

*V Simpósio Nacional da Sociedade Brasileira de
Melhoramento Animal*

Pirassununga, 8 e 9 de Julho de 2004



*Programas de Avaliação Genética de
Bovinos de Corte no Brasil*

**Beef Cattle Genetic Evaluation
programs in Brazil**

USP

FZEA

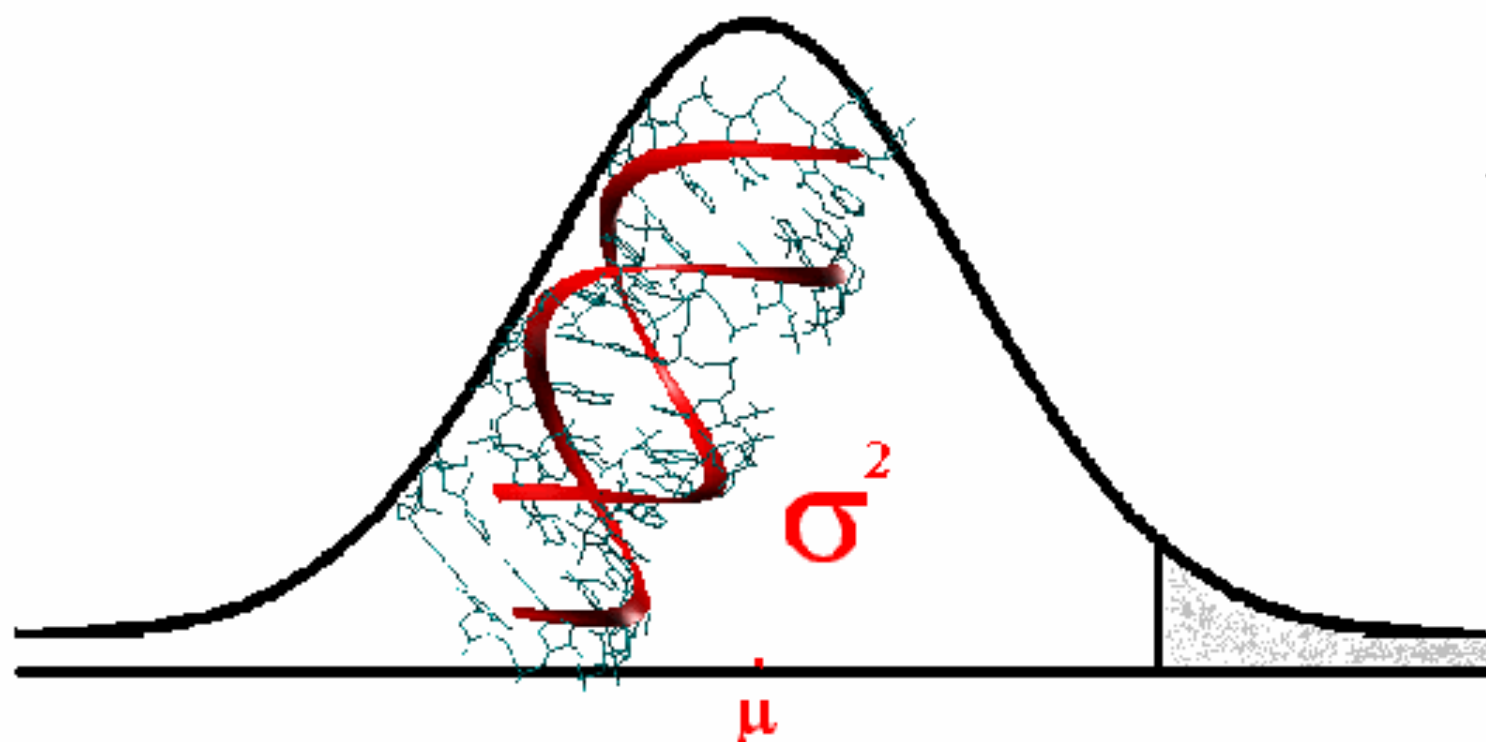


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Grupo de Melhoramento Animal



Introduction

- This text is an evolution of another one, presented in the **I Workshop Sobre Integração de Dados de Avaliações Genéticas de Bovinos de Corte**, organized jointly by Sociedade Brasileira de Melhoramento Animal e pela Faculdade de Zootecnia and Engenharia de Alimentos da Universidade de São Paulo, in Pirassununga, Brazil, in 08/08/2003.
- That Symposium had the participation of Dr. John Pollak, from Cornell University, USA and Dr. Felipe José de Carvalho, from the Brazilian Ministério da Agricultura, Pecuária e Abastecimento.
- This text, related to beef cattle, has the objective of start to register the history of the Brazilian animal breeding.



Introduction (2)

- However, that history, result of hard work of several minds and hands, has also to be written by several minds and hands.
- So, this work has to be faced as a seed, that has to be cultivated by all of the ones interested by that science that changed tge Braazilian animal production. Future contributions are welcome and needed and should be adressed to authors.



Introduction (3)

- Brazilian agribusiness
 - 27% NGP
 - 37% of jobs
- About the Brazilian beef industry, a part of the agribusiness that:
 - Herd size of 180 million heads, >67 million cows, grew 11.5 million heads the last 7 years
 - Produced more than US\$20.8 billion, US\$ 9 billion exports in 2002,
 - Is as big as the soybean + sugar business in Brazil
 - Generates more than 7 million jobs
 - Has a very big growth potential

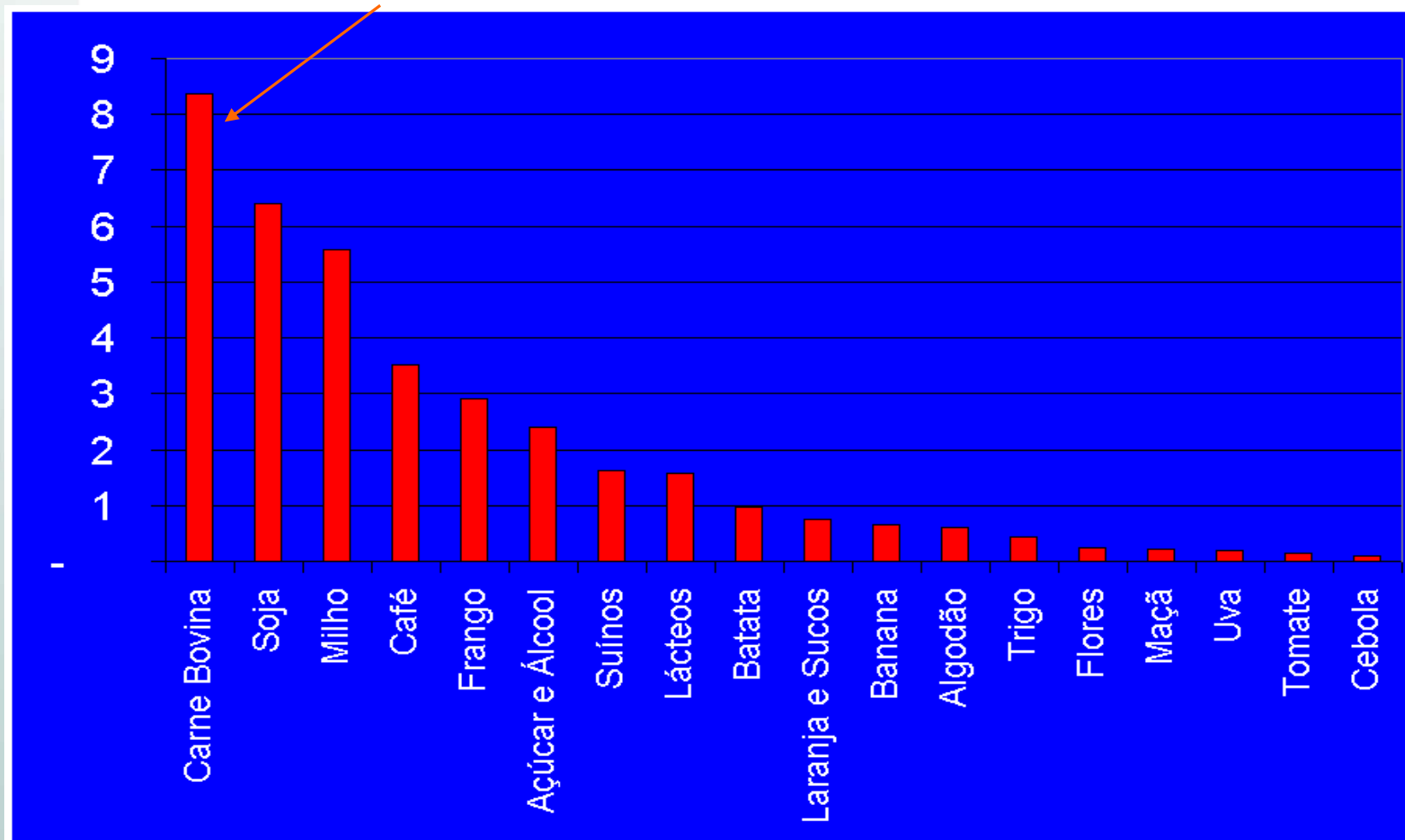


Introduction (4)

- Brazil is:
 - #1 in beef exports in the world
 - The second beef producer in the world
 - The only country in the world that can increase dramatically its beef industry, because it has low productivity, high mortality, large area and very big herd

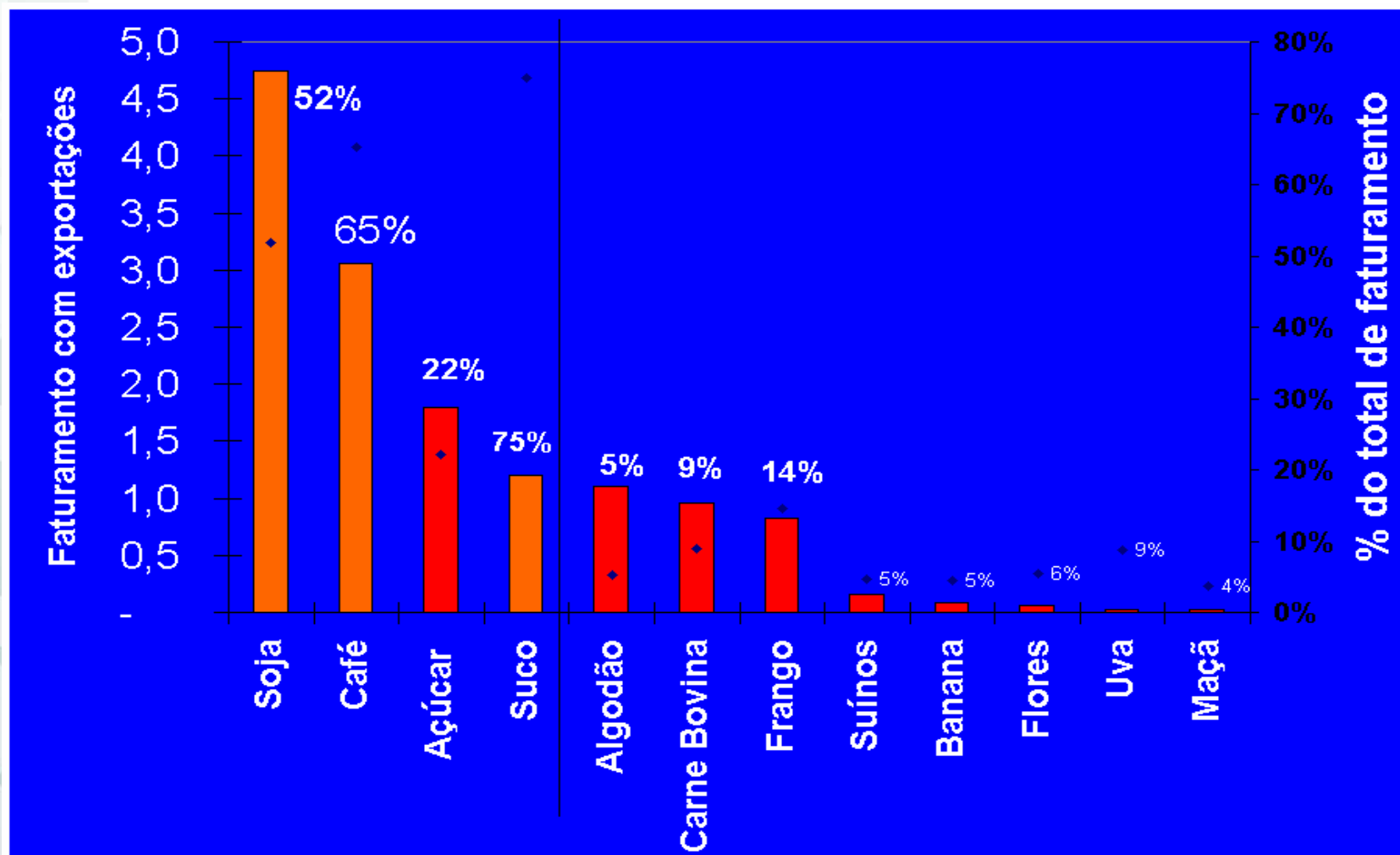


Value of production (US\$ billion)





Aq products and exports





How is the brazilian beef cattle production?

- The country has two options, both extremely valid and dependent of the systems of production:
 - 1) Raise zebu breeds, being the most popular the Nelore breed





How is the brazilian beef cattle production?

- 2) Raise crossbred animals, like composites or animals produced from any type of crossbreeding systems, where any breeds have its market.

BEZEL





History

- 1951 - Experimental Station of Sertãozinho, SP: beginning of bulls evaluation tests (weight gain and growth) - Dr. Barrison Villares, Dr. Fausto Pereira Lima
- 1963 - Last big zebu genetic germplasm importation from India - very important Nelore bulls
- 1968 - Department of Genetics, Medical College, USP, Ribeirão Preto, SP, GEMAC - Dr. Warwick Kerr, F.A. Moura Duarte (1969) and a breeder, Dr. Orlando Zancaner, start of a long range cooperation between USP and Nelore breeders, the first step of PMGRN/FMRP - Prof. Raysildo B. Lôbo (1977)



History (2)



- Seventies - boom of A.I. techniques, EMBRAPA, Beef and Milk Research Centers
- 1970 - bulls evaluation tests in a net of 14 experimental stations of the Instituto de Pesquisas Zootécnicas Francisco Osório (IPZFO), RS, a proposal of Dr. Sérgio Padilha
- 1972 - Progeny testing of Hereford and Charolais bulls, again under inspiration of Dr. Padilha
- 1972 - Control of Growth, National Breeders Association (ANC), Herd Book Collares, RS
- 1974 - Promebo (Programa de Melhoramento de Bovinos), ANC and Department of Animal Sciences of Federal University of RS - Dr. Luiz Alberto Fries



History (3)

- 1975 - Progeny Testing Nelore Cipari/ANC - Parana State, with ABCZ - Brazilian Zebu Breeders Association - first 10 bulls completed in 1978 (again, Dr. Padilha)
- 1984 -Geneplan - a genetic evaluation program of Agro-Pecuária CFM Ltda, evaluated by New Zealanders with Nelore and crossbreds
- 1984 - 1st Nelore Sire Summary, Embrapa-ABCZ (Antonio Nascimento Rosa, Paulo Roberto Costa Nobre and Luiz Otávio Campos da Silva) = fixed model, deviations from the adjusted mean of the breed
- 1986 - Natura Program (MLM do Brasil and Comega, Dr. Eduardo Macedo Linhares and Hector Caraballo)
- 1987 - Sire model (Embrapa)



History (4)

- Nineties: Sire summaries
- 1992 - PMGRN/FMRP/USP - Prof. Francisco de Moura Duarte and Raysildo Barbosa Lôbo
- 1994 - G.M.A. - group of genetic evaluation of College of Animal Science and Food Engineering USP/Pirassununga, under coordination of Drs. Jose Bento Sterman Ferraz and Joanir Pereira Eler
- 1994 - Animal model (GMA and PMGRN)
- 1996 - Animal model at Embrapa sire Summaries



CEIP

- 1989 - CEIP Program - Special Certificate of Identification and Production of Federal Department of Agriculture (Portaria 690, 12/29/1989)
 - Taxes free genetic material
 - Dr. Walmore Lacorte, Dr. Jader Jacomini Ferreira
- 1991 - 1st CEIP authorization (Natura), Portaria 10, 02/10/1991, evaluate by Gensys, Dr. Fries)
 - 1st certificated bull marked in Camapuã, MS, 1991, a male, born 06/27/1990, $\frac{3}{4}$ Zebu $\frac{1}{4}$ Angus, bull ID SJ42890 - Baldasso family



CEIP (2)

- 1992 - CEIP for Condominio Delta G (Portaria 73, 09/08/1992) - evaluated by Gensys
- 1992 - CEIP for Agro-Pecuária CFM Ltda. (Portaria 080, 10/05/1992) - evaluated by Gensys at that time
- 2002 - CEIP for Montana, the first composite to get authorization for that certificate in the country. That program is leaded by CFM-Leachman Pecuaria Ltda.
- Today: 13 CEIP programs all over the country



Unified Brazilian Sire Summary for Nelore bulls

- Seven genetic evaluation programs are held in the country for Nelore bulls.
- Under suggestion of ABCZ a meeting was organized in Sertãozinho, in 1988, trying to unify the sire summaries for Nelore
- 2002 - Dr. Luiz Fries stimulate the discussion on unifying Nelore sire summaries
- 2002 - National Unified Nelore Sire Summary - start of joining private summaries, under coordination of Sociedade Brasileira de Melhoramento Animal (SBMA). A committee was organized and composed by the President of SBMA, Jose Bento S. Ferraz, Luiz Otávio Campos Silva, Leonardo Talavera Campos and José Benedito Freitas Trovo



Unified Brazilian Sire Summary for Nelore bulls

- Lagoa da Serra/Holland Genetics and Dr. Luiz Fries brought to Brazil Dr. John Pollak (Cornell University), bringing new subsidies to the unification of the Nelore sire summaries
- 2004 - The group of Dr. Raysildo B. Lôbo issue the first national sire summary for Guzera bulls
- 2004 - The first unified sire summary for Nelore bulls will be presented in the V National Symposium of SBMA, as a result of more than 2 million records analyzed by Embrapa - Gado de Corte.



The SBMA - Sociedade Brasileira de Melhoramento Animal

- 1995, under coordination of Dr. Fernando Madalena, Francisco Moura Duarte, Raysildo Lôbo, Martinho de Almeida e Silva, Luiz Fries, the Brazilian Society of Animal Breeding was founded and it's first National Symposium was organized in Ribeirão Preto, state of Sao Paulo, in 1996.
- Take a look: www.sbmaonline.org.br. You can find the history, the awarded scientists and companies, the proceedings of previous simposia.



Centro de Avaliação e Comercialização de Touros - CAT

- A private bull's test station, was founded by Chalet Agropecuária and Lagoa da Serra/Holland Genetics in Uberlândia, MG, testing the following number of bulls:

Year	N	breeds
2000	656	8
2001	752	11
2002	750	12



Beef cattle genetic evaluation programs running in Brazil (2003)

Program	Start	# herds	N (A)	Evaluated by
ABCZ - Zebu	1984	1000	>1.2 Mill	Embrapa
CFM - Nelore	1984	20	>500,000	GMA/USP
PMGRN - Nelore	1992	180	>350,000	FMRP/USP
Aliança - Nelore	1997	183	>340,000	Gensys
Paint - Nelore	1994	54	50,000	Equipe Lagoa
Qualitas - Nelore	2002	25	37,000	GMA & FMRP/USP
Lemgruber-Nelore	1998	1	26,000	GMA/USP
Delta G - Nelore, Hereford, Braford	1992	45	350,000	Gensys
ABCCAN-Canchim	1999	2000	>230,000	Embrapa
Natura (Brangus)	1986	98	-	Gensys

Source: adapted from DBO Genética



Beef cattle genetic evaluation programs running in Brazil (2003)

Program	Start	# herds	N (A)	Evaluated by
Promebo Angus	1992	168	-	ANC
Promebo Devon	1992	27	-	ANC
Promebo Charoles	1992	62	-	ANC
Promebo-Hereford	1992	96	-	ANC
ABCRS - Simental	1993	202	41,500	UNESP
ABSG-Santa Gertrudis	1997	15	40,000	GMA/USP
ABCM-Marchigiana	2000	15	87,000	GMA/USP
Pardo-Suíço Corte-Braunvieh	2000	38	>26,000	GMA/USP
ABCC - Caracu	1998	20	-	Embrapa

Source: adapted from DBO Genética



Beef cattle genetic evaluation programs running in Brazil (2003)

Program	Start	# herds	N (A)	Evaluated by
Aurora-Caracu	1998	1	-	GMA/USP
Mariópolis-Caracu	2001	1	-	Núcleo Zootecnia
ACGB - Guzerá	2001	-	11,670	FMRP/USP
CFM Leachman Montana (composite)	1997	30	>250,000	GMA/USP
Promebul - Water bubaloes	2001	18	-	Unesp
ABCP-Piemontes	2003	Starting	-	GMA/USP
Geneplus	-	A lot	>220,000	Embrapa
Brangus	2003	Starting		GMA/USP
Senepol	2003	Starting		GMA/USP
Bonsmara	2003	Starting		GMA/USP

Source: adapted from DBO Genética



National Unified Nelore Sire Summary

Size of databank (08/2003)

Program	Evaluated by	N
ABCZ	Embrapa	1,300,000
CFM	GMA/USP	400,000
Geneplus	Embrapa	220,000
Sumário Aliança	Gensys	174,000
PMGRN + Qualitas	FMRP/USP	150,000
Paint	Equipe Lagoa	53,000
Jacarezinho	Gensys	18,000



Conclusions

- This is not the final form of the work of keep track of the history of the Brazilian animal breeding. Only data on beef cattle were compiled.
- Several other contributions are needed to increase the accuracy of this work and to add data on other species.