last autumn.

2. The cocoon with either a bunch of eggs covered with a gray foamy covering or a single naked layer of eggs upon one side of the cocoon. These eggs were laid there in the late autumn by the wingless female moth.

3. The cocoon containing one or two pupæ of a parasitic fly. These pupæ are each about one-fourth of an inch long and nearly cylindrical. The fly which develops from each looks like and is about the size of the house fly.

4. The cocoon is partly filled with slender light brown cocoons, in which are yellow maggot-like creatures with dark heads. These are parasitic ichneumon flies. These small cocoons are spun of silk, and not like the hard brown cocoon of "3," which is the dried outer skin of the pupa.

5. Often the dead caterpillar or partly developed moth is found in the cocoon. Death in such cases is usually due to disease, or to as yet unexplained causes.

These cocoons are often mistaken for the nests of the brown-tailed moth larvæ. They should not be, as the latter are spun of white or gray silk, and completely enclose the leaf or leaf-stalk, and contain very many small brown hairy caterpillars. The leaf and leaf-stalks are never enclosed by the cocoon of the tussock, but is attached to one side of it with the leaf stalk usually free.

## The Moose.

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The true American elk, commonly called the moose (*Alces machlis*), is found from New Brunswick westward to British Columbia. It is probably as plentiful in the Maritime Provinces as in any part of the northern United States or Canada. A considerable area of these provinces is covered with an undergrowth of shrubs and small trees upon which this animal subsists. From the smaller of these it takes the tender twigs, and from the larger it peels the bark. The striped maple, often called the moosewood, furnishes it with an abundance of succulent twigs, in winter, and in summer it has both twigs and leaves. These maples sometimes attain a diameter of six or eight inches, and from their trunks the bark is stripped by the sharp chisel-like teeth of the lower jaw of the moose; but it is seldom that it is stripped all around the tree, being generally removed only from one side. It is claimed by some that the sagacity of the animal warns it not to completely strip the tree, lest it should die; but it is more likely that the moose finds it more convenient to turn to another tree than to circle around the same one. To this bark, which is a winter diet, various grasses and plants that grow in streams are added in the summer, especially the long rootstalks of pond lilies. In quest of these plants, which are sometimes taken in fully six feet of water, the moose swims and wades, and occasionally reaches so far below the water as to be almost submerged. A summer camper-out has told me that he has often approached these animals in a canoe on their feeding grounds in our northern lakes as close as almost to touch them at times when the head was under water in search of food.

It has been asserted by some writers that the moose, having a smooth tongue, is unable to crop grasses; but to any one who is observant, it will be known that the tongue of a horse is quite as smooth as that of a moose. These writers would do well to remember that both the moose and the horse have prehensile upper lips, which assist them in gathering the food into their mouths.

Throughout the summer the water courses, especially the shallow lakes and slow-moving streams, arising in swampy forests, are much frequented by these animals, as during that season a different variety of food from that upon which they feed