usually with an arrest in growth. Under investigation, at present, is the prophylactic effect of more substantial yeast doses, as well as other products.*

5549

Variations in the Micronuclear Apparatus of Paramecium bursaria.

LORANDE LOSS WOODRUFF.

From the Osborn Zoological Laboratory, Yale University.

Studies have been made on the micronuclear apparatus of a race of *Paramecium bursaria* in pedigreed culture for more than 6 years, with the following chief results.

During this period marked variations have occurred in the micronuclear number. Originally the animals were bimicronucleate, but later they assumed the unimicronucleate condition characteristic of the species, and finally became amicronucleate.

Since throughout the life of the culture there have been no marked variations in the vitality of the animals, whatever function the micronuclear apparatus plays in the somatic life of the race is not obviously influenced by profound changes in the volume and distribution of the micronuclear material.

Cytological investigations have revealed no evidence of endomixis or conjugation.

The viability of amicronucleate animals, without the power to undergo endomixis or conjugation, further supports the indentification of the macronucleus and micronucleus as a segregation of somatic and generative elements into discrete bodies within the cell.

* As the paper goes to press, we noticed a paper by Hume and Smith (*Biol. J.*, 1931, **25**, 300) dealing with the same phenomenon. While we differ somewhat in the interpretation of the facts, we agree on the main results.