Supplementary file (Legend)

Supplementary file Table S1 Prisma 2020 Checklist (NA: not applicable)

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	14
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	16
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	19
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	19
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	20
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	20
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	20
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	21
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	21
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	21
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	19-21
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	21,22
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	NA
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	20

	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	NA
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	NA
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	NA
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	NA
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	NA
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	NA
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	NA
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	22
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	22
Study characteristics	17	Cite each included study and present its characteristics.	22
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	34
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	NA
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	NA
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	NA
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	NA
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	NA
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	NA
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	NA
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	35
	23b	Discuss any limitations of the evidence included in the review.	35

	23c	Discuss any limitations of the review processes used.	35
	23d	Discuss implications of the results for practice, policy, and future research.	35
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	NA
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	NA
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	NA
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	36
Competing interests	26	Declare any competing interests of review authors.	37
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	NA

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71

Supplementary file Table S2 PECOS strategy

PECOS		Exclusion criteria	Inclusion criteria
Population (P)	Phlebotomine	1. Did not meet goals of study/not phlebotomine	1. Articles published 1989 - 2021
		2. Did not investigate Leishmania in reservoir	2. Articles published in Portuguese or English
Exposition (E)	Natural infection by parasites of the *Leishmania* genus	3. Wrong study (type)	3. Articles had abstract, and full text available were selected
		4. Experimental study or vertebrate animal	
Comparator (C)	Not applicable	5. Visceral leishmaniasis or Leishmania species of Old World	
Outcome (O)	Frequency of tegumentary leishmaniasis,	6. Study conducted in another country	

	predictive factors for the environment, agent and host
Study design (S)	Original observational studies
Scientific question:	What are the sandflies naturally infected by Leishmania and the predictive factors of tegumentary leishmaniasis in Brazil?

Source: Own elaboration.

Supplementary file Table S3 Database search strategy.

Blocks	Pubmed (Mesh terms)	Web of Science (free term)	Scopus	LILACS (free term)
Block 1 Leishmaniasis	“Leishmaniasis, Cutaneous / epidemiology” OR “Leishmaniasis, Cutaneous / transmission” OR “Leishmania / epidemiology”	ti=(Cutaneous Leishmaniasis) OR ti=(American Cutaneous Leishmaniasis) OR ti=(American Tegumentary Leishmaniasis) OR ti=(Leishmania) NOT ti=(Visceral Leishmaniasis)	“Cutaneous Leishmaniasis” OR “American Cutaneous Leishmaniasis” OR “American Tegumentary Leishmaniasis” OR “Leishmania”	Cutaneous leishmaniasis
Block 2 Vectors	"Disease vectors" OR "Disease reservoirs" OR “Psychodidae” OR “Dogs” OR “Animals Disease”	ti=(Vectors) OR ti=(Reservoirs) OR ti=(Phlebotomine) OR ti=(Host) OR ti=(Dogs) OR ti=(Rodent)	“Vectors” OR “Reservoirs” OR “Phlebotomine” OR “Host” OR “Dogs” OR “Rodent”	Vectors
Block 3 Brazil	" Brazil "	ti=(Brazil)	“Brazil”	Brazil
Block 4 Leishmaniose visceral	NOT “Leishmaniasis, Visceral”		“Visceral Leishmaniasis”	
Combination:	Bloco 1 AND 2 AND 3 NOT 4	Bloco 1 AND 2 AND 3	Bloco 1 AND 2 AND 3 NOT 4	Bloco 1 AND 2 AND 3

Source: Own elaboration.

Supplementary file Table S4 List of references included studies in systematic review (n=35).

References

ARAUJO-PEREIRA, Thais de *et al*. An overview of the sandfly fauna (Diptera: psychodidae) followed by the detection of leishmania dna and blood meal identification in the state of acre, amazonian brazil. **Memórias do Instituto Oswaldo Cruz**, Rio de Janeiro, v. 115, 2020. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/0074-02760200157. Disponível em: https://www.scielo.br/j/mioc/a/4MJQsz6rN4dDRFxxtqKLgfd/?lang=en#. Acesso em: 15 ago. 2021.

LEÃO, Paula de Oliveira *et al*. Vertical stratification of sand fly diversity in relation to natural infections of Leishmania sp. and blood-meal sources in Jamari National Forest, Rondônia State, Brazil. **Parasites & Vectors**, [S.L.], v. 13, 17 ago. 2020. Springer Science and Business Media LLC. http://dx.doi.org/10.1186/s13071-020-04295-9. Disponível em: https://parasitesandvectors.biomedcentral.com/articles/10.1186/s13071-020-04295-9#citeas. Acesso em: 15 ago. 2021.

SALES, Kamila Gaudêncio da Silva *et al*. Fast multiplex real-time PCR assay for simultaneous detection of dog and human blood and Leishmania parasites in sand flies. **Parasites & Vectors**, [S.L.], v. 13, 21 abr. 2020. Springer Science and Business Media LLC. http://dx.doi.org/10.1186/s13071-020-3994-6. Disponível em: https://parasitesandvectors.biomedcentral.com/articles/10.1186/s13071-020-3994-6. Acesso em: 15 ago. 2021.

TANURE, Aline *et al*. Diversity of phlebotomine sand flies and molecular detection of trypanosomatids in Brumadinho, Minas Gerais, Brazil. **Plos One**, [*s. l*], 24 jun. 20. Disponível em: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0234445. Acesso em: 15 ago. 2021.

UZCÁTEGUI, Yetsenia D V Sánchez *et al*. Phlebotomines (Diptera: psychodidae) from a urban park of belém, pará state, northern brazil and potential implications in the transmission of american cutaneous leishmaniasis. **Journal Of Medical Entomology**, [S.L.], v. 57, n. 1, p. 281-288, 24 set. 2019. Oxford University Press (OUP). http://dx.doi.org/10.1093/jme/tjz153. Disponível em: https://pubmed.ncbi.nlm.nih.gov/31550368/. Acesso em: 15 ago. 2021.

Pereira, Antonio Marques et al. Diversity, natural infection and blood meal sources of phlebotomine sandflies (Diptera, Psychodidae) in the western Brazilian Amazon. **Memórias do Instituto Oswaldo Cruz**. 2019, v. 114, 29 July 2019. FapUNIFESP (SciELO). https://doi.org/10.1590/0074-02760190170. Disponível em: https://www.scielo.br/j/mioc/a/XgZTBtbFvf6xCMSSZsn6KXR/?lang=en#. Acesso em: 15 ago. 2021.

CARVALHO, Bruno M *et al*. Entomological surveys of Lutzomyia flaviscutellata and other vectors of cutaneous leishmaniasis in municipalities with records of Leishmania amazonensis within the Bragança region of Pará State, Brazil. **Journal Of Vector Ecology**, [*s. l*], v. 43, n. 1, p. 168-178, 01 jun. 2018. Disponível em: https://pubmed.ncbi.nlm.nih.gov/29757525/. Acesso em: 15 ago. 2021.

CHAGAS, Erica Cristina da Silva *et al*. Composition of sand fly fauna (Diptera: psychodidae) and detection of leishmania dna (kinetoplastida: Trypanosomatidae) in different ecotopes from a rural settlement in the central Amazon, Brazil. **Parasites & Vectors**, [S.L.], v. 11, n. 1, 13 mar. 2018. Springer Science and Business Media LLC. http://dx.doi.org/10.1186/s13071-018-2743-6. Disponível em: https://parasitesandvectors.biomedcentral.com/articles/10.1186/s13071-018-2743-6#citeas. Acesso em: 15 ago. 2021.

ÁVILA, Márcia Moreira de *et al*. Ecology, feeding and natural infection by Leishmania spp. of phlebotomine sand flies in an area of high incidence of American tegumentary leishmaniasis in the municipality of Rio Branco, Acre, Brazil. **Parasites & Vectors**, [S.L.], v. 11, n. 1, 26 jan. 2018. Springer Science and Business Media LLC. http://dx.doi.org/10.1186/s13071-018-2641-y. Disponível em: https://parasitesandvectors.biomedcentral.com/articles/10.1186/s13071-018-2641-y. Acesso em: 15 ago. 2021

SANTOS, Thiago Vasconcelos dos *et al*. Ecological aspects of Phlebotomines (Diptera: psychodidae) and the transmission of american cutaneous leishmaniasis agents in an amazonian/ guianan bordering area. **Parasites & Vectors**, [S.L.], v. 11, n. 1, 29 nov. 2018. Springer Science and Business Media LLC. http://dx.doi.org/10.1186/s13071-018-3190-0. Disponível em: https://parasitesandvectors.biomedcentral.com/articles/10.1186/s13071-018-3190-0#citeas. Acesso em: 15 ago. 2021.

ARAUJO-PEREIRA, Thais de *et al*. First description of Leishmania (Viannia) infection in Evandromyia saulensis, Pressatia sp. and Trichophoromyia auraensis (Psychodidae: phlebotominae) in a transmission area of cutaneous leishmaniasis in acre state, amazon basin, brazil. **Memórias do Instituto Oswaldo Cruz**, [S.L.], v. 112, n. 1, p. 75-78, jan. 2017. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/0074-02760160283. Disponível em: https://www.scielo.br/j/mioc/a/5v5wNcH9VBpsxdx7QxjJLMR/?lang=en. Acesso em: 15 ago. 2021.

BRILHANTE, Andreia Fernandes *et al*. Attractiveness of black and white modified Shannon traps to phlebotomine sandflies (Diptera, Psychodidae) in the Brazilian Amazon Basin, an area of intense transmission of American cutaneous leishmaniasis. **Parasite**, [*s. l*], v. 24, 08 jun. 2017. Disponível em: https://www.parasite-journal.org/articles/parasite/full_html/2017/01/parasite170003/parasite170003.html. Acesso em: 15 ago. 2021

DANTAS-TORRES, Filipe *et al*. Sand fly population dynamics and cutaneous leishmaniasis among soldiers in an Atlantic forest remnant in northeastern Brazil. **Plos Neglected Tropical Diseases**, [S.L.], v. 11, n. 2, 27 fev. 2017. Public Library of Science (PLoS). http://dx.doi.org/10.1371/journal.pntd.0005406. Disponível em: https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0005406. Acesso em: 15 ago. 2021

SOUZA, Adelson Alcimar Almeida de *et al*. NaturalLeishmania(Viannia) infections of phlebotomines (Diptera: psychodidae) indicate classical and alternative transmission cycles of american cutaneous leishmaniasis in the guiana shield, brazil. **Parasite**, [S.L.], v. 24, 15 maio 2017. EDP Sciences. http://dx.doi.org/10.1051/parasite/2017016. Disponível em: https://www.parasite-journal.org/articles/parasite/full_html/2017/01/parasite170038/parasite170038.html. Acesso em: 15 ago. 2021.

MEMBRIVE, Norberto Assis *et al*. Considerations of potential vectors and animal reservoirs in an emerging cutaneous leishmaniasis area in São Domingos ranch, Paraná State in Southearn Brazil. **Revista do Instituto de Medicina Tropical de São Paulo**, [S.L.], v. 59, 4 set. 2017. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s1678-9946201759064. Disponível em: https://www.scielo.br/j/rimtsp/a/TXYy5GdJvbjcHQbXZDVrHnP/?lang=en. Acesso em: 15 ago. 2021.

SILVA, Ana Patricia Oliveira da; MIRANDA, Débora Elienai de Oliveira; SANTOS, Marcos Antônio Bezerra; GUERRA, Neurisvan Ramos; MARQUES, Silvia Rafaelli; ALVES, Leucio Câmara; RAMOS, Rafael Antonio Nascimento; CARVALHO, Gílcia Aparecida de. Phlebotomines in an area endemic for American cutaneous leishmaniasis in northeastern coast of Brazil. **Revista Brasileira de Parasitologia Veterinária**, [S.L.], v. 26, n. 3, p. 280-284, 24 ago. 2017. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s1984-29612017038.

TONELLI, Gabriel Barbosa *et al*. Aspects of the ecology of phlebotomine sand flies (Diptera: psychodidae) in the private natural heritage reserve sanctuary caraça. **Plos One**, [S.L.], v. 12, n. 6, 1 jun. 2017. Public Library of Science (PLoS). http://dx.doi.org/10.1371/journal.pone.0178628. Disponível em: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0178628. Acesso em: 15 ago. 2021.

TELES, Carolina Bioni Garcia *et al*. Phlebotomine sandfly (Diptera: psychodidae) diversity and their leishmania dna in a hot spot of american cutaneous leishmaniasis human cases along the brazilian border with peru and bolivia. **Memórias do Instituto Oswaldo Cruz**, [S.L.], v. 111, n. 7, p. 423-432, 10 jun. 2016. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/0074-02760160054.

MIRANDA, Débora Elienai de Oliveira *et al*. Ecology of sand flies in a low-density residential rural area, with mixed forest/agricultural exploitation, in north-eastern Brazil. **Acta Tropica**, [S.L.], v. 146, p. 89-94, jun. 2015. Elsevier BV. http://dx.doi.org/10.1016/j.actatropica.2015.03.011. Disponível em: https://www.sciencedirect.com/science/article/abs/pii/S0001706X15000595?via%3Dihub. Acesso em: 15 ago. 2021

PEREIRA JÚNIOR, Antonio Marques *et al*. Ecological aspects and molecular detection of Leishmania DNA Ross (Kinetoplastida: trypanosomatidae) in phlebotomine sandflies (diptera: Psychodidae) in terra firme and várzea environments in the Middle Solimões Region, Amazonas State, Brazil. **Parasites & Vectors**, [S.L.], v. 8, n. 1, 25 mar. 2015. Springer Science and Business Media LLC. http://dx.doi.org/10.1186/s13071-015-0789-2.

RÊGO, Felipe Dutra *et al*. Molecular Detection of Leishmania in Phlebotomine Sand Flies (Diptera: psychodidae) from a cutaneous leishmaniasis focus at xakriabá indigenous reserve, Brazil. **Plos One**, [S.L.], v. 10, n. 4, 8 abr. 2015. Public Library of Science (PLoS). http://dx.doi.org/10.1371/journal.pone.0122038. Disponível em: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0122038. Acesso em: 15 ago. 2021.

SILVA, T.R.R. *et al*. Molecular Detection of Leishmania in Sand Flies (Diptera: psychodidae: Phlebotominae) Collected in the Caititu Indigenous Reserve of the Municipality of Lábrea, State of Amazonas, Brazil. **Journal Of Medical Entomology**, [S.L.], v. 51, n. 6, p. 1276-1282, 1 nov. 2014. Oxford University Press (OUP). http://dx.doi.org/10.1603/me14025. Disponível em:

https://academic.oup.com/jme/article-abstract/51/6/1276/863524?redirectedFrom=fulltext. Acesso em: 15 ago. 2021..

TELES, Carolina Bioni Garcia *et al*. Epidemiological aspects of American cutaneous leishmaniasis and phlebotomine sandfly population, in the municipality of Monte Negro, State of Rondônia, Brazil. **Revista da Sociedade Brasileira de Medicina Tropical**, [*s. l*], v. 46, n. 1, 01 fev. 2013. Disponível em: https://www.scielo.br/j/rsbmt/a/bGXZZ7hMNmgYYtJf4crNCcj/?lang=en#. Acesso em: 15 ago. 2021.

THIES, Sirlei Franck *et al*. Phlebotomine sandfly fauna and natural Leishmania infection rates in a rural area of Cerrado (tropical savannah) in Nova Mutum, State of Mato Grosso in Brazil. **Revista da Sociedade Brasileira de Medicina Tropical**, [S.L.], v. 46, n. 3, p. 293-298, jun. 2013. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/0037-8682-0031-2013. Disponível em: https://www.scielo.br/j/rsbmt/a/5NQS8pgfS5MNLJ69dkpy9Hy/?lang=en. Acesso em: 15 ago. 2021.

VILELA, Maurício Luiz *et al*. The phlebotomine fauna (Diptera: psychodidae) of guaraí, state of tocantins, with an emphasis on the putative vectors of american cutaneous leishmaniasis in rural settlement and periurban areas. **Memórias do Instituto Oswaldo Cruz**, [S.L.], v. 108, n. 5, p. 578-585, ago. 2013. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s0074-02762013000500007. Disponível em: https://www.scielo.br/j/mioc/a/CwHvTWQxP6FsBv64GCQTSgr/?lang=en. Acesso em: 15 ago. 2021.

QUARESMA, Patrícia Flávia *et al*. Natural Leishmania sp. reservoirs and phlebotomine sandfly food source identification in Ibitipoca State Park, Minas Gerais, Brazil. **Memórias do Instituto Oswaldo Cruz**, [S.L.], v. 107, n. 4, p. 480-485, jun. 2012. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s0074-02762012000400007. Disponível em: https://www.scielo.br/j/mioc/a/czKd9YSTRqLhmMTSwz7VYLx/?lang=en. Acesso em: 15 ago. 2021.

MARGONARI, C. *et al*. Phlebotomine Sand Flies (Diptera: psychodidae) and leishmania infection in gafanhoto park, divinópolis, brazil. **Journal Of Medical Entomology**, [S.L.], v. 47, n. 6, p. 1212-1219, 1 nov. 2010. Oxford University Press (OUP). http://dx.doi.org/10.1603/me09248. Disponível em: https://academic.oup.com/jme/article/47/6/1212/996419. Acesso em: 15 ago. 2021.

SARAIVA, Lara *et al*. The molecular detection of different Leishmania species within sand flies from a cutaneous and visceral leishmaniasis sympatric area in Southeastern Brazil. **Memórias do Instituto Oswaldo Cruz**, [S.L.], v. 105, n. 8, p. 1033-1039, dez. 2010. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s0074-02762010000800013. Disponível em: https://www.scielo.br/j/mioc/a/G8HtXwGKgtbnZDLL9QYkR9Q/?lang=en. Acesso em: 15 ago. 2021

SOUZA, Adelson Alcimar Almeida de *et al*. Fauna flebotomínica da Serra dos Carajás, Estado do Pará, Brasil, e sua possível implicação na transmissão da leishmaniose tegumentar americana. **Revista Pan-Amazônica de Saúde**, [S.L.], v. 1, n. 1, p. 1-2, mar. 2010. Instituto Evandro Chagas. http://dx.doi.org/10.5123/s2176-62232010000100007.

BRITO, Maria Edileuza F. *et al*. Species diversity ofLeishmania (Viannia)parasites circulating in an endemic area for cutaneous leishmaniasis located in the Atlantic

rainforest region of northeastern Brazil. **Tropical Medicine & International Health**, [S.L.], v. 14, n. 10, p. 1278-1286, 25 ago. 2009. Wiley. http://dx.doi.org/10.1111/j.1365-3156.2009.02361.x.

OLIVEIRA-PEREIRA, Yrla Nívea *et al*. Diagnóstico molecular da taxa de infecção natural de flebotomíneos (Psychodidae, Lutzomyia) por Leishmania sp na Amazônia maranhense. **Revista da Sociedade Brasileira de Medicina Tropical**, [S.L.], v. 39, n. 6, p. 540-543, dez. 2006. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s0037-86822006000600005. Disponível em: https://www.scielo.br/j/rsbmt/a/H9ZpmTMnLvnWxDx9x5GZ6Ym/?lang=pt. Acesso em: 15 ago. 2021.

SOUZA, Carina Margonari de *et al*. Study on phlebotomine sand fly (Diptera: psychodidae) fauna in belo horizonte, state of minas gerais, brazil. **Memórias do Instituto Oswaldo Cruz**, [S.L.], v. 99, n. 8, p. 795-803, dez. 2004. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s0074-02762004000800003. Disponível em: https://www.scielo.br/j/mioc/a/7rhLMGQFxF4HVw7rfshZGRL/?lang=en. Acesso em: 15 ago. 2021.

MIRANDA, José Carlos *et al*. Frequency of Infection of Lutzomyia Phlebotomines with Leishmania braziliensis in a Brazilian Endemic Area as Assessed by Pinpoint Capture and Polymerase Chain Reaction. **Memórias do Instituto Oswaldo Cruz**, [S.L.], v. 97, n. 2, p. 185-188, mar. 2002. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s0074-02762002000200006. Disponível em: https://www.scielo.br/j/mioc/a/59Vv5MQDR8WcMrkbs6f5Q7H/?lang=en. Acesso em: 15 ago. 2021.

SILVA, Onilda Santos da *et al*. Contribution to the sand fly fauna (Diptera: phlebotominae) of rio grande do sul, brazil and leishmania (viannia) infections. **Memórias do Instituto Oswaldo Cruz**, [S.L.], v. 94, n. 5, p. 579-582, set. 1999. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s0074-02761999000500002. Disponível em: https://www.scielo.br/j/mioc/a/57qqCdXcfd7CX6Dkv3mPQ5q/?lang=en. Acesso em: 15 ago. 2021.

FREITAS, R. A. *et al*. Lutzomyia reducta Feliciangeli et al., 1988, a host of Leishmania amazonensis, sympatric with two other members of the Flaviscutellata complex in southern Amazonas and Rondônia, Brazil (Diptera: psychodidae). **Memórias do Instituto Oswaldo Cruz**, [S.L.], v. 84, n. 3, p. 363-369, set. 1989. FapUNIFESP (SciELO). http://dx.doi.org/10.1590/s0074-02761989000300011. Disponível em: https://www.scielo.br/j/mioc/a/crhXHzCHHj8y5SRTjHtx44Q/?lang=en. Acesso em: 15 ago. 2021.

Source: Own elaboration.

Supplementary file Table S5 Design of the studies on invertebrate hosts of Leishmania in Brazil. (T= average annual of temperature; R= annual Rainfall; A= Altitude (average elevation); NR= Not reported; GC= geographical coordinates; U= Urban; PU= Peri-urban; P= Peridomiciliary; R= Rural; Ap= Another place; Y= Yes; N= No)

Author, year/ State of Brazil	Objective	Location	Local of insects collection	Capture of insects
Araujo-Pereira et al, 2020 / Acre	Data concerning the sandfly fauna of Brasiléia municipality, *Leishmania* DNA-detection rates and the identification of blood meal sources of insects captured in 2013-2015 are presented.	P; AP = high-density forest	Seven areas situated in the rural zone (transversely positioned along the Federal BR 317 Trans Pacific Highway). The inset shows a satellite image indicating the distances between the seven study areas where sandflies were captured. Area 1 - Kilometre 4, Ramal do Polo or Ramal 4 (10°56'43.43''S, 68°42'13.91''W); Area 2 - Kilometre 5, Ramal do Jarinal or Ramal 5 (10°56'6.30''S, 068°46'4.57''W); Area 3 - Kilometre 13, Ramal 13 (10°54'30.9''S, 68°49'27.1''W); Area 4 - Kilometre 18, Ramal 18 (10°55'20.8''S, 68°51'29.1''W); Area 5 - Kilometre 59, Ramal 59 (10°49'33,72''S, 69°7'43.85''W); Area 6 - Kilometre 69, Ramal 69 (10°49'8.84''S, 069°14'3''W); Area 7 - Kilometre 74, Ramal 74 (10°48'8.84''S, 069°23'9,78'' W) The vegetation is composed of dense and open tropical forest with predominance of palm trees; the presence of liana is common in the tropical rainforest. The region exhibits an equatorial tropical climate with temperatures varying between 22 and 33ºC and annual precipitation of approximately 1,900 mm, with higher rainfall intensity between the months of November to March and a dry period from May to August.	Light traps (HP model) placed at ground level (50-100 cm high) or at the top of trees (10-15 m high). A modified Shannon trap (model in "T") with an attractive light was used. The first (2013 – dry season)with a sampling effort of 180 h; 84 sandflies were trapped. the second (2014 – rainy season) totalising 792 h; 394 specimens were captured. The third visit (2014 – dry season) with a sampling effort of 1,188 h; a total of 2,081 individuals was captured. The last capture (2015– rainy season) with a sampling effort of 1,188 h; a total of 1,914 specimens were captured. All areas of the dense forest environment where the three methodologies of capture were applied (areas A1-R4, A3-R13, A4-R18 and A5-R59) presented identical sampling effort (792 h each).

Leão et al, 2020 / Rondônia	To evaluate sand fly fauna from two vertical stratification layers in order to identify potential vectors and their blood-meal sources.	AP =Forest	Jamari National Forest (Jamari Flona) the Potosi trail (09°15′36.14″S, 62°54′48.33″W) and the Santa Maria trail (09°08′22.65S, 62°54′49.04″W). It has an equatorial dry and wet climate which generally entails a dry season between June and August and a rainy season between October and April, while May and September are months of seasonal transition. The average annual precipitation is 2000 mm; the relative humidity is 80–85%, and the average temperature 24 °C. The phytophysiognomy is composed of 90% ombrophilous dense forest. Jamari Flonawas a site of ore extraction in the 1950s. Part of this reserve has been designated as a anagement Forest Unit (MFU) and part has been set aside for permanent preservation.	HP light traps at ground level (1 m above ground) and in the canopy (15 m above ground) 5 consecutive nights in the months of February, April, August, and October, 2018 from 18:00 to 7:00h. - at 8 points on the Santa Maria and 8 on Potosi trail (16 traps).
Sales et al, 2020 / Pernambuco	The general objective was to gather epidemiological data that could indicate the occurrence of a peridomestic/domestic transmission cycle of L. braziliensis in indigenous villages.	R; AP = indigenous villages	In the municipality of Pesqueira, which is located in the agreste region of Pernambuco, a narrow zone between the Atlantic forest zone (zona da mata) and the semiarid region (sertão). Three indigenous villages were surveyed in this study: Guarda (V1; 8°21′49.6″S, 36°48′47.1″W, altitude: 844 m above sea level), Santana (V2; 8°20′12.3″S, 36°43′38.1″W, altitude: 850 m) and Afetos (V3; 8°19′06.1″S, 36°42′37.3″W, altitude: 965 m). The villages are located in a rural area and the native vegetation is represented by semi-deciduous and deciduous forests, although most of the original forest coverage has been substituted by crop plantations. The climate of this area is semiarid, characterized by low humidity and little rainfall. The local economy is mostly based on agriculture, with plantations of bananas, beans, cassava, corn and vegetables, as well as dairy cattle and goat farming. The raining period ranges from February to July, with an	CDC light traps Sand fly collections were carried out monthly, from March 2015 to March 2016 (except in October 2015, for logistic reasons) from three consecutive nights; Collection sites (houses) were chosen based on the occurrence of human cases of CL. Each night, one to four CDC light traps were installed in each village, operating from 18:00 h to 6:00 h, for a total of 253 traps installed and 3036 cumulative hours of trapping. Each trap was positioned 1.5 m above the ground in two types of environments: indoor (living rooms and bedrooms) and outdoor (backyards

			annual average temperature of 26 °C (range, 24–27 °C), average relative humidity of 76% (range, 69–86%) and average precipitation of 700 mm3. Domestic animals (e.g. dogs, cats and chickens) are common both indoors and outdoors of human houses.	with chicken coop, goats and/or dogs)
Tanure et al, 2020 / Minas Gerais	To describe the sand fly fauna and detect trypanosomatids in these insects from Casa Branca, state of Minas Gerais, Brazil, an endemic area of both visceral (VL) and tegumentary leishmaniasis (TL).	P	Sand flies were collected from nine sampling points in Casa Branca (20°6'2.58"S; 44°2'59.45" W) from May 2013 to July 2014, in northern region of the municipality of Brumadinho.Casa Branca is bordered by the Parque Estadual Serra do Rola Moça (PESRM) conservation unit, the third largest urban park in Brazil, covering a transition area between Atlantic Forest and Cerrado. About eight kilometers west of Casa Branca is a village called Córrego do Feijão, where, in January 2019, an ore tailing dam ruptured, causing great environmental and social impact in all areas of Brumadinho municipality.	Bimonthly, two automatic light traps (model HP) were set at each sampling point, in the peridomiciliary environment for three consecutive nights. Collection sites with previous reports of human or canine leishmaniasis were selected. May 2013 to July 2014
Uzcátegui et al, 2020 / Pará	To investigate, in an urban park of Belém, the phlebotomine sand fly fauna, associated or not associated with *Leishmania* spp. infections, spatiotemporal fluctuation patterns (monthly frequency and vertical stratification), and potential implications of these findings in the transmission of ACL agents.	U = (forested sites)	Urban Park in Belém, Bosque Rodriques Alves-Jardim Botânico da Amazônia (BRAJBA) 1° 25′48,2″ S; 48° 27′24,9″ W. A 15 ha area of remaining preserved primary forest (80% of green area), with an estimated flora of 10,000 trees from 300 species and a fauna of 345 animals, with 29 species living in captivity and 29 others in free/ semifree conditions. Climate is equatorial (average of 85–95% of humidity and 3,084 mm of yearly precipitation), directly influenced by the Amazon rainforest.	January to December 2018 using Center of Diseases Control (CDC) light traps, placed in ground (n = 2 CDC at 1.5 m above ground level) and in canopy strata (n = 2 CDC at 20 m a.g.l), operating from 06:00 p.m. to 06:00 a.m., during four nights per month. As an effort to make certain that there were no species present that did not respond to the light traps, Shannon captures, with manual aspiration made by two professionals were also performed from 06:00 p.m. to 08:00 p.m. during three intercalated nights of

				November 2018. Meanwhile, aspirations were performed on tree bases, with aid of an electric aspirator (an adapted CDC trap), from 06:00 a.m. to 08:00 a.m. during three intercalated mornings of October 2018.
Pereira-Júnior et al, 2019 / Rondônia	To characterise the sandfly fauna and identify their blood meal sources, as well as to assess the natural infection caused by *Leishmania* in RO.	Ap=Forest Edge and Conservation Unit (CUN, forest); PU	CUN= Jaru Biological Reserve (REBIO Jaru), which has a territory that covers six municipalities (Machadinho D'Oeste, Vale do Anari, Theobroma, Ouro Preto do Oeste, Vale do Paraíso and Ji-Paraná), Jamari National Forest (FLONA Jamari), located north of RO in the municipality of Itapuã do Oeste, and Guajará-Mirim State Park, located to the west of RO between the municipalities of Nova Mamoré and Guajará-Mirim. Collections in the Forest Edge and Peridomicile environments in the municipalities of Cacaulândia and Monte Negro; Cacoal, Ji-Paraná and Vilhena, and Guajará-Mirim and Porto Velho.	In the CUN environments, collections were made along two different trails and sampling was performed twice in 2016 and twice in 2017. Six Hoover Pugedo (HP) light traps were set along each trail (12 HPs/reserve) and collections were made between 06:00 p.m. and 07:00 a.m. for five consecutive days. Collections in the FE and PE environments were made from 2016 to 2018 at five locations within each municipality. At each location, one trap was set in the FE environment and two traps were set in the PE environment, using a total of 15 traps per municipality.
Carvalho et al, 2018 / Pará	To investigate the ecoepidemiology of ATL in municipalities within the Bragança region of Pará State where human infections of *L. amazonensis* have been recorded recently. These locations were selected with the aim of assessing how the sampling of *Lu. flaviscutellata* can be used to optimize eco-epidemiological	P; Ap = Forest	Four transects surrounding three small villages in the municipalities of Bragança and Tracuateua. Four transects were established that included "Igapó" forest fragments and/or "Capoeira" woodland and/ or peridomestic areas. The rainy season starts in December and peaks between February and March. In the following months, precipitation gets progressively lower until the peak of the dry season from October to November.	Modified Disney trap and CDC miniature light trap / Each transect had six sand fly capture sites situated 100 m apart, in each of which two traps were suspended from low tree branches or from man-made supports in peridomestic areas. The two traps at each capture site were

	surveys of CL in transmission areas of *L. amazonensis*.			set approximately 10 m apart and separated by trees / From sunset to the next morning (12 h) for two consecutive nights in each capture station, with a total of 1,728 hours of capture for each trap type. Trapping was carried out in July, 2014; December, 2014; and March, 2015.
Chagas et al, 2018 / Amazonas	To describe the composition and distribution of sand fly species diversity among ecotopes (intradomicile, peridomicile and forest) in an area of ACL transmission, as well as to detect natural infection with *Leishmania* DNA, in order to evaluate which vectors are inside houses and whether they represent a hazard of transmission.	R; Ap= Forest	Tarumã Mirim Rural Settlement (2.792972°S, 60.036966°W), located northwest to Manaus. T=27ºC; R= 1750–2500 mm; Humidity= 75–86% The predominant vegetation cover is ombrophile forest, with anthropogenic activities being quite intensive and including agricultural crops, coal production, livestock and secondary vegetation.	CDC light traps / Four fixed collection points. At each fixed point of collection, the traps were installed as follows: one intradomicile, one peridomicile and two in the forest / Three consecutive days, from 5:00 pm to 7:00 am, totalling 9216 hours of sampling effort, between May 2015 and April 2016,
De Ávila et al, 2018 / Acre	To investigate the sand fly fauna of rural and urban environments, and determine their food source and natural infection by *Leishmania* in an endemic area of ATL.	R, U, P	GC= 09°59′11"S, 67°49′ 52"W (Rio Branco) T= 24°C - 32°C R= 1877 mm - 1982 mm The vegetation is composed of dense and open tropical forest with predominance of bamboo and palm trees.	HP light traps, Shannon trap / Forest and peridomestic environments in a rural area, and in an urban forest / 6:00 pm to 8:00) am, between December 2014 and January 2016, during 13 nights.
Vasconcelos dos Santos et al, 2018 / Amapá	To assessed potential ATL transmission cycles in the lower Oyapock River Basin to promote knowledge on phlebotomine ecology, mainly focusing on species composition, multi-trapping stratification, blood-source investigation and natural *Leishmania* spp. infections.	PU	Oiapoque (03°49'29"N, 51°49'05"W): -Vila Vitória Road (03°51'28.1"N, 51°48'41.3"W): a recently opened road that provides eastern access from Oiapoque to Vila Vitória. The sampling site shows minimal evidence of human activity and is considered well preserved. T= 27.4 °C; Humidity= 82.9%; -Highway BR156-Km6 (03°49'21.0"N, 51°45'59.6"W): an impacted area in southern urban Oiapoque withevidence of human activities, such as wood extraction. T= 26.6 °C;	CDC light traps / 6:00 am to 6:00pm, during 5,760hrs, 2015 to 2016 Modified Shannon black and white colored cloth / 6:00 am to 8:00 pm, during 96hrs, 2015 to 2016 Manual aspiration on tree bases / 6:00 am to 8:00 pm, during 24hrs, 2015 to 2016

			Humidity= 77.1%; - Clevelândia do Norte Road (3°49'4.14"N, 51°51'6.35"W): an old colonized area on the western side of urban Oiapoque, where the original vegetation was partially suppressed and replaced by secondary forest. It is currently an environmentally protected area by the Brazilian Army. T=25.0 °C; Humidity= 85.7%.	
Araujo-Pereira et al, 2017 / Acre	To evaluate the rates of infection by *Leishmania* spp. in non-blood-fed female sandflies captured in Rio Branco municipality.	U , P	Rio Branco (67º49'52"S, 9º59'11"W), - Chico Mendes Municipal Park (10º02'135''S, 67º47'716''W), remaining areas of primary forest (representative species of fauna and flora). - Bosque district (09º55'802''S, 67º51'763''W), urban area near the centre of Rio Branco, where houses have been constructed very close to the Amazon forest with the presence of domestic and wild animals in peridomicile areas. - Moreno Maia settlement (10º10'357''S, 67º55'505''W), a rural area far away from the centre of Rio Branco (few existing residences situated near forest with the maintenance of domestic animals in the peridomicile areas).	HP light traps / Forest areas impacted by presence of man, around residences, Municipal Park and inside chicken enclosures in the peridomicile / At night, during fifteen nights / April 2011 to April 2012.
Brilhante et al, 2017 / Acre	To verify the phlebotomine species and traps attractiveness to them in the Amazonian Forest of the Acre basin, using white and black Shannon traps.	R	Xapuri (GC) T= 27°C; R= NR; A= NR The primitive vegetation of Xapuri consists of the Amazon biome characterized by a tropical climate with abundant rainfall from October to April and dry months between May and September.	White and Black Shannon traps / The traps were installed in a primary forest area, side by side at the same distance, about 3 m, from ''Samaúma'' / Once a month, from 6 pm to 10 pm August 2013 and July 2015 (March 2014, August 2014, April 2015, and July 2015 the collections extended for 24 h uninterrupted)
Dantas-Torres et al, 2017 /	To investigate the population dynamics of sandflies in a	Ap = Military training camp	GC= 7°49'75'S-7°50.29'S- 7˚ 50.25' S-7˚50.18' S-7˚ 50.04' S-7˚49.78' S-7˚	CDC light traps / Nine sites located near the forest

Pernambuco	military training camp located in a remnant of Atlantic rainforest in northeastern Brazil.		49.88' S-7˚49.86' S-7˚ 49.88' S-7˚49.88' S 35˚06.25' W- 35˚05.76' W-35˚05.62' W-35˚05.77' W-35˚06.50' W-35˚06.71' W-35˚06.86' W-35˚06.96' W-35˚07.05' W-35˚07.29' W A= 116 m-178 m The climate of this region is rainy tropical type with dry summer. The vegetation is represented by the Atlantic rainforest distributed into two main types: open ombrophilous forest and seasonal semidecidual.	edge and one near a sheep and goat stable / At 5:00 pm to 6:00 am (four consecutive nights) / July 2012 to July 2014.
De Souza et al, 2017 / Amapá	The aim of the present survey of the Serra do Navio phlebotomine population is in part to fill this gap by assessing putative transmission cycles in this Brazilian region of the Guiana Shield.	Ap = Primary forest	Serra do Navio (00° 53' 45" N; 52° 00' 07" W) T= NR; R= NR; A= NR The climate is similar to those of the other Amazonian ecoregions of the Guiana Shield, as follows: a short rainy season from mid-November to late January; a short dry season between early February and mid-March; a long rainy season from late March to late July; and a long dry season from late July to mid-November.	Captures were performed during five 12-night expeditions in 1996 (May and September), 1997 (July and November), and 1999 (October) / CDC light traps / 06:00 pm to 06:00 am Shannon traps light-bait / 06:00 pm and 08:00 pm captures on tree bases with a battery-operated aspirator from 07:00 am to 09:00 am.
Membrive et al, 2017 / Paraná	To better understand the dynamics of *Leishmania*, sand flies and reservoirs in an anthropic environment in an endemic area of CL.	R	GC= São Domingos ranch, located at 23° 29'50.17"S and 51° 27'47.50" W, Arapongas. T= 8°C - 32°. Vegetation: a permanent preservation area with approximately 2.1 ha, rocky soil, sharp slope and visibly degraded primary forest. The human buildings are situated 50 m away from the forest. The residents cultivate soybeans, corn, wheat, tomatoes and work with poultry farming	Falcão light traps (FA) / Porch of a residence and in the dog shelter, inside the forest / four times a week, 6:00 pm to 8:00 am, Dec 2014 and Feb 2015. Shannon light traps (SH) / Inside the forest / 6:00 pm to 12:00 pm / once a month (Mar-May, Aug-Oct 2015). Quadrangular pyramidal trap (QP) / Entrance of the wild animal burrows / 8:00 am to 12:00 am, set 2014 -out 2015.
Silva et al, 2017 / Pernambuco	To contribute knowledge of the phlebotomine fauna in an area endemic for ACL in	R, Ap= Forest	District of Três Ladeiras, located in the municipality of Igarassu (7°50'00" S and 34°54'30" W). T= 25ºC; R= 2000 mm; A= NR It has	CDC light traps / Each trap was installed with a mean distance of 900 m among

	northeastern coast of Brazil.		vegetation cover formed of rain forest fragments.The climate is tropical (warm and humid), with rainy periods ranging from autumn to winter (March-September).	them, at a height of 1.5 m above the ground, and in different ecotopes: indoors, peridomestic and forested areas / Three consecutive nights every month, from 5 pm to 5 am / October 2015 to September 2016.
Toneli et al, 2017/ Minas Gerais	To describe the patterns of species richness and diversity of sandflies among areas of Caraça Sanctuary and to investigate their seasonal variation. It also aims to assess the presence of *Leishmania* DNA among these insects.	Ap = Reserve (Santuário da Caraça)	GC= (20°0'51'' S, 43°29'28'' W). T = 7°C - 30°C (rare 0°C). A= 2,072 m. The reserve is situated on the mountain range and possesses a variety of floras including semi deciduous forests (Atlantic Forest), savannah (Cerrado), and open areas such as high-altitude and rocky (rupestrian) fields	CDC light traps / Forested areas, rupestrian fields (cave), peridomestic and intradomestic areas, peridomicile area of the hotel (Jun 2013 and Jun 2014).
Teles et al, 2016 / Acre	To identify the phlebotomine sandfly vectors involved in the transmission of ACL in Assis, Brazil.	P (rural areas roads)	GC= Brasiléia microregion (10º56'29"S and 69º34'01"W) T= 26.5°C relative humidity is 80-90%, wet season between November-April, and a dry season between May-October. The study area has a landscape formed by a mosaic of indigenous lands, extractive reserves, riverine communities, and small and large settlements. The local economy is focused on rubber, Brazil nuts, wood, vegetable oils and wild fruit. There are some small crop and livestock farms.	CDC light traps / Traps were placed approximately 150 cm above the ground with a distance of approximately 200 metres between them / between August 2009-June 2010.
Miranda et al, 2015 / Pernambuco	To assess the ecology of sand flies, including *Lu. whitmani*, in a low-density residential rural area with mixed forest/agricultural exploitation in north-eastern Brazil	Ap = Forest, P (residential rural with mixed forest/agricultural)	GC= Ipojuca (08°23'56''S, 35°03'50''W) T =25°C- 27°C A= 115-155 m Vegetation: predominantly represented by the Atlantic forestand. The rural area is dominated by sugarcane plantations with some remnants of Atlantic Forest, with the presence of some animals (chicken, dog, cat, animal burrows).	CDC light traps installed monthly, for three consecutive nights / Indoor, peridomicile and forest / 5:00 pm to 6:00 am, from August 2013 to August 2014.
Pereira Júnior et al,	To study and compare the	R, P, Ap = Forest	GC= Tefé Municipality (03°21'05"S, 64°42'53"W)	HP light traps / Over eight

2015 / Amazonas	abundance and diversity of sandfly fauna in varzea and terra firme environments, and to detect *Leishmania* DNA in sand flies in an area of endemic ACL.		Climate is classified as Afi in the Köppen classification scheme (dense ombrophylous forest lowlands and alluvial ombrophylous forests.	consecutive nights / 6:00 pm to 7:00 am, Jan, Feb, Apr, Aug, Sep, and Oct 2013).
Rêgo et al, 2015 / Minas Gerais	To detect the survey for *Leishmania* DNA among phlebotomine sand flies collected in a village located in the XIR where autochthonous case of ACL has been reported since 2001.	Ap = Indigenous reserve	GC= São João das Missões (14°53'04.26"S 44°40'53.19"W). Vegetation: cerrado and caating biomes and contains native species of both. This study was conducted in Imbaúbas, an indigenous village which has had both a high prevalence of ACL human cases and numerous wild, synanthropic and domestic *Leishmania* hosts	Light traps (HP) were used monthly. Six entomological collections were carried out from July 2008 through July 2009, using 40 light traps placed in peridomicile areas of 20 randomly selected houses. From October 2011 through August 2012, another six collections were carried out with 20 light traps distributed among four trails (five traps per trail) selected for a previous study of wild and synanthropic hosts of Leishmania.
Silva et al, 2014 / Amazonas	To study the sand fly fauna collected during an 8-d surveillance of different habitats	Ap = indigenous reserve	Lábrea (07° 15' S; 64° 47' W) Various conservation areas and indigenous reserves (areas of protected land occupied by indigenous people) that form a large continuum of preserved forest.	HP light traps / Randomly selected points along trails and along the banks of the Poa´gua River / During 8 nights in February 2012.
Teles et al, 2013 / Rondônia	To identify the species of phlebotomine sandflies that may have been transmitting the ACL, and describe epidemiological aspects of disease.	U, R	GC= 10°15'S and 63°17'W. T= 25.8°C. R= 2,020 mm. The weather is characterized by two well marked seasons, one dry and the other humid. Vegetation: estimated out of which 60% live in the rural area. Its economy is based on agriculture (coffee, corn, and rice), cattle farming (beef and dairy cattle), and wood harvest exploitation and processing.	CDC light traps/ Between July 2006 to July 2008. From 6 am to 6 pm per capture, total of 81 captures.

Thies et al, 2013 / Mato Grosso	To describe the local phlebotomine sandfly fauna and to investigate the infection rates and infecting *Leishmania* species in the captured sandflies.	R	Nova Mutum (13°05'04''S, 56°05'16''W, a rural area of Cerrado (tropical savannah), The location has a native forest that consists of small to large trees and has an ample amount of decaying vegetal organic matter. Various animal species can be found there,including monkeys, wild pigs, snakes, rats, scouts and armadillos.	CDC light traps / five feet from the ground and 100 m from one another at a transect of approximately 1,000 meters between the edge and the interior of the forest. June 2011 and April 2012.
Vilela et al, 2013 / Tocantins	To contribute to the current knowledge of phlebotomine fauna in Tocantins and to identify putative ACL vectors in a rural settlement area and in the periurban environment of Guaraí.	R, PU	Guaraí (S08º50'03'' W48º30'37'') T= NR; R= NR; A= 259 m Guaraí is within the Cerrado biome, which has a continuous canopy and tree cover ranging from 50-90%, with the most cover in the rainy season and least during the dry season	HP light traps / Peridomestic areas near animal shelters or in the forest / Every month for three consecutive nights from 06:00 pm - 06:00 am, from January 2005 and June 2008. Shannon traps / Forested part of the rural settlement area / Over a period of 12 h (06:00 pm-06:00 am) monthly from March - June 2008. ** A single capture with a Shannon trap was made in November 2008 on four consecutive nights to search for natural *Leishmania* spp. infection in phlebotomine females.
Quaresma et al, 2012 / Minas Gerais	To evaluate bio-ecological features associated with female sandfly food sources and the detection of *Leishmania* sp. in sandflies collected at Ibitipoca State Park, in Minas Gerais.	R: At a small farm located at the boundary of the state park	21º40' 21º43'S and 43º52' 43º54'W T= 18°C - 20°C (average) summer: from 21.5°C-36°C Winter: 2-14.5°C A= 1.050 m - 1.784m The climate is classified as humid mesothermal, with dry winters and mild summers.	Light traps (HP) were used monthly.
Margonari et al, 2010 / Minas Gerais	To better understand the epidemiology of leishmaniasis in Divinopolis, the authors evaluated	Ap = Forest remnant located in the PU area (preserved area and in an in an	GC= (20° 8'21'' S and 44° 53'17'' W) (Divinópolis) A=150 m² Introduced vegetation	Shannon traps / Areas randomly / 5:30 pm to 2:00 am, 2006 to 2008.

	the phlebotomine sandfly fauna and associated to *Leishmania* infections in the Gafanhoto Park.	altered area with introduced vegetation)		Six light traps (HP), overnight collection was performed monthly for 2 yr (Oct 2006 -Sep 2008)
Saraiva et al, 2010 / Minas Gerais	To detect *Leishmania* infection in the phlebotomine sand flies collected in the northeast sanitary district (NSD) by dissection and molecular approaches.	P; PU	Southeast region of Brazil (19º55'S 43º57'W) in Belo Horizonte (BH) T= 21ºC This high-altitude city has a tropical wet and dry climate that corresponds to the Aw and As Köppen climate classification categories.	HP light traps / 6:00 pm-8:00 am, from July 2006 - June 2007. Shannon traps / One collection was performed each season, for a total of four collections.
Souza et al, 2010 / Pará	To evaluate the phlebotomine fauna in the area and its possible role in the transmission of agents of ACL.	Ap = Environmental protection area	Serra de Carajás (5º 35' 6º 00' S e 50º 24' 51º 06' W) T= 20° to 32°C; Humidity= 80% to 90% Serra de Carajás has a mixed topography of mountains and valleys, with varied vegetation consisting of primary forest and cerrado, as well as soil and subsoil rich in iron and other minerals.	CDC light traps / Zoo and Botanical Park Quarantine, Environmental Protection Area and Tapirapé-Aquiri National Forest / From 06:00 pm - 06:00 am, from December 2005 to September 2007. Shannon traps / Zoo and Botanical Park Quarantine, Environmental Protection Area and Tapirapé-Aquiri National Forest / from 06:00 pm - 08:00 pm, from December 2005 to September 2007.
Brito et al, 2009 / Pernambuco	To identify the *Leishmania* species circulating in the Atlantic rainforest (Zona da Mata) in the Pernambuco state to better understand the observed genetic polymorphisms in previous studies.	U	Amaraji (8°23'59''S, 35°27'09''W), Moreno (8°9'S, 35º04'W) and Paudalho (7°53'48''S, 35°10'47''W) The municipalities are similar in terms of climate and land use, although Amaraji has a higher abundance of remnant forest patches. Predominant agricultural crop in these areas are sugarcane, cassava and banana plantations.	NR
Oliveira-Pereira et al, 2006 / Maranhão	To investigate the natural infection rate of three species of phlebotomines in the peridomestic environment.	P	Sexta Vicinal village, municipality of Buriticupu, Amazon region of Maranhão (4º27'22" and 4º30'00" S and 46º35'27" and 46º54'03" W)/ Detailed description of the physiographic aspects of the region can be found in	CDC light traps / Peridomestic environment of two houses with confirmed cases of ATL / 6:00 pm to 6:00 am / Once a month, from

			Rebelo et al. (Ref. 18 e 19 of this article).	November 2003 to March 2004.
Souza et al, 2004 / Minas Gerais	To provide data for optimization of control measures, upon knowing seasonal fluctuations,habitat and the behavior of phlebotomine sand flies.	P; Ap= Domiciliary	Belo Horizonte, in nine region areas. The houses under study had the following features: large back yards, orchard with plants and domestic animals (dogs, chickens, birds, and others).	CDC light traps/ Into the house and in the peridomestic environment, three houses per region / Collections were perfomed from 5:00pm to 7:00 am, four days of each month, April 2001 to March 2003. Shannon traps / Parks and green areas of Belo Horizonte / From 5:30 pm to 10:00 pm, April 2001 to March 2003.
Miranda et al, 2002 / Bahia	They have tested the hypothesis that there is a clustering of infected vectors by combining a spatial stratification of sample harvesting and analysis in pools of vectors with a very sensitive *L. braziliensis* kDNA minicircle specific PCR and a dot blot hybridization procedure in different sectors of the Corte de Pedra area.	P; Ap= Domiciliary	State of Bahia, endemic region located within the cartographic boundaries of 13°15' latitude south (LatS) to 13°45'LatS and 39°15'longitude east (LonE) to 39°45'LonE.	Shannon traps / Peridomiciliary area as that contained within a radius of up to 20 m from the houses of the actual ACL.
Silva et al, 1999 / Rio Grande do Sul	To determine the phlebotomine species of certain areas in the Parque Estadual do Turvo, and to identify the vector species and their infection rate with *Le. (Viannia)* using the polymerase chain reaction (PCR).	P; Ap= Domiciliary; Ap= Rainforest	Rio Grande do Sul, Parque Estadual do Turvo (27°20' - 27°10' S and 54°10' - 53°40' W) R= Annual rainfall greater than 1,900 mm It has a wet and hot subtropical climate	Domicile and peridomicile areas: Manual aspirator; Forest: manual aspirators and Shannon trap/ Salto Yucumã tourist lodge/ November 1996 to February1997.
Freitas et al, 1989 / Rondônia and Amazona	The brazilian material (sand flies) is described and illustrated, and compared with specimens of *L. o. nociva* and *L. flaviscutellata* from the same area.	Ap = Rainforest	Rondônia, Samuel Hydroeletric Dam (8º44S', 63º25W); Amazonas state, various localities between the Tapauá and Coari rivers/ T= median temperature was around 27ºC/ R= Data for the years 1984 -1986 show an	Light traps and Disney traps (10 july 1985, dec. 1986; 2-12 feb. 1988) / Tropical Rainforest on the river Jamari

	Keys to the known taxa of the flaviscutellata complex are presented.	annual rainfall of around 2400 mm unevenly distribuited throughout the year, with a pronunced dry period during the months june to september.

Source: Own elaboration.

Supplementary file Table S6 Characteristics of invertebrate hosts of Leishmania. (A= Animal or V= Vector; Ad= Animal (domestic); Aw= Animal (wild); An= Animal (neighborhood); F= Female; M= Male; NR= Not reported; SISA= To evaluate species abundance the index of species abundance "ISA" and the standardized index of species abundance "SISA" were calculated).

Author, year/ State of Brazil	**Number and gender of specimens collected**	**Specie of invertebrate host collected (n)**
Araujo-Pereira et al, 2020 / Acre-	61 species and 15 genera / 4,473 (F = 2,297; M = 2,176)	*Ny. shawi* (1,200, 26.83% of the total)*, Ps. davisi* (12.1%)*, Ps. carrerai* (6.6%)*, Nyssomyia* sp. (5.9%), *Ny. whitmani* (4.7%) and *Th. octavioi* (4.6%).
Leão et al, 2020 / Rondônia	68 species / 15,457 (Potential vectors identified 10,197 = F = 5,656; M= 4,541)	*Lu. antunesi* (2,530*), Lu. ayrozai* (2,198)*, Lu. davisi* (2,019)*, Lu. yuilli yuilli* (1,483) *e Lu. ubiquitalis* (1,153), *Lu. carrerai carrerai* (296), *Lu. umbratilis* (250), *Lu. hirsuta hirsuta* (154), *Lu. whitmani* (38), *Lu. flaviscutellata* (34), *Lu. complexa* (8), *Lu. auraensis* (6), *Lu. migonei* (26)*, Lu. anduzei* (1)
Sales et al, 2020 / Pernambuco	5,640 (F = 2,100; M = 3,540)	*Mg. migonei* (4,753, 84.3%), *Ev. lenti* (308, 5.5%), *Lu. longipalpis* (230, 4.1%), *Ny. intermedia* (89, 1.6%) and *Mi. capixaba* (78, 1.4%)*,* were the most frequent, representing together ~97% of the total sand flies captured. Other: *Ev. evandroi* (64,1.1%), *Mi. trinidadensis* (47, 0.8%), *Mi. villelai* (36, 0.6%), *Sc. sordellii* (29, 0,5%), *Ev. sallesi* (3, 0.05%), *Mi. schreiberi* (3, 0.05%)
Tanure et al, 2020 / Minas Gerais	23 species and 8 gene / 16,771 (F= 6,612; M=10,159)	*Ny. whitmani* (11,883, 70.9%; SISA 0.74), *Lu. longipalpis* (2,551, 15.2%; SISA 0.53) and *Mg. migone*i (1,533, 9.1%; SISA 0.51). *Other: Brumptomyia* sp. (11)*;* Cortelezzii complex (38); *Ev. cortelezzii* (10)*; Ev. edwarsi* (1)*; Ev. evandroi* (1)*; Ev. lenti* (97)*; Ev. sallesi* (5)*; Ev, teratodes* (1)*; Ev. termitophila* (11)*; Ev. tupynambai* (19)*; Lu. amarali* (3)*: Lu. iscyracantha* (1)*; Ny. intermedia* (4)*; Pi. bianchigalatiae* (76)*; Pi. fischeri* (257)*; Pi. mamedei* (1)*; Pi. misionensis* (9)*; Pi. monticola* (35)*; Pi. pessoai* (48)*; Ps. pascalei* (4)*; Psatiromyia sp*. (1)*; Ps. lloydi* (142).
Uzcátegui et al, 2020/ Pará	19 species/ 25,594 (F= 15,705; M= 9,889)	*Ny. antunesi* (16,516, 64.56%), *Th. ubiquitalis* (3,789, 14,76%) and *Th. brachipyga* (2,669, 10.40%), accounting for 89.72% of the total specimens captured. Other: *Pr. choti* (999, 3,9%); *Bi. flaviscutellata* (791, 3.1%)*; Br. avellari* (636, 2.5%); *Vi. furcata* (77, 0.3%); *Sc. sordellii* (28, 0.1%); *Ev. brachyphalla* (26, 0.1%); *Ev. monstruosa* (18, 0.1%); *Pa. bigeniculata* (14, 0.1%); *Vi. tuberculata* (7, 0.0%); *Ev. infraspinosa* (6, 0.0%); *Lu. gomezi* (5, 0.0%); *Pa. barrettoi barrettoi* (5, 0.0%); *M. rorotaensis* (3, 0.0%); *Pa. aragaoi* (2, 0.0%); *Mi. trinidadensis* (2, 0.0%); *Ps. ayrozai* (1, 0.0%).

Pereira-Júnior et al, 2019 / Rondônia	73 species and 14 genera / 9,535 (F= 4,089; M= 5,446)	*Ps. davisi* (1,741 individuals), *Ny. antunesi* (1,397), *Th. auraensis* (1,295) and *Th. ubiquitalis* (1,043)
Carvalho et al, 2018 / Pará	1,394 (F=1,190; M= 204)	*Lu. flaviscutellata (1,011), Lu. antunesi* (356), *Lu. gomezi* (6), *Lu. sordellii* (6), *Lu. furcata* (4), *Lu. longipalpis* (3), *Lu. carrerai carrerai* (2), *Lu. infraspinosa* (2), *Lu. bacula* (1), *Lu. micropyga* (1), *Lu. trinidadensis* (1), *Brumptomyia* sp. (1).
Chagas et al, 2018 / Amazonas	2,469 (F= 1,759, M= 710)	*Ty. trichopyga* (492/2,469), *Mi. rorotaensis* (402/2,469), *Ny. umbratilis* (321/2,469), *Sc. sordellii (*236/2,469*), Ny. anduzei (*165/2,469*), Ps. davisi* (116/2,469*), Ev. sericea (*61/2,469*), Sc. nematoducta (*52/2,469*), Ev. georgii (*50/2,469*), Ps. geniculatus (*45/2,469*), Bi. olmeca nociva* (41/2,469*), Pr. triacantha (*40/2,469*), Ps. sq. squamiventris (*38/2,469*), Mi. micropyga (*36/2,469*), Th. eurypyga* (27/2,469*), Ev. monstruosa (*26/2,469), *Pa. dendrophyla (*25/2,469*), Pr. trispinosa* (24/2,469*), Ps. corossoniensis (*22/2,469*), Bi. flaviscutellata (*22/2,469*), Pa. aragaoi (*22/2,469*), Ny. antunesi* (21/2,469*), Th. ruii (*21/2,469*), Vi. tuberculata* (19/2,469*), Lu. evangelistai (*15/2,469*), Vi. furcata* (14/2,469*), Ps. paraensis* (14/2,469*), Mi. pilosa* (9/2,469*), Pa. shannoni* (8/2,469), *Lu. gomezi* (8/2,469*), Ps. hi. hirsutus (*8/2,469*), Ps. ayrozai* (7/2,469), *Ps. claustrei (*7/2,469*), Pa. dreisbachi (*6/2,469*), Ps. chagasi* (6/2,469*), Lu. falcata (*5/2,469*), Ty. ratcliffei (*4/2,469*), Ps. amazonensis* (4/2,469*), Ty. longispina* (4/2,469), *Pa. inflata (*3/2,469), *Mg. migonei* (3/2,469*), Pa. lutziana* (2/2,369*), Pa. runoides* (2/2,369*), Pa. barrettoi barrettoi (*2/2,369*), Pi. damascenoi* (2/2,369*), Ev. infraspinosa (*2/2,369*), Pa. scaffi* (2/2,369*), Ev. williamsi (*2/2,369*), Mg. moucheti (*1/2,469*), Ev. pinottii (*1/2,469), *Evandromyia* sp. *(*1/2,469*), Ev. inpai* (1/2,469*), Sc. preclara (*1/2,469*), Lu. spathotrichia (*1/2,469*).*
De Ávila et al, 2018 / Acre	2,517 (NR)	*Bi.flaviscutellata* (57/2,517), *Br. avellari* (9/2,517), *Br. brumpti* (1/2,517), *Br. pentacantha* (3/2,517), *Brumptomyia* sp. (8/2,517), *Ev. infraspinosa* (3/2,517), *Ev. andersoni* (1/2,517), *Ev. saulensis* (187/2,517), *Ev. walkeri* (88/2,517), *Lu. evangelistai* (1/2,517), *Lu. gomezi* (1/2,517), *Lu. sherlocki* (21/2,517), *Mi. micropyga* (4/2,517), *Mi. trinidadensis* (3/2,517), *Micropygomia (S.)* sp. (2/2,517), *Mg. migonei* (3/2,517), *Ny. antunesi* (58/2,517), *Ny. shawi* (7/2,517), *Ny. whitmani* (39/2,517), *Pa. abonnencis* (1/2,517), *Pa. aragoia* (1/2,517), *Pa. abunaensis* (1/2,517), *Pa. bigeniculata* (4/2,517), *Psatiromyia* sp. (2/2,517), *Pi. nevesi* (75/2,517), *Pi. serrana* (10/2,517), *Pr. calcarata* (198/2,517), *Pr. choti* (45/2,517), *Pressatia* sp. (86/2,517), *Ps. carrerai carrerai* (99/2,517), *Ps. llanosmartinsi* (7/2,517), *Ps. amazonensis* (1/2,517), *Ps. ayrozai* (5/2,517), *Ps. claustrei* (7/2,517), *Ps. davisi* (90/2,517), *Ps. hirsutus hirsutus* (47/2,517), *Sc. servulolimai* (2/2,517), *Sciopemyia* sp. (11/2,517), *Th. auraensis* (839/2,517), *Th. brachipyga* (12/2,517), *Trichophoromyia* sp. (537/2,517) and *Th. ubiquitalis* (1/2,517)
Vasconcelos dos Santos et al, 2018 / Amapá	9,119 (F= 5,073; M= 4,046)	*Ny. umbratilis (*2,704/9,119*), Th. trichopyga (*2599/9,119*), Ev. infraspinosa (*1,492/9,119*), Trichophoromyia ininii* (428/9,119*), Pa. aragaoi (*340/9,119*), Ps. maripaensis* (220/9,119), *Sc. sordellii* (135/9,119*), Mi. rorotaensis (*133/9,119*), Ps. ayrozai* (132/9,119), *Bi.flaviscutellata (*111/9,119*), Ny. anduzei* (91/9,119*), Ev.williamsi* (71/9,119*), Ev. brachyphalla* (69/9,119*), Vi. furcata* (68/9,119), *Vi. tuberculata* (56/9,119*), Pr. choti/ Pr. trispinosa* (53/9,119), *Evandromyia* sp. *of Baduel* (48/9,119*), Ny. pajoti* (37/9,119*), Sc. fluviatilis* (31/9,119),

		*Pa.inflata (*31/9,119*), Lu. spathotrichia* (31/9,119*), Ev. monstruosa (*30/9,119*), Mi. migonei* (27/9,119*), Ps. hirsutus* (25/9,119*), Pi. damascenoi* (19/9,119*), Ps. davisi* (15/9,119*), Pa. dendrophyla* (15/9,119)*, Ps. claustrei* (14/9,119*), Ps. corrosoniensis* (14/9,119)*, Pa. bigeniculata* (13/9,119*), Pa. dreisbachi (*13/9,119)*, Th. ubiquitalis* (13/9,119)*, Br. travassosi/Br. pentacantha* (7/9,119*), Ps. amazonensis* (5/9,119)*, Ps. paraensis* (4/9,119*), Pa. punctigeniculata (*4/9,119)*, Th. dasypodogeton* (3/9,119*), Pi. pacae* (2/9,119)*, Pi. serrana* (2/9,119*), Pa. lutziana* (2/9,119)*, Pa. abonnenci* (2/9,119*), Pa. barrettoi barrettoi* (2/9,119)*, Ev. begonae (*1/9,119)*, Mi. (Pilosa Series)* (1/9,119)*, Ps. bispinosus* (1/9,119)*, Ps. carrerai* (1/9,119).
Araújo-Pereira et al, 2017 / Acre	456 (F=256; M=200)	*Th. auraensis* (243/456)*, Ny.whitmani* (86/456)*, Ny. antunesi* (21/456)*, Pr. choti* (18/456)*, Ev. saulensis* (16/456)*, Pressatia* sp. (15/456)*, Nyssomyia* sp. (9/456)*, Ev. walkeri* (7/456)*, Ev. begonae* (6/456)*, Mi. migonei* (6/456)*, Pi. serrana* (4/456)*, Ps. paraensis* (4/456)*, Sc. sordelii* (3/456)*, Mi. pusilla* (3/456)*, Pi. nevesi* (3/456)*, Br. avellari* (2/456)*, Mi. acanthopharynx* (2/456)*, Pi. odax* (1/456)*, Lu. sherlocki* (1/456)*, Pr. calcarata* (1/456)*, Mg. micropyga* (1/456)*, Pr. duncanae* (1/456)*, Bi.flaviscutellata* (1/456)*, Ev. bourrouli* (1/456) and *Ev. bacula* (1/456)
Brilhante et al, 2017 / Acre	6,309 (F= 5,445; M= 864)	*Br. pentacantha* (8/6,309)*, Ev. bacula* (1/6,309)*, Ev. tarapacaensis* (1/6,309), *Ev. saulensis* (12/6,309)*, Ev. termitophila* (3/6,309)*, Lu. evangelistai* (3/6,309)*, Lu. sherlocki* (10/6,309), *Lu. marinkellei* (4/6,309)*, Mg. migonei* (2/6,309)*, Pi. nevesi* (26/6,309)*, Pi. serrana* (5/6,309)*, Pr. choti* (19/6,309)*, Mi. trinidadensis* (2/6,309), *Ny. antunesi* (9/6,309)*, Ny. fraihai* (7/6,309)*, Ny. richardwardi* (2/6,309)*, Ny. shawi* (2,266/6,309)*, Ny. whitmani* (30/6,309)*, Pa. aragaoi* (1/6,309)*, Pa. bigeniculata* (1/6,309)*, Pa. dendrophyla* (3/6,309)*, Pa. pifanoi* (1/6,309)*, Ps. amazonensis* (12/6,309)*, Ps. carrerai carrerai* (2,642/6,309), *Ps. claustrei* (4/6,309)*, Ps. davisi* (790/6,309)*, Ps. hirsutus hirsutus* (120/6,309)*, Ps. lainson* (51/6,309)*, Ps. llanosmartinsi* (102/6,309)*, Ps. paraensis* (2/6,309)*, Psychodopygus* sp. (Guyanensis Series) (4/6,309)*, Psychodopygus* sp. (Chagasi series) (1/6,309)*, Th. auraensis* (44/6,309)*, Th. octavioi* (33/6,309)*, Th. ruifreitasi* (3/6,309)*, Th. ubiquitalis* (6/6,309)*, Trichophoromyia* sp.(79/6,309)
Dantas-Torres et al, 2017/ Pernambuco	24,606 (F=11,923; M=12,683)	*Lu. choti* (17,951/24,606)*, Lu. longispina* (3,416/24,606)*, Lu. complexa* (356/24,606)*, Lu. sordellii* (879/24,606)*, Lu. amazonensis* (243/24,606)*, Lu. walkeri* (186/24,606)*, Lu. wellcomei* (130/24,606)*, Lu. quinquefer* (120/24,606)*, Lu. evandroi* (96/24,606)*, Lu. barrettoi barrettoi* (49/24,606)*, Lu. ayrozai* (48/24,606)*, Lu. capixaba* (40/24,606)*, Lu. naftalekatzi* (34/24,606)*, Lu. claustrei* (31/24,606)*, Lu. schreiberi* (19/24,606)*, Lu. umbratilis* (16/24,606)*, Lu. whitmani* (15/24,606)*, Lu. brasiliensis* (6/24,606)*, Lu. viannamartinsi* (5/24,606)*, Lu. shannoni complex* (4/24,606)*, Lu. yuilli pajoti* (3/24,606)*, Lu. aragaoi* (1/24,606)*, Lu. furcata* (1/24,606)*, Lu. migonei* (1/24,606) and *Lu. oswaldoi* (1/24,606)
De Souza et al, 2017 / Amapá	8,685 (F= 6,212; M= 2,473)	*Ny. umbratilis* (3,388/8,685)*, Ps. squamiventris maripaensis* (995/8,685)*, Ev. infraspinosa* (626/8,685)*, Ny. pajoti* (620/8,685)*, Ny. anduzei* (550/8,685)*, Th. ubiquitalis* (400/8,685)*, Ny. whitmani* (291/8,685), *Ty. trichopyga* (203/8,685)*, Ps. hirsutus* (158/8,685)*, Vi. tuberculata* (141/8,685), *Ps. paraensis* (116/8,685)*, Ev. bacula* (114/8,685)*, Vi. furcata* (106/8,685)*, Lu. gomezi*

		(103/8,685), *Ps. davisi* (95/8,685), *Pa. aragaoi* (91/8,685), *Th. brachipyga* (72/8,685), *Ps. amazonensis* (71/8,685), *Pa. scaffi* (69/8,685), *Ps. geniculatus* (52/8,685), *Bi. flaviscutellata* (50/8,685), *Brumptomyia* spp. (46/8,685), *Pa. barrettoi barrettoi* (36/8,685), *Ps. claustrei* (31/8,685), *Pa. dendrophyla* (31/8,685), *Ev. monstruosa* (27/8,685), *Ev. evandroi* (19/8,685), *Mg. migonei* (19/8,685), *Pi. damascenoi* (18/8,685), *Pa. runoides* (14/8,685), *Pa. bigeniculata* (14/8,685), *Mi. rorotaensis* (14/8,685), *Mi. micropyga* (11/8,685), *Sc. sordellii* (10/8,685), *Ev. sericea* (10/8,685), *Pa. dreisbachi* (9/8,685), *Pr. trispinosa* (8/8,685), *Lu. carvalhoi* (7/8,685), *Lu. spatotrichia* (6/8,685), *Ps. carrerai* (6/8,685), *Ny. antunesi* (5/8,685), *Ev. inpai* (4/8,685), *Pa. lutziana* (4/8,685), *Pa. inflata* (4/8,685), *Sc. fluviatilis* (4/8,685), *Br. travassosi* (3/8,685), *Pi. serrana* (3/8,685), *Ny. richardwardi* (2/8,685), *Pa. abonnenci* (2/8,685), *Mi. pilosa* (2/8,685), *Br. beaupertuyi* (2/8,685), *Ev. brachyphalla* (1/8,685), *Pi. pacae* (1/8,685), *Br. pintoi* (1/8,685).
Membrive et al, 2017 / Paraná	1,215 (F=625;M=590)	*Pi. pessoai* (13/1,215), *Pi. fischeri* (440/1,215), *Ny .whitmani* (108/1,215), *Mi. migonei* (30/1,215), *Expapillata firmatoi* (2/1,215), *Br. brumpti* (607/1,215), *Mi. neivai* (5/1,215), *Pa. shannoni* (8/1,215) and *Pi. monticula* (2/1,215)
Silva et al, 2017 / Pernambuco	2,174 (F=1,267; M=907)	*Lu. choti* (1,917/2,174), *Lu. whitmani (*176/2,174), *Lu. sordellii* (33/2,174), *Lu. quinquefer* (12/2,174), *Lu. wellcomei* (12/2,174), *Lu. evandroi* (11/2,174), *Lu. longispina* (3/2,174), *Lu. brasiliensis* (2/2,174), *Lu. complexa* (1/2,174), *Lu. naftalekatzi* (1/2,174), *Lutzomyia* spp. (6/2,174).
Toneli et al, 2017/ Minas Gerais	376 (F= 300; M= 76)	*Br. troglodytes* (20/376), *Ev. evandroi* (1/376), *Ev. lenti* (12/376), *Ev. termitophila* (4/376), *Ev. tupynambai* (3/376), *Lu. ischyracanta* (1/376), *Lu. longipalpis* (2/376), *Micropigomyia ferreirana* (4/376), *Ny. whitmani* (16/376), *Pi. misionensis* (1/376), *Pi. monticola* (16/376), *Pa. pestanai* (7/376), *Ps. ayrozai* (1/376), *Ps. carrerai* (1/376), *Ps. lloydi* (272/376), *Ps. pascalei* (13/376), *Sc. sordellii* (1/376) and *Th. longispina* (1/376)
Teles et al, 2016 / Acre	6,850 (F= 3,370;M= 3,480)	*Br. avellari* (15/6,850), *Br. pentacantha* (47/6,850), *Brumptomyia.* sp. (11/6,850), *Lu. Evandromyia, Lu. monstruosa* (7/6,850), *Lu. georgii* (7/6,850), *Lu. tarapacaensis* (34/6,850), *Lu. Lu., Lu. evangelistai* (6/6,850), *Lu. flabellata* (6/6,850), *Lu. sherlocki* (169/6,850), *Lu. Micropygomyia*, *Lu. micropyga* (1/6,850), *Lu. nyssomyia. Lu. antunesi* (136/6,850), *Lu. flaviscutellata* (13/6,850), *Lu. reducta* (6/6,850), *Lu. richardwardi* (46/6,850), *Lu. shawi* (184/6,850), *Lu. umbratilis* (1/6,850), *Lu. whitmani* (129/6,850), *Lu. yuilli yuilli* (68/6,850), *Lu. christenseni* (2/6,850), *Lu. Pintomyia: Lu. calcarata* (8/6,850), *Lu. Pressatia: Lu. choti* (673/6,850), *Lu. triacantha* (4/6,850), *Lu. Psathyromyia*: *Lu. abonnenci* (1/6,850), *Lu. campbelli* (2/6,850), *Lu. dendrophyla* (91/6,850), *Lu. lutziana* (40/6,850), *Lu. punctigeniculata* (1/6,850), *Lu. shannoni* (11/6,850), *Lu. Psychodopygus*: *Lu. amazonensis* (25/6,850), *Lu. ayrozai* (4/6,850), *Lu. bispinosa* (2/6,850), *Lu. carrerai* (43/6,850), *Lu. davisi* (1443/6,850), *Lu. geniculata* (112/6,850), *Lu. hirsuta hirsuta* (90/6,850), *Lu. llanosmartinsi* (4/6,850), *Lu. lainsoni* (7/6,850), *Lu. paraensis* (5/6,850), *Lu. yucumensis* (136/6,850), *Lu. complexa* (1/6,850), *Lu. Sciopemyia*: *Lu. preclara* (21/6,850), *Lu. servulolimai* (17/6,850), *Lu. sordelli* (6/6,850)*i, Lu. Trichophoromyia*, *Lu. auraensis /Lu.*

		ruifreitasi (2616/6,850), *Lu. melloi* (1/6,850), *Lu. ubiquitalis* (88/6,850), *Lu. Viannamyia*: *Lu. furcata* (8/6,850), *Lu. Group Aragaoi, Lu. abunaensis* (8/6,850), *Lu. aragaoi* (152/6,850), *Lu. brasiliensis* (3/6,850), *Lu. Group Dreisbachi Lu. dreisbachi* (4/6,850), *Lu. Group Migonei*: *Lu. andersoni* (11/6,850), *Lu. bacula* (5/6,850), *Lu. migonei* (3/6,850), *Lu. sallesi* (2/6,850), *Lu. termitophila* (15/6,850), *Lu. walkeri* (5/6,850), *Lu. williamsi* (3/6,850), *Lu. Group Oswaldoi*, *Lu. longipennis* (7/6,850), *Lu. peresi* (1/6,850), *Lu. villelai* (1/6,850), *Lu. Group Saulensis*: *Lu. saulensis* (61/6,850), *Lu. wilsoni* (58/6,850), *Lu. Group Verrucarum*:*Lu. nevesi* (84/6,850), *Lu. serrana* (77/6,850) and *Lu. naiffi* (2/6,850)
Miranda et al, 2015 / Pernambuco	5,167 (F= 2,419;M= 2,748)	*Lu. choti* (2,232/5,167), *Lu. amazonensis* (859/5,167), *Lu. whitmani* (815/5,167), *Lu. sordellii* (352/5,167), *Lu. quinquefer* (300/5,167), *Lu. longispina* (148/5,167), *Lu. evandroi* (74/5,167), *Lu. complexa* (63/5,167), *Lu. naftalekatzi* (47/5,167), *Lu. brasiliensis* (30/5,167), *Lu. barrettoi barrettoi* (22/5,167), *Lu. capixaba* (11/5,167), *Lu. shannoni sensu lato* (5/5,167), *Lu. wellcomei* (2/5,167), *Lu. furcata* (2/5,167), *Lu. aragaoi* (2/5,167), *Lu. ayrozai* (1/5,167), *Lu. walkeri* (1/5,167) and *Lu. sallesi* (1/5,167)
Pereira Júnior et al, 2015 / Amazonas	5,716 (F = 2,848;M= 2,868)	*Th. ubiquitalis* (3,330/5,716), *Ny. antunesi* (661/5,716), *Ny. yuilli yuilli* (261/5,716), *Ps. davisi* (208/5,716), *Thichophoromyia.* sp. (202/5,716), *Ev.walkeri* (161/5,716), *Th. melloi* (146/5,716), *Ps. amazonensis* (68/5,716), *Sc. sordellii* (63/5,716), *Ps. h. hirsutus* (56/5,716), *Ps. ayrozai* (50/5,716), *Th. flochi (45/5,716), Pa. dendrophyla* (42/5,716), *Ps. claustrei* (36/5,716), *Vi. tuberculata* (36/5,716), *Lu. marinkellei* (35/5,716), *Pa. scaffi* (35/5,716), *Lu. falcata* (32/5,716), *Sc. preclara* (27/5,716), *Ev. begonae* (26/5,716), *Pa. aragaoi* (20/5,716), *Th. rondonienses* (18/5,716), *Psychodopygus* sp. (16/5,716), *Ev. tarapacaensis* (13/5,716), *Pa. souzacastroi* (7/5,716), *Ny. anduzei* (9/5,716), *Ny. umbratilis* (11/5,716), *Trichopygomyia* sp. (11/5,716), *Pa. runoides* (10/5,716), *Pa. shannoni* (10/5,716), *Pi. serrana* (8/5,716), *Vi. furcata* (8/5,716), *Lu. sherlocki* (5/5,716), *Vi. caprina* (5/5,716), *Mi. chassignetti* (4/5,716), *Tg. wagleyi* (4/5,716), *Mg. micropyga* (3/5,716), *Pa. campbelli* (3/5,716), *Ps. llanosmartinsi* (3/5,716), *Pa. lutziana* (3/5,716), *Psatiromyia* .sp. (3/5,716), *Ev. saulensis* (2/5,716), *Ps. paraenses* (2/5,716), *Tg. dunhami* (2/5,716), *Ev. bourrouli* (1/5,716), *Evandromyia* sp. (1/5,716), *Lutzomyia* sp. (1/5,716), *Mg. pilosa* (1/5,716), *Mg. rorotaensis* (1/5,716), *Th. auraensis* (1/5,716) and *Tg. longispina* (1/5,716)
Rêgo et al, 2015 / Minas Gerais	4,760 (F=4,760;M=0)	*Br. avellai* (5/4,760), *Ev. cortelezzii* (7/4,760), *Ev. lenti* (85/4,760), *Evandromyia* sp. (4/4,760), *Ev. sallesi* (2/4,760), *Ev. spelunca* (327/4,760), *Ev. termitophila* (30/4,760), *Lu. cavernicola* (1,026/4,760), *Lu. ischnacantha* (230/4,760), *Lu. longipalpis* (329/4,760), *Lutzomyia* sp. (39/4,760), *Lu. renei* (173/4,760), *Ma. minasensis* (1,236/4,760), *Mi. capixaba* (208/4,760), *Mg. goiana* (283/4,760), *Mg. longipennis* (22/4,760), *Mg. peresi* (176/4,760), *Micropygomyia* sp. (13/4,760), *Mg. schreiberi* (47/4,760), *Mi. migonei* (7/4,760), *Ny. intermedia* (500/4,760), *Ny. neivai* (2/4,760), *Ny. whitmani* (2/4,760), *Pi. misionensis* (1/4,760), *Pi. serrana* (3/4,760), *Psatiromyia* sp. (1/4,760) and *Sc. sordellii* (2/4,760)
Silva et al, 2014 / Amazonas	1,267 (F= 819;M= 448)	*Bi.flaviscutellata* (7/1,267), *Ev. apurinan* (13/1,267), *Ev. bacula* (5/1,267), *Ev. begonae* (35/1,267), *Ev. infraspinosa* (6/1,267), *Ev. saulensis* (7/1,267), *Ev. walkeri* (5/1,267),

		Evandromyia sp. (5/1,267), *Lu. sherlocki* (11/1,267), *Lutzomyia* . sp. (1/1,267), *Mi. pilosa* (3/1,267), *Ny. anduzei* (2/1,267), *Ny. antunesi* (135/1,267), *Ny. umbratilis* (26/1,267), *Ny. richardwardi* (2/1,267), *Ny. yuilli yuilli* (27/1,267), *Nyssomyia* sp. (9/1,267), *Pressatia* sp. (1/1,267), *Pa. abunaensis* (2/1,267), *Pa. aragaoi* (1/1,267), *Pa. barrettoi barrettoi* (2/1,267), *Pa. coutinhoi* (1/1,267), *Pa. dendrophyla* (5/1,267), *Psatiromyia* sp. (11/1,267) *Psychodopygus* sp. (38/1,267), *Ps. ayrozai* (56/1,267), *Ps. carreirai* (17/1,267), *Ps. chagasi* (13/1,267), *Ps. claustrei* (21/1,267), *Ps. davisi* (228/1,267), *Ps. llanosmartinsi* (24/1,267), *Ps. paraensis* (50/1,267), *Ps. series chagasi* (26/1,267), *Sc. servulolimai* (23/1,267), *Sc. sordellii* (71/1,267), *Sciopemyia* sp. (1/1,267), *Th. flochi* (56/1,267), *Th. ubiquitalis* (235/1,267), *Trichophoromyia* sp. (53/1,267), *Vi. furcata* (3/1,267) and *Vi. tuberculata* (4/1,267)
Teles et al, 2013 / Rondônia	1,935 (F= 1,240; M= 695)	*Br. brumpti* (9/1,935), *Br. pentacantha* (3/1,935), *Brumptomyia* sp. (20/1,935), *Lu. Evandomyia: Lu. tarapacaensis* (13/1,935), *Lu. monstruosa* (2/1,935), *Lu. lutzomya: Lu. evangelistai* (3/1,935), *Lu. longipalpis* (6/1,935), *Lu. sherlocki* (14/1,935), *Lu. Micropygomyia: Lu. micropyga* (5/1,935, *Lu. Nyssomyia: Lu. antunesi* (95/1,935), *Lu. flaviscutellata* (42/1,935), *Lu. shawi* (3/1,935), *Lu. umbratilis* (1/1,935), *Lu. whitmani* (180/1,935), *Lu. Pressatia: Lu. triacantha* (8/1,935), *Lu. Psathyromyia: Lu. campbelli* (2/1,935), *Lu. dendrophyla* (21/1,935), *Lu. lutziana* (32/1,935), *Lu. punctigeniculata* (1/1,935), *Lu. shannoni* (4/1,935), *Lu. Psychodopygus: Lu. amazonensis* (5/1,935), *Lu. carrerai* (2/1,935), *Lu. claustrei* (11/1,935), *Lu. complexa* (5/1,935), *Lu. davisi* (151/1,935), *Lu. geniculata* (155/1,935), *Lu. hirsuta* (32/1,935), *Lu. lainsoni* (8/1,935), *Lu. Sciopemyia: Lu. servulolimay* (28/1,935), *Lu. sordellii* (40/1,935), *Lu. Trichophoromyia: Lu. auraensis* (22/1,935), *Lu. clitella* (9/1,935), *Lu. melloi* (1/1,935), *Lu. octavioi* (5/1,935), *Lu. ubiquitalis* (11/1,935), *Lutzomyia* sp. (28/1,935) and *Lu. Viannamyia: Lu. furcata* (14/1,935)
Thies et al, 2013 / Mato Grosso	3,743 (F= 2,735;M= 1,008)	*Br. brumpti* (20/3,743), *Lu. antunesi* (1,701/3,743), *Lu. saulensis* (770/3,743), *Lu. walkeri* (494/3,743), *Lu. flaviscutellata* (243/3,743), *Lu. aragaoi* (4/3,743), *Lu. ayrozai* (33/3,743), *Lu. begonae* (28/3,743), *Lu. bourrouli* (7/3,743), *Lu. chagasi* (15/3,743), *Lu. claustrei* (34/3,743), *Lu. complexa* (5/3,743), *Lu. dasypodogeton* (18/3,743), *Lu. davisi* (5/3,743), *Lu. furcata* (38/3,743), *Lu. hermanlenti* (18/3,743), *Lu. lenti* (1/3,743), *Lu. llanosmartinsi* (48/3,743), *Lu. longipennis* (15/3,743), *Lu. octavioi* (5/3,743), *Lu. punctigeniculata* (2/3,743), *Lu. runoides* (4/3,743), *Lu. sallesi* (3/3,743), *Lu. shannoni* (34/3,743), *Lu. shawi* (1/3,743), *Lu. sordellii* (19/3,743), *Lutzomyia* spp. (25/3,743), *Lu. ubiquitalis* (126/3,743), *Lu. umbratilis* (1/3,743), *Lu. whitmani* (7/3,743) and *Lu. yuilli yuilli* (19/3,743)
Vilela et al, 2013 / Tocantins	3,530 (F= 1,658; M=1,872)	*Br. brumpti* (5/3,530), *Mi. (S.) peresi* (1/3,530), *Mi. (S.) longipennis* (2/3,530), *Mi. (S.) quinquefer* (1/3,530), *Mi. (S.) rorotaensis* (1/3,530), *Mi. (S.) villelai* (8/3,530), *Sc. sordellii* (28/3,530), *Lu. (L.) longipalpis* (131/3,530), *Lu. (T.) sherlocki* (1/3,530), *Mi. (M.) migonei* (20/3,530), *Pi. (P.) christenseni* (1/3,530), *Pi. (P.) damascenoi* (2/3,530), *Pr. choti* (3/3,530), *Th. dasydopogeton* (54/3,530), *Ev.(A.) carmelinoi* (28/3,530), *Ev.(A.) lenti* (17/3,530), *Ev.(A.) evandroi* (14/3,530), *Ev.(A.) termitophila* (12/3,530), *Ev.(A.) walkeri* (14/3,530), *Ev. (E.) bourrouli* (856/3,530), *Ev. (E.) pinottii* (9/3,530), *Ev. (E.) begonae* (102/3,530), *Ev. (E.)*

		saulensis (8/3,530), *Pa. (F.) runoides* (11/3,530), *Pa. (F.) aragaoi* (1/3,530), *Pa. (F.) lutziana* (1/3,530), *Pa. (X.) hermanlenti* (16/3,530), *Pa. (X.) dreisbachi* (2/3,530), *Pa. (P.) shannoni* (1/3,530), *Pa. (P.) dendrophyla* (1/3,530), *Vi. furcata* (4/3,530), *Bi. flaviscutellata* (180/3,530), *Ps. complexus* (357/3,530), *Ps. davisi* (72/3,530), *Ps. claustrei* (10/3,530), *Ps. llanosmartinsi* (113/3,530), *Ps. hirsutus hirsutus* (4/3,530), *Ps. ayrozai* (23/3,530), *Ps. paraensis* (3/3,530), *Ny. antunesi* (585/3,530), *Ny. whitmani* (825/3,530), *Ny. intermedia* (2/3,530), *Th. ubiquitalis* (1/3,530)
Quaresma et al, 2012 / Minas Gerais	38 (F=38;M=0)	*Ps. lloydi* (38/38)
Margonari et al, 2010 / Minas Gerais	824 (F=342;M=482)	*Br. brumpti* (153/824), *Br. pintoi* (19/824), *Lu. aragaoi* (343/824), *Lu. lutziana* (96/824), *Lu. sordellii* (48/824), *Lu. whitmani* (44/824), *Lu. neivai* (21/824), *Lu. brasiliensis* (11/824), *Lu. pessoai* (3/824), *Lu. termitophila* (9/824), *Lu. teratodes* (1/824), *Lu. sallesi* (16/824), *Lu. amarali* (1/824), *Lu. monticola* (29/824), *Lu. mamedei* (1/824), *Lu. lenti* (4/824), *Lu. fischeri* (2/824), *Lu. evandroi* (1/824), *Lu. cortelezzi* (1/824), *Lu. christenseni* (18/824) and *Lu. bacula* (3/824)
Saraiva et al, 2010 / Minas Gerais	243 (NR)	*Ny. whitmani* (181/243), *Lu. longipalpis* (21/243), Complexo *cortelezzii* (31/243), *Ny. intermedia* (7/243), *Ev. termitophila* (3/243)
Souza et al, 2010 / Pará	22,095 (F= 15,306; M= 6,789)	*Br. avellari, Br. pintoi, Br. travassossi, Lu. antunesi, Lu. bacula, Lu. begonae, Lu. brachyphalla, Lu. brachipyga, Lu. campbelli, Lu. carvalhoi Lu. damascenoi, Lu. dasypodogeton, Lu. dendrophila, Lu. equatorialis, Lu. flaviscutellata, Lu. furcata, Lu. gomezi, Lu. hermanlenti, Lu. infraspinosa, Lu. lutziana Lu. micropyga, Lu. migonei, Lu. monstruosa, Lu. richardwardi, Lu. saulensis, Lu. sericea, Lu. serrana, Lu. shannoni, Lu. shawi, Lu. sordellii, Lu. spinosa Lu. triacantha, Lu. trinidadensis, Lu. trispinosa, Lu. ubiquitalis, Lu. umbratilis, Lu. whitmani, Lu. williamsi, Ps. amazonensis, Ps. bispinosa Ps. c. carrerai, Ps. claustrei, Ps. complexus, Ps. davisi, Ps. geniculatus, Ps. h. hirsutus, Ps. paraensis, Ps. Wellcomei*
Brito et al, 2009 / Pernambuco	1 (NR)	*Ps. lloydi* (38/38)
Oliveira-Pereira et al, 2006 / Maranhão	1,100 (F= 1,100)	*Lu. whitmani* (500/1,100), *Lu. triacantha* (430/1,100), *Lu. choti* (170/1,100).
Souza et al, 2004 / Minas Gerais	4,450 (F=1,306; M=3,144)	*Lu. longipalpis* (2,656/4,450), *Lu. whitmani (*972/4,450), *Lu. sallesi (*270/4,450), *Lutzomyia* sp. (184/4,450), *Lu. monticola* (142/4,450), *Lu. intermedia* (65/4,450), *Lu. pessoai* (48/4,450), *Lu. lenti* (34/4,450), *Lu. firmatoi* (29/4,450), *Lu. misionensis* (14/4,450), *Lu. quinquefer* (13/4,450), *Lu. termitophia* (8/4,450), *Brumptomyia* sp. (3/4,450), *Lu. fischeri* (3/4,450), *Lu. shannoni* (3/4,450), *Lu. longipennis* (2/4,450), *Lu. aragoi* (1/4,450), *Lu. migonei* (1/4,450), *Lu. bianchigalatiae* (1/4,450), *Lu. sordelli* (1/4,450).
Miranda et al, 2002 / Bahia	5,269 (F= 4,027; M=1,242)	*Lu. (N.) whitmani* (1,149), *Lu. (N.) intermedia* (89), *Lu. (N.)* spp. (4) *and others.*

Silva et al, 1999 / Rio Grande do Sul	2,228 (F= 1,090; M=1,138)	*Lu. migonei* (1,134/2,228), *Lu. pessoai* (389/2,228), *Lu. lanei* (212/2,228), *Lu. neivai* (173/2,228), *Lu. misionensis* (130/2,228), *Lu. shannoni* (76/2,228), *Lu. monticola* (64/2,228), *Lu. fischeri* (20/2,228), *Lutzomyia* spp. (18/2,228), *Br. pintoi* (4/2,228), *Br. nitzulescui* (4/2,228), *Lu. schreiberi* (2/2,228), *Lu. correalimai* (2/2,228).
Freitas et al, 1989 / Rondônia and Amazonas	10,868	*Lu. flaviscutellata* (200/10,868), *Lu. reducta* (49/10,868) and *Lu. olmeca nociva* (15/10,868) and others.

Source: Own elaboration.

Supplementary file Table S7 Diagnostic methods for Leishmania infection in invertebrate host of Brazil. (NR: not reported; ITS1: Internal transcribed spacer 1 region; DNA: desoxyribonucleic acid; RNA: ribonucleic acid; PCR: Polymerase Chain Reaction; RFLP: restriction fragment length polymorphism; LnPCR: Leishmania-specific nested polymerase chain reaction; MLEE: multilocus enzyme electrophoresis; kDNA: kinetoplast DNA; hsp70: 70 kilodalton heat shock proteins; SSUr RNA: small subunit ribosomal ribonucleic acid; SSUrDNA: Small subunit ribosomal DNA; SL RNA: Spliced Leader; Hgal: Haemophilus gallinarum).

Author, year / State of Brazil	**Sample NR = Not reported**	**Method of *Leishmania* detection *desiccation (Yes/No)**	**PCR target NR = Not reported**	**Number of positive cases / Total insects or pool analysed**	**Parasite identified / insect collected (Specie or genus)**
Araujo-Pereira et al, 2020 / Acre-	DNA samples (from females sandflies)	Multiplex PCR, sequencing	kDNA and hsp70	25/ 864 *Nyssomyia* sp. (1); *Trichophoromyia* sp. (1);*Ny. shawi* (4); *Ny. umbratilis* (1); *Ps. amazonensis* (1); *y. antunesi* (1); *Ps. hirsutus* (1); *Psychodopygus* sp. (2); *Psathyromyia* sp. (1); *Ny. whitmani* (1); *Ps. davis*i (7); *Brumptomyia* sp. (1); *Pi. neves*i (1); *Pintomyia* sp. (1); *Ev. termitophila* (1)	The 25 positive samples, 16 of these samples it was possible to identify the *Leishmania* species: *L. (V.) braziliensis* DNA with 100% identity: *Ev. termitophila* (n = 1);*Ny. antunesi* (n = 1); *Ny. shawi* (n = 2); *Psathyromyia* sp. (n = 1); *Ps. davisi* (n = 1). *L. (V.) braziliensis* with identity values between 89 and 99%: *Brumptomyia* sp. (n = 1); *Ny. umbratilis* (n = 1); *Pi. nevesi* (n = 1); *Ps. davisi* (n = 3); *Ps. hirsutus hirsutus* (n = 1); *Trichophoromyia* sp. (n = 1).

					L. (V.) guyanensis with 100% identity: *Ny. shawi* (n = 1); *Psychodopygus* sp. (n = 1)
Leão et al, 2020 / Rondônia	DNA samples (from females sandflies)	PCR	kDNA and hsp70	23 pools / A total of 2817 sand fly females were sorted into 194 pools *Lu. (Ps.) davisi* (10/32); *Lu. (Ny.) yuilli yuilli* (5/38); *Lu. (Ny.) antunesi* (4/32); *Lu. (Ps.) ayrozai* (2/45); *Lu. (Ny.) umbratilis* (1/8); *Lu. (Ps.) h. hirsuta* (1/2); *Lu. (Ev.) tarapacaensis* (0/2 pools); *Lu. (Ny.) richardwardi* (0/3); *Lu. (Ny.) whitmani* (0/2); *Lu. fiocruzi* (Verrucarum Group) (0/1); *Lu. (Ps.) bispinosa* (0/2); *Lu. (Ps.) c. carrerai* (0/2); *Lu. (Ps.) claustre*i (0/2); Lutzomia (Ps.) sp. (Chagasi series) (0/15); *Lu. (Ps.) geniculata* (0/2); *Lu. (Th) ubiquitalis* (0/6).	kDNA fragment was amplified in 23 pools: 6 from Santa Maria trail (all from canopy) and 17 from Potosi trail (canopy: 15; ground: 2). The minimal infection rate was 0.81% (23/2817). Hsp70 fragment was amplified in 8 pools: 5 pools from the Santa Maria trail and 3 pools from the Potosi trail. Sequencing was successful for 2 samples in which the hsp70 fragment was amplified. Both samples were from the canopy level of the Santa Maria trail; 1 sequence exhibited similarity with *L. braziliensis* (*Lu. davisi* pool) and the other exhibited similarity with *L. naiff* (*Lu. antunesi* pool). *Leishmania* spp.
Sales et al, 2020 / Pernambuco	DNA samples (from females sandflies)	Fast multiplex Real-time PCR	kDNA	12 / 97 in *M. migonei* Was tested: *M. migonei (n = 95)* and *Ny. intermedia* (n = 2).	
Tanure et al, 2020 / Minas Gerais	DNA samples (from females sandflies)	PCR Desiccation: Yes	ITS1	13 pools (4,1%) / 4,913 females (47 were individually tested and 4,866 grouped in 311 pools) *Lu. longipalpis* (1), *Ny. whitmani* (11) and *Ps. lloydi* (1)	4 pools of *Ny. whitmani* positive for *L. Amazonensis* (4/311). Seven pools (7/311) it was not possible to determine the *Leishmania* species, due to low quality of the sequences, which contained a high number of ambiguous sites. Therefore, sequences were left as

					undetermined (*Leishmania* sp.). One pool of *Ps. lloydi* was positive for *L. braziliensis* (1/311) and *Lu. longipalpis* was positive for *Leishmania* sp. (1/311)
Uzcátegui et al, 2020/ Pará	DNA samples (from females sandflies)	PCR-RFLP Desiccation: Yes	TspRI/HgaI endonuclease	2/1881 samples of *Bi. flaviscutellata* and *Th. Brachipyga* harboring flagellates 1/NR sample of *Th. braquipyga*	One *Bichromomyia flaviscutellata* and one *Trichophoromyia brachipyga* were found naturally infected by flagellates. Only the strain from *Th. brachipyga* was isolated and characterized as *Leishmania (V.) lainsoni*
Pereira-Júnior et al, 2019/ Rondônia	DNA samples (from females sandflies)	PCR	kDNA and hsp70	One pool of *Ps. davisi* / A total of 1,755 females were divided into 274 pools representing 35 species	One pool of *Ps. davisi* infected with *L. (V.) braziliensis* (query cover = 100%, identity = 100%, GenBank accession KX573933.1. The infected pool was collected from an FE environment in the municipality of Monte Negro.
Carvalho et al, 2018 / Pará	DNA samples (from females sandflies)	PCR Desiccation: Yes	Mini-exon gene of *Leishmania*	4 / 1,087 *Lu. flaviscutellata* (4)	One of the four *Leishmania* cultures from *Lu. flaviscutellata* was positive, and this was identified as *Le. amazonensis*. In one of the dissected *Lu. flaviscutellata* females captured in December, 2014, it was possible to determine a suprapylarian position of the flagellates suggestive of *Leishmania* (*Leishmania*) species.

Chagas et al, 2018 / Amazonas	DNA samples (from females sandflies)	Multiplex PCR	kDNA	54 / 670 *Bi. flaviscutellata (3) Bi olmeca nociva(3) Ev. monstruosa (2) Ev. sericea (1) Lu. gomezi (1) Ny. anduzei (9) Ny. antunesi (1) Ny. umbratilis (5) Pa. aragaoi (1) Pa. dreisbachi (1) Pa. lutziana (1) Ps. amazonensis (2) Ps. ayrozai (2) Ps. chagasi (2) Ps. claustrei (1)Ps. corossoniensis (6) Ps. davisi (4) Ps. hirsutus hirsutus (3) Psychodopygus sq. squamiventris (2) Sc. sordellii (3) Th. eurypyga (1)*	*Leishmania* sp. in all positive samples.
De Ávila et al, 2018 / Acre	DNA samples (from females sandflies)	PCR	ITS 1	13 / 206 *Th. auraensis* (1) *Ev. saulensis* (2) *Ev. walkeri* (1)*Ev. infraspinosa* (1) *Ps. llanosmartinsi* (1)*Ps. ayrozai* (1) *Pi. nevesi* (2) *Pa. aragoai* (1) and *Ny. antunesi* (1)	*L. (V.) braziliensis* was confirmed in twelve sandflies: one *Th. auraensis*, two *Ev. saulensis,* one *Ev. walkeri,* one *Ps. llanosmartinsi,* two *Pi. nevesi*, one *Ps. davisi*, one *Ps. ayrozai*, one *Pa. aragoai*, one *Ev. infraspinosa* and one *Ny. antunesi*. *L. (V.) guyanensis* was confirmed in one *Ps. ayrozai*.
Vasconcelos dos Santos et al, 2018 / Amapá	DNA samples (from females sandflies)	PCR-RFLP Desiccation: Yes	RNA polymerase II gene	13 / 48 *Ny. umbratilis* (11) *Ev. infraspinosa* (2)	Ten isolates from *Ny. umbratilis* exhibited a PCR-RFLP profile identical to that of the *L. (V.) guyanensis.* The PCR-RFLP for the remaining DNA fixed on the glass dissection slides allowed characterizing *L. (V.) guyanensis* from one *Ny. umbratilis* and two *Ev. infraspinosa* specimens.
Araujo-Pereira et al, 2017 / Acre	DNA samples (from females sandflies)	Multiplex PCR, Dot blot hybridisation and Sequencing	kDNA, IVS6 and hsp70	12 / 173 *Th. auraensis* (9), *Pressatia* sp. (1) and *Ev. saulensis* (2)	*L. (V.) braziliensis* was confirmed in five sandflies: one *Ev. saulensis*, three *Th.*

					auraensis and one *Pressatia* sp.
Brilhante et al, 2017 / Acre	DNA samples (from females sandflies)	PCR Dissection: Yes	NR	4 / 708	NR
Dantas-Torres et al, 2017 / Pernambuco	DNA samples (from females sandflies)	PCR Real-time and Restriction enzyme analysis	kDNA	60 / 1,003 *Lu. choti* (30)	*L. (V.) braziliensis* was confirmed in thirty *Lu. choti*. The other thirty had no association with any species patter.
De Souza et al, 2017 / Amapá	DNA samples (from female sanflies)	Indirect immunofluorescence method (MCAb), Isoenzyme electrophoresis and PCR-RFLP Dissection: Yes	RNA polymerase II gene	45 / 6,212 *Ny. umbratilis (33) Ps. maripaensis (2) Ny. whitmani (3) Ny. anduzei (2) Ny. pajoti (2) Mg. migonei (1) Lu. gomezi (1) Sc. sordellii (1)*	*L. (V.) guyanensis* was confirmed in thirteen *Ny. umbratilis*, one *Ny. whitmani* and one *Ny. anduzei*. *L. (V.) naiffi* was confirmed in two *Ps. s. maripaensis* and one *Ny. Anduzei*
Membrive et al, 2017 / Paraná	DNA samples (from females sandflies)	PCR Multiplex Dissection: Yes	kDNA	0 / 52	No positive test was found for *Leishmania*.
Silva et al, 2017 / Pernambuco	DNA samples (from females sandflies)	PCR	NR	0 / 490	No positive test was found for *Leishmania*.
Toneli et al, 2017 / Minas Gerais	DNA samples (from female sandflies)	PCR-RFLP Dissection: Yes	ITS1	2 / 300 *Ps. lloydi* (2)	*L. (V.) braziliensis* was confirmed in two *Psy. lloydi*
Teles et al, 2016 / Acre	DNA samples (from female sandflies)	PCR multiplex and PCR-RFLP	kDNA, SL RNA and hsp70	32 pools / 3,218 (368 pools) *Lu. davisi* (16) *Lu. laurensis/Lu. ruifrietasi* (16)	*L. (V) guyanensis* was confirmed in fourteen pools *L. (V) braziliensis* was confirmed in six pools
Miranda et al, 2015 / Pernambuco	DNA samples (from females sandflies)	PCR	kDNA	0 / 324	No positive test was found for *Leishmania*.
Pereira Júnior et al, 2015 / Amazonas	DNA samples (from females sandflies)	PCR-RFLP and Sequencing	kDNA and hsp70	14 pools / 1,679 (95 pools) *Th. ubiquitalis* (10 pools) *Ps. davisi* (4 pools)	*L. (V.) lainsoni* was confirmed in seven pools of *Th. ubiquitalis*. *L. (V.) shawi* was confirmed in one pool of *Th. ubiquitalis*.

Rêgo et al, 2015 / Minas Gerais	DNA samples (from females sandflies)	PCR-RFLP, LnPCR (Nested - PCR) and Sequencing	ITS1 and SSUrDNA gene fragment	23 pools / 4,760 (1,289 pools) *Ev. lenti* (2) *Lu. ischnacantha* (1) *Lu. longipalpis* (2) *Lu. renei* (2) *Ma. minasensis* (5) *Mg. capixaba* (1) *Mg. goiana* (2) *Mg. peresi (2)* and *Ny. intermedia* (7)	*L. (V) braziliensis* was confirmed in seven pools: one *Martinsmyia minasensis*, one *Micropygomyia capixaba*, one *Mg. peresi* and four *Nyssomyia intermedia*. *L. (V) guyanensis* was confirmed in five pools: one *Lutzomyia renei*, three *Ma. minasensis* and one *Mg. goiana*. *L. infantum chagasi* was confirmed in seven pools: two *Evandromyia lenti*, one *Lu. ischnacantha*, one *Lu. longipalpis*, one *Mg. peresi* and two pool *Ny. intermedia. L. (Viannia)* sp. was confirmed in two pools: one *Lu. longipalpi* and one *Lu. renei. L. (L.) amazonensis* was confirmed in two pools: one *Ma. minasensis* and one *Ny. intermedia*.
Silva et al, 2014 / amazonas	DNA samples (from females sandflies)	PCR	ITS1	7 pools / 559 (82 pools)	*L. (L) amazonensis* was confirmed in four pools: one *Ny. umbratilis*, one *Ny. yulli yulli*, one *Sc. servulolima* and one *Th. ubiquitalis. L. (V) braziliensis* was confirmed in two pools: one *Ev. apurina* and one *Ps. davisi*. *L. (Viannia)* sp.was confirmed in one pool: one *Th. ubiquitalis*.
Teles et al, 2013 / Rondônia	DNA samples (from females sandflies)	PCR	kDNA	0 / 1,240	No positive test was found for *Leishmania*

Thies et al, 2013 / Mato Grosso	DNA sample (from female sandflies)	LnPCR and Sequencing	SSUrRNA gene fragment	13 pools / 2,419 (293 pools) *Lu. antunesi* (11) *Lu. ubiquitalis* (2)	*L. (V) braziliensis* and *L. (V) guyanensis* were confirmed in eight pools: six *Lu. antunesi* and two *Lu. ubiquitalis*. *L. (L) chagasi* was confirmed in one pool: one *Lu. antunesi*
Vilela et al, 2013 / Tocantins	DNA samples (from females sandflies)	PCR multiplex and Dot Blot Hybridisation	kDNA	(4 pools) / 290 (29 pools)	*Leishmania* (Viannia) *braziliensis* was confirmed in three pools of *Ps. complexus* and one pool of *Ps. Ayrozai.*
Quaresma et al, 2012 / Minas Gerais	DNA samples (extracted from captured engorged female sandflies)	PCR-RFLP	ITS1 and hsp70	2 / 38 *Ps. lloydi* (2)	*L. (V) braziliensis* was confirmed in two sandflies: two *Psychodopygus lloydi*.
Margonari et al, 2010 / Minas Gerais	DNA samples (from females sandflies)	PCR-RFLP	kDNA	63 / 159 *Lu. whitmani* (29) *Lu. neivai* (21) *Lu. cristhenseni* (5) *Lu. pessoai* (5) *Lu. aragaoi,* (1) *Lu. fischeri* (1) *Lu. lenti* (1) *Lu. lutziana* (1) and *Lu. monticola* (1)	*L. (L.) chagasi* was confirmed in one sandflie: one *Lu. whitmani* *L. (V.) braziliensis* was confirmed in five sandlfies: one *Lu. fischeri*, one *Lu. monticola,* one *Lu. lutziana,* one *Lu. christenseni* and one *Lu. lenti*
Saraiva et al, 2010 / Minas Gerais	DNA samples (from females sandflies)	PCR, PCR - RFLP and Dot-blot hybridization Desiccation: Yes	kDNA	1 / 243 *Complexo cortelezzii* (1)	*Leishmania braziliensis* was confirmed in one Complexo *cortelezzii*
Souza et al, 2010 / Pará	Isolation of flagellates found in the intestinal tract of the female sand fly	Specific monoclonal antibodies *Desiccation: Yes	NR	19 / 11.259 *Ps.davisi* (4); *Ps. h. hirsutus* (3); *Lu. umbratilis* (3); *Lu.richardward* (2); *Lu. brachipyga* (2); *Lu. ubiquitalis* (2); *Lu.trinidadenses* (1); *Lu. migonei* (1).	*L.* (V.) *braziliensis* was confirmed in two *Ps. davisi*
Brito et al, 2009 / Pernambuco	DNA sample (from females sandflies)	PCR - RFLP and MLEE	ITS rDNA (Internal Transcribed Spacer)	1 / 1 *Lu. whitmani* (1)	*L. (V.) braziliensis* was confirmed in one *Lu. whitmani*
Oliveira-Pereira et al,	DNA sample (from	PCR * Desiccation: Yes	NR	4 pools / 1,100 (110 pools) *L. whitmani* (4 pools)	*Leishmania* sp. was confirmed in 4

2006 / Maranhão	females sandflies)				pools of *Lu. whitmani*
Souza et al, 2004 / Minas Gerais	DNA sample (from females sandflies)	PCR	NR	0/398	No positive test was found for *Leishmania*
Miranda et al, 2002 / Bahia	DNA sample	PCR and Dot Blot Hybridization	kDNA	30/335	*L. braziliensis* was confirmed in *Lutzomyia* spp.
Silva et al, 1999 / Rio Grande do Sul	DNA sample (from females sandflies)	PCR	kDNA	3/920 *Lu. pessoai (2) Lu. misionensis (1)*	*L. (Viannia)* in two *Lu. pessoai* and one *Lu. misionensis.*
Freitas et al, 1989 / Rondônia and Amazonas	NR	Dissection	NR	1/1,345 *Lu. reducta (1)*	*L. amazonensis* in *Lu. reducta*.

Source: Own elaboration.

Supplementary file Table S8 Conclusion and risks of bias. (NR: not reported; ACL: American cutaneous leishmaniasis; ATL: American tegumentary leishmaniasis PE: peridomicile; FE: forest Edge; CDC: Centers for Disease Control and Prevention; PCR: Polymerase Chain Reaction; RFLP: restriction fragment length polymorphism).

Author, year/ State of Brazil	**Conclusion**	**Risk of bias of authors / limitations**	**Future perspective**
Araujo-Pereira et al, 2020 /Acre	In *Brumptomyia* sp. and *Evandromyia termitophila*, the first report of *Leishmania DNA-detection* is provided in Acre; *Nyssomyia shawi* is implicated as potential vector of *L. (V.) braziliensis* and *L. (V.) guyanensis* for the first time in Brazil.	*Ps. carrerai carrera*i, *Ny. shawi* and *Ps. davisi* were the most abundant in Shannon traps; despite the use of light attraction, the human presence during capture may bias the attraction of these anthropophilic species.	NR
Leão et al, 2020 / Rondônia	Sand fly fauna is more diverse in the canopy than at ground level. Factors such as blood-meal sources, resting sites, and abiotic components probably contribute to high abundance in the canopy. The results reinforce the possibility that *Lu. antunesi* and *Lu. davisi* participates in *Leishmania* transmission in forest environments and may play an important role in transmission from sylvatic to human hosts.	The study did not account for abiotic variables and sample design did not allow us to evaluate the impact of seasonality, therefore, it is difficult to attribute a cause to the high level of sand fly abundance observed in the dry month of August. In this study, the identifcation of six hsp70-positive samples was not possible due to the low quality of the sequences.	Further studies will need to determine which factors influenced the capture rates that we observed.

Sales et al, 2020 / Pernambuco	This multiplex real-time PCR assay represents a novel fast assay for detecting dog, human and *Leishmania* DNA in female sandflies and therefore a tool for assessing the risk of *Leishmania* transmission to these hosts in areas of active transmission. Adding, the proven sand fly vectors are present in the indoor and immediate outdoor environments in indigenous villages of Pernambuco where ACL is endemic. The adaptation of sand flies to the indoor environment may be related to the poor housing conditions observed in these villages and the proximity of houses to green areas (e.g. crop plantations and forest fragments) (Sales et al., 2019).	NR	NR
Tanure et al, 2020 / Minas Gerais	The Casa Branca locality has a diverse sand fly fauna with species that have been previously reported in the state of Minas Gerais. The *Ny. whitmani* species is the probable vector of *L. braziliensi*s in Casa Branca and may also be involved in the transmission of *L. amazonensis*. The knowledge of the interactions between sand flies and trypanosomatids reported in the *Lu. (Ny.) yuilli yuilliis* study shows that the infection may be occurring in the peridomiciliary environment in the study area. In addition, these results help to understand the dynamics of the leishmaniases transmission cycle in Casa Branca providing support for disease control actions in the region. The presence of non-*Leishmania* trypanosomatids raises an issue that has been neglected and is of great importance, the circulation of these parasites within phlebotomine sand flies.	Due to the low quality of the sequences, in some positive pools it was not possible to determine the *Leishmania* species.	It provided consistent data that should be used for further investigations, such as trying to isolate *L. amazonensis* from *Ny. whitmani* to confirm their role as a vector. Moreover, it is extremely important to investigate the presence of trypanosomatids in Casa Branca and their association with the sand fly fauna.
Uzcátegui et al, 2020/ Pará	The urban park surveyed may offer potential risks of disease transmission for which environmental management and continuous entomological surveillance are required. The results also highlighted the medical	NR	The present results lead the authors to speculate that there is an attractive feeding source for *Ny. antunesi* in the canopy strata and, if it is the vector of *L. (V.) lindenbergi* was originally

	importance of *Trichophoromyia* species, mainly due to the observations of a possible role of *Th. brachipyg*a in the transmission of *L. (V.) lainsoni*. Present and past data also note *Bi. flaviscutellata* as an important vector in Belém. On the other hand, *Ny. antunesi* remains outstanding among the list of potential *L. (V.) lindenbergi* vectors, especially with regard to its observed high frequency and potentially aggressive behavior of females resting on tree bases during the early morning. The monthly fluctuations of these species, however, do not seem to be positively correlated with rainfall.		supposed, it is reasonable to suspect of an arboreal mammal, as potential reservoir host. Attempting to fill this eco-epidemiological gap, our future steps in the studied area may include searching for feeding sources of phlebotomines, in particular for that species.
Pereira-Júnior et al, 2019/ Rondônia	The sandflies can switch between blood meal sources in differing environments. The vectors, such as *Ny. antunes*i and *Ps. davisi*, feed on humans and bovines in the PE environments and feed on sylvatic animals, such as anteaters in the FE environments. The sandflies using humans and domestic animals as blood meal sources indicates that the transmission profile might be changing in the PE environments. These findings can be used to enhance the epidemiological surveillance of leishmaniasis in Rondônia.	15 engorged females represent a small sample size relative to other studies.	These findings can be used to enhance the epidemiological surveillance of leishmaniasis in RO.
Carvalho et al, 2018 / Pará	The residents of Tracuateua are at risk of infection by *Le. amazonensis* by the bite of *Lu. flaviscutellata* in a sylvatic and occupational transmission pattern.	The data is insufficient to support a conclusive hypothesis on the seasonality of *Lu. flaviscutellata* in relation to precipitation, because sampling took place only in three isolated periods of the year.	To effectively explore the effect of seasonality on the vector's populations, long-term studies must be done. Despite the dissection of 156 females of *Lu. antunesi*, no natural infections by *Leishmania* were found. Nevertheless, it is important that future studies evaluate the importance of this sand fly because of its high abundance in the area analysed.
Chagas et al, 2018 / Amazonas	There is a high level of species diversity of sand flies in the Tarumã Mirim Rural Settlement. Sand fly species vary across ecotopes and are more abundant in forest	The constancy index has limitations because of the use of a single method of collection; other species that, owing to their biology, are not attracted in abundance	NR

	ecotopes than peridomicile ecotopes. Some important species implicated as vectors were found in intradomicile and peridomicile locations due to the structural organization of rural settlements and contributing significantly to an increased hazard of ACL transmission.	by CDC may exhibit errors in classification through the use of this index.	
De Ávila et al, 2018 / Acre	The sand fly fauna found in the present study was composed of 43 species and included known vectors of ATL; The high frequency of *Trichophoromyia auraensis* and *Evandromyia saulensis*, and the detection of *L. (V.) braziliensis* DNA, and *Ps. ayrozai with L. (V.) guyanensis* DNA, indicate that these species could be putative vectors for ATL in this Amazonian region; Investigation of blood sources of sand flies revealed a preference among female sand flies collected in this area for domestic chicken, which may be participating in the population dynamics of these insects; Sand fly abundance was higher in the forest and peridomestic environments in the rural area than in the urban forest ($H = 17.9$, $df = 42$, $P < 0.05$).	In this study, a total of 2515 sand flies were captured and the most abundant species sampled were *Th. auraensis*, indistinguishable females of *Trichophoromyia* sp*., Ev. saulensis and Pressatia calcarata*, altogether representing 73.8% of the collections. Of these, *L. (V.) braziliensis* was detected in *Th. auraensis and Ev. saulensis*, corroborating other studies in the state that point to *Th. auraensis* as an abundant species in the sampled environments in Acre and its potential involvement in the transmission cycle of *Leishmania* spp. Recently, in the municipality of Assis Brasil, this species was found infected with *L. (V.) braziliensis* and *L. (V.) guyanensis* by PCR-RFLP, indicating its importance in maintaining the circulation of *Leishmania* spp., although its vectorial competence has not yet been proven.	NR
Vasconcelos dos Santos et al, 2018 / Amapá	The ACL transmission in the Oyapock River Basin reflects the Guianan/Amazonian classical ecosystem, where *Ny. umbratilis* remains the main vector. A putative alternative transmission by *Ev. infraspinosa* is possible, but circumstantial parasite ingestion is also likely, as seen with other biologically compatible phlebotomine species cohabiting the same potential *L.* (V.) *guyanensis* reservoir ecotopes.	Only 14.4% of blood-fed phlebotomines tested were positive by ELISA. This result could be attributed to the low blood content in the specimens as well as the blood recuperation procedure for the dissected slides, which may have contributed to the loss of material.	Local studies on ACL enzootics should be encouraged, since each an ecological mosaic is unique.
Araujo-Pereira et al, 2017 / Acre	*L. (Viannia)* DNA in two *Ev. saulensis,* with the confirmation of *L. (V) braziliensis* in one specimen, correspond to the first record of possible infection associated with this sandfly. The study reveals for the first	The role of these species as vectors of parasites responsible for American Cutaneous Leishmaniasis remains to be established for better understanding the risk of New World tegumentary leishmaniasis transmission	NR

	time, in Brazil, the identification of *T. auraensis* and *Pressatia* sp. infected by *L. (Viannia)* parasites.	in the Neotropics. The study, the inconclusive results of sequencing the 234 bp-hsp70C fragment in seven out of 12 positive sandflies were due to the small DNA amount yielded by one single sandfly used for diagnosis and further parasite species identification, generating low-quality readings.	
Brilhante et al, 2017 / Acre	This is the first study in Acre state using and comparing both black and white Shannon traps, demonstrating the richness, diversity, and anthropophilic behavior of the phlebotomine species and identifying proven and putative vectors of the etiological agents of leishmaniasis.	Due to heavy rains that made it impossible to access the area, the collections were not performed in October 2013, May 2014, and February 2015. The authors suggested that the combined use of traps of the two colors for a more complete evaluation of the richness, diversity, and anthropophily of phlebotomine fauna, keeping in mind that Shannon traps tend to attract more anthropophilic species than other types of traps.	NR
Dantas-Torres et al, 2017 / Pernambuco	This study demonstrates that the temporal dynamics of sand flies is correlated to some extent to climate variables, with some species contrasts. People overnighting in Atlantic rainforest remnants should adopt preventative measures such as the use of repellents on bare skin or clothes and insecticide-treated tents to reduce their exposure to sandflies and other potential disease vectors.	The heavy rains observed during some capture nights may have reduced the efficiency of the light traps during these nights.	It is yet to be investigated whether the almost complete destruction of the Atlantic Forest biome has played a role on the epidemiology of cutaneous leishmaniasis in Brazil. The finding of *Lu. choti* females infected with *L. (V.) braziliensis*, along with its known anthropophily and high abundance in Atlantic Forest fragments in Brazil, highlight the need for further studies to assess the vector competence of this sandfly for transmitting *L. (V.) braziliensis* under experimental conditions.
De Souza et al, 2017 / Amapá	A review of the literature together with the results of the present study, and other published and unpublished results, indicate that eight phlebotomine species potentially participate in the transmission of *Leishmania (Viannia) naiffi* in Amazonia. *L. (V.) guyanensis* infections in *Ny. umbratilis* and *Ny. anduzei* confirmed them, respectively, as primary and secondary vectors. The	NR	NR

	circulation of *L. (V.) naiffi* in *Ps. s. maripaensis*, which is highly anthropophilic, raises the possibility of the occurrence of underreported ACL cases related to this parasite. The finding of *L. (V.) naiffi* in *Ny. anduzei* adds yet another vector to the long of suspected vectors of this parasite.		
Membrive et al, 2017 / Paraná	Considering the species of wild animals and sandflies found in São Domingos, the negative test found do not exclude the existence of the *Leishmania* transmission cycle in this preservation area. Even though no positive test was found for *Leishmania*, epidemiological surveillance should be maintained.	In November 2014, part of the studied property was deforested and occupied by greenhouses devoted to fruit and vegetables cultivation, close to the remaining forest, where synthetic chemicals were used in pests management. This procedure may have affected the sand fly population, explaining the low number of insects collected.	NR
Silva et al, 2017 / Pernambuco	The present study contributed towards knowledge of the phlebotomine fauna in an area endemic for ACL in the state of Pernambuco. the rainy period was considered to be the time of highest risk in the study area, given the greater presence of phlebotomines.	Animal shelters (hen houses, stables and a piggery) were found in peridomestic areas, and their presence may have influenced the number of specimens collected. All the specimens molecularly analyzed were negative for *Leishmania*. It is likely that the lower number of specimens analyzed did not allow detection of *Leishmania* spp. DNA.	Studies with larger numbers of samples should be performed in order to elucidate the possible roles of species that were proven to transmit ACL in the present study area or were suspected of this. The abundant presence of *L. choti* reveals the importance of further studies to evaluate its role as a possible vector.
Toneli et al, 2017/ Minas Gerais	The data here, combined with vector control efforts, can strengthen the sandfly management plan of Santuário do Caraça. Studies of infection in local mammals, and other fauna, are of great importance for determining hosts / reservoirs and understanding *Leishmania* circulation.	NR	NR
Teles et al, 2016 / Acre	The data from this study demonstrate the great diversity of sandflies species with potential involvement in the leishmaniasis transmission cycle in Assis Brazil;In addition, the abundance of *Lu. davisi* and *Lu. auraensis/Lu. ruifreitasi* with several positive pools for the *L. braziliensis* complex increases the data	The abundance of *Lu. davisi* and *Lu. auraensis/Lu. ruifreitasi* with several positive pools for the *L. braziliensis* complex increases the data about vector suspects in the north Brazil/further studies are needed to assess the vector capacity	NR

	about vector suspects in the north Brazil.		
Miranda et al, 2015 / Pernambuco	The present study reinforces this assertion and further indicates that *Lu. whitmani* is mainly found in the peridomestic environment, even in low-density residential rural areas with mixed forest/agricultural exploitation; It also indicates that in these areas, forest-adapted sand fly species may be found in peridomiciliary locations, as houses are frequently constructed nearby the forest; Finally, it points out that the number of sand flies (including *Lu. whitmani*) captured daily is significantly correlated to climatic variables, including saturation deficit, which may represent a useful parameter for studying of sand fly populations in leishmaniasis endemic areas.	The relatively low number of specimens tested by PCR may also have reduced the likelihood of finding a positive female in this study.	NR
Pereira Júnior et al, 2015 / Amazonas	In the Middle Solimões region, the sand fly fauna in terra firme and várzea environments is composed of a few dominant species, and several species with few individuals; The fauna varies between ecotopes, being more abundant in forest ecotopes than in peridomicile ecotopes; The abundance of *Th. ubiquitalis* and its record of presence of *L. (V.) lainsoni* DNA may indicate that this species is a vector for ACL in Tefé Municipality, Amazonas, Brazil.	NR	NR
Rêgo et al, 2015 / Minas Gerais	In this study *Ny. intermedia* was found associated with *Le. infantum chagasi* both in peridomicile areas and among the trails, however, the role of this sand fly species in the epidemiological cycle of this parasite is unclear.	NR	The ecological role of this species should be studied in order to elucidate the epidemiological role in the wild and peridomestic *Leishmania* transmission cycles.
Silva et al, 2014 / Amazonas	*Leishmania* infection detected in vectors and suspected species found in this study suggests a role of these species in the transmission cycle of ACL in the Castanheira settlement, Lábrea, Amazonas, and the	It was not possible to identify 26 (2%) specimens collected because of loss of morphological structures used for taxonomic identification. For the same reasons 119 (9%) specimens were only identified to genus levels.	More studies should be performed in the area to contribute to the elucidation of the epidemiology of leishmaniasis in the state of Amazonas.

	risk of infection in the study area.		
Teles et al, 2013 / Rondônia	From all 53 species captured, four sandflies species were found in the State of Rondonia for the first time: *Brumptomyia brumpti, Lutzomyia tarapacaensis, Lutzomyia melloi and Lutzomyia lenti;* The species *L. whitmani* and *L. davisi* were the most abundant and have proved to be significant vectors of *Leishmania* that cause ACL; The prevalence of these vectors suggests the possibility of transmission in the peridomestic environment. The epidemiologic data points to a significant decrease in the incidence an ACL of about 53% and 43% over the last ten years in Monte Negro and Rondônia and 31% in Brazil.	NR	NR
Thies et al, 2013/ Mato Grosso	The natural infection of *L. antunesi* and *L. ubiquitalis by Leishmania* sp. suggests that these species might play a role in the zoonotic cycle of ACL in Nova Mutum; The presence of *Le. infantum* in *L. antunesi* suggests that there may be a risk of an outbreak of visceral leishmaniasis in Nova Mutum.	Only one pooled sample of *Lu. antunesi* showed the expected amplified product (1300bp). After gel extraction, that DNA fragment provided insufficient sequencing results.We were unable to discriminate between *L. braziliensis* and *L. guyanensis* in our infected sandfly samples, it seems probable that the parasite was *L. braziliensis*, as opposed of *L. guyanensis*. In cases where the ACL cases and the presence of infected sand flies hypothesized that these sandflies may be involved in the zoonotic cycle of ACL in the rural population of Nova Mutum (MT) / It was not possible to distinguish between infected *Leishmania* species and sandflies.	NR
Vilela et al, 2013 / Tocantins	The rural settlement environment exhibited greater phlebotomine biodiversity than the periurban area. *Ps.complexus* and *Psychodopygus ayrozai* naturally infected with *Leishmania* (Viannia) *braziliensis* were identified. The data identified *Ny. whitmani* as a potential ACL vector in the periurban area,	Despite reports showing the vector competence of *Ps. ayrozai*, this species was not found frequently in this study and no further evidence was found of its participation in local transmission cycles.	NR

	where as *Ps. complexus* was more prevalent in the rural environment associated with settlements.		
Quaresma et al, 2012 / Minas Gerais	The identification of two P. lloydi females infected with *L. braziliensis* suggests that this insect maintains L. braziliensis infections in a sylvatic cycle in Ibitipoca State Park for the following reasons: (i) both individuals were engorged with the blood of rodents/marsupials, (ii) this sandfly species was the most abundant sandfly species in the park, (iii) there are no data on the vector competence of *P. lloydi* and (iv) there have been no reported human cases of cutaneous leishmaniasis in the study area. These results constitute an important step towards validating the use of cytB PCR as a tool for identifying the food sources of naturally feeding female sandflies.	PCR-RFLP results are occasionally inconclusive due to poor amplification of cytB products, the presence of very similar banding profiles between different host species or incomplete digestion. The specificity of this type of assay is sometimes low, especially with respect to identifying groups of closely related vertebrates, such as primates. The primers used are not specific to human cytB, the banding patterns could not be conclusively determined to be human, although this is most likely the case. In such instances, it is advisable to use a more accurate method, such as sequencing of cytB. The food source could not be identified for 15 sandflies. The amount of available extracted DNA was not sufficient for these experiments. Further studies using non-fed flies are needed to evaluate *Leishmania* infection of *P. lloydi* and its vectorial competence.	The specificity was poor because nearly 40% of the *cytB* PCR-RFLP assays did not identify the source of the blood meal.The potential reasons for this large number of unidentified feeding sources include post-PCR obstacles related to the RFLP technique, which has limitations for the analysis of banding profiles.
Margonari et al, 2010 / Minas Gerais	The finding of potential and incriminated vectors naturally infected with *Leishmania* reinforces the need of epidemiologic surveillance in the area.	NR	The role of *L. fischeri* as a potential vector of *L. braziliensis* still remains to be understood.
Saraiva et al, 2010 / Minas Gerais	It is important to note that the occurrence of a natural infection is not enough to define a species as a vector in the leishmaniasis cycle.	Because of contamination, it was not possible to isolate the flagellated forms in culture medium.	NR
Souza et al, 2010 / Pará	The phlebotominal fauna of Serra dos Carajás is one of the most diversified in the world, with several species involved in the transmission of enzootic by *Leishmania* spp in wild animals, some of them recognized medical interest and others because they are still clarified. The results of the present study not only confirm the epidemiological importance	NR	NR

	of some species of phlebotomines found in the fauna of the Serra dos Carajás, as well as to demonstrate the great diversity of local species, in a total of 69 identified, belonging to three genera: *Psychodopygus, Lutzomyia* and *Brumptomyia*.		
Brito et al, 2009 / Pernambuco	This study confirms that transmission cycle complexity and the co-existence of two or more species living in sympatry in the same area can affect the level of genetic polymorphism in natural *Leishmania* populations.	Although the results indicate that all strains analyzed are monoclonal, with all clones having a pattern identical to that of the parental strain, the possibility that the culture medium used in the study acts as a filter can not be excluded.	NR
Oliveira-Pereira et al, 2006 / Maranhão	The natural infection rate of sand flies using PCR is sufficient to maintain the endemicity of the infection. PRC was more sensitive than the dissection of sand flies. This study shows the ability of the *L. whitmani* population of Buriticupu to become infected with *Leishmania*, indicating its probable role as LT vector in this municipality.	NR	Studies on species-specific nature of *Leishmania* can be conducted in order to characterize, in the near future, the species of *Leishmania* transmitted by *L. whitmani* in this region. In addition, it is necessary to continue this study in order to determine the presence or not of infection in other species of sand flies. Further studies must be performed in other areas of the state to see if there is a connection between the rate of infection and the number of cases of illness.
Souza et al, 2004 / Minas Gerais	The highest population density was represented by the species L. longipalpis in BH during the period studied. L. longipalpis was the most frequently found in six of the nine regions under study. Analysis on climate influences in phlebotomine sandfly populations in BH showed no statistically significant results. However, there is an increasing trend in the number of phlebotomine insects just after rainny periods. A favorable environment to phlebotomine reproduction associated with the presence of domestic animals in peridomiciliary areas may explain the high number of insects found compared to inner houses under study.	Four percent out of the total amount of collected insects could not be identified due to mutilation caused by the traps or technical problems	NR

Miranda et al, 2002 / Bahia	The present results clearly show that there is heterogeneity in the spatial distribution of *Leishmania* infected phlebotomines.This study also confirms the large predominance of *L. (N.) whitmani* over other phlebotomine species in this area. There is no indication so far that intra-domiciliary sand flies are more likely to transmit leishmaniasis. Combination of directed capture and PCR did not increase the detection of infected sand flies in a large area.There seems to exist a bias of *L. (N.) intermedia*, when compared to *L. (N.) whitmani*, for the domestic environment. However, the use of these two approaches combined with a sectored analysis revealed sectors with a high incidence.	NR	NR
Silva et al, 1999 / Rio Grande do Sul	Five species that were isolated in the park, *Lu. migonei*, *Lu. pessoai*, *Lu. fischeri, Lu. neivai* and *Lu. shannoni*, are suspected to be vectors of *Le.(Viannia)* elsewhere in Brazil. *Lu. misionensis* was found to be the predominant species in the forest, while *Lu. migonei* and *Lu. pessoai* were the predominant species in domicile and peridomicile areas. Only *Lu. pessoai* and *Lu. misionensis* were found to be infected with *Le. (Viannia)*. Thus, these two vector species do not appear to play an important role in the transmission of leishmaniasis infection to humans.	NR	It is important that further collections of sand flies be made in different ecological areas of the park and in different seasons of the year to obtain more information on the significance of ACL and the dynamics of its transmission in and around the park.
Freitas et al, 1989 / Rondônia and Amazonas	*L. reducta, L. olmeca nociva* and *L. flaviscutellata* can be distinguished from phlebotomines not included in the flaviscutellata complex by the pigmentation and by the elongated head in the females. The relative abundance of the three simpatric flaviscutellata complex species varies locally and appears to be related with soil drenage. *L.*	They did not evaluate all phebotominaes.	NR

	reducta constituted about 25% of all phlebotomines captured in Disney traps, appears not to colonize areas subject to periodic flooding. *L. reducta* is the third species of the flaviscutellata complex to be found infected with *L.amazonensis* in Brazil.

Source: Own elaboration.