

Involvement of proteolytic activities in the interaction between *Phytomonas serpens* and *Oncopeltus fasciatus* salivary glands

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Some *Phytomonas* species may cause lethal systemic diseases, while others cause minor injuries since they infect limited plant sites such as laticifer ducts and fruit. These trypanosomatids may be the cause of damage and economic losses in plantations. Considering that the invasion of the salivary glands of the vectors is one of the most important events for the life cycle of *Phytomonas* species, understanding this occurrence may allow the development of control strategies against *Phytomonas*-caused plant disease. In the present study we have investigated the involvement of host and parasite proteolytic activities in the process of interaction *Phytomonas serpens* with salivary glands of *Oncopeltus fasciatus*. The scanning electron microscopy of *O. fasciatus* salivary glands incubated *ex vivo* and *in vitro* showed that the invasion of the basal membrane by the parasites seems to occur via parasite cellular body exclusively. During the interaction with *O. fasciatus* salivary glands *P. serpens* parasites shed a metalloprotease to the interaction medium. This protease of 63 kDa apparent molecular mass presents biochemical similarities with the *Leishmania* metalloprotease named gp63. Regardless the presence of *P. serpens* in the interaction assay medium, *O. fasciatus* salivary glands shed another metalloprotease, which presented a molecular mass between 14 and 18 kDa and was degraded by a cruzipain-like protease of *P. serpens*. The role of these proteases in the interaction between *P. serpens* and *O. fasciatus* salivary glands has been addressed in this study.

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