by diffused moisture in the air. Similarly, moisture in the soil affects the behaviour of insects considerably, as Wheeler has shown in the case of many species of ants, and as Parker has demonstrated in his study of the sugar-beet root-louse (*Pemphigus betæ* Doane) in which it was found that soil moisture is a very important factor in controlling the rate of increase in colonies of this insect. The attraction of the so-called "watershoots" of trees such as apple for aphides should be regarded as being in effect a hydrotropism.

The importance of moisture as a factor in insect behaviour is strikingly illustrated in the case of some of our most important grain insects. Forbes has discussed the effect of drought and rainfall upon the abundance and suppression of the chinch bug in Illinois. In Canada we find that the prevalence of the western wheat-stem sawfly is governed by humidity. A lack of precipitation causes a dearth of flowering stems among the grasses in which this insect normally breeds, resulting in a decrease, the abundance of the insect depending primarily upon the prevalence of suitable grass stems. Similarly, a lack of moisture is an important natural check on the Hessian Fly, a dry season being generally recognized as prejudicial to the fly. In Manitoba, Criddle finds that the partial second brood is frequently destroyed completely by the premature ripening of the grain due to the hot weather conditions in late July. Further instances might be given of the effect of moisture on other classes of insects but sufficient has been said to indicate the diversity of the hydrotropic type of behaviour.

Reaction to light plays a prominent part in insect behaviour and numerous are the examples that might be given, were it necessary, of phototropism in insects. But while entomologists are familiar with the manner in which adult insects such as Lepidoptera are attracted to light and with the negative phototropism of many larval forms, and of adult insects such as *Anopheles*, we are still far from anything approaching a working knowledge of this reaction. Such knowledge will undoubtedly place a valuable weapon in the hand of the applied entomologist. In some cases we are able already to take advantage of this type of behaviour. Swaine finds that the destruction of piled logs by the wood-boring larvæ of the sun-loving *Monohammus* can be prevented by forming a dense shade over the logs by means of brush. In his study of the army cutworm (*Euxoa auxiliaris*) in Alberta, Strickland found that the larvæ are negatively phototropic and hide beneath the soil till about four or five o'clock in the afternoon when they come to the surface and feed. With the weaker light they become positively phototropic and a general migration in a westerly direction takes place. When food is scarce hunger may overcome their aversion to sunshine with the result that the larvæ come above ground, but they still display