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Host Cell Penetration in Kinetoplastida and Coccidia: A Fine Structural Study

Heinz MEHLHORN, S. LANGER and S. WALTER

Department of Zoology and Parasitology, Heinrich Heine University Düsseldorf, Germany

Intracellular parasitism is common in many classes of Protozoa. Up to now the mechanism and events of penetration are only poorly understood, but are apparently different among the various groups of protozoans. In the present study a comparison was made between the internalization processes in Kinetoplastida (*Leishmania major*, *Trypanosoma cruzi*) and Coccidia (*Plasmodium* spp, *Eimeria* spp, *Toxoplasma gondii*, *Babesia* spp, *Theileria* spp, - and *Cryptosporidium parvum*). The minute events of attachment, entering and formation of the early parasitophorous vacuole are described and compared with respect to the participation of organelles at the apical pole. Attachment of parasites at the host cell's surface may occur at any place of the parasite, but internalization/penetration proceeds by at least two mechanisms. Members of one group of parasites apparently enter actively by forward moving following the apical pole, the stages of the other group are ingested by the host cell or they "sink" into the host cell.

Heinz MEHLHORN, Department of Zoology and Parasitology, Heinrich Heine University, D-40225 Düsseldorf Germany