

explained by assuming an osmotic imbalance as a major cause of the lethality of thymine starvation.

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Plasmodesmata in Fungal Cell Walls

WHEN we compared electron micrographs of developing zygospores of *Rhizopus sexualis* (Smith) Callen and *Gilbertella persicaria* (Eddy) Hesseltine, we found that we had both, independently, demonstrated the presence of fine transcellular strands in the newly formed septa which separate young gametangia from their suspensors. These simple, unbranched strands occur at intervals in sections of the gametangial wall (Figs. 1 and 2). They resemble the plasmodesmata of higher plant cell walls.



Fig. 1. *Rhizopus sexualis* 2 per cent potassium permanganate fixation. Section through developing zygospore, passing through newly formed wall which cuts off young gametangium from suspensor. Strands resembling plasmodesmata (indicated by arrows) are seen passing through the inner layer of wall which is transparent to electrons. G, Gametangial protoplast; S, suspensor protoplast; ER, endoplasmic reticulum; W, wall; N, nucleus; M, mitochondrion. ($\times 20,250$.)

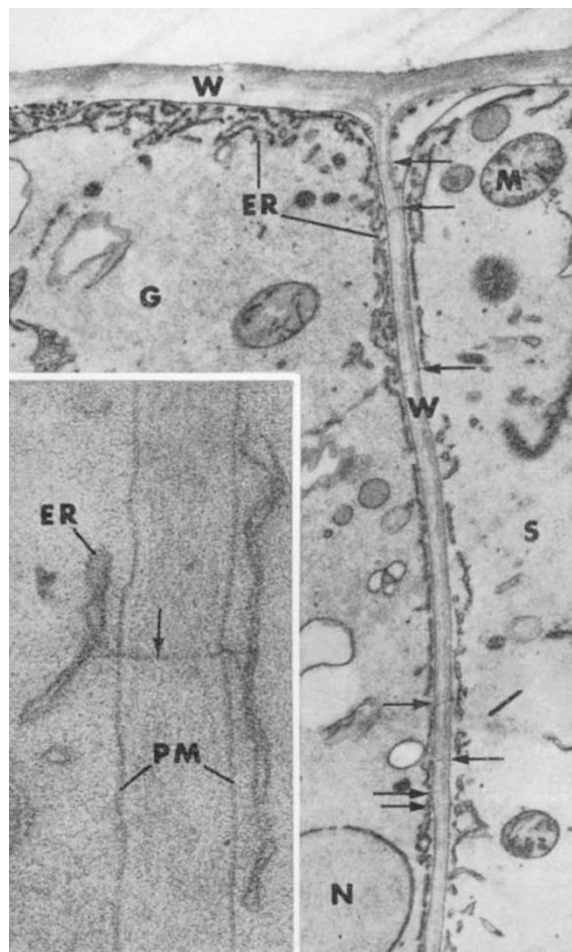


Fig. 2. *Gilbertella persicaria* 1 per cent potassium permanganate fixation. Section through wall of gametangium, probably at an earlier stage of development than that shown for *Rhizopus* in Fig. 1. The transcellular strands are indicated by arrows ($\times 12,000$). Inset is a single plasmodesma (75-100 Å in diameter) in a gametangial wall. ($\times 72,000$.) Abbreviations as in Fig. 1. PM, Plasma membrane.

We believe this to be the first report of plasmodesmata in fungal reproductive structures and that it is, together with a report of hyphae in *Endomycopsis fibuliger*¹, one of the rare instances of plasmodesmata in fungi.

The investigation of *R. sexualis* was made possible by a grant from the U.K. Science Research Council, and that of *G. persicaria* was supported by the U.S. National Science Foundation.

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GENETICS

Karyotype Changes of Near Hexaploid Carcinoma Cells during Adaptation in Culture

HYPOTETRAPLOID cell lines are generally considered to arise from the original cell population by a diploid, tetraploid to hypertriploid sequence¹, but little is known of spontaneous changes in prolonged culture of cells with initial chromosome modes beyond this range. The isolation of two near hexaploid cultures from a human