

sider what interesting objects they form for microscopic work. As in most groups of Arthropoda, the pioneer work in this country was done by Thomas Say, whose descriptions of a number of the larger species appeared as early as 1821. Later on Dana and Whelpley (1836), and Haldeman (1842), contributed descriptions of a few species. More recently Dr's. Fitch, Leidy, Packard, Riley, LeBaron and Shimer, and Mr. Ashmead, have published descriptions of species and notes on habits, while quite lately Mr. Harry Garman has published a valuable paper on the Phytoptidæ, which it is hoped he will follow up by still more extensive study of this family.

It is hoped that the following list of the Acarina of the United States and Canada—which we have made as complete as possible up to date—may encourage the further study of the group, and as an additional aid it may be in place to make a few statements concerning their habits and the methods of studying them.

The Trombididæ are found on plants or free as adults, frequently in the larval form, as parasites on insects. The Hydrachnidæ are aquatic, and probably many interesting parasitic forms will be found by careful examination of the gills of bivalve mollusks. Of the Gamasidæ occurring as parasites on insects but few of the probable number have yet been described. In the Acaridæ we have many parasitic forms on birds and mammals, and here especial care should be taken to identify with described European forms whenever possible, particularly in all cases where the bird or mammal host is identical in the two countries. Doubtless many described species occur commonly here which have never been recorded, e. g. *Myobia musculi* seems never to have been recorded in America, but has been taken at Ames, Iowa, and hence is included in our list. A few species common to domesticated animals that are being constantly imported from other countries have been included in this list, even when we have been unable to find a positive record of their occurrence here.

The Phytoptidæ are microscopic in size, and occur on buds, leaves and fruits, producing galls, deformations, blisters or rusts, and their study offers an almost unlimited field for careful investigation.

A large proportion of the mites are too small to be readily studied or preserved, except as microscopic objects, and the most desirable method is to mount them at once, or as soon after collecting as possible, in glycerine jelly or prepared balsam. It is frequently a great advantage to