Joyce Rodrigues do Prado

joycepra@gmail.com

https://joycepra.github.io/personal_site/

https://github.com/joycepra

Universidade de São Paulo, Piracicaba, São Paulo, Brazil.

Professional	
2019 – current	Postdoctoral Fellow – Universidade de São Paulo, SP,
	Brazil.
2018 – 2019	Postdoctoral Fellow – Universidade Federal do Espírito
	Santo, ES, Brazil.
Formal Education	
2021 – current	Master of Business Administration in Data Science and
	Analytics – Universidade de São Paulo, Piracicaba, SP,
	Brazil.
2015 – 2016	Research Internship Abroad – Ecology and Evolutionary
	Biology (EEB) – University of Michigan, Ann Arbor, MI,
	USA.
2013 – 2017	Ph.D. Science, with an emphasis on Applied Ecology -
	Universidade de São Paulo, Piracicaba, SP, Brazil.
2010 – 2012	M.Sc. Science, with an emphasis on Applied Ecology –
	Universidade de São Paulo, Piracicaba, SP, Brazil.
2004 – 2008	B.Sc. in Biology – Universidade de São Paulo, Piracicaba,
	SP, Brazil.
2004 – 2008	Teaching Degree in Biology – Universidade de São Paulo,
	Piracicaba, SP, Brazil.

Publications

Articles in Scientific Journals

ROCHA, R.G.; LOSS, A.; **PRADO, J.R.;** REIS, R.; DUDA, R.; COSTA, L. (*in review*) Phylogeography of the poorly known Neotropical sciurid *Guerlinguetus brasiliensis* (Rodentia: Sciuridae). *Biological Journal of the Linnean Society*.

- PRADO, J.R.; ROCHA, R.G.; BISSOLI-SILVA, H.; MENDES-OLIVEIRA, A.C.; PONTES R.C.L.; MAUÉS, P.C.R.A.; COSTA, L. P. (*in review*) Mammal diversity in the Tapajós region: a comparison with other Amazonian areas of endemism and considerations on conservation value. *Biodiversity and Conservation*.
- 19. **PRADO, J.R.**; RUBI, T.; BAUMGARTNER, J.; HOFFMAN S.M.; DANTZER. B.; KNOWLES, L.L. (*accepted*) Postglacial colonization in the Great Lakes Region by the white-footed mouse (*Peromyscus leucopus*): conflicts between genomic and field data. *Journal of Mammalogy*.
- 18. DALAPICOLLA, J.; **PRADO, J.R.**; PERCEQUILLO. A.R.; KNOWLES L.L. Amazonian forest-types and functional connectivity of its inhabitants: connectivity in sympatric spiny rat species reflects more than the single dimension of forest associations. *Journal of Biogeography*, v. 48, 3196-3209.
- 17. **PRADO, J.R.**; KNOWLES, L.L.; PERCEQUILLO, A.R. (*online published*) A new species of South America marsh rat (*Holochilus*, Cricetidae) from northeastern Brazil. *Journal of Mammalogy*.
- 16. **PRADO, J.R.**; PERCEQUILLO, A.R.; PIRANI, R.M.; THOMAZ, A.T. (*online published*) Phenotypic and genomic differences between biomes of the South America marsh rat, *Holochilus brasiliensis*. *Biological Journal of the Linnean Society*.
- 15. DALAPICOLLA, J.; ABREU-JÚNIOR, E. F.; **PRADO, J.R.**; CHIQUITO, E.A.; ROTH, P.R.O.; BRENNAND, P.G.G; PAVAN, A.C.; PEREIRA, A.; MENDES, F.; ALVAREZ, M.; RIOS, E.; CASSANO, C.; MIRETZKI, M.; VÉLEZ, F.; SEVÁ, A.; PERCEQUILLO, A. R.; BOVENDORP, R.S. Areas of endemism of small mammals are underprotected in the Atlantic Forest. *Journal of Mammalogy*, v. 102, 1390–1404.
- 14. PERCEQUILLO, A.R.; **PRADO, J.R.**; ABREU-JÚNIOR, E. F.; DALAPICOLLA, J.; PAVAN, A.C.; CHIQUITO, E.A.; STEPPAN, S.J.; LEMMON, A.R.; LEMMON, E.M.; WILKINSON, M. (2021) Tempo and mode of evolution of Oryzomyine rodents (Rodentia, Cricetidae, Sigmodontinae): a phylogenomic approach. *Molecular Phylogenetics and Evolution*, v. 159, 107120

- 13. **PRADO**, J.R.; KNOWLES, L.L.; PERCEQUILLO, A.R. (2021) New species boundaries and diversification history of marsh rat taxa clarify historical connections among ecologically and geographically distinct wetlands of South America. *Molecular Phylogenetics and Evolution*, v. 155, 106992
- 12. TETA, P.; D'ELIA, G.; JAYAT, J.P.; GONCALVES, P.R.; LIBARDI, G.S.; OLIVEIRA, J. A.; MORATELLI, R.; PERCEQUILLO, A. R.; **PRADO, J.R.**; ORTIZ, P.E.; HURTADO, N.; SCHIAFFINI, M.I.; Abreu, E.F.J; CHIQUITO, E.A.; GIMENEZ, A.L.; TORRES, J.C. 2020. On the distinction and availability of the new taxa proposed by Agnolin et al. 2019. *Mastozoología Neotropical*, v. 27, 1-17
- 11. PIRANI, R.M.; PELOSO, P.L.V.; **PRADO, J.R**.; POLO, E; KNOWLES, L.L.; RON, S.R.; RODRIGUES, M.T.; STURARO, M.J.; WERNECK, F.P. 2020. Diversification History of Clown Tree Frogs in Neotropical Rainforests (Anura, Hylidae, Dendropsophus leucophyllatus group). *Molecular Phylogenetics and Evolution*, v. 150, 106877.
- 10. **PRADO, J.R**.; PERCEQUILLO, A.R. 2019. Aegialomys galapagoensis (Rodentia: Cricetidae). *Mammalian Species*, v. 51, 92-99.
- 9. **PRADO, J.R.**; MENDONCA, G.C.; CHIQUITO, E.A. 2019. Topics in Oryzomyini rodents (Cricetidae, Sigmodontinae): natural history, diversity and the contribution of Brazilian researchers. *Boletim da Sociedade Brasileira de Mastozoologia*, v. esp, 74-85.
- 8. PRADO, J.R., PERCEQUILLO, A.R., THOMAZ, A. T., KNOWLES, L.L. (2019) Species' similar life history traits versus biome specific associations as determinants of genetic structure: quantitative comparison of three South American marsh rat species (Rodentia: *Holochilus*). *Journal of Biogeography*, v. 46(4), 770-783.
- 7. RESENDE-MOREIRA, L.C., KNOWLES, L.L., THOMAZ, A.T., **PRADO, J.R.**, SOUTO, A.P., LEMOS-FILHO, J.P., LOVATO, M.B. (2019) Evolving in isolation: genetic tests reject recent connections of Amazonian savannas with the central Cerrado. *Journal of Biogeography*, v. 46(1), 196-211.

- 6. **PRADO**, J. R.; PERCEQUILLO, A. R. 2018. Systematic studies of the genus Aegialomys Weksler, et al. 2006 (Rodentia: Cricetidae: Sigmodontinae): geographic variation, species delimitation, and biogeography. *Journal of Mammalian Evolution*, v. 25, 71–118.
- 5. HE, Q., **PRADO, J. R.**; KNOWLES, L.L. 2017. Inferring the geographic origin of a range expansion: latitudinal and longitudinal coordinates inferred from genomic data in an ABC framework with the program X-ORIGIN. *Molecular Ecology*, v. 26, 6908–6920.
- 4. **PRADO, J. R.**; PERCEQUILLO, A. R. 2016. Systematic studies of the genus Aegialomys Weksler, Percequillo and Voss, 2006 (Rodentia: Cricetidae: Sigmodontinae): Annotated catalogue of the types of the species-group taxa. *Zootaxa*, v. 4144, 477-498.
- 3. **PRADO**, J. R.; BRENNAND, P. G. G.; GODOY, L. P.; LIBARDI, G. S; Abreu, E. F. J; ROTH, P. R. O.; CHIQUITO, E. A.; PERCEQUILLO, A. R. 2015. Species richness and areas of endemism of oryzomyine rodents (Cricetidae, Sigmodontinae) in South America: an ndm/vndm approach. *Journal of Biogeography*, v. 42, 540-551.
- 2. **PRADO, J. R.**; PERCEQUILLO, A. R. 2013. On the geographic distribution of the genera of Tribe Oryzomyini on South America, with some comments on the patterns of diversity and Reig's Areas of Original Differentiation. *Arquivos de Zoologia*, v. 44, 1-120.
- 1. **PRADO**, J. R.; PERCEQUILLO, A. R. 2011. Ontogenetic and sexual variation in cranial characters of Aegialomys Xanthaeolus (Thomas, 1894)(Cricetidae: Sigmodontinae) from Ecuador and Peru. *Papéis Avulsos de Zoologia*, v. 51, 155-177.

Book Published/Organized

PERCEQUILLO, A.R.; SIMÕES, D.R; ALTEFF, E.F.; ABREU JUNIOR, E.F.; LIBARDI, G.S; GOMES, I.B.S.R.; **PRADO, J.R.**; CORAGEM, J.T.; SILVEIRA, L.F.; STORTI, L.F.; TURCI, L.C.B.; BERNARDES, M.L.; BRENNAND, P. G. G.;

BOVENDORP, R. S. UHE Santo Antônio: Guia das espécies de fauna resgatadas. 1 ed. Porto Velho: Scriba Comunicação Corporativa, 2011. v. 1. 328p.

Book Chapter Published

FRAGA, C.N.; PEIXOTO, A.L.; LEITE, YLR; **PRADO, J.R.**; et al. Lista da fauna e flora ameaçadas de extinção no estado do Espírito Santo. In: Claudio Nicoletti de Fraga; Mileide de Holanda Formigoni; Flávia Guimarães Chaves. (Org.). Fauna e flora ameaçadas de extinção no estado do Espírito Santo. 1ed., 2019, p. 1-432.

PARDINAS, U.F.J.; RUELAS, D.; BRITO, J.; BRADLEY, L.C.; BRADLEY, R.D.; GARZA, N.O.; KRYTUFEK, B.; COOK, J.A.; SOTO, E.C.; SALAZAR-BRAVO, J.; SHENBROT, G.I.; CHIQUITO, E.A.; PERCEQUILLO, A.R.; PRADO, J.R.; HASLAUER, R.; PATTON, J.L.; LEON-PANIAGUA, L. Family CRICETIDAE (TRUE HAMSTERS, VOLES, LEMMINGS AND NEW WORLD RATS AND MICE). In: Wilson, D.E., Lacher, T.E., Jr & Mittermeier, R.A. (Org.). Handbook of the Mammals of the World. Iled.Barcelona: Lynx Edicions, 2017, v. 7, p. 204-535.

PERCEQUILLO, A.R.; ABREU JUNIOR, E.F.; BOVENDORP, R.S.; BRENNAND, P.G.G; CHIQUITO, E.A.; CORREA, L.S.; GODOY, L.P.; LIBARDI, G.S; **PRADO, J.R.**; ROTH, P.R.O.; SALLES, V.L. Roedores sigmodontíneos da Amazônia brasileira: composição, distribuição geográfica e diagnoses. In: Mendes-Oliveira, Ana Cristina; Miranda, Cleuton Lima. (Org.). Pequenos Mamíferos Não-voadores da Amazônia Brasileira. 1ed. Rio de Janeiro: Sociedade Brasileira de Mastozoologia, 2015, p. 1-336.

ABREU JUNIOR, E.F.; BRENNAND, P.G.G.; CHIQUITO, E.A.; JORGE-RODRIGUES, C.R.; LIBARDI, G.S; **PRADO, J.R.**; PERCEQUILLO, A.R. Dimorfismo sexual na Tribo Oryzomyini. In: Thales R. O. Freitas; Emerson M. Vieira. (Org.). Mamíferos do Brasil: Genética, Sistemática, Ecologia e Conservação. 1ed.Rio de Janeiro: Sociedade Brasileira de Mastozoologia, 2012, v. 2, p. 115-134.

2019 – current	Coordenação de Aperfeiçoamento de Pessoal de Nível
	Superior (Proc. 88887.336032/2019-00)
2018 – 2019	Espírito Santo Research Foundation and Coordenação de
	Aperfeiçoamento de Pessoal de Nível Superior (Proc.
	88887.185904/2018-00)
2013 – 2017	São Paulo Research Foundation (Proc. 2012/24099-3)
2015 – 2016	São Paulo Research Foundation (Proc. 2014/22444-0)
2010 – 2012	São Paulo Research Foundation (Proc. 2009/03547-5)
2007 – 2008	National Council for Scientific and Technological
	Development (CNPq)

Selected Oral Presentations and Talks

PRADO, J.R. The role of environment in structuring local and regional diversification patterns of Neotropical diversity. 2021. In Symposium Evolutionary drivers of Neotropical biodiversity at multiple scales. I Congreso Latinoamericano de Evolución.

PRADO, J.R.; KNOWLES, L.L.; PERCEQUILLO, A.R. 2019. Genomic data recover more recent divergence times for species of rodent genus *Holochilus*. XXXII Jornadas Argentinas de Mastozología.

PRADO, J.R. Open vegetation dynamics and its role in structuring the diversity of sigmodontine rodents. 2019. In Symposium Mamíferos, Moléculas e a Histórias das Américas. X Congresso Brasileiro de Mastozoologia.

PRADO, J.R. Integrating genomic and phenotypic data to delimit species. 2019. In Symposium Delimitando Espécies na era da genômica: conceitos, paradigmas e desafios. X Congresso Brasileiro de Mastozoologia.

PIRANI, R.; PELOSO, P.; **PRADO, J.R.**; POLO, E.; KNOWLES, L.L.; RON, S.; RODRIGUES, M.T.; WERNECK, F. Diversification History of Clown Tree Frogs in the Neotropical Rainforests (Anura, Hylidae, Dendropsophus leucophyllatus group). 2019. IX Congresso Brasileiro de Herpetologia.

DALAPICOLLA, J.; PRADO, J.R.; KNOWLES, L.L.; PERCEQUILLO, A.R.

Genomic data reveal the phylogenetic relationships of one of the most abundant and least studied rodents in the Amazon (Echimyidae: Proechimys). 2019. X Congresso Brasileiro de Mastozoologia.

DALAPICOLLA, J.; **PRADO**, **J.R.**; PERCEQUILLO, A.R.; KNOWLES, L.L. Comparing phylogeographic patterns in three sympathetic species of spiny rats (Rodentia: Echimyidae: Proechimys) in Western Amazonia. 2019. X Congresso Brasileiro de Mastozoologia.

DALAPICOLLA, J.; **PRADO, J.R.**; KNOWLES, L.L.; PERCEQUILLO, A.R. Phylogeny of Proechimys Allen species, 1899 (Rodentia: Echimyidae) based on genomic data. 2018. V Simpósio de Zoologia Sistemática.

RESENDE-MOREIRA, L.C.; THOMAZ, A.T.; **PRADO, J.R.**; SOUTO, A.P.; LEMOS-FILHO, J.P.; LOVATO, M. B.; KNOWLES, L.L. Severed connections and isolation of relictual Amazonian savannas inferred from genomic data. 2017. Evolution Meeting.

PRADO, J.R.; PERCEQUILLO, A.R. Geographic variation in the genus Aegialomys (Weksler, Percequillo & Voss, 2006) (Cricetidae: Sigmodontinae). 2012. VI Congresso Brasileiro de Mastozoologia.

PRADO, J.R.; PERCEQUILLO, A.R. Distribution patterns of rodents from the Oryzomyini Tribe (Rodentia: Sigmodontinae) in South America. 2008. IV Congresso Brasileiro de Mastozoologia.

Selected Poster Presentations

PRADO, J.R.; ROCHA, R.G.; OLIVEIRA, A.C.M.; COSTA, L.P. The role of the Tapajós river in the Amazonian small mammal diversity pattern. 2019. In: 9th Biennial Conference of the International Biogeography Society.

PRADO, J.R.; KNOWLES, L.L; PERCEQUILLO, A.R. Combining genomic and morphological data in a model-based approach to ascertain species-delimitation in the south american marsh rats (*Holochilus*). 2017. In: Evolution Meeting.

PRADO, J.R.; PERCEQUILLO, A.R.; KNOWLES, L.L. Genomic signatures of shared life history traits versus biome specific histories: comparison across 3 widespread marsh rat species (Holochilus). 2016. In: Evolution Meeting.

PRADO, J.R.; PERCEQUILLO, A.R. An Analysis of contact zone in the Aegialomys genus (Sigmodontinae: Oryzomyini). 2013. In: 11th International Mammalogical Congress.

ABREU JUNIOR, E.F.; PRADO, J.R.; PERCEQUILLO, A.R. Variação morfológica em uma população de Brucepattersonius (Hershkovitz, 1998) do nordeste de São Paulo, Brasil. 2012. In: Il Congreso Latinoamericano de Matozoología.

ABREU JUNIOR, E.F.; PRADO, J.R.; PERCEQUILLO, A.R. Diferenciação craniométrica entre duas espécies simpátricas do gênero Delomys Thomas, 1917 (Cricetidae: Sigmodontinae). 2012. In: Il Congreso Latinoamericano de Matozoología.

PRADO, J.R.; PERCEQUILLO, A.R. Diversidade e diferenciação da Tribo Oryzomyini (Rodentia: Sigmodontinae) na América do Sul. 2008. In: 16 Simpósio Internacional de Iniciação Científica da USP.

Teaching Experience

2020	Instructor. Biogeographic Patterns and Processes in South
	American Vertebrates (ECO5026). Grad level course, USP.
2019	Instructor. Mammals: Origin, Evolution and Biogeography
	(LCB0390). Undergrad level course, USP.
2019	Instructor. Biogeographic Patterns and Processes in South
	American Vertebrates (ECO5026). Grad level course, USP.
2018	Instructor. Short course: Evolution under the lens of
	genomics. In X Biology week, UFES.
2018	Instructor. Molecular Phylogenetics (PBAN9525). Grad
	and Undergrad level course, UFES.
2016	Graduate Student Instructor. Evolution (LGN0335), USP.
2012	Graduate Student Instructor. Vertebrate Zoology II
	(LCB0285), USP.
2004 – 2008	Teaching degree in Biology – Universidade de São Paulo.

Course work: 35 credits (7 courses) specifically in education topics, such as "Teaching Biology" and "Educational Psychology".

Teaching training: 200 classroom hours (Elementary and High school).

University and Academic Services & Public Outreach

2021	Selection committee for admission to the Graduate
	Program in Applied Ecology, USP.
2021	SBMz Metting Organizer (Mocó)
2020	Features of Prado JR, Knowles LL, Percequillo AR (2021).
	New species boundaries and the diversification history of
	marsh rat taxa clarify historical connections among
	ecologically and geographically distinct wetlands of South
	America. Molecular Phylogenetics And Evolution. Journal
	da USP: Espécies de ratos-do-brejo esclarecem conexões
	entre áreas alagadas da América do Sul.
	https://jornal.usp.br/ciencias/especies-de-ratos-do-brejo-
	esclarecem-conexoes-entre-areas-alagadas-da-america-
	do-sul/
2020	l Conexão SBMz Organizer
2020	Reviewer of Brazil's Threatened Rodent Fauna
2020	Selection committee for admission to the Graduate
	Program in Applied Ecology, USP.
2020	Scientific Evaluator of posters and talks presented during
	28 SIICUSP
2019	Selection committee for admission to the Graduate
	Program in Applied Ecology, USP.
2019	Scientific Evaluator of posters and talks presented during
	27 SIICUSP
2018	Technical Opinion for the PhD plans of the Universidade
	de Santa Cruz (UESC).
2018	Technical Opinion for the PhD plans of the PG Ecology of
	the National Institute for Research in the Amazon (INPA).
2018	Reviewer of Threatened Fauna in the State of Espírito

Santo.

2012 Reviewer of Threatened Fauna in the State of São Paulo.

Advisees

Advisees

Undergraduate Students

Isabella de Freitas Bento: current student.

Co-Advisees

M.S. Students

Heitor Bissoli da Silva: current student, 2021-2023. Advisor: Alexandre Reis Percequillo.

External Thesis/Dissertation Tutoring Committees Member

Gabriela Colombo de Mendonça. Mudanças na distribuição geográfica de espécies de *Juliomys* (Mammalia: Rodentia) através do tempo. 2020-2021. Master program - Universidade Federal do Espírito Santo (UFES). Advisor: Yuri L. R Leite.

Felipe Donateli Gatti. Evolution and Biogeography of Atalophlebiinae (Ephemeroptera: Leptophlebiidae). 2020-2021. PhD program - Universidade Federal do Espírito Santo (UFES). Advisor: Yuri L. R Leite.

lago Ornellas. Filogeografia de *Caiman latirostris*: da história à conservação do Jacaré-de-papo-amarelo. 2021. PhD program - Universidade Federal do Espírito Santo (UFES). Advisor: Leonora P. Costa.

Selected Student Evaluation Committees Member

Gabriela Colombo de Mendonça. O papel das mudanças climáticas no passado, presente e futuro de roedores montanos (*Juliomys* spp.). 2021. Master dissertation - Universidade Federal do Espírito Santo (UFES).

Pedro Henrique de Faria Peres. Filogenia e Delimitação Molecular de espécies do gênero *Mazama* Rafinesque, 1817 (Cetartiodactyla:Cervidae). 2020. PhD thesis - Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP).

Christyan Lemos Bergamaschi. Baixa estruturação filogeográfica em *Sooretamys angouya* (Cricetidae: Sigmodontinae): uma espécie contínua em panmixia. 2020. Master dissertation - Universidade Federal do Espírito Santo (UFES).

Bruna da Silva Fonseca. Taxonomia integrativa revela diversidade críptica em *Trachops cirrhosus* (Chiroptera, Phyllostomidae). 2019. PhD thesis - Universidade Federal do Espírito Santo (UFES).

Amanda Santiago Ferreira Lantyer Silva. Filogeografia e Genômica Populacional de Anuros Neotropicais: estruturação, diversidade e demografia histórica. 2019. PhD thesis - Universidade Estadual Paulista Júlio de Mesquita Filho (UNESP).

Laís Amorim Ferreira. Múltipla paternidade e razão sexual da população reprodutiva de *Caretta caretta*. 2019. Master dissertation - Universidade Federal do Espírito Santo (UFES).

Guilherme Sanches Corrêa do Nascimento. Biogeografia dos Barbeiros Rhodniini. 2019. Master dissertation - Universidade Federal do Espírito Santo (UFES).

Paulo Ricardo de Oliveira Roth. Pequenos roedores holocênicos do nordeste do Rio Grande do Sul: Descrevendo comunidades e suas respostas ante a mudanças ambientais. 2018. PhD thesis - Universidade de São Paulo (USP).

Gabriela Colombo de Mendonça. Estrutura Espacial e genética de duas espécies de *Juliomys* (Rodentia, Cricetidae) em um gradiente altitudinal. 2018. Undergrad Final Monography - Universidade Federal do Espírito Santo (UFES).

Thaís Amorim Alves.Morcegos (Mammalia: Chiroptera) da Floresta Nacional do Amana, Pará, Brasil. 2018. Undergrad Final Monography - Universidade Federal do Espírito Santo (UFES).

Other Services

Fieldwork:

Participation and organization of several fieldworks sampling mammals in the Amazon and the Atlantic Forest. All specimens and tissues for DNA collected during the fieldwork were catalogued in scientific collections.

Peer reviews:

Check List, Mammalia, Zoologica Scripta, Biota Neotropica, PeerJ, Journal of Natural History, Ecology and Evolution, Plos One, Journal of Mammalian Evolution, and Journal of Biogeography.

Societal Services

Elected to serve as treasurer of the Sociedade Brasileira de Mastozoologia (SBMz) from 2019 to 2021.

Membership in Academic Societies:

Member of the American Society of Mammalogist (ASM) Sociedade Brasileira de Mastozoologia (SBMz)

Other relevant information

I have been studying evolutionary processes, especially in rodents, since 2007, conducting several projects within this group. I have extensive experience working with morphological variation, model selection, and genetic analyses applied to phylogeography, phylogenetics, and species delimitation. In addition, I have significant experience in generating, processing (bioinformatics), and analyzing genomic data and good skills working with programming languages, and a good background working with ecological niche modeling and population demographic history. Finally, I have extensive experience with fieldwork, organizing scientific expeditions, and also scientific curatorship.

References

Prof. Dr L. Lacey Knowles – University of Michigan, USA (knowlesl@umich.edu). Prof. Dr Alexandre R. Percequillo – Universidade de São Paulo, Brazil (percequillo@usp.br).

Prof. Dr Leonora Costa – Universidade Federal do Espírito Santo, Brazil (leonoracosta@yahoo.com).