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## The Nuclear Cycle and Sexuality of *Trametes peckii*

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THE NUCLEAR CYCLE AND SEXUALITY OF  
TRAMETES PECKII

J. E. SASS

*Trametes peckii* is a heterothallic member of the Polyporaceae. The sex classes exhibit considerable irregularity, making any attempt to classify this organism as bipolar or tetrapolar highly questionable. Segregation of monosporous haplonts into "cottony" and "non-cottony" mycelia is clearly indicated. The dikaryotic secondary mycelium is always cottony, suggesting the possibility of the "dominance" of the cotton character. Repulsion between certain combinations of two mycelia of opposite sex groups, and the absence of repulsion between other pairs, resembles the phenomenon designated as "Barrage" by Vandendries. This fungus appears to exhibit three segregating characters; sex potentiality, haploid mycelial character, and repulsion.

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CHROMOSOME BEHAVIOR IN THE SPECIES CROSS  
LYCOPERSICUM ESCULENTUM X L. PIM-  
PINELLIFOLIUM

L. M. HUMPHREY

Preliminary studies revealed a distinct difference in size between the chromosomes of the two species of tomatoes, those of *L. esculentum* being 20-30 percent larger. Pairing and disjunction in the first meiotic division were regular except for occasional univalents in diakinesis. In a more detailed study the following facts were noted. The somatic chromosomes are small rods with median or sub-median constrictions, those of *L. esculentum* being distinctly larger. At pachytene of meiosis pairing occurs between all sets but there are certain places on certain chromosomes which never become paired but leave loops or free ends. Univalents are sometimes seen at diakinesis, presumably due to a reduction in the number of chiasmata. Although no univalents have been seen at metaphase there is occasional lagging such that one or more univalents do not become included in the interphase nucleus. This probably accounts for the observed 15-20 percent pollen sterility