				FOURTH BOTTLES					
I	9	348	37	9.60	9	437	165	27.4	9.2
III	3	207	19	8.42	4	161	63	28.1	5.9
I-III	22	672	73	9.80	18	798	322	28.7	13.16

Group I was treated for 3 min., 17 sec. and Group III for 20 hrs., 20 min. Group II, not recorded separately in table, but included in the totals. Group I-III was treated for 2 hrs., 15 min. and gave results similar to those recorded for the other groups. All the groups received approximately the same dose, *i.e.*, total radient energy. The females, control and X-rayed, remained for three days in each bottle.

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Paramecium polycaryum, sp. nov.

By LORANDE LOSS WOODRUFF, and HOPE SPENCER.

[*From the Osborn Zoological Laboratory, Yale University, New Haven, Connecticut.*]

The several species of the genus Paramecium naturally fall into two groups: one with the general cell form represented by *P. aurelia, P. caudatum,* and *P. multimicronucleata* (aurelia group), and the other by *P. bursaria, P. putrinum* and *P. calkinsi* (bursaria group). Within each of these groups the species are distinguished chiefly by micronuclear structure and number. One type of micronuclear structure (caudatum type) occurs in *P. caudatum* and *P. bursaria,* and *P. putrinum;* the other (aurelia type) in *P. aurelia, P. multimicronucleata* and *P. calkinsi.* Species with the "caudatum type" possess a single micronucleus while those with the "aurelia type" possess two (*P. aurelia, P. calkinsi*) or several (*P. multimicronucleata*).[1]

The present paper records the discovery, on November 29, 1922, in some material collected in Louisiana, of a Paramecium characterized by the general body form of the "bursaria group"

[1] L. L. Woodruff, *Biol. Bull.*, 1921, xli; PROC. SOC. EXP. BIOL. AND MED., 1921, xviii.

and the micronuclear structure of the "aurelia type," but possessing several (three to eight) micronuclei. In brief, the organism is essentially identical in form and structure with P. *calkinsi,* but has more than two micronuclei. Thus from the standpoint of micronuclear structure and number this animal holds the same position in the "bursaria group" as *P. multimicronucleata* in the "aurelia group."

Pedigree cultures from the original animal found have now been under observation and experimentation for nearly four months, and through upward of one hundred and fifty generations. During this time the animals have bred true, exhibiting the characteristic micronuclear number after emerging from the nuclear reorganization involved in endomixis.

In view of all the above data the animals of this culture are designated a new species, *Paramecium polycaryum.*[2]

164 (2124)

The effect of iletin (insulin) on the blood sugar content in adrenalectomized animals.

By G. N. STEWART and J. M. ROGOFF.

[*From the H. K. Cushing Laboratory of Experimental Medicine, Western Reserve University.*]

The existence of a close relationship between the adrenals, especially the medulla, and the pancreas in the regulation of the carbohydrate metabolism has been assumed by various writers. It seemed therefore of interest to determine whether the action of insulin on rabbits which had survived total adrenalectomy differed from its action on normal rabbits. No difference was made out. The adrenals were removed in two operations. The second adrenal was excised 3 weeks to 8 months before the insulin experiment. Six to eight blood specimens were obtained

2 Details of the structure and life history of *P. polycaryum* will appear in the *Biological Bulletin.*