ANOTHER RECORD OF THE FRESH-WATER JELLY-FISH

DR. SCHMITT'S recent notice[1] in SCIENCE prompts the recording of the following data. On November 30, 1927, a small "balanced" glass tank in the laboratory of the New York Aquarium was noted to contain a number of medusæ. These were referred to the *Microhydra* stage of *Craspedacusta sowerbii* (Lankester). The conditions under which they appeared were as follows. The aquarium measured 20″ by 12″ by 12″ and was exposed to a strong northwestern light. The temperature of the water ranged from 20° to 28° C. It contained a dense growth of various kinds of aquatic plants, which for the most part were being choked off by a thick mat of algæ that, however, did not grow on the glass. There were living in it about ten young Pœciliidæ of undetermined species from San Domingo (probably *Heterandria versicolor* Günther). Most of the plants came from Wilmington, North Carolina, about a month earlier and it is supposed that they are responsible for the introduction of the organism, for the other plants had been living in the aquarium for at least a year. It is thought unlikely that the medusæ were brought from San Domingo with the fishes or that they were introduced with the tap-water used for this aquarium.

The medusæ increased in number up to about December 1, and from then on to the present date, December 22, have gradually fallen off, so that they number probably less than a dozen, whereas at their highest concentration there were at least four or five to the cubic inch. At all times they could be seen either pulsating their way upward or slowly descending in an inverted position.

Dr. Ruth Howland, of Washington Square College, has had one of her students, Mr. S. J. Gancher, studying their development and he has succeeded in finding a number of the hydroids. To date none has been seen to bud off medusæ, nor have the medusæ been seen to develop into mature *Craspedacusta*.

By transferring some of the plants into another tank a new colony was established, although it did not thrive very well and at this date none could be found.

C. M. BREDER, JR.

NEW YORK AQUARIUM

CONCERNING THE TRANSMISSION OF AN ACQUIRED CHARACTER IN FLAX

IN SCIENCE of September 30, 1927, Dean Henry L. Bolley suggested that the resistance of a plant to flax wilt is an indication of the transmission of an acquired character. The general conclusion drawn in his article does not seem to be warranted by the facts presented, especially since the inheritance of acquired characters has been so often disproved. The writer agrees with Dean Bolley in that a wilt resistant flax may be rapidly obtained and it can then transmit its resistance in succeeding generations. The point of criticism is that the wilt resistant characteristic is in all probability present in the beginning and is not observed so strikingly at first, due to the large percentage of susceptible plants that succumb to the disease. With the susceptible plants dead and no longer producing seed, the seed obtained from the wilt resistant plants, when sown another year, show a higher percentage of survival than the original planting. Thus, after a few years, a highly resistant strain of flax might be obtained due to the plants of different degrees of susceptibility dying off or merely a "survival of the fittest." While the above happens in many mixtures of flax it might also occur in the so-called pure line, the term pure line in these cases being relative and not absolute. A variety of flax may be called a pure line for certain characters because these characters have been studied and are known to be pure. However, if the wilt resistance is not one of the characters included in the previous study it may not be a pure line for wilt resistance. This is indicated by the results obtained in Michigan with selections that originated from a relatively pure line. When grown upon wilt-free soil these selections were not different from the parent in yields of seed, deseeded straw and fiber. The statistical odds determined by Students Method for six selections, for these three characters are 1:1. But when grown on wilt sick soil, the significant differences in performance of different strains indicate a rather wide variation in resistance to flax wilt. One selection, showing no difference under wilt-free conditions gave odds of 9:1 for germination (emergence of seedlings) and 500:1 for per cent. of normal plants to seeds sown. Another selection gave odds of 93:1 for germination in wilt sick soil and only 8:1 for per cent. of normal plants to seed sown. The seeds in these tests were of Russian origin and, so far as is known, had been grown upon non-wilt sick soil. The possibility of variation due to crossing must be considered. In Michigan, where the flax was grown, tests have shown from zero to three per cent. natural crossing, depending on the spacing and seasonal conditions. It seems probable that the variation in wilt resistance may be due to unselected factors in an otherwise pure line or possibly to natural crossing rather than a gradual change in a hereditary gene.

B. B. ROBINSON

FIBER INVESTIGATIONS,
U. S. DEPARTMENT OF AGRICULTURE

[1] "Additional records of the occurrence of the fresh-water jelly-fish." Schmitt, Waldo L., SCIENCE, Vol. LXVII, 1927, p. 591.