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Author(s): Artur G. Dias-Lima, Diego Menezes, Ítalo Sherlock, and François Noireau

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Wild Habitat and Related Fauna of *Panstrongylus lutzi* (Reduviidae, Triatominae)

ARTUR G. DIAS-LIMA, DIEGO MENEZES, ÍTALO SHERLOCK, AND FRANÇOIS NOIREAU^{1,2}

LAPEN, Centro de Pesquisa Gonçalo Moniz (CPqGM), Fiocruz, Rua Waldemar Falcão 121, Brotas, CEP 40295-001 Salvador, Bahia, Brazil

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ABSTRACT Although *Panstrongylus lutzi* (Neiva and Pinto) is currently the fifth most frequent species of Triatominae captured in artificial structures in Brazil, its silvatic habitat remains unknown. A survey of its natural ecotopes was performed in an area of Bahia State. *P. lutzi* nymphal instars and adults were detected in burrows of Dasypodidae. Silvatic habitat of four other endemic triatomine species of the caatinga (*Triatoma pseudomaculata* Correa and Espinola, *Triatoma brasiliensis* Neiva, *Rhodnius neglectus* Lent, and *Psammolestes tertius* Lent and Jurberg) was also recorded.

KEY WORDS Triatominae, *Panstrongylus lutzi*, silvatic ecology, Dasypodidae, northeastern Brazil

CONTROL OF CHAGAS DISEASE by the elimination of domestic populations of Triatominae is being successful in most states of Brazil. Nevertheless, there are increasing reports of sylvatic triatomine species invading human dwellings and peridomestic environment in controlled areas (Silveira and Vinhaes 1998). *Panstrongylus lutzi* (Neiva and Pinto) is one of these vector candidates because it is currently the fifth most frequent species captured in artificial structures in Brazil after *Triatoma sordida* (Stal), *Triatoma brasiliensis* Neiva, *Triatoma pseudomaculata* Correa and Espinola, and *Panstrongylus megistus* (Burmeister) (Vinhaes and Dias 2000). *P. lutzi* has its endemic center in the Caatinga in Northeastern Brazil. Geographical records indicate that it is present in eight of the nine states of the region: Alagoas, Bahia, Ceará, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, and Sergipe (Carcavallo et al. 1999).

Research activities must now focus on such original wild species adapting to peridomestic and domestic habitats. Although *P. lutzi* is one of the main triatomine species invading houses in Brazil, its wild habitat and related fauna have not been still described (Carcavallo et al. 1998). Nevertheless their knowledge is relevant because they provide the potential sources for household infestation. To investigate these ecological traits, a survey of potential habitats was performed in the municipality of Curaçá, Northern Bahia State.

Materials and Methods

Curaçá (altitude 287 m) is located near the São Francisco river at 08° 58'S, 39° 53'W. It is a region of caatingas, xerophytic formations characterized by the fall of leaves during the dry season. The climate is semiarid, with a mean annual precipitation of 600 mm. The investigated areas (Bom Socorro and Serrote da Salina) display a low diversity of flora. They are covered by a scattered vegetation of trees (elevation 3–6 m) dominated by *Caesalpinia pyramidalis* or caatingueira. In the lowest stratum thorn shrubs, cacti and bromeliads predominate.

Various potential habitats of Triatominae were searched for the presence of *P. lutzi* in October 2002 and March 2003. Mouse-baited traps as described by Noireau et al. (1999) were used to capture insects living in hollow trees and among rocks. Dead trunk of fallen trees, cacti (*Cereus jamacaru* or "mandacaru") and bird nests inhabited by *Pseudoseisura cristata* ("casaco de couro"; Dendrocolaptidae) were systematically dissected. Finally, burrows of Dasypodidae were investigated by excavation.

Results and Discussion

Results of captures are summarized in the Table 1. From a total of 58 trees investigated by bait trapping, 43.1% were positive for *T. pseudomaculata*. The positive dead trunks (41.9% of the dissected) contained the same species. *T. brasiliensis* was the prevailing species encountered among rocks but one adult specimen of *P. lutzi* was also collected in a rocky shelter.

¹ UR016 Institut de Recherche pour le Développement (IRD), France.

² Current address: LNIRTT, Departamento de Entomologia, Instituto Oswaldo Cruz, Fiocruz, 21045-900, Rio de Janeiro, RJ, Brazil (e-mail: noireauf@ioc.fiocruz.br).

Table 1. Distribution of Triatominae species according to investigated habitats

Habitat	No. investigated	No. (%) positive	Triatominae species	No. specimens collected	% nymphal instars
Hollow tree	58	25 (43.1)	<i>Triatoma pseudomaculata</i>	44	97.7
Dead trunk	31	13 (41.9)	<i>Triatoma pseudomaculata</i>	29	89.7
Rock	31	12 (38.7)	<i>Triatoma brasiliensis</i>	27	100
			<i>Panstrongylus lutzi</i>	1	0
Bird nest	34	7 (20.6)	<i>Triatoma pseudomaculata</i>	13	30.8
			<i>Psammolestes tertius</i>	63	82.5
Cactus	23	10 (43.5)	<i>Triatoma pseudomaculata</i>	30	80.0
			<i>Rhodnius neglectus</i>	65	66.2
Burrow of Dasypodidae	37	10 (27.0)	<i>Panstrongylus lutzi</i>	37	73.0
			<i>Triatoma pseudomaculata</i>	1	0

T. pseudomaculata and *Psammolestes tertius* Lent and Jurberg were the two species collected in bird nests (20.6% of the nests were positive). Ten of the dissected mandacarus (43.5%) contained *T. pseudomaculata* and *Rhodnius neglectus* Lent. Lastly, *P. lutzi* was the more common species encountered in the positive excavated burrows of tatu. The presence of *P. lutzi* nymphal instars in eight of the ten positive shelters shows that they constitute a favorable breeding place for this triatomine species.

All the triatomine species identified in the study area had been reported by Sherlock et al. (1972) in Bahia State. *T. pseudomaculata* is the species presenting the more varied sort of habitat. Nevertheless, the abundance of nymphal instars collected in hollow trees shows that this ecotope constitutes a favorable breeding place for this species. Except for one *P. lutzi* adult captured in rocky shelter inhabited by *Kerodon rupestris* or mocó (Caviidae), this species colonizes more commonly burrows of Dasypodidae. Two species of Dasypodidae, the six-banded armadillo (*Euphractus sexcinctus* Linnaeus) and the long-nosed armadillo (*Dasypus novemcinctus* Linnaeus), occur commonly in the region. *P. lutzi* is frequently encountered in domiciliary structures in Northeastern Brazil. It may be assumed that its dispersal to artificial structures may be because of the destruction of armadillos by intensive hunting and, consequently, to the disappearance of its stable natural habitat. The reports of only adult forms invading human dwellings mean that this vector is not established in domiciliary structures. Consequently, and although its *T. cruzi* infection rate may be high, *P. lutzi* cannot be considered as a vector of epidemiological importance in Northeastern Brazil (Lucena 1958, Alencar et al. 1976).

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