the surface the loss of water is considerably smaller than when the water table is only 6" below the surface.

(2) Comparing the three soil types amongst themselves it is seen that the loss of water from "Bari" soil (alkali soil containing a large percentage of salts) is strikingly smaller than that from either the normal Punjab soil or the Poona soil for all the depths of the water table considered in these experiments.

(3) Comparing the alluvial soil from the Punjab and the black cotton soil of Poona it seems that the amount of water lost from both of these soils is of the same order of magnitude, with this difference, however, that when the depth of the water table is greater than 1½ ft., evaporation from the alluvial soil of Punjab (which is more porous) is somewhat more than from the black cotton soil of Poona (which has a larger clay-fraction and is less porous).

The experimental results will be discussed at greater length in a later publication.

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[1] Keen, B. A., "The Physical Properties of the Soil," *The Rothamsted Monographs on Agricultural Science*, Chapter III, 1931.

Studies on the British *Aleurodidae*

THE British species of *Aleurodidae* have not received the due share at the hands of the entomologists in the past. Their comparative morphology and bionomics were not thoroughly studied and unfortunately their systematics were also left in the same unsatisfactory state. Even until recently the position of some of the British species was as undefined as before, since their descriptions could not afford positive diagnostic characters.

The original specific differentiations of the species under reference were based primarily on their food plants and such variable characters as the colour and shape of the body, the number of hairs on pupæ, or the relative proportion of the antennal segments. The subsequent workers, in most cases, reconciled with the original views without even doubting the possibility of variations in such characters or realising the significance of biological necessity for the extension of alternative food plants and their consequent influence on any of these characters.

The present investigations, therefore, were taken up at the Rothamsted Experimental Station, with the object of studying the available species, with regard to their systematics, food plants and habits, etc.

Since the differentiating features of the nature stated above were found to be of least specific value for classification purposes, attempts were made to establish more reliable differences on the basis of certain constant characters. As the vasiform orifice is quite specific to this family and is a constant organ in all the stages after the egg, and the gentilia has also yielded results of considerable interest in the taxonomy of other insects and is often used in determining species and genera, therefore, a thorough comparative study was made of both these characters along with others, and specific differences of significance were noted.

Of the nineteen species recorded in Britain, fifteen were studied during these investigations. Besides, two new species, namely, *Aleuroplatus kewensis* and *Trialeurodes williamsi* were described[1] from ferns in hot houses at Kew Gardens.

Four pairs of the species previously considered as different, namely, (1) *A. carpini* and *A. rubicola*, (2) *A. loniceræ* and *A. rubi*, (3) *A. proletella* and *A. brassicæ*, (4) *A. quercus* and *A. avellanæ*, have now been shown morphologically identical in all their stages, which are also described. Their identity has also been established by cross inoculations, as well as, by life-history studies. Moreover, a new genus *Asterobemisia* is proposed for the species in Set (1) and that under (4) is shifted to genus *Pealius* according to the characters of the pupa, and a new description is given for the adult of *P. quercus*,[2] because the previous one did not agree with this species.

Further, some significant differences are also shown for *S. phillyreæ* and *S. immaculata*, and certain differential characters have been pointed out for *T. sonchi* and *T. vaporariorum*. The immature and adult stages of *S. phillyreæ* are also described and some stages of *T. ericæ* and *D. chittendeni* are described for the first time.

Seasonal colour variations were also studied in the pupæ and adults of *A. loniceræ*, both in nature as well as in the laboratory, and at the same time some new alternative food plants were recorded in several species. It is therefore suggested that, such variable characters may not be regarded as conclusive when following any work of systematic nature in *Aleurodidæ*.

Parasites and parasitism were also studied in some species of British white-flies. Transfers of parasites from one species to the other, proved successful when those from *S. phillyreæ* and *T. vaporariorum* were bred on *A. proletella*.

Relative oviposition and the rate of development under coloured screens was studied in *A. proletella* and *T. vaporariorum* under laboratory conditions.

The results of all the above investigations are being compiled and will be published very shortly.

The assistance of Dr. C. B. Williams and the encouragement by the Indian Central Cotton Committee, by the grant of a foreign scholarship, are gratefully acknowledged.

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February 2, 1939.

[1] Trehan, K. N., *Proc. R. Ent. Soc. Lond.*, (B), 1938, 7, 182.

[2] The genus proposed by the present author.