

These results, as published, are marred by contradictory statements in reference to one of the experiments. Briefly, the result of the second part of Exper. No. H 409/411 should be, and is stated to be, the same as the result of Exper. No. H 410, but the result described on p. 295 and figured in Plate III is anything but that of H 410! The article being a preliminary one, many of the details are very meagre. This is especially the case with regard to the duration of the peculiar conditions and with regard to the conditions (normal?) under which the subsequent generations were bred. The title of the article calls for peculiar (varying) conditions at fertilization. In most cases the author states that the species were crossed or mated under the conditions, but in one case he states that the eggs developed under the conditions. This permits of the results being in part purely ontogenetic. Some of the results appear to indicate this. However, the interaction between the two germ plasms might be assumed to continue throughout the ontogeny. In that case a longer duration of the stimuli would be advisable.

In the previous experiments the different kinds of progeny were isolated and bred separately (Experiments in Analysis). In another series of experiments the species were permitted to hybridize freely under diverse natural conditions, and these are called Experiments in Synthesis. Crossing between *L. undecimlineata* and *L. signaticollis* at Cuernavaca resulted finally in the complete disappearance of the former species. The same cross at Paraiso resulted in the disappearance of *L. signaticollis*.

In experiments with *L. decemlineata*, *L. oblongata* and *L. multiteniata*, conducted at four different places, a single type, which bred true, was obtained in each case, but of the types obtained no two were alike. The type at Balsas was a complex of the three species used. The type at Escamela was an intermediate between *L. decemlineata* and *L. oblongata*. The type at Tucson was a variable one, with the characters of *decemlineata* dominant. The type at Chicago appeared to be pure *decemlineata*. Subsequent cultures of these types (with the exception of the last) gave sporadic variants (2-3%), which were reappearances of "characters or combinations thereof that went into the cross." Tower compares these with DeVries' *Cenothera mutants*, and states that they behave in a similar fashion. The author maintains that the variable outcome of these crossings under natural conditions is the result, not of any process of natural selection, but of some process of hybridization, which is influenced by the external conditions. He states that this view is fully borne out by experiments in which the selective factor was eliminated.—[A. G. HUNTSMAN, Biological Dept., University of Toronto.

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