

to drop from the branches or leaves. Some fall to the ground, and others hang suspended by a thread of silk, spun from the mouth. This habit of dropping when disturbed is sometimes utilized in their control.



Fig. 7. Cocoons of Forest Tent Caterpillar. (After Lowe, Geneva Experiment Station.)

NATURE'S METHODS OF CONTROL.

Outbreaks of these caterpillars occur at intervals; during the intervening years, owing chiefly to the activity of their natural enemies, they are much less numerous or at times are even almost rare.

Insect Parasites.—Certain minute four-winged insects of the Order Hymenoptera lay their eggs within those of the moths, and the resulting minute larvae, small white grubs, develop within the Tent Caterpillar eggs and destroy them. Certain other parasites of the Orders Hymenoptera and Diptera breed within the Tent Caterpillars and their pupæ, and are most active agents in their control.

Several species of predacious beetles and bugs are known to feed upon the caterpillars; and mites have been found destroying the egg-masses.

Birds.—Many species of birds feed to a greater or lesser extent upon the eggs and caterpillars, and undoubtedly assist considerably in reducing their numbers. The following have been recorded by various writers as feeding on the caterpillars: Black-billed cuckoo, yellow-billed cuckoo, Baltimore oriole, blue jay, crow, robin, catbird, American redstart, white-breasted nuthatch, wood thrush, chewink, black and white creeper, different vireos, flicker, scarlet tanager, yellow-bellied sapsucker, bronzed grackle, chipping sparrow, towhee, English sparrow, chickadee, and cedar waxwing. Certain of these also feed upon the eggs, and others to a small degree upon the moths. *The protection and encouragement of our native birds would go far towards reducing the numbers of many injurious insects of orchards, shade trees, and forests.*

Diseases.—A bacterial disease at times destroys many of the caterpillars and effectively aids in their control. Those affected by this disease often remain attached to the bark by a portion of the body. The internal organs are largely reduced to a dark-coloured fluid, which exudes when the skin is broken.