other trees. In the collection of the British Museum no less than 326 species of this insect are described, and it is worthy of notice that almost every species of plant has its own peculiar Aphis. The Hop-fly and Bean-dolphin have occasioned immense destruction in Britain. In 1802 the hop duty fell from £100,000 to £14,000 on account of the great increase of the Aphis. When the Aphis has been absent the duty has risen to £500,000. This insect is well named the Aphrs or exhauster. They are so prolific that one individual may become the projenitor of one qunitillion in the 10th generation. As many of our readers may not be quite familiar with the vast number represented by the word 'quintillion,' some details may be useful. Professor Owen shows in his lectures on 'Comparative Anatomy,' that the Aphis lanigera produces each year ten viviparous broods, and one which is oviparous, and each generation averages 100 individuals :-

The Aphids which appear in Spring are exclusively females, no males being found till the Autumn. It is not necessary for the young females produced during the Summer to pair with a male; yet these females go on producing each 25 a day of living young ones, all of which become in a short time as fertile as their parent.

It does not come within the province of this Journal to describe more in detail the habits of these insects, but to those of our readers who are interested in this curious subject we may refer them to the following accessible works, in which they will find much valuable information:—

- First and Second Report on the Noxious, Beneficial, and other Insects of the State of New York. By Asa Fitch, M.D.
- 2. Harris on Insects. New Edition.
- 3. The Farmers' Encyclopedia. By Cuthbert Johnson.
- 4. The English Cyclopedia.
- 5. Stephens' Farmers' Guide.

The question naturally arises, why were these insects so numerous during the present year? The cause is to be traced, very probably, to the extraordinary dryness of the spring months of 1862.

The Aphis multiplies much faster in a dry season than in one which is humid; like the red spider, and many other destructive insects, it is fond of a warm and dry atmosphere. The month of May was extremely dry, and the quantity of rain recorded at the Toronto Observatory was only one

third of the average which has fallen in that month for twenty-two years.

The month of June was also remarkably dry, the amount of rain which fell reaching only one third of the average of twenty-two years, and it was the dryest June which has occurred during the entire period in which observations have been made at Toronto. Fortunately for the wheat and other crops July was extremely wet, having nearly double the average fall of rain, so that not only were the crops pushed forward by the unusual moisture of this month, but an innumerable host of insects were washed off the leaves of the growing crops by the heavy and continuous fall of rain. By the most unusual and providential fall of rain in that month the multiplication of the Aphis was arrested and the crops of the country saved. It will be noticed throughout Canada, that in general the fall wheat has been harvested at an average time of the year—the spring crops are later than is common with us. The fall wheat was sustained during the long drought by the great amount of moisture in the soil at the advent of spring, from the excess of snow and rain which fell in February and March. In March we had one inch more rain and nearly ten inches more snow than the average of twenty two years.

The retardation in the growth of the spring crops arising from the dryness of May and June has probably been of immense value to the country in destroying the Midge. That this insect was very abundant in many parts of Canada during the present year there is no reason to doubt; observations made in many different quarters have recorded its presence in infinite numbers, but the fly appeared before the wheat was ready to receive it, and its eggs were deposited where there was not suitable food for the young worms when hatched; myriads would consequently die for want of food, and therefore we may look upon the unusually dry spring of 1862 as having been a blessing of incalculable value to the Canadian Farmer by destroying one of the worst and most widely distributed enemies of his wheat crops. The maggets of the Midge were also seen in vast numbers in the fall wheat, but generally it was too far advanced for them to injure it to any considerable extent. The fall wheat was suddenly pushed forward by the July rains (which at the same destroyed the Aphis) and the Midge could not penetrate the chaff or sheath to deposit its eggs, or if it succeeded in penetrating the germ the young worms were hatched after the grain had been formed. Although this year has been one of most exceptional character in relation to the distribution of snow and rain, yet when viewed in the proper light it will afford a striking illustration of that