1

ASSISTED REPRODUCTIVE TECHNOLOGIES APPLIED TO SOUTH AMERICAN MAMMALS

Prof. Dr. Alexandre Rodrigues Silva - Universidade Federal Rural do Semi-Árido, Brazil

2

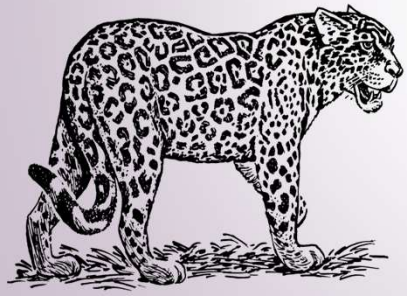
BIODIVERSITY IN SOUTH AMERICA

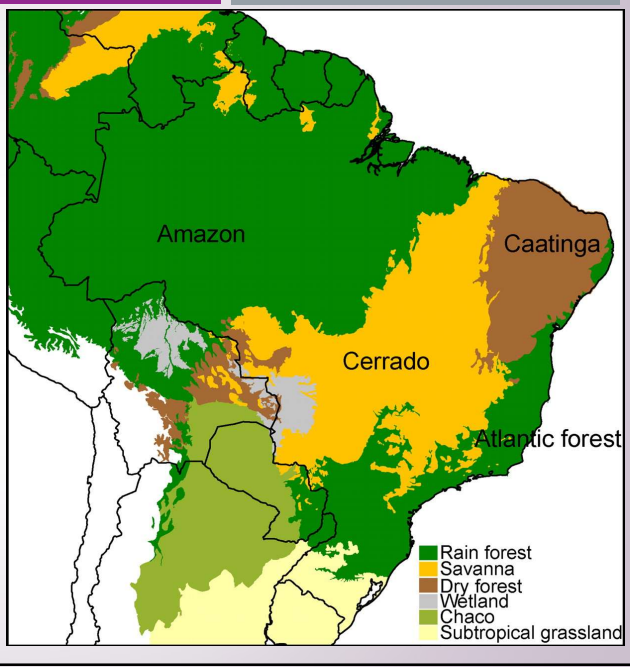
The variability of living organisms understood in all ecosystems

3

SOUTH AMERICAN BIOMES

Highlighting Brazil





4

SOUTH AMERICAN ANIMALS

5

F Folha

Brazil Has 3,300 Species of Animals and Plants threatened; Atlantic Forest Is The Most Affected

Brazil Has 3,300 Species of Animals and Plants threatened; Atlantic Forest Is The Most Affected. IBGE study shows that the biome has a higher...

6 de nov. de 2020

SOME RECENT NEWS

M Mongabay

Fires bear down on Brazil park that's home to jaguars, maned ...

The park is home to dozens of rare and threatened species as well as ... "But considering that the fauna moves between areas, even fires in...

2 semanas atrás

Landscape News

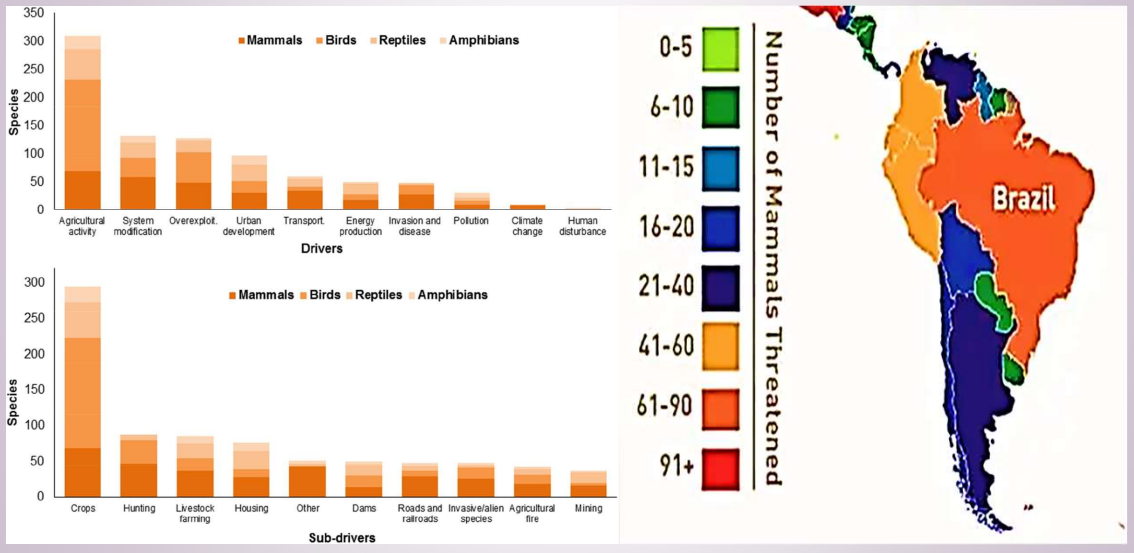
Fires in the Amazon impact more than 90% of its animal and ...

Since 2019, deforestation and fires have caused the Brazilian Amazon to ... He explains that some groups of rare and threatened species have...

2 semanas atrás

6

What threatens Brazilian endangered species?



Bernard et al., 2019

7

SOME INICIATIVES FOR WILDLIFE CONSERVATION

REPROCON
REPRODUCTION 4 CONSERVATION

PROJETO TAMANDUÁ

IPÊ
INSTITUTO DE PESQUISAS ECOLÓGICAS

PROGRAMA DE CONSERVAÇÃO MAMÍFEROS DO CERRADO

PROJETO GOLFINHO ROTADOR
FERNANDO DE NORONHA

PRÓ CARNÍVOROS

SAVE THE GOLDEN LION TAMARIN

Sou Amigo do Lobo

PARQUE NACIONAL DO IGUAÇU

PROJETO ARARA AZUL

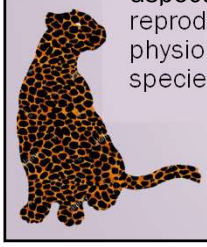
ANTAS URBANAS

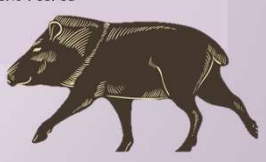
8

9

OUR AIMS

Study	Safeguard	Improve	Contribute
Study different aspects of the reproductive physiology of wild species.	Safeguard material of high biological value	Improve the reproductive management of populations kept in captivity	Contribute to the conservation of species in natural habitats





10

ASSISTED REPRODUCTIVE TECHNOLOGIES FOR WILDLIFE

- Sperm colection and preservation
- Estrus cycle monitoring and control
- Gonadal tissue preservation

11

SPERM COLLECTION AND PRESERVATION

12

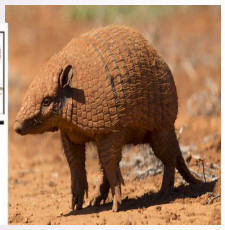
SEMEN COLLECTION BY ELECTROEJACULATION

Contents lists available at ScienceDirect
Animal Reproduction Science
journal homepage: www.elsevier.com/locate/anireprosci

Evaluation of anesthetic protocol for the collection of semen from captive collared peccaries (*Tayassu tajacu*) by electroejaculation

A.L.P. Souza, T.S. Castelo, J.P.A.F. Queiroz, I.O. Barros, V.V. Paula, M.F. Oliveira, A.R. Silva *

Contents lists available at ScienceDirect
Animal Reproduction Science
journal homepage: www.elsevier.com/locate/anireprosci



Description of semen characteristics from six-banded armadillos (*Euphractus sexcinctus*) collected by electroejaculation

M.K.B. Serafim[a], R.A. Lira[b], L.L.M. Costa[b], I.C.N. Gadelha[b], C.I.A. Freitas[b], A.R. Silva[b,*]

Reproduction in Domestic Animals
Reprod Dom Anim 50, 492–496 (2015); doi: 10.1111/rda.12517
ISSN 0936-6768

Interactions Among Different Devices and Electrical Stimulus on the Electroejaculation of Captive Agoutis (*Dasyprocta leporina*)

TS Castelo, ALP Souza, GL Lima, GCX Peixoto, LB Campos, MF Oliveira and AR Silva

Available online at www.sciencedirect.com
ScienceDirect
Theriogenology
Theriogenology 71 (2009) 1261–1266
www.theriojournal.com

Use of two anesthetic combinations for semen collection by electroejaculation from captive coatis (*Nasua nasua*)

F.F.P.C. Barros[a], J.P.A.F. Queiroz[a], A.C.M. Filho[b], E.A.A. Santos[a], V.V. Paula[a], C.I.A. Freitas[a], A.R. Silva[a,*]

Contents lists available at ScienceDirect
Animal Reproduction Science
journal homepage: www.elsevier.com/locate/anireprosci

Morphology, morphometry, ultrastructure, and mitochondrial activity of jaguar (*Panthera onca*) sperm

13

STUDIES ON MALE REPRODUCTIVE PHYSIOLOGY

Contents lists available at SciVerse ScienceDirect
Animal Reproduction Science
journal homepage: www.elsevier.com/locate/anireprosci

Individual variation related to testicular biometry and semen characteristics in collared peccaries (*Tayassu Tajacu* Linnaeus, 1758)

G.C.X. Peixoto, M.A. Silva, T.S. Castelo, A.M. Silva, J.A.B. Bezerra, A.L.P. Souza, M.F. Oliveira, A.R. Silva *

Table 2
Mean values (±SEM) for semen characteristics collected from adult *Tayassu tajacu* by electroejaculation ($n = 52$ ejaculates).

Animal	Ej/anim	Volume (mL)	Concentration ($\times 10^9$/mL)	No sperm/mL of ejaculate ($\times 10^9$)	Vigor (0–5)	Sperm motility (%)	Viable sperm (%)	Functional membrane integrity (%)	Normal sperm morphology (%)
1	5	3.2 ± 2.8^{ac}	0.5 ± 0.2^{b}	1.8 ± 2.3^{b}	4.9 ± 0.2^{a}	92.0 ± 4.5^{ac}	90.2 ± 6.2^{abde}	73.2 ± 7.3^{abc}	83.0 ± 5.8^{acd}
2	6	4.4 ± 6.8^{ad}	0.2 ± 0.2^{b}	0.9 ± 1.3^{b}	3.4 ± 0.5^{ab}	75.8 ± 8.0^{bc}	81.8 ± 15.1^{bce}	73.8 ± 16.2^{bc}	72.3 ± 8.7^{acd}
3	7	8.9 ± 4.3^{a}	0.9 ± 0.6^{ad}	8.1 ± 2.5^{ac}	4.7 ± 0.4^{ab}	92.9 ± 2.7^{a}	89.1 ± 4.5^{ade}	89.1 ± 4.5^{a}	77.5 ± 8.0^{abcd}
4	5	1.5 ± 0.9^{bc}	1.3 ± 1.6^{cd}	1.6 ± 1.9^{b}	4.6 ± 0.9^{b}	90.0 ± 8.7^{bc}	95.2 ± 3.4^{ad}	73.8 ± 10.5^{abc}	84.6 ± 7.0^{acd}
5	5	2.8 ± 1.0^{bc}	0.3 ± 0.3^{ab}	0.9 ± 0.9^{b}	2.7 ± 0.7^{ab}	70.0 ± 10.4^{bc}	85.0 ± 9.4^{abce}	69.2 ± 5.9^{c}	84.6 ± 12.5^{c}
6	4	0.9 ± 0.4^{b}	1.3 ± 0.8^{acd}	1.2 ± 0.9^{b}	3.5 ± 0.6^{ab}	72.5 ± 16.6^{b}	79.5 ± 11.4^{abce}	67.8 ± 21.2^{b}	62.5 ± 2.9^{bd}
7	6	1.1 ± 0.8^{bc}	1.1 ± 0.9^{d}	1.5 ± 2.2^{b}	4.8 ± 0.4^{ab}	93.3 ± 2.6^{a}	82.8 ± 16.8^{bce}	81.0 ± 6.4^{ac}	71.5 ± 17.2^{c}
8	3	5.4 ± 2.8^{ac}	0.5 ± 0.4^{abd}	2.9 ± 2.7^{bc}	4.3 ± 1.2^{b}	78.3 ± 10.4^{bc}	70.7 ± 38.7^{ce}	77.0 ± 6.6^{abc}	65.7 ± 11.1^{acd}
9	6	2.2 ± 0.9^{bc}	0.8 ± 0.4^{ad}	2.0 ± 1.4^{b}	4.5 ± 0.5^{ab}	88.3 ± 5.2^{ac}	92.8 ± 2.7^{d}	78.2 ± 15.2^{bc}	89.1 ± 9.6^{acd}
10	5	3.1 ± 2.2^{ac}	0.6 ± 0.5^{ad}	2.2 ± 2.4^{b}	4.4 ± 0.5^{ab}	97.0 ± 2.7^{a}	87.2 ± 11.0^{e}	79.2 ± 21.8^{b}	87.6 ± 8.8^{acd}
Mean		3.5 ± 3.8	0.8 ± 0.7	2.5 ± 3.7	4.2 ± 0.9	85.1 ± 10.7	86.3 ± 13.3	76.9 ± 13.2	79.9 ± 12.8

[a,b]Different superscripts in the same column denote differ among animals ($P < 0.05$).

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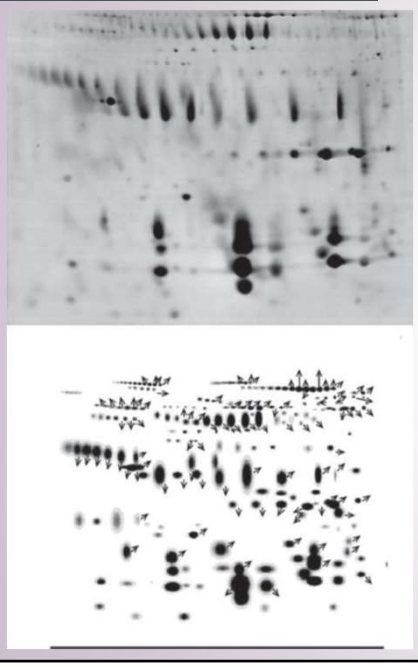

STUDIES ON MALE REPRODUCTIVE PHYSIOLOGY

REPRODUCTION

RESEARCH

Protein profile of the seminal plasma of collared peccaries (*Pecari tajacu* Linnaeus, 1758)

E A A Santos, P C Sousa, J A M Martins[1], R A Moreira[2], A C O Monteiro-Moreira[2], F B M B Moreno[2], M F Oliveira, A A Moura[1] and A R Silva

- ✓ **23 different proteins→ 56,2%**
  - ✓ **Clusterin***
  - ✓ **PSP-1**
  - ✓ **Bodesin**

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Contents lists available at ScienceDirect

Animal Reproduction Science

journal homepage: www.elsevier.com/locate/anireprosci

Composition of collared peccary seminal plasma and sperm motility kinetics in semen obtained during dry and rainy periods in a semiarid biome

Table 3
Mean values, medians and range for the biochemical contents of collared peccary (n = 12) seminal plasma in ejaculates obtained during peaks of dry and rainy periods in a semiarid biome.

	Dry period			Rainy period		
Biochemical components	Mean	Median	Range	Mean	Median	Range
Ions						
Calcium (mg/dL)	15.6[b]	11.0	0.3 – 49.4	32.3[a]	29.3	4.5 – 57.7
Chloride (mEq/L)	315.6	139.2	16.5 – 1218.2	271.3	234.8	59.8 – 535.4
Iron (µg/dL)	210.9	205.4	0 – 625.6	423.2	267.2	0 – 1470
Magnesium (mg/dL)	5.7	6.1	0.6 – 7.0	5.9	5.95	4.6 – 7.0
Phosphorus (mg/dL)	12.3	6.8	1.6 – 47.4	72.1	4.6	1.7 – 342.2
Organic compounds						
Citric acid (mg/dL)	140.8	132.3	2.1 – 358.3	169.7	158.9	95.5 – 300
Fructose (mg/dL)	119.4[b]	46.9	3.3 – 450	849.2[a]	827.8	150 – 1800
Cholesterol (mg/dL)	152.3	132.8	35.9 – 328	332.0	323.0	7.9 – 867.3
Triglycerides (mg/dL)	296.1	127.2	5.0 – 918.8	306.8	299.2	9.2 – 676.7
Total proteins (g/dL)	8.0	6.8	0.3 – 23.38	7.0	5.1	0.8 – 18.8
Albumin (g/dL)	9.4	6.9	0.4 – 34.2	3.0	2.4	0.6 – 7.4
Fructosamine (mmol/L)	403.6	377.5	0 – 780.1	198.4	125.6	0 – 798.3

[a,b]Superscript lowercase letters indicate diff ;erences in values in different columns ($P < 0.05$).

STUDIES ON MALE REPRODUCTIVE PHYSIOLOGY

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Sperm Conservation

BIOPRESERVATION AND BIOBANKING
Volume 16, Number 3, 2018
© Mary Ann Liebert, Inc.
DOI: 10.1089/bio.2017.0124

Environmental Factors Related to a Semiarid Climate Influence the Freezability of Sperm from Collared Peccaries (*Pecari tajacu* Linnaeus, 1758)

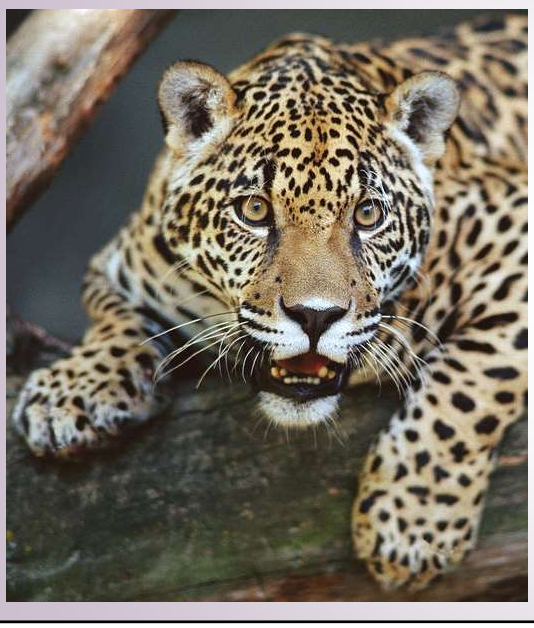
Keilla M. Maia,[1] Ana L.P. Souza,[1] Erica C.G. Praxedes,[1] Luana G.P. Bezerra,[1] Andreia M. Silva,[1] Livia B. Campos,[1] Samara S.J. Moreira,[1] Carlos A.C. Apolinário,[1] João B.F. Souza, Jr.,[2] and Alexandre R. Silva[1]

TABLE 3. VALUES (MEAN ± STANDARD ERROR OF THE MEAN) FOR KINETIC PARAMETERS OF SPERM MOTILITY OF FRESH AND THAWED SEMEN DERIVED FROM COLLARED PECCARIES (*PECARI TAJACU*) BRED UNDER CAATINGA'S SEMIARID CLIMATE DURING DRY (OCTOBER, NOVEMBER, AND DECEMBER 2015; $N=14$) AND RAINY (MARCH, APRIL, AND MAY 2016; $N=11$) PERIODS

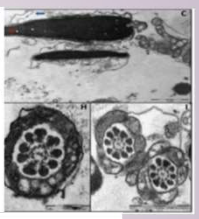
	Fresh semen		*Thawed semen*	
Sperm parameters	*Dry period*	*Rainy period*	*Dry season*	*Rainy period*
Total motility (%)	78.6±4.4	85.7±3.3	14.6±4.1[b]	29.5±7.7[a]
Velocity average pathway (mm/s)	42.6±2.6	49.5±3.5	22.5±1.6	24.3±1.4
Velocity straight line (μm/s)	27.1±2.2	32.6±2.8	13.5±1.1	16.2±1.4
Velocity curvilinear (μm/s)	100±4.4	106.7±5.9	58.9±4	59.2±3
Amplitude lateral head (μm)	5.9±0.2	6.2±0.2	5.2±0.5	5.5±0.7
Beat cross frequency (Hz)	40.1±1.2	36.8±1.2	38.2±0.8	35.8±1.7
Straightness (%)	62.7±2	64.4±1.3	64.8±1.9	65.7±3.3
Linearity (%)	30±1.6	31.7±1.3	31.5±1.4[b]	33.2±3.7[a]
Subpopulations				
Rapid (%)	54.7±5.4	68.1±6	4.1±1.2[b]	13.7±6.2[a]
Medium (%)	21.1±2.5	17.8±3.2	14.2±4.2	15.8±3
Slow (%)	5.7±0.7	3.8±0.6	6.6±1.4	6.4±1.2
Static (%)	18.5±4.2	10.3±2.9	75.1±6.3	64.1±8

[a,b]Superscripts mean differences between semen collected in different periods.

Sperm Conservation



Contents lists available at ScienceDirect
Cryobiology
journal homepage: http://www.elsevier.com/locate/cryo



Influence of different extenders on morphological and functional parameters of frozen-thawed spermatozoa of jaguar (*Panthera onca*)

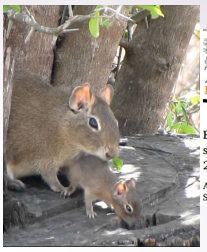
Herlon Victor Rodrigues Silva[a], Thalles Gothardo Pereira Nunes[a], Bruna Farias Brito[a], Lívia Batista Campos[b], Andréia Maria da Silva[b], Alexandre Rodrigues Silva[b], Pierre Comizzoli[c], Lúcia Daniel Machado da Silva[a,*]

Table 1
CASA parameters in jaguar (*Panthera onca*), frozen and thawed semen comparing TRIS and ACP-117c extenders. Values (mean ± SEM), ($n=8$ ejaculates).

	TRIS	ACP-117c
Total motility (%)	46.0 ± 7.7[a]	20.9 ± 5.4[b]
Velocity average pathway (μm/sec)	56.0 ± 5.0[a]	74.2 ± 7.7[a]
Straight line velocity (μm/sec)	44.1 ± 6.3[a]	65.7 ± 7.9[a]
Curvilinear velocity (μm/sec)	102.3 ± 6.9[a]	101.0 ± 8.5[a]
Amplitude of lateral head displacement (μm)	8.4 ± 0.4[a]	7.6 ± 0.4[a]
Beat cross frequency (Hz)	15.9 ± 2.1[a]	14.1 ± 1.9[a]
Straightness index (%)	72.1 ± 5.9[a]	84.8 ± 1.3[a]
Linearity index (%)	48.1 ± 7.5[a]	63.4 ± 2.8[a]
Sperm subpopulations		
Fast (%)	0.9 ± 0.4[a]	0.5 ± 0.2[a]
Middle (%)	3.1 ± 0.9[a]	1.1 ± 0.2[b]
Slow (%)	42.0 ± 7.0[a]	16.5 ± 5.2[b]
Static (%)	54.0 ± 7.7[b]	79.1 ± 5.4[a]

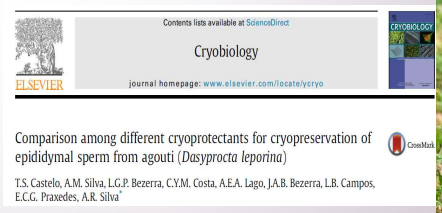
[a]Different lowercase letters in the same line mean that there was a statistical difference between extenders.

EPIDYDIMAL SPERM RECOVERY AND CRYOPRESERVATION



Epididymal sperm from *Spix*'s yellow-toothed cavies sperm successfully cryopreserved in Tris extender with 6% glycerol and 20% egg yolk

Andréia M. Silva, Erica C.G. Praxedes, Lívia B. Campos, Luana G.P. Bezerra, Samara S.J. Moreira, Keilla M. Maia, Ana L.P. Souza, Alexandre R. Silva*



Comparison among different cryoprotectants for cryopreservation of epididymal sperm from agouti (*Dasyprocta leporina*)

T.S. Castelo, A.M. Silva, L.G.P. Bezerra, C.Y.M. Costa, A.E.A. Lago, J.A.B. Bezerra, L.B. Campos, E.C.G. Praxedes, A.R. Silva*

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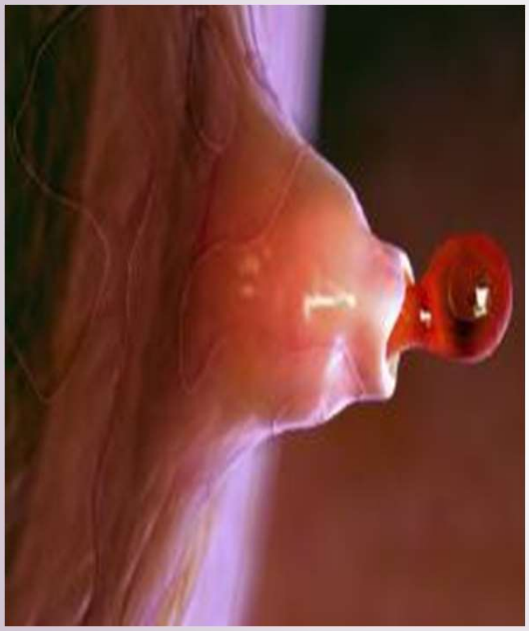
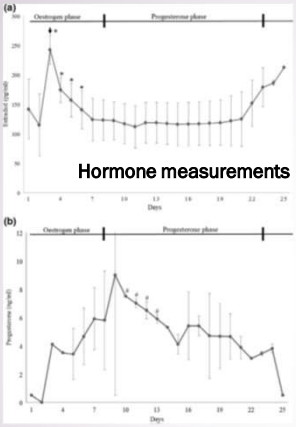


ESTRUS CYCLE MONITORING AND CONTROL

20



METHODS FOR REPRODUCTIVE MONITORING

21

Pesq. Vet. Bras. 34(11):1115-1120, novembro 2014

Estrus cycle monitoring of captive collared peccaries (*Pecari tajacu*) in semiarid conditions[1]

Keilla M. Maia[2], Gislayne C.X. Peixoto[2], Lívia B. Campos[2], José Artur B. Bezerra[2], Aracelly R.F. Ricarte[2], Nei Moreira[3], Moacir F. Oliveira[2] and Alexandre R. Silva[2]*

ESTRUS CYCLE DURATION

21 days

ORIGINAL ARTICLE

WILEY

Monitoring the reproductive physiology of six-banded armadillos (*Euphractus sexcinctus*, Linnaeus, 1758) through different techniques

23 days

Pesq. Vet. Bras. 35(2):188-192, fevereiro 2015
DOI: 10.1590/S0100-736X2015000200016

Monitoramento do ciclo estral de cutias (*Dasyprocta leporina* Lichtenstein, 1823) através de citologia esfoliativa vaginal e ultrassonografia[1]

Lívia B. Campos[2], Gislayne C.X. Peixoto[2], Gabriela L. Lima[2], Thibério S. Castelo[2], Ana L.P. Souza[2], Moacir F. Oliveira[2] e Alexandre R. Silva[2]*

28 days

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ESTROUS CYCLE CONTROL

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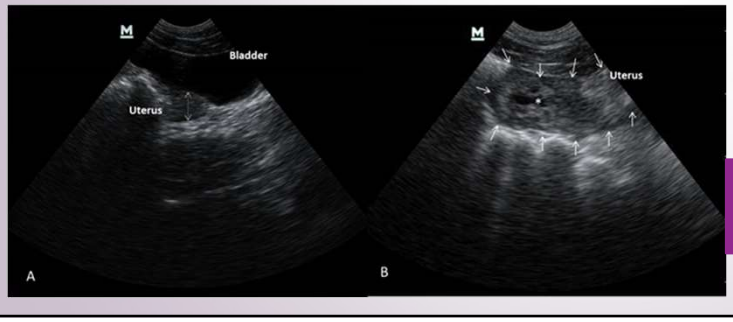
journal homepage: www.elsevier.com/locate/anireprosci
https://www.elsevier.com/locate/anireprosci

Single injection of eCG/hCG leads to successful estrous synchronization in the collared peccary (*Pecari tajacu* Linnaeus, 1758)

Gislayne C.X. Peixoto[a], Gabriela L. Lima[a], Keila M. Maia[a], Ana Liza P. Souza[a], Thibério S. Castelo[a], Ariana L.C. Paiva[a], Valeria V. Paula[a], Moacir F. Oliveira[a], Adriel B. Brito[b], Sheyla F.S. Domingues[b], Ana Clara N.P.C.S. Viana[c], Luciana M. Melo[c], Pierre Comizzoli[d], Alexandre R. Silva[a,*]



70% + → ↑P4 up to 60 d → Embryo Resorption

23

ESTROUS CYCLE CONTROL

ORIGINAL ARTICLE
Reproduction in Domestic Animals WILEY

Ovarian gene expression in collared peccary (*Pecari tajacu* Linnaeus, 1758) subjected to gonadotropin stimulation protocols

Ana Clara N. P. C. S. Viana[1] | Jeferson L. S. Freitas[1] | Lívia C. Magalhães[1] | Lívia B. Campos[2] | Alexandre R. Silva[2] | Moacir F. Oliveira[2] | Vicente J. F. Freitas[1] | Luciana M. Melo[1,3]

- Gonadotropins protocols are adequate for ovarian stimulation in peccaries
- FSH, TGFβR-1, BMPR1-A and BMPR2 receptors are more expressed in the early follicle development
- LH receptor seems to be more important in the final of folicular growth

24

Arq. Bras. Med. Vet. Zootec., v.70, n.3, p.806-814, 2018

Indução do estro em cutias (*Dasyprocta leporina*) utilizando-se protocolos à base de prostaglandina isolada ou em associação com análogo de GnRH

[*Estrus induction in agoutis (Dasyprocta leporina) using protocols based on prostaglandin isolated or in association to GnRH analogue*]

G.C.X. *Peixoto*[1], K.M. *Maia*[1], L.M. *Almeida*[1], L.B. *Campos*[1], G.B. *Oliveira*[1], M.F. *Oliveira*[1], A.B. *Brito*[2], S.F.S. *Domingues*[2], A.R. *Silva*[1]*

We established a protocol for estrus induction in agoutis during semiarid region dry season

ESTROUS CYCLE CONTROL

25

GONADAL TISSUES PRESERVATION

26

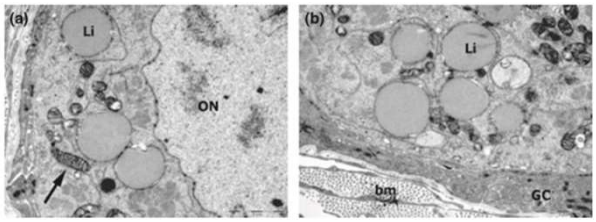
Pecari tajacu

ANATOMIA HISTOLOGIA EMBRYOLOGIA
JOURNAL OF VETERINARY MEDICINE
Anatomia, Histologia, Embryologia

ORIGINAL ARTICLE

Morphological Characterization of the Ovarian Preantral Follicle Population of Collared Peccaries (*Tayassu tajacu* Linnaeus, 1758)

G. L. Lima[1], E. A. A. Santos[1], V. B. Luz[2], A. P. R. Rodrigues[2] and A. R. Silva[1]*



Follicle Population per Ovary
33.273,45 ± 3.019,30

Oocytes cytoplasm rich in lipid droplets

STUDYING FEMALE GONADAL PHYSIOLOGY

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Contents lists available at ScienceDirect
Cryobiology
journal homepage: http://www.elsevier.com/locate/cryo

Vitrification of collared peccary ovarian tissue using open or closed systems and different intracellular cryoprotectants

Lívia Batista Campos[a], Andréia Maria da Silva[a], Erica Camila Gurgel Praxedes[a], Luana Grasiele Pereira Bezerra[a], Thae Lanne Barbosa Gama Lins[b], Vanúzia Gonçalves Menezes[b], Maria Helena Tavares de Matos[b], Gabriela Liberalino Lima[c], Ana Paula Ribeiro Rodrigues[d], Alexandre Rodrigues Silva[a,*]

Contents lists available at ScienceDirect
Cryobiology
journal homepage: www.elsevier.com/locate/cryo

Microbiological load and preantral follicle preservation using different systems for ovarian tissue vitrification in the red-rumped agouti

Érica Camila Gurgel Praxedes[a], Luana Grasiele Pereira Bezerra[a], Samara Sandy Jeronimo Moreira[a], Caio Sergio Santos[a], Andreza Vieira Brasil[a], Andréia Maria da Silva[a], Denise Damasceno Guerreiro[b], Alexsandra Fernandes Pereira[c], Ana Paula Ribeiro Rodrigues[b], Alexandre Rodrigues Silva[a,*]

OVARIAN TISSUE PRESERVATION

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ORIGINAL ARTICLE

WILEY Reproduction in Domestic Animals

Interactions between different media and follicle-stimulating hormone supplementation on in vitro culture of preantral follicles enclosed in ovarian tissue derived from collared peccaries (*Pecari tajacu* Linneaus, 1758)

GL Lima[1] | VB Luz[2] | LF Lima[3] | RMP Rocha[3] | SV Castro[3] | TS Castelo[1] | APR Rodrigues[3] | JR Figueiredo[3] | AR Silva[1]

ORIGINAL ARTICLE

Reproduction in Domestic Animals WILEY

BMP-15 activity on in vitro development of collared peccary (*Pecari tajacu* Linnaeus, 1758) preantral follicles

Henrique A. N. Gomes[1] | Lívia B. Campos[1] | Érica C. G. Praxedes[1] | Moacir F. Oliveira[2] | Alexsandra F. Pereira[3] | Alexandre R. Silva[1] | Márcia V. A. Saraiva[1]

Animal Reproduction Science 226 (2021) 106717

Contents lists available at ScienceDirect

Animal Reproduction Science

journal homepage: www.elsevier.com/locate/anireprosci

Effect of growth differentiation factor 9 (GDF-9) on *in vitro* development of collared peccary preantral follicles in ovarian tissues

Lívia B. Campos[a], Andreia M. Silva[a], Érica C.G. Praxedes[a], Luana G.P. Bezerra[a], Jeferson L.S. Freitas[b], Luciana M. Melo[b], Alexsandra F. Pereira[a], José R. Figueiredo[c], Alexandre R. Silva[a,*]

OVARIAN TISSUE IN VITRO CULTURE

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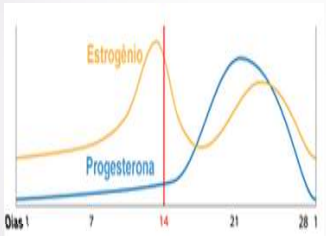
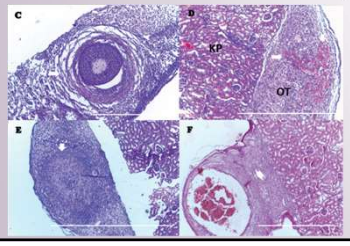
CSIRO PUBLISHING

Reproduction, Fertility and Development, 2018, **30**, 459–468
https://doi.org/10.1071/RD17051

Development of fresh and vitrified agouti ovarian tissue after xenografting to ovariectomised severe combined immunodeficiency (SCID) mice





SCID C57Bl/6 Female Mouse

- ✓ **Return to ovarian activity**
  - ✓ **16% → vitrified fragments**
  - ✓ **80 % → fresh fragments**

OVARIAN TISSUE XENOGRAFTING

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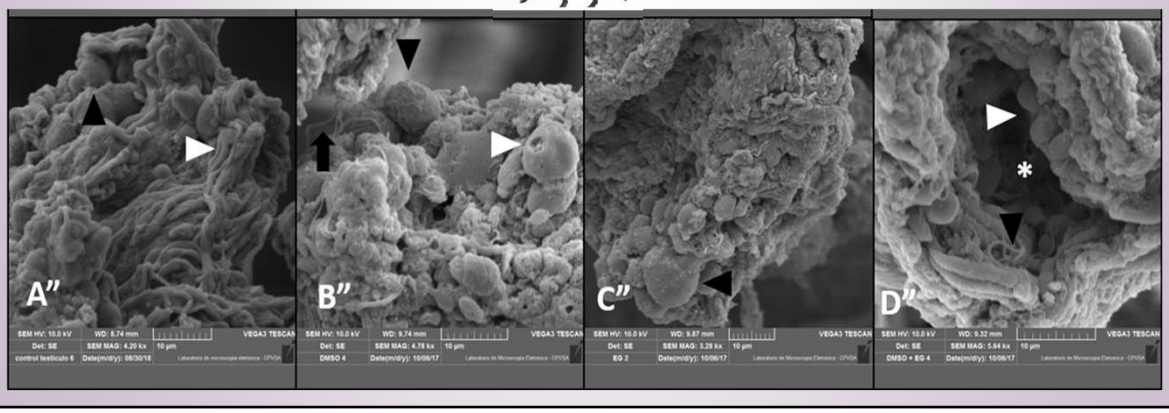
Contents lists available at ScienceDirect
Cryobiology
journal homepage: http://www.elsevier.com/locate/cryo

Combination of intracellular cryoprotectants preserves the structure and the cells proliferative capacity potential of adult collared peccary testicular tissue subjected to solid surface vitrification

Andréia Maria da Silva[a], Luana Grasiele Pereira Bezerra[a], Erica Camila Gurgel Praxedes[a], Samara Sandy Jerônimo Moreira[a], Carla Michele Pereira de Souza[a], Moacir Franco de Oliveira[a], Alexsandra Fernandes Pereira[b], Pierre Comizzoli[c], Alexandre Rodrigues Silva[a,*]

Smithsonian Institution

TESTICULAR TISSUE PRESERVATION



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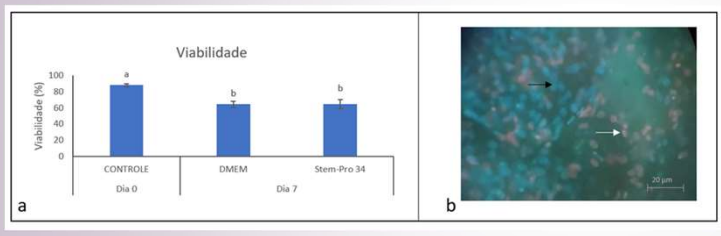
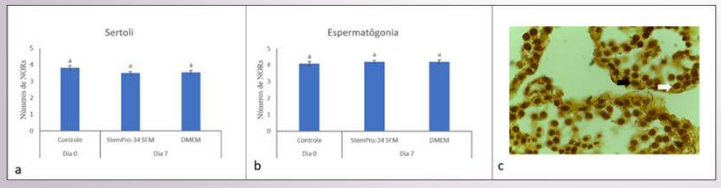
Animal Reproduction – Proceedings of the International Symposium on Animal Biology Reproduction, Brazil, 2021

***In vitro* culture of testicular tissue from prepubertal collared peccaries using different culture media supplemented with various GDNF concentrations**

A.M. Silva[1], L.G.P. Bezerra[1], A.G. Pereira[1], A.F. Pereira, M.F[2]. Oliveira[3], P. Comizzoli[4], A.R. Silva[1]

[1]Laboratory of Animal Germplasm Conservation, Universidade Federal Rural do Semi´-Arido - UFERSA, Mossoró, RN, Brazil; [2] Laboratory of Animal Biotechnology, UFERSA, Mossoro, RN, Brazil; [3]Laboratory of Animal Morphology, UFERSA, Mossoró, RN, Brazil; [4]Smithsonian Institute, Washington, DC, USA.





After 28-days IVC, the StemPro-34 SFM seems to be the most adequate medium for IVC of prepubertal peccary testicular tissue.

The supplementation with GDNF (10.0 ng/mL) seems to be essential for the maintenance of cell survival and proliferation.

TESTICULAR TISSUE IN VITRO CULTURE

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REGARDLESS OF THE ASSISTED REPRODUCTION TECHNIQUE, THE ULTIMATE GOAL IS THE PRODUCTION OF VIABLE OFFSPRING...

...TO ACHIEVE THIS, KNOWLEDGE OF BASIC ASPECTS OF REPRODUCTIVE PHYSIOLOGY IS ESSENTIAL, BUT THIS REMAINS UNDEREXPLORED FOR A LARGE NUMBER OF SPECIES.

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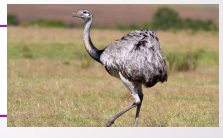
- The effects of the Mycobacterium leprae on armadillos' ovarian follicle population

- Reproductive monitoring of Brazilian Tapir – Males and Females

- Characterizing and conserving the Rhea americana sperm



- Effects of environment variables on honeybee sperm production

NEW CHALLENGES

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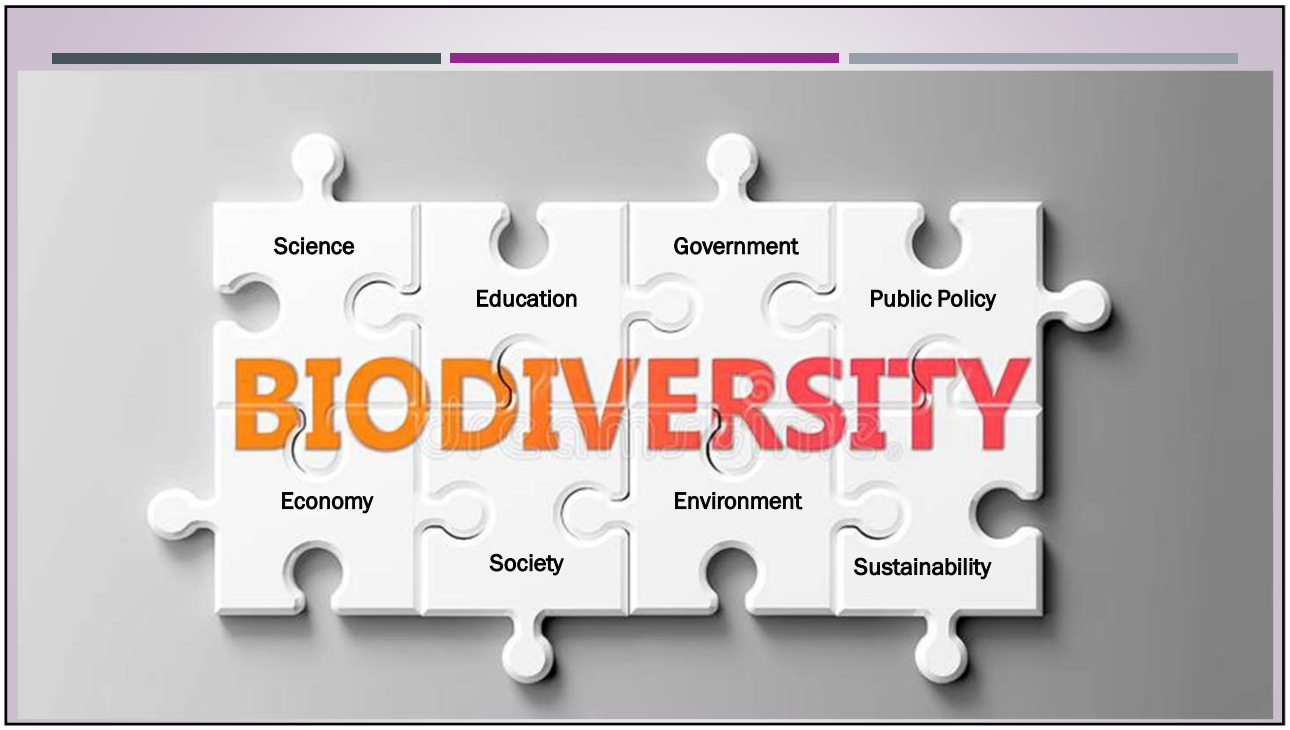
Science
Education
Government
Public Policy
BIODIVERSITY
Economy
Society
Environment
Sustainability

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United Nations
Climate Change
Million Species At Risk of Extinction
UN Report

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Dra. Helena Matos - UNIVASF
Dra. Lúcia Daniel Silva - UECE
Dra. Luciana Melo – UECE
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Dr. Felipe Brandão - UFF
Dra.Patrícia Médici - INCAB
Dr. Pierre Comizzoli – Smithsonian Institution, USA

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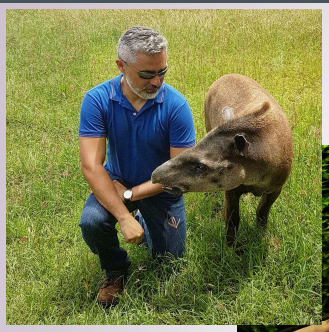

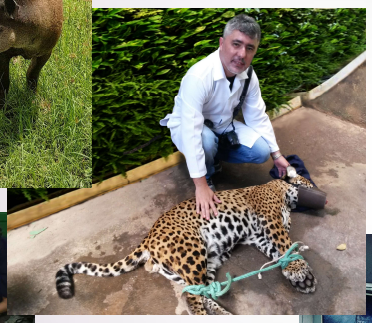

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"If we can teach people about wildlife, they will be touched..."

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