

some of which latter, however, it is found necessary to consolidate. It is seen that there is hardly a species of plant or animal that does not at some time support one or more species of parasite, yet until a recent period very little positive knowledge was possessed concerning them. That a class of organisms so intimately connected with human welfare as these are found to be, should have remained so long without scientific inquiry, might seem strange, were it not that many of the phenomena connected with them are exceedingly obscure, that their habits are often repulsive, and that they are deficient in those qualities which compel attention to the denizens of the desert and forest, the flocks and herds, the lofty forest trees, the feathered tribes and useful plants.

A few hours, a single night often, has sufficed to usher into being worlds of parasite cryptogams upon the cereal crops, to the entire destruction of the farmer's hopes. Famine even has resulted from their malign luxuriancy of growth. Yet amazement and grief until recently were the only emotions excited by these cryptogams. Their effects were seen and deplored, but no rational investigation was made into the nature and cause of the *blight*, as they were called. With characteristic regard only for the cares and necessities of the present, and carelessness of the future, agriculturists plodded on the daily round of toil, hoping that some time the "blight" would cease to destroy, and plenteousness again repay their labors. Not a year passes that millions of dollars are not paid for the maintenance of such cryptogams as the *Uredo*, *Puccinia*, *Botrytis*, *Oidium*, and many other fungi, yet it is only now that the history of these parasites is being investigated. In time, with the aid of collateral sciences, among which, not the least important is meteorology, a strong hope may be entertained of protecting plants from their destructive ravages.

The investigations of naturalists have been equally successful among animal as vegetable parasites. These creatures are found in vast abundance upon vegetation from the proud forest tree to the humble blade of grass. Of the many hundred species already known which prey upon vegetation the aphides may be particularly alluded to on account of their puny size, terrible voracity and powers of increase. With a single grasp of the hand thousands of these insects may be annihilated, so helpless are they in their own defence, yet by sheer force of numbers they often thwart the most determined effort to stay their ravages. The strange metamorphoses of this species of