

Project Update: October 2018

1 – Summary of activities in the period.

ACTIVITY	LOCAL	PERIOD	CITY, STATE	COUNTRY
Collection and validation of occurrence records	Museu Paraense "Emílio Goeldi" - MPEG	03/05 – 03/16/2018	Belém, PARÁ	Brazil
Final organization of collected data	LABECA - INPA	03/17 – 03/24/2018	Manaus, Amazonas	Brazil
Collection and validation of occurrence records	Coleção de Herpetologia Univ. Federal de Minas Gerais - CHUFMG	03/25 – 03/30/2018	Belo Horizonte, Minas Gerais	Brazil
Final organization of collected data	CHUFMG	03/25 – 03/30/2018	Belo Horizonte, Minas Gerais	Brazil
Collection and validation of occurrence records	Museu de Ciências Naturais P. Univ. Católica de Minas - PUCMG	03/30 – 04/06/2018	Belo Horizonte, Minas Gerais	Brazil
Final organization of collected data	PUCMG	04/07 – 04/12/2018	Belo Horizonte, Minas Gerais	Brazil
Collection and validation of occurrence records	Coleção de Anfíbios "Célio Fernando Baptista Haddad" – CFBH-UNESP	07/09 – 07/13/2018	Rio Claro, São Paulo	Brazil
Final organization of collected data	CFBH-UNESP	07/09 – 07/13/2018	Rio Claro, São Paulo	Brazil
Collection and validation of occurrence records	Museu de Zoologia da Universidade de São Paulo - MZUSP	07/16 – 07/27/2018	São Paulo, São Paulo	Brazil
Final organization of collected data	MZUSP	07/09 – 07/13/2018	São Paulo, São Paulo	Brazil
Collection and validation of occurrence records	Museu Nacional – MN-UFRJ	07/30 – 08/06/2018	São Paulo, São Paulo	Brazil
Final organization of collected data	LABECA - INPA	08/08 – 08/13/2018	Manaus, Amazonas	Brazil

2 – Description of activities.

Seeking a better understanding of the steps by the reviewers, this presentation will follow the subdivisions: (1) Data collection and (2) Data validation or Data filtering. (1) Each occurrence record obtained consist of a Latitude-Longitude pair denoting the location of a species. Specimens deposited (vouchers) in the main collections and museums were accessed through pre-programmed visits and the data assigned to

each of them collected. The following collections were visited for now: Museu Paraense "Emílio Goeldi" - MPEG; Herpetological Collection of Federal University of Minas Gerais – CHUFMG, Natural Sciences Museum in the Catholic University of Minas Gerais – PUCMG, National Museum - Federal University of Rio de Janeiro - NNUFRJ; Museum of Zoology University of São Paulo – MZUSP AND Herpetological Collection "Célio Fernando Baptista Haddad" - CFBH-UNESP. As a way of complement the data as well as for the verification of taxonomic novelties for the group, an intensive search will be made in the scientific literature. This search for the compilations of data will be carried out through specific portals in internet such as: ISIWEB of Science, Jstor, Scielo, PubMed etc. In addition, as an alternative source of data collection, domains that freely provide massive amounts of information on the world biota will be visited. These sites, such as Global Biodiversity Information Facility - GBIF, International Union for Conservation of Nature - IUCN, Sistema de Informação da Biodiversidade Brasileira – SIBBr and VertNet, gather information from a wide variety of sources and make them available on the internet.

Concomitantly to this routine, little accurate data were eliminated from the final set characterizing the step (2) "Data validation or Data filtering". Mismatch between the voucher and its formal name automatically prevented the specimen to compose the data set. Inconsistencies between the locality and its Lat-Long pair also eliminated the record of the final set of data. For this verification all records obtained were plotted on maps using specific programs (e.g. Google Earth®).

3 – Visits to Brazilian Museum and Collections.

“MUSEU PARAENSE EMÍLIO GOELDI” - MPEG, BELÉM, PARÁ, BRASIL.

Curator: Dr^a. Ana Lúcia da Costa Prudente

Visit Period: 05 to 16 March 2018



Specimens Checked: A total of 460 specimens belonging to the following *Pithecopus* species were analyzed: *P. azureus*, *P. hypochondrialis* and *P. palliatus*. Specifically, 432 individuals classified as *P. hypochondrialis* deposited in the "MPEG" were checked and of that total 56 specimens presented some problems regarding their classification. 26 specimens of *P. azureus* were checked and five of them presented taxonomic failures.

Finally, only one copy of *P. palliatus* is collected in the museum. This specimen was analyzed, and its formal taxonomic identification confirmed.



(clockwise). Standard label containing the basic information of the specimen. Some pots with specimens checked. Individual of *P. palliatus* analyzed in dorsal and lateral view.

Records of Occurrence: After the taxonomic screening and check of the collected specimens, I collected the information of interest to my project, p. ex. locality of the record, linked to everyone through the analysis of books-tumbles. Each record obtained was processed (see example of a spreadsheet below).

Salvamento Automático P. hypochondrialis_MPEG_triada.xlsx - Excel Lucas-Azeitona Bandeira

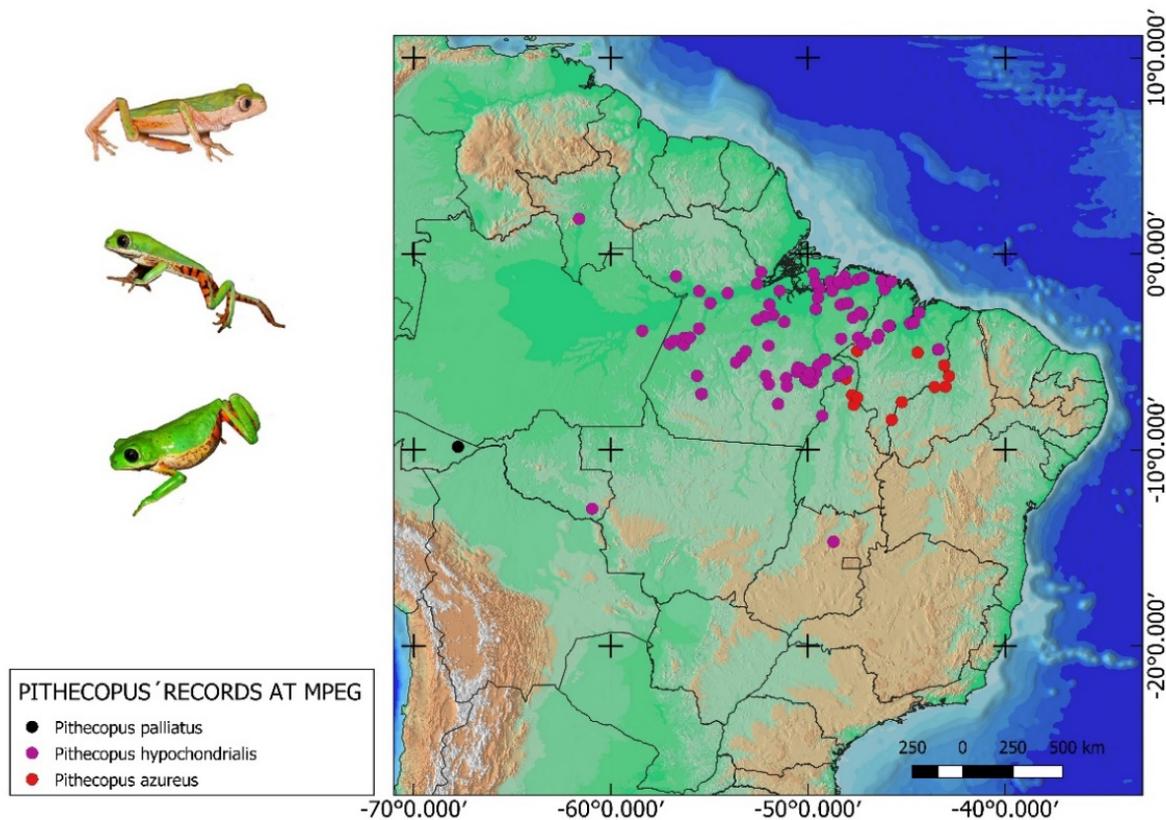
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Calibri 11 Fonte Alinhamento Número

	A	B	C	D	E
1	espécie	coordenada	latitude	longitude	localidade
2	P. hypochondrialis	1°26'10.77"S / 49°26'57.09"O	-1.436324	-48.449191	IPEAN
3	P. hypochondrialis*	1°47'39.00"S / 49°25'42.00"O	-1.794167	-49.428333	Reserva do Utinga
4	P. hypochondrialis	1°48'50.07"S / 46°06'26.57"O	-1.813908	-46.10738	BR - 316 (25 Km Rio Gurupi)
5	P. hypochondrialis	1°22'24.00"S / 46°16'8.00"O	-1.373333	-46.268888	Bela Vista ?
6	P. hypochondrialis	1°26'30.70"S / 48°26'21.73"O	-1.441861	-48.439369	Área do Mocambo ?
7	P. hypochondrialis	4°18'55.13"S / 46°27'37.99"O	-4.315314	-46.460553	Reserva Florestal Rio Doce
8	P. hypochondrialis	1°52'23.00"S / 51°26'15.00"O	-1.873055	-51.4375	Floresta Nacional do Caxiunã
9	P. hypochondrialis*	1°19'11.00"S / 47°29'38.00"O	-1.319722	-47.493888	Vila de Maratauna
10	P. hypochondrialis	3°03'09.00"S / 47°23'43.00"O	-3.0525	-47.395277	Fz. Vitória
11	P. hypochondrialis*	1°27'37.00"S / 49°37'33.00"O	-1.460277	-49.625833	Campus de pesquisa MPEG
12	P. hypochondrialis	1°47'33.51"N / 61°36'27.17"O	1.792643	-61.607548	Rio Ajarani (9 Km E), BR-210
13	P. hypochondrialis	5°51'15.88"S / 50°22'16.21"O	-5.854411	-50.371169	Área de influência do projeto Salobo - Carajás (Estrada alojamento)
14	P. hypochondrialis	5°52'24.95"S / 50°28'50.54"O	-5.873597	-50.480706	20 m da margem direita do Rio Itaciuons (Área de influência do projeto Solobo - Carajás)
15	P. hypochondrialis	5°48'6.00"S / 50°30'58.00"O	-5.801666	-50.516111	Área de influência do projeto Salobo - Carajás
16	P. hypochondrialis	5°51'13.23"S / 50°22'16.03"O	-5.853675	-50.371119	Área de influência do projeto Salobo - Carajás (Acampamento)

Verification and Validation: After obtaining and organizing the worksheet with the data, each of the records was verified and validated. The verification process consisted of the analysis of the agreement between the coordinates provided and the registered location that was designated by the collector. After verification, we classified each specific record as appropriate or not to compose the final set of data.

Results: From the visit to the Museu Paraense Emílio Goeldi - MPEG, we obtained a total of 128 valid occurrence records for the three species (*P. azureus*, *P. hypochondrialis* and *P. palliatus*). Specifically, we have 12 records for *P. azureus*, 116 occurrence records valid for *P. hypochondrialis* and 1 for *P. palliatus*. (see map below).



“COLEÇÃO DE HERPETOLOGIA, UNIVERSIDADE FEDERAL DE MINAS GERAIS” - CHUFMG, BELO HORIZONTE, MINAS GERAIS, BRASIL.

Curator: Dr. Paulo Christiano de Anchieta Garcia
 Visit Period: 25 to 30 March 2018.

Specimens Checked: It is worth noting that among all the herpetological collections and national museums visited, the herpetological collection of the Federal University of Minas Gerais - CHUFMG was the only one that presents specimens collected from 10 of the 11 species belonging to the current genus of the present study. A total of 299 specimens belonging to all species of the genus *Pithecopus* were analyzed: *P. ayeaye*, *P. azureus*, *P. centralis*, *P. hypochondrialis*, *P. megacephalus*, *P. nordestinus*, *P. oreades*, *P. rohdei* and *P. rusticus*. Specifically, 93 individuals classified as *P. ayeaye* deposited were accessed and checked and of that total only three specimens presented some problems regarding their classification (presented diagnostic characters that were not compatible with those used to describe the species). 29 specimens of *P. azureus* were checked and five of them presented taxonomic failures. *P. centralis* was represented by eight individuals being all checked and confirmed their identifications. 34 *P. hypochondrialis* specimens were accessed and analyzed.



Of this total, 12 individuals raised doubts as to their classification due to some contrasting characters. *P. megacephalus* was represented by 31 specimens of which three presented identification failures. *P. nordestinus* collected totaled 42; of this total amount only one individual raised doubts as to their formal identification. 28 specimens of *P. oreades* were accessed and checked, all confirmed as taxonomy. *P. Rohdei* was represented by 28 individuals; of all checked all were confirmed as to the taxonomy. Finally, 11 specimens of *P. rusticus* are collected in the museum. These specimens were analyzed, and their identifications confirmed. It is worth remembering that this is the collection where the holotype of this last species is found. The holotype was also accessed, photographed and used as testimony to the other checks.



Specimens checked in the collection of Herpetology "UFMG" in dorsal view. Left: Specimen of the species *Pithecopus nordestinus*; Right: Exemplary of *Pithecopus ayeaye*.

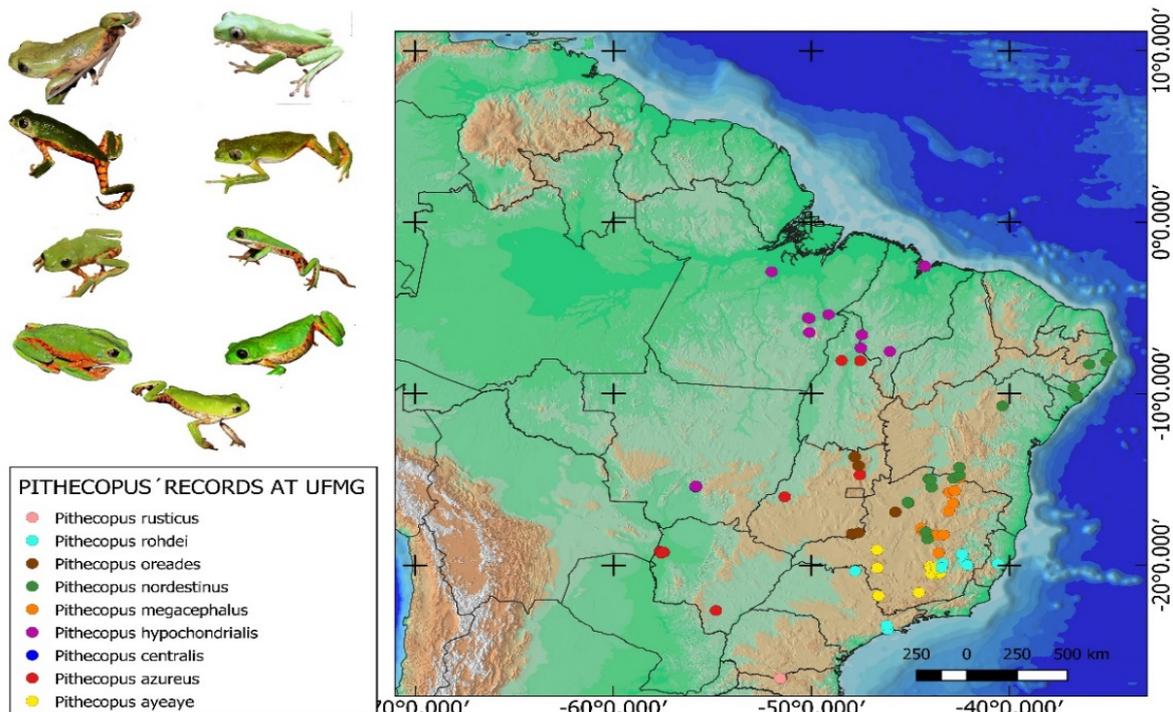
Records of Occurrence: After the taxonomic screening and check of the collected specimens, I collected the information of interest to my project, p. ex. locality of the

record, linked to everyone through the analysis of books-tumbles. Each record obtained was processed (see example of a spreadsheet below).

espécie	coordenada	latitude	longitude	localidade
P. ayeaye	20°27'25.806" S / 43°52'27.000" O	-20.4536113°	-43.874167°	-
P. ayeaye	20°06'04.80" S / 43°59'19.50" O	-20.101333°	-43.988750°	-
P. ayeaye	20°30'53.7" S / 43°36'44.50" O	-20.514917°	-43.612361°	-
P. ayeaye	20°28'57.65" S / 43°54'27.83" O	-20.482681°	-43.907731°	CSN
P. ayeaye	20°17'13.64" S / 43°54'11.45" O	-20.287123°	-43.903180°	Mina Pico - VALE
P. ayeaye	20°27'13.14" S / 43°52'26.23" O	-20.453651°	-43.873953°	Mina Casa de Pedra - CSN
P. ayeaye	20°07'40.08" S / 43°59'00.72" O	-20.127799°	-43.983533°	Serra da Moeda
P. ayeaye	20°15'10.68" S / 43°48'11.10" O	-20.252966°	-43.803084°	Margem da BR-040 / lado esquerdo sentido BH-Rio
P. ayeaye	20°29'12.03" S / 43°56'35.17" O	-20.486674°	-43.943103°	Mina de Viga
P. ayeaye	20°05'41.44" S / 43°58'58.08" O	-20.094845°	-43.982800°	Serra da Calçada
P. ayeaye	20°25'53.53" S / 43°29'13.16" O	-20.431537°	-43.486990°	Parque Estadual do Itacolomi
P. ayeaye	20°25'56.15" S / 43°29'30.29" O	-20.432265°	-43.491746°	pt1 - Parque Estadual do Itacolomi
P. ayeaye	20°25'51.39" S / 43°29'25.29" O	-20.430943°	-43.490359°	pt2 - Parque Estadual do Itacolomi
P. ayeaye	19°06'38.10" S / 46°40'45.67" O	-19.110582°	-46.679352°	-
P. ayeaye	21°35'36.28" S / 44°34'18.88" O	-21.593412°	-44.571911°	Chapada das Perdizes

Verification and Validation: After obtaining and organizing the worksheet with the data, each of the records was verified and validated. The verification process consisted of the analysis of the agreement between the coordinates provided and the registered location that was designated by the collector. After verification, we classified each specific record as appropriate or not to compose the final set of data.

Results: From the visit to the Collection of Herpetology of the Federal University of Minas Gerais - CHUFMG and after the routine of verification and validation of the information we obtained a total of 97 valid records of occurrence for the 10 species. Specifically, we have 22 records for *P. ayeaye*, 12 for *P. azureus*, two *P. centralis*, 12 for *P. hypochondrialis*, 14 for *P. megacephalus*, 16 for *P. nordestinus*, 6 for *P. oreades*, 12 for *P. rohdei* and a one valid record for *P. rusticus*. (see map below).



“MUSEU DE CIÊNCIAS DE NATURAIS – PONTIFÍCIA UNIVERSIDADE CATÓLICA DE MINAS GERAIS – PUC-MG, BELO HORIZONTE, MINAS GERAIS, BRASIL.

Curator: Dr^a. Luciana Barreto Nascimento
Visit Period: March 30 to April 6, 2018.



Specimens Checked: A total of 161 specimens belonging to seven of the 11 species of the genus *Pithecopus* were analyzed: *P. ayeaye*, *P. azureus*, *P. hypochondrialis*, *P. megacephalus*, *P. nordestinus*, *P. oreades* and *P. rohdei*. Specifically, 14 individuals classified as *P. ayeaye* deposited were accessed and checked and of this total, none of the individuals presented any problems regarding their classification. Seven specimens of *P. azureus* were checked and three of them presented taxonomic failures. 55 specimens of *P. hypochondrialis* were accessed and analyzed. Of this total, 16 individuals raised doubts as to their classification due to some contrasting characters. *P. megacephalus* was represented by 29 specimens of which none presented a failure to identify. Collected *P. nordestinus* totaled 24. 13 specimens of *P. oreades* were accessed and checked being 4 unconfirmed as taxonomy. *P. rohdei* was represented by 19 copies; of all individuals checked two copies raised doubts as to taxonomy.

Records of Occurrence: After the taxonomic screening and check of the collected specimens, I collected the information of interest to my project, p. ex. locality of the record, linked to everyone through the analysis of books-tumbles. Each record obtained was processed (see example of a spreadsheet below).

Salvamento Automático P. megacephala_PUC_triada.xlsx - Excel Lucas-Azeitona Bandeira

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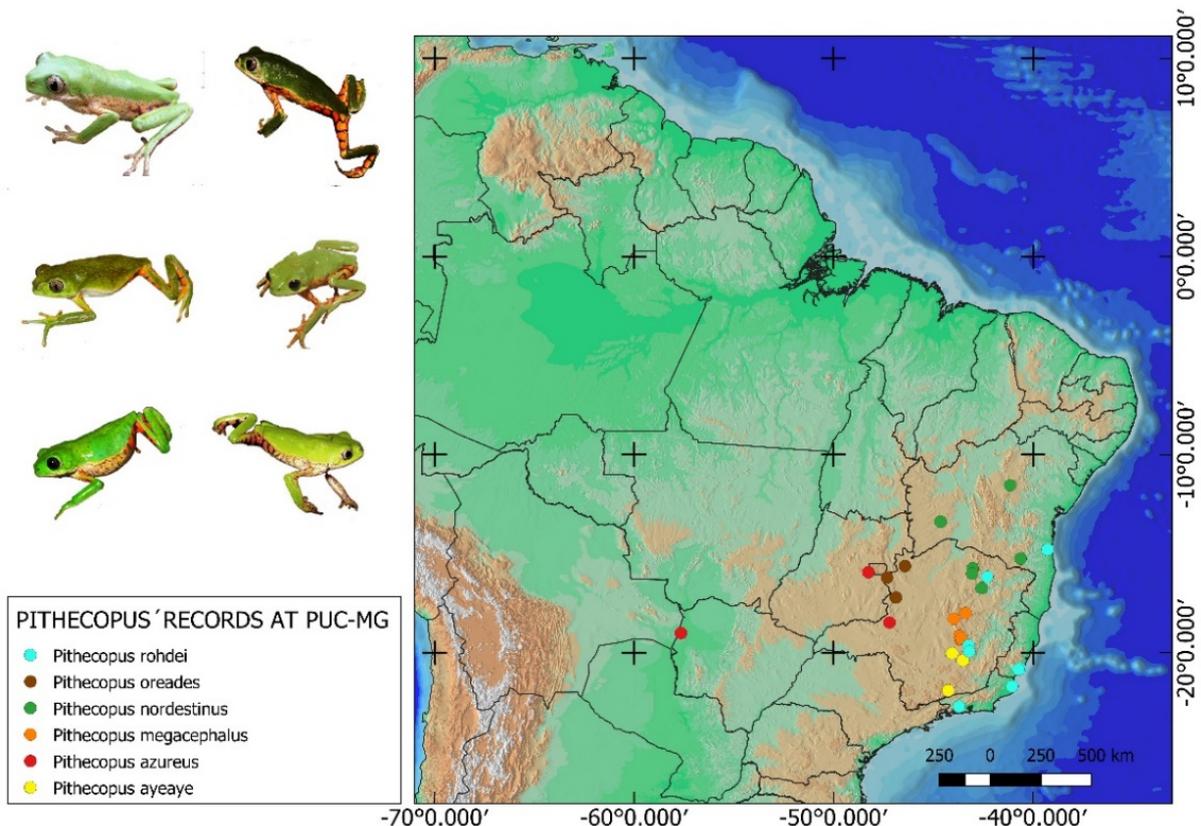
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Área de Transf... Fonte Alinhamento Número

1	A	B	C	D	E	F
	espécie	coordenada	latitude	longitude	localidade	município
2	P. megacephala	19°22'52.98"S / 43°37'10.56"O	-19.353442°	-43.619501°	Parque Nacional da Serra do Cipó	Jaboticatubas_MG
3	P. megacephala	18°17'13.79"S / 43°58'49.11"O	-18.287165°	-43.980307°	distrito de Conselheiro da Mata	Diamantina_MG
4	P. megacephala	19°20'20.04"S / 43°37'36.97"O	-19.338899°	-43.626935°	Parque Nacional da Serra do Cipó, Cardeal Mota	Santana do Riacho, MG
5	P. megacephala	19°08'53.07"S / 43°41'40.82"O	-19.148076°	-43.694671°	Fazenda da Calçada, Pico do Breu, Cardeal Mota	Santana do Riacho, MG
6	P. megacephala	18°00'09.76"S / 43°23'08.27"O	-18.002711°	-43.385631°	-	São Gonçalo do Rio Preto, MG
7	P. megacephala	15°44'28.26"S / 43°01'40.98"O	-15.741182°	-43.028050°	-	Porteirinha, MG
8	P. megacephala	19°16'00.15"S / 43°35'13.37"O	-19.266707°	-43.587047°	Parque Nacional da Serra do Cipó	Santana do Riacho, MG
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Verification and Validation: After obtaining and organizing the worksheet with the data, each of the records was verified and validated. The verification process consisted of the analysis of the agreement between the coordinates provided and the registered location that was designated by the collector. After verification, we classified each specific record as appropriate or not to compose the final set of data.

Results: From the visit to the Museum of Natural Sciences of PUC Minas Gerais - PUCMG and after the routine of verification and validation of the information we obtained a total of 45 valid records of occurrence for the seven species. Specifically, we have three records for *P. ayeaye*, three for *P. azureus*, 15 for *P. hypochondrialis*, seven for *P. megacephalus*, seven for *P. nordestinus*, three for *P. oreades* and eight valid records for *P. rohdei*. (see map below).



"COLEÇÃO DE ANFÍBIOS CÉLIO FERNANDO BAPTISTA HADDAD – CFBH-UNESP, RIO CLARO, SÃO PAULO, BRASIL.

Curator: Dr. Célio Fernando Baptista Haddad
visit period: 09 to 13 July 2018.



Specimens Checked: It is worth noting that among all the herpetological collections and national museums visited, the collection of amphibians "Célio Fernando Baptista Haddad" based at the State University of São Paulo (UNESP) was the only one to present specimens collected from all 11 species belonging to the current genus of the present study. A total of 445 specimens belonging to all species of the genus *Pithecopus* were analyzed: *P. araguaeus*, *P. ayeaye*, *P. azureus*, *P. centralis*, *P. hypochondrialis*, *P. megacephalus*, *P. nordestinus*, *P. oreades*, *P. rohdei* and *P. rusticus*. Specifically, eight specimens of *P. araguaeus* were accessed and none of them presented problems as to their taxonomy. 37 individuals classified as *P. ayeaye* deposited were accessed and checked, and none of the specimens presented any problems regarding their classification (they presented diagnostic characteristics that did not correspond to those used to describe the species). 69 specimens of *P. azureus* were checked and 7 of them presented taxonomic inconsistencies that gave us some doubt. *P. centralis* was represented by three individuals being all checked and confirmed their identifications. 94 *P. hypochondrialis* specimens were accessed and analyzed. Of this total, only one individual raised doubts as to their classification because of some contrasting characters. *P. megacephalus* was represented by 13 specimens and none of them presented any identification failures. *P. nordestinus* collected totaled 113; of this total amount none of the individuals raised doubts as to their formal identifications. Two specimens of *P. oreades* were accessed and checked, all confirmed as taxonomy. *P. palliatus* collected totaled two individuals. From the analysis none of these generated doubt as to the classification. *P. rohdei* was represented by 103 copies; of all the individuals checked did not generate doubts and therefore were confirmed as to the taxonomy. Finally, 1 specimen of *P. rusticus* is collected in this collection. This specimen was analyzed, and its identification

confirmed. It is worth remembering that in this collection we were able to access specimens that make up the standard series used in the description of the species *Pithecopus nordestinus* and *P. rohdei*. Topotypes were also accessed, photographed and used as testimonials for the other checks



(clockwise). Illustration of the screening process. Image showing the conspicuous pattern of posterior limbs (a diagnostic character used for taxonomic cloning) of a *P. hypochondrialis* specimen. Dorsal and lateral view of the same specimen.

Records of Occurrence: After the taxonomic screening and check of the collected specimens, I collected the information of interest to my project, p. ex. locality of the record, linked to everyone through the analysis of books-tumbles. Each record obtained was processed (see example of a spreadsheet below).

Salvamento Automático P. rohdei_CFBH_triada.xlsx - Excel Lucas-Azeitona Bandeira

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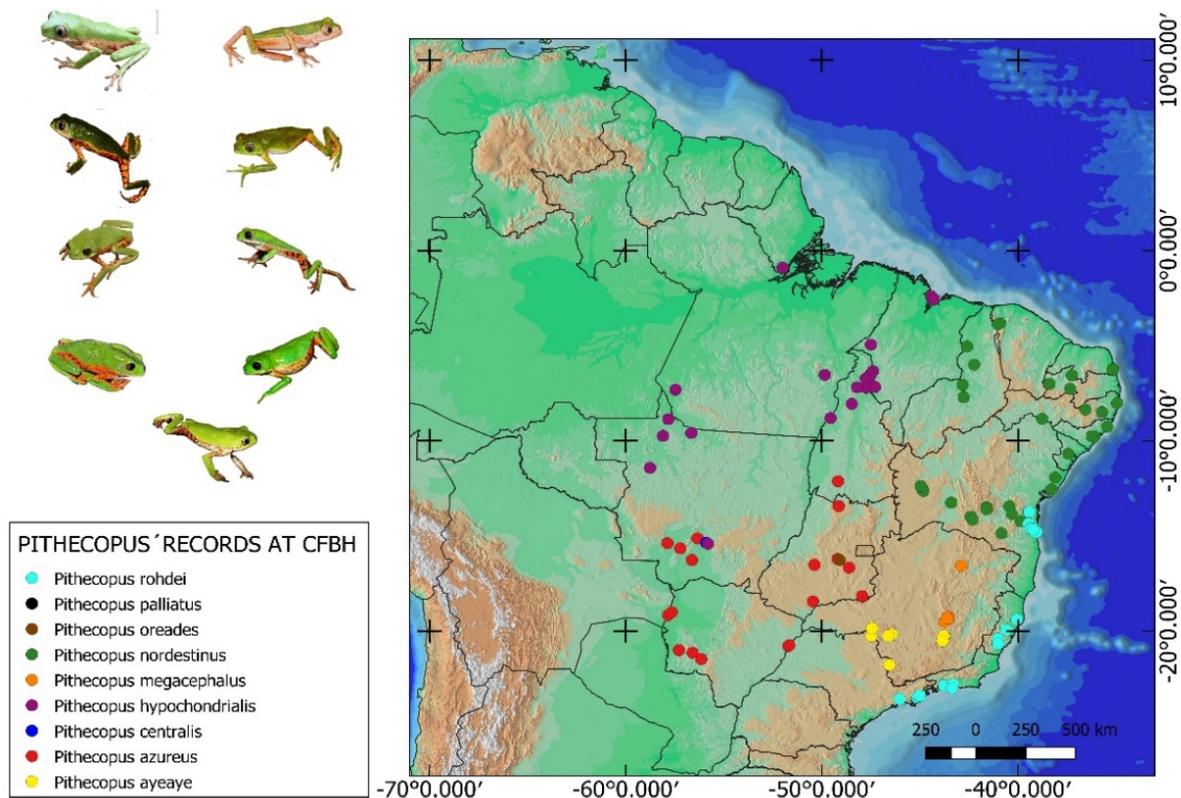
Área de Transf... Fonte Alinhamento Número

1	espécie	coordenada	latitude	longitude	localidade	município	observação
2	P. rohdei	23°30'02.66"S / 45°08'18.51"O	-23.501016°	-45.136475°	Praia do Lázaro	Ubatuba_SP	
3	P. rohdei	22°51'48.26"S / 43°46'37.86"O	-22.863405°	-43.777183°	Horto Florestal Santa Cruz	Itaguaí_RJ	CENTRÓIDE
4	P. rohdei	23°27'25.05"S / 43°03'50.85"O	-23.456957°	-45.064126°	Itaguaí	Ubatuba_SP	
5	P. rohdei	22°47'10.67"S / 43°18'19.12"O	-22.786298°	-43.305311°	-	Duque de Caxias_RJ	CENTRÓIDE
6	P. rohdei	23°23'42.47"S / 45°0'52.99"O	-23.395130°	-45.014720°	Praia de Itamambuca	Ubatuba_SP	
7	P. rohdei	20°24'09.80"S / 41°01'29.35"O	-20.402722°	-41.024820°	Parque Estadual da Pedra Azul	Domingos Martins_ES	
8	P. rohdei	22°59'41.53"S / 43°22'16.89"O	-22.994870°	-43.371358°	Parque Natural Municipal Bosque da Barra	Rio de Janeiro_RJ	Topótipo
9	P. rohdei	14°47'47.37"S / 39°10'25.38"O	-14.796491°	-39.173716°	Campus UESC	Ilhéus_BA	Checar mesmo :
10	P. rohdei	14°30'55.48"S / 39°17'59.57"O	-14.515411°	-39.299880°	~8 Km N de Urucuça	Urucuça_BA	Checar mesmo :
11	P. rohdei	23°34'12.57"S / 46°02'26.52"O	-23.570158°	-46.040701°	-	Biritiba Mirim_SP	CENTRÓIDE
12	P. rohdei	19°23'42.46"S / 40°03'52.76"O	-19.395129°	-40.064655°	Fazenda Lusitânia	Linhares_ES	CENTRÓIDE / Nc
13	P. rohdei	14°22'04.48"S / 39°27'56.66"O	-14.367911°	-39.465738°	Fazenda Pedra Pretas	Aurelino Leal_BA	Checar mesmo :
14	P. rohdei	20°40'25.31"S / 41°00'34.53"O	-20.673696°	-41.009593°	estrada Castelinho - Caetés	Vargem Alta_ES	CENTRÓIDE
15	P. rohdei	13°44'05.57"S / 39°26'24.36"O	-13.734880°	-39.440100°	estrada para Pirai do Norte	Gandú_BA	Checar mesmo :
16	P. rohdei	14°47'36.62"S / 39°02'46.97"O	-14.793505°	-39.046380°	-	Ilhéus_BA	Checar mesmo :

Verification and Validation: After obtaining and organizing the worksheet with the data, each of the records was verified and validated. The verification process consisted of the analysis of the agreement between the coordinates provided and

the registered location that was designated by the collector. After verification, we classified each specific record as appropriate or not to compose the final set of data.

Results: From the visit to the "Célio Fernando Baptista Haddad" Amphibian Collection - CFBH-UNESP and after the information verification and validation routine we obtained a total of 124 valid *Pithecopus* occurrence records for nine species. Specifically, we have 7 records for *P. ayeaye*, 19 for *P. azureus*, one for *P. centralis*, 31 for *P. hypochondrialis*, eight for *P. megacephalus*, 36 for *P. nordestinus*, one for *P. oreades*, one for *P. palliatus*, 19 for *P. rohdei* and one valid record for *P. rusticus*. (see map below).



"MUSEU DE ZOOLOGIA da UNIVERSIDADE DE SÃO PAULO – MZUSP, SÃO PAULO, SÃO PAULO, BRASIL.

Curator: Dr. Taran Grant



Specimens Checked: A total of 802 specimens belonging to seven species of the genus *Pithecopus* were analyzed: *P. ayeaye*, *P. azureus*, *P. hypochondrialis*, *P. megacephalus*, *P. nordestinus*, *P. oreades* and *P. rohdei*. Specifically, eight individuals classified as *P. ayeaye* deposited were accessed and checked and of that total, two of the specimens were not confirmed because these individuals consisted of imagos (juvenile forms). 61 specimens of *P. azureus* were checked and more than half (35 individuals) presented taxonomic inconsistencies that gave us some doubts. After this screening, a specialist in the distribution of the species (Dr. Boris Bloto, collaborator of this project) was consulted to resolve these inconsistencies. 506 specimens of *P. hypochondrialis* were accessed and analyzed. Of this total, 62 specimens were not identifiable (for example, because they were damaged) or showed inconsistencies in some diagnostic characters that raised doubts as to their classification. *P. megacephalus* was represented by 12 specimens and none of them presented any identification failures. *P. nordestinus* collected totaled 161; of this total amount nine individuals raised doubts as to their formal identifications. Two specimens of *P. oreades* were accessed and checked, all confirmed as taxonomy. *P. palliatus* collected totaled six individuals. From the analysis none of these generated doubt as to the classification. Finally, *P. Rohdei* was represented by 45 copies; of all the individuals checked did not generate doubts and therefore were confirmed as to the taxonomy.



(clockwise). Oldest specimen collected from P.. Pots containing the specimens that were analyzed. Dorsal view of one of the individuals of the P. nordestinus species that was accessed at MZUSP. Side view of specimen #MZUSP "3617".

Records of Occurrence: After the taxonomic screening and check of the collected specimens, I collected the information of interest to my project, p. ex. locality of the record, linked to everyone through the analysis of books-tumbles. Each record obtained was processed (see example of a spreadsheet below).

Salvamento Automático P. hypochondrialis_MZUSP.xlsx - Excel Lucas-Azeitona Bandeira

Arquivo Página Inicial Inserir Layout da Página Fórmulas Dados Revisão Exibir Ajuda Diga-me o que você deseja fazer

Calibri 11 A⁺ A⁻ Quebrar Texto Automaticamente Geral \$ - % 000 0.00 0.00 Formatação Condicional Formatar como Tabela Estilos de Célula Inserir Excluir Formatar Células

Área de Transf... Fonte Alinhamento Número Estilos Células

A	B	C	D	E	F	G
espécie	colecção	coordenada	latitude	longitude	localidade	município
P. hypochondrialis	3617	-	-	-	-	Porto Esperan
P. hypochondrialis	12815	-	-	-	-	Rosario Oest
P. hypochondrialis	12816	-	-	-	-	Rosario Oest
P. hypochondrialis	21220	-	-	-	-	Barra do Cord
P. hypochondrialis	22937	-	-	-	-	Cuiabá, M
P. hypochondrialis	22938	-	-	-	-	Cuiabá, M
P. hypochondrialis	22940	-	-	-	-	Cuiabá, M
P. hypochondrialis	32081	-	-	-	Rio Gurupi	Canindé, I
P. hypochondrialis	33785	-	-	-	-	Santa Luzia,
P. hypochondrialis	37465	-	-	-	Buriti	Chapada dos Guin
P. hypochondrialis	37466	-	-	-	Buriti	Chapada dos Guin
P. hypochondrialis	38873	-	-	-	Itiuba	? BA
P. hypochondrialis	52098	-	-	-	-	MT
P. hypochondrialis	53965	-	-	-	Parque Nacional do Amazonas	PA
P. hypochondrialis	57084	-	-	-	Parque Nacional do Taiaíós (km 54 Transamazônica)	PA

Verification and Validation: The verification and validation of the data collected in the "MZUSP" is still in progress.

"MUSEU NACIONAL – MN-UFRJ, RIO DE JANEIRO, RIO DE JANEIRO, BRASIL.

Curator: Dr. Ulisses Caramaschi and Dr. José Perez Pombal Júnior



Specimens Checked: A total of 722 specimens belonging to nine species of the genus *Pithecopus* were analyzed: *P. ayeaye*, *P. azureus*, *P. centralis*, *P. hypochondrialis*, *P. megacephalus*, *P. nordestinus*, *P. oreades*, *P. palliatus* and *P. rohdei*. Specifically, 17 individuals classified as *P. ayeaye* deposited were accessed and checked and of this total, no specimen had problems with its classification. 91 specimens of *P. azureus* were checked and confirmed for their taxonomic identifications. Two copies of *P. centralis* were accessed and both had their formal identities confirmed. 83 *P. hypochondrialis* specimens were accessed and analyzed. *P. megacephalus* was represented by 12 specimens and none of them presented any identification failures. *P. nordestinus* collected totaled 257; of this total amount none of the individuals raised doubts as to their formal identifications. Six specimens of *P. oreades* were accessed and checked and all were confirmed for taxonomy. Only one copy belonging to *P. palliatus* is collected in the National Museum; although collected the copy can not be found. Finally, *P. Rohdei* was represented by 253 copies; of all the individuals checked did not generate doubts and therefore were confirmed as to the taxonomy.

Records of Occurrence: After the taxonomic screening and check of the collected specimens, I collected the information of interest to my project, p. ex. locality of the record, linked to everyone through the analysis of books-tumbles. Each record obtained was processed (see example of a spreadsheet below).

Salvamento Automático P. rohdei_MN.xlsx - Excel Lucas-Azeitona Bandeira

Arquivo Página Inicial Inserir Layout da Página Fórmulas Dados Revisão Exibir Ajuda Diga-me o que você deseja fazer

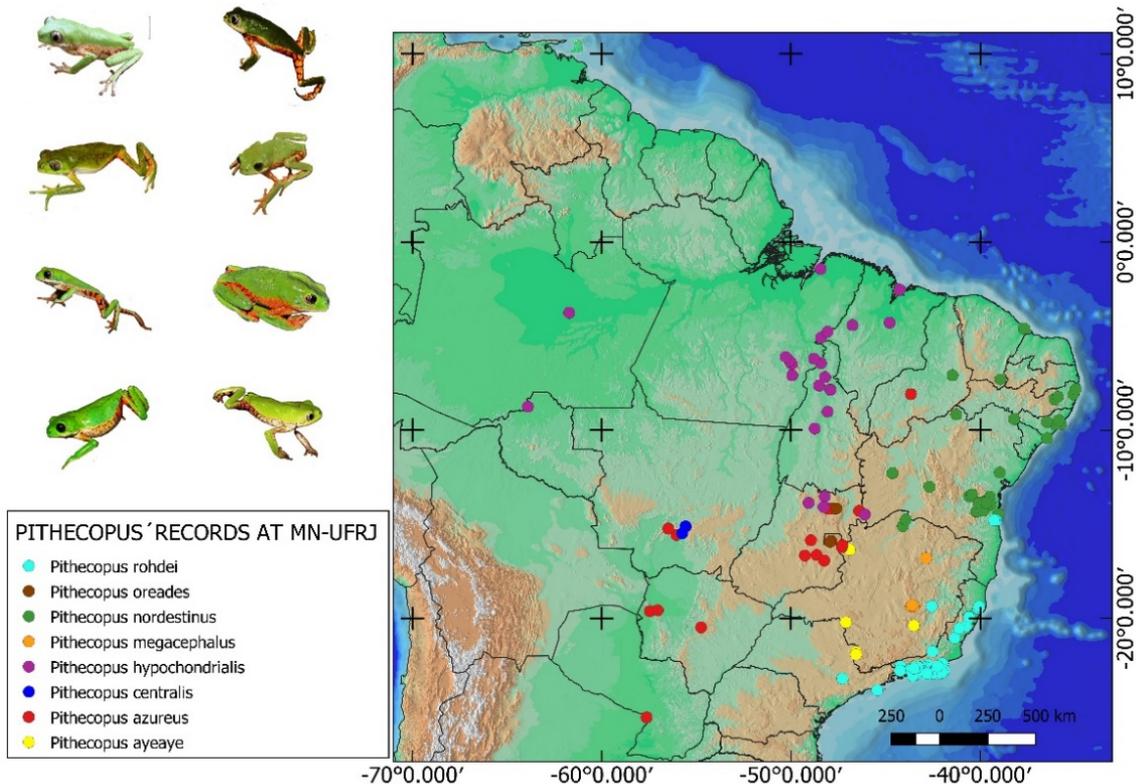
Calibri 11 A A Quebrar Texto Automaticamente Geral

Área de Transf... Fonte Alinhamento Número Estilos

1	A	B	C	D	E	F	G
	espécie	coordenada	latitude	longitude		localidade	município
2	P. rohdei	22°54'S; 43°19'O	-22.9141	-43.32762		Morro da Covana, Jacarepaguá	Rio de Janeiro, RJ
3	P. rohdei	22°46'S; 43°18'O	-22.7856	-43.31167		-	Duque de Caxias, RJ
4	P. rohdei*	22°42'S; 43°23'O	-22.7	-43.38339		Baixada Fluminense	Belford Roxo, RJ
5	P. rohdei	23°49'S; 45°26'O	-23.8193	-45.43338		Barequeçaba	São Sebastião, SP
6	P. rohdei	22°47'S; 43°03'O	-22.7905	-43.05063		Portão Rosa	São Gonçalo, RJ
7	P. rohdei	22°50'S; 42°06'O	-22.8392	-42.10278		-	São Pedro da Aldeia
8	P. rohdei	19°21'S; 42°34'O	-19.3636	-42.56861		Fz. Macedônia	Santana do Paraíso,
9	P. rohdei	20°28'24"S; 41°00'36"O	-20.4733	-41.01		Fz. Dos Japoneses	Vargem Alta, ES
10	P. rohdei	22°53'S; 42°28'O	-22.8833	-42.46667		Palmital	Saquarema, RJ
11	P. rohdei	19°55'S; 40°37'O	-19.9167	-40.61667		São Lourenço	Santa Teresa, ES
12	P. rohdei	19°54'37"S; 40°35'16"O	-19.9103	-40.58778		Sítio do Bozza	Santa Teresa, ES
13	P. rohdei	22°43'S; 43°42'O	-22.7167	-43.7		Floresta Nacional Mário Xavier	Seropédica, RJ
14	P. rohdei	19°29'S; 40°07'O	-19.4833	-40.11667		Estação Experimental de Linhares	Linhares, ES
15	P. rohdei	22°33'S; 44°12'O	-22.55	-44.2		Rialto	Barra Mansa, RJ

Verification and Validation: After obtaining and organizing the worksheet with the data, each of the records was verified and validated. The verification consisted of the analysis of the agreement between the coordinates provided and the registered location that was designated by the collector. After verification, we classified each specific record as appropriate or not to compose the final set of data.

Results: From the visit to the National Museum directed and maintained by the Federal University of Rio de Janeiro - MN-UFRJ and after the routine of verification and validation of the information we obtained a total of 167 valid records of *Pithecopus* occurrence for the eight species. Specifically, we have six records for *P. ayeaye*, 19 for *P. azureus*, two records for *P. centralis*, 29 for *P. hypochondrialis*, five for *P. megacephalus*, 35 for *P. nordestinus*, four for *P. oreades* and 67 valid records for *P. rohdei*. (see map below).



4 – Final steps.

During the period between October 15, 2018 to January 15, 2019 I will be at the University of Kansas - KU, Lawrence, USA as a visiting researcher being mentored by Professor Andrew Townsend Peterson. Within this period, I will develop two main activities namely: "1" visit to the Herpetological collection of this University. Briefly, this visit has as objectives the taxonomic examination of the collected specimens of the genus covered by my research and the collection of pertinent records of occurrence. "2" development of ecological niche models and construction of the correction index for future predictions. It is worth mentioning that the item "2" evidenced here is an attempt to construct a new methodology idealized by me and my supervisors and collaborators, if this is done, we believe that this methodology will allow for predictions and, consequently, more robust inferences.