

Apparently there is a variation in the sensitivity of different individuals, to the external stimuli initiating the death-feint and also in the period of recovery. These variations are probably due to differences in the quality of the labile compounds in the receptive and conductive parts of the nervous system and in the contractile muscle tissue. The destructive chemical action involved in the reaction to the stimulus and the restoration of the discomposed substances require different periods of time for different individuals. A high temperature apparently hastens recovery. It would be of interest to know if internal stimuli play any part in the restorative processes.

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## INSECT FOOD HABIT RATIOS OF NEW YORK STATE

BY HARRY B. WEISS

At various times during the past 15 years I have wondered if a food habit classification of the species of insects recorded from New York would show ratios that differed materially from those of other sections such as New Jersey, Connecticut, etc. In order to satisfy my curiosity, I finally classified according to their family food habits 15,343 of the 15,449 species recorded in "A List of the Insects of New York," M. D. Leonard, Editor-in-Chief, that was published January, 1928, as Memoir 101 of the Cornell University Agricultural Experiment Station. The Anoplura, Mallophaga and Siphonaptera were omitted because of their non-relation to vegetation or to other insects, likewise a few other species, difficult to classify. Considering the large number of species involved, these omissions are relatively unimportant.

The difficulty of classifying families of insects in accordance with the food habits of their members is fully appreciated and the weaknesses of such a classification have been admitted in a former paper.<sup>1</sup> The terms saprophagous, phytophagous, etc., are used in their broadest sense and I am aware that such conclusions as may be drawn from food habit classifications are broad generalizations.

<sup>1</sup> Insect Food Habit Ratios of North Carolina and Mount Desert Island, Maine. Jour. N. Y. Ent. Soc., vol. 47, p. 155-157, June 1939.



The following table shows the distribution ratios of food habit types for New York and, for comparative purposes, the ratios for five other large areas are included. Five of the six areas are large and embrace a variety of vegetation. Under such conditions one would not expect the distribution ratios of the types of food habits to vary widely and it will be noted that the New York ratios are not unlike those for other areas.

	No. species	Phyto- phagous	Sapro- phagous	Harpacto- phagous	Para- sitic	Pollen feeders, etc.
		<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Western Arctic						
Coast, N. A. ....	400	47	27	14	10	2
New Jersey .....	10,500	49	19	16	12	4
Connecticut .....	6,781	52	19	16	10	3
North Carolina .....	9,249	46	17	22	11	4
Mount Desert						
Island, Me. ....	5,177	52	17	14	15	2
New York .....	15,343	48	23	17	10	2

In former papers it was brought out that in relatively small areas, each with a uniform type of vegetation, the ratios of the types of food habits, based on the species present, varied in accordance with the type of vegetation, if the numerical ratios between the species and the factors tending to reduce their numbers are considered as constant. In large areas such as are indicated in the table, the ratios appear to vary but little.

Although the food classifications in the table are broad generalizations of "apparent" food, comparatively little has been added to our knowledge of "actual" food, since B. P. Uvarov called attention in 1928 ("Insect Nutrition and Metabolism," Trans. Ent. Soc. London, Dec. 31, 1928), to the limited number of cases where the true food of insects was actually known.



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