

burnt to a powder. Our Iroquois Indians believe that lizards bring on paralysis, while the Green Snake, if allowed to coil about a paralyzed part of the body, will cure it. Many misinformed people believe that toads make warts, that snakes charm birds and squirrels, that "Hoop Snakes" take their tails in their mouths and roll after their victims and that the Milk Snake milks cows, as it is often seen about barns and farm yards, to which it is not attracted by the cows but by the rats and mice which infest such places. Prof. Cope once observed a snake of this species which had captured a family of field mice; one of these it had swallowed, another was being swallowed, and the remaining two were so tightly held in two turns of the snake's body that they were incapable of biting their captor. A meadow mouse is estimated to do damage to the extent of fifty cents a year in field and orchard, therefore this snake at one meal virtually put two dollars in a farmer's pocket, but owing to ignorance combined with prejudice the average farmer in return would have crushed the useful creature's head with a rock had he seen it half an hour before.

A snake is a better rat destroyer than a cat or a dozen traps as it can enter cracks and holes and destroy entire families of rodents. The Fox Snake, which feeds chiefly on rats and mice, is often found about farm buildings and in some localities is called "house snake" or "rat snake". The Corn Snake is so called because it frequents corn fields in search of mice.

Many of Canada's seventy-five or more species of batrachians and reptiles enhance their value by preying on stink bugs and ants—insects which are not much subject to the attacks of birds. The salamanders inhabit rotting logs which act as incubators and breeders for the noxious grubs on which they feed. The frogs, which are found in the trees, meadows and ponds, destroy vast numbers of flying, crawling and swimming insects, which if allowed to exist would do thousands of dollars' worth of damage to farm products. The turtles and lizards also feed chiefly on insects, and just as the horned lizards of the arid southwest are of tremendous importance to agriculture, so the common toads are of greater value in the better watered regions. It is estimated that in three months a common toad will eat 9,936 injurious insects, and that of this number 1,988 are cutworms. Placing a bounty of one cent each on cutworms, the potential value of a single toad is at least \$19.88 per year. If additional toads were introduced into every garden and boards placed in shady corners under which they might hide during the day, the gardener's loss due to insects would be greatly reduced. Toads

should also be placed in greenhouses and propagating frames.

According to the United States Department of Agriculture, the yearly food loss in the United States from the ravages of insects exceeds one billion dollars, and from house rats and mice (not including wild rodents) the loss amounts of \$400,000,000; and without doubt proportionate losses occur in Canada. Protection should therefore be given to toads, frogs, salamanders, turtles, lizards and snakes, some of which destroy rodents and all of which prey on such pests as potato, squash and cucumber beetles and bugs; click beetles, parents of the wireworms; slugs and plant-lice, that live on the lettuce; Tussock, tent and armyworm caterpillars; sowbugs, that destroy plant roots; crickets, grasshoppers, locusts, grubs, worms, mosquitoes, flies, ants and moths.

#### NOTE ON INVERTEBRATES COLLECTED BY THE SOUTHERN PARTY OF THE CANADIAN ARCTIC EXPEDITION.

The Marine and Freshwater Invertebrates, collected by the Southern Party of the Canadian Arctic Expedition during 1913-16, at various points on the northwest and north coast of the continent from Port Clarence, Alaska, to Bathurst Inlet, N.W.T., have been sorted out and distributed to about fifty different specialists in Canada and the United States to report upon. The following is a short summary covering the six groups which have thus far been worked over.

The Freshwater Worms (Oligochaeta) comprise about 10 species, of which two are new and all are recorded for the first time from the American Arctic.

The Echinoderms, Isopod and Decapod Crustacea include no new species, but the known ranges of distribution of the various forms have been greatly extended and gaps filled in.

The Parasitic Copepods (Crustacea) comprise five different species found on fishes and marine annelids.

The Molluscs represent 115 species, of which six marine and one freshwater are new to science. Those taken east of the Mackenzie delta are particularly valuable, being the first specimens collected in that region.

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