The uteri of the 2 sensitized pigs and one normal pig were tested by the Dale method on January 26 and 27, 1921, with some mixed high and low ragweed pollen extract kindly given us by Dr. Robert Cooke.

3 c.c. of this extract when added to the bath of 200 c.c. of Ringer's solution had no effect on the normal uterus. 3 c.c. of the same pollen extract produced marked contraction and spasm on one horn of guinea pig uterus No. 1122, and 29 minutes later this horn was found desensitized to 3 c.c. of our Na_2CO_3 extract. The second horn of uterus No. 1122 was found very irritable and could not be used. Both horns of the uterus of sensitized guinea pig No. 1121 responded with marked contraction to 1 c.c. and 0.5 c.c., respectively, of Dr. Cooke's extract. For records of this experiment see curve.

It would seem, therefore ,hardly possible to doubt that ragweed pollen is antigenic and that the negative results obtained by other workers were probably due to their not having employed adequate methods of sensitization or sufficiently sensitive tests. We may, therefore, assert the antigenic nature of ragweed extracts, without wishing at the present time to draw any theoretical conclusions as to the anaphylactic nature of hay fever.

119 (1701)

The early effects of conjugation on the division rate of Spathidium spathula.

By **LORANDE LOSS WOODRUFF** and **HOPE SPENCER.**

[*From the Osborn Zoölogical Laboratory, Yale University.*]

Conjugation occurred readily in a pedigree culture of *Spathidium spathula* and therefore experiments were started to determine the effects of fertilization in the life history of the organism. During the first six months of the work, more than sixty lines were derived directly or indirectly from the parent line by conjugation. Some of the exconjugant lines studied represent the F_1, F_2, F_3, and F_4 generations. All the lines which are compared were bred under identical cultural conditions.

A comparison of the number of generations attained by each

exconjugant line with that attained by its parent line during the first 15 days after the former's origin gives the following results. Forty-two exconjugant lines produced more generations, eight produced less generations and two produced essentially the same number of generations as their respective parent lines. The various cases in which the parent line did not survive the first fifteen days after the exconjugant line was derived from it are not comprised in these data. If such cases were included it obviously would increase the number of plus cases of exconjugant lines.

Analysis of the data thus far obtained inevitably leads to the conclusion that the exconjugant lines of this pedigree culture of *Spathidium*, under the conditions of the experiment, exhibit, in the great majority of cases, a higher division rate for the first fifteen days after conjugation than the parent lines.

The evidence to date also indicates that exconjugant lines which are derived from old parent lines (*i.e.* from lines which have undergone many generations since conjugation) show a relatively greater increase in the division rate, during the first fifteen days, as compared with the parent lines, than do exconjugant lines which are derived from young parent lines (*i.e.*, from lines which have more recently conjugated).

The complete paper will appear in the *Journal of Experimental Zoölogy.*

120 (1702)

Comparative study of ethanol, caffeine and nicotine on the development of frogs' larvæ.

By D. I. MACHT and WM. BLOOM.

[*From the Pharmacological Laboratory, Johns Hopkins University.*]

The effects of ethanol, caffeine (alkaloid) and nicotine (alkaloid) solutions were studied on the growth and development of the larvæ of two species of frogs, viz., *Rana sylvatica* and *Rana palustris*. The study of the larvæ was begun immediately after hatching from the eggs and continued on tadpoles of older ages. Tadpoles of the same species and ages were placed in solutions of the above drugs of various concentrations and the effect of the poisons was noted.