

ADVANCES IN MICROBIAL PHYSIOLOGY

EDITED BY ROBERT K. POOLE

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Cover illustration. Phototrophic sulfur bacteria with sulfur globules. (A) *Thioscapa* sp. with intracellular sulfur globules, light microscopy, magnification $\times 2000$; (B) *Chlorobium phaeoaurum* strain 9130 with extracellular sulfur globules, magnification $\times 2000$; (C) *Thioscapa violacea* DSMZ 212 with intracellular sulfur globules. The vesicular intracytoplasmic membranes ("chromatophores") are associated with the sulfur globules in a highly organized manner. Magnification $\times 22,000$ (D) Pair of a *Thioscapa rubeospectra* (strain 8811) cell, the sulfur globule envelope is clearly visible. Magnification $\times 179,550$. As a result of the preparation of the cells for electron microscopy, the localization of sulfur globules is visible as "holes" in the electron micrographs. All photos kindly provided by Hans G. Trüper, Bonn. Electron micrographs shown in parts C and D were made by HGT in the laboratory of Stanley W. Watson (†) (Biological Laboratory, Woods Hole Oceanographic Institution, Woods Hole, MA, USA) with the participation of Charles C. Renssen III and John B. Waterbury.