

Abstract

Leishmania of subgenus *Sauroleishmania* are parasites of reptiles, most often lizards, and are not pathogenic for humans. Therefore, they are neglected group of pathogens and their life cycle is not well-known. They are transmitted probably by ingestion of infected vector which is usually considered as sand flies of genus *Sergentomyia* (Diptera: Psychodidae). *Sauroleishmania* are traditionally denominated in Hypopylaria and it is expected that their development is limited to sand fly hindgut. The main aim of this work is to summarize the present knowledge about *Sauroleishmania* life cycle and to elucidate some aspects of their development in the vector and host.

In the first part of thesis we studied development of four *Sauroleishmania* species in various sand flies of genera *Sergentomyia* and *Phlebotomus*. Late-stage infections of *Leishmania* (*S.*) *adleri* and *L. (S.) hoogstraali* were found in six and two sand fly species, respectively. Hypopylarian infections of *Leishmania* (*S.*) *adleri* were found in *Se. schwetzi*, *P. papatasi* and *P. sergenti*, while in *P. argentipes*, *P. orientalis* and *P. duboscqi* this *Sauroleishmania* migrated anteriorly in the midgut (peripylarian development). Similar type of development was observed also in *P. argentipes* and *P. orientalis* infected by *Leishmania* (*S.*) *hoogstraali*. Both *L. (S.) adleri* and *L. (S.) hoogstraali* colonized the stomodeal valve of *P. argentipes* and *P. orientalis* which suggest the possibility of inoculative transmission by sand fly bite. In other two species *L. (S.) gymnodactyli* and *L. (S.) tarentolae* late-stage infections were not observed, promastigotes were found in sand fly midgut on day 1 postinfection only.

The second part of thesis was aimed at experimental infections of *Sauroleishmania* in geckos *Paroedura picta*. These geckos were infected by *L. (S.) adleri* or *L. (S.) hoogstraali*, either intraperitoneally or perorally. The presence of parasites was examined in different time intervals postinfection by xenodiagnosis and PCR. All geckos were found negative, therefore we suppose that *Paroedura picta* is not a suitable host for these two *Sauroleishmania* species.

Key words: *Sauroleishmania*, sand flies, reptiles, life cycle, infection, xenodiagnosis