Comunicação Científica

Biology of *Lutzomyia lenti* (Mangabeira) (Diptera:Psychodidae)

Reginaldo P. Brazil[1], Viviane L. Carneiro[1], José D. Andrade Filho[1], Jeane C. M. Alves[1] and Alda L. Falcão[1]

[1]Laboratório de Leishmanioses, Centro de Pesquisas René Rachou, Av. Augusto de Lima 1715, 30190-002, Belo Horizonte, MG.

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RESUMO - Foi iniciada uma colônia de *Lutzomyia lenti* (Mangabeira) com fêmeas capturadas em galinheiro, em Betim, MG, utilizando-se armadilha luminosa. A colônia apresentou um ciclo médio de 40,2 dias de ovo a adulto a 26° - 28°C e a UR 80 ± 5%. As fêmeas alimentaram-se avidamente em hamster [*Mesocriscetus auratus* (Waterhouse)], com uma postura média de 36,1 ovos / fêmea, sendo relativamente fácil de manter em laboratório. Estudos preliminares de susceptibilidade sugerem que esta espécie é refratária à infecção por *Leishmania.*

PALAVRAS-CHAVE: Insecta, flebotomineos, biologia.

The establishment of closed colonies of *Lutzomyia* spp. is fundamental to the development of research related to biology, molecular and cellular studies of *Leishmania*. Several species of neotropical sandflies have been colonized successfully (Killick-Kendrick *et al.* 1991), but for a large number of sandfly species their life cycles remain unknown.

Lutzomyia lenti (Mangabeira) is a sandfly well distributed in Brazil and although it is not presumably a *Leishmania* vector it is found of ten in areas of cutaneous and visceral leishmaniasis and there is no laboratory trials on *Leishmania* transmission by this species of sandfly (Young & Duncan 1994). In the present paper accounts are given to establishment of *L.lenti* colony, developmental time of the 1st six generations, as well as susceptibility to *Leishmania* infection.

The colony of *L. lenti* was established with eggs from females collected in a chicken coop in a rural area of Betim, MG, using a CDC (Center for Disease Control) light trap. The method for establishing and maintaining the colony were based on Killick-Kendrick *et al.*(1917) and Modi & Tesh (1983). Females were fed on anesthetized hamsters [*Mesocriscetus auratus* (Waterhouse)] and 48 h after feeding engorged flies were tubed individually in plaster-lined plastic vials. Vials were kept in snap-top plastic box with a damp piece of sponge in the bottom to maintain humidity. After oviposition females were removed, identifiied and the eggs of L. *lenti* counted and transferred to a larger container for mass rearing. Larval food for immature stages was a mixture of rabbit faeces, vegetal and mineral soil, dehydrated lettuce in equal proportion

Table 1. Mean (±SD) developmental time (in days) of three species of laboratory reared *Lutzomyia* (n= 6 generations).

Species	Po	Egg/L1	L1/L2	L2/L3	L3/L4	L4/Pupa	Pupa/Adult	Total
L. lenti	6,6±2,2	5,2±1,6	5,8±0,7	6,6±0,8	6,4±0,4	8,2±0,7	8,0±0,6	40,2±0,8
L. longipalpis'	6,4±0,8	2,8±0,4	5,0±0,6	5,1±0,4	4,5±0,6	5,7±0,4	6,4±0,4	29,5±0,4
L. intermedia"	7,4±0,8	5,6±0,4	5,8±0,7	5,8±0,7	5,4±1,0	5,0±0,6	5,2±0,7	32,8±0,6

Po = Preoviposition, L = Larvae, LI -L4 = Instar 1 to instar 4.
'Females collected in Gruta da Lapinha , MG.
"Females collected in Viana , ES.

plus 2% fish food (Vitormonio). When flies emerged they were released into a net cage and a 50% honey solution was provided on cotton wool in the top of the cages. During the oviposition period honey was provided *ad libitum* on the top of the pots. Cages and pots were kept in the insectary at 26-28°C and 80-85% RH.

Attempts to infect *L. lenti* with *Leishmania amazonensis* Lainson & Shaw were tried on several ocasions. Flies were allowed to feed directly on skin lesions of the nose or feet of experimentally infected hamsters. Engorged females were kept in plaster-lined pots for 8 days in the insectary and then dissected to observe the infection rate. Although not all species of sandfly are easily maintained in laboratory, *L. lenti* appears to be suitable for long-term colonization with the methods of rearing sandflies used in the laboratory. Females of Z.. *lenti* readily feed on hamsters.The mean time of the preoviposition period was 6.6 days (range 5-11) with a mean hatching period for eggs of 5.2 days (range 4-8)(Table l). Larvae developed in 27.0 days (range 26-41) and pupae 8 days (range 6-11). The total cycle from egg to adult was 40.2 days and was longer when compared with *L. longipalpis* (Lutz & Neiva) and *L. intermédia* (Luiz & Neiva) reared in similar conditions.

No *Leishmania* infection was observed in 45 females of *L. lenti* dissected although this parasite infects *L. longipalpis* with some facility. It appears that *L. lenti* is refractory to infection with *Leishmania* and thus appears to share this characteristic with *L. carmelinoi* Ryan, Fraiha, Lainson & Shaw, a sandfly of the same group of *L. lenti,* as observed by Ryan *et al.*(1986).

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